

HPAC JAVA BEANS AND COMPONENTS

APPLICATION PROGRAMMING INTERFACE AND DESCRIPTION

VERSION 4.0.1

Defense Threat Reduction Agency (DTRA)

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PART I

HPAC Core Components

CHAPTER 1

Package mil.dtra.awt

Provides support classes and facilities extending basic AWT capabilities.

Classes:

AWTUtils
ColorSpectrum
SelfDragSupport
SpectrumColorModel

1.1 Class AWTUtils

```
mil.dtra.awt
public final AWTUtils
extends Object
```

Utility class providing a couple of methods that may prove valuable from time to time.

Fields:

```
public static final double ARROW_COS
public static final double ARROW_SIN
```

Methods:

```
public static void applyRenderingHints()
public static void applyRenderingHints()
public static java.awt.Point[] computeArrowPoints()
public static double computePointLineDistance()
public static double computePointLineDistance()
public static void computeShortestLine()
public static void drawLineArrow()
public static void restoreFrameCursor()
public static void setFrameWaitCursor()
public static void setWindowDefaultCursor()
public static void setWindowWaitCursor()
```

1.1.1 Field ARROW_COS

public static final double **ARROW_COS**

Cosine value used for 30-degree arrow angles

1.1.2 Field ARROW_SIN

public static final double **ARROW_SIN**

Sine value used for 30-degree arrow angles

1.1.3 Constructor AWTUtils()

public
AWTUtils()

1.1.4 Method applyRenderingHints()

public static void
applyRenderingHints(java.awt.Graphics graphics)

Applies antialiasing, render quality, and text antialiasing hints if Java2D is available.

Parameters:

graphics - graphics context

1.1.5 Method applyRenderingHints()

public static void
applyRenderingHints(java.awt.Graphics2D graphics)

Applies antialiasing, render quality, and text antialiasing hints if Java2D is available.

Parameters:

graphics - graphics context

1.1.6 Method computeArrowPoints()

```
public static java.awt.Point[]
computeArrowPoints(
    java.awt.Point from,
    java.awt.Point to,
    float arrow_length
)
```

Given line points and an arrow length, returns the two points representing line endpoints for an arrow drawn from the line end point.

Parameters:

from - line segment origin
 to - line segment end
 arrow_length - pixel length of the arrow lines

Returns:

array of two Points representing endpoints from arrow lines drawn from the line segment end

1.1.7 Method computePointLineDistance()

```
public static double
computePointLineDistance(
    java.awt.geom.Point2D from,
    java.awt.geom.Point2D to,
    int x,
    int y
)
```

Computes the distance from the point to the line assuming floating point line segment points.

Parameters:

from - line segment origin
 to - line segment end
 x - point x coordinate
 y - point y coordinate

Returns:

distance in pixels from the point its the closest point on the line segment

1.1.8 Method computePointLineDistance()

```
public static double
computePointLineDistance(

    java.awt.Point from,
    java.awt.Point to,
    int x,
    int y
)
```

Computes the distance from the point to the line.

Parameters:

- from - line segment origin
- to - line segment end
- x - point x coordinate
- y - point y coordinate

Returns:

distance in pixels from the point its the closest point on the line segment

1.1.9 Method computeShortestLine()

```
public static void
computeShortestLine(

    java.awt.Rectangle one,
    java.awt.Rectangle two,
    java.awt.Point pt1,
    java.awt.Point pt2
)
```

Computes the shortest line between the two bounding boxes as either top to bottom, bottom to top, left to right, or right to left connections. The resulting points can be used to draw a line b/w the two boxes.

Parameters:

- one - first bounding box
- two - second bounding box
- pt1 - output - computed position near first bounding box
- pt2 - output - computed position near second bounding box

1.1.10 Method drawLineArrow()

```
public static void
drawLineArrow(
    java.awt.Graphics2D gfx,
    java.awt.Point from,
    java.awt.Point to,
    float arrow_length,
    int line_width
)
```

Draws arrow lines from the line segment end point.

Parameters:

gfx - Graphics2D drawing context
 from - line segment origin
 to - line segment end
 arrow_length - pixel length of the arrow lines
 line_width - width of the Stroke used to draw the arrow lines

1.1.11 Method restoreFrameCursor()

```
public static void
restoreFrameCursor( javax.swing.JComponent component )
```

Maintained only until references changed to `setWindowDefaultCursor()`.

1.1.12 Method setFrameWaitCursor()

```
public static void
setFrameWaitCursor( javax.swing.JComponent component )
```

Maintained only until references changed to `setWindowWaitCursor()`.

1.1.13 Method setWindowDefaultCursor()

```
public static void
setWindowDefaultCursor( java.awt.Component component )
```

Sets the component's window's cursor to the default.

Parameters:

component - reference component

1.1.14 Method **setWindowWaitCursor()**

```
public static void
setWindowWaitCursor( java.awt.Component component )
```

Sets the component's window's cursor to the wait cursor.

Parameters:

component - reference component

1.2 Class **ColorSpectrum**

```
mil.dtra.awt
public ColorSpectrum
extends Object
```

Provides a range of colors across the visible spectrum from blue to red. Although a maximum of 240 individual colors is available, a subset may be selected and used for visual value comparison with other sets of different size.

Fields:

```
public static final int[] COLORS
protected java.awt.Color[] fColors
```

Methods:

```
public final java.awt.Color getColor()
public final java.util.List getColorCollection()
public final java.awt.Color[] getColors()
```

1.2.1 Field **COLORS**

```
public static final int[] COLORS
```

Array of 240 spectrum package color values

1.2.2 Field **fColors**

```
protected java.awt.Color[] fColors
```

1.2.3 Constructor **ColorSpectrum()**

```
public
ColorSpectrum( int color_count )
```

Constructs with the specified number of colors. The max is 240.

1.2.4 Method getColor()

```
public final java.awt.Color
getColor( int index )
```

Retrieves and individual color value by index.

Returns:

retrieved Color object

Exceptions:

ArrayIndexOutOfBoundsException - if the index is invalid

1.2.5 Method getColorCollection()

```
public final java.util.List
getColorCollection()
```

Retrieves the generated colors as an ordered collection (List).

Returns:

generated colors List

1.2.6 Method getColors()

```
public final java.awt.Color[]
getColors()
```

Retrieves the generated colors in an array.

Returns:

array of colors

1.3 Class SelfDragSupport

```
mil.dtra.awt
public SelfDragSupport
extends MouseAdapter
implements MouseMotionListener,
```

This class supports a Component wishing to be draggable to new locations within its container. It is much lighter in weight than the Java 2 drag-n-drop mechanisms. Optionally, it will remove the component if dragged to a negative, off-container position.

Fields:

```

protected java.awt.Component fComponent
protected java.awt.Point fCrossHairOffset
protected transient java.awt.Point fDragEventPt
protected transient java.awt.Graphics fDragGraphics
protected transient java.awt.Point fDragPt
protected transient java.awt.Rectangle fDragRect
protected transient boolean fIsDragging
protected boolean fRemoveOnNegativeLocation

```

Methods:

```

public void drawDragBox()
public final java.awt.Point getCrossHairOffset()
public final java.awt.Rectangle getDragRect()
public final boolean isDragging()
public void mouseDragged()
public void mouseMoved()
public void mousePressed()
public void mouseReleased()
public final void setCrossHairOffset()
public void setCrossHairOffset()
public synchronized void startListening()
public synchronized void stopListening()

```

1.3.1 Field fComponent

protected java.awt.Component **fComponent**

1.3.2 Field fCrossHairOffset

protected java.awt.Point **fCrossHairOffset**

1.3.3 Field fDragEventPt

protected transient java.awt.Point **fDragEventPt**

1.3.4 Field fDragGraphics

protected transient java.awt.Graphics **fDragGraphics**

1.3.5 Field fDragPt

protected transient java.awt.Point **fDragPt**

1.3.6 Field fDragRect

```
protected transient java.awt.Rectangle fDragRect
```

1.3.7 Field fIsDragging

```
protected transient boolean fIsDragging
```

1.3.8 Field fRemoveOnNegativeLocation

```
protected boolean fRemoveOnNegativeLocation
```

1.3.9 Constructor SelfDragSupport()

```
public  
SelfDragSupport( java.awt.Component component )
```

Constructs this object defaulting to a remove flag value of `false`.

Parameters:

`component` - Component for which self dragging is to be supported; cannot be null

1.3.10 Constructor SelfDragSupport()

```
public  
SelfDragSupport(  
    java.awt.Component component,  
    boolean remove_flag  
)
```

Constructs this object and begins listening for drag events on the component.

Parameters:

`component` - Component for which self dragging is to be supported; cannot be null
`remove_flag` - true if the component is to be removed if dragged to a negative location in its container

1.3.11 Constructor SelfDragSupport()

```
public
SelfDragSupport(
    java.awt.Component component,
    java.awt.Point crosshair_offset,
    boolean remove_flag
)
```

Constructs this object and begins listening for drag events on the component.

Parameters:

- component - Component for which self dragging is to be supported; cannot be null
- crosshair_offset - crosshair offset
- remove_flag - true if the component is to be removed if dragged to a negative location in its container

1.3.12 Constructor SelfDragSupport()

```
public
SelfDragSupport(
    java.awt.Component component,
    int crosshair_x,
    int crosshair_y,
    boolean remove_flag
)
```

Constructs this object and begins listening for drag events on the component.

Parameters:

- component - Component for which self dragging is to be supported; cannot be null
- crosshair_x - x offset for crosshairs
- crosshair_y - y offset for crosshairs
- remove_flag - true if the component is to be removed if dragged to a negative location in its container

1.3.13 Method drawDragBox()

```
public void
drawDragBox( java.awt.Rectangle box )
```

If dragging has been initiated for the component, draws the specified box in xor mode. If dragging is not ongoing, does nothing.

Parameters:

box - box to draw

1.3.14 Method `getCrossHairOffset()`

```
public final java.awt.Point  
getCrossHairOffset()
```

Accessor for the *crossHairOffset* property.

Returns:

object reference or null

1.3.15 Method `getDragRect()`

```
public final java.awt.Rectangle  
getDragRect()
```

Returns the current drag box if dragging is ongoing.

Returns:

current drag box or null if dragging is not ongoing

1.3.16 Method `isDragging()`

```
public final boolean  
isDragging()
```

Return a flag indicating whether or not a drag operation is ongoing

Returns:

true if currently dragging, false otherwise

1.3.17 Method `mouseDragged()`

```
public void  
mouseDragged( java.awt.event.MouseEvent event )
```

Handles mouse drag operations to update the drag box.

1.3.18 Method mouseMoved()

```
public void
mouseMoved( java.awt.event.MouseEvent event )
```

Does nothing but here to fulfill MouseMotionListener.

1.3.19 Method mousePressed()

```
public void
mousePressed( java.awt.event.MouseEvent event )
```

Overrides MouseAdapter.mousePressed() to prepare for a drag.

1.3.20 Method mouseReleased()

```
public void
mouseReleased( java.awt.event.MouseEvent event )
```

Overrides MouseAdapter.mouseReleased() to complete a drag.

1.3.21 Method setCrossHairOffset()

```
public final void
setCrossHairOffset(
    int x,
    int y
))
```

Accessor for the *crossHairOffset* property, establishing a non-null value.

Parameters:

x - x offset
y - y offset

1.3.22 Method **setCrossHairOffset()**

```
public void
setCrossHairOffset( java.awt.Point offset )
```

Accessor for the *crossHairOffset* property, which is the offset from the left,top (positive values) or right,bottom (negative values) at which to draw the crosshairs inside the drag box. A value of null centers the crosshairs.

Parameters:

offset - offset reference to store or null

1.3.23 Method **startListening()**

```
public synchronized void
startListening()
```

Registers listeners to enable dragging.

1.3.24 Method **stopListening()**

```
public synchronized void
stopListening()
```

Unregisters listeners to disable dragging.

1.4 Class **SpectrumColorModel**

```
mil.dtra.awt
public SpectrumColorModel
extends IndexColorModel
```

Provides ColorSpectrum functionality as an IndexColorModel extension.

Methods:

```
public static java.awt.image.IndexColorModel createInstance()
```

1.4.1 Constructor **SpectrumColorModel()**

```
public
SpectrumColorModel()
```

Default and only constructor.

1.4.2 Method `createInstance()`

```
public static java.awt.image.IndexColorModel  
createInstance( int color_count )
```

Creates a `SpectrumColorModel` instance with the specified number of colors.

Exceptions:

`IllegalArgumentException` - if `color_count < 2` or `> 240`

CHAPTER 2

Package mil.dtra.hpac.client

Contains classes implementing the HPAC client GUI.

Interfaces:

- ITPTSAdapter
- Messenger
- ProjectComponent
- ProjectEditorIfc
- ProjectEditorModalDialog
- ProjectObject
- PropertyNames

Classes:

- HPACSplashBox
- ProjectEditor
- ProjectEditor.DropListener
- ProjectEditor.DropPaneMouseListener
- ProjectEditor.MapModeChoiceListener
- ProjectEditor.ObjectContainerListener
- ProjectEditor.PrintThread
- ProjectEditor.ScipuffBeanHandler
- ProjectEditorFrame
- ProjectEditorFrame.WindowHandler
- ProjectEditorLauncher
- ProjectEditorProfile
- ProjectMgr

2.1 Interface ITPTSAdapter

mil.dtra.hpac.client
public interface **ITPTSAdapter**

Defines IPTTS project operations. Hopefully, this is all the rest of HPAC needs to see. These are HPAC calls into IPTTS.

Methods:

```
public void exportMapImage()
public boolean exportProjectFolder()
public java.lang.String getPrimaryKey()
public java.lang.String getSession()
public java.lang.Object[] importProjectFolder()
public void init()
public mil.dtra.hpac.data.Project openProject()
public java.lang.Object[] openProjectFolder()
public boolean saveProject()
public boolean saveProjectAs()
public boolean saveProjectFolder()
public boolean saveProjectFolderAs()
```

2.1.1 Method **exportMapImage()**

```
public void
exportMapImage( java.awt.image.BufferedImage image )
```

Saves an image to IPTTS.

Parameters:

image - image to save

2.1.2 Method **exportProjectFolder()**

```
public boolean
exportProjectFolder(
    mil.dtra.hpac.data.Project project,
    byte[] server_data
))
```

Exports the project as a folder to IPTTS.

Parameters:

project - project to export
server_data - server files folder

Returns:

true if the save succeeded, false otherwise

2.1.3 Method `getPrimaryKey()`

```
public java.lang.String
getPrimaryKey()
```

Returns the primary key of the last project database operation.

Returns:

node primary key

2.1.4 Method `getSession()`

```
public java.lang.String
getSession()
```

Returns the session of the last project database operation.

Returns:

database session

2.1.5 Method `importProjectFolder()`

```
public java.lang.Object[]
importProjectFolder()
```

Imports a project folder from IPTTS.

Returns:

two-element array containing the imported project and server files folder (which may be null) in order, `Project, byte[]`

2.1.6 Method `init()`

```
public void
init( mil.dtra.hpac.client.ProjectEditorIfc project_editor )
```

Initializes with the `ProjectEditorIfc` reference. This must be called after instantiation and before any other methods.

Parameters:

`project_editor` - project editor reference

2.1.7 Method openProject()

```
public mil.dtra.hpac.data.Project
openProject()
```

Opens a project in IPTTS.

Returns:

newly opened project or null if aborted or failed

2.1.8 Method openProjectFolder()

```
public java.lang.Object[]
openProjectFolder()
```

Opens/imports a project folder from IPTTS.

Returns:

project folder array (Project, byte[]) or null on an abort or failure

2.1.9 Method saveProject()

```
public boolean
saveProject( mil.dtra.hpac.data.Project project )
```

Saves a project in IPTTS.

Returns:

true if the save succeeded, false otherwise

2.1.10 Method saveProjectAs()

```
public boolean
saveProjectAs( mil.dtra.hpac.data.Project project )
```

Saves a project in IPTTS under a new name or database node (whatever IPTTS calls it).

Returns:

true if the save succeeded, false otherwise

2.1.11 Method saveProjectFolder()

```
public boolean
saveProjectFolder(
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Saves/exports a project folder into ITPTS.

Parameters:

project - project to export
server_data - server files folder

Returns:

true if the save succeeded, false otherwise

2.1.12 Method saveProjectFolderAs()

```
public boolean
saveProjectFolderAs(
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Saves/exports a project folder into ITPTS after prompting for a new node.

Parameters:

project - project to export
server_data - server files folder

Returns:

true if the save succeeded, false otherwise

2.2 Interface Messenger

mil.dtra.hpac.client
public interface **Messenger**

Defines the method provided by an object which can display initialization messages.

Methods:

public void showMessage()

2.2.1 Method showMessage()

```
public void
showMessage(
    java.lang.String message,
    java.lang.String header
)
```

Display the specified message.

Parameters:

message - message to display
 header - message header for the System.err log

2.3 Interface ProjectComponent

```
mil.dtra.hpac.client
public interface ProjectComponent
```

This defines a ProjectEditorIfc implementation's interface to objects which need to be given a ProjectEditorIfc reference after they are added to their container.

Methods:

```
public void install()
public void remove()
```

2.3.1 Method install()

```
public void
install( mil.dtra.hpac.client.ProjectEditorIfc project_editor )
```

Called by the project editor to install this object within the editor environment, which is defined by the ProjectEditorIfc. Note this is for the object's benefit so as to have a ProjectEditorIfc reference for future processing.

Parameters:

project_editor - reference to the project editor context and environment object

2.3.2 Method remove()

```
public void
remove()
```

Removes this object from its Container and removes any auxiliary objects (which are not also ProjectComponents) created by this object from their respective containers.

2.4 Interface ProjectEditorIfc

```
mil.dtra.hpac.client
public interface ProjectEditorIfc
```

Defines the capabilities of the HPAC ProjectEditor bean. This is the exposed interface for ProjectEditor.

Fields:

```
public static final java.lang.String CLASSNAME_outputButton
public static final java.lang.String KEY_coord
public static final java.lang.String KEY_showEditDialog
public static final java.lang.String PRODUCT_DATE
public static final java.lang.String PRODUCT_VERSION
public static final java.lang.String TITLE
public static final int ZOOM_full
public static final int ZOOM_in
public static final int ZOOM_out
public static final int ZOOM_spatialDomain
```

Methods:

```
public void addComponent()
public void addObject()
public void addRulerOverlay()
public void addRulerOverlay()
public void checkProject()
public void computeResults()
public mil.dtra.hpac.client.ProjectObject createIncidentModel()
public mil.dtra.hpac.client.ProjectObject createIncidentModel()
public mil.dtra.hpac.client.ProjectObject createIncidentModel()
public void createNewProject()
public void deleteOutputButtons()
public void deleteSelectedObject()
public void editMapProperties()
public void editMaterials()
public void editOutput()
public void editOverlays()
public void editProjectFlags()
```

```

public void editProjectLimits()
public void editProjectOptions()
public void editProjectParameters()
public void editProjectSpatialDomain()
public void editProjectTemporalDomain()
public void editSelectedObject()
public void editWeather()
public void exportMapImage()
public void exportMapImage()
public boolean exportProjectFolder()
public boolean forceProjectSelection()
public mil.dtra.hpac.client.ITPTSAdapter getHPACToolAgent()
public java.awt.Container getMapContainer()
public mil.dtra.hpac.client.ProjectEditorProfile getProfile()
public mil.dtra.hpac.data.Project getProject()
public mil.dtra.hpac.client.ProjectMgr getProjectMgr()
public java.lang.String[] getUrbanParams()
public void helpShowAbout()
public void helpShowUsersGuide()
public void importProjectFolder()
public void importProjectFolder()
public boolean isReleaseEditAllowed()
public void loadMapURL()
public void openProject()
public void panMap()
public void printMap()
public void printSomething()
public void printSomething()
public void removeComponent()
public void removeObject()
public void repaintMap()
public java.io.File saveProject()
public java.io.File saveProjectAs()
public void selectObject()
public void setLookAndFeel()
public void setMap()
public void setMapUserMode()
public void setProject()
public void setStatusCoord()
public void setStatusMessage()
public void terminate()
public void updateFrameTitle()
public void zoomMap()

```

2.4.1 Field CLASSNAME_outputButton

public static final java.lang.String **CLASSNAME_outputButton**

Name of the output button class

2.4.2 Field KEY_coord

public static final java.lang.String **KEY_coord**

Client properties key

2.4.3 Field KEY_showEditDialog

public static final java.lang.String **KEY_showEditDialog**

Client properties key

2.4.4 Field PRODUCT_DATE

public static final java.lang.String **PRODUCT_DATE**

Release date string

2.4.5 Field PRODUCT_VERSION

public static final java.lang.String **PRODUCT_VERSION**

Release version string

2.4.6 Field TITLE

public static final java.lang.String **TITLE**

Frame title string

2.4.7 Field ZOOM_full

public static final int **ZOOM_full**

2.4.8 Field ZOOM_in

public static final int **ZOOM_in**

2.4.9 Field ZOOM_out

public static final int **ZOOM_out**

2.4.10 Field ZOOM_spatialDomain

```
public static final int ZOOM_spatialDomain
```

2.4.11 Method addComponent()

```
public void
addComponent( java.awt.Component component )
```

Adds a Component to the map pane. Must be called from the event dispatch thread.

Parameters:

component - component to add

2.4.12 Method addObject()

```
public void
addObject( mil.dtra.hpac.client.ProjectComponent object )
```

Adds a ProjectComponent object and places it in the appropriate container. ProjectObject objects are added to the project object set. Must be called from the event dispatch thread.

Parameters:

object - object to add

2.4.13 Method addRulerOverlay()

```
public void
addRulerOverlay()
```

Adds a RulerOverlay to the map display at the current center point. Must be called from the event dispatch thread.

2.4.14 Method addRulerOverlay()

```
public void
addRulerOverlay(
    int x,
    int y
)
```

Adds a RulerOverlay to the map display at the specified device coordinate point. Must be called from the event dispatch thread.

Parameters:

- x - x DC position at which to add the overlay, where -1 implies the center of the map display
 - y - y DC position at which to add the overlay, where -1 implies the center of the map display
-

2.4.15 Method checkProject()

```
public void
checkProject()
```

Checks the current project for consistency, throwing an exception with a message describing any problem.

Exceptions:

- IllegalStateException - if an incident has no release or a release has no material
-

2.4.16 Method computeResults()

```
public void
computeResults()
```

Initiates an interactive dispersion calculation with the current project.
If the current project has no incidents defined, a message box is displayed.
Must be called from the event dispatch thread.

2.4.17 Method createIncidentModel()

```
public mil.dtra.hpac.client.ProjectObject
createIncidentModel( java.lang.String bean_name )
```

Instantiates an incident model bean with an assumed drag location on the map display. Exceptions and errors are reported via a message box. Must be called from the event dispatch thread.

Parameters:

- bean_name - name of source model bean

Returns:

- created incident model or null on error
-

2.4.18 Method createIncidentModel()

```
public mil.dtra.hpac.client.ProjectObject
createIncidentModel(
    java.lang.String bean_name,
    int x,
    int y
)
```

Inversely projects from the specified DC location to world coordinates. Instantiates a model bean with the computed coordinate. Must be called from the event dispatch thread.

Parameters:

- bean_name - name of source model bean
- x - x device coordinate location
- y - y device coordinate location

Returns:

created incident model or null on error

2.4.19 Method createIncidentModel()

```
public mil.dtra.hpac.client.ProjectObject
createIncidentModel(
    java.lang.String bean_name,
    java.awt.geom.Point2D coord
)
```

Instantiates the specified model bean and sets its incident location to the specified coordinate. Must be called from the event dispatch thread.

Parameters:

- bean_name - name of source model bean
- coord - initial coordinate position

Returns:

created incident model or null on error

2.4.20 Method `createNewProject()`

```
public void  
createNewProject()
```

Establishes a new, empty project for this editor after prompting the user to save the current project. Must be called from the event dispatch thread.

2.4.21 Method `deleteOutputButtons()`

```
public void  
deleteOutputButtons()
```

Removes any output buttons that may exist. Must be called from the event dispatch thread.

2.4.22 Method `deleteSelectedObject()`

```
public void  
deleteSelectedObject()
```

Removes any currently selected object on the map display. Must be called from the event dispatch thread.

2.4.23 Method `editMapProperties()`

```
public void  
editMapProperties()
```

Brings up a dialog for editing map display properties. Must be called from the event dispatch thread.

2.4.24 Method `editMaterials()`

```
public void  
editMaterials()
```

Brings up the material editor. Must be called from the event dispatch thread.

2.4.25 Method editOutput()

```
public void  
editOutput()
```

Calls `performEdit()` on the output button, if it exists. Must be called from the event dispatch thread.

2.4.26 Method editOverlays()

```
public void  
editOverlays()
```

Brings up a dialog for editing visibility and relative order of overlays on the map display. Must be called from the event dispatch thread.

2.4.27 Method editProjectFlags()

```
public void  
editProjectFlags()
```

Brings up a dialog for editing project flags. Must be called from the event dispatch thread.

2.4.28 Method editProjectLimits()

```
public void  
editProjectLimits()
```

Brings up a dialog for editing project limits. Must be called from the event dispatch thread.

2.4.29 Method editProjectOptions()

```
public void  
editProjectOptions()
```

Brings up a dialog for editing project options. Must be called from the event dispatch thread.

2.4.30 Method editProjectParameters()

```
public void  
editProjectParameters()
```

Brings up a dialog for editing project parameters. Must be called from the event dispatch thread.

2.4.31 Method editProjectSpatialDomain()

```
public void  
editProjectSpatialDomain()
```

Brings up a dialog for editing the project spatial domain. Must be called from the event dispatch thread.

2.4.32 Method editProjectTemporalDomain()

```
public void  
editProjectTemporalDomain()
```

Brings up a dialog for editing the project temporal domain. Must be called from the event dispatch thread.

2.4.33 Method editSelectedObject()

```
public void  
editSelectedObject()
```

Requests a property edit dialog from the current selected object on the map display, if one is selected. Must be called from the event dispatch thread.

2.4.34 Method editWeather()

```
public void  
editWeather()
```

Requests a weather edit dialog to be displayed. Must be called from the event dispatch thread.

2.4.35 Method exportMapImage()

```
public void  
exportMapImage()
```

Requests the display of a file save dialog to hold an image export of the map display. Must be called from the event dispatch thread.

2.4.36 Method `exportMapImage()`

```
public void
exportMapImage( java.io.OutputStream output )
```

Saves the current map display to the specified stream. Must be called from the event dispatch thread.

Parameters:

output - output stream on which to save the encoded image

Exceptions:

IOException - on any error

2.4.37 Method `exportProjectFolder()`

```
public boolean
exportProjectFolder()
```

Prompts the user to save all project client and server files as an export folder in a file or IPTS node. Must be called from the event dispatch thread.

Returns:

true if the export succeeded, false otherwise

2.4.38 Method `forceProjectSelection()`

```
public boolean
forceProjectSelection()
```

If the current project is a new project instance (has not been named) this method will prompt the user to choose to create a new project or open an existing one.

Returns:

false if the project was new and user canceled the create/open operation, true otherwise

2.4.39 Method getHPACToolAgent()

```
public mil.dtra.hpac.client.ITPTSAAdapter
getHPACToolAgent()
```

Returns a reference to the ITPTS double agent handling things for HPAC.

Returns:

object reference implementing IHPACToolAgent as well as ITPTSAAdapter, or null if ITPTS is not active

2.4.40 Method getMapContainer()

```
public java.awt.Container
getMapContainer()
```

Retrieves the container holding the map display and map components.

Returns:

reference to the container

2.4.41 Method getProfile()

```
public mil.dtra.hpac.client.ProjectEditorProfile
getProfile()
```

Accessor for the *profile* property.

Returns:

reference to object defining the application profile and environment

2.4.42 Method getProject()

```
public mil.dtra.hpac.data.Project
getProject()
```

Accessor for the *project* property.

Returns:

reference to the current project object

2.4.43 Method getProjectMgr()

```
public mil.dtra.hpac.client.ProjectMgr
getProjectMgr()
```

Accessor for the *projectMgr* property.

Returns:

reference to the project manager object

2.4.44 Method getUrbanParams()

```
public java.lang.String[]
getUrbanParams()
```

Retrieves UDM and UWM parameters as defined by the UrbanButton, if it exists.

Returns:

array with UDM and UWM settings in order, where blank strings indicate no settings

2.4.45 Method helpShowAbout()

```
public void
helpShowAbout()
```

Shows the about box for the application in a dialog box. Must be called from the event dispatch thread.

2.4.46 Method helpShowUsersGuide()

```
public void
helpShowUsersGuide()
```

Brings up the "User's Guide" in a browser window. This method will be replaced with a hook to the help system SAIC is forging. Must be called from the event dispatch thread.

2.4.47 Method importProjectFolder()

```
public void
importProjectFolder()
```

Prompts for a file (or IPTS node) containing a project folder to import. Must be called from the event dispatch thread.

2.4.48 Method importProjectFolder()

```
public void
importProjectFolder(
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Imports the specified project folder. Must be called from the event dispatch thread.

2.4.49 Method isReleaseEditAllowed()

```
public boolean
isReleaseEditAllowed()
```

Returns boolean indicating whether or not edit of releases (and incidents), is allowed for the current project.

Returns:

true if release and incident edits are allowed, false otherwise

2.4.50 Method loadMapURL()

```
public void
loadMapURL()
```

Brings up an input dialog for the user to enter a URL to a map display definition. If one is provided, attempts to load it as the new map display. This method and the corresponding action likely will be deprecated soon. Must be called from the event dispatch thread.

2.4.51 Method openProject()

```
public void
openProject()
```

Prompts the user to save the current project if it has any incidents; then presents a file open dialog for selection of a new project. May be called from a thread other than the event dispatch thread.

2.4.52 Method panMap()

```
public void
panMap( int direction )
```

Attempts to pan the map display in the direction specified.

Parameters:

direction - one of the SwingConstants values NORTH, EAST, SOUTH, WEST

2.4.53 Method printMap()

```
public void
printMap()
```

Brings up a print dialog to initiate a print job. Must be called from the event dispatch thread.

2.4.54 Method printSomething()

```
public void
printSomething( java.awt.print.Pageable pageable )
```

Brings up a print dialog to initiate a print job for the specified `Printable`. Must be called from the event dispatch thread.

Parameters:

pageable - object defining the contents of the print

2.4.55 Method printSomething()

```
public void
printSomething( java.awt.print.Printable printable )
```

Brings up a print dialog to initiate a print job for the specified `Printable`. Must be called from the event dispatch thread.

Parameters:

printable - object to print

2.4.56 Method removeComponent()

```
public void
removeComponent( java.awt.Component component )
```

Removes the specified component from the map pane. Must be called from the event dispatch thread.

Parameters:

component - component to remove

2.4.57 Method removeObject()

```
public void
removeObject( mil.dtra.hpac.client.ProjectComponent object )
```

Removes the specified object from its container. Must be called from the event dispatch thread.

Parameters:

object - object to remove

2.4.58 Method repaintMap()

```
public void
repaintMap()
```

Repaints the map display.

2.4.59 Method saveProject()

```
public java.io.File
saveProject()
```

Serializes the current *project* after updating its *weather* property. The project is then saved via ITPTS, if active, or in the filesystem.

Returns:

null on failure, otherwise if ITPTS is active, a file with name "ITPTS", otherwise the file in which the project was saved

2.4.60 Method saveProjectAs()

```
public java.io.File  
saveProjectAs()
```

Prompts the user for the name of a file in which to save the project. Must be called from the event dispatch thread.

Returns:

file object in which project was saved, or null on an error

2.4.61 Method selectObject()

```
public void  
selectObject( java.awt.Component component )
```

Calls `requestFocus()` for the specified component. Must be called from the event dispatch thread.

Parameters:

component - component to give focus

2.4.62 Method setLookAndFeel()

```
public void  
setLookAndFeel( java.lang.String name )
```

Attempts to set the look and feel to the specified LAF class name, which must implement `javax.swing.LookAndFeel`. Must be called from the event dispatch thread.

Parameters:

name - LAF class name

2.4.63 Method setMap()

```
public void  
setMap( mil.dtra.map.MapDisplayDef map_def )
```

Sets the map display definition. Must be called from the event dispatch thread.

Parameters:

map_def - map display definition object

2.4.64 Method setMapUserMode()

```
public void
setMapUserMode( int mode )
```

Sets the user mode for interaction on the map display. Must be called from the event dispatch thread.

2.4.65 Method setProject()

```
public void
setProject( mil.dtra.hpac.data.Project project )
```

Accessor for the *project* property. Establishes a new project for the editor, removing all ProjectObject components associated with the current project and adding those for the new one. May be called from a thread other than the event dispatch thread.

Parameters:

project - project object whose reference is saved

2.4.66 Method setStatusCoord()

```
public void
setStatusCoord( java.awt.geom.Point2D coord )
```

Sets the coordinate to be displayed on the status bar.

Parameters:

coord - coordinate value to display

2.4.67 Method setStatusMessage()

```
public void
setStatusMessage( java.lang.String message )
```

Set the message on the status bar below the map pane.

Parameters:

message - text to display

2.4.68 Method terminate()

```
public void
terminate()
```

Prompts the user to save the current project, then exits if the user did not cancel. Must be called from the event dispatch thread.

2.4.69 Method updateFrameTitle()

```
public void
updateFrameTitle()
```

Updates the frame title based on the project name.

2.4.70 Method zoomMap()

```
public void
zoomMap( int mode )
```

Attempts to zoom the map display according to the specified mode. Must be called from the event dispatch thread.

Parameters:

mode - one of the constants defined in this interface:
ZOOM_full fulldezoom of the map display to its fully defined extent. **ZOOM_in** zoom in (closer) using the current map center **ZOOM_out** zoom out (farther) using the current map center **ZOOM_spatialDomain** zoom to the currently defined spatial domain; nothing occurs if the project spatial domain has not been defined

2.5 Interface ProjectEditorModalDialog

```
mil.dtra.hpac.client
public interface ProjectEditorModalDialog
```

Defines the method(s) by which an externally produced modal dialog can be hooked into the **ProjectEditor**. This has been added specifically to support HYTRAS.

Methods:

```
public void install()
```

2.5.1 Method install()

```
public void
install(
    java.awt.Frame frame,
    mil.dtra.hpac.client.ProjectEditorIfc project_editor
)
```

Called by the project editor to install this object within the editor environment, which is defined by the `ProjectEditorIfc`. Note this is for the object's benefit so as to have a `ProjectEditorIfc` reference for future processing.

Parameters:

frame - parent frame for modal dialogs
 project_editor - reference to the project editor context and environment object

2.6 Interface ProjectObject

```
mil.dtra.hpac.client
public interface ProjectObject
extends ProjectComponent, PropsSerializer,
```

Tagging extension of `ProjectComponent` for objects which are to be props-(de)serialized with the project.

2.7 Interface PropertyNames

```
mil.dtra.hpac.client
public interface PropertyNames
```

Constants defining property names used by `ProjectEditorProfile`.

Fields:

public static final java.lang.String	PROP_appletContext
public static final java.lang.String	PROP_currentDir
public static final java.lang.String	PROP_maps
public static final java.lang.String	PROP_modelBeans
public static final java.lang.String	PROP_palettes
public static final java.lang.String	PROP_plotClass
public static final java.lang.String	PROP_poiGroups
public static final java.lang.String	PROP_PREFIX
public static final java.lang.String	PROP_propsURL
public static final java.lang.String	PROP_rootURL
public static final java.lang.String	PROP_standalone
public static final java.lang.String	PROP_substrates

```
public static final java.lang.String PROP_UDMButtonClass
public static final java.lang.String PROP_version
public static final java.lang.String USER_PROP_defaultMap
public static final java.lang.String USER_PROP_PREFIX
```

2.7.1 Field PROP_appletContext

```
public static final java.lang.String PROP_appletContext
```

2.7.2 Field PROP_currentDir

```
public static final java.lang.String PROP_currentDir
```

2.7.3 Field PROP_maps

```
public static final java.lang.String PROP_maps
```

2.7.4 Field PROP_modelBeans

```
public static final java.lang.String PROP_modelBeans
```

2.7.5 Field PROP_palettes

```
public static final java.lang.String PROP_palettes
```

2.7.6 Field PROP_plotClass

```
public static final java.lang.String PROP_plotClass
```

2.7.7 Field PROP_poiGroups

```
public static final java.lang.String PROP_poiGroups
```

2.7.8 Field PROP_PREFIX

```
public static final java.lang.String PROP_PREFIX
```

2.7.9 Field PROP_propsURL

```
public static final java.lang.String PROP_propsURL
```

2.7.10 Field PROP_rootURL

```
public static final java.lang.String PROP_rootURL
```

2.7.11 Field PROP_standalone

```
public static final java.lang.String PROP_standalone
```

2.7.12 Field PROP_substrates

```
public static final java.lang.String PROP_substrates
```

2.7.13 Field PROP_UDMButtonClass

```
public static final java.lang.String PROP_UDMButtonClass
```

2.7.14 Field PROP_version

```
public static final java.lang.String PROP_version
```

2.7.15 Field USER_PROP_defaultMap

```
public static final java.lang.String USER_PROP_defaultMap
```

2.7.16 Field USER_PROP_PREFIX

```
public static final java.lang.String USER_PROP_PREFIX
```

2.8 Class HPACSplashBox

```
mil.dtra.hpac.client
public HPACSplashBox
extends JPanel
implements ActionListener,
```

Extends JComponent to provide a component with the HPAC Project Editor splash display.

Fields:

```
protected javax.swing.JButton fCloseButton
protected java.awt.Dimension fImageGap
protected java.awt.Font fTitleFont
public static final java.lang.String ICON_NAME
protected static final java.lang.String[] strings_
```

Methods:

```
public void actionPerformed()
protected void create()
public static java.awt.Dialog createAboutDialog()
public static java.awt.Window createAboutWindow()
public final javax.swing.JButton getCloseButton()
public final java.awt.Dimension getImageGap()
public final java.awt.Font getTitleFont()
public void init()
public void paint()
protected void paintComponent()
public final void setImageGap()
public final void setTitleFont()
```

2.8.1 Field fCloseButton

protected javax.swing.JButton fCloseButton

2.8.2 Field fImageGap

protected java.awt.Dimension fImageGap

2.8.3 Field fTitleFont

protected java.awt.Font fTitleFont

2.8.4 Field ICON_NAME

public static final java.lang.String ICON_NAME

2.8.5 Field strings__

protected static final java.lang.String[] strings__

2.8.6 Constructor HPACSplashBox()

**public
HPACSplashBox()**

Default, noop constructor. Must call `init()`.

2.8.7 Constructor HPACSplashBox()

```
public  
HPACSplashBox( mil.dtra.util.ValueProperties props )
```

Constructs with a properties object, assuming no button label.

Parameters:

props - object with properties for this

2.8.8 Constructor HPACSplashBox()

```
public  
HPACSplashBox(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String button_label  
)
```

Constructs with a properties object and a button label.

Parameters:

props - object with properties for this
button_label - label for a close button or null for no button

2.8.9 Method actionPerformed()

```
public void  
actionPerformed( java.awt.event.ActionEvent event )
```

Responds to close button actions.

2.8.10 Method create()

```
protected void  
create( java.lang.String button_label )
```

Creates sub-components.

Parameters:

button_label - label for a close button or null for no button

2.8.11 Method createAboutDialog()

```
public static java.awt.Dialog
createAboutDialog(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Creates a dialog which can serve as an about box.

Parameters:

props - object with properties for the splash box
 title - dialog title

Returns:

dialog

2.8.12 Method createAboutWindow()

```
public static java.awt.Window
createAboutWindow( mil.dtra.util.ValueProperties props )
```

Creates a window which can serve as an about box.

Parameters:

props - object with properties for the splash box

Returns:

window

2.8.13 Method getCloseButton()

```
public final javax.swing.JButton
getCloseButton()
```

Returns:

object reference

2.8.14 Method getImageGap()

```
public final java.awt.Dimension
getImageGap()
```

Accessor for the *imageGap* property, which is the gap or margin around the logo image.

Returns:

image gap in pixels

2.8.15 Method getTitleFont()

```
public final java.awt.Font
getTitleFont()
```

Accessor for the *titleFont* property, which is the font used to display title text.

Returns:

copy of the font

2.8.16 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    java.lang.String button_label
)
```

Creates this component and its sub-components.

Parameters:

props - object with properties for this
button_label - label for a close button or null for no button

2.8.17 Method paint()

```
public void
paint( java.awt.Graphics graphics )
```

2.8.18 Method paintComponent()

```
protected void
paintComponent( java.awt.Graphics graphics )
```

2.8.19 Method setImageGap()

```
public final void
setImageGap( java.awt.Dimension gap )
```

Accessor for the *imageGap* property, which is the gap or margin around the logo image.

Parameters:

gap - image gap in pixels

2.8.20 Method setTitleFont()

```
public final void
setTitleFont( java.awt.Font font )
```

Accessor for the *titleFont* property, which is the font used to display title text.

Parameters:

font - title font

2.9 Class ProjectEditor

```
mil.dtra.hpac.client
public ProjectEditor
extends JPanel
implements ActionListener, FileFilters, ProjectEditorIfc, PropertyNames,
```

JPanel extension serving as the mondo HPAC project editor bean living inside a `ProjectEditorFrame`. It is the implementation of the `ProjectEditorIfc` interface and is only exposed via that interface. As of now, there are no bound properties.

Exception Processing

With rare exceptions, dialogs and message boxes should be presented to the user only by event handling methods (e.g., implementations of methods specified in listener interfaces). Usually, actions result in `ProjectEditorIfc` methods implemented here. In other cases, exceptions should be propagated to the caller. With that in mind, there should be three classes of exceptions presented to the user.

1. User Mistakes and Choices

These are choices and settings the user makes which represent invalid or inconsistent input. In these cases, JOptionPane.WARNING_MESSAGE should be specified as the message type for JOptionPane dialogs. These conditions should be handled gracefully and must not result in abnormal termination of the operation, much less the application.

2. Abnormal Conditions Preempting the Operation

There are two types of these situations. First is when the code itself has failed to meet the conditions or contract for your method. If not in an event handling method, you should propagate a RuntimeException or extension. Other situations are those not caused by improper coding, such as I/O or network errors, which should result in a checked exception being propagated when not handling an event. In top level event handlers, a detailed error message should be written to System.err followed by a stack trace. Then a JOptionPane.ERROR_MESSAGE dialog should be presented to the user with a summary description of the problem. Although the operation is aborted, the application should not terminate and should be able to continue with other operations.

We should encourage users to forward us the log file in these situations.

3. System Errors

These include things like OutOfMemoryError and conditions which are not caused by our code. The top level event handling method should give the user a summary dialog of type JOptionPane.ERROR_MESSAGE after writing a detailed message and stack trace to System.err.

Fields:

```
protected javax.swing.JTextField fCoordField
protected transient java.awt.dnd.DropTargetListener fDropListener
protected transient java.awt.event.MouseListener fDropPaneMouseListener
protected transient java.awt.dnd.DropTarget fDropTarget
protected mil.dtra.hpac.client.display.IncidentDefPanel flncidentDefPanel
protected transient mil.dtra.hpac.client.IPTSAAdapter fitPPTSAAdapter
public static final java.awt.datatransfer.DataFlavor[] FLAVORS
protected transient volatile boolean fListeningFlag
protected transient java.beans.PropertyChangeListener fMapModeChoiceListener
protected transient javax.swing.JDialog fMapOverlayDialog
protected mil.dtra.hpac.client.display.MapPane fMapPane
protected transient boolean fModifiedFlag
protected transient java.awt.event.ContainerListener fObjectContainerListener
protected mil.dtra.hpac.client.display.ObjectPalette fObjectPalette
protected mil.dtra.hpac.client.ProjectEditorProfile fProfile
protected mil.dtra.hpac.data.Project fProject
protected transient mil.dtra.hpac.client.event.ProjectActions fProjectActions
protected transient mil.dtra.hpac.client.ProjectMgr fProjectMgr
protected transient volatile javax.swing.JDialog fScipuffBeanDialog
protected transient java.awt.event.WindowListener fScipuffBeanHandler
protected javax.swing.JTextField fStatusField
protected mil.dtra.hpac.client.display.ProjectEditorToolBar fToolBar
protected transient java.lang.Class fUDMButtonClass
protected transient mil.dtra.weather.client.display.WeatherButton fWeatherButton
public static final java.lang.String KEY_createBeanName
public static final java.lang.String KEY_createLocation
```

```

public static final int LOG_level
public static final java.awt.datatransfer.DataFlavor MODEL_INSTANCE_FLAVOR
public static final java.awt.datatransfer.DataFlavor MODEL_NAME_FLAVOR
protected static final java.lang.String MUST_EDIT_WX_MESSAGE
protected static final java.lang.String MUST_SAVE_MESSAGE
protected static final java.lang.String NFAC_EXPOSURE_MESSAGE_1
protected static final java.lang.String NFAC_EXPOSURE_MESSAGE_2
public static final java.lang.String PROJECT_EDITOR
public static final java.lang.String UDM_PARAMS_METHOD_NAME
public static final java.lang.String UWM_PARAMS_METHOD_NAME

```

Methods:

```

public void actionPerformed()
public void addComponent()
public void addObject()
public final void addRulerOverlay()
public void addRulerOverlay()
protected boolean checkNfacEndTimes()
public void checkProject()
public void computeResults()
public final mil.dtra.hpac.client.ProjectObject createIncidentModel()
public mil.dtra.hpac.client.ProjectObject createIncidentModel()
public mil.dtra.hpac.client.ProjectObject createIncidentModel()
public void createNewProject()
protected java.awt.Component createStatusBar()
public void deleteOutputButtons()
public void deleteSelectedObject()
public void editMapProperties()
public void editMaterials()
public void editOutput()
public void editOverlays()
public void editProjectFlags()
public void editProjectLimits()
public void editProjectOptions()
public void editProjectParameters()
public void editProjectSpatialDomain()
public void editProjectTemporalDomain()
public void editSelectedObject()
public void editWeather()
public void exportMapImage()
public void exportMapImage()
public boolean exportProjectFolder()
public boolean forceProjectSelection()
public final javax.swing.JTextField getCoordField()
public final mil.dtra.hpac.client.IPTSAAdapter getHPACToolAgent()
public final mil.dtra.hpac.client.display.IncidentDefPanel getIncidentDefPanel()

```

```

public final java.awt.Container getMapContainer()
public final mil.dtra.hpac.client.display.MapPane getMapPane()
public mil.dtra.hpac.client.display.ProjectEditorMenuBar getMenuBar()
public final mil.dtra.hpac.client.display.ObjectPalette getObjectPalette()
public final mil.dtra.hpac.client.ProjectEditorProfile getProfile()
public final mil.dtra.hpac.data.Project getProject()
public final mil.dtra.hpac.client.event.ProjectActions getProjectActions()
public final mil.dtra.hpac.client.ProjectMgr getProjectMgr()
public final javax.swing.JTextField getStatusField()
public final javax.swing.JToolBar getToolBar()
public java.lang.String[] getUrbanParams()
protected void handleException()
protected void handleThrowable()
public void helpShowAbout()
public void helpShowUsersGuide()
public void importProjectFolder()
public void importProjectFolder()
public void init()
protected void initITPTS()
protected void initUDM()
public void installObject()
public boolean isReleaseEditAllowed()
public void loadMapURL()
protected void logMessage()
public void openProject()
public void panMap()
public void printMap()
public void printSomething()
public void printSomething()
public int promptToSaveCurrentProject()
public void removeComponent()
public void removeNotify()
public void removeObject()
public void repaintMap()
public java.io.File saveProject()
public java.io.File saveProjectAs()
protected java.io.File saveProjectImpl()
public void selectObject()
public void setLookAndFeel()
public void setMap()
public void setMapUserMode()
public void setProject()
protected void setProjectImpl()
public void setStatusCoord()
public void setStatusMessage()
protected synchronized void startListening()
protected synchronized void stopListening()

```

```
public void terminate()
public void uninstallObject()
public void updateFrameTitle()
public void zoomMap()
public void zoomMapFull()
```

Inner Classes:

```
ProjectEditor.DropListener
ProjectEditor.DropPaneMouseListener
ProjectEditor.MapModeChoiceListener
ProjectEditor.ObjectContainerListener
ProjectEditor.PrintThread
ProjectEditor.ScipuffBeanHandler
```

2.9.1 Field fCoordField

protected javax.swing.JTextField **fCoordField**

2.9.2 Field fDropListener

protected transient java.awt.dnd.DropTargetListener **fDropListener**

2.9.3 Field fDropPaneMouseListener

protected transient java.awt.event.MouseListener **fDropPaneMouseListener**

2.9.4 Field fDropTarget

protected transient java.awt.dnd.DropTarget **fDropTarget**

2.9.5 Field fIncidentDefPanel

protected mil.dtra.hpac.client.display.IncidentDefPanel **fIncidentDefPanel**

2.9.6 Field fITPTSAdapter

protected transient mil.dtra.hpac.client.ITPTSAdapter **fITPTSAdapter**

2.9.7 Field FLAVORS

```
public static final java.awt.datatransfer.DataFlavor[] FLAVORS
```

Flavors accepted by the MapPane drop target managed here (MODEL_INSTANCE_FLAVOR, MODEL_NAME_FLAVOR, DataFlavor.stringFlavor)

2.9.8 Field fListeningFlag

```
protected transient volatile boolean fListeningFlag
```

2.9.9 Field fMapModeChoiceListener

```
protected transient java.beans.PropertyChangeListener fMapModeChoiceListener
```

2.9.10 Field fMapOverlayDialog

```
protected transient javax.swing.JDialog fMapOverlayDialog
```

2.9.11 Field fMapPane

```
protected mil.dtra.hpac.client.display.MapPane fMapPane
```

2.9.12 Field fModifiedFlag

```
protected transient boolean fModifiedFlag
```

2.9.13 Field fObjectContainerListener

```
protected transient java.awt.event.ContainerListener fObjectContainerListener
```

2.9.14 Field fObjectPalette

```
protected mil.dtra.hpac.client.display.ObjectPalette fObjectPalette
```

2.9.15 Field fProfile

```
protected mil.dtra.hpac.client.ProjectEditorProfile fProfile
```

2.9.16 Field fProject

```
protected mil.dtra.hpac.data.Project fProject
```

2.9.17 Field fProjectActions

protected transient mil.dtra.hpac.client.event.ProjectActions **fProjectActions**

2.9.18 Field fProjectMgr

protected transient mil.dtra.hpac.client.ProjectMgr **fProjectMgr**

2.9.19 Field fScipuffBeanDialog

protected transient volatile javax.swing.JDialog **fScipuffBeanDialog**

2.9.20 Field fScipuffBeanHandler

protected transient java.awt.event.WindowListener **fScipuffBeanHandler**

2.9.21 Field fStatusField

protected javax.swing.JTextField **fStatusField**

2.9.22 Field fToolBar

protected mil.dtra.hpac.client.display.ProjectEditorToolBar **fToolBar**

2.9.23 Field fUDMButtonClass

protected transient java.lang.Class **fUDMButtonClass**

2.9.24 Field fWeatherButton

protected transient mil.dtra.weather.client.display.WeatherButton **fWeatherButton**

2.9.25 Field KEY_createBeanName

public static final java.lang.String **KEY_createBeanName**

2.9.26 Field KEY_createLocation

public static final java.lang.String **KEY_createLocation**

2.9.27 Field LOG_level

public static final int LOG_level

2.9.28 Field MODEL_INSTANCE_FLAVOR

public static final java.awt.datatransfer.DataFlavor MODEL_INSTANCE_FLAVOR

ModelInstanceFlavor . FLAVOR reference

2.9.29 Field MODEL_NAME_FLAVOR

public static final java.awt.datatransfer.DataFlavor MODEL_NAME_FLAVOR

ModelNameFlavor . FLAVOR reference

2.9.30 Field MUST_EDIT_WX_MESSAGE

protected static final java.lang.String MUST_EDIT_WX_MESSAGE

2.9.31 Field MUST_SAVE_MESSAGE

protected static final java.lang.String MUST_SAVE_MESSAGE

2.9.32 Field NFAC_EXPOSURE_MESSAGE_1

protected static final java.lang.String NFAC_EXPOSURE_MESSAGE_1

2.9.33 Field NFAC_EXPOSURE_MESSAGE_2

protected static final java.lang.String NFAC_EXPOSURE_MESSAGE_2

2.9.34 Field PROJECT_EDITOR

public static final java.lang.String PROJECT_EDITOR

2.9.35 Field UDM_PARAMS_METHOD_NAME

public static final java.lang.String UDM_PARAMS_METHOD_NAME

2.9.36 Field UWM_PARAMS_METHOD_NAME

public static final java.lang.String UWM_PARAMS_METHOD_NAME

2.9.37 Constructor ProjectEditor()

```
public
ProjectEditor()
```

Default constructor, called by all other constructors. The `init()` method must be called.

2.9.38 Constructor ProjectEditor()

```
public
ProjectEditor(
    mil.dtra.hpac.client.ProjectEditorProfile profile,
    mil.dtra.hpac.client.Messenger messenger
)
```

Constructs calling `init()` with the specified profile object.

Parameters:

profile - reference to application profile
 messenger - reference to messenger for logging activity during initialization

2.9.39 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles action events from the weather button. Specifically, it updates the *wxSpatialTemporalDomain* properties of the project to be copies of the current domain.

Parameters:

event - action event

2.9.40 Method addComponent()

```
public void
addComponent( java.awt.Component component )
```

Adds a Component to the map pane. Simply calls `add()` on the *mapPane* object. Must be called from the event dispatch thread.

Parameters:

component - component to add

2.9.41 Method addObject()

```
public void
addObject( mil.dtra.hpac.client.ProjectComponent object )
```

Adds a ProjectComponent to this project editor. ObjectPaletteButton instances are added to the object palette, and everything else is added to the map pane. Must be called from the event dispatch thread.

Parameters:

object - object to add

2.9.42 Method addRulerOverlay()

```
public final void
addRulerOverlay()
```

Adds a RulerOverlay to the map display at the current center point. Must be called from the event dispatch thread.

2.9.43 Method addRulerOverlay()

```
public void
addRulerOverlay(
    int x,
    int y
)
```

Adds a RulerOverlay to the map display at the specified device coordinate point. Must be called from the event dispatch thread.

Parameters:

x - x DC position at which to add the overlay, where -1 implies the center
y - y DC position at which to add the overlay, where -1 implies the center

2.9.44 Method checkNfacEndTimes()

```
protected boolean
checkNfacEndTimes( mil.dtra.hpac.data.Project project )
```

Parameters:

project - project reference to possibly update

Returns:

true to continue computation, false to abort

2.9.45 Method checkProject()

```
public void
checkProject()
```

Checks the *project* for consistency, throwing an exception with a message describing any problem. Calls `check()` on the *project* object.

Exceptions:

`IllegalStateException` - if an incident has no release or a release has no material

2.9.46 Method computeResults()

```
public void
computeResults()
```

Uses the current *project* to create a `ScipuffBeanDialog` containing a `ScipuffBean`. The latter will contact the `ScipuffServerFactory` to obtain a per-client `ScipuffServer` and perform the dispersion calculation.

If the current project has no incidents defined, a message box is displayed, and no `ScipuffBean` is created.

Must be called from the event dispatch thread.

2.9.47 Method createIncidentModel()

```
public final mil.dtra.hpac.client.ProjectObject
createIncidentModel( java.lang.String bean_name )
```

Instantiates an `IncidentModel` bean with an assumed drag location 40 pixels from the left and top of the map display. Calls `createIncidentModel(String, int, int)` passing the specified `bean_name`. Exceptions and errors are reported via a message box. Must be called from the event dispatch thread.

Parameters:

`bean_name` - name of source model bean

Returns:

created incident model or null on error

2.9.48 Method createIncidentModel()

```
public mil.dtra.hpac.client.ProjectObject
createIncidentModel(
    java.lang.String bean_name,
    int x,
    int y
)
```

Requests inverse projection from display coordinates to world coordinates for the specified location from the *mapPane* and then calls `createIncidentModel(String, int, int)`.

If the *mapPane* has not been initialized and cannot perform the inverse projection, the (x,y) position is assumed to be (lon,lat).

Must be called from the event dispatch thread.

Parameters:

- `bean_name` - name of source model bean
- `x` - x position on the map pane
- `y` - y position on the map pane

Returns:

created incident model or null on error

2.9.49 Method createIncidentModel()

```
public mil.dtra.hpac.client.ProjectObject
createIncidentModel(
    java.lang.String bean_name,
    java.awt.geom.Point2D coord
)
```

Instantiates the specified model bean and sets its incident location to the specified coordinate. This coordinate is passed in the bean's client property table under the `KEY_coord` key. We also set the `KEY_showEditDialog` entry to signal the bean's need to display an edit dialog. Calls `addObject()` to add the new bean to the *objectPalette*. Must be called from the event dispatch thread.

Parameters:

- `bean_name` - name of source model bean
- `coord` - initial coordinate position

Returns:

created incident model or null on error

2.9.50 Method `createNewProject()`

```
public void
createNewProject()
```

Establishes a new project for this editor after prompting the user to save the current project. Must be called from the event dispatch thread.

2.9.51 Method `createStatusBar()`

```
protected java.awt.Component
createStatusBar( mil.dtra.util.ValueProperties props )
```

Internal method to build the status bar.

Parameters:

`props` - object with properties for this

2.9.52 Method `deleteOutputButtons()`

```
public void
deleteOutputButtons()
```

Removes any output buttons that may exist. Must be called from the event dispatch thread.

2.9.53 Method `deleteSelectedObject()`

```
public void
deleteSelectedObject()
```

If the `selectedObject` property of the `mapPane` is not null, that object is removed. Must be called from the event dispatch thread.

2.9.54 Method `editMapProperties()`

```
public void
editMapProperties()
```

Calls `editMapDisplay()` on the `mapPane` to show a properties edit dialog for the current map display. Must be called from the event dispatch thread.

2.9.55 Method editMaterials()

```
public void  
editMaterials()
```

Brings up a `MaterialEditor` instance. Must be called from the event dispatch thread.

2.9.56 Method editOutput()

```
public void  
editOutput()
```

Calls `actionPerformed()` on the output button, if it exists. The `editOutput` action is supplanted by the *Edit->Edit Output* menu item.

2.9.57 Method editOverlays()

```
public void  
editOverlays()
```

Creates a `MapOverlayEditBean` in a dialog for editing the visibility and relative order of overlays currently existing on the `mapPane`. Must be called from the event dispatch thread.

2.9.58 Method editProjectFlags()

```
public void  
editProjectFlags()
```

Creates a `FlagsBean` in a dialog for editing the *project* flags. Must be called from the event dispatch thread.

2.9.59 Method editProjectLimits()

```
public void  
editProjectLimits()
```

Creates a `LimitsBean` in a dialog for editing the *project* limits. Must be called from the event dispatch thread.

2.9.60 Method editProjectOptions()

```
public void
editProjectOptions()
```

Creates an OptionsBean in a dialog for editing the *project* options. Must be called from the event dispatch thread.

2.9.61 Method editProjectParameters()

```
public void
editProjectParameters()
```

Creates a ParametersBean in a dialog for editing the *project* parameters. Must be called from the event dispatch thread.

2.9.62 Method editProjectSpatialDomain()

```
public void
editProjectSpatialDomain()
```

Creates a SpatialDomainBean in a dialog for editing the *project* spatial domain. Must be called from the event dispatch thread.

2.9.63 Method editProjectTemporalDomain()

```
public void
editProjectTemporalDomain()
```

Creates a TemporalDomainBean in a dialog for editing the *project* temporal domain. Must be called from the event dispatch thread.

2.9.64 Method editSelectedObject()

```
public void
editSelectedObject()
```

If the *selectedObject* property of the *mapPane* is not null and is a MapIcon, the object's showEditDialog() method is called for an interactive edit of the object's properties. Must be called from the event dispatch thread.

2.9.65 Method editWeather()

```
public void
editWeather()
```

Calls `performEdit()` on the weather button, if it exists. Must be called from the event dispatch thread.

2.9.66 Method exportMapImage()

```
public void
exportMapImage()
```

Prompts the user for a file in which to save an image generated from the map display. Must be called from the event dispatch thread.

2.9.67 Method exportMapImage()

```
public void
exportMapImage( java.io.OutputStream output )
```

Saves the current map display to the specified stream. Must be called from the event dispatch thread.

Parameters:

`output` - output stream on which to save the encoded image

Exceptions:

`IOException` - on any error

2.9.68 Method exportProjectFolder()

```
public boolean
exportProjectFolder()
```

Prompts the user to save all project client and server files as an export folder in a file or IPTPS node. Must be called from the event dispatch thread.

Returns:

true if exported, false otherwise

2.9.69 Method forceProjectSelection()

```
public boolean
forceProjectSelection()
```

If the current project is a new project instance (has not been named) this method will prompt the user to choose to create a new project or open an existing one.

Returns:

false if the project was new and user canceled the create/open operation, true otherwise

2.9.70 Method getCoordField()

```
public final javax.swing.JTextField
getCoordField()
```

Accessor for the *coordField* property.

Returns:

component reference

2.9.71 Method getHPACToolAgent()

```
public final mil.dtra.hpac.client.ITPTSAdapter
getHPACToolAgent()
```

Returns a reference to the ITPTS double agent handling things for HPAC.

Returns:

object reference implementing `IHPACToolAgent` as well as `ITPTSAdapter`, or null if ITPTS is not active

2.9.72 Method getIncidentDefPanel()

```
public final mil.dtra.hpac.client.display.IncidentDefPanel
getIncidentDefPanel()
```

Accessor for the *incidentDefPanel* property.

Returns:

reference to the `IncidentDefPanel` object

2.9.73 Method getMapContainer()

```
public final java.awt.Container
getMapContainer()
```

Implements the `ProjectEditorIfc` method by returning a reference to the `mapPane` object.

Returns:

reference to the container

2.9.74 Method getMapPane()

```
public final mil.dtra.hpac.client.display.MapPane
getMapPane()
```

Accessor for the `mapPane` property.

Returns:

reference to the `MapPane` object

2.9.75 Method getMenuBar()

```
public mil.dtra.hpac.client.display.ProjectEditorMenuBar
getMenuBar()
```

Attempts to fetch a `ProjectEditorMenuBar` as the frame menu bar.

Returns:

reference to the menu bar if found or null if not found

2.9.76 Method getObjectPalette()

```
public final mil.dtra.hpac.client.display.ObjectPalette
getObjectPalette()
```

Accessor for the `objectPalette` property.

Returns:

reference to the `ObjectPalette` object

2.9.77 Method **getProfile()**

```
public final mil.dtra.hpac.client.ProjectEditorProfile  
getProfile()
```

Accessor for the *profile* property.

Returns:

reference to object defining the application profile and environment

2.9.78 Method **getProject()**

```
public final mil.dtra.hpac.data.Project  
getProject()
```

Accessor for the *project* property.

Returns:

reference to the current project object

2.9.79 Method **getProjectActions()**

```
public final mil.dtra.hpac.client.event.ProjectActions  
getProjectActions()
```

Accessor for the *projectActions* property.

Returns:

reference to actions map

2.9.80 Method **getProjectMgr()**

```
public final mil.dtra.hpac.client.ProjectMgr  
getProjectMgr()
```

Accessor for the *projectMgr* property.

Returns:

reference to the project manager object

2.9.81 Method getStatusField()

```
public final javax.swing.JTextField
getStatusField()
```

Accessor for the *statusField* property.

Returns:

component reference

2.9.82 Method getToolBar()

```
public final javax.swing.JToolBar
getToolBar()
```

Accessor for the *toolBar* property.

Returns:

reference to the JToolBar object

2.9.83 Method getUrbanParams()

```
public java.lang.String[]
getUrbanParams()
```

Retrieves UDM and UWM parameters as defined by the UrbanButton, if it exists.

Returns:

array with UDM and UWM settings in order, where blank strings indicate no settings

2.9.84 Method handleException()

```
protected void
handleException(
    java.lang.Exception ex,
    java.lang.String title
)
```

Processes the second class of exceptions: abnormal conditions which preempt the current operation. Here we write to the System.err log as well as display message boxes.

Parameters:

ex - the exception
title - title for the message box or null

2.9.85 Method handleThrowable()

```
protected void
handleThrowable( java.lang.Throwable th )
```

Processes throwables representing the third class of exceptions: system level unexpected or un-caught errors. `OutOfMemoryError` and then `Error` instances are handled specially. Exceptions are passed to `handleException()` to be treated as the second class of exceptions. We write to the `System.err` log as well as display message boxes.

2.9.86 Method helpShowAbout()

```
public void
helpShowAbout()
```

Creates a message dialog containing a `HPACSplashBox` instance. Must be called from the event dispatch thread.

2.9.87 Method helpShowUsersGuide()

```
public void
helpShowUsersGuide()
```

Currently, this method instantiates an `HTMLViewer` to display the `help/index.html` file. It will be replaced with a hook to help system SAIC is forging. Must be called from the event dispatch thread.

2.9.88 Method importProjectFolder()

```
public void
importProjectFolder()
```

Prompts for a file (or IPTS node) containing a project folder to import. Must be called from the event dispatch thread.

2.9.89 Method importProjectFolder()

```
public void
importProjectFolder(
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Imports the specified project folder. Must be called from the event dispatch thread.

2.9.90 Method init()

```
public void
init(
    mil.dtra.hpac.client.ProjectEditorProfile profile,
    mil.dtra.hpac.client.Messenger messenger
)
```

Configures properties for this and creates sub-components. Hooks sub-component beans together by registering listeners as needed. Calls `startListening()` before returning.

Parameters:

profile - reference to application profile
 messenger - reference to messenger for logging activity during initialization

2.9.91 Method initITPTS()

```
protected void
initITPTS( mil.dtra.hpac.client.Messenger messenger )
```

Checks for the ITPTS environment, and if found initializes an ITPTS tool agent corresponding to this.

2.9.92 Method initUDM()

```
protected void
initUDM( mil.dtra.hpac.client.Messenger messenger )
```

Checks for the UDM button, and if found instantiates it.

2.9.93 Method installObject()

```
public void
installObject(
    java.awt.Component object,
    boolean add_to_object_set
)
```

Does the work of installing an object as a result of it being added to a watched container. In the usual sequence, a call to `addObject()` results in an object being added to the appropriate container, or some other sequence events results in a new object one of the watched containers.

Then, objectContainerListener picks it up and calls this method to complete the installation of the object w/in the ProjectEditor.

If the object is a ProjectComponent, its `install()` method is called, and if it is also a ProjectObject and the add flag is true, it is added to the project.objectSet. There are also some special things done for a ScipuffOutputButton. The last surface time is retrieved and set as the project.currentRunTime. Also, it is added to the menuBar.

Must be called from the event dispatch thread.

Parameters:

object - component to install
 add_to_object_set - if true, the object is added to the project objectSet if it is a ProjectObject

2.9.94 Method `isReleaseEditAllowed()`

```
public boolean
isReleaseEditAllowed()
```

Returns boolean indicating whether or not edit of releases (and incidents), is allowed for the current project. Placeholder for the future

Returns:

true if release and incident edits are allowed, false otherwise

2.9.95 Method `loadMapURL()`

```
public void
loadMapURL()
```

Brings up an input dialog for the user to enter a URL to a map display definition. If one is provided, attempts to load it as the new map display. This method and the corresponding action likely will be deprecated soon. Must be called from the event dispatch thread.

2.9.96 Method `logMessage()`

```
protected void
logMessage(
    mil.dtra.hpac.client.Messenger messenger,
    java.lang.String message
)
```

Logs either to the `messenger` property object or to `System.err` if it is null.

2.9.97 Method openProject()

```
public void
openProject()
```

Prompts the user to save the current project if it has any incidents; then calls `openProjectFile()` to obtain a new project. If a project file is selected, `setProject()` is called to store it as the *project* property. May be called from a thread other than the event dispatch thread.

2.9.98 Method panMap()

```
public void
panMap( int direction )
```

Attempts to pan the map display in the direction specified.

Parameters:

`direction` - one of the `SwingConstants` values NORTH, EAST, SOUTH, WEST

2.9.99 Method printMap()

```
public void
printMap()
```

Starts the print process, which begins with a print dialog, in a separate thread (`PrintThread`). Must be called from the event dispatch thread.

2.9.100 Method printSomething()

```
public void
printSomething( java.awt.print.Pageable pageable )
```

Brings up a print dialog to initiate a print job for the specified `Printable`. Must be called from the event dispatch thread.

Parameters:

`pageable` - object defining the contents of the print

2.9.101 Method printSomething()

```
public void
printSomething( java.awt.print.Printable printable )
```

Brings up a print dialog to initiate a print job for the specified `Printable`. Must be called from the event dispatch thread.

Parameters:

`printable` - object to print

2.9.102 Method promptToSaveCurrentProject()

```
public int
promptToSaveCurrentProject( java.lang.String dialog_title )
```

Prompt to save the current project if it has changed since the last save or check point. Currently, we do **not** track all changes necessary to do this, so a prompt always occurs if there are incidents for the project with one exception. As per the reversal of SPCR 40-006, we now ignore `hpac.cbfac.mearun`, whereas for SPCR 40-006, we were not prompting at all if the system property `hpac.cbfac.mearun` exists and is not blank. If the user chooses to save, `saveProject()` is called. Must be called from the event dispatch thread.

Parameters:

`dialog_title` - title to indicate the current operation requiring save of the current project

Returns:

user's `JOptionPane` choice

2.9.103 Method removeComponent()

```
public void
removeComponent( java.awt.Component component )
```

Removes the specified component from the `mapPane`. Must be called from the event dispatch thread.

Parameters:

`component` - component to remove

2.9.104 Method removeNotify()

```
public void
removeNotify()
```

Override to close persistent windows

2.9.105 Method removeObject()

```
public void
removeObject( mil.dtra.hpac.client.ProjectComponent object )
```

Removes the specified object from its container. `ObjectPaletteButton` instances are removed from the `objectPalette`, and everything else is assumed to live in the `mapPane`. Must be called from the event dispatch thread.

Parameters:

`object` - object to remove

2.9.106 Method repaintMap()

```
public void
repaintMap()
```

Calls `repaint()` on the `mapPane` to refresh the map display. May be called from any thread.

2.9.107 Method saveProject()

```
public java.io.File
saveProject()
```

Serializes the project using the current file URL (if possible, otherwise prompting for a new name). Calls `saveProjectImpl()` with a false parameter.

Returns:

null on an abort or failure, otherwise if ITPTS is active, a file with name "ITPTS", otherwise the file in which the project was saved

2.9.108 Method saveProjectAs()

```
public java.io.File  
saveProjectAs()
```

Serializes the project after prompting for a new file/URL. Before serialization, the project is reset, removing any output buttons and clearing the *currentRunTime*. Calls `saveProjectImpl()` with a true parameter.

Returns:

null on an abort or failure, otherwise if ITPTS is active, a file with name "ITPTS", otherwise the file in which the project was saved

2.9.109 Method saveProjectImpl()

```
protected java.io.File  
saveProjectImpl( boolean save_as_flag )
```

First, resets the project if `save_as_flag` is set. This removes any output buttons and clears the project *currentRunTime*. Second, stores the *weather* property of the weather button in the project. Third, if `save_as_flag` is set, `saveProjectFileAs()` on the *projectMgr* is called, otherwise `saveProjectFile()` is called.

If the save succeeds, the project is set as the new project (it could have been modified in the save process) via `setProject()`.

A copy of the current *project* is made, and all operations are performed against the copy. This is necessary since the project may be changed (e.g., `reset()` called), and the save operation may be aborted.

Parameters:

`save_as_flag` - true for a save-as operation, false for a save with the current file URL (which may result in a save as if the file URL is not set or could not be created)

Returns:

null on an abort or failure, otherwise if ITPTS is active, a file with name "ITPTS", otherwise the file in which the project was saved

2.9.110 Method selectObject()

```
public void  
selectObject( java.awt.Component component )
```

Calls `requestFocus()` for the specified component. Must be called from the event dispatch thread.

Parameters:

component - component to give focus

2.9.111 Method setLookAndFeel()

```
public void
setLookAndFeel( java.lang.String name )
```

Attempts to set the look and feel to the specified LAF class name, which must implement javax.swing.LookAndFeel. Must be called from the event dispatch thread.

Parameters:

name - LAF class name

2.9.112 Method setMap()

```
public void
setMap( mil.dtra.map.MapDisplayDef map_def )
```

Sets the *mapPane MapDisplayDef* property to the specified definition. Must be called from the event dispatch thread.

Parameters:

map_def - map display definition object

2.9.113 Method setMapUserMode()

```
public void
setMapUserMode( int mode )
```

Sets the *userMode* property of the *mapPane*. Must be called from the event dispatch thread.

2.9.114 Method setProject()

```
public void
setProject( mil.dtra.hpac.data.Project project )
```

Accessor for the *project* property. Establishes a new project for this editor, removing all ProjectToObject components associated with the current project and adding those for the new one. May be called from a thread other than the event dispatch thread.

Parameters:

project - project object whose reference is saved

2.9.115 Method setProjectImpl()

```
protected void  
setProjectImpl( mil.dtra.hpac.data.Project project )
```

Performs the work of setting the project. It assumes the project is different from the current *project* value, and the call is made from the event dispatch thread.

The current *project* is unloaded, meaning all the ProjectObjects it contains are removed from the various containers (e.g., *objectPalette* and *mapPane*).

Parameters:

project - reference to project object to load

2.9.116 Method setStatusCoord()

```
public void  
setStatusCoord( java.awt.geom.Point2D coord )
```

Sets the coordinate to be displayed on the status bar.

Parameters:

coord - coordinate value to display

2.9.117 Method setStatusMessage()

```
public void  
setStatusMessage( java.lang.String message )
```

Set the message on the status bar below the map pane.

Parameters:

message - text to display

2.9.118 Method startListening()

```
protected synchronized void
startListening()
```

Registers listeners.

2.9.119 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregisters listeners.

2.9.120 Method terminate()

```
public void
terminate()
```

Calls `ProjectEditorFrame.closeAllWindows()` to initiate a close of all `ProjectEditorFrame` instances, which results in termination of the JVM if all windows are closed and none are canceled. Must be called from the event dispatch thread.

2.9.121 Method uninstallObject()

```
public void
uninstallObject(
    java.awt.Component object,
    boolean remove_from_object_set
)
```

Does the work of uninstalling an object as a result of it being removed from a watched container. In the usual sequence, a call to `removeObject()` results in an object being removed from the appropriate container, or some other sequence events results in an object being removed from one of the watched containers. Then, `objectContainerListener` picks it up and calls this method to complete the uninstallation of the object w/in the `ProjectEditor`.

If the object is a `ProjectObject`, and the remove flag is true, it is removed from the `project.objectSet`. It is a `ScipuffOutputButton`, it is removed from the `menuBar`. Must be called from the event dispatch thread.

Parameters:

- `object` - component to install
- `remove_from_object_set` - if true, the object is removed from the project `objectSet` if it is a `ProjectObject`

2.9.122 Method updateFrameTitle()

```
public void
updateFrameTitle()
```

Updates the frame title based on the project name.

2.9.123 Method zoomMap()

```
public void
zoomMap( int mode )
```

Attempts to zoom the map display according to the specified mode. Must be called from the event dispatch thread.

Parameters:

mode - one of the constants defined in this interface:
 ZOOM_full fulldezoom of the map display to its fully defined extent. ZOOM_in zoom in (closer) using the current map center ZOOM_out zoom out (farther) using the current map center ZOOM_spatialDomain zoom to the currently defined spatial domain; nothing occurs if the project spatial domain has not been defined

2.9.124 Method zoomMapFull()

```
public void
zoomMapFull()
```

Calls the `zoomMapFull()` method on *mapPane* to zoom the map display to its fully defined extent. Must be called from the event dispatch thread.

2.10 Class ProjectEditor.DropListener

```
mil.dtra.hpac.client
protected ProjectEditor.DropListener
extends DropTargetHandler
```

Extends `DropTargetHandler` to handle drop events on the *dropPane* of the *mapPane*.

Methods:

```
public boolean handleDrop()
```

2.10.1 Constructor ProjectEditor.DropListener()

```
public
ProjectEditor.DropListener( mil.dtra.hpac.client.ProjectEditor this$0 )
```

2.10.2 Method handleDrop()

```
public boolean
handleDrop(
    java.awt.dnd.DropTargetDropEvent event,
    java.awt.datatransfer.DataFlavor flavor
)
```

Implements the drop by adding a model bean instance. For `ModelNameFlavor` transfers, the bean is instantiated, and `createIncidentModel()` is called in the event dispatch thread. For `ModelInstanceFlavor` transfers, `addObject()` is called on the serialized `IncidentModel`, also in the event dispatch thread.

Parameters:

- event - drop event
- flavor - negotiated transfer flavor

2.11 Class ProjectEditor.DropPaneMouseListener

```
mil.dtra.hpac.client
protected ProjectEditor.DropPaneMouseListener
extends MouseAdapter
```

Extends `MouseAdapter` to listen for mouse release events in the `dropPane` of the `mapPane`. A shift-left click or middle mouse button click is equated to a drag of the currently selected `IncidentDefIcon` onto the `mapPane`.

Methods:

```
public void mouseReleased()
```

2.11.1 Constructor ProjectEditor.DropPaneMouseListener()

```
protected
ProjectEditor.DropPaneMouseListener( mil.dtra.hpac.client.ProjectEditor this$0 )
```

2.11.2 Method mouseReleased()

```
public void
mouseReleased( java.awt.event.MouseEvent event )
```

Simulates a drag for shift-left and middle button clicks. The *selectedIcon* is retrieved from the *incidentDefPanel*, and the icon's *transferable* is retrieved. It is assumed to be a *ModelNameTransferable*, from which the *beanName* is retrieved and passed in a call to *createIncidentModel()* in the event dispatch thread.

Parameters:

event - mouse event

2.12 Class ProjectEditor.MapModeChoiceListener

```
mil.dtra.hpac.client
protected ProjectEditor.MapModeChoiceListener
extends Object
implements PropertyChangeListener,
```

Implements *PropertyChangeListener* to listen for events on the *mapUserModeChoice* bean in the *toolBar*.

Methods:

```
public void propertyChange()
```

2.12.1 Constructor ProjectEditor.MapModeChoiceListener()

```
protected
ProjectEditor.MapModeChoiceListener( mil.dtra.hpac.client.ProjectEditor this$0 )
```

2.12.2 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Takes the new value from the *MapUserModeChoice* bean and passes it to *setUserMode()* for the *mapPane*.

Parameters:

event - property change event

2.13 Class ProjectEditor.ObjectContainerListener

```
mil.dtra.hpac.client
protected ProjectEditor.ObjectContainerListener
extends ContainerAdapter
```

Extends ContainerAdapter to listen for container events on the *mapPane* and *objectPalette*.

Methods:

```
public void componentAdded()
public void componentRemoved()
```

2.13.1 Constructor ProjectEditor.ObjectContainerListener()

```
protected
ProjectEditor.ObjectContainerListener( mil.dtra.hpac.client.ProjectEditor this$0 )
```

2.13.2 Method componentAdded()

```
public void
componentAdded( java.awt.event.ContainerEvent event )
```

Checks for new ProjectComponents. Calls their *install()* method to give them a *ProjectEditorIfc* reference. ProjectObjects are added to the *project objectSet*.

Parameters:

event - container event

2.13.3 Method componentRemoved()

```
public void
componentRemoved( java.awt.event.ContainerEvent event )
```

Checks for new ProjectObjects, which are removed from the *project objectSet*.

Parameters:

event - container event

2.14 Class ProjectEditor.PrintThread

```
mil.dtra.hpac.client
protected ProjectEditor.PrintThread
extends Thread
```

Thread for process print requests.

Fields:

```
protected java.awt.print.Pageable fPageable
protected java.awt.print.Printable fPrintable
```

Methods:

```
public void run()
```

2.14.1 Field fPageable

```
protected java.awt.print.Pageable fPageable
```

2.14.2 Field fPrintable

```
protected java.awt.print.Printable fPrintable
```

2.14.3 Constructor ProjectEditor.PrintThread()

```
public
ProjectEditor.PrintThread(
    mil.dtra.hpac.client.ProjectEditor this$0,
    java.awt.print.Pageable pageable,
    java.awt.print.Printable printable
)
```

Parameters:

```
pageable - if defined, specifies the contents of the print
printable - if pageable is not defined, this is used as the object to print
```

2.14.4 Method run()

```
public void
run()
```

Processes the print request using a new `PrinterJob`. First shows the page dialog and then the print dialog. The `Printable` is the *mapPane*.

2.15 Class ProjectEditor.ScipuffBeanHandler

```
mil.dtra.hpac.client
protected ProjectEditor.ScipuffBeanHandler
extends WindowAdapter
```

WindowAdapter that listens for closed events.

Methods:

```
public void windowClosed()
```

2.15.1 Constructor ProjectEditor.ScipuffBeanHandler()

```
protected
ProjectEditor.ScipuffBeanHandler( mil.dtra.hpac.client.ProjectEditor this$0 )
```

2.15.2 Method windowClosed()

```
public void
windowClosed( java.awt.event.WindowEvent event )
```

2.16 Class ProjectEditor.DropListener

```
mil.dtra.hpac.client
protected ProjectEditor.DropListener
extends DropTargetHandler
```

Extends DropTargetHandler to handle drop events on the *dropPane* of the *mapPane*.

Methods:

```
public boolean handleDrop()
```

2.16.1 Constructor ProjectEditor.DropListener()

```
public
ProjectEditor.DropListener( mil.dtra.hpac.client.ProjectEditor this$0 )
```

2.16.2 Method handleDrop()

```
public boolean
handleDrop(
    java.awt.dnd.DropTargetDropEvent event,
    java.awt.datatransfer.DataFlavor flavor
)
```

Implements the drop by adding a model bean instance. For `ModelNameFlavor` transfers, the bean is instantiated, and `createIncidentModel()` is called in the event dispatch thread. For `ModelInstanceFlavor` transfers, `addObject()` is called on the serialized `IncidentModel`, also in the event dispatch thread.

Parameters:

- event - drop event
- flavor - negotiated transfer flavor

2.17 Class ProjectEditor.DropPaneMouseListener

```
mil.dtra.hpac.client
protected ProjectEditor.DropPaneMouseListener
extends MouseAdapter
```

Extends `MouseAdapter` to listen for mouse release events in the `dropPane` of the `mapPane`. A shift-left click or middle mouse button click is equated to a drag of the currently selected `IncidentDefIcon` onto the `mapPane`.

Methods:

```
public void mouseReleased()
```

2.17.1 Constructor ProjectEditor.DropPaneMouseListener()

```
protected
ProjectEditor.DropPaneMouseListener( mil.dtra.hpac.client.ProjectEditor this$0 )
```

2.17.2 Method mouseReleased()

```
public void
mouseReleased( java.awt.event.MouseEvent event )
```

Simulates a drag for shift-left and middle button clicks. The `selectedIcon` is retrieved from the `incidentDefPanel`, and the icon's `transferable` is retrieved. It is assumed to be a `ModelNameTransferable`, from which the `beanName` is retrieved and passed in a call to `createIncidentModel()` in the event dispatch thread.

Parameters:

event - mouse event

2.18 Class ProjectEditor.MapModeChoiceListener

```
mil.dtra.hpac.client
protected ProjectEditor.MapModeChoiceListener
extends Object
implements PropertyChangeListener,
```

Implements PropertyChangeListener to listen for events on the *mapUserModeChoice* bean in the toolBar.

Methods:

```
public void propertyChange()
```

2.18.1 Constructor ProjectEditor.MapModeChoiceListener()

```
protected
ProjectEditor.MapModeChoiceListener( mil.dtra.hpac.client.ProjectEditor this$0 )
```

2.18.2 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Takes the new value from the *MapUserModeChoice* bean and passes it to *setUserMode()* for the *mapPane*.

Parameters:

event - property change event

2.19 Class ProjectEditor.ObjectContainerListener

```
mil.dtra.hpac.client
protected ProjectEditor.ObjectContainerListener
extends ContainerAdapter
```

Extends *ContainerAdapter* to listen for container events on the *mapPane* and *objectPalette*.

Methods:

```
public void componentAdded()
public void componentRemoved()
```

2.19.1 Constructor ProjectEditor.ObjectContainerListener()

protected
ProjectEditor.ObjectContainerListener(mil.dtra.hpac.client.ProjectEditor this\$0)

2.19.2 Method componentAdded()

public void
componentAdded(java.awt.event.ContainerEvent event)

Checks for new ProjectComponents. Calls their install() method to give them a ProjectEditorIfc reference. ProjectObjects are added to the *project objectSet*.

Parameters:

event - container event

2.19.3 Method componentRemoved()

public void
componentRemoved(java.awt.event.ContainerEvent event)

Checks for new ProjectObjects, which are removed from the *project objectSet*.

Parameters:

event - container event

2.20 Class ProjectEditor.PrintThread

mil.dtra.hpac.client
protected **ProjectEditor.PrintThread**
extends Thread

Thread for process print requests.

Fields:

protected java.awt.print.Pageable fPageable
protected java.awt.print.Printable fPrintable

Methods:

```
public void run()
```

2.20.1 Field fPageable

```
protected java.awt.print.Pageable fPageable
```

2.20.2 Field fPrintable

```
protected java.awt.print.Printable fPrintable
```

2.20.3 Constructor ProjectEditor.PrintThread()

```
public  
ProjectEditor.PrintThread(  
    mil.dtra.hpac.client.ProjectEditor this$0,  
    java.awt.print.Pageable pageable,  
    java.awt.print.Printable printable  
)
```

Parameters:

pageable - if defined, specifies the contents of the print
printable - if pageable is not defined, this is used as the object to print

2.20.4 Method run()

```
public void  
run()
```

Processes the print request using a new `PrinterJob`. First shows the page dialog and then the print dialog. The `Printable` is the *mapPane*.

2.21 Class ProjectEditor.ScipuffBeanHandler

```
mil.dtra.hpac.client  
protected ProjectEditor.ScipuffBeanHandler  
extends WindowAdapter
```

`WindowAdapter` that listens for closed events.

Methods:

```
public void windowClosed()
```

2.21.1 Constructor ProjectEditor.ScipuffBeanHandler()

```
protected
ProjectEditor.ScipuffBeanHandler( mil.dtra.hpac.client.ProjectEditor this$0 )
```

2.21.2 Method windowClosed()

```
public void
windowClosed( java.awt.event.WindowEvent event )
```

2.22 Class ProjectEditorFrame

```
mil.dtra.hpac.client
public ProjectEditorFrame
extends JFrame
implements ProjectEditorWindow,
```

Extension of `JFrame` containing a `ProjectEditorMenuBar` and a `ProjectEditor` bean. We support a Netscape-style multidocument interface with multiple windows, tracking the number of windows/frames as a class attribute. When an instance of this class is closed and there are no other instances, the JVM is exited.

Fields:

```
protected mil.dtra.hpac.client.ProjectEditor fProjectEditor
protected static int frameCount_
protected static java.util.Vector frameVector_
public static final int LOG_level
public static final java.lang.String PROJECT_EDITOR_FRAME
```

Methods:

```
protected void checkProject()
public static void closeAllWindows()
public void closeWindow()
public final mil.dtra.hpac.client.ProjectEditorIfc getProjectEditor()
protected void logMessage()
public void openNewWindow()
```

Inner Classes:

`ProjectEditorFrame.WindowHandler`

2.22.1 Field fProjectEditor

```
protected mil.dtra.hpac.client.ProjectEditor fProjectEditor
```

2.22.2 Field frameCount_

```
protected static int frameCount_
```

2.22.3 Field frameVector_

```
protected static java.util.Vector frameVector_
```

2.22.4 Field LOG_level

```
public static final int LOG_level
```

2.22.5 Field PROJECT_EDITOR_FRAME

```
public static final java.lang.String PROJECT_EDITOR_FRAME
```

2.22.6 Constructor ProjectEditorFrame()

```
public  
ProjectEditorFrame(  
    mil.dtra.hpac.client.ProjectEditorProfile profile,  
    mil.dtra.hpac.data.Project project,  
    mil.dtra.hpac.client.Messenger messenger  
)
```

Constructs with the profile and project.

Parameters:

- profile - application profile object, which is assumed non-null
- project - project object to load or null to start with an empty project
- messenger - reference to messenger for logging activity during initialization

2.22.7 Method checkProject()

```
protected void  
checkProject()
```

Checks the *project* property of the `ProjectEditor` instance to ensure it's not new or "unnamed". If it is, then `ProjectEditorUtils.promptForProject()` is called to force the user to open an existing or create a new project. If the user aborts, this window is closed. Must be called from the event dispatch thread.

2.22.8 Method closeAllWindows()

```
public static void
closeAllWindows()
```

Close all open `ProjectEditorFrame` instances. This results in calls to `closeWindow()`.

2.22.9 Method closeWindow()

```
public void
closeWindow()
```

Sends a window closing event to this. Note this results in a call to `promptToSaveCurrentProject()` on each this's *projectEditor*.

2.22.10 Method getProjectEditor()

```
public final mil.dtra.hpac.client.ProjectEditorIfc
getProjectEditor()
```

Accessor for the *projectEditor* property.

Returns:

reference to the editor object contained in this frame

2.22.11 Method logMessage()

```
protected void
logMessage(
    mil.dtra.hpac.client.Messenger messenger,
    java.lang.String message
)
```

Logs either to the *messenger* property object or to `System.err` if it is null.

2.22.12 Method openNewWindow()

```
public void
openNewWindow( mil.dtra.hpac.client.ProjectEditorProfile profile )
```

Instantiates a new `ProjectEditorFrame` with this's *profile* and a null project.

2.23 Class ProjectEditorFrame.WindowHandler

```
mil.dtra.hpac.client
protected ProjectEditorFrame.WindowHandler
extends WindowAdapter
```

Extends WindowAdapter to process window events for this.

Methods:

```
public void windowClosed()
public void windowClosing()
public void windowOpened()
```

2.23.1 Constructor ProjectEditorFrame.WindowHandler()

```
protected
ProjectEditorFrame.WindowHandler( mil.dtra.hpac.client.ProjectEditorFrame this$0 )
```

2.23.2 Method windowClosed()

```
public void
windowClosed( java.awt.event.WindowEvent event )
```

Removes the frame in the event from the vector of open frames. If no other frames remain, calls `System.exit()`.

Parameters:

event - window event

2.23.3 Method windowClosing()

```
public void
windowClosing( java.awt.event.WindowEvent event )
```

Hides and disposes the frame in the event.

Parameters:

event - window event

2.23.4 Method windowOpened()

```
public void
windowOpened( java.awt.event.WindowEvent event )
```

Adds the frame in the event to the open frame vector and increases the open frame count.

Parameters:

event - window event

2.24 Class ProjectEditorFrame.WindowHandler

```
mil.dtra.hpac.client
protected ProjectEditorFrame.WindowHandler
extends WindowAdapter
```

Extends WindowAdapter to process window events for this.

Methods:

```
public void windowClosed()
public void windowClosing()
public void windowOpened()
```

2.24.1 Constructor ProjectEditorFrame.WindowHandler()

```
protected
ProjectEditorFrame.WindowHandler( mil.dtra.hpac.client.ProjectEditorFrame this$0 )
```

2.24.2 Method windowClosed()

```
public void
windowClosed( java.awt.event.WindowEvent event )
```

Removes the frame in the event from the vector of open frames. If no other frames remain, calls System.exit().

Parameters:

event - window event

2.24.3 Method `windowClosing()`

```
public void
windowClosing( java.awt.event.WindowEvent event )
```

Hides and disposes the frame in the event.

Parameters:

event - window event

2.24.4 Method `windowOpened()`

```
public void
windowOpened( java.awt.event.WindowEvent event )
```

Adds the frame in the event to the open frame vector and increases the open frame count.

Parameters:

event - window event

2.25 Class `ProjectEditorLauncher`

```
mil.dtra.hpac.client
public ProjectEditorLauncher
extends JWindow
implements Messenger, PropertyNames, Runnable,
```

Extends `JWindow` to provide an application/applet launch splash screen.

Fields:

```
protected volatile java.lang.Object fHPACToolAgent
protected transient volatile boolean fLaunchedFlag
protected java.lang.String fProjectURL
protected java.lang.String fRootURL
protected java.lang.Thread fRunThread
protected javax.swing.JTextField fStatusField
public static final java.lang.String PROJECT_EDITOR_LAUNCHER
public static final java.lang.String UIDEFAULTS_PROPS_FILE
```

Methods:

```

public static mil.dtra.hpac.client.ProjectEditorLauncher createInstance()
public final synchronized java.lang.Object getHPACToolAgent()
public final java.lang.Thread getRunThread()
public static void main()
public void run()
protected void setLookAndFeel()
public void showMessage()
public synchronized void showMessage()

```

2.25.1 Field fHPACToolAgent

protected volatile java.lang.Object **fHPACToolAgent**

2.25.2 Field fLaunchedFlag

protected transient volatile boolean **fLaunchedFlag**

2.25.3 Field fProjectURL

protected java.lang.String **fProjectURL**

2.25.4 Field fRootURL

protected java.lang.String **fRootURL**

2.25.5 Field fRunThread

protected java.lang.Thread **fRunThread**

2.25.6 Field fStatusField

protected javax.swing.JTextField **fStatusField**

2.25.7 Field PROJECT_EDITOR_LAUNCHER

public static final java.lang.String **PROJECT_EDITOR_LAUNCHER**

2.25.8 Field UIDEFAULTS_PROPS_FILE

public static final java.lang.String **UIDEFAULTS_PROPS_FILE**

Name of file containing UI defaults ("uidefaults.properties")

2.25.9 Constructor ProjectEditorLauncher()

```
public
ProjectEditorLauncher(
    java.lang.String root_url,
    java.lang.String project_url
)
```

Constructs with necessary parameters.

Parameters:

root_url - root URL of the application installation
 project_url - URL of project file to load initially

2.25.10 Method createInstance()

```
public static mil.dtra.hpac.client.ProjectEditorLauncher
createInstance( java.lang.String[] argv )
```

Instantiates a ProjectEditorLauncher instance. Whereas the content of this was in main(), it was moved here in support of the IPTS HPACToolAppServer.

System Properties

Command Line Arguments

Parameters:

argv - command line options

Returns:

ProjectEditorLauncher instance, where null implies the requirements were not met

2.25.11 Method getHPACToolAgent()

```
public final synchronized java.lang.Object
getHPACToolAgent()
```

Returns a reference to the IPTS double agent which implements the IPTS tool agent for HPAC.

Returns:

object reference implementing IHPCAToolAgent

2.25.12 Method `getRunThread()`

```
public final java.lang.Thread
getRunThread()
```

Returns:

reference to initialized thread started when this is opened.

2.25.13 Method `main()`

```
public static void
main( java.lang.String[] argv )
```

Command line entry point. Calls `createInstance()`.

Parameters:

argv - command line options

2.25.14 Method `run()`

```
public void
run()
```

Thread execution method which initializes the ProjectEditor application. Initialization steps are:
The application properties are loaded, and a `ProjectEditorProfile` object is created. If it cannot be created, a message box is displayed, and application launch is aborted.

User-specified LAF defaults are established via a call to `setLookAndFeel()`.

Check the `hpac.projectsToImport` system property for a comma- delimited list of project file paths (not URLs) to import via a `ProjectCopier` instance.

If a project URL was specified, a `Project` object is deserialized from the file.

A `ProjectEditorFrame` is instantiated.

The frame is made visible in the event dispatch thread.

Third,

2.25.15 Method `setLookAndFeel()`

```
protected void
setLookAndFeel()
```

Creates a `NewMetalTheme` instance and changes its properties according to the theme entries in the props table. Makes this theme the current theme in the `MetalLookAndFeel` class, which is then made the current default LAF.

This method creates the `UIDefaults` table for the application. Individual properties in the table are set from the properties.

2.25.16 Method showMessage()

```
public void
showMessage( java.lang.String message )
```

Logs the message to the status bar with this class name as the message header.

Parameters:

message - message to log

2.25.17 Method showMessage()

```
public synchronized void
showMessage(
    java.lang.String message,
    java.lang.String header
)
```

Logs the message to the status bar.

Parameters:

message - message to log
header - message line header

2.26 Class ProjectEditorProfile

```
mil.dtra.hpac.client
public ProjectEditorProfile
extends ValueProperties
implements PropertyNames,
```

This class encapsulates the profile or environment for the HPAC project editor application. One property must be specified as a parameter: *hpac.rootURL*. Application properties are hard coded to be read from the *hpac.properties* file in the root URL.

Fields:

```
public static final java.lang.String BEANINFO
public static final java.lang.String DATA_DIR
protected java.applet.AppletContext fAppletContext
protected java.util.List fIncidentDefPaletteDefs
protected java.util.List fMapDisplayDefs
protected java.util.Map fModelBeanInfoHash
protected java.util.List fModelBeanInfoList
```

```

protected javax.naming.Context fNamingContext
protected java.util.Map fPlotClassMap
protected java.util.List fPOIGroups
protected boolean fStandalone
protected java.lang.String[] fSubstrates
public static final java.lang.String[] OVERRIDE_PROPS
public static final java.lang.String PROJECT_EDITOR_PROFILE
public static final java.lang.String PROPS_FILE
public static final java.lang.String[] REQUIRED_PROPS
public static final java.lang.String USER_PROPS_FILE

```

Methods:

```

protected void checkProperties()
public java.io.File findUserHome()
public final java.applet.AppletContext getAppletContext()
public final mil.dtra.map.MapDisplayDef getDefaultMapDisplayDef()
public final java.util.List getIncidentDefPaletteDefs()
public final org.omg.CORBA.ORB getLocalORB()
public final java.util.List getMapDisplayDefs()
public mil.dtra.hpac.client.models.ModelBeanInfo getModelBeanInfo()
public java.util.List getModelBeanInfos()
public final javax.naming.Context getNamingContext()
public final java.lang.String getPlotClassBeanName()
public final java.util.List getPOIGroups()
public final javax.naming.Context getRMINamingContext()
public final java.lang.String getServerURL()
public final java.lang.String[] getSubstrates()
protected void init()
public final boolean isStandalone()
protected void loadUserProps()
protected void logMessage()
protected mil.dtra.map.MapDisplayDef readDefaultMapDisplayDef()
protected void readModelBeanInfos()
protected void readPlotClassDefs()
protected void readSubstrates()
public void storeUserProps()

```

2.26.1 Field BEANINFO

public static final java.lang.String BEANINFO

2.26.2 Field DATA_DIR

public static final java.lang.String DATA_DIR

2.26.3 Field **fAppletContext**

protected java.applet.AppletContext **fAppletContext**

Applet context reference

2.26.4 Field **fIncidentDefPaletteDefs**

protected java.util.List **fIncidentDefPaletteDefs**

Hash of BeanInfo objects

2.26.5 Field **fMapDisplayDefs**

protected java.util.List **fMapDisplayDefs**

2.26.6 Field **fModelBeanInfoHash**

protected java.util.Map **fModelBeanInfoHash**

Hash of BeanInfo objects

2.26.7 Field **fModelBeanInfoList**

protected java.util.List **fModelBeanInfoList**

2.26.8 Field **fNamingContext**

protected javax.naming.Context **fNamingContext**

Used only if standalone

2.26.9 Field **fPlotClassMap**

protected java.util.Map **fPlotClassMap**

2.26.10 Field **fPOIGroups**

protected java.util.List **fPOIGroups**

2.26.11 Field **fStandalone**

protected boolean **fStandalone**

2.26.12 Field fSubstrates

```
protected java.lang.String[] fSubstrates
```

2.26.13 Field OVERRIDE_PROPS

```
public static final java.lang.String[] OVERRIDE_PROPS
```

2.26.14 Field PROJECT_EDITOR_PROFILE

```
public static final java.lang.String PROJECT_EDITOR_PROFILE
```

2.26.15 Field PROPS_FILE

```
public static final java.lang.String PROPS_FILE
```

2.26.16 Field REQUIRED_PROPS

```
public static final java.lang.String[] REQUIRED_PROPS
```

2.26.17 Field USER_PROPS_FILE

```
public static final java.lang.String USER_PROPS_FILE
```

2.26.18 Constructor ProjectEditorProfile()

```
public  
ProjectEditorProfile(  
    java.lang.String root_url,  
    mil.dtra.hpac.client.Messenger messenger  
)
```

Constructor for application operation. The root URL is specified as a system property and passed here; the applet context is null.

Parameters:

root_url - root URL for the HPAC project editor application
messenger - object for displaying messages

Exceptions:

IllegalArgumentException - if root_url is null
 IOException - on I/O error
 NamingException - on error creating naming context

2.26.19 Constructor ProjectEditorProfile()

```
public
ProjectEditorProfile(
    java.lang.String root_url,
    mil.dtra.hpac.client.Messenger messenger,
    java.applet.AppletContext context
)
```

Constructor for applet operation. The root URL is specified as an applet parameter and passed here along with the applet context.

Parameters:

root_url - root URL for the HPAC project editor application
 messenger - object for displaying messages
 context - applet context

Exceptions:

IllegalArgumentException - if root_url is null
 IOException - on I/O error
 NamingException - on error creating naming context

2.26.20 Method checkProperties()

```
protected void
checkProperties()
```

Checks for required properties.

Exceptions:

MissingResourceException - if a required resource is unspecified

2.26.21 Method findUserHome()

```
public java.io.File
findUserHome()
```

Finds the user home directory. The first check is for the *user.home* system property. If that is not defined, we *user.dir*. If neither exists, we return null, but we should probably prompt the user for a location in the future.

Returns:

file representing the user home directory or null if it could not be determined

2.26.22 Method getAppletContext()

```
public final java.applet.AppletContext
getAppletContext()
```

Accessor for the *appletContext* property.

Returns:

context reference or null if running as an application

2.26.23 Method getDefaultMapDisplayDef()

```
public final mil.dtra.map.MapDisplayDef
getDefaultMapDisplayDef()
```

Accessor for the *defaultMapDisplayDef* property.

Returns:

object reference or null if not defined

2.26.24 Method getIncidentDefPaletteDefs()

```
public final java.util.List
getIncidentDefPaletteDefs()
```

Accessor for the *incidentDefPaletteDefs* property.

Returns:

list (ordered collection) of object references

2.26.25 Method getLocalORB()

```
public final org.omg.CORBA.ORB
getLocalORB()
```

Returns the singletong ORB. Equivalent to `ORB.init()`.

Returns:

singleton ORB reference

2.26.26 Method getMapDisplayDefs()

```
public final java.util.List
getMapDisplayDefs()
```

Accessor for the `mapDisplayDefs` property.

Returns:

reference to list (ordered collection) of object references

2.26.27 Method getModelBeanInfo()

```
public mil.dtra.hpac.client.models.ModelBeanInfo
getModelBeanInfo( java.lang.String bean_name )
```

Retrieves bean info by bean name.

Returns:

bean info reference or null if not found

2.26.28 Method getModelBeanInfos()

```
public java.util.List
getModelBeanInfos()
```

Accessor for the `modelBeanInfos` property.

Returns:

reference to list (ordered collection) of object references

2.26.29 Method getNamingContext()

```
public final javax.naming.Context
getNamingContext()
```

Creates a naming context dynamically, in case the server has changed. In standalone mode, (*hpac.standalone* system property is true), returns a reference to the local Context object.

Note: This method is for accessing CORBA server objects.

Returns:

Context reference

Exceptions:

NamingException - if the naming context could not be created

2.26.30 Method getPlotClassBeanName()

```
public final java.lang.String
getPlotClassBeanName( java.lang.String plot_class )
```

Retrieves the bean class name corresponding to the specified plot selection "class".

Parameters:

plot_class - name of the plot selection class

Returns:

plot class bean name

2.26.31 Method getPOIGroups()

```
public final java.util.List
getPOIGroups()
```

Accessor for the *POIGroups* property.

Returns:

reference to list (ordered collection) of object references

2.26.32 Method getRMINamingContext()

```
public final javax.naming.Context
getRMINamingContext()
```

Creates a naming context dynamically for RMI server objects. The port number is assumed to be one more than that for the CORBA naming service.

Note: This method is for accessing RMI server objects.

Returns:

Context reference

Exceptions:

NamingException - if the naming context could not be created

2.26.33 Method getServerURL()

```
public final java.lang.String
getServerURL()
```

Retrieves the URL of the HPAC server.

Returns:

URL string

2.26.34 Method getSubstrates()

```
public final java.lang.String[]
getSubstrates()
```

Returns array of substrate names acquired during initialization.

Returns:

reference to array of substrate names

2.26.35 Method init()

```
protected void
init(
    java.lang.String root_url,
    mil.dtra.hpac.client.Messenger messenger,
    java.applet.AppletContext applet_context
)
```

Loads the properties file and checks for required properties.

Exceptions:

IllegalArgumentException - if root_url is null
 IOException - on I/O error
 NamingException - on error creating naming context

2.26.36 Method **isStandalone()**

```
public final boolean
isStandalone()
```

Retrieves the standalone flag read from system properties at initialization.

Returns:

true if in standalone mode, false otherwise

2.26.37 Method **loadUserProps()**

```
protected void
loadUserProps( mil.dtra.hpac.client.Messenger messenger )
```

Loads user properties and copies all properties with the key beginning with "hpacuser.". User properties are obtained via a `UserProperties` object.

Parameters:

`messenger` - feedback messenger

2.26.38 Method **logMessage()**

```
protected void
logMessage( mil.dtra.hpac.client.Messenger messenger,
              java.lang.String message
            )
```

Logs either to the `messenger` property object or to `System.err` if it is null.

2.26.39 Method `readDefaultMapDisplayDef()`

```
protected mil.dtra.map.MapDisplayDef
readDefaultMapDisplayDef(
    mil.dtra.hpac.client.Messenger messenger,
    java.lang.String root_url
)
```

Checks user properties for a default map display definition.

2.26.40 Method `readModelBeanInfos()`

```
protected void
readModelBeanInfos( mil.dtra.hpac.client.Messenger messenger )
```

Parses bean info definitions from this object's properties. The parsed objects are added to the model bean hash (`fModelBeanInfoHash`) and list (`fModelBeanInfoList`).

2.26.41 Method `readPlotClassDefs()`

```
protected void
readPlotClassDefs( mil.dtra.hpac.client.Messenger messenger )
```

Parses plot class definitions from this object's properties. The parsed objects are added to the plot class map (`fPlotClassMap`).

2.26.42 Method `readSubstrates()`

```
protected void
readSubstrates( mil.dtra.hpac.client.Messenger messenger )
```

For now, we're pulling these from properties. Eventually, I suppose we must retrieve these from the server, regardless of how inconvenient. At worst case retrieval should be via a URL.

2.26.43 Method `storeUserProps()`

```
public void
storeUserProps()
```

Copies all properties in this with a key prefix of `hpacuser.` to a `UserProperties` object and calls its `store()` method.

2.27 Class ProjectMgr

```
mil.dtra.hpac.client
public final ProjectMgr
extends Object
```

For a long time we've needed something along the lines of a manager of HPAC projects. In the short term, this will merely be a facility for offload of project I/O from `ProjectEditor` but some day must grow into a full-fledged capability for managing projects on the client and server sides.

Fields:

```
protected mil.dtra.hpac.client.ProjectEditorProfile fProfile
public static final java.lang.String PROJECT_MGR
public static final mil.dtra.hpac.client.io.SimpleFileFilter ZIP_FILE_FILTER
```

Methods:

```
public static java.io.File createFile()
public void deleteServerFolder()
public boolean exportProjectFolder()
protected void handleThrowable()
public java.lang.Object[] importProjectFolder()
public mil.dtra.hpac.data.Project openProjectFile()
public mil.dtra.hpac.data.Project promptForProject()
public byte[] retrieveServerFolder()
public java.io.File saveProjectFile()
public java.io.File saveProjectFileAs()
public java.io.File saveProjectFileAs()
public void storeServerFolder()
```

2.27.1 Field fProfile

```
protected mil.dtra.hpac.client.ProjectEditorProfile fProfile
```

2.27.2 Field PROJECT_MGR

```
public static final java.lang.String PROJECT_MGR
```

2.27.3 Field ZIP_FILE_FILTER

```
public static final mil.dtra.hpac.client.io.SimpleFileFilter ZIP_FILE_FILTER
```

2.27.4 Constructor ProjectMgr()

```
public  
ProjectMgr( mil.dtra.hpac.client.ProjectEditorProfile profile )
```

Constructs saving the profile reference.

Parameters:

profile - profile reference to store

2.27.5 Method createFile()

```
public static java.io.File  
createFile( java.lang.String path )
```

Attempts to create a file with the specified path.

Parameters:

path - path of the file to create

Returns:

File object for the file if created, null if the file could not be created

2.27.6 Method deleteServerFolder()

```
public void  
deleteServerFolder(  
    java.lang.String user_name,  
    java.lang.String project_name  
)
```

Deletes the specified server project "folder" (zip file)

Parameters:

user_name - name of user for which to delete the server folder
project_name - name of project to delete

2.27.7 Method exportProjectFolder()

```
public boolean
exportProjectFolder(
    java.awt.Component parent,
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Exports the project as a folder to a file.

Parameters:

- parent - parent component for the dialog
- project - project to export
- server_data - server files folder

Returns:

- true if folder exported, false otherwise

2.27.8 Method handleThrowable()

```
protected void
handleThrowable(
    java.awt.Component parent,
    java.lang.Throwable th,
    java.lang.String message,
    java.lang.String title
)
```

Generates a stderr message and a message box.

Parameters:

- parent - parent component for the message box; may be null
- th - Throwable
- message - message repeated in error log and in message box
- title - dialog title

2.27.9 Method importProjectFolder()

```
public java.lang.Object[]
importProjectFolder( java.awt.Component parent )
```

Imports a project folder from a file.

Parameters:

parent - parent component for the dialog

Returns:

two-element array containing the imported project and server files folder (may be null) in order, Project, byte[] ; if null, the import failed or was aborted

2.27.10 Method openProjectFile()

```
public mil.dtra.hpac.data.Project
openProjectFile( java.awt.Component parent )
```

Presents a file open dialog for selection of a new project. If a project file is selected, a new Project object is deserialized from it. Must be called from the event dispatch thread.

Parameters:

parent - parent component for the dialog

Returns:

deserialized Project object or null if the file open was canceled or the file could not be opened

2.27.11 Method promptForProject()

```
public mil.dtra.hpac.data.Project
promptForProject(
    mil.dtra.util.ValueProperties props,
    java.awt.Component parent,
    mil.dtra.hpac.client.ITPTSAdapter itpts_adapter
)
```

Prompts the user to either open an existing project or create a new (empty) one. Must be called from the event dispatch thread.

Parameters:

props - object with bean properties
 parent - parent component for the dialog
 itpts_adapter - adapter for IPTS database operations

Returns:

Project opened or created or null if the operation is aborted or failed

2.27.12 Method retrieveServerFolder()

```
public byte[]
retrieveServerFolder(
    java.lang.String user_name,
    java.lang.String project_name
)
```

Retrieves the server project "folder", a zip file with all the server files for the project with the specified name.

Some day we must buffer the reading of this across the server connection, detecting standalone and avoiding the copying.

Parameters:

user_name - name of user from which to retrieve files
 project_name - name of project to retrieve

Returns:

server folder (zip file) contents

2.27.13 Method saveProjectFile()

```
public java.io.File
saveProjectFile(
    java.awt.Component parent,
    mil.dtra.hpac.data.Project project
)
```

Serializes the specified *project* to a file. If the *URL* property of *project* is null, or blank, *saveProjectFileAs()* is called to prompt the user for a filename. It is also called if the URL is not a "file:" protocol URL or if a file with the specified path cannot be created (determined via a call to *createFile()*). Otherwise, *project* is serialized here.

Note the recursive relationship with *saveProjectFileAs()*. Must be called from the event dispatch thread.

Parameters:

parent - parent component for the dialog
 project - project to store

Returns:

file in which project was saved, or null if there was a problem

2.27.14 Method saveProjectFileAs()

```
public java.io.File
saveProjectFileAs(
    java.awt.Component parent,
    mil.dtra.hpac.data.Project project
)
```

Calls `saveProjectFileAs(Component, Project, String)` assuming the default title.

Parameters:

parent - parent component for the dialog
 project - project to store

Returns:

File object representing saved file or null if the operation was aborted or failed

2.27.15 Method saveProjectFileAs()

```
public java.io.File
saveProjectFileAs(
    java.awt.Component parent,
    mil.dtra.hpac.data.Project project,
    java.lang.String title
)
```

Prompts the user for the name of a file in which to save the specified project. The project URL is then set to the file URL. Calls `saveProjectFile()` to serialize the project. Must be called from the event dispatch thread.

Parameters:

parent - parent component for the dialog
 project - project to store
 title - title for the dialog or null to use the default

Returns:

File object representing saved file or null if the operation was aborted or failed

2.27.16 Method storeServerFolder()

```
public void  
storeServerFolder(  
    java.lang.String user_name,  
    java.lang.String project_name,  
    byte[] server_data  
)
```

Stores the server project "folder", a zip file with all the server files for the project with the specified name.

Some day we must buffer the reading of this across the server connection, detecting standalone and avoiding the copying.

Parameters:

- user_name - name of user to which to store files
- project_name - name of project to store
- server_data - server folder (zip file) contents

CHAPTER 3

Package mil.dtra.hpac.client.dialog

Contains classes implementing a common dialog framework for the HPAC ProjectEditor client GUI.

Interfaces:

HelpContextBean

Classes:

BeanDialog
ModelDialog
ModelDialog.ComponentHandler
PersistentDialog
ProjectEditorDialog
ScipuffBeanDialog

3.1 Interface HelpContextBean

mil.dtra.hpac.client.dialog
public interface **HelpContextBean**

Definition of a bean which has an associated help context. Note the bean is assumed to be a Component.

Methods:

public java.lang.String getHelpContext()

3.1.1 Method getHelpContext()

public java.lang.String
getHelpContext()

Returns the help context.

Returns:

help context name

3.2 Class BeanDialog

mil.dtra.hpac.client.dialog

public **BeanDialog**

extends ProjectEditorDialog

Extension of ProjectEditorDialog in which any edit component or bean may be supplied. In many cases, JOptionPane.showConfirmDialog() with an OK_CANCEL_OPTION suffices. This class differs in that the button panel includes an "Apply" button and inherits some keyboard actions from ProjectEditorDialog.

Users must register a VetoableChangeListener with object instances in order to be informed when the "OK" or "Apply" action occurs. The property name in the event is defined with the ProjectEditorDialog.APPLY constant. If the listener throws a PropertyVetoException, the dialog will not be closed on an "OK" action.

Fields:

public static final java.lang.String BEAN_DIALOG

protected java.awt.Component fBean

Methods:

public final java.awt.Component getBean()

public static int showDialog()

3.2.1 Field BEAN_DIALOG

public static final java.lang.String BEAN_DIALOG

3.2.2 Field fBean

protected java.awt.Component fBean

3.2.3 Constructor BeanDialog()

public
BeanDialog(

```

mil.dtra.util.ValueProperties props,
java.awt.Component parent,
java.awt.Component bean,
java.lang.String title
)

```

Constructs assuming an undefined help context.

Parameters:

- props - object with properties for this
- parent - parent component for the dialog or null
- bean - editing component
- title - dialog frame title

3.2.4 Constructor BeanDialog()

```

public
BeanDialog(
    mil.dtra.util.ValueProperties props,
    java.awt.Component parent,
    java.awt.Component bean,
    java.lang.String title,
    java.lang.String help_context
)

```

Constructs with necessary parameters. If the bean parameter is a JTabbedPane, keyboard actions for Ctrl-N and Ctrl-P are added to change to the next and previous tabs, respectively.

Parameters:

- props - object with properties for this
- parent - parent component for the dialog or null
- bean - editing component
- title - dialog frame title
- help_context - help context name

3.2.5 Method getBean()

```

public final java.awt.Component
getBean()

```

Accessor for the *bean* property.

Returns:

- reference to the bean component

3.2.6 Method showDialog()

```
public static int
showDialog(
    mil.dtra.util.ValueProperties props,
    java.awt.Component parent,
    java.awt.Component bean,
    java.lang.String title,
    boolean show_apply_button
)
```

Creates and shows a modal BeanDialog with some special features. First, a help button is displayed only if the bean parameter implements HelpContextBean, in which case the help context is the result of `getHelpContext()`. Second, apply button is made visible according to the flag parameter.

Returns:

JOptionPane option value

3.3 Class ModelDialog

```
mil.dtra.hpac.client.dialog
public ModelDialog
extends ProjectEditorDialog
implements ChangeListener, VetoableChangeListener,
```

Extension of `ProjectEditorDialog` for displaying a `ModelPanel`. The intent here is to make things easier for model developers by taking care of dialog actions in this class. `ModelDialog` registers as its own `VetoableChangeListener` and calls `ModelPanel.storeAndUpdate()` (which calls `ModelPanel.store()`) on "OK" and "Apply" actions. Similarly, it calls `ModelPanel.load()` when constructing. When the dialog is closed after an un aborted "OK" action, `ModelPanel.close()` is called to allow the model developer to release resources.

`ModelPanel` implementations need only to implement their `close()`, `load()`, and `store()` methods. `ModelPanel.store()` may throw any `RuntimeException` or extension to abort "OK" action and prevent closing of the dialog.

Fields:

```
protected transient java.awt.event.ComponentListener fComponentListener
protected mil.dtra.hpac.client.models.ModelPanel fPanel
public static final int LOG_level
public static final java.lang.String MODEL_DIALOG
```

Methods:

```
public final mil.dtra.hpac.client.models.ModelPanel getModelPanel()
public void stateChanged()
protected void updateHelpContext()
public void vetoableChange()
```

Inner Classes:

ModelDialog.ComponentHandler

3.3.1 Field fComponentListener

protected transient java.awt.event.ComponentListener **fComponentListener**

3.3.2 Field fPanel

protected mil.dtra.hpac.client.models.ModelPanel **fPanel**

3.3.3 Field LOG_level

public static final int **LOG_level**

3.3.4 Field MODEL_DIALOG

public static final java.lang.String **MODEL_DIALOG**

3.3.5 Constructor ModelDialog()

```
public
ModelDialog(  
    mil.dtra.util.ValueProperties props,  
    java.awt.Component component,  
    mil.dtra.hpac.client.models.ModelPanel panel,  
    java.lang.String title  
)
```

Constructs assuming an undefined help context.

Parameters:

props - object with properties for this
 component - component whose frame will be the parent of this dialog; cannot be null
 panel - editing component
 title - dialog frame title

3.3.6 Constructor ModelDialog()

```
public
ModelDialog(
    mil.dtra.util.ValueProperties props,
    java.awt.Component component,
    mil.dtra.hpac.client.models.ModelPanel panel,
    java.lang.String title,
    java.lang.String help_context
)
```

Constructs with necessary parameters. We register keyboard actions for the ModelPanel's JTabbedPane. Ctrl-N and Ctrl-P will change to the next and previous tabs, respectively.

Parameters:

- props - object with properties for this
- component - component whose frame will be the parent of this dialog; cannot be null
- panel - editing component
- title - dialog frame title
- help_context - help context name

3.3.7 Method getModelPanel()

```
public final mil.dtra.hpac.client.models.ModelPanel
getModelPanel()
```

Accessor for the *modelPanel* property.

Returns:

- reference to the editing object

3.3.8 Method stateChanged()

```
public void
stateChanged( javax.swing.event.ChangeEvent event )
```

3.3.9 Method updateHelpContext()

```
protected void
updateHelpContext(
    javax.swing.JTabbedPane pane,
    int index
)
```

Parameters:

pane - tabbed pane with which to update
 index - if -1, the title of the currently selected tab is used, otherwise the explicit index is used

3.3.10 Method vetoableChange()

```
public void
vetoableChange( java.beans.PropertyChangeEvent event )
```

Implements VetoableChangeListener by checking for the APPLY property name. We also check for a non-null *newValue* property of the event to distinguish restorations to original property values resulting from vetoed changes.

Calls the *storeAndUpdate()* method of the *modelPanel* object. Any exception thrown is caught and re-thrown as a *PropertyVetoException*.

3.4 Class ModelDialog.ComponentHandler

```
mil.dtra.hpac.client.dialog
protected ModelDialog.ComponentHandler
extends ComponentAdapter
```

Extends ComponentAdapter to listen for visibility changes. Calls are made to the *modelPanel* to *load()* when made visible and *close()* when made invisible.

Methods:

```
public void componentHidden()
public void componentShown()
```

3.4.1 Constructor ModelDialog.ComponentHandler()

```
protected
ModelDialog.ComponentHandler( mil.dtra.hpac.client.dialog.ModelDialog this$0 )
```

3.4.2 Method componentHidden()

```
public void
componentHidden( java.awt.event.ComponentEvent event )
```

3.4.3 Method componentShown()

```
public void
componentShown( java.awt.event.ComponentEvent event )
```

3.5 Class ModelDialog.ComponentHandler

```
mil.dtra.hpac.client.dialog
protected ModelDialog.ComponentHandler
extends ComponentAdapter
```

Extends ComponentAdapter to listen for visibility changes. Calls are made to the *modelPanel* to *load()* when made visible and *close()* when made invisible.

Methods:

```
public void componentHidden()
public void componentShown()
```

3.5.1 Constructor ModelDialog.ComponentHandler()

```
protected
ModelDialog.ComponentHandler( mil.dtra.hpac.client.dialog.ModelDialog this$0 )
```

3.5.2 Method componentHidden()

```
public void
componentHidden( java.awt.event.ComponentEvent event )
```

3.5.3 Method componentShown()

```
public void
componentShown( java.awt.event.ComponentEvent event )
```

3.6 Class PersistentDialog

```
mil.dtra.hpac.client.dialog
public PersistentDialog
extends JDialog
implements ActionListener,
```

JDialog extension for a non-modal dialog which is never disposed. Rather, its visibility is toggled.

Fields:

```
public static final java.lang.String CLOSE
protected java.awt.Component fBean
```

Methods:

```
public void actionPerformed()
public final java.awt.Component getBean()
protected void init()
```

3.6.1 Field CLOSE

public static final java.lang.String **CLOSE**

Action and button name

3.6.2 Field fBean

protected java.awt.Component **fBean**

3.6.3 Constructor PersistentDialog()

```
public
PersistentDialog(
    mil.dtra.util.ValueProperties props,
    java.awt.Component parent,
    java.lang.String title,
    java.awt.Component bean
)
```

Constructs assuming a close button will be added.

Parameters:

- props - object with properties for this
- parent - parent component, may be null
- frame - owner frame
- title - dialog frame title
- bean - bean or component in dialog

3.6.4 Constructor PersistentDialog()

```
public
PersistentDialog(
    mil.dtra.util.ValueProperties props,
    java.awt.Component parent,
    java.lang.String title,
    java.awt.Component bean,
    boolean close_button_flag
)
```

Constructs with needed parameters.

Parameters:

- props - object with properties for this
- parent - parent component, may be null
- frame - owner frame
- title - dialog frame title
- bean - bean or component in dialog
- close_button_flag - true if a close button is to be added

3.6.5 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles button and keyboard actions. For "OK" and "Apply" actions, we call `fireVetoableChange()` with a property name and *newValue* of `APPLY`. The *oldValue* is set to null so property changes restoring original values after a veto will have null as the *newValue*.

For "OK" actions, we close this dialog if the vetoable change was not aborted with an exception.

3.6.6 Method getBean()

```
public final java.awt.Component
getBean()
```

Returns a reference to the bean managed by this dialog.

Returns:

reference to bean component

3.6.7 Method init()

```
protected void
init(
    mil.dtra.util.ValueProperties props,
    java.awt.Component parent,
    java.awt.Component bean,
    boolean close_button_flag
)
```

Creates components in this dialog.

Parameters:

- props - object with properties for this
- parent - parent component, may be null
- bean - bean or component in dialog
- close_button_flag - true if a close button is to be added

3.7 Class ProjectEditorDialog

```
mil.dtra.hpac.client.dialog
public abstract ProjectEditorDialog
extends JDialog
implements ActionListener,
```

Abstract base class for dialog components. In order to use this class, you must register a VetoableChangeListener and listen for *Apply* as the property name **and** *Apply* as the new property value. If you want the operation to fail, throw a PropertyVetoException to indicate the dialog should not close when "OK" is clicked. You will receive another PropertyChangeEvent with a new value of null from the vetoable change mechanism. Ignore this one. Null values are supplied with the PropertyChangeEvent.

Fields:

```
public static final java.lang.String ACTION_escape
public static final java.lang.String ACTION_nextTab
public static final java.lang.String ACTION_prevTab
public static final java.lang.String APPLY
public static final java.lang.String CANCEL
protected javax.swing.JButton fApplyButton
protected mil.dtra.hpac.help.HelpButtonBean fHelpButton
protected mil.dtra.util.ValueProperties fProps
protected javax.swing.JTabbedPane fTabbedPane
protected volatile java.lang.String fValue
protected transient java.beans.VetoableChangeSupport fVetoableSupport
public static final java.lang.String HELP
public static final java.lang.String OK
```

Methods:

```

public void actionPerformed()
public void addVetoableChangeListener()
protected java.awt.Component createButtonPanel()
protected java.awt.Component createButtonPanel()
protected javax.swing.JRootPane createRootPane()
protected void forceFocusRelease()
public final javax.swing.JButton getApplyButton()
public final mil.dtra.hpac.help.HelpButtonBean getHelpButton()
public java.lang.String getHelpContext()
public final java.lang.String getValue()
protected void registerKeyboardActions()
public void removeVetoableChangeListener()
protected void setDefaultButton()
public void setHelpContext()
public void setVisible()

```

3.7.1 Field ACTION_escape

public static final java.lang.String ACTION_escape

3.7.2 Field ACTION_nextTab

public static final java.lang.String ACTION_nextTab

3.7.3 Field ACTION_prevTab

public static final java.lang.String ACTION_prevTab

3.7.4 Field APPLY

public static final java.lang.String APPLY

Action and property name indicating used when "OK" or "Apply" is clicked

3.7.5 Field CANCEL

public static final java.lang.String CANCEL

Action and button name

3.7.6 Field fApplyButton

protected javax.swing.JButton fApplyButton

3.7.7 Field fHelpButton

```
protected mil.dtra.hpac.help.HelpButtonBean fHelpButton
```

3.7.8 Field fProps

```
protected mil.dtra.util.ValueProperties fProps
```

3.7.9 Field fTabbedPane

```
protected javax.swing.JTabbedPane fTabbedPane
```

3.7.10 Field fValue

```
protected volatile java.lang.String fValue
```

3.7.11 Field fVetoableSupport

```
protected transient java.beans.VetoableChangeSupport fVetoableSupport
```

3.7.12 Field HELP

```
public static final java.lang.String HELP
```

Action and button name

3.7.13 Field OK

```
public static final java.lang.String OK
```

Action and button name

3.7.14 Constructor ProjectEditorDialog()

```
public  
ProjectEditorDialog(  
    mil.dtra.util.ValueProperties props,  
    java.awt.Frame frame,  
    java.lang.String title  
)
```

Constructs assuming a modal dialog.

Parameters:

props - object with properties for this
 frame - parent frame for the dialog or null
 title - dialog frame title

3.7.15 Constructor ProjectEditorDialog()

```
public
ProjectEditorDialog(
    mil.dtra.util.ValueProperties props,
    java.awt.Frame frame,
    java.lang.String title,
    boolean modal
)
```

Constructs with necessary parameters.

Parameters:

props - object with properties for this
 frame - parent frame for the dialog or null
 title - dialog frame title
 modal - true for a modal dialog, false otherwise

3.7.16 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles button and keyboard actions. For "OK" and "Apply" actions, we call `fireVetoableChange()` with a property name and *newValue* of `APPLY`. The *oldValue* is set to null so property changes restoring original values after a veto will have null as the *newValue*.

For "OK" actions, we close this dialog if the vetoable change was not aborted with an exception.

3.7.17 Method addVetoableChangeListener()

```
public void
addVetoableChangeListener( java.beans.VetoableChangeListener listener )
```

Adds a VetoableChangeListener.

Parameters:

listener - listener to add

3.7.18 Method `createButtonPanel()`

```
protected java.awt.Component
createButtonPanel()
```

Creates a button panel assuming an undefined help context.

Returns:

new panel component

3.7.19 Method `createButtonPanel()`

```
protected java.awt.Component
createButtonPanel( java.lang.String help_context )
```

Creates a panel with "OK", "Cancel", "Apply", and "Help" buttons.

Parameters:

`help_context` - help context name

Returns:

new panel component

3.7.20 Method `createRootPane()`

```
protected javax.swing.JRootPane
createRootPane()
```

Overrides `JDialog.createRootPane()` to build a root pane with keyboard handling for `Escape` and `Ctrl-Enter`.

Returns:

root pane object

3.7.21 Method `forceFocusRelease()`

```
protected void
forceFocusRelease()
```

Takes focus away from the current focus owner to force value change in `ValueUnitsBean` instances. This implementation uses the `fTabbedPane` to find the focus owner. Subclasses may override to use a known Component.

3.7.22 Method `getApplyButton()`

```
public final javax.swing.JButton
getApplyButton()
```

Accessor for the *applyButton* property.

Returns:

reference to the button object.

3.7.23 Method `getHelpButton()`

```
public final mil.dtra.hpac.help.HelpButtonBean
getHelpButton()
```

Accessor for the *helpButton* property.

Returns:

reference to the button object.

3.7.24 Method `getHelpContext()`

```
public java.lang.String
getHelpContext()
```

Convenience method to retrieve the *helpContext* property of the help button.

Returns:

help context name

3.7.25 Method `getValue()`

```
public final java.lang.String
getValue()
```

Returns the user selection which caused the dialog to be hidden. Of course, this is only valid for modal dialogs.

Returns:

either OK or CANCEL which can be tested with ==

3.7.26 Method registerKeyboardActions()

```
protected void
registerKeyboardActions( javax.swing.JTabbedPane tabbed_pane )
```

Registers Ctrl-N and Ctrl-P as actions to advance to the next and previous tabs, respectively.

Parameters:

tabbed_pane - JTabbedPane object to manage

3.7.27 Method removeVetoableChangeListener()

```
public void
removeVetoableChangeListener( java.beans.VetoableChangeListener listener )
```

Removes a VetoableChangeListener.

Parameters:

listener - listener to remove

3.7.28 Method setDefaultButton()

```
protected void
setDefaultButton( javax.swing.JButton button )
```

Convenience method to set the default button on the root pane. This is equivalent to `getRootPane().setDefaultButton()`.

Parameters:

button - button to be the default.

3.7.29 Method setHelpContext()

```
public void
setHelpContext( java.lang.String help_context )
```

Convenience method to set the context for the help button. *Is there a HelpButtonBean.getHelpContext()?*

Parameters:

help_context - help context name

3.7.30 Method **setVisible()**

```
public void
setVisible( boolean visible )
```

Override to reset the *value* property when made visible.

3.8 Class ScipuffBeanDialog

```
mil.dtra.hpac.client.dialog
public ScipuffBeanDialog
extends ProjectEditorDialog
implements PropertyChangeListener,
```

Extension of `ProjectEditorDialog` to wrap a `ScipuffBean` instance. We don't use `JOptionPane` here because we need full control over what buttons appear, in this case none!

Fields:

```
protected mil.dtra.hpac.client.swing.ScipuffBean fBean
public static final java.lang.String SCIPUFF_BEAN_DIALOG
```

Methods:

```
public void propertyChange()
```

3.8.1 Field **fBean**

```
protected mil.dtra.hpac.client.swing.ScipuffBean fBean
```

3.8.2 Field **SCIPUFF_BEAN_DIALOG**

```
public static final java.lang.String SCIPUFF_BEAN_DIALOG
```

3.8.3 Constructor **ScipuffBeanDialog()**

```
public
ScipuffBeanDialog(
    mil.dtra.util.ValueProperties props,
    java.awt.Component component,
    mil.dtra.hpac.client.ProjectEditorIfc editor
)
```

Constructs a non-modal dialog with necessary parameters. We create a `ScipuffBean` instance and add this as a `PropertyChangeListener`.

Parameters:

`props` - object with properties for this
`component` - component whose frame will be the parent of this dialog; cannot be null
`editor` - object implementing the `ProjectEditorIfc` interface

3.8.4 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Implements `PropertyChangeListener`. If property name is `ScipuffBean.PROP_state`, and the state stored in the `newValue` property of the event is `ScipuffBean.FINISHED`, we close and dispose the dialog.

CHAPTER 4

Package mil.dtra.hpac.client.display

Provides, for the most part, application-specific interfaces and components supporting the ProjectEditor. Things here are related to the menu bar, tool bar, and map display pane.

Interfaces:

- AuxBoxIfc
- AuxLineIfc
- PermanentMapOverlay
- RulerOverlayConstants

Classes:

- IncidentDefIcon
- IncidentDefIcon.GestureListener
- IncidentDefIcon.SourceListener
- IncidentDefPalette
- IncidentDefPaletteDef
- IncidentDefPanel
- MapOverlay
- MapOverlayCellRenderer
- MapOverlayEditBean
- MapOverlayEditBean.MapContainerListener
- MapOverlayEditBean.MapOverlayComparator
- MapOverlayEditBean.MapOverlayListener
- MapOverlayEditBean.MapOverlayListModel
- MapOverlayMenuItem
- MapOverlayMenuItem.OverlayComponentListener
- MapOverlayMenuItem.OverlayContainerListener
- MapPane
- MapPane.ComponentFocusListener
- MapPane.DropPane
- MapPane.MapListener
- MapPane.MapMenuAdapter
- MapPane.MapPointAdapter
- MapPane.MapTrackAdapter

```

MapPane.MapZoomAdapter
MapPane.TransientPane
MapUserModeChoice
ObjectPalette
ObjectPalette.ButtonPanel
ObjectPalette.ButtonPanelListener
ObjectPaletteButton
ProjectEditorMenuBar
ProjectEditorMenuBar.ContainerWatcher
ProjectEditorMenuBar.PropertyChangeHandler
ProjectEditorToolBar
ReleaseSelectMenuItem
ReleaseSelectMenuItem.IconContainerListener
ReleaseSelectMenuItem.IconPropertyListener
RulerOverlay
RulerOverlayEditBean
ScaleBarOverlay

```

4.1 Interface AuxBoxIfc

```

mil.dtra.hpac.client.display
public interface AuxBoxIfc

```

Defines the methods an auxiliary box must implement relative to special handling by MapPane.

Methods:

```
public java.awt.Component getReferenceComponent()
```

4.1.1 Method getReferenceComponent()

```

public java.awt.Component
getReferenceComponent()

```

Returns the *referenceComponent* for which this is an auxiliary box.

Returns:

component reference

4.2 Interface AuxLineIfc

```

mil.dtra.hpac.client.display
public interface AuxLineIfc

```

Defines the methods an auxiliary line must implement relative to special handling by MapPane.

Methods:

```
public java.awt.Component getFromComponent()
public java.awt.Component getToComponent()
```

4.2.1 Method **getFromComponent()**

```
public java.awt.Component
getFromComponent()
```

Accessor for the *fromComponent* property.

Returns:

object reference

4.2.2 Method **getToComponent()**

```
public java.awt.Component
getToComponent()
```

Accessor for the *toComponent* property.

Returns:

object reference

4.3 Interface PermanentMapOverlay

```
mil.dtra.hpac.client.display
public interface PermanentMapOverlay
```

Tag interface for singleton MapOverlays which are to remain in the map display and are not to be deletable. interfaces.

4.4 Interface RulerOverlayConstants

```
mil.dtra.hpac.client.display
public interface RulerOverlayConstants
```

Definitions used by RulerOverlay and RulerOverlayEditBean.

Fields:

```

public static final float DEFAULT_alpha
public static final double DEFAULT_axisLength
public static final java.awt.Color DEFAULT_foreground
public static final java.awt.geom.Point2D DEFAULT_origin
public static final boolean DEFAULT_showXNegativeAxis
public static final boolean DEFAULT_showXPositiveAxis
public static final boolean DEFAULT_showYNegativeAxis
public static final boolean DEFAULT_showYPositiveAxis
public static final int DEFAULT_ticksPerAxis
public static final java.lang.String PROP_alpha
public static final java.lang.String PROP_axisLength
public static final java.lang.String PROP_foreground
public static final java.lang.String PROP_name
public static final java.lang.String PROP_origin
public static final java.lang.String PROP_showXNegativeAxis
public static final java.lang.String PROP_showXPositiveAxis
public static final java.lang.String PROP_showYNegativeAxis
public static final java.lang.String PROP_showYPositiveAxis
public static final java.lang.String PROP_ticksPerAxis
public static final java.lang.String PROP_visible

```

4.4.1 Field DEFAULT_alpha

```
public static final float DEFAULT_alpha
```

4.4.2 Field DEFAULT_axisLength

```
public static final double DEFAULT_axisLength
```

4.4.3 Field DEFAULT_foreground

```
public static final java.awt.Color DEFAULT_foreground
```

4.4.4 Field DEFAULT_origin

```
public static final java.awt.geom.Point2D DEFAULT_origin
```

4.4.5 Field DEFAULT_showXNegativeAxis

```
public static final boolean DEFAULT_showXNegativeAxis
```

4.4.6 Field **DEFAULT_showXPositiveAxis**

public static final boolean **DEFAULT_showXPositiveAxis**

4.4.7 Field **DEFAULT_showYNegativeAxis**

public static final boolean **DEFAULT_showYNegativeAxis**

4.4.8 Field **DEFAULT_showYPositiveAxis**

public static final boolean **DEFAULT_showYPositiveAxis**

4.4.9 Field **DEFAULT_ticksPerAxis**

public static final int **DEFAULT_ticksPerAxis**

4.4.10 Field **PROP_alpha**

public static final java.lang.String **PROP_alpha**

4.4.11 Field **PROP_axisLength**

public static final java.lang.String **PROP_axisLength**

4.4.12 Field **PROP_foreground**

public static final java.lang.String **PROP_foreground**

4.4.13 Field **PROP_name**

public static final java.lang.String **PROP_name**

4.4.14 Field **PROP_origin**

public static final java.lang.String **PROP_origin**

4.4.15 Field **PROP_showXNegativeAxis**

public static final java.lang.String **PROP_showXNegativeAxis**

4.4.16 Field PROP_showXPositiveAxis

```
public static final java.lang.String PROP_showXPositiveAxis
```

4.4.17 Field PROP_showYNegativeAxis

```
public static final java.lang.String PROP_showYNegativeAxis
```

4.4.18 Field PROP_showYPositiveAxis

```
public static final java.lang.String PROP_showYPositiveAxis
```

4.4.19 Field PROP_ticksPerAxis

```
public static final java.lang.String PROP_ticksPerAxis
```

4.4.20 Field PROP_visible

```
public static final java.lang.String PROP_visible
```

4.5 Class IncidentDefIcon

```
mil.dtra.hpac.client.display
public IncidentDefIcon
extends JRadioButton
```

JRadioButton extension for icons representing a means for creating or defining an incident. It is built from an IncidentDefinition and contains a DragSource with the Transferable from the IncidentDefinition.

Fields:

```
protected static javax.swing.border.Border activeBorder_
protected static java.awt.Font defaultFont_
protected transient java.awt.dnd.DragGestureListener fDragGestureListener
protected transient java.awt.dnd.DragSource fDragSource
protected transient java.awt.dnd.DragSourceListener fDragSourceListener
protected java.awt.Component fDropComponent
protected java.awt.datatransfer.Transferable fTransferable
protected static javax.swing.border.Border inactiveBorder_
protected static java.awt.BasicStroke selectedStroke_
```

Methods:

```

public final java.awt.datatransfer.Transferable getTransferable()
public void init()
protected void paintComponent()
protected void processFocusEvent()
protected void processMouseEvent()

```

Inner Classes:

IncidentDefIcon.GestureListener
 IncidentDefIcon.SourceListener

4.5.1 Field activeBorder__

protected static javax.swing.border.Border **activeBorder__**

4.5.2 Field defaultFont__

protected static java.awt.Font **defaultFont__**

4.5.3 Field fDragGestureListener

protected transient java.awt.dnd.DragGestureListener **fDragGestureListener**

4.5.4 Field fDragSource

protected transient java.awt.dnd.DragSource **fDragSource**

4.5.5 Field fDragSourceListener

protected transient java.awt.dnd.DragSourceListener **fDragSourceListener**

4.5.6 Field fDropComponent

protected java.awt.Component **fDropComponent**

4.5.7 Field fTransferable

protected java.awt.datatransfer.Transferable **fTransferable**

4.5.8 Field inactiveBorder__

protected static javax.swing.border.Border **inactiveBorder__**

4.5.9 Field selectedStroke__

```
protected static java.awt.BasicStroke selectedStroke__
```

4.5.10 Constructor IncidentDefIcon()

```
public  
IncidentDefIcon()
```

Default constructor. Must call `init()`.

4.5.11 Constructor IncidentDefIcon()

```
public  
IncidentDefIcon(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.client.models.IncidentDefinition incident_def  
)
```

Constructs assuming no drop component. Calls the three-argument constructor.

Parameters:

`props` - object with properties for this
`incident_def` - object defining the incident definition attributes of this

4.5.12 Constructor IncidentDefIcon()

```
public  
IncidentDefIcon(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.client.models.IncidentDefinition incident_def,  
    java.awt.Component drop_component  
)
```

Constructs with parameters. Calls the default constructor and `init()`.

Parameters:

`props` - object with properties for this
`incident_def` - object defining the incident definition attributes of this
`drop_component` - component whose visibility is to be toggled on and off when a drag begins and ends; can be null

4.5.13 Method `getTransferable()`

```
public final java.awt.datatransfer.Transferable
getTransferable()
```

Accessor for the *transferable* property.

Returns:

reference to the Transferable object

4.5.14 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.models.IncidentDefinition incident_def,
    java.awt.Component drop_component
)
```

Initializes this component. The *transferable* is retrieved from the *incident_def*, the *icon* is created from the *incident_def iconImage*, and the *toolTipText* is taken from the *incident_def shortDescription*.

Parameters:

props - object with properties for this
 incident_def - object defining the incident definition attributes of this
 drop_component - component whose visibility is to be toggled on and off when a drag begins and ends; can be null

4.5.15 Method `paintComponent()`

```
protected void
paintComponent( java.awt.Graphics graphics )
```

Overrides `JRadioButton.paintComponent()` to represent selection in a unique way. Since we highlight mouse entry by changing the border, we explicitly show selection by drawing a dashed rectangle over the icon. Of course, `super.paintComponent()` is called first.

Parameters:

graphics - graphics context

4.5.16 Method processFocusEvent()

```
protected void
processFocusEvent( java.awt.event.FocusEvent event )
```

Overrides to select when focused.

Parameters:

event - focus event

4.5.17 Method processMouseEvent()

```
protected void
processMouseEvent( java.awt.event.MouseEvent event )
```

Overrides JRadioButton.processMouseEvent() to capture mouse entry and exit, in which case the border is changed.

Parameters:

event - mouse event to process

4.6 Class IncidentDefIcon.GestureListener

```
mil.dtra.hpac.client.display
protected IncidentDefIcon.GestureListener
extends Object
implements DragGestureListener,
```

Implements the DragGestureListener interface to set up for an incident model bean name drag.

Methods:

public void dragGestureRecognized()

4.6.1 Constructor IncidentDefIcon.GestureListener()

```
protected
IncidentDefIcon.GestureListener( mil.dtra.hpac.client.display.IncidentDefIcon this$0 )
```

4.6.2 Method dragGestureRecognized()

```
public void
dragGestureRecognized( java.awt.dnd.DragGestureEvent event )
```

Starts the drag for ACTION_COPY_OR_MOVE. If the drop component was specified, makes it visible.

4.7 Class IncidentDefIcon.SourceListener

```
mil.dtra.hpac.client.display
protected IncidentDefIcon.SourceListener
extends Object
implements DragSourceListener,
```

Implements the DragSourceListener interface to support an incident model bean name drag.

Methods:

```
public void dragDropEnd()
public void dragEnter()
public void dragExit()
public void dragOver()
public void dropActionChanged()
```

4.7.1 Constructor IncidentDefIcon.SourceListener()

```
protected
IncidentDefIcon.SourceListener( mil.dtra.hpac.client.display.IncidentDefIcon this$0 )
```

4.7.2 Method dragDropEnd()

```
public void
dragDropEnd( java.awt.dnd.DragSourceDropEvent event )
```

If a drop component was specified, makes it invisible.

4.7.3 Method dragEnter()

```
public void
dragEnter( java.awt.dnd.DragSourceDragEvent event )
```

4.7.4 Method dragExit()

```
public void
dragExit( java.awt.dnd.DragSourceEvent event )
```

4.7.5 Method dragOver()

```
public void
dragOver( java.awt.dnd.DragSourceDragEvent event )
```

4.7.6 Method dropActionChanged()

```
public void
dropActionChanged( java.awt.dnd.DragSourceDragEvent event )
```

4.8 Class IncidentDefIcon.GestureListener

```
mil.dtra.hpac.client.display
protected IncidentDefIcon.GestureListener
extends Object
implements DragGestureListener,
```

Implements the DragGestureListener interface to set up for an incident model bean name drag.

Methods:

```
public void dragGestureRecognized()
```

4.8.1 Constructor IncidentDefIcon.GestureListener()

```
protected
IncidentDefIcon.GestureListener( mil.dtra.hpac.client.display.IncidentDefIcon this$0 )
```

4.8.2 Method dragGestureRecognized()

```
public void
dragGestureRecognized( java.awt.dnd.DragGestureEvent event )
```

Starts the drag for ACTION_COPY_OR_MOVE. If the drop component was specified, makes it visible.

4.9 Class IncidentDefIcon.SourceListener

```
mil.dtra.hpac.client.display
protected IncidentDefIcon.SourceListener
extends Object
implements DragSourceListener,
```

Implements the `DragSourceListener` interface to support an incident model bean name drag.

Methods:

```
public void dragDropEnd()
public void dragEnter()
public void dragExit()
public void dragOver()
public void dropActionChanged()
```

4.9.1 Constructor IncidentDefIcon.SourceListener()

```
protected
IncidentDefIcon.SourceListener( mil.dtra.hpac.client.display.IncidentDefIcon this$0 )
```

4.9.2 Method dragDropEnd()

```
public void
dragDropEnd( java.awt.dnd.DragSourceDropEvent event )
```

If a drop component was specified, makes it invisible.

4.9.3 Method dragEnter()

```
public void
dragEnter( java.awt.dnd.DragSourceDragEvent event )
```

4.9.4 Method dragExit()

```
public void
dragExit( java.awt.dnd.DragSourceEvent event )
```

4.9.5 Method dragOver()

```
public void
dragOver( java.awt.dnd.DragSourceDragEvent event )
```

4.9.6 Method dropActionChanged()

```
public void
dropActionChanged( java.awt.dnd.DragSourceDragEvent event )
```

4.10 Class IncidentDefPalette

```
mil.dtra.hpac.client.display
public IncidentDefPalette
extends JPanel
```

Extension of JPanel implementing a single group or palette of IncidentDefIcons. It is meant to be a collection of icons in the same category or grouping. It displays with a sunken border and a name. It should be laid out such that its preferred height is accepted. It uses a GridLayout, and attempts to set its height will make the icons the wrong size.

Fields:

```
protected static java.awt.Color defaultBackground_
```

Methods:

```
protected void addImpl()
public void createIcons()
public void init()
```

4.10.1 Field defaultBackground_

```
protected static java.awt.Color defaultBackground_
```

4.10.2 Constructor IncidentDefPalette()

```
public
IncidentDefPalette()
```

Default constructor. Sets a GridLayout with two columns and sets *opaque* to false. Must call init() or deserialize.

4.10.3 Constructor IncidentDefPalette()

```
public
IncidentDefPalette(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.display.IncidentDefPaletteDef palette_def
)
```

Constructs assuming no background color or drop component. Calls the four-argument constructor.

Parameters:

props - object containing properties for this
 palette_def - palette definition used to specify how to build this

4.10.4 Constructor IncidentDefPalette()

```
public
IncidentDefPalette(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.display.IncidentDefPaletteDef palette_def,
    java.awt.Color bg_color,
    java.awt.Component drop_component
)
```

Constructs with needed parameters. Calls the default constructor and `init()`.

Parameters:

props - object containing properties for this
 palette_def - palette definition used to specify how to build this
 bg_color - background color or null to use default
 drop_component - component whose visibility is to be toggled on and off when a drag begins and ends; can be null

4.10.5 Method addImpl()

```
protected void
addImpl(
    java.awt.Component component,
    java.lang.Object constraints,
    int index
)
```

Trying to be a good bean citizen by disallowing anything but `IncidentDefIcons` from being added. Calls `super.addImpl()`.

Parameters:

component - component to add, rejected if not an `IncidentDefIcon`
 constraints - constraints
 index - insertion index

Exceptions:

`IllegalArgumentException` - if the component is not a `IncidentDefIcon`

4.10.6 Method `createIcons()`

```
public void
createIcons(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.display.IncidentDefPaletteDef palette_def,
    java.awt.Component drop_component,
    boolean clear_flag
)
```

Creates icons as defined in the `palette_def`. Classes specified in the `palette_def` are loaded dynamically.

Parameters:

`props` - object with properties for the icons
`palette_def` - object describing the icons to create
`drop_component` - component whose visibility is to be toggled on and off when a drag begins and ends; can be null
`clear_flag` - if true, all existing icons are first removed

4.10.7 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.display.IncidentDefPaletteDef palette_def,
    java.awt.Color bg_color,
    java.awt.Component drop_component
)
```

Initializes this component setting properties and creating sub components.

Parameters:

props - object containing properties for this
 palette_def - palette definition used to specify how to build this
 bg_color - background color or null to use default
 drop_component - component whose visibility is to be toggled on and off when a drag begins and ends; can be null

4.11 Class IncidentDefPaletteDef

```

mil.dtra.hpac.client.display
public IncidentDefPaletteDef
extends Object
implements Cloneable,

```

Definition of a single palette or grouping of `IncidentDefIcons`. It has two properties, a *name* and an `IncidentDefClassNames` array, the latter being a `String` array of names of classes extending `IncidentDefinition`.

Fields:

```

protected java.lang.String[] fIncidentDefClassNames
protected java.lang.String fName
public static final java.lang.String PROP_icons
public static final java.lang.String PROP_name

```

Methods:

```

public java.lang.Object clone()
public boolean equals()
public final java.lang.String[] getIncidentDefClassNames()
public final java.lang.String getName()
public static java.util.List readDefs()

```

4.11.1 Field fIncidentDefClassNames

`protected java.lang.String[] fIncidentDefClassNames`

4.11.2 Field fName

`protected java.lang.String fName`

4.11.3 Field PROP_icons

`public static final java.lang.String PROP_icons`

4.11.4 Field PROP_name

```
public static final java.lang.String PROP_name
```

4.11.5 Constructor IncidentDefPaletteDef()

```
public  
IncidentDefPaletteDef()
```

Default, noop constructor.

4.11.6 Constructor IncidentDefPaletteDef()

```
public  
IncidentDefPaletteDef(  
    java.util.Properties props,  
    java.lang.String key  
)
```

Constructs by deserializing from the specified properties object and property key prefix.

Parameters:

- props - properties containing definitions
- key - property key, where null implies blank

4.11.7 Method clone()

```
public java.lang.Object  
clone()
```

Overrides Cloneable.

4.11.8 Method equals()

```
public boolean  
equals( java.lang.Object obj )
```

Overrides Object.equals().

4.11.9 Method getIncidentDefClassNames()

```
public final java.lang.String[]
getIncidentDefClassNames()
```

Accessor for the *incidentDefClassNames* property.

Returns:

reference to the String[]

4.11.10 Method getName()

```
public final java.lang.String
getName()
```

Accessor for the *name* property.

Returns:

name or label assigned to this definition

4.11.11 Method readDefs()

```
public static java.util.List
readDefs(
    java.util.Properties props,
    java.lang.String key
)
```

Reads `IncidentDefPaletteDef` specifications from a properties object and builds a list (ordered collection) of them. Property keys are generated starting with *prefix.0* and iterating to *prefix.n*.

Parameters:

`props` - properties object
`key` - property key, where null implies blank

Returns:

collection of `IncidentDefPaletteDef` objects as read from the properties

4.12 Class IncidentDefPanel

```
mil.dtra.hpac.client.display
public IncidentDefPanel
extends JPanel
```

Extends JPanel to implement the outer panel containing IncidentDefPalette instances. Each IncidentDefPalette is arranged vertically in a Box. All the individual IncidentDefIcons in all palettes are considered to be radio buttons in a single button group. Only one is selected at any one time.

Fields:

```
protected java.util.ArrayList fIconList
protected mil.dtra.swing.JMultiLineLabel fLabel
protected mil.dtra.swing.GradientPanel fPalettePanel
public static final java.lang.String PROP_labelFont
```

Methods:

```
public final java.awt.Color getLabelBackground()
public final java.awt.Font getLabelFont()
public final java.awt.Color getLabelForeground()
public final javax.swing.JPanel getPalettePanel()
public mil.dtra.hpac.client.display.IncidentDefIcon getSelectedIcon()
public void init()
public void setBackground()
public final void setLabelBackground()
public void setLabelFont()
public final void setLabelForeground()
```

4.12.1 Field fIconList

```
protected java.util.ArrayList fIconList
```

4.12.2 Field fLabel

```
protected mil.dtra.swing.JMultiLineLabel fLabel
```

4.12.3 Field fPalettePanel

```
protected mil.dtra.swing.GradientPanel fPalettePanel
```

4.12.4 Field PROP_labelFont

```
public static final java.lang.String PROP_labelFont
```

4.12.5 Constructor IncidentDefPanel()

```
public  
IncidentDefPanel()
```

Default constructor to support deserialization. Must call `init()`.

4.12.6 Constructor IncidentDefPanel()

```
public  
IncidentDefPanel(  
    mil.dtra.util.ValueProperties props,  
    java.util.List palette_defs  
)
```

Constructs assuming no drop component. Calls the three-argument constructor.

Parameters:

`props` - object with properties for this
`palette_defs` - list of palette definitions

4.12.7 Constructor IncidentDefPanel()

```
public  
IncidentDefPanel(  
    mil.dtra.util.ValueProperties props,  
    java.util.List palette_defs,  
    java.awt.Component drop_component  
)
```

Constructs calling the default constructor and `init()`.

Parameters:

`props` - object with properties for this
`palette_defs` - list of palette definitions
`drop_component` - component whose visibility is to be toggled on and off when a drag begins and ends; can be null

4.12.8 Method `getLabelBackground()`

```
public final java.awt.Color  
getLabelBackground()
```

Accessor for the *labelBackground* property, which is the *background* property of the fLabel attribute.

Returns:

reference to the immutable color object

4.12.9 Method `getLabelFont()`

```
public final java.awt.Font  
getLabelFont()
```

Accessor for the *labelFont* property, which is the *font* property of the fLabel attribute.

Returns:

reference to the immutable font object

4.12.10 Method `getLabelForeground()`

```
public final java.awt.Color  
getLabelForeground()
```

Accessor for the *labelForeground* property, which is the *foreground* property of the fLabel attribute.

Returns:

reference to the immutable color object

4.12.11 Method `getPalettePanel()`

```
public final javax.swing.JPanel  
getPalettePanel()
```

Accessor for the *palettePanel* property.

Returns:

reference to the object

4.12.12 Method getSelectedIcon()

```
public mil.dtra.hpac.client.display.IncidentDefIcon
getSelectedIcon()
```

Retrieves the currently selected icon.

Returns:

reference to the selected icon or null if no icon is selected

4.12.13 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    java.util.List palette_defs,
    java.awt.Component drop_component
)
```

Initializes and creates this component.

Parameters:

props - object with properties for this
 palette_defs - list of palette definitions
 drop_component - component whose visibility is to be toggled on and off when a drag begins and ends; can be null

4.12.14 Method setBackground()

```
public void
setBackground( java.awt.Color color )
```

Overrides JPanel.setBackground() to set the *background* of the *palettePanel* as well.

Parameters:

color - background color

4.12.15 Method setLabelBackground()

```
public final void
setLabelBackground( java.awt.Color color )
```

Accessor for the *labelBackground* property, which is the *background* property of the fLabel attribute.

Parameters:

color - background color

4.12.16 Method setLabelFont()

```
public void
setLabelFont( java.awt.Font font )
```

Accessor for the *labelFont* property, which is the *font* property of the fLabel attribute.

Parameters:

font - font object

4.12.17 Method setLabelForeground()

```
public final void
setLabelForeground( java.awt.Color color )
```

Accessor for the *labelForeground* property, which is the *foreground* property of the fLabel attribute.

4.13 Class MapOverlay

```
mil.dtra.hpac.client.display
public abstract MapOverlay
extends JComponent
implements ActionListener, MapComponent, ProjectComponent,
```

This class defines the basis for overlay components in a MapPane's MapDisplay. It is a JComponent extension that implements the MapComponent and ProjectComponent interfaces.

Fields:

```

public static final java.lang.String DELETE
protected mil.dtra.map.MapProjection fMapProjection
protected javax.swing.JPopupMenu fPopupMenu
protected mil.dtra.hpac.client.ProjectEditorIfc fProjectEditor
protected javax.swing.JMenuItem fShowHideItem
public static final java.lang.String HIDE
public static final java.lang.String MAP_OVERLAY
public static final java.lang.String SHOW

```

Methods:

```

public void actionPerformed()
protected javax.swing.JPopupMenu createPopupMenu()
public final mil.dtra.map.MapProjection getMapProjection()
public final mil.dtra.hpac.client.ProjectEditorIfc getProjectEditor()
public void install()
protected void processComponentEvent()
protected void processKeyEvent()
protected void processMouseEvent()
public void remove()
public void showPopupMenu()
public void updateMapProjection()

```

4.13.1 Field `DELETE`

public static final java.lang.String **`DELETE`**

Action name and menu item text

4.13.2 Field `fMapProjection`

protected mil.dtra.map.MapProjection **`fMapProjection`**

4.13.3 Field `fPopupMenu`

protected javax.swing.JPopupMenu **`fPopupMenu`**

4.13.4 Field `fProjectEditor`

protected mil.dtra.hpac.client.ProjectEditorIfc **`fProjectEditor`**

4.13.5 Field `fShowHideItem`

protected javax.swing.JMenuItem **`fShowHideItem`**

4.13.6 Field HIDE

public static final java.lang.String **HIDE**

Action name and menu item text

4.13.7 Field MAP_OVERLAY

public static final java.lang.String **MAP_OVERLAY**

4.13.8 Field SHOW

public static final java.lang.String **SHOW**

Action name and menu item text

4.13.9 Constructor MapOverlay()

public
MapOverlay()

Constructs with an empty string for a component name. One should be set at some point via `setName()`.

4.13.10 Constructor MapOverlay()

public
MapOverlay(java.lang.String name)

Constructs with the specified component name. This sets the cursor `Cursor.HAND_CURSOR`, creates the popup menu by calling `createPopupMenu()`, and enables component, key, and mouse events.

Parameters:

name - component name

4.13.11 Method actionPerformed()

public void
actionPerformed(java.awt.event.ActionEvent event)

Handles popup menu item actions.

Parameters:

event - action event

4.13.12 Method `createPopupMenu()`

```
protected javax.swing.JPopupMenu  
createPopupMenu()
```

Creates the popup menu for this item. The default menu has a "Delete" item and an item that toggles b/w "Show" and "Hide" as appropriate for the current component visibility.
Subclasses may override this method either with a completely new implementation or call super.createPopupMenu() and augment the default menu.

Returns:

popup menu object

4.13.13 Method `getMapProjection()`

```
public final mil.dtra.map.MapProjection  
getMapProjection()
```

Accessor for the *mapProjection* property.

Returns:

reference to the map projection (may be null)

4.13.14 Method `getProjectEditor()`

```
public final mil.dtra.hpac.client.ProjectEditorIfc  
getProjectEditor()
```

Accessor for the *projectEditor* property.

Returns:

project editor object reference

4.13.15 Method install()

```
public void
install( mil.dtra.hpac.client.ProjectEditorIfc project_editor )
```

Called when the project editor context and environment have been established as per the ProjectComponent interface.

Parameters:

project_editor - reference to the project editor context and environment object

4.13.16 Method processComponentEvent()

```
protected void
processComponentEvent( java.awt.event.ComponentEvent event )
```

Overrides JComponent.processComponentEvent() to toggle the fShowHideItem text b/w "Show" and "Hide", if that item was created in createPopupMenu().

Parameters:

event - component event

4.13.17 Method processKeyEvent()

```
protected void
processKeyEvent( java.awt.event.KeyEvent event )
```

Overrides JComponent.processKeyEvent() to check for Tab keys, in which case focus is transferred. We also try to capture Shift-F10 as a popup menu trigger.

Parameters:

event - key event

4.13.18 Method processMouseEvent()

```
protected void
processMouseEvent( java.awt.event.MouseEvent event )
```

Overrides JComponent.processMouseEvent() to check for the popup trigger, in which case the popup menu is shown via showPopupMenu(). Otherwise, super.processMouseEvent() is called.

Parameters:

event - mouse event

4.13.19 Method remove()

```
public void
remove()
```

Removes this component from its parent container.

4.13.20 Method showPopupMenu()

```
public void
showPopupMenu(
    int x,
    int y
)
```

Shows the popup menu (if one was created) at the specified location relative to this.

Parameters:

x - x location relative to this
y - y location relative to this

4.13.21 Method updateMapProjection()

```
public void
updateMapProjection( mil.dtra.map.MapProjection proj )
```

Stores the specified projection reference as the *mapProjection* property. Subclasses must override this method, optionally calling *super.updateMapProjection()*, to apply the new projection to a coordinate (lon,lat) property.

Parameters:

proj - map projection reference to store

4.14 Class MapOverlayCellRenderer

```
mil.dtra.hpac.client.display
public MapOverlayCellRenderer
extends JLabel
implements HPAC Swing Constants, ListCellRenderer,
```

Extension of JCheckBox implementing ListCellRenderer for representing a MapOverlay component in a JList.

Methods:

```
public java.awt.Component getListCellRendererComponent()
```

4.14.1 Constructor MapOverlayCellRenderer()

```
public
MapOverlayCellRenderer()
```

Default constructor. Sets the *opaque* property to true.

4.14.2 Method getListCellRendererComponent()

```
public java.awt.Component
getListCellRendererComponent(
    javax.swing.JList list,
    java.lang.Object value,
    int index,
    boolean is_selected,
    boolean has_focus
)
```

Returns this as the component, first setting the background according to *is_selected*, the foreground, and the border based on *has_focus*.

Parameters:

- list* - list component
- value* - value associated with this
- index* - index of this in the list
- is_selected* - true if value is the currently selected item
- has_focus* - true if this has the focus

Returns:

this

4.15 Class MapOverlayEditBean

```

mil.dtra.hpac.client.display
public MapOverlayEditBean
extends PDialogPanel
implements ActionListener, HPAC Swing Constants, ListSelectionListener, PropertyChangeListener,
```

Panel for editing the visibility and relative layers of a list of MapOverlay objects. It is composed of a JList with an entry for each overlay and a button panel with *Bottom*, *Delete Down*, *Hide*, *Show*, *Top*, *Up*, *Visible* buttons.

Fields:

```

public static final java.lang.String BLANK_ICON_NAME
public static final java.lang.String BOTTOM
public static final java.lang.String BOTTOM_ICON_NAME
public static final java.lang.String DELETE
public static final java.lang.String DOWN
public static final java.lang.String DOWN_ICON_NAME
protected javax.swing.JButton fBottomButton
protected transient java.util.Comparator fComparator
protected javax.swing.JLayeredPane fContainer
protected javax.swing.JButton fDeleteButton
protected javax.swing.JButton fDownButton
protected javax.swing.JList fList
protected transient volatile boolean fListeningFlag
protected transient mil.dtra.hpac.client.display.MapOverlayEditBean.MapOverlayListModel
fListModel
protected transient java.awt.event.ContainerListener fMapContainerListener
protected transient java.awt.event.ComponentListener fMapOverlayListener
protected javax.swing.JToggleButton fShowHideButton
protected javax.swing.JButton fTopButton
protected javax.swing.JButton fUpButton
public static final java.lang.String HIDE
public static final java.lang.String ICON_PREFIX
public static final java.lang.String INVISIBLE_ICON_NAME
public static final java.lang.String MAP_OVERLAY_EDIT_BEAN
protected static final java.lang.String PROP_name
public static final java.lang.String SHOW
public static final java.lang.String TOP
public static final java.lang.String TOP_ICON_NAME
public static final java.lang.String UP
public static final java.lang.String UP_ICON_NAME
public static final java.lang.String VISIBLE
public static final java.lang.String VISIBLE_ICON_NAME
```

Methods:

```

public void actionPerformed()
protected void activateButtons()
protected void create()
protected javax.swing.JComponent createButtonPanel()
public java.util.List getMapOverlays()
public void init()
public void propertyChange()
public void refreshContainer()
public void setEnabled()
public void setMapOverlays()
protected void startListening()
protected void stopListening()
public void valueChanged()

```

Inner Classes:

MapOverlayEditBean.MapContainerListener
 MapOverlayEditBean.MapOverlayComparator
 MapOverlayEditBean.MapOverlayListener
 MapOverlayEditBean.MapOverlayListModel

4.15.1 Field BLANK_ICON_NAME

public static final java.lang.String **BLANK_ICON_NAME**

4.15.2 Field BOTTOM

public static final java.lang.String **BOTTOM**

Action name and button text

4.15.3 Field BOTTOM_ICON_NAME

public static final java.lang.String **BOTTOM_ICON_NAME**

4.15.4 Field DELETE

public static final java.lang.String **DELETE**

Action name and button text

4.15.5 Field DOWN

public static final java.lang.String **DOWN**

Action name and button text

4.15.6 Field DOWN_ICON_NAME

public static final java.lang.String **DOWN_ICON_NAME**

4.15.7 Field fBottomButton

protected javax.swing.JButton **fBottomButton**

4.15.8 Field fComparator

protected transient java.util.Comparator **fComparator**

4.15.9 Field fContainer

protected javax.swing.JLayeredPane **fContainer**

4.15.10 Field fDeleteButton

protected javax.swing.JButton **fDeleteButton**

4.15.11 Field fDownButton

protected javax.swing.JButton **fDownButton**

4.15.12 Field fList

protected javax.swing.JList **fList**

4.15.13 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

4.15.14 Field fListModel

protected transient mil.dtra.hpac.client.display.MapOverlayEditBean.MapOverlayListModel **fListModel**

4.15.15 Field fMapContainerListener

protected transient java.awt.event.ContainerListener **fMapContainerListener**

4.15.16 Field **fMapOverlayListener**

protected transient java.awt.event.ComponentListener **fMapOverlayListener**

4.15.17 Field **fShowHideButton**

protected javax.swing.JToggleButton **fShowHideButton**

4.15.18 Field **fTopButton**

protected javax.swing.JButton **fTopButton**

4.15.19 Field **fUpButton**

protected javax.swing.JButton **fUpButton**

4.15.20 Field **HIDE**

public static final java.lang.String **HIDE**

Action name and button text

4.15.21 Field **ICON_PREFIX**

public static final java.lang.String **ICON_PREFIX**

4.15.22 Field **INVISIBLE_ICON_NAME**

public static final java.lang.String **INVISIBLE_ICON_NAME**

4.15.23 Field **MAP_OVERLAY_EDIT_BEAN**

public static final java.lang.String **MAP_OVERLAY_EDIT_BEAN**

4.15.24 Field **PROP_name**

protected static final java.lang.String **PROP_name**

4.15.25 Field **SHOW**

public static final java.lang.String **SHOW**

Action name and button text

4.15.26 Field TOP

```
public static final java.lang.String TOP
```

Action name and button text

4.15.27 Field TOP_ICON_NAME

```
public static final java.lang.String TOP_ICON_NAME
```

4.15.28 Field UP

```
public static final java.lang.String UP
```

Action name and button text

4.15.29 Field UP_ICON_NAME

```
public static final java.lang.String UP_ICON_NAME
```

4.15.30 Field VISIBLE

```
public static final java.lang.String VISIBLE
```

Action name and button text

4.15.31 Field VISIBLE_ICON_NAME

```
public static final java.lang.String VISIBLE_ICON_NAME
```

4.15.32 Constructor MapOverlayEditBean()

```
public  
MapOverlayEditBean()
```

Default constructor for bean instantiation. Must call `init()`.

4.15.33 Constructor MapOverlayEditBean()

```
public
MapOverlayEditBean(
    mil.dtra.util.ValueProperties props,
    javax.swing.JLayeredPane container,
    java.util.Collection map_overlays
)
```

Constructs assuming no title.

Parameters:

props - object with properties for this
 container - container which is the parent for all the MapOverlay objects
 map_overlays - collection of MapOverlay objects

4.15.34 Constructor MapOverlayEditBean()

```
public
MapOverlayEditBean(
    mil.dtra.util.ValueProperties props,
    javax.swing.JLayeredPane container,
    java.util.Collection map_overlays,
    java.lang.String title
)
```

Constructs with explicit values, calling init().

Parameters:

props - object with properties for this
 container - container which is the parent for all the MapOverlay objects
 map_overlays - collection of MapOverlay objects
 title - title for a border or null for no border

4.15.35 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles button actions.

Parameters:

event - action event

4.15.36 Method activateButtons()

```
protected void
activateButtons()
```

Internal method to set the *selected* property of the fShowHideButton and enable/disable the fDelete-Button.

4.15.37 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates this component and all sub-components.

Parameters:

props - object with properties for this

4.15.38 Method createButtonPanel()

```
protected javax.swing.JComponent
createButtonPanel( mil.dtra.util.ValueProperties props )
```

Creates the button panel

Parameters:

props - object with properties for this

Returns:

button panel component

4.15.39 Method getMapOverlays()

```
public java.util.List
getMapOverlays()
```

Accessor for the *mapOverlays* property.

Returns:

reference to the ordered collection of overlays

4.15.40 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    javax.swing.JLayeredPane container,
    java.util.Collection map_overlays,
    java.lang.String title
)
```

Initializes and creates this component and all its sub-components.

Parameters:

props - object with properties for this
 container - container which is the parent for all the MapOverlay objects
 map_overlays - collection of MapOverlay objects
 title - title for a border or null for no border

4.15.41 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handler for property changes on the overlay.

Parameters:

event - property change event

4.15.42 Method refreshContainer()

```
public void
refreshContainer()
```

Calls `revalidate()` and `repaint()` on the container in a separate thread.

4.15.43 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Sets the *enabled* property for this and all sub-components.

Parameters:

flag - true if enabled, false otherwise

4.15.44 Method **setMapOverlays()**

```
public void  
setMapOverlays( java.util.Collection map_overlays )
```

Accessor for the *mapOverlays* property.

Parameters:

map_overlays - collection of MapOverlay objects to make the list

4.15.45 Method **startListening()**

```
protected void  
startListening()
```

Enable listeners for all sub-components.

4.15.46 Method **stopListening()**

```
protected void  
stopListening()
```

Disable listeners for all sub-components.

4.15.47 Method **valueChanged()**

```
public void  
valueChanged( javax.swing.event.ListSelectionEvent event )
```

Handles selection changes on the list. 8

Parameters:

event - list selection event

4.16 Class MapOverlayEditBean.MapContainerListener

```
mil.dtra.hpac.client.display
protected MapOverlayEditBean.MapContainerListener
extends ContainerAdapter
```

Extension of ContainerAdapter for listening to adds and removes of overlays.

Methods:

```
public void componentAdded()
public void componentRemoved()
```

4.16.1 Constructor MapOverlayEditBean.MapContainerListener()

```
protected
MapOverlayEditBean.MapContainerListener( mil.dtra.hpac.client.display.MapOverlayEditBean
this$0 )
```

4.16.2 Method componentAdded()

```
public void
componentAdded( java.awt.event.ContainerEvent event )
```

4.16.3 Method componentRemoved()

```
public void
componentRemoved( java.awt.event.ContainerEvent event )
```

4.17 Class MapOverlayEditBean.MapOverlayComparator

```
mil.dtra.hpac.client.display
protected MapOverlayEditBean.MapOverlayComparator
extends Object
implements Comparator,
```

Implements Comparator() to compare layer indexes for decreasing order.

Methods:

```
public int compare()
```

4.17.1 Constructor MapOverlayEditBean.MapOverlayComparator()

```
protected
MapOverlayEditBean.MapOverlayComparator( mil.dtra.hpac.client.display.MapOverlayEditBean
this$0 )
```

4.17.2 Method compare()

```
public int
compare(
    java.lang.Object one,
    java.lang.Object two
)
```

4.18 Class MapOverlayEditBean.MapOverlayListener

```
mil.dtra.hpac.client.display
protected MapOverlayEditBean.MapOverlayListener
extends ComponentAdapter
```

Extension of ComponentAdapter for listening to visibility changes on overlays.

Methods:

```
public void componentHidden()
public void componentShown()
protected void fireChange()
```

4.18.1 Constructor MapOverlayEditBean.MapOverlayListener()

```
protected
MapOverlayEditBean.MapOverlayListener( mil.dtra.hpac.client.display.MapOverlayEditBean
this$0 )
```

4.18.2 Method componentHidden()

```
public void
componentHidden( java.awt.event.ComponentEvent event )
```

4.18.3 Method componentShown()

```
public void
componentShown( java.awt.event.ComponentEvent event )
```

4.18.4 Method fireChange()

```
protected void
fireChange( java.awt.Component component )
```

4.19 Class MapOverlayEditBean.MapOverlayListModel

```
mil.dtra.hpac.client.display
protected MapOverlayEditBean.MapOverlayListModel
extends AbstractListModel
```

Extension of AbstractListModel for managing a collection of MapOverlay objects as an array.

Fields:

```
protected java.util.ArrayList fMapOverlays
```

Methods:

```
protected synchronized void add()
public void fireContentsChanged()
public synchronized java.lang.Object getElementAt()
public synchronized int getElementIndex()
protected synchronized java.util.ArrayList getMapOverlays()
public synchronized int getSize()
protected synchronized void move()
protected synchronized void remove()
protected synchronized void remove()
protected synchronized void setMapOverlays()
protected void setVisible()
```

4.19.1 Field fMapOverlays

```
protected java.util.ArrayList fMapOverlays
```

4.19.2 Constructor MapOverlayEditBean.MapOverlayListModel()

```
protected
MapOverlayEditBean.MapOverlayListModel( mil.dtra.hpac.client.display.MapOverlayEditBean
this$0 )
```

4.19.3 Method add()

```
protected synchronized void
add( java.awt.Component overlay )
```

Adds the overlay to the list

Parameters:

overlay - overlay to add

4.19.4 Method fireContentsChanged()

```
public void
fireContentsChanged(
    java.lang.Object source,
    int index0,
    int index1
)
```

4.19.5 Method getElementAt()

```
public synchronized java.lang.Object
getElementAt( int index )
```

Returns:

object at the specified index

4.19.6 Method getElementIndex()

```
public synchronized int
getElementIndex( java.lang.Object object )
```

Returns:

index of specified object, or -1 if not found

4.19.7 Method getMapOverlays()

```
protected synchronized java.util.ArrayList
getMapOverlays()
```

Returns:

reference to list object

4.19.8 Method getSize()

```
public synchronized int
getSize()

Returns:
size of the overlays array list
```

4.19.9 Method move()

```
protected synchronized void
move(
    int from,
    int to
)
```

Moves an item in the list from one index to another, pushing intervening items up or down as required.

Parameters:

from - original position of item to move
to - destination of item to move

4.19.10 Method remove()

```
protected synchronized void
remove( java.awt.Component overlay )
```

Removes the specified overlay if it exists

Parameters:

overlay - overlay to remove

4.19.11 Method remove()

```
protected synchronized void
remove( int index )
```

Removes the item at the specified index

Parameters:

index - index of item to move

4.19.12 Method setMapOverlays()

```
protected synchronized void
setMapOverlays( java.util.List map_overlays )
```

Reloads the list from the specified collection

Parameters:

map_overlays - object reference to copy

4.19.13 Method setVisible()

```
protected void
setVisible(
    int index,
    boolean visible
)
```

If possible, sets the visibility of the component at the specified index.

4.20 Class MapOverlayEditBean.MapContainerListener

```
mil.dtra.hpac.client.display
protected MapOverlayEditBean.MapContainerListener
extends ContainerAdapter
```

Extension of ContainerAdapter for listening to adds and removes of overlays.

Methods:

```
public void componentAdded()
public void componentRemoved()
```

4.20.1 Constructor MapOverlayEditBean.MapContainerListener()

```
protected
MapOverlayEditBean.MapContainerListener( mil.dtra.hpac.client.display.MapOverlayEditBean
this$0 )
```

4.20.2 Method componentAdded()

```
public void
componentAdded( java.awt.event.ContainerEvent event )
```

4.20.3 Method componentRemoved()

```
public void
componentRemoved( java.awt.event.ContainerEvent event )
```

4.21 Class MapOverlayEditBean.MapOverlayComparator

```
mil.dtra.hpac.client.display
protected MapOverlayEditBean.MapOverlayComparator
extends Object
implements Comparator,
```

Implements Comparator() to compare layer indexes for decreasing order.

Methods:

```
public int compare()
```

4.21.1 Constructor MapOverlayEditBean.MapOverlayComparator()

```
protected
MapOverlayEditBean.MapOverlayComparator( mil.dtra.hpac.client.display.MapOverlayEditBean
this$0 )
```

4.21.2 Method compare()

```
public int
compare(
    java.lang.Object one,
    java.lang.Object two
)
```

4.22 Class MapOverlayEditBean.MapOverlayListener

```
mil.dtra.hpac.client.display
protected MapOverlayEditBean.MapOverlayListener
extends ComponentAdapter
```

Extension of ComponentAdapter for listening to visibility changes on overlays.

Methods:

```
public void componentHidden()
public void componentShown()
protected void fireChange()
```

4.22.1 Constructor MapOverlayEditBean.MapOverlayListener()

```
protected
MapOverlayEditBean.MapOverlayListener( mil.dtra.hpac.client.display.MapOverlayEditBean
this$0 )
```

4.22.2 Method componentHidden()

```
public void
componentHidden( java.awt.event.ComponentEvent event )
```

4.22.3 Method componentShown()

```
public void
componentShown( java.awt.event.ComponentEvent event )
```

4.22.4 Method fireChange()

```
protected void
fireChange( java.awt.Component component )
```

4.23 Class MapOverlayEditBean.MapOverlayListModel

mil.dtra.hpac.client.display
protected MapOverlayEditBean.MapOverlayListModel
extends AbstractListModel

Extension of AbstractListModel for managing a collection of MapOverlay objects as an array.

Fields:

```
protected java.util.ArrayList fMapOverlays
```

Methods:

```
protected synchronized void add()
public void fireContentsChanged()
public synchronized java.lang.Object getElementAt()
public synchronized int getElementIndex()
protected synchronized java.util.ArrayList getMapOverlays()
public synchronized int getSize()
protected synchronized void move()
protected synchronized void remove()
protected synchronized void remove()
protected synchronized void setMapOverlays()
```

```
protected void setVisible()
```

4.23.1 Field fMapOverlays

```
protected java.util.ArrayList fMapOverlays
```

4.23.2 Constructor MapOverlayEditBean.MapOverlayListModel()

```
protected  
MapOverlayEditBean.MapOverlayListModel( mil.dtra.hpac.client.display.MapOverlayEditBean  
this$0 )
```

4.23.3 Method add()

```
protected synchronized void  
add( java.awt.Component overlay )
```

Adds the overlay to the list

Parameters:

overlay - overlay to add

4.23.4 Method fireContentsChanged()

```
public void  
fireContentsChanged(  
    java.lang.Object source,  
    int index0,  
    int index1  
)
```

4.23.5 Method getElementAt()

```
public synchronized java.lang.Object  
getElementAt( int index )
```

Returns:

object at the specified index

4.23.6 Method getElementIndex()

```
public synchronized int
getElementIndex( java.lang.Object object )
```

Returns:

index of specified object, or -1 if not found

4.23.7 Method getMapOverlays()

```
protected synchronized java.util.ArrayList
getMapOverlays()
```

Returns:

reference to list object

4.23.8 Method getSize()

```
public synchronized int
getSize()
```

Returns:

size of the overlays array list

4.23.9 Method move()

```
protected synchronized void
move(
```

```
    int from,
    int to
)
```

Moves an item in the list from one index to another, pushing intervening items up or down as required.

Parameters:

from - original position of item to move
 to - destination of item to move

4.23.10 Method remove()

```
protected synchronized void
remove( java.awt.Component overlay )
```

Removes the specified overlay if it exists

Parameters:

overlay - overlay to remove

4.23.11 Method remove()

```
protected synchronized void
remove( int index )
```

Removes the item at the specified index

Parameters:

index - index of item to move

4.23.12 Method setMapOverlays()

```
protected synchronized void
setMapOverlays( java.util.List map_overlays )
```

Reloads the list from the specified collection

Parameters:

map_overlays - object reference to copy

4.23.13 Method setVisible()

```
protected void
setVisible(
    int index,
    boolean visible
)
```

If possible, sets the visibility of the component at the specified index.

4.24 Class MapOverlayMenuItem

```
mil.dtra.hpac.client.display
public MapOverlayMenuItem
extends JCheckBoxMenuItem
implements ActionListener, PropertyChangeListener,
```

Extension of JCheckBoxMenuItem for representing a MapOverlay in a menu.

Fields:

```
protected mil.dtra.hpac.client.display.MapOverlay fMapOverlay
protected java.awt.Container fMapOverlayContainer
protected static final java.lang.String PROP_name
```

Methods:

```
public void actionPerformed()
public final mil.dtra.hpac.client.display.MapOverlay getMapOverlay()
public void propertyChange()
```

Inner Classes:

```
MapOverlayMenuItem.OverlayComponentListener
MapOverlayMenuItem.OverlayContainerListener
```

4.24.1 Field fMapOverlay

```
protected mil.dtra.hpac.client.display.MapOverlay fMapOverlay
```

4.24.2 Field fMapOverlayContainer

```
protected java.awt.Container fMapOverlayContainer
```

4.24.3 Field PROP_name

```
protected static final java.lang.String PROP_name
```

4.24.4 Constructor MapOverlayMenuItem()

```
public
MapOverlayMenuItem(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.display.MapOverlay overlay
)
```

Constructs with parameters.

Parameters:

props - object with properties for this
 overlay - MapOverlay object represented by this

4.24.5 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles this component's action, setting the visibility of the overlay based on the *selected* property of this.

Parameters:

event - action event

4.24.6 Method getMapOverlay()

```
public final mil.dtra.hpac.client.display.MapOverlay
getMapOverlay()
```

Accessor for the *mapOverlay* property.

Returns:

object reference

4.24.7 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handler for property changes on the overlay.

Parameters:

event - property change event

4.25 Class MapOverlayMenuItem.OverlayComponentListener

```
mil.dtra.hpac.client.display
protected MapOverlayMenuItem.OverlayComponentListener
extends ComponentAdapter
```

Extension of ComponentAdapter to track changes in the visibility of the MapOverlay represented by this.

Methods:

```
public void componentHidden()
public void componentShown()
```

4.25.1 Constructor MapOverlayMenuItem.OverlayComponentListener()

```
protected
MapOverlayMenuItem.OverlayComponentListener( mil.dtra.hpac.client.display.MapOverlayMenuItem
this$0 )
```

4.25.2 Method componentHidden()

```
public void
componentHidden( java.awt.event.ComponentEvent event )
```

Sets the *selected* property of the MapOverlay to false.

Parameters:

event - component event

4.25.3 Method componentShown()

```
public void
componentShown( java.awt.event.ComponentEvent event )
```

Sets the *selected* property of the MapOverlay to true.

Parameters:

event - component event

4.26 Class MapOverlayMenuItem.OverlayContainerListener

```
mil.dtra.hpac.client.display
protected MapOverlayMenuItem.OverlayContainerListener
extends ContainerAdapter
```

Extension of ContainerAdapter to check for removal of this MapOverlay represented by this.

Methods:

```
public void componentRemoved()
```

4.26.1 Constructor MapOverlayMenuItem.OverlayContainerListener()

```
protected
MapOverlayMenuItem.OverlayContainerListener( mil.dtra.hpac.client.display.MapOverlayMenuItem
this$0 )
```

4.26.2 Method componentRemoved()

```
public void
componentRemoved( java.awt.event.ContainerEvent event )
```

If the child is the MapOverlay represented by this, this item is removed from its parent.

Parameters:

```
event - container event
```

4.27 Class MapOverlayMenuItem.OverlayComponentListener

```
mil.dtra.hpac.client.display
protected MapOverlayMenuItem.OverlayComponentListener
extends ComponentAdapter
```

Extension of ComponentAdapter to track changes in the visibility of the MapOverlay represented by this.

Methods:

```
public void componentHidden()
public void componentShown()
```

4.27.1 Constructor MapOverlayMenuItem.OverlayComponentListener()

```
protected
MapOverlayMenuItem.OverlayComponentListener( mil.dtra.hpac.client.display.MapOverlayMenuItem
this$0 )
```

4.27.2 Method componentHidden()

```
public void
componentHidden( java.awt.event.ComponentEvent event )
```

Sets the *selected* property of the MapOverlay to false.

Parameters:

event - component event

4.27.3 Method componentShown()

```
public void
componentShown( java.awt.event.ComponentEvent event )
```

Sets the *selected* property of the MapOverlay to true.

Parameters:

event - component event

4.28 Class MapOverlayMenuItem.OverlayContainerListener

mil.dtra.hpac.client.display
protected MapOverlayMenuItem.OverlayContainerListener
extends ContainerAdapter

Extension of ContainerAdapter to check for removal of this MapOverlay represented by this.

Methods:

public void componentRemoved()

4.28.1 Constructor MapOverlayMenuItem.OverlayContainerListener()

```
protected
MapOverlayMenuItem.OverlayContainerListener( mil.dtra.hpac.client.display.MapOverlayMenuItem
this$0 )
```

4.28.2 Method componentRemoved()

```
public void
componentRemoved( java.awt.event.ContainerEvent event )
```

If the child is the MapOverlay represented by this, this item is removed from its parent.

Parameters:

event - container event

4.29 Class MapPane

```
mil.dtra.hpac.client.display
public MapPane
extends JLayeredPane
implements ActionListener, MapUserModes, Printable,
```

Extension of JLayeredPane which implements the container bean in which a MapDisplay is rendered and MapIcons, MapOverlays, and other components are managed. It allows a single MapDisplay child which is kept at layer 0. Some layering restrictions are programmed in.

Bean Interconnections

Object instances of this class listen to the map display for map projection property changes, upon which all the MapComponents are given the new projection via updateMapProjection(). They also listen for focus events on MapComponents, setting the *selectedObject* property for the newly focused component. When the glass pane is visible, we listen for mouse clicks for point (de)zoom and pane operations. When the map user mode is MapUserModes.ZOOM_BOX, we track bounding box drags.

Known Problems

We currently have an unsolved problem related to layering and handling of events, such as mouse overs which drive tool tips. We handle POI groups now by representing them as a single overlay with the same size as this. Thus, the drop pane must live in a layer higher than any overlay, but this in turn causes it to occlude overlays for mouse overs. We have ideas for solutions when time permits. Refer to the descriptions of the field constants.

We're also having problems with printing. With JDK1.2, it often barfs if we just call paint() from print(). We'll not devote too much time to problems with 1.2 since 1.3 improves things dramatically. Still, we may need to have child component classes override print().

Properties

Fields:

```
protected static final java.lang.String ACTION_ADDRULEROVERLAY
public static final java.lang.Integer AUX_ICON_LAYER
public static final java.lang.Integer DOMAIN_LAYER
public static final java.lang.Integer DROP_TARGET_LAYER
protected transient mil.dtra.hpac.client.display.MapPane.DropPane fDropPane
protected transient java.awt.event.FocusListener fFocusListener
protected transient javax.swing.JComponent fGlassPane
```

```

protected transient mil.dtra.map.MapDisplay fMapDisplay
protected mil.dtra.map.MapDisplayDef fMapDisplayDef
protected transient java.beans.PropertyChangeListener fMapListener
protected transient mil.dtra.hpac.client.display.MapPane.MapMenuAdapter fMapMen-
uAdapter
protected transient mil.dtra.hpac.client.display.MapPane.MapPointAdapter fMapPointAdapter
protected transient mil.dtra.hpac.client.display.MapPane.MapTrackAdapter fMapTrack-
Adapter
protected transient mil.dtra.hpac.client.display.MapPane.MapZoomAdapter fMapZoomAdapter
protected int fOverlayLayer
protected transient javax.swing.JPopupMenu fPopupMenu
protected transient mil.dtra.hpac.client.ProjectEditorIfc fProjectEditor
protected transient mil.dtra.map.MapComponent fSelectedObject
protected transient int fUserMode
public static final java.lang.Integer GLASS_LAYER
public static final int LOG_level
public static final java.lang.Integer MAP_ICON_LAYER
public static final java.lang.Integer MAP_LAYER
public static final java.lang.String MAP_PANE
public static final int MAX_OVERLAY_LAYER_INDEX
public static final int MIN_OVERLAY_LAYER_INDEX
protected static mil.dtra.swing.MenuItemSpec[] popupMenuItemSpecs_
public static final java.lang.String PROP_mapDisplay
public static final java.lang.String PROP_mapDisplayDef
public static final java.lang.String PROP_popupLocation
public static final java.lang.Integer TRANSIENT_LAYER
public static final java.lang.Integer WX_LAYER

```

Methods:

```

public void actionPerformed()
public void addImpl()
protected java.awt.Rectangle computeZoomDCRect()
public java.awt.image.BufferedImage createImage()
protected javax.swing.JPopupMenu createPopupMenu()
public void editMapDisplay()
public void endTransientOperation()
public final java.awt.Component getDropPane()
public final javax.swing.JComponent getGlassPane()
public final java.awt.Component getMapDisplay()
public final mil.dtra.map.MapDisplayDef getMapDisplayDef()
public final mil.dtra.map.MapComponent getSelectedObject()
public final int getUserMode()
public java.awt.geom.Rectangle2D getWCWindow()
protected void handleException()
protected void handleThrowable()
public void init()

```

```

public static boolean isDropPaneClick()
public void panMap()
public int print()
protected void processComponentEvent()
protected void processContainerEvent()
public java.lang.String reportMemory()
public java.util.Collection retrieveComponentsByClass()
public java.util.Collection retrieveOverlays()
public void setMapDisplayDef()
public void setUserMode()
public void showPopupMenu()
public javax.swing.JComponent startTransientOperation()
public final java.awt.geom.Point2D unprojectDisplayPoint()
public java.awt.geom.Point2D unprojectDisplayPoint()
protected void updateComponentLocations()
public void zoomMapFull()
public void zoomMapIn()
public void zoomMapOut()
public void zoomMapToWCWindow()

```

Inner Classes:

MapPane.ComponentFocusListener
 MapPane.DropPane
 MapPane.MapListener
 MapPane.MapMenuAdapter
 MapPane.MapPointAdapter
 MapPane.MapTrackAdapter
 MapPane.MapZoomAdapter
 MapPane.TransientPane

4.29.1 Field ACTION_ADD_RULER_OVERLAY

protected static final java.lang.String **ACTION_ADD_RULER_OVERLAY**

4.29.2 Field AUX_ICON_LAYER

public static final java.lang.Integer **AUX_ICON_LAYER**

(750) Layer value for AuxIcons, which would be lines and other kinds of relationship indicators

4.29.3 Field DOMAIN_LAYER

public static final java.lang.Integer **DOMAIN_LAYER**

(400) Layer value for a domain overlay, when it is created some day

4.29.4 Field `DROP_TARGET_LAYER`

public static final java.lang.Integer `DROP_TARGET_LAYER`

(600) Layer value for the *dropPane*, which must be above all overlays

4.29.5 Field `fDropPane`

protected transient mil.dtra.hpac.client.display.MapPane.DropPane `fDropPane`

4.29.6 Field `fFocusListener`

protected transient java.awt.event.FocusListener `fFocusListener`

4.29.7 Field `fGlassPane`

protected transient javax.swing.JComponent `fGlassPane`

4.29.8 Field `fMapDisplay`

protected transient mil.dtra.map.MapDisplay `fMapDisplay`

4.29.9 Field `fMapDisplayDef`

protected mil.dtra.map.MapDisplayDef `fMapDisplayDef`

4.29.10 Field `fMapListener`

protected transient java.beans.PropertyChangeListener `fMapListener`

4.29.11 Field `fMapMenuAdapter`

protected transient mil.dtra.hpac.client.display.MapPane.MapMenuAdapter `fMapMenuAdapter`

4.29.12 Field `fMapPointAdapter`

protected transient mil.dtra.hpac.client.display.MapPane.MapPointAdapter `fMapPointAdapter`

4.29.13 Field `fMapTrackAdapter`

protected transient mil.dtra.hpac.client.display.MapPane.MapTrackAdapter `fMapTrackAdapter`

4.29.14 Field fMapZoomAdapter

protected transient mil.dtra.hpac.client.display.MapPane.MapZoomAdapter **fMapZoomAdapter**

4.29.15 Field fOverlayLayer

protected int **fOverlayLayer**

4.29.16 Field fPopupMenu

protected transient javax.swing.JPopupMenu **fPopupMenu**

4.29.17 Field fProjectEditor

protected transient mil.dtra.hpac.client.ProjectEditorIfc **fProjectEditor**

4.29.18 Field fSelectedObject

protected transient mil.dtra.map.MapComponent **fSelectedObject**

4.29.19 Field fUserMode

protected transient int **fUserMode**

4.29.20 Field GLASS_LAYER

public static final java.lang.Integer **GLASS_LAYER**

(1500) Layer value for the glass pane used for map zoom and pan operations; it must be above everything else when it is visible

4.29.21 Field LOG_level

public static final int **LOG_level**

4.29.22 Field MAP_ICON_LAYER

public static final java.lang.Integer **MAP_ICON_LAYER**

(725) Layer value for MapIcons, which must be above the *dropPane* because MapIcons can be drop targets themselves

4.29.23 Field MAP_LAYER

public static final java.lang.Integer MAP_LAYER

(0) Map layer value; at the bottom

4.29.24 Field MAP_PANE

public static final java.lang.String MAP_PANE

4.29.25 Field MAX_OVERLAY_LAYER_INDEX

public static final int MAX_OVERLAY_LAYER_INDEX

(599) Top of layer range for MapOverlays

4.29.26 Field MIN_OVERLAY_LAYER_INDEX

public static final int MIN_OVERLAY_LAYER_INDEX

(500) Bottom of layer range for MapOverlays

4.29.27 Field popupMenuItemSpecs_

protected static mil.dtra.swing.MenuItemSpec[] popupMenuItemSpecs_

4.29.28 Field PROP_mapDisplay

public static final java.lang.String PROP_mapDisplay

4.29.29 Field PROP_mapDisplayDef

public static final java.lang.String PROP_mapDisplayDef

4.29.30 Field PROP_popupLocation

public static final java.lang.String PROP_popupLocation

4.29.31 Field TRANSIENT_LAYER

public static final java.lang.Integer TRANSIENT_LAYER

(1600) Layer value for a transient opaque component laid over this pane for transient operations

4.29.32 Field WX_LAYER

```
public static final java.lang.Integer WX_LAYER
```

(300) Layer value for weather overlays, if we chose to distinguish them

4.29.33 Constructor MapPane()

```
public  
MapPane()
```

Default constructor. Must call `init()`.

4.29.34 Constructor MapPane()

```
public  
MapPane( mil.dtra.hpac.client.ProjectEditorIfc project_editor )
```

Constructs calling `init()`.

Parameters:

`project_editor` - reference to object implementing the `ProjectEditorIfc` interface

4.29.35 Method actionPerformed()

```
public void  
actionPerformed( java.awt.event.ActionEvent event )
```

Handles action events from popup menu items.

Parameters:

`event` - action event

4.29.36 Method addImpl()

```
public void  
addImpl(  
        java.awt.Component comp,  
        java.lang.Object constraints,  
        int index  
    )
```

Override of `Container.addImpl()` to enforce layering defined in this. If the constraints parameter is an `Integer`, it is accepted as-is. Otherwise, if the component is of a type which falls under the layering restrictions we impose, constraints is ignored, replaced by the proper layer determined in this method.

Since we have no layout manager, we first set the component's size to its preferred size. Then, we determine the layer. If the component is a `MapOverlay` and we have a defined `mapDisplay`, we call the component's `updateMapProjection()` method and register as a listener for focus events. Finally, we call `super.addImpl()`.

4.29.37 Method `computeZoomDCRect()`

```
protected java.awt.Rectangle
computeZoomDCRect(
    mil.dtra.map.MapProjection proj,
    java.awt.geom.Point2D wc_lower_left,
    java.awt.geom.Point2D wc_upper_right,
    java.awt.Rectangle dc_rect
)
```

Computes the zoom device coordinate zoom rectangle for the given world coordinate window. Assumes the `mapDisplay` and its projection exist.

Parameters:

- `proj` - map projection
- `wc_lower_left` - lower left WC point
- `wc_upper_right` - upper right WC point
- `dc_rect` - object to hold the result or null to allocate one

Returns:

result DC rectangle

4.29.38 Method `createImage()`

```
public java.awt.image.BufferedImage
createImage()
```

Creates an image containing the contents of this display.

Returns:

image

4.29.39 Method `createPopupMenu()`

```
protected javax.swing.JPopupMenu
createPopupMenu()
```

Creates the popup menu with "Delete" and "Edit..." items and a title of "Map Icon".

Returns:

new popup menu object

4.29.40 Method `editMapDisplay()`

```
public void
editMapDisplay()
```

Convenience method to call `MapDisplay.edit()` on the map display object if it exists.

4.29.41 Method `endTransientOperation()`

```
public void
endTransientOperation( javax.swing.JComponent pane )
```

Removes an opaque transient pane.

Parameters:

`pane` - pane to remove

4.29.42 Method `getDropPane()`

```
public final java.awt.Component
getDropPane()
```

Accessor for the `dropPane` property.

Returns:

reference to the drop pane component

4.29.43 Method `getGlassPane()`

```
public final javax.swing.JComponent  
getGlassPane()
```

Accessor for the *glassPane* property.

Returns:

reference to the glass pane component

4.29.44 Method `getMapDisplay()`

```
public final java.awt.Component  
getMapDisplay()
```

Accessor for the *mapDisplay* property.

Returns:

reference to the map display

4.29.45 Method `getMapDisplayDef()`

```
public final mil.dtra.map.MapDisplayDef  
getMapDisplayDef()
```

Accessor for the *mapDisplayDef* property.

Returns:

copy of the property value object.

4.29.46 Method `getSelectedObject()`

```
public final mil.dtra.map.MapComponent  
getSelectedObject()
```

Returns the currently selected component, if one is selected.

Returns:

selected component or null if none is selected

4.29.47 Method getUserMode()

```
public final int
getUserMode()
```

Accessor for the *userMode* property.

Returns:

user mode constant

4.29.48 Method getWCWindow()

```
public java.awt.geom.Rectangle2D
getWCWindow()
```

Returns the world coordinate window currently displayed.

Returns:

world coordinate (WC) window

Exceptions:

IllegalStateException - if map display not defined

4.29.49 Method handleException()

```
protected void
handleException(
    java.lang.String title,
    java.lang.String user_message,
    java.lang.String log_message
)
```

General purpose sink for reporting exceptions via the `System.err` log and to the user via a message box.

Parameters:

`title` - message box title
`user_message` - user-friendly message
`log_message` - detailed log message

4.29.50 Method handleThrowable()

```
protected void
handleThrowable( java.lang.Throwable th )
```

General purpose sink for handling Throwables. This is an attempt at catching and surviving system errors like OutOfMemoryError. However, practice indicates the JVM sometimes can't recover from such errors.

Parameters:

th - Throwable object

4.29.51 Method init()

```
public void
init( mil.dtra.hpac.client.ProjectEditorIfc project_editor )
```

Creates this bean and its standard sub-components.

Parameters:

project_editor - reference to object implementing the ProjectEditorIfc interface

4.29.52 Method isDropPaneClick()

```
public static boolean
isDropPaneClick( java.awt.event.MouseEvent event )
```

Checks the mouse event to see if it's a drop pane click to be handled. Shift-left button clicks and middle button clicks result in true.

Returns:

true if it's a click to be handled, false otherwise

4.29.53 Method panMap()

```
public void
panMap( int direction )
```

Convenience method to call MapDisplay.recenter() on the map display object if it exists.

Parameters:

direction - one of the SwingConstants values NORTH, EAST, SOUTH, WEST

4.29.54 Method print()

```
public int
print(
    java.awt.Graphics graphics,
    java.awt.print.PageFormat page_format,
    int page_index
)
```

Implementation of the `Printable` interface.

4.29.55 Method processComponentEvent()

```
protected void
processComponentEvent( java.awt.event.ComponentEvent event )
```

Overrides `JComponent.processComponentEvent()` to set the size of `fDropPane` and `fGlassPane` to this component's new size. We call `super.processComponent()` before returning.

Parameters:

event - component event

4.29.56 Method processContainerEvent()

```
protected void
processContainerEvent( java.awt.event.ContainerEvent event )
```

Overrides `JComponent.processContainerEvent()` to check for removal of the *selectedObject*.

Parameters:

event - component event

4.29.57 Method reportMemory()

```
public java.lang.String
reportMemory()
```

Builds a string reporting total and free memory.

Returns:

memory report string

4.29.58 Method retrieveComponentsByClass()

```
public java.util.Collection
retrieveComponentsByClass( java.lang.Class object_class )
```

Walks the child component list, retrieving all components which are instances of the specified class.

Parameters:

object_class - class for which all component instances are retrieved

Returns:

collection of matched objects

4.29.59 Method retrieveOverlays()

```
public java.util.Collection
retrieveOverlays()
```

Calls `retrieveComponentsByClass()` to fetch all components which are `MapOverlay` instances.

Returns:

collection of `MapOverlay` components

4.29.60 Method setMapDisplayDef()

```
public void
setMapDisplayDef( mil.dtra.map.MapDisplayDef map_def )
```

Accessor for the `mapDisplayDef` property. Builds a new `mapDisplay` from the specified definition. Note the `MapDisplay` class (`className` property of `map_def`) is loaded dynamically.

Parameters:

map_def - map display definition

Exceptions:

`IOException` - on an error processing the map

4.29.61 Method setUserMode()

```
public void
setUserMode( int mode )
```

Accessor for the *userMode* property.

Parameters:

mode - user mode constant; erroneous values are ignored

4.29.62 Method showPopupMenu()

```
public void
showPopupMenu(
    int x,
    int y
)
```

Displays the popup menu at the specified location relative to this. Must be called from the event dispatch thread.

Parameters:

x - popup x pixel position relative to this
y - popup y pixel position relative to this

4.29.63 Method startTransientOperation()

```
public javax.swing.JComponent
startTransientOperation()
```

Creates an opaque JComponent and adds it on top of all other components. Callers should add listeners and process and, when finished, call `endTransientOperation()`.

Returns:

new pane for catching events

4.29.64 Method unprojectDisplayPoint()

```
public final java.awt.geom.Point2D
unprojectDisplayPoint(
    int x,
    int y
)
```

Convenience method to compute the coordinate (lat, lon) for the specified position in the map display.

Parameters:

x - x display position
y - y display position

Returns:

computed world coordinate position

Exceptions:

IllegalStateException - if map display not defined

4.29.65 Method unprojectDisplayPoint()

```
public java.awt.geom.Point2D
unprojectDisplayPoint( java.awt.Point point )
```

Convenience method to compute the coordinate (lat, lon) for the specified position in the map display.

Parameters:

point - display (DC) position

Returns:

computed world coordinate (WC) position

Exceptions:

IllegalStateException - if map display not defined

4.29.66 Method updateComponentLocations()

```
protected void
updateComponentLocations( mil.dtra.map.MapProjection proj )
```

If a projection has been specified for the *mapProjection* property, this method uses the updated projection to reposition each MapComponent component by calling its *updateMapProjection()* method.

Parameters:

proj - map projection object reference

4.29.67 Method zoomMapFull()

```
public void
zoomMapFull()
```

Convenience method to call *MapDisplay.zoomFull()* on the map display object if it exists.

4.29.68 Method zoomMapIn()

```
public void
zoomMapIn()
```

Convenience method to call *MapDisplay.zoomIn()* on the map display object if it exists.

4.29.69 Method zoomMapOut()

```
public void
zoomMapOut()
```

Convenience method to call *MapDisplay.zoomOut()* on the map display object if it exists.

4.29.70 Method zoomMapToWCWindow()

```
public void
zoomMapToWCWindow( java.awt.geom.Rectangle2D wc_window )
```

Convenience method to call *MapDisplay.zoomIn()* on the map display object if it exists with the specified lat-lon bounds as the zoom window.

Parameters:

wc_window - world coordinate window to zoom to; assumed to be from southwest to northeast

4.30 Class MapPane.ComponentFocusListener

```
mil.dtra.hpac.client.display
protected MapPane.ComponentFocusListener
extends FocusAdapter
```

Overrides FocusAdapter to listen for focus events on MapComponent components.

Methods:

```
public void focusGained()
```

4.30.1 Constructor MapPane.ComponentFocusListener()

```
protected
MapPane.ComponentFocusListener( mil.dtra.hpac.client.display.MapPane this$0 )
```

4.30.2 Method focusGained()

```
public void
focusGained( java.awt.event.FocusEvent event )
```

Note: For now, we're only allowing SimpleMapIcons to be the *selectedObject*. This may change in the future when the *selected* property moves from SimpleMapIcon to MapComponent.

4.31 Class MapPane.DropPane

```
mil.dtra.hpac.client.display
protected MapPane.DropPane
extends JPanel
```

JPanel specialized to be the drop pane in a MapPane. Since drop pane is a full-size component, it occludes all components underneath for event handling. Thus, we must try to pass mouse events on to another component, the one containing the event at the next highest layer below drop pane's.

Methods:

```
public void paintComponent()
```

4.31.1 Constructor MapPane.DropPane()

protected

MapPane.DropPane(mil.dtra.hpac.client.display.MapPane this\$0)

Constructs setting *opaque* to false.

4.31.2 Method paintComponent()

public void

paintComponent(java.awt.Graphics gfx)

Draws a border line.

Parameters:

gfx - graphics context

4.32 Class MapPane.MapListener

mil.dtra.hpac.client.display

protected **MapPane.MapListener**

extends Object

implements PropertyChangeListener,

Implements PropertyChangeListener for the map display to catch map projection changes.

Methods:

public void **propertyChange()**

4.32.1 Constructor MapPane.MapListener()

protected

MapPane.MapListener(mil.dtra.hpac.client.display.MapPane this\$0)

4.32.2 Method propertyChange()

public void

propertyChange(java.beans.PropertyChangeEvent event)

Calls updateComponentLocations() for a map projection property change from the map display.

Parameters:

event - property change event

4.33 Class MapPane.MapMenuAdapter

```
mil.dtra.hpac.client.display
protected MapPane.MapMenuAdapter
extends MouseAdapter
```

Extends MouseAdapter to handle button clicks on the glass pane specifically to post a popup menu.

Methods:

```
public void mousePressed()
public void mouseReleased()
```

4.33.1 Constructor MapPane.MapMenuAdapter()

```
protected
MapPane.MapMenuAdapter( mil.dtra.hpac.client.display.MapPane this$0 )
```

4.33.2 Method mousePressed()

```
public void
mousePressed( java.awt.event.MouseEvent event )
```

4.33.3 Method mouseReleased()

```
public void
mouseReleased( java.awt.event.MouseEvent event )
```

4.34 Class MapPane.MapPointAdapter

```
mil.dtra.hpac.client.display
protected MapPane.MapPointAdapter
extends MouseAdapter
```

Extends MouseAdapter to handle button clicks on the glass pane.

Methods:

```
public void mousePressed()
```

4.34.1 Constructor MapPane.MapPointAdapter()

protected

MapPane.MapPointAdapter(mil.dtra.hpac.client.display.MapPane this\$0)

4.34.2 Method mousePressed()

public void
mousePressed(java.awt.event.MouseEvent event)

Processes button clicks and invokes the corresponding method on the map display for the RE-CENTER (pan), ZOOM_IN, and ZOOM_OUT modes.

4.35 Class MapPane.MapTrackAdapter

mil.dtra.hpac.client.display
protected **MapPane.MapTrackAdapter**
extends MouseMotionAdapter

Extends `MouseMotionAdapter` to track the mouse coordinate location.

Methods:

public void **mouseMoved()**

4.35.1 Constructor MapPane.MapTrackAdapter()

protected
MapPane.MapTrackAdapter(mil.dtra.hpac.client.display.MapPane this\$0)

4.35.2 Method mouseMoved()

public void
mouseMoved(java.awt.event.MouseEvent event)

4.36 Class MapPane.MapZoomAdapter

mil.dtra.hpac.client.display
protected **MapPane.MapZoomAdapter**
extends ZoomBoxAdapter

Extends `ZoomBoxAdapter` to process bounding box drags for the ZOOM_BOX mode.

Methods:

```
protected void zoom()
```

4.36.1 Constructor MapPane.MapZoomAdapter()

protected
MapPane.MapZoomAdapter(mil.dtra.hpac.client.display.MapPane this\$0)

4.36.2 Method zoom()

protected void
zoom(java.awt.Rectangle box)

4.37 Class MapPane.TransientPane

mil.dtra.hpac.client.display
protected **MapPane.TransientPane**
extends JPanel

JPanel specialized to be placed on top of all other components to support a transient operation involving events on the map display. Instances are created in startTransientOperation() and returned. Callers will add whatever JComponent listeners they need. A call to endTransientOperation() will remove it.

Methods:

```
public void paintComponent()
```

4.37.1 Constructor MapPane.TransientPane()

protected
MapPane.TransientPane(mil.dtra.hpac.client.display.MapPane this\$0)

Constructs setting *opaque* to false.

4.37.2 Method paintComponent()

public void
paintComponent(java.awt.Graphics gfx)

Draws a border line.

Parameters:

gfx - graphics context

4.38 Class MapPane.ComponentFocusListener

```
mil.dtra.hpac.client.display
protected MapPane.ComponentFocusListener
extends FocusAdapter
```

Overrides FocusAdapter to listen for focus events on MapComponent components.

Methods:

```
public void focusGained()
```

4.38.1 Constructor MapPane.ComponentFocusListener()

```
protected
MapPane.ComponentFocusListener( mil.dtra.hpac.client.display.MapPane this$0 )
```

4.38.2 Method focusGained()

```
public void
focusGained( java.awt.event.FocusEvent event )
```

Note: For now, we're only allowing SimpleMapIcons to be the *selectedObject*. This may change in the future when the *selected* property moves from SimpleMapIcon to MapComponent.

4.39 Class MapPane.DropPane

```
mil.dtra.hpac.client.display
protected MapPane.DropPane
extends JPanel
```

JPanel specialized to be the drop pane in a MapPane. Since drop pane is a full-size component, it occludes all components underneath for event handling. Thus, we must try to pass mouse events on to another component, the one containing the event at the next highest layer below drop pane's.

Methods:

```
public void paintComponent()
```

4.39.1 Constructor MapPane.DropPane()

protected

MapPane.DropPane(mil.dtra.hpac.client.display.MapPane this\$0)

Constructs setting *opaque* to false.

4.39.2 Method paintComponent()

public void

paintComponent(java.awt.Graphics gfx)

Draws a border line.

Parameters:

gfx - graphics context

4.40 Class MapPane.MapListener

mil.dtra.hpac.client.display

protected **MapPane.MapListener**

extends Object

implements PropertyChangeListener,

Implements PropertyChangeListener for the map display to catch map projection changes.

Methods:

public void propertyChange()

4.40.1 Constructor MapPane.MapListener()

protected

MapPane.MapListener(mil.dtra.hpac.client.display.MapPane this\$0)

4.40.2 Method propertyChange()

public void

propertyChange(java.beans.PropertyChangeEvent event)

Calls updateComponentLocations() for a map projection property change from the map display.

Parameters:

event - property change event

4.41 Class MapPane.MapMenuAdapter

```
mil.dtra.hpac.client.display
protected MapPane.MapMenuAdapter
extends MouseAdapter
```

Extends MouseAdapter to handle button clicks on the glass pane specifically to post a popup menu.

Methods:

```
public void mousePressed()
public void mouseReleased()
```

4.41.1 Constructor MapPane.MapMenuAdapter()

```
protected
MapPane.MapMenuAdapter( mil.dtra.hpac.client.display.MapPane this$0 )
```

4.41.2 Method mousePressed()

```
public void
mousePressed( java.awt.event.MouseEvent event )
```

4.41.3 Method mouseReleased()

```
public void
mouseReleased( java.awt.event.MouseEvent event )
```

4.42 Class MapPane.MapPointAdapter

```
mil.dtra.hpac.client.display
protected MapPane.MapPointAdapter
extends MouseAdapter
```

Extends MouseAdapter to handle button clicks on the glass pane.

Methods:

```
public void mousePressed()
```

4.42.1 Constructor MapPane.MapPointAdapter()

protected

MapPane.MapPointAdapter(mil.dtra.hpac.client.display.MapPane this\$0)

4.42.2 Method mousePressed()

public void
mousePressed(java.awt.event.MouseEvent event)

Processes button clicks and invokes the corresponding method on the map display for the RE-CENTER (pan), ZOOM_IN, and ZOOM_OUT modes.

4.43 Class MapPane.MapTrackAdapter

mil.dtra.hpac.client.display
protected **MapPane.MapTrackAdapter**
extends MouseMotionAdapter

Extends `MouseMotionAdapter` to track the mouse coordinate location.

Methods:

public void **mouseMoved()**

4.43.1 Constructor MapPane.MapTrackAdapter()

protected
MapPane.MapTrackAdapter(mil.dtra.hpac.client.display.MapPane this\$0)

4.43.2 Method mouseMoved()

public void
mouseMoved(java.awt.event.MouseEvent event)

4.44 Class MapPane.MapZoomAdapter

mil.dtra.hpac.client.display
protected **MapPane.MapZoomAdapter**
extends ZoomBoxAdapter

Extends `ZoomBoxAdapter` to process bounding box drags for the ZOOM_BOX mode.

Methods:

```
protected void zoom()
```

4.44.1 Constructor MapPane.MapZoomAdapter()

protected
MapPane.MapZoomAdapter(mil.dtra.hpac.client.display.MapPane this\$0)

4.44.2 Method zoom()

protected void
zoom(java.awt.Rectangle box)

4.45 Class MapPane.TransientPane

mil.dtra.hpac.client.display
protected **MapPane.TransientPane**
extends JPanel

JPanel specialized to be placed on top of all other components to support a transient operation involving events on the map display. Instances are created in startTransientOperation() and returned. Callers will add whatever JComponent listeners they need. A call to endTransientOperation() will remove it.

Methods:

```
public void paintComponent()
```

4.45.1 Constructor MapPane.TransientPane()

protected
MapPane.TransientPane(mil.dtra.hpac.client.display.MapPane this\$0)

Constructs setting *opaque* to false.

4.45.2 Method paintComponent()

public void
paintComponent(java.awt.Graphics gfx)

Draws a border line.

Parameters:

gfx - graphics context

4.46 Class MapUserModeChoice

```
mil.dtra.hpac.client.display
public MapUserModeChoice
extends JPanel
implements ActionListener, MapUserModes,
```

A choice style JPanel extension for representing the current map mode selection. JToggleButton s represent the various user modes and are in a radio grouping.

Fields:

```
public static final java.awt.Insets BUTTON_MARGIN
protected javax.swing.JToggleButton[] fButtons
protected int fValue
public static final java.lang.String[] ICON_NAMES
public static final java.lang.String PROP_value
public static final java.lang.String[] TIPS
public static final int[] VALUES
```

Methods:

```
public void actionPerformed()
public final int getValue()
public void setValue()
```

4.46.1 Field BUTTON_MARGIN

```
public static final java.awt.Insets BUTTON_MARGIN
```

4.46.2 Field fButtons

```
protected javax.swing.JToggleButton[] fButtons
```

4.46.3 Field fValue

```
protected int fValue
```

4.46.4 Field ICON_NAMES

```
public static final java.lang.String[] ICON_NAMES
```

4.46.5 Field PROP_value

```
public static final java.lang.String PROP_value
```

4.46.6 Field TIPS

public static final java.lang.String[] TIPS

4.46.7 Field VALUES

public static final int[] VALUES

4.46.8 Constructor MapUserModeChoice()

public
MapUserModeChoice()

Default constructor usable for deserialization. No components are created.

4.46.9 Constructor MapUserModeChoice()

public
MapUserModeChoice(boolean visible)

Constructs with the specified visibility. Creates all the subcomponents.

Parameters:

visible - true if this is to be visible, false otherwise

4.46.10 Method actionPerformed()

public void
actionPerformed(java.awt.event.ActionEvent event)

Handles actions for the toggle buttons.

Parameters:

event - action event

4.46.11 Method `getValue()`

```
public final int
getValue()
```

Accessor for the *value* property.

Returns:

current mode value

4.46.12 Method `setValue()`

```
public void
setValue( int value )
```

Accessor for the *value* property.

Parameters:

value - new mode value; erroneous values are ignored

4.47 Class `ObjectPalette`

```
mil.dtra.hpac.client.display
public ObjectPalette
extends JScrollPane
```

Extension of `JScrollPane` wrapping a `JPanel` for holding buttons representing objects in the current project.

Fields:

```
protected static java.awt.Color defaultBackground_
protected mil.dtra.swing.GradientPanel fButtonPanel
protected mil.dtra.util.ValueProperties fProps
```

Methods:

```
public void add()
public java.awt.Container getButtonPanel()
public void init()
public void remove()
public void setBackground()
```

Inner Classes:

```
ObjectPalette.ButtonPanel
ObjectPalette.ButtonPanelListener
```

4.47.1 Field defaultBackground_

protected static java.awt.Color **defaultBackground_**

4.47.2 Field fButtonPanel

protected mil.dtra.swing.GradientPanel **fButtonPanel**

4.47.3 Field fProps

protected mil.dtra.util.ValueProperties **fProps**

4.47.4 Constructor ObjectPalette()

public
ObjectPalette()

Default constructor. Must deserialize or call `init()`.

4.47.5 Constructor ObjectPalette()

public
ObjectPalette(mil.dtra.util.ValueProperties props)

Constructs calling `init()`.

Parameters:

props - object with properties for this

4.47.6 Method add()

public void
add(mil.dtra.hpac.client.display.ObjectPaletteButton button)

Convenience method to add the specified button to the button panel. This is equivalent to `getButtonPanel().add()`.

Parameters:

button - button to add

4.47.7 Method **getButtonPanel()**

```
public java.awt.Container
getButtonPanel()
```

Accessor for the *buttonPanel* property.

Returns:

reference to the panel object

4.47.8 Method **init()**

```
public void
init( mil.dtra.util.ValueProperties props )
```

Initializes this component and creates its sub-components.

Parameters:

props - object with properties for this

4.47.9 Method **remove()**

```
public void
remove( mil.dtra.hpac.client.display.ObjectPaletteButton button )
```

Convenience method to removed the specified button from the button panel. This is equivalent to `getButtonPanel().remove()`.

Parameters:

button - button to add

4.47.10 Method **setBackground()**

```
public void
setBackground( java.awt.Color color )
```

Overrides `JPanel.setBackground()` to set the *background* of the *buttonPanel* as well.

4.48 Class ObjectPalette.ButtonPanel

```
mil.dtra.hpac.client.display
protected ObjectPalette.ButtonPanel
extends GradientPanel
```

JPanel extension to enforce addition of ObjectPaletteButton objects only.

Methods:

```
protected void addImpl()
```

4.48.1 Constructor ObjectPalette.ButtonPanel()

```
public
ObjectPalette.ButtonPanel( mil.dtra.hpac.client.display.ObjectPalette this$0 )
```

Constructor -

4.48.2 Method addImpl()

```
protected void
addImpl(
    java.awt.Component component,
    java.lang.Object constraints,
    int index
)
```

Trying to be a good bean citizen by disallowing anything but ObjectPaletteButtons from being added. Calls super.addImpl().

Parameters:

- component - component to add, rejected if not an ObjectPaletteButton
- constraints - constraints
- index - insertion index

Exceptions:

- IllegalArgumentException - if the component is not a ObjectPaletteButton

4.49 Class ObjectPalette.ButtonPanelListener

```
mil.dtra.hpac.client.display
protected ObjectPalette.ButtonPanelListener
extends ContainerAdapter
```

Extension of ContainerAdapter to enforce revalidation of the ObjectPalette (JScrollPane) when a component is removed from the button panel. Unfortunately, this is necessary.

Methods:

```
public void componentRemoved()
```

4.49.1 Constructor ObjectPalette.ButtonPanelListener()

```
protected
ObjectPalette.ButtonPanelListener( mil.dtra.hpac.client.display.ObjectPalette this$0 )
```

4.49.2 Method componentRemoved()

```
public void
componentRemoved( java.awt.event.ContainerEvent event )
```

4.50 Class ObjectPalette.ButtonPanel

```
mil.dtra.hpac.client.display
protected ObjectPalette.ButtonPanel
extends GradientPanel
```

JPanel extension to enforce addition of ObjectPaletteButton objects only.

Methods:

```
protected void addImpl()
```

4.50.1 Constructor ObjectPalette.ButtonPanel()

```
public
ObjectPalette.ButtonPanel( mil.dtra.hpac.client.display.ObjectPalette this$0 )
```

Constructor -

4.50.2 Method addImpl()

```
protected void
addImpl(
    java.awt.Component component,
    java.lang.Object constraints,
    int index
)
```

Trying to be a good bean citizen by disallowing anything but ObjectPaletteButtons from being added. Calls super.addImpl().

Parameters:

component - component to add, rejected if not an ObjectPaletteButton
 constraints - constraints
 index - insertion index

Exceptions:

IllegalArgumentException - if the component is not a ObjectPaletteButton

4.51 Class ObjectPalette.ButtonPanelListener

```
mil.dtra.hpac.client.display
protected ObjectPalette.ButtonPanelListener
extends ContainerAdapter
```

Extension of ContainerAdapter to enforce revalidation of the ObjectPalette (JScrollPane) when a component is removed from the button panel. Unfortunately, this is necessary.

Methods:

public void componentRemoved()

4.51.1 Constructor ObjectPalette.ButtonPanelListener()

```
protected
ObjectPalette.ButtonPanelListener( mil.dtra.hpac.client.display.ObjectPalette this$0 )
```

4.51.2 Method componentRemoved()

```
public void
componentRemoved( java.awt.event.ContainerEvent event )
```

4.52 Class ObjectPaletteButton

```
mil.dtra.hpac.client.display
public abstract ObjectPaletteButton
extends JButton
implements ActionListener, ProjectObject,
```

Base class for buttons in an `ObjectPalette`. Note that this class implements `ProjectObject`, which means instances are serialized with the project. Thus, subclasses must (carefully, most likely explicitly) provide properties serialization. This class creates a popup menu with "Delete" and "Edit" items.

Right-clicks bring up the popup menu. Single clicks with left mouse button (or the activation key when the button is focused) will result in a call to `performDefaultAction()`. The default behavior implemented here is to call `performEdit()`, but extensions may override this behavior by overriding `performDefaultAction()`.

Fields:

```
protected static java.awt.Color defaultBackground_
protected static java.awt.Font defaultFont_
protected static java.awt.Insets defaultMargin_
public static final java.lang.String DELETE
public static final java.lang.String EDIT
protected transient volatile boolean fBusy
protected int fHeightHint
protected javax.swing.JPopupMenu fPopupMenu
protected transient mil.dtra.hpac.client.ProjectEditorIfc fProjectEditor
protected int fWidthHint
protected static mil.dtra.swing.MenuItemSpec[] popupMenuItemSpecs_
```

Methods:

```
public void actionPerformed()
protected javax.swing.JPopupMenu createPopupMenu()
public javax.swing.JPopupMenu createPopupMenu2()
public final int getHeightHint()
public java.awt.Dimension getMaximumSize()
public java.awt.Dimension getPreferredSize()
public final mil.dtra.hpac.client.ProjectEditorIfc getProjectEditor()
public final int getWidthHint()
public void install()
protected void performDefaultAction()
public void performEdit()
protected void processKeyEvent()
protected void processMouseEvent()
public void remove()
public final void setHeightHint()
public final void setWidthHint()
```

```
public void showEditDialog()
public abstract void showEditDialog()
public void showPopupMenu()
```

4.52.1 Field `defaultBackground_`

protected static java.awt.Color **defaultBackground_**

4.52.2 Field `defaultFont_`

protected static java.awt.Font **defaultFont_**

4.52.3 Field `defaultMargin_`

protected static java.awt.Insets **defaultMargin_**

4.52.4 Field `DELETE`

public static final java.lang.String **DELETE**

Action name and popup menu item text

4.52.5 Field `EDIT`

public static final java.lang.String **EDIT**

Action name and popup menu item text

4.52.6 Field `fBusy`

protected transient volatile boolean **fBusy**

4.52.7 Field `fHeightHint`

protected int **fHeightHint**

4.52.8 Field `fPopupMenu`

protected javax.swing.JPopupMenu **fPopupMenu**

4.52.9 Field `fProjectEditor`

protected transient mil.dtra.hpac.client.ProjectEditorIfc **fProjectEditor**

4.52.10 Field fWidthHint

protected int **fWidthHint**

4.52.11 Field popupMenuItemSpecs_

protected static mil.dtra.swing.MenuItemSpec[] **popupMenuItemSpecs_**

4.52.12 Constructor ObjectPaletteButton()

protected
ObjectPaletteButton()

Default constructor. We set many properties explicitly and enable key and mouse events.

4.52.13 Constructor ObjectPaletteButton()

protected
ObjectPaletteButton(
 java.lang.String *text*,
 javax.swing.Icon *icon*
)

Calls the default constructor and sets the specified button text and icon.

Parameters:

text - button text
icon - button icon

4.52.14 Method actionPerformed()

public void
actionPerformed(java.awt.event.ActionEvent *event* **)**

Handles actions from the popup menu items.

Parameters:

event - action event

4.52.15 Method `createPopupMenu()`

```
protected javax.swing.JPopupMenu
createPopupMenu()
```

Creates the popup menu for this component when it is required. This implementation creates "Delete" and "Edit..." items. Subclasses should override this method, optionally calling `super.createPopupMenu()` first and then adding other items to the returned menu.

4.52.16 Method `createPopupMenu2()`

```
public javax.swing.JPopupMenu
createPopupMenu2()
```

Public version of `createPopupMenu()`. Too late in the development process to expect all extensions to change this to public. We do this so we can copy the `ScipuffOutputButton` menu to the menu bar.

4.52.17 Method `getHeightHint()`

```
public final int
getHeightHint()
```

Accessor for the `heightHint` property. A value of 0 means the height is to be computed from the label text. A negative value indicates a minimum height, and a positive value indicates a fixed height.

Returns:

height hint value

4.52.18 Method `getMaximumSize()`

```
public java.awt.Dimension
getMaximumSize()
```

Overrides `JButton.getMaximumSize()` to return the results of `getPreferredSize()`.

Returns:

maximum size

4.52.19 Method `getPreferredSize()`

```
public java.awt.Dimension  
getPreferredSize()
```

Overrides `JButton.getPreferredSize()` to return a maximum height of 40 pixels. The width is retrieved by calling `super.getPreferredSize()`.

Returns:

preferred size

4.52.20 Method `getProjectEditor()`

```
public final mil.dtra.hpac.client.ProjectEditorIfc  
getProjectEditor()
```

Accessor for the `projectEditor` property. The project editor provides facilities for adding components (such as release icons) and managing other aspects of the project, like initiating the dispersion calculation.

Returns:

reference to the project editor object

4.52.21 Method `getWidthHint()`

```
public final int  
getWidthHint()
```

Accessor for the `widthHint` property. A value of 0 means the width is to be computed from the label text. A negative value indicates a minimum width, and a positive value indicates a fixed width.

Returns:

width hint value

4.52.22 Method `install()`

```
public void  
install( mil.dtra.hpac.client.ProjectEditorIfc project_editor )
```

Called when the project editor environment has been established. This implementation assigns the `fProjectEditor` field, retrieves the editor profile and calls its `setObjectProperties()` method. Extensions will override but should probably call this method first as `super.install()`.

Parameters:

`project_editor` - reference to the project editor context and environment object

4.52.23 Method **performDefaultAction()**

```
protected void
performDefaultAction( int click_count )
```

Called on a left mouse click event (or a key mapped to a left click). The default behavior provided here is to call `performEdit()` regardless of the number of clicks. It is unlikely that the `click_count` will be greater than 1, as we now have a mechanism to ignore clicks when `performDefaultAction()` is called from `processMouseEvent()`. Extensions should override this method to change the default behavior.

Parameters:

click_count - number of left mouse clicks (unlikely > 1)

4.52.24 Method **performEdit()**

```
public void
performEdit()
```

Calls `showEditDialog()` and notifies action listeners that an edit has been performed with an action command specified by the `EDIT` constant. This method is called by the `performDefaultAction()` implementation in this class.

4.52.25 Method **processKeyEvent()**

```
protected void
processKeyEvent( java.awt.event.KeyEvent event )
```

Processes key events to capture Tab keys to transfer focus and Shift-F10 as a popup trigger. Calls `super.processKeyEvent()`.

Parameters:

event - key event

4.52.26 Method **processMouseEvent()**

```
protected void
processMouseEvent( java.awt.event.MouseEvent event )
```

Processes mouse events to capture popup triggers for showing the popup menu via `showPopupMenu()`. Left mouse clicks are processed as well with a request for focus and a call to `performDefaultAction()`. Note this does **not** circumvent the default mechanisms which inform action listeners.

Parameters:

event - mouse event

4.52.27 Method remove()

```
public void
remove()
```

Removes this component from its parent, if it exists.

4.52.28 Method setHeightHint()

```
public final void
setHeightHint( int value )
```

Accessor for the *heightHint* property. A value of 0 means the height is to be computed from the label text. A negative value indicates a minimum height, and a positive value indicates a fixed width.

Parameters:

value - width hint value

4.52.29 Method setWidthHint()

```
public final void
setWidthHint( int value )
```

Accessor for the *widthHint* property. A value of 0 means the width is to be computed from the label text. A negative value indicates a minimum width, and a positive value indicates a fixed width.

Parameters:

value - width hint value

4.52.30 Method showEditDialog()

```
public void
showEditDialog()
```

Shows the dialog with this as the parent component. Note that this method does **not** notify action listeners of the edit occurrence. In order to do so, call `performEdit()` instead.

4.52.31 Method showEditDialog()

```
public abstract void
showEditDialog( java.awt.Component component )
```

Shows the dialog with the specified component as the dialog owner. Extensions must provide an implementation of this method. Note that this method does **not** notify action listeners of the edit occurrence. In order to do so, call `performEdit()` instead.

Parameters:

component - dialog owner

4.52.32 Method showPopupMenu()

```
public void
showPopupMenu(
    int x,
    int y
)
```

Shows the popup menu if it has been created.

Parameters:

x - x position relative to this
y - y position relative to this

4.53 Class ProjectEditorMenuBar

```
mil.dtra.hpac.client.display
public ProjectEditorMenuBar
extends JMenuBar
implements ProjectActionNames,
```

JMenuBar extension which is the menu bar for a `ProjectEditorFrame`. We use Actions to define menu bar items as well as tool bar buttons. It is impossible to generalize menus built with actions. There are several special case menus managed here.

Accelerators:

Fields:

```
public static final java.lang.String ACTION_closeWindow
public static final java.lang.String ACTION_openNewWindow
public static final java.lang.String ADD INCIDENT
public static final java.lang.String EDIT
```

```

public static final java.lang.String EDIT_OUTPUT
public static final java.lang.String EDIT_PROJECT_PARAMS
protected javax.swing.JMenu fAddIncidentMenu
protected transient java.awt.event.ContainerListener fContainerWatcher
protected javax.swing.JMenuItem fDeleteReleaseItem
protected javax.swing.JMenu fEditMenu
protected javax.swing.JMenuItem fEditReleaseItem
protected javax.swing.JMenu fFileMenu
protected mil.dtra.swing.GradientAttrs fGradientAttrs
protected javax.swing.JMenu fHelpMenu
public static final java.lang.String FILE
protected javax.swing.JMenu fOutputMenu
protected mil.dtra.hpac.client.ProjectEditorIfc fProjectEditor
protected transient java.beans.PropertyChangeListener fPropertyChangeHandler
protected javax.swing.JMenu fRunMenu
protected javax.swing.JMenu fSelectMapMenu
protected javax.swing.JMenu fSelectReleaseMenu
protected javax.swing.JMenu fShowOverlayMenu
protected int fShowOverlayMenuItemIndex
protected javax.swing.JMenu fViewMenu
public static final java.lang.String HELP
public static final java.lang.String POIS
public static final java.lang.String PROJECT_EDITOR_MENU_BAR
public static final java.lang.String RUN
public static final java.lang.String SELECT_MAP
public static final java.lang.String SELECT_RELEASE
public static final java.lang.String SET_LAF
public static final java.lang.String SHOW_OVERLAY
public static final java.lang.String VIEW

```

Methods:

```

public final void addObject()
public void addObject()
public void addWatchedContainer()
protected void buildAddIncidentMenu()
protected void buildOverlayMenu()
protected void buildSelectMapMenu()
public javax.swing.JMenu findMenu()
public javax.swing.JMenuItem findMenuItem()
public javax.swing.JMenuItem findMenuItem()
public javax.swing.JMenu findSubMenu()
public final mil.dtra.swing.GradientAttrs getGradientAttrs()
public void init()
protected void paintComponent()
public void removeObject()
public void removeWatchedContainer()

```

```
public final void setGradientAttrs()
```

Inner Classes:

ProjectEditorMenuBar.ContainerWatcher
ProjectEditorMenuBar.PropertyChangeHandler

4.53.1 Field ACTION_closeWindow

```
public static final java.lang.String ACTION_closeWindow
```

4.53.2 Field ACTION_openNewWindow

```
public static final java.lang.String ACTION_openNewWindow
```

4.53.3 Field ADD INCIDENT

```
public static final java.lang.String ADD INCIDENT
```

4.53.4 Field EDIT

```
public static final java.lang.String EDIT
```

4.53.5 Field EDIT_OUTPUT

```
public static final java.lang.String EDIT_OUTPUT
```

4.53.6 Field EDIT_PROJECT_PARAMS

```
public static final java.lang.String EDIT_PROJECT_PARAMS
```

4.53.7 Field fAddIncidentMenu

```
protected javax.swing.JMenu fAddIncidentMenu
```

4.53.8 Field fContainerWatcher

```
protected transient java.awt.event.ContainerListener fContainerWatcher
```

4.53.9 Field fDeleteReleaseItem

protected javax.swing.JMenuItem **fDeleteReleaseItem**

4.53.10 Field fEditMenu

protected javax.swing.JMenu **fEditMenu**

4.53.11 Field fEditReleaseItem

protected javax.swing.JMenuItem **fEditReleaseItem**

4.53.12 Field fFileMenu

protected javax.swing.JMenu **fFileMenu**

4.53.13 Field fGradientAttrs

protected mil.dtra.swing.GradientAttrs **fGradientAttrs**

4.53.14 Field fHelpMenu

protected javax.swing.JMenu **fHelpMenu**

4.53.15 Field FILE

public static final java.lang.String **FILE**

4.53.16 Field fOutputMenu

protected javax.swing.JMenu **fOutputMenu**

4.53.17 Field fProjectEditor

protected mil.dtra.hpac.client.ProjectEditorIfc **fProjectEditor**

4.53.18 Field fPropertyChangeHandler

protected transient java.beans.PropertyChangeListener **fPropertyChangeHandler**

4.53.19 Field fRunMenu

protected javax.swing.JMenu **fRunMenu**

4.53.20 Field fSelectMapMenu

protected javax.swing.JMenu **fSelectMapMenu**

4.53.21 Field fSelectReleaseMenu

protected javax.swing.JMenu **fSelectReleaseMenu**

4.53.22 Field fShowOverlayMenu

protected javax.swing.JMenu **fShowOverlayMenu**

4.53.23 Field fShowOverlayMenuItemIndex

protected int **fShowOverlayMenuItemIndex**

4.53.24 Field fViewMenu

protected javax.swing.JMenu **fViewMenu**

4.53.25 Field HELP

public static final java.lang.String **HELP**

4.53.26 Field POIS

public static final java.lang.String **POIS**

4.53.27 Field PROJECT_EDITOR_MENU_BAR

public static final java.lang.String **PROJECT_EDITOR_MENU_BAR**

4.53.28 Field RUN

public static final java.lang.String **RUN**

4.53.29 Field SELECT_MAP

```
public static final java.lang.String SELECT_MAP
```

4.53.30 Field SELECT_RELEASE

```
public static final java.lang.String SELECT_RELEASE
```

4.53.31 Field SET_LAF

```
public static final java.lang.String SET_LAF
```

4.53.32 Field SHOW_OVERLAY

```
public static final java.lang.String SHOW_OVERLAY
```

4.53.33 Field VIEW

```
public static final java.lang.String VIEW
```

4.53.34 Constructor ProjectEditorMenuBar()

```
public  
ProjectEditorMenuBar()
```

Default constructor. Must call init().

4.53.35 Constructor ProjectEditorMenuBar()

```
public  
ProjectEditorMenuBar(  
    mil.dtra.hpac.client.ProjectEditorIfc project_editor,  
    mil.dtra.hpac.client.event.ProjectActions proj_actions,  
    mil.dtra.hpac.client.event.WindowActions win_actions  
)
```

Constructs calling init().

Parameters:

- project_editor - reference to the editor object
 - proj_actions - reference to map of actions retrievable by name
 - win_actions - reference to map of window actions
-

4.53.36 Method addObject()

```
public final void
addObject( java.awt.Component component )
```

Calls `addObject(Component)` with a null container.

Parameters:

component - component to check for possible new menu item

Exceptions:

`IllegalStateException` - if the necessary menu has yet to be created

4.53.37 Method addObject()

```
public void
addObject(
    java.awt.Component component,
    java.awt.Container container
)
```

Special method for handling additions of `ReleaseIcon`, `MapOverlay`, and `ScipuffOutputButton` instances specially. Corresponding items are added to the select release (`fSelectReleaseMenu`) and show overlay (`fShowOverlayMenu`) menus, respectively, and the output menu is populated from the `ScipuffOutputButton` popup menu. Other component types are ignored. This method is called by a `ContainerWatcher` after being added to this.

Parameters:

component - component to check for possible new menu item
container - container in which the object is added

Exceptions:

`IllegalStateException` - if the necessary menu has yet to be created

4.53.38 Method addWatchedContainer()

```
public void
addWatchedContainer( java.awt.Container container )
```

Adds the container watcher (`fContainerWatcher`) as a `ContainerListener` for the specified container.

Parameters:

container - container for which to listen for container events

4.53.39 Method buildAddIncidentMenu()

```
protected void
buildAddIncidentMenu(
    java.util.Collection model_beans_infos,
    javax.swing.Action add_incident_action
)
```

Populates the "add incident" menu item.

Parameters:

model_beans_infos - collection of ModelBeanInfo objects representing the available incident models
 add_incident_action - action object for each menu item

Exceptions:

IllegalArgumentException - if the action is null
 IllegalStateException - if the object add menu is not created

4.53.40 Method buildOverlayMenu()

```
protected void
buildOverlayMenu( java.util.List poi_groups )
```

Adds "Edit" item and items for each POI to the overlay menu.

Parameters:

poi_groups - list of POIGroup items

Exceptions:

IllegalStateException - if the overlay menu has not been created

4.53.41 Method buildSelectMapMenu()

```
protected void
buildSelectMapMenu(
    java.util.List map_list,
    javax.swing.Action set_map_action
)
```

Populates the "set map" menu with items described by the list of MapDisplayDef objects.

Parameters:

map_list - list of MapDisplayDef items describing the set map menu
 set_map_action - action object for each menu item

Exceptions:

IllegalArgumentException - if the action is null
 IllegalStateException - if the set map menu is not created

4.53.42 Method findMenu()

```
public javax.swing.JMenu
findMenu( java.lang.String title )
```

Searches for the menu with the specified title or text by calling ActionMenuSpec.findMenu().

Parameters:

title - menu title or text to search for

Returns:

reference to the matching menu object or null if it is not found

4.53.43 Method findMenuItem()

```
public javax.swing.JMenuItem
findMenuItem(
    javax.swing.JMenu menu,
    javax.swing.Action action
)
```

Searches for a menu item with the specified action on the menu with the specified title or text. Calls `ActionMenuSpec.findMenuItem()`.

Parameters:

title - menu title or text to search for
 action - action for the menu item to find

Returns:

reference to the matching menu item object or null if it is not found

4.53.44 Method `findMenuItem()`

```
public javax.swing.JMenuItem
findMenuItem(
    java.lang.String menu_title,
    javax.swing.Action action
)
```

Searches for a menu item with the specified action on the menu with the specified title or text. Calls `ActionMenuSpec.findMenuItem()`.

Parameters:

title - menu title or text to search for
 action - action for the menu item to find

Returns:

reference to the matching menu item object or null if it is not found

4.53.45 Method `findSubMenu()`

```
public javax.swing.JMenu
findSubMenu(
    javax.swing.JMenu menu,
    java.lang.String menu_title
)
```

Searches for a submenu with the specified title or text in the specified menu. Calls `ActionMenuSpec.findMenuItem()`.

Parameters:

menu - menu in which to search
 menu_title - submenu title or text to search for

Returns:

reference to the matching menu item object or null if it is not found

4.53.46 Method getGradientAttrs()

```
public final mil.dtra.swing.GradientAttrs
getGradientAttrs()
```

Accessor for the *gradientAttrs* property

Returns:

reference to the object

4.53.47 Method init()

```
public void
init(
    mil.dtra.hpac.client.ProjectEditorIfc project_editor,
    mil.dtra.hpac.client.event.ProjectActions proj_actions,
    mil.dtra.hpac.client.event.WindowActions win_actions
)
```

Creates and initializes this menu bar.

Parameters:

project_editor - reference to the editor object
 proj_actions - reference to map of actions retrievable by name
 win_actions - refernce to map of window actions

4.53.48 Method paintComponent()

```
protected void
paintComponent( java.awt.Graphics graphics )
```

4.53.49 Method **removeObject()**

```
public void
removeObject( java.awt.Component component )
```

Special method for handling removals of, for now, ScipuffOutputButton instances, in which case the output menu is cleared. Other Component types are ignored.

Parameters:

component - component that was removed

Exceptions:

IllegalStateException - if the necessary menu has yet to be created

4.53.50 Method **removeWatchedContainer()**

```
public void
removeWatchedContainer( java.awt.Container container )
```

Removes the container watcher (fContainerWatcher) as a ContainerListener for the specified container.

Parameters:

container - container for which to stop listening for container events

4.53.51 Method **setGradientAttrs()**

```
public final void
setGradientAttrs( mil.dtra.swing.GradientAttrs attrs )
```

Accessor for the *gradientAttrs* property

Parameters:

attrs - object reference to store

4.54 Class ProjectEditorMenuBar.ContainerWatcher

```
mil.dtra.hpac.client.display
protected ProjectEditorMenuBar.ContainerWatcher
extends ContainerAdapter
```

Extends ContainerAdapter to listen to component added events on various containers. Added components are passed in calls to addObject().

Methods:

```
public void componentAdded()
public void componentRemoved()
```

4.54.1 Constructor ProjectEditorMenuBar.ContainerWatcher()

```
protected
ProjectEditorMenuBar.ContainerWatcher( mil.dtra.hpac.client.display.ProjectEditorMenuBar this$0
)
```

4.54.2 Method componentAdded()

```
public void
componentAdded( java.awt.event.ContainerEvent event )
```

4.54.3 Method componentRemoved()

```
public void
componentRemoved( java.awt.event.ContainerEvent event )
```

4.55 Class ProjectEditorMenuBar.PropertyChangeHandler

```
mil.dtra.hpac.client.display
protected ProjectEditorMenuBar.PropertyChangeHandler
extends Object
implements PropertyChangeListener,
```

Listens for PropertyChangeEvent s from ReleaseIcon instances.

Methods:

```
public void propertyChange()
```

4.55.1 Constructor ProjectEditorMenuBar.PropertyChangeHandler()

```
protected
ProjectEditorMenuBar.PropertyChangeHandler( mil.dtra.hpac.client.display.ProjectEditorMenuBar
this$0 )
```

4.55.2 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

4.56 Class ProjectEditorMenuBar.ContainerWatcher

mil.dtra.hpac.client.display
protected ProjectEditorMenuBar.ContainerWatcher
 extends ContainerAdapter

Extends ContainerAdapter to listen to component added events on various containers. Added components are passed in calls to addObject().

Methods:

```
public void componentAdded()
public void componentRemoved()
```

4.56.1 Constructor ProjectEditorMenuBar.ContainerWatcher()

```
protected
ProjectEditorMenuBar.ContainerWatcher( mil.dtra.hpac.client.display.ProjectEditorMenuBar this$0
)
```

4.56.2 Method componentAdded()

```
public void
componentAdded( java.awt.event.ContainerEvent event )
```

4.56.3 Method componentRemoved()

```
public void
componentRemoved( java.awt.event.ContainerEvent event )
```

4.57 Class ProjectEditorMenuBar.PropertyChangeHandler

```
mil.dtra.hpac.client.display
protected ProjectEditorMenuBar.PropertyChangeHandler
extends Object
implements PropertyChangeListener,
```

Listens for PropertyChangeEvent from ReleaseIcon instances.

Methods:

```
public void propertyChange()
```

4.57.1 Constructor ProjectEditorMenuBar.PropertyChangeHandler()

```
protected
ProjectEditorMenuBar.PropertyChangeHandler( mil.dtra.hpac.client.display.ProjectEditorMenuBar
this$0 )
```

4.57.2 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

4.58 Class ProjectEditorToolBar

```
mil.dtra.hpac.client.display
public ProjectEditorToolBar
extends JToolBar
implements ProjectActionNames,
```

JToolBar extension which is the tool bar for a ProjectEditorFrame. We use Actions to define menu bar items as well as tool bar buttons.

Fields:

```
protected mil.dtra.swing.GradientAttrs fGradientAttrs
protected mil.dtra.hpac.client.display.MapUserModeChoice fMapUserModeChoice
public static final java.lang.String PROJECT_EDITOR_TOOL_BAR
```

Methods:

```
public javax.swing.JButton add()
public javax.swing.JButton findButton()
public final mil.dtra.swing.GradientAttrs getGradientAttrs()
public final mil.dtra.hpac.client.display.MapUserModeChoice getMapUserModeChoice()
```

```
public void init()
protected void paintComponent()
public final void setGradientAttrs()
```

4.58.1 Field fGradientAttrs

protected mil.dtra.swing.GradientAttrs **fGradientAttrs**

4.58.2 Field fMapUserModeChoice

protected mil.dtra.hpac.client.display.MapUserModeChoice **fMapUserModeChoice**

4.58.3 Field PROJECT_EDITOR_TOOL_BAR

public static final java.lang.String **PROJECT_EDITOR_TOOL_BAR**

4.58.4 Constructor ProjectEditorToolBar()

public
ProjectEditorToolBar()

Default constructor. Must call `init()`.

4.58.5 Constructor ProjectEditorToolBar()

public
ProjectEditorToolBar(
 mil.dtra.util.ValueProperties props,
 mil.dtra.hpac.client.event.ProjectActions actions
)

Constructs calling `init()`.

Parameters:

props - object with properties for this
actions - reference to map of actions retrievable by name

4.58.6 Method add()

```
public javax.swing.JButton
add( javax.swing.Action action )
```

Overrides `JToolBar.add()` but calls it first. The `actionCommand`, `text`, and `toolTipText` properties of the resulting button are set to the action name, null, and the action long description, respectively.

Parameters:

action - action defining the button

Returns:

new button

4.58.7 Method findButton()

```
public javax.swing.JButton
findButton( java.lang.String action_name )
```

Searches for the button associated with the specified action name.

Parameters:

action_name - action name for which to search

Returns:

matched button or null if not found

4.58.8 Method getGradientAttrs()

```
public final mil.dtra.swing.GradientAttrs
getGradientAttrs()
```

Accessor for the `gradientAttrs` property

Returns:

reference to the object

4.58.9 Method `getMapUserModeChoice()`

```
public final mil.dtra.hpac.client.display.MapUserModeChoice
getMapUserModeChoice()
```

Accessor for the *mapUserModeChoice* property

Returns:

reference to the component object

4.58.10 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.event.ProjectActions actions
)
```

Configures this component and creates sub-components.

Parameters:

props - object with properties for this
actions - reference to map of actions retrievable by name

4.58.11 Method `paintComponent()`

```
protected void
paintComponent( java.awt.Graphics graphics )
```

4.58.12 Method `setGradientAttrs()`

```
public final void
setGradientAttrs( mil.dtra.swing.GradientAttrs attrs )
```

Accessor for the *gradientAttrs* property

Parameters:

attrs - object reference to store

4.59 Class ReleaseSelectMenuItem

```
mil.dtra.hpac.client.display
public ReleaseSelectMenuItem
extends JMenuItem
implements ActionListener,
```

Extension of JMenuItem for representing a selectable ReleaseIcon. The action for one of these items requests focus for the icon.

Fields:

```
protected mil.dtra.hpac.client.swing.ReleaseIcon fIcon
protected java.awt.Container fIconContainer
```

Methods:

```
public void actionPerformed()
```

Inner Classes:

```
ReleaseSelectMenuItem.IconContainerListener
ReleaseSelectMenuItem.IconPropertyListener
```

4.59.1 Field fIcon

```
protected mil.dtra.hpac.client.swing.ReleaseIcon fIcon
```

4.59.2 Field fIconContainer

```
protected java.awt.Container fIconContainer
```

4.59.3 Constructor ReleaseSelectMenuItem()

```
public
ReleaseSelectMenuItem(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.swing.ReleaseIcon icon
)
```

Constructs with properties and icon objects.

Parameters:

```
props - object with properties for this
icon - release icon represented by this
```

4.59.4 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handler for this item's on action. Calls `requestFocus()` for the icon.

4.60 Class ReleaseSelectMenuItem.IconContainerListener

```
mil.dtra.hpac.client.display
protected ReleaseSelectMenuItem.IconContainerListener
extends ContainerAdapter
```

Extension of `ContainerAdapter` to watch for removal of the icon, in which case this item removes itself.

Methods:

```
public void componentRemoved()
```

4.60.1 Constructor ReleaseSelectMenuItem.IconContainerListener()

```
protected
ReleaseSelectMenuItem.IconContainerListener( mil.dtra.hpac.client.display.ReleaseSelectMenuItem
this$0 )
```

4.60.2 Method componentRemoved()

```
public void
componentRemoved( java.awt.event.ContainerEvent event )
```

4.61 Class ReleaseSelectMenuItem.IconPropertyListener

```
mil.dtra.hpac.client.display
protected ReleaseSelectMenuItem.IconPropertyListener
extends Object
implements PropertyChangeListener,
```

Extension of `PropertyChangeListener` to listen for `ReleaseIcon.PROP_releases` property changes. When they occur on the represented icon, this item's text must change to the icon's new `toolTipText`.

Methods:

```
public void propertyChange()
```

4.61.1 Constructor ReleaseSelectMenuItem.IconPropertyListener()

```
protected
ReleaseSelectMenuItem.IconPropertyListener( mil.dtra.hpac.client.display.ReleaseSelectMenuItem
this$0 )
```

4.61.2 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

4.62 Class ReleaseSelectMenuItem.IconContainerListener

```
mil.dtra.hpac.client.display
protected ReleaseSelectMenuItem.IconContainerListener
extends ContainerAdapter
```

Extension of ContainerAdapter to watch for removal of the icon, in which case this item removes itself.

Methods:

```
public void componentRemoved()
```

4.62.1 Constructor ReleaseSelectMenuItem.IconContainerListener()

```
protected
ReleaseSelectMenuItem.IconContainerListener( mil.dtra.hpac.client.display.ReleaseSelectMenuItem
this$0 )
```

4.62.2 Method componentRemoved()

```
public void
componentRemoved( java.awt.event.ContainerEvent event )
```

4.63 Class ReleaseSelectMenuItem.IconPropertyListener

```
mil.dtra.hpac.client.display
protected ReleaseSelectMenuItem.IconPropertyListener
extends Object
implements PropertyChangeListener,
```

Extension of PropertyChangeListener to listen for ReleaseIcon.PROPRELEASES property changes. When they occur on the represented icon, this item's text must change to the icon's new *toolTipText*.

Methods:

```
public void propertyChange()
```

4.63.1 Constructor ReleaseSelectMenuItem.IconPropertyListener()

```
protected
ReleaseSelectMenuItem.IconPropertyListener( mil.dtra.hpac.client.display.ReleaseSelectMenuItem
this$0 )
```

4.63.2 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

4.64 Class RulerOverlay

```
mil.dtra.hpac.client.display
public RulerOverlay
extends MapOverlay
implements ProjectObject, RulerOverlayConstants, SwingConstants,
```

Extends MapOverlay to provide a point (km) scale.

Fields:

```
public static final java.lang.String ACTION_edit
public static final int DEBUG
protected double fAxisLength
protected transient java.awt.AlphaComposite fComposite
protected transient mil.dtra.awt.SelfDragSupport fDragSupport
protected transient mil.dtra.hpac.client.display.RulerOverlayEditBean fEditBean
protected java.awt.geom.Point2D fOrigin
protected transient java.awt.Point fOriginDCOffset
protected transient java.util.ArrayList fShapeList
protected boolean fShowXNegativeAxis
protected boolean fShowXPositiveAxis
protected boolean fShowYNegativeAxis
protected boolean fShowYPositiveAxis
protected java.awt.BasicStroke fStroke
protected transient java.util.ArrayList fTextBoundsList
protected int fTicksPerAxis
protected static int instanceCount_
```

Methods:

```

public void actionPerformed()
public void addNotify()
protected synchronized void buildShapeList()
protected void buildTickShapes()
protected javax.swing.JPopupMenu createPopupMenu()
public final float getAlpha()
public final double getAxisLength()
public final java.awt.geom.Point2D getOrigin()
public java.awt.Dimension getPreferredSize()
public final boolean getShowXNegativeAxis()
public final boolean getShowXPositiveAxis()
public final boolean getShowYNegativeAxis()
public final boolean getShowYPositiveAxis()
public final int getTicksPerAxis()
protected void paintComponent()
public void readProps()
public void setAlpha()
public void setAxisLength()
public synchronized void setLocation()
public void setName()
public synchronized void setOrigin()
public void setShowXNegativeAxis()
public void setShowXPositiveAxis()
public void setShowYNegativeAxis()
public void setShowYPositiveAxis()
public void setTicksPerAxis()
public void updateMapProjection()
protected synchronized void updateOrigin()
public void writeProps()

```

4.64.1 Field ACTION_edit

public static final java.lang.String **ACTION_edit**

4.64.2 Field DEBUG

public static final int **DEBUG**

4.64.3 Field fAxisLength

protected double **fAxisLength**

in kilometers

4.64.4 Field **fComposite**

protected transient java.awt.AlphaComposite **fComposite**

4.64.5 Field **fDragSupport**

protected transient mil.dtra.awt.SelfDragSupport **fDragSupport**

4.64.6 Field **fEditBean**

protected transient mil.dtra.hpac.client.display.RulerOverlayEditBean **fEditBean**

4.64.7 Field **fOrigin**

protected java.awt.geom.Point2D **fOrigin**

4.64.8 Field **fOriginDCOffset**

protected transient java.awt.Point **fOriginDCOffset**

4.64.9 Field **fShapeList**

protected transient java.util.ArrayList **fShapeList**

4.64.10 Field **fShowXNegativeAxis**

protected boolean **fShowXNegativeAxis**

4.64.11 Field **fShowXPositiveAxis**

protected boolean **fShowXPositiveAxis**

4.64.12 Field **fShowYNegativeAxis**

protected boolean **fShowYNegativeAxis**

4.64.13 Field **fShowYPositiveAxis**

protected boolean **fShowYPositiveAxis**

4.64.14 Field fStroke

```
protected java.awt.BasicStroke fStroke
```

4.64.15 Field fTextBoundsList

```
protected transient java.util.ArrayList fTextBoundsList
```

4.64.16 Field fTicksPerAxis

```
protected int fTicksPerAxis
```

4.64.17 Field instanceCount__

```
protected static int instanceCount__
```

4.64.18 Constructor RulerOverlay()

```
public  
RulerOverlay()
```

Default, noop constructor. Must deserialize.

4.64.19 Constructor RulerOverlay()

```
public  
RulerOverlay( java.lang.String url )
```

Constructs by deserializing from the specified URL.

Parameters:

url - URL of the file containing the serialized form of this object

Exceptions:

IOException - on I/O error

4.64.20 Constructor RulerOverlay()

```
public  
RulerOverlay( java.awt.geom.Point2D origin )
```

Constructs with the specified *origin* value.

Parameters:

origin - origin property value

4.64.21 Constructor RulerOverlay()

```
public  
RulerOverlay(  
    java.awt.geom.Point2D origin,  
    double axis_length  
)
```

Constructs with the specified *origin* and *axisLength* values.

Parameters:

origin - origin property value
axis_length - axis length (of a single axis) in km

4.64.22 Constructor RulerOverlay()

```
public  
RulerOverlay(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Constructs by deserializing from the properties object.

Parameters:

props - object containing property values
key - property key, where null implies blank

Exceptions:

IOException - on I/O error

4.64.23 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Overrides MapOverlay.actionPerformed() to handle actions defined in this class.

Parameters:

event - action event

4.64.24 Method addNotify()

```
public void
addNotify()
```

Override for a jump start call to buildShapeList().

4.64.25 Method buildShapeList()

```
protected synchronized void
buildShapeList()
```

Internal method to (re)build the shape list based on the current *mapProjection* and scale properties.

4.64.26 Method buildTickShapes()

```
protected void
buildTickShapes(
    java.awt.font.GlyphVector gv,
    java.awt.Point from_dc_pt,
    java.awt.Point to_dc_pt,
    java.awt.Point tick_length,
    int orientation,
    java.awt.geom.Rectangle2D bounds
)
```

Adds shapes to the shapeList.

Returns:

popup menu object

4.64.27 Method `createPopupMenu()`

```
protected javax.swing.JPopupMenu  
createPopupMenu()
```

Overrides to add an "Edit..." item.

Returns:

popup menu object

4.64.28 Method `getAlpha()`

```
public final float  
getAlpha()
```

Accessor for the *alpha* property.

Returns:

current alpha transparency value [0..1]

4.64.29 Method `getAxisLength()`

```
public final double  
getAxisLength()
```

Accessor for the *axisLength* property.

Returns:

axis length in kilometers

4.64.30 Method `getOrigin()`

```
public final java.awt.geom.Point2D  
getOrigin()
```

Accessor for the *origin* property.

Returns:

copy of origin coordinate in WC

4.64.31 Method `getPreferredSize()`

```
public java.awt.Dimension  
getPreferredSize()
```

Overrides to use the computed bounds of the shapes.

4.64.32 Method `getShowXNegativeAxis()`

```
public final boolean  
getShowXNegativeAxis()
```

Accessor for the *showXNegativeAxis* property.

Returns:

true if the negative X axis is visible, false otherwise

4.64.33 Method `getShowXPositiveAxis()`

```
public final boolean  
getShowXPositiveAxis()
```

Accessor for the *showXPositiveAxis* property.

Returns:

true if the positive X axis is visible, false otherwise

4.64.34 Method `getShowYNegativeAxis()`

```
public final boolean  
getShowYNegativeAxis()
```

Accessor for the *showYNegativeAxis* property.

Returns:

true if the negative Y axis is visible, false otherwise

4.64.35 Method `getShowYPositiveAxis()`

```
public final boolean  
getShowYPositiveAxis()
```

Accessor for the *showYPositiveAxis* property.

Returns:

true if the positive Y axis is visible, false otherwise

4.64.36 Method getTicksPerAxis()

```
public final int
getTicksPerAxis()
```

Accessor for the *ticksPerAxis* property.

Returns:

ticks to draw on each axis (negative or positive)

4.64.37 Method paintComponent()

```
protected void
paintComponent( java.awt.Graphics graphics )
```

Renders this guy.

Parameters:

graphics - graphics context; if not a Graphics2D, we do nothing

4.64.38 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Explicitly deserializes.

Parameters:

props - object containing property values
key - property key, where null implies blank

Exceptions:

IOException - on I/O error

4.64.39 Method setAlpha()

```
public void
setAlpha( float alpha )
```

Accessor for the *alpha* property.

Parameters:

alpha - new alpha transparency value [0..1]

4.64.40 Method setAxisLength()

```
public void
setAxisLength( double length )
```

Accessor for the *axisLength* property.

Parameters:

length - axis length in kilometers

4.64.41 Method setLocation()

```
public synchronized void
setLocation(
    int x,
    int y
)
```

Override to call `updateOrigin()` after `super.setLocation()`.

Parameters:

x - x DC location
y - y DC location

4.64.42 Method setName()

```
public void
setName( java.lang.String name )
```

Overrides to also set the *toolTipText*.

Parameters:

name - component name

4.64.43 Method setOrigin()

```
public synchronized void
setOrigin( java.awt.geom.Point2D origin )
```

Accessor for the *origin* property. Note we do not allow a value of +/-90 for the latitude. Such values will be forced to +/-89.5.

Parameters:

origin - WC coordinate value to copy

4.64.44 Method setShowXNegativeAxis()

```
public void
setShowXNegativeAxis( boolean flag )
```

Accessor for the *showXNegativeAxis* property.

Parameters:

flag - true to make the negative X axis visible, false to hide it

4.64.45 Method setShowXPositiveAxis()

```
public void
setShowXPositiveAxis( boolean flag )
```

Accessor for the *showXPositiveAxis* property.

Parameters:

flag - true to make the positive X axis visible, false to hide it

4.64.46 Method setShowYNegativeAxis()

```
public void
setShowYNegativeAxis( boolean flag )
```

Accessor for the *showYNegativeAxis* property.

Parameters:

flag - true to make the negative Y axis visible, false to hide it

4.64.47 Method setShowYPositiveAxis()

```
public void
setShowYPositiveAxis( boolean flag )
```

Accessor for the *showYPositiveAxis* property.

Parameters:

flag - true to make the positive Y axis visible, false to hide it

4.64.48 Method setTicksPerAxis()

```
public void
setTicksPerAxis( int count )
```

Accessor for the *ticksPerAxis* property.

Parameters:

count - ticks to draw on each axis (negative or positive)

4.64.49 Method updateMapProjection()

```
public void
updateMapProjection( mil.dtra.map.MapProjection proj )
```

Overrides to (re)build the shape list after calling `super.updateMapProjection()`.

Parameters:

proj - projection object reference

4.64.50 Method updateOrigin()

```
protected synchronized void
updateOrigin(
    int x,
    int y
)
```

Computes a new *origin* value based on the current *location* by unprojecting with the current *mapProjection*.

4.64.51 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Explicitly serializes.

Parameters:

props - object to contain property values
key - property key, where null implies blank

Exceptions:

IOException - on I/O error

4.65 Class RulerOverlayEditBean

```
mil.dtra.hpac.client.display
public RulerOverlayEditBean
extends PDialogPanel
implements ActionListener, FocusListener, HPACSwingConstants, PropertyChangeListener, RulerOverlayConstants, SwingConstants,
```

Bean for defining/editing a RulerOverlay.
Properties

Fields:

```
protected static final java.lang.String ACTION_editColor
protected javax.swing.JButton fColorButton
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLengthBean
protected transient volatile boolean fListeningFlag
protected javax.swing.JTextField fNameField
protected mil.dtra.util.ValueProperties fOverlayProps
protected mil.dtra.hpac.client.swing.ValueUnitsBean fTicksBean
protected javax.swing.JToggleButton fXNegativeButton
protected javax.swing.JToggleButton fXPositiveButton
protected javax.swing.JToggleButton fYNegativeButton
protected javax.swing.JToggleButton fYPositiveButton
public static final java.lang.String PROP_overlayProps
```

Methods:

```

public void actionPerformed()
protected void create()
protected javax.swing.JComponent createNameGroup()
protected javax.swing.JComponent createScaleGroup()
protected javax.swing.JComponent createVisibilityGroup()
public void focusGained()
public void focusLost()
public final mil.dtra.util.ValueProperties getOverlayProps()
public void init()
public void propertyChange()
public void setEnabled()
public void setOverlayProps()
protected void startListening()
protected void stopListening()
protected void updateBeans()

```

4.65.1 Field ACTION_editColor

protected static final java.lang.String **ACTION_editColor**

4.65.2 Field fColorButton

protected javax.swing.JButton **fColorButton**

4.65.3 Field fLengthBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLengthBean**

4.65.4 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

4.65.5 Field fNameField

protected javax.swing.JTextField **fNameField**

4.65.6 Field fOverlayProps

protected mil.dtra.util.ValueProperties **fOverlayProps**

4.65.7 Field fTicksBean

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fTicksBean
```

4.65.8 Field fXNegativeButton

```
protected javax.swing.JToggleButton fXNegativeButton
```

4.65.9 Field fXPositiveButton

```
protected javax.swing.JToggleButton fXPositiveButton
```

4.65.10 Field fYNegativeButton

```
protected javax.swing.JToggleButton fYNegativeButton
```

4.65.11 Field fYPositiveButton

```
protected javax.swing.JToggleButton fYPositiveButton
```

4.65.12 Field PROP_overlayProps

```
public static final java.lang.String PROP_overlayProps
```

4.65.13 Constructor RulerOverlayEditBean()

```
public  
RulerOverlayEditBean()
```

Default constructor for bean instantiation. Must call `init()`.

4.65.14 Constructor RulerOverlayEditBean()

```
public  
RulerOverlayEditBean(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.util.ValueProperties overlay_props  
)
```

Constructs assuming no title.

Parameters:

props - object with properties for this
 overlay_props - overlay properties

4.65.15 Constructor RulerOverlayEditBean()

```
public
RulerOverlayEditBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.util.ValueProperties overlay_props,
    java.lang.String title
)
```

Constructs with explicit values, calling `init()`.

Parameters:

props - object with properties for this
 overlay_props - overlay properties
 title - title for a border or null for no border

4.65.16 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles button actions.

Parameters:

event - action event

4.65.17 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates this component and all sub-components.

Parameters:

props - object with properties for this

4.65.18 Method `createNameGroup()`

```
protected javax.swing.JComponent
createNameGroup( mil.dtra.util.ValueProperties props )
```

Parameters:

props - object with properties for this

4.65.19 Method `createScaleGroup()`

```
protected javax.swing.JComponent
createScaleGroup( mil.dtra.util.ValueProperties props )
```

Parameters:

props - object with properties for this

4.65.20 Method `createVisibilityGroup()`

```
protected javax.swing.JComponent
createVisibilityGroup( mil.dtra.util.ValueProperties props )
```

Parameters:

props - object with properties for this

4.65.21 Method `focusGained()`

```
public void
focusGained( java.awt.event.FocusEvent event )
```

4.65.22 Method `focusLost()`

```
public void
focusLost( java.awt.event.FocusEvent event )
```

4.65.23 Method `getOverlayProps()`

```
public final mil.dtra.util.ValueProperties
getOverlayProps()
```

Accessor for the *overlayProps* property.

Returns:

object copy

4.65.24 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.util.ValueProperties overlay_props,
    java.lang.String title
)
```

Initializes and creates this component and all its sub-components.

Parameters:

props - object with properties for this
 overlay_props - overlay properties
 title - title for a border or null for no border

4.65.25 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

4.65.26 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Sets the *enabled* property for this and all sub-components.

Parameters:

flag - true if enabled, false otherwise

4.65.27 Method setOverlayProps()

```
public void
setOverlayProps( mil.dtra.util.ValueProperties overlay_props )
```

Accessor for the *overlayProps* property.

Parameters:

`overlay_props` - object to copy

4.65.28 Method `startListening()`

`protected void
startListening()`

Enable listeners for all sub-components.

4.65.29 Method `stopListening()`

`protected void
stopListening()`

Disable listeners for all sub-components.

4.65.30 Method `updateBeans()`

`protected void
updateBeans(mil.dtra.util.ValueProperties overlay_props)`

4.66 Class `ScaleBarOverlay`

```
mil.dtra.hpac.client.display
public ScaleBarOverlay
extends MapOverlay
implements PermanentMapOverlay,
```

Extends `MapOverlay` to provide a simple scale bar at the bottom of the map display.

Fields:

```
public static final int DEBUG
protected static final float DEFAULT_alpha
protected static final int DEFAULT_fontSize
protected static final java.awt.Dimension DEFAULT_preferredSize
protected static final int DEFAULT_size
protected transient java.awt.AlphaComposite fComposite
protected java.awt.BasicStroke fLineStroke
protected transient java.util.ArrayList fShapeList
protected int fSize
protected java.awt.BasicStroke fTextStroke
protected static final double LOG_10
```

Methods:

```

public void actionPerformed()
public void addNotify()
protected synchronized void buildShapeList()
protected javax.swing.JPopupMenu createPopupMenu()
public final float getAlpha()
public java.awt.Dimension getPreferredSize()
protected void paintComponent()
public void readProps()
public void setAlpha()
public void setName()
public void updateMapProjection()
public void writeProps()

```

4.66.1 Field DEBUG

public static final int **DEBUG**

4.66.2 Field DEFAULT_alpha

protected static final float **DEFAULT_alpha**

4.66.3 Field DEFAULT_fontSize

protected static final int **DEFAULT_fontSize**

4.66.4 Field DEFAULT_preferredSize

protected static final java.awt.Dimension **DEFAULT_preferredSize**

4.66.5 Field DEFAULT_size

protected static final int **DEFAULT_size**

4.66.6 Field fComposite

protected transient java.awt.AlphaComposite **fComposite**

4.66.7 Field fLineStroke

protected java.awt.BasicStroke **fLineStroke**

4.66.8 Field **fShapeList**

protected transient java.util.ArrayList **fShapeList**

4.66.9 Field **fSize**

protected int **fSize**

4.66.10 Field **fTextStroke**

protected java.awt.BasicStroke **fTextStroke**

4.66.11 Field **LOG_10**

protected static final double **LOG_10**

4.66.12 Constructor **ScaleBarOverlay()**

public
ScaleBarOverlay()

Default, noop constructor.

4.66.13 Constructor **ScaleBarOverlay()**

public
ScaleBarOverlay(java.lang.String url)

Constructs by deserializing from the specified URL.

Parameters:

url - URL of the file containing the serialized form of this object

Exceptions:

IOException - on I/O error

4.66.14 Constructor ScaleBarOverlay()

```
public
ScaleBarOverlay(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Constructs by deserializing from the properties object.

Parameters:

props - object containing property values
key - property key, where null implies blank

Exceptions:

IOException - on I/O error

4.66.15 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Overrides MapOverlay.actionPerformed() to handle actions defined in this class.

Parameters:

event - action event

4.66.16 Method addNotify()

```
public void
addNotify()
```

Override for a jump start call to buildShapeList().

4.66.17 Method buildShapeList()

```
protected synchronized void
buildShapeList()
```

Internal method to (re)build the shape list based on the current *mapProjection* and scale properties.

4.66.18 Method createPopupMenu()

```
protected javax.swing.JPopupMenu
createPopupMenu()
```

Overrides to create only a "Show/Hide" item.

Returns:

popup menu object

4.66.19 Method getAlpha()

```
public final float
getAlpha()
```

Accessor for the *alpha* property.

Returns:

current alpha transparency value [0..1]

4.66.20 Method getPreferredSize()

```
public java.awt.Dimension
getPreferredSize()
```

4.66.21 Method paintComponent()

```
protected void
paintComponent( java.awt.Graphics graphics )
```

Renders this guy.

Parameters:

graphics - graphics context; if not a *Graphics2D*, we do nothing

4.66.22 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Explicitly deserializes.

Parameters:

props - object containing property values
 key - property key, where null implies blank

Exceptions:

IOException - on I/O error

4.66.23 Method **setAlpha()**

```
public void
setAlpha( float alpha )
```

Accessor for the *alpha* property.

Parameters:

alpha - new alpha transparency value [0..1]

4.66.24 Method **setName()**

```
public void
setName( java.lang.String name )
```

Overrides to also set the *toolTipText*.

Parameters:

name - component name

4.66.25 Method **updateMapProjection()**

```
public void
updateMapProjection( mil.dtra.map.MapProjection proj )
```

Overrides to (re)build the shape list after calling super.*.updateMapProjection()*.

Parameters:

proj - projection object reference

4.66.26 Method writeProps()

```
public void  
writeProps(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Explicitly serializes.

Parameters:

props - object to contain property values
key - property key, where null implies blank

Exceptions:

IOException - on I/O error

CHAPTER 5

Package mil.dtra.hpac.client.event

Implementation of menu and toolbar actions for the HPAC client GUI.

Interfaces:

ProjectActionNames
ProjectEditorWindow

Classes:

HPACAction
ProjectActions
WindowActions

5.1 Interface ProjectActionNames

```
mil.dtra.hpac.client.event
public interface ProjectActionNames
```

This interfaces has constants for all the action names used in ProjectActions. These are the keys to the map.

Fields:

```
public static final java.lang.String ACTION_addIncident
public static final java.lang.String ACTION_addRulerOverlay
public static final java.lang.String ACTION_checkProject
public static final java.lang.String ACTION_computeResults
public static final java.lang.String ACTION_createNewProject
public static final java.lang.String ACTION_deleteObject
public static final java.lang.String ACTION_deleteOutputButtons
public static final java.lang.String ACTION_editMapProperties
public static final java.lang.String ACTION_editMaterials
public static final java.lang.String ACTION_editObject
public static final java.lang.String ACTION_editOutput
```

public static final java.lang.String	ACTION_editOverlays
public static final java.lang.String	ACTION_editProjectFlags
public static final java.lang.String	ACTION_editProjectLimits
public static final java.lang.String	ACTION_editProjectOptions
public static final java.lang.String	ACTION_editProjectParameters
public static final java.lang.String	ACTION_editProjectSpatialDomain
public static final java.lang.String	ACTION_editProjectTemporalDomain
public static final java.lang.String	ACTION_editWeather
public static final java.lang.String	ACTION_exit
public static final java.lang.String	ACTION_exportMapImage
public static final java.lang.String	ACTION_exportProjectFolder
public static final java.lang.String	ACTION_helpShowAbout
public static final java.lang.String	ACTION_helpShowUsersGuide
public static final java.lang.String	ACTION_importProjectFolder
public static final java.lang.String	ACTION_loadMapURL
public static final java.lang.String	ACTION_openProject
public static final java.lang.String	ACTION_panMapEast
public static final java.lang.String	ACTION_panMapNorth
public static final java.lang.String	ACTION_panMapSouth
public static final java.lang.String	ACTION_panMapWest
public static final java.lang.String	ACTION_printMap
public static final java.lang.String	ACTION_repaintMap
public static final java.lang.String	ACTION_saveProject
public static final java.lang.String	ACTION_saveProjectAs
public static final java.lang.String	ACTION_selectObject
public static final java.lang.String	ACTION_setCrossPlatformLAF
public static final java.lang.String	ACTION_setMap
public static final java.lang.String	ACTION_setMapUserMode
public static final java.lang.String	ACTION_setSystemLAF
public static final java.lang.String	ACTION_showOverlay
public static final java.lang.String	ACTION_zoomMapFull
public static final java.lang.String	ACTION_zoomMapIn
public static final java.lang.String	ACTION_zoomMapOut
public static final java.lang.String	ACTION_zoomMapToSpatialDomain
public static final java.lang.String	PROP_clientObject

5.1.1 Field ACTION_addIncident

public static final java.lang.String **ACTION_addIncident**

5.1.2 Field ACTION_addRulerOverlay

public static final java.lang.String **ACTION_addRulerOverlay**

5.1.3 Field ACTION_checkProject

public static final java.lang.String ACTION_checkProject

5.1.4 Field ACTION_computeResults

public static final java.lang.String ACTION_computeResults

5.1.5 Field ACTION_createNewProject

public static final java.lang.String ACTION_createNewProject

5.1.6 Field ACTION_deleteObject

public static final java.lang.String ACTION_deleteObject

5.1.7 Field ACTION_deleteOutputButtons

public static final java.lang.String ACTION_deleteOutputButtons

5.1.8 Field ACTION_editMapProperties

public static final java.lang.String ACTION_editMapProperties

5.1.9 Field ACTION_editMaterials

public static final java.lang.String ACTION_editMaterials

5.1.10 Field ACTION_editObject

public static final java.lang.String ACTION_editObject

5.1.11 Field ACTION_editOutput

public static final java.lang.String ACTION_editOutput

5.1.12 Field ACTION_editOverlays

public static final java.lang.String ACTION_editOverlays

5.1.13 Field ACTION_editProjectFlags

public static final java.lang.String ACTION_editProjectFlags

5.1.14 Field ACTION_editProjectLimits

public static final java.lang.String ACTION_editProjectLimits

5.1.15 Field ACTION_editProjectOptions

public static final java.lang.String ACTION_editProjectOptions

5.1.16 Field ACTION_editProjectParameters

public static final java.lang.String ACTION_editProjectParameters

5.1.17 Field ACTION_editProjectSpatialDomain

public static final java.lang.String ACTION_editProjectSpatialDomain

5.1.18 Field ACTION_editProjectTemporalDomain

public static final java.lang.String ACTION_editProjectTemporalDomain

5.1.19 Field ACTION_editWeather

public static final java.lang.String ACTION_editWeather

5.1.20 Field ACTION_exit

public static final java.lang.String ACTION_exit

5.1.21 Field ACTION_exportMapImage

public static final java.lang.String ACTION_exportMapImage

5.1.22 Field ACTION_exportProjectFolder

public static final java.lang.String ACTION_exportProjectFolder

5.1.23 Field ACTION_helpShowAbout

public static final java.lang.String ACTION_helpShowAbout

5.1.24 Field ACTION_helpShowUsersGuide

public static final java.lang.String ACTION_helpShowUsersGuide

5.1.25 Field ACTION_importProjectFolder

public static final java.lang.String ACTION_importProjectFolder

5.1.26 Field ACTION_loadMapURL

public static final java.lang.String ACTION_loadMapURL

5.1.27 Field ACTION_openProject

public static final java.lang.String ACTION_openProject

5.1.28 Field ACTION_panMapEast

public static final java.lang.String ACTION_panMapEast

5.1.29 Field ACTION_panMapNorth

public static final java.lang.String ACTION_panMapNorth

5.1.30 Field ACTION_panMapSouth

public static final java.lang.String ACTION_panMapSouth

5.1.31 Field ACTION_panMapWest

public static final java.lang.String ACTION_panMapWest

5.1.32 Field ACTION_printMap

public static final java.lang.String ACTION_printMap

5.1.33 Field ACTION.repaintMap

public static final java.lang.String ACTION.repaintMap

5.1.34 Field ACTION.saveProject

public static final java.lang.String ACTION.saveProject

5.1.35 Field ACTION.saveProjectAs

public static final java.lang.String ACTION.saveProjectAs

5.1.36 Field ACTION.selectObject

public static final java.lang.String ACTION.selectObject

5.1.37 Field ACTION.setCrossPlatformLAF

public static final java.lang.String ACTION.setCrossPlatformLAF

5.1.38 Field ACTION.setMap

public static final java.lang.String ACTION.setMap

5.1.39 Field ACTION.setMapUserMode

public static final java.lang.String ACTION.setMapUserMode

5.1.40 Field ACTION.setSystemLAF

public static final java.lang.String ACTION.setSystemLAF

5.1.41 Field ACTION.showOverlay

public static final java.lang.String ACTION.showOverlay

5.1.42 Field ACTION.zoomMapFull

public static final java.lang.String ACTION.zoomMapFull

5.1.43 Field ACTION_zoomMapIn

```
public static final java.lang.String ACTION_zoomMapIn
```

5.1.44 Field ACTION_zoomMapOut

```
public static final java.lang.String ACTION_zoomMapOut
```

5.1.45 Field ACTION_zoomMapToSpatialDomain

```
public static final java.lang.String ACTION_zoomMapToSpatialDomain
```

5.1.46 Field PROP_clientObject

```
public static final java.lang.String PROP_clientObject
```

5.2 Interface ProjectEditorWindow

```
mil.dtra.hpac.client.event  
public interface ProjectEditorWindow
```

Defines operations provided by a window containing the ProjectEditor.

Methods:

```
public void closeWindow()  
public void openNewWindow()
```

5.2.1 Method closeWindow()

```
public void  
closeWindow()
```

Closes the current window.

5.2.2 Method openNewWindow()

```
public void  
openNewWindow( mil.dtra.hpac.client.ProjectEditorProfile profile )
```

Creates a new ProjectEditor window based on the specified profile.

Parameters:

profile - environment profile object

5.3 Class HPACAction

```
mil.dtra.hpac.client.event
public abstract HPACAction
extends AbstractAction
```

Extends `AbstractAction` to expedite construction and serve as the class for icon resource retrieval. Icons are stored as the `Action.SMALL_ICON` and should be 24x24 pixels with a small number of colors (say 16 or less).

The `Action.NAME` is the key for an action in action maps. The `Action.SHORT_DESCRIPTION` is used for menu item and button text, and `Action.LONG_DESCRIPTION` is used for button tool tips.

Note that the `SHORT_DESCRIPTION` was used for tool tips in prior versions.

5.3.1 Constructor HPACAction()

```
public
HPACAction(
    java.lang.String name,
    java.lang.String short_descr
)
```

Constructs assuming no icon or long description.

Parameters:

- name - action name
- short_descr - short description, used for text labels and tool tips

5.3.2 Constructor HPACAction()

```
public
HPACAction(
    java.lang.String name,
    java.lang.String short_descr,
    java.lang.String icon_name
)
```

Constructs assuming no long description.

Parameters:

- name - action name
- short_descr - short description, used for text labels and tool tips
- icon_name - resource name of the "small" icon for this action

5.3.3 Constructor HPACAction()

```
public
HPACAction(
    java.lang.String name,
    java.lang.String short_descr,
    java.lang.String icon_name,
    java.lang.String long_descr
)
```

Constructs with all properties specified.

Parameters:

- name - action name
- short_descr - short description, used for text labels
- icon_name - resource name of the "small" icon for this action
- long_descr - long description used for tool tips

5.4 Class ProjectActions

```
mil.dtra.hpac.client.event
public ProjectActions
extends HashMap
implements ProjectActionNames,
```

Extension of `HashMap` with implementations of all the actions defined in `ProjectActionNames`. The actions can be retrieved by action name.

Fields:

- protected transient javax.swing.Action[] fActions
- protected mil.dtra.hpac.client.ProjectEditorIfc fProjectEditor
- public static final java.lang.String PROJECT_ACTIONS

Methods:

- public final javax.swing.Action getAction()
- public final mil.dtra.hpac.client.ProjectEditorIfc getProjectEditor()

5.4.1 Field fActions

protected transient javax.swing.Action[] fActions

Array of actions

5.4.2 Field **fProjectEditor**

protected mil.dtra.hpac.client.ProjectEditorIfc **fProjectEditor**

5.4.3 Field **PROJECT_ACTIONS**

public static final java.lang.String **PROJECT_ACTIONS**

5.4.4 Constructor **ProjectActions()**

public
ProjectActions(mil.dtra.hpac.client.ProjectEditorIfc editor)

Constructs with the `ProjectEditorIfc` object used in implementing the actions. Each action is stored in this map by action name.

Parameters:

editor - project editor object reference

5.4.5 Method **getAction()**

public final javax.swing.Action
getAction(java.lang.String name)

Retrieves the action object by action name.

Returns:

action object if found, null otherwise

5.4.6 Method **getProjectEditor()**

public final mil.dtra.hpac.client.ProjectEditorIfc
getProjectEditor()

Accessor for the `projectEditor` property.

Returns:

project editor object reference

5.5 Class WindowActions

```
mil.dtra.hpac.client.event
public WindowActions
extends HashMap
```

Extension of HashMap with implementations of actions related to windows. The actions can be retrieved by action name.

Fields:

```
public static final java.lang.String ACTION_closeWindow
public static final java.lang.String ACTION_openNewWindow
protected transient javax.swing.Action[] fActions
protected mil.dtra.hpac.client.ProjectEditorProfile fProfile
protected mil.dtra.hpac.client.event.ProjectEditorWindow fWindow
```

Methods:

```
public final javax.swing.Action getAction()
```

5.5.1 Field ACTION_closeWindow

```
public static final java.lang.String ACTION_closeWindow
```

"closeWindow" action name

5.5.2 Field ACTION_openNewWindow

```
public static final java.lang.String ACTION_openNewWindow
```

"openNewWindow" action name

5.5.3 Field fActions

```
protected transient javax.swing.Action[] fActions
```

Array of actions

5.5.4 Field fProfile

```
protected mil.dtra.hpac.client.ProjectEditorProfile fProfile
```

5.5.5 Field fWindow

```
protected mil.dtra.hpac.client.event.ProjectEditorWindow fWindow
```

5.5.6 Constructor WindowActions()

```
public  
WindowActions(  
    mil.dtra.hpac.client.ProjectEditorProfile profile,  
    mil.dtra.hpac.client.event.ProjectEditorWindow window  
)
```

Constructs with needed parameters.

Parameters:

profile - reference to profile object needed for ProjectEditorWindow.openNewWindow()
call
window - reference to object implementing ProjectEditorWindow

5.5.7 Method getAction()

```
public final javax.swing.Action  
getAction( java.lang.String name )
```

Returns:

action object if found, null otherwise

CHAPTER 6

Package mil.dtra.hpac.client.folder

Contains interfaces and classes related to HPAC project folders.

Interfaces:

ProjectFolderIO

Classes:

AbstractProjectFolderIO
ProjectCopier
ProjectCopier.CopyThread
ZipProjectFolderIO

6.1 Interface ProjectFolderIO

mil.dtra.hpac.client.folder
public interface **ProjectFolderIO**

Defines methods for project folder I/O.

Fields:

public static final int BUFFER_SIZE
public static final int LOG_level
public static final java.lang.String SERVER_DATA_FILENAME

Methods:

public void exportFolder()
public java.lang.Object[] importFolder()

6.1.1 Field BUFFER_SIZE

public static final int BUFFER_SIZE

6.1.2 Field LOG_level

public static final int LOG_level

6.1.3 Field SERVER_DATA_FILENAME

public static final java.lang.String SERVER_DATA_FILENAME

6.1.4 Method exportFolder()

```
public void
exportFolder(
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Exports the specified project folder.

Parameters:

- project - project object
- server_data - server files folder

Exceptions:

- IOException - on I/O error

6.1.5 Method importFolder()

```
public java.lang.Object[]
importFolder()
```

Imports a project folder.

Returns:

- null on an abort or an array containing the project object and server folder (if it exists) in order, Project, byte[]

Exceptions:

- IOException - on I/O error

6.2 Class AbstractProjectFolderIO

```
mil.dtra.hpac.client.folder
public abstract AbstractProjectFolderIO
extends Object
implements ProjectFolderIO,
```

Encapsulation of all client and server files associated with a project.

Methods:

```
protected void checkMemory()
protected java.lang.String[] findProjectFileReferences()
protected void fixProjectURL()
```

6.2.1 Constructor AbstractProjectFolderIO()

```
public
AbstractProjectFolderIO()
```

6.2.2 Method checkMemory()

```
protected void
checkMemory( int needed )
```

Checks available memory after a garbage collection to see if at least the amount specified is available. If not, an IllegalStateException is thrown with an insufficient memory message.

Parameters:

needed - amount of memory needed in bytes

Exceptions:

IllegalStateException - if there is not that much memory available

6.2.3 Method findProjectFileReferences()

```
protected java.lang.String[]
findProjectFileReferences( java.util.Properties props )
```

Searches the properties for FileReference instances.

Parameters:

props - properties containing serialized project

Returns:

array of `FileReference` object keys found in props, possibly zero-length

6.2.4 Method `fixProjectURL()`

```
protected void
fixProjectURL(
    mil.dtra.util.ValueProperties props,
    java.io.File directory
)
```

Fixes the *URL* project property to reflect the specified directory and the *name* property stored in the properties.

Parameters:

props - project properties
directory - target directory

6.3 Class `ProjectCopier`

```
mil.dtra.hpac.client.folder
public ProjectCopier
extends JDialog
implements ActionListener, Runnable,
```

Handles the duties of copying existing projects identified by the paths to the project files. Copies are effected via an export and import.

Fields:

```
public static final java.lang.String ACTION_copy
public static final java.lang.String ACTION_quit
public static final java.lang.String ACTION_skip
protected javax.swing.JButton fCopyButton
protected java.io.File fDestinationDir
protected javax.swing.JTextField fMessageField
protected javax.swing.JList fProjectListItem
protected mil.dtra.hpac.client.ProjectMgr fProjectMgr
protected java.lang.String fProjectPaths
protected javax.swing.JButton fQuitButton
protected transient java.lang.Object fValve
protected java.lang.Thread fWorkThread
```

```
public static final int LOG_level
protected static final java.lang.String TITLE
```

Methods:

```
public void actionPerformed()
protected void close()
protected void create()
protected void notifyCopyCompletion()
protected void processWindowEvent()
public void run()
protected void setMessage()
protected void waitForCopyCompletion()
```

Inner Classes:

ProjectCopier.CopyThread

6.3.1 Field ACTION_copy

```
public static final java.lang.String ACTION_copy
```

6.3.2 Field ACTION_quit

```
public static final java.lang.String ACTION_quit
```

6.3.3 Field ACTION_skip

```
public static final java.lang.String ACTION_skip
```

6.3.4 Field fCopyButton

```
protected javax.swing.JButton fCopyButton
```

6.3.5 Field fDestinationDir

```
protected java.io.File fDestinationDir
```

6.3.6 Field fMessageField

```
protected javax.swing.JTextField fMessageField
```

6.3.7 Field fProjectListItem

```
protected javax.swing.JList fProjectListItem
```

6.3.8 Field fProjectMgr

```
protected mil.dtra.hpac.client.ProjectMgr fProjectMgr
```

6.3.9 Field fProjectPaths

```
protected java.lang.String fProjectPaths
```

6.3.10 Field fQuitButton

```
protected javax.swing.JButton fQuitButton
```

6.3.11 Field fValve

```
protected transient java.lang.Object fValve
```

6.3.12 Field fWorkThread

```
protected java.lang.Thread fWorkThread
```

6.3.13 Field LOG_level

```
public static final int LOG_level
```

6.3.14 Field TITLE

```
protected static final java.lang.String TITLE
```

6.3.15 Constructor ProjectCopier()

```
public  
ProjectCopier(  
    mil.dtra.hpac.client.ProjectMgr project_mgr,  
    java.lang.String project_paths,  
    java.io.File destination_dir  
)
```

Constructs with the specified properties.

Parameters:

project_mgr - reference to project manager object used for I/O
 project_paths - comma-separated list of paths to project files
 destination_dir - destination directory for copied projects

6.3.16 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

6.3.17 Method close()

```
protected void
close()
```

6.3.18 Method create()

```
protected void
create()
```

6.3.19 Method notifyCopyCompletion()

```
protected void
notifyCopyCompletion()
```

6.3.20 Method processWindowEvent()

```
protected void
processWindowEvent( java.awt.event.WindowEvent event )
```

Override to handle window events internally.

6.3.21 Method run()

```
public void
run()
```

Begins the copy process.

6.3.22 Method setMessage()

```
protected void
setMessage( java.lang.String message )
```

Updates the message. May be called from any thread.

6.3.23 Method waitForCopyCompletion()

```
protected void
waitForCopyCompletion()
```

6.4 Class ProjectCopier.CopyThread

```
mil.dtra.hpac.client.folder
protected ProjectCopier.CopyThread
extends Thread
```

Thread performing the copy of a single project.

Methods:

```
public void run()
```

6.4.1 Constructor ProjectCopier.CopyThread()

```
protected
ProjectCopier.CopyThread(
    mil.dtra.hpac.client.folder.ProjectCopier this$0,
    mil.dtra.hpac.data.Project project,
    java.lang.String user_name,
    java.io.File dest_dir
)
```

6.4.2 Method run()

```
public void
run()
```

6.5 Class ProjectCopier.CopyThread

```
mil.dtra.hpac.client.folder
protected ProjectCopier.CopyThread
extends Thread
```

Thread performing the copy of a single project.

Methods:

```
public void run()
```

6.5.1 Constructor ProjectCopier.CopyThread()

```
protected
ProjectCopier.CopyThread(
    mil.dtra.hpac.client.folder.ProjectCopier this$0,
    mil.dtra.hpac.data.Project project,
    java.lang.String user_name,
    java.io.File dest_dir
)
```

6.5.2 Method run()

```
public void
run()
```

6.6 Class ZipProjectFolderIO

```
mil.dtra.hpac.client.folder
public ZipProjectFolderIO
extends AbstractProjectFolderIO
```

Extention of AbstractProjectFolderIO for storage in a zip file.

Fields:

```
protected java.io.File fImportDirectory
protected java.util.zip.ZipInputStream fInput
protected java.util.zip.ZipOutputStream fOutput
public static final java.lang.String PROJECT_FILE_COMMENT
public static final byte[] PROJECT_FILE_EXTRA
```

Methods:

```
protected void exportFile()
public void exportFolder()
protected void importFile()
public java.lang.Object[] importFolder()
```

6.6.1 Field **fImportDirectory**

protected java.io.File **fImportDirectory**

6.6.2 Field **fInput**

protected java.util.zip.ZipInputStream **fInput**

6.6.3 Field **fOutput**

protected java.util.zip.ZipOutputStream **fOutput**

6.6.4 Field **PROJECT_FILE_COMMENT**

public static final java.lang.String **PROJECT_FILE_COMMENT**

6.6.5 Field **PROJECT_FILE_EXTRA**

public static final byte[] **PROJECT_FILE_EXTRA**

6.6.6 Constructor **ZipProjectFolderIO()**

```
public
ZipProjectFolderIO(
    java.io.InputStream input,
    java.io.File import_directory
)
```

Constructs for an import.

Parameters:

input - input stream from which to read the Zip contents
import_directory - directory into which to store imported client files (assumed to exist)

Exceptions:

IOException - on I/O error

6.6.7 Constructor ZipProjectFolderIO()

```
public
ZipProjectFolderIO( java.io.OutputStream output )
```

Constructs for an export.

Parameters:

output - output stream to which to write Zip contents

Exceptions:

IOException - on I/O error

6.6.8 Method exportFile()

```
protected void
exportFile(
    java.lang.String file_path,
    java.lang.String name
)
```

Exports the file by reading its contents and storing it in the zip stream as an entry with the specified name.

Parameters:

file_path - full path to the file
name - zip entry name for the file

Exceptions:

IOException - on I/O error

6.6.9 Method exportFolder()

```
public void
exportFolder(
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Exports the specified project folder.

Parameters:

project - project object
server_data - server files folder

Exceptions:

IllegalArgumentException - if the project is null
IllegalStateException - if this hasn't been set up for an export (constructed with an output stream)
IOException - on I/O error

6.6.10 Method importFile()

```
protected void
importFile(
    java.lang.String name,
    java.io.File directory,
    mil.dtra.util.ValueProperties props
)
```

Imports the file in the current zip stream entry, storing the file in the specified directory under the specified name.

Parameters:

name - zip entry name
directory - directory into which to store the file
props - project properties

Exceptions:

IOException - on I/O error

6.6.11 Method importFolder()

```
public java.lang.Object[]
importFolder()
```

Imports a project folder.

Returns:

null on an abort or an array containing the project object and server folder (if it exists) in order, `Project,byte[]`

Exceptions:

`IllegalStateException` - if this hasn't been set up for an import (constructed with an import stream)
`IOException` - on I/O error

CHAPTER 7

Package mil.dtra.hpac.client.io

Contains file dialog support for the HPAC Project Editor.

Interfaces:

FileFilters

Classes:

AllFilesFilter
ProjectEditorFileDialog
SimpleFileFilter

7.1 Interface FileFilters

mil.dtra.hpac.client.io
public interface **FileFilters**

Supposedly an aggregation of commonly used file filters.

Fields:

public static final mil.dtra.hpac.client.io.SimpleFileFilter MATERIALS_FILE_FILTER
public static final mil.dtra.hpac.client.io.SimpleFileFilter PROJECT_FILE_FILTER

7.1.1 Field MATERIALS_FILE_FILTER

public static final mil.dtra.hpac.client.io.SimpleFileFilter MATERIALS_FILE_FILTER

Filter for material (*.mtl) files

7.1.2 Field PROJECT_FILE_FILTER

public static final mil.dtra.hpac.client.io.SimpleFileFilter PROJECT_FILE_FILTER

Filter for project (*.hpac) files

7.2 Class AllFilesFilter

```
mil.dtra.hpac.client.io
public AllFilesFilter
extends FileFilter
```

Extension of `javax.swing.filechooser.FileFilter` for all files. Doesn't seem to be needed but here just in case.

Fields:

```
public static final java.lang.String DESCRIPTION
```

Methods:

```
public final boolean accept()
public final java.lang.String getDescription()
```

7.2.1 Field DESCRIPTION

```
public static final java.lang.String DESCRIPTION
```

Description text

7.2.2 Constructor AllFilesFilter()

```
public
AllFilesFilter()
```

Default constructor.

7.2.3 Method accept()

```
public final boolean
accept( java.io.File file )
```

Accepts all files.

Returns:

```
true
```

7.2.4 Method `getDescription()`

```
public final java.lang.String
getDescription()
```

Accessor for the *description* property.

Returns:

description text

7.3 Class ProjectEditorFileDialog

```
mil.dtra.hpac.client.io
public ProjectEditorFileDialog
extends JFileChooser
```

Extension of `JFileChooser` which uses `SimpleFileFilters` to build the chooser. The values added here are:

The last directory visited by the user is saved in a system property and used the next time an instance is created.

`SimpleFileFilters` are used to set the dialog title and add chooseable filters.

Mnemonics are added for the approve button.

Only one `SimpleFileFilter` may be added per dialog instance, for now.

Fields:

```
public static final java.lang.String PROP_currentDir
```

Methods:

```
public void approveSelection()
```

7.3.1 Field `PROP_currentDir`

```
public static final java.lang.String PROP_currentDir
```

System property used for saving the last directory traversed; value is `ProjectEditorFileDialog.currentDir`

7.3.2 Constructor `ProjectEditorFileDialog()`

```
public
ProjectEditorFileDialog(
    int type,
    mil.dtra.hpac.client.io.SimpleFileFilter filter
)
```

Constructs with needed parameters.

Parameters:

type - dialog type (`JFileChooser.SAVE_DIALOG` or `JFileChooser.OPEN_DIALOG`)
 filter - filter for this I/O operation

7.3.3 Method `approveSelection()`

```
public void
approveSelection()
```

Overrides `JFileChooser.approveSelection()` to first save the current user directory as a system property named by `PROP_currentDir`. Calls `super.approveSelection()`.

7.4 Class `SimpleFileFilter`

```
mil.dtra.hpac.client.io
public SimpleFileFilter
extends FileFilter
```

This is a generalization of `FileFilter` to be used with `ProjectEditorFileDialog`. It adds the `title` property used as the dialog title and the `extension` property used to determine file acceptance. Currently, only one extension type is associated with a single filter.

Methods:

```
public boolean accept()
public final java.lang.String getDescription()
public final java.lang.String getExtension()
public final java.lang.String getTitle()
```

7.4.1 Constructor `SimpleFileFilter()`

```
public
SimpleFileFilter(
  java.lang.String description,
  java.lang.String extension,
  java.lang.String title
)}
```

Constructs with all property values.

Parameters:

description - filter description text
extension - filter file extension
title - filter dialog title

7.4.2 Method accept()

```
public boolean  
accept( java.io.File file )
```

Checks the file for acceptance by this filter. It accepts directories and files ended with the *extension*.

Parameters:

file - file to check for acceptance

Returns:

true if the file is accepted, false otherwise

7.4.3 Method getDescription()

```
public final java.lang.String  
getDescription()
```

Accessor for the *description* property.

Returns:

filter description text

7.4.4 Method getExtension()

```
public final java.lang.String  
getExtension()
```

Accessor for the *extension* property.

Returns:

extension used to test acceptance of files

7.4.5 Method getTitle()

```
public final java.lang.String  
getTitle()
```

Accessor for the *title* property.

Returns:

dialog title used for this filter

CHAPTER 8

Package mil.dtra.hpac.client.models

Defines the framework for client side model beans and provides support for BeanInfo and Bean implementations. Also, provides implementation for the Advanced model bean.

Interfaces:

NfacModelIfc

Classes:

- Advanced
- AdvancedBeanInfo
- AdvancedDefinition
- AdvancedPanel
- IncidentDefinition
- IncidentModel
- IncidentModel.MapListener
- IncidentModel.ReleaseIconListener
- ModelBeanInfo
- ModelInstanceFlavor
- ModelInstanceTransferable
- ModelNameFlavor
- ModelNameTransferable
- ModelPanel
- ModelPanel.NotesActionHandler
- ModelPanel.NotesPopupHandler

8.1 Interface NfacModelIfc

mil.dtra.hpac.client.models
public interface **NfacModelIfc**

Special interface so ProjectEditor can interact with Nfac without a compile-time dependency.

Fields:

```
public static final java.lang.String BEAN_NAME
public static final java.lang.String MODEL_NAME
```

Methods:

```
public mil.dtra.hpac.data.Time getEndOfExposure()
```

8.1.1 Field BEAN_NAME

```
public static final java.lang.String BEAN_NAME
```

8.1.2 Field MODEL_NAME

```
public static final java.lang.String MODEL_NAME
```

8.1.3 Method getEndOfExposure()

```
public mil.dtra.hpac.data.Time
getEndOfExposure()
```

Retrieves the *endOfExposure* property of the *modelTimes* property of the *modelIncident*

Returns:

object copy

8.2 Class Advanced

```
mil.dtra.hpac.client.models
public Advanced
extends IncidentModel
```

Extension of *IncidentModel* to provide an analytical or advanced model bean. Advanced models are not operational but merely provide the means to create releases by hand.

Fields:

```
public static final java.lang.String ADVANCED
public static final java.lang.String HELP_CONTEXT
public static final java.lang.String RELEASE_RESOURCE_NAME
```

Methods:

```
protected java.lang.Object[] createIncidentObjects()
```

8.2.1 Field ADVANCED

public static final java.lang.String **ADVANCED**

8.2.2 Field HELP_CONTEXT

public static final java.lang.String **HELP_CONTEXT**

8.2.3 Field RELEASE_RESOURCE_NAME

public static final java.lang.String **RELEASE_RESOURCE_NAME**

Resource name for the default release

8.2.4 Constructor Advanced()

public
Advanced()

Default constructor. Calls the super class constructor passing AdvancedBeanInfo.BEAN_INFO.

8.2.5 Constructor Advanced()

public
Advanced(
 mil.dtra.util.ValueProperties props,
 java.lang.String prefix
)

Invokes the default constructor and deserializes from the property object assuming the property key prefix.

Parameters:

props - object containing property values
prefix - prefix for property keys, where null implies blank

Exceptions:

IOException - on I/O error

8.2.6 Method `createIncidentObjects()`

```
protected java.lang.Object[]
createIncidentObjects(
    mil.dtra.hpac.client.ProjectEditorIfc editor,
    java.awt.geom.Point2D coord
)
```

Implements this required method by creating an incident with a single release, which is deserialized from a properties resource. If the coord parameter is not null, the incident *coord* property is set from it. The incident *location* is copied as the release *location*.

Parameters:

- editor - project editor object
- coord - user specified coordinate or null

Returns:

- array containing the newly created `Incident` object and an `EmptyModelIncident` instance

8.3 Class AdvancedBeanInfo

```
mil.dtra.hpac.client.models
public AdvancedBeanInfo
extends ModelBeanInfo
```

Extension of `ModelBeanInfo` to provide the bean information for "advanced" model incident beans.

Fields:

- public static final mil.dtra.hpac.client.models.ModelBeanInfo BEAN_INFO

8.3.1 Field BEAN_INFO

```
public static final mil.dtra.hpac.client.models.ModelBeanInfo BEAN_INFO
```

Reusable instance of this class

8.3.2 Constructor AdvancedBeanInfo()

```
public
AdvancedBeanInfo()
```

Constructs calling the superclass constructor with `Advanced` as the bean class, `AdvancedPanel` as the customizer class, "Analytic" as the display name, and "Analytical Incident" as the short description.

8.4 Class AdvancedDefinition

```
mil.dtra.hpac.client.models
public AdvancedDefinition
extends IncidentDefinition
```

IncidentDefinition extension for representing "Advanced" model incident bean creation.

8.4.1 Constructor AdvancedDefinition()

```
public
AdvancedDefinition()
```

Default constructor. Calls the super class constructor passing AdvancedBeanInfo.BEAN_INFO.

8.5 Class AdvancedPanel

```
mil.dtra.hpac.client.models
public AdvancedPanel
extends ModelPanel
```

ModelPanel extension providing the customizer class for "Advanced" incident model beans.

Fields:

```
protected mil.dtra.hpac.client.swing.ReleaseListBean fReleaseListBean
```

Methods:

```
public void init()
public void load()
public void store()
```

8.5.1 Field fReleaseListBean

```
protected mil.dtra.hpac.client.swing.ReleaseListBean fReleaseListBean
```

8.5.2 Constructor AdvancedPanel()

```
public
AdvancedPanel()
```

Default constructor.

8.5.3 Constructor AdvancedPanel()

```
public
AdvancedPanel(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.models.IncidentModel model_beans
)
```

Constructs calling init().

Parameters:

props - object with properties for this
model_beans - model bean to be edited by this

Exceptions:

IllegalArgumentException - if model bean is null

8.5.4 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.models.IncidentModel model_beans
)
```

Creates this component. Calls super.init() first, calls addWhenTab(), creates a "Releases" tab holding a ReleaseListBean, and then calls addNotesTab().

Parameters:

props - object with properties for this
model_beans - model bean to be edited by this

Exceptions:

IllegalArgumentException - if model bean is null

8.5.5 Method load()

```
public void
load()
```

Loads component bean properties from the model bean. Calls `super.load()` first and then sets release list bean properties.

Exceptions:

`IllegalStateException` - if the incident model is null, meaning `init()` has not been called

8.5.6 Method store()

```
public void
store()
```

Sets property values for the incident object from component bean properties.

Exceptions:

`RuntimeException` - if the model determines the properties are inconsistent or invalid and must be revised

8.6 Class IncidentDefinition

```
mil.dtra.hpac.client.models
public abstract IncidentDefinition
extends Object
```

This is a lot like a `BeanInfo`, but an *is-a* or *has-a* relationship doesn't hold, so we don't implement `BeanInfo`. It adds a *transferable* property to some basic `BeanInfo` concepts, and there should be one of these for each drag source icon (`IncidentDefIcon`) in an `IncidentDefPalette`.

The idea here is to have more than just incident model beans themselves represented in these icons. Subclasses must provide a `Transferable` which, of course, must be recognized by the drop target listener in the project editor. A convenience constructor is provided for model beans which will create a `ModelNameTransferable`.

Images for icons should be 32x32 pixels with minimal color usage (around 16 or so colors). Properties are used as follows:

Fields:

```
public static final java.lang.String DEFAULT_ICON_NAME
protected java.lang.String fDisplayName
protected java.awt.Image fIconImage
protected java.lang.String fShortDescription
protected java.awt.datatransfer.Transferable fTransferable
```

Methods:

```
public final java.lang.String getDisplayName()
public final java.awt.Image getIconImage()
public final java.lang.String getShortDescription()
public final java.awt.datatransfer.Transferable getTransferable()
protected void init()
```

8.6.1 Field DEFAULT_ICON_NAME

public static final java.lang.String **DEFAULT_ICON_NAME**

8.6.2 Field fDisplayName

protected java.lang.String **fDisplayName**

8.6.3 Field fIconImage

protected java.awt.Image **fIconImage**

8.6.4 Field fShortDescription

protected java.lang.String **fShortDescription**

8.6.5 Field fTransferable

protected java.awt.datatransfer.Transferable **fTransferable**

8.6.6 Constructor IncidentDefinition()

protected
IncidentDefinition()

Default constructor. Must be followed by call to `init()`.

8.6.7 Constructor IncidentDefinition()

protected
IncidentDefinition(mil.dtra.hpac.client.models.ModelBeanInfo bean_info)

Constructs deriving the necessary information from the bean info. The `BeanInfo.ICON_COLOR_32x32` icon is used.

8.6.8 Constructor IncidentDefinition()

```
protected
IncidentDefinition(
    java.lang.String bean_name,
    java.lang.String display_name,
    java.lang.String short_description
)
```

Convenience constructor which creates a ModelNameTransferable. It assumes the icon image is a resource with name *this-classname*.color32.gif.

Parameters:

- bean_name - name of model bean class
- display_name - display name text
- short_description - short description text

8.6.9 Constructor IncidentDefinition()

```
protected
IncidentDefinition(
    java.awt.datatransfer.Transferable transferable,
    java.awt.Image icon_image,
    java.lang.String display_name,
    java.lang.String short_description
)
```

Constructs from explicit property values. Calls init().

Parameters:

- transferable - object describing drag-n-drop transfer data
- icon_image - image used in icons representing this
- display_name - display name text
- short_description - short description text

8.6.10 Method getDisplayName()

```
public final java.lang.String
getDisplayName()
```

Accessor for the *displayName* property, a short string of eight characters or less.

Returns:

- display name

8.6.11 Method `getIconImage()`

```
public final java.awt.Image
getIconImage()
```

Accessor for the *iconImage* property.

Returns:

image object reference

8.6.12 Method `getShortDescription()`

```
public final java.lang.String
getShortDescription()
```

Accessor for the *shortDescription* property.

Returns:

short description text

8.6.13 Method `getTransferable()`

```
public final java.awt.datatransfer.Transferable
getTransferable()
```

Accessor for the *transferable* property.

Returns:

transferable object reference

8.6.14 Method `init()`

```
protected void
init(
    java.awt.datatransfer.Transferable transferable,
    java.awt.Image icon_image,
    java.lang.String display_name,
    java.lang.String short_description
)
```

Creates this from the specified property values.

Parameters:

`transferable` - object describing drag-n-drop transfer data
`icon_image` - image used in icons representing this
`display_name` - display name text
`short_description` - short description text

8.7 Class IncidentModel

```

mil.dtra.hpac.client.models
public abstract IncidentModel
extends ObjectPaletteButton
implements ActionListener, IncidentEditor, IncidentOwner,
```

Extension of `ObjectPaletteButton` for representing a source model incident—an "incident model bean". This is the base class for all incident model bean implementations.

Note that things defined here are likely to change as the HPAC application matures. For example, model beans should eventually become drag targets. However, such changes should have little effect on model implementations. Model developers must extend this class for their model bean and add any model-specific processing which may be necessary. Much of the model developer's work will be in a `ModelPanel` extension class. Developers must also extend `ModelBeanInfo`, which is pretty trivial.

Model Client Classes

The table below summarizes the three classes which the model developer must extend in providing a model bean implementation.

Construction

Derived classes should provide two constructors, a default one with no arguments and an additional one accepting `ValueProperties` and `String` key parameters for properties deserialization. For now, only the no-arg constructor is used. The default constructor should call the `IncidentModel` constructor accepting a `ModelBeanInfo` parameter. Examples are given below:

```

public GoodModel() super( GoodModelBeanInfo.BEAN_INFO );
public GoodModel( ValueProperties props, String prefix ) this(); readProps(
props, prefix );
```

Note there are two cases for model instantiation. First is when the user creates a new instance by dragging an `IncidentDefIcon` onto the map display or shift-clicking on the map display. Second is when the instance is deserialized from a saved project file. In both cases, the `ProjectEditor` will call the `install()` method defined in the `ProjectComponent` interface and provide the bean with a reference to a `ProjectEditorIfc`, which is the exposed project editor interface. When newly created, the `incident` property (`fIncident`) field is a null reference, in which case `createIncidentObjects()` is called. This is the opportunity for the source model bean to create `Incident` and `ModelIncident` implementation instances. When the model bean is serialized, those objects are serialized with it.

Methods To Override

This is an abstract class, which means it cannot be instantiated. Rather, subclasses must provide implementations for all abstract methods. For now, there is only one such method, `createIncidentObjects()`. Subclasses must implement it. Additional methods which might be overridden are: `createMapIcons()`, `createPopupMenu()`, `readProps()`, and `writeProps()`.

Fields:

```

protected transient java.beans.BeanInfo fBeanInfo
protected transient mil.dtra.hpac.client.dialog.ModelDialog fDialog
protected java.lang.String fHelpContext
protected mil.dtra.hpac.data.Incident fIncident
protected transient java.util.Collection fMapIcons
```

```

protected transient java.awt.event.ContainerListener fMapListener
protected mil.dtra.hpac.data.ModelIncident fModelIncident
protected java.lang.String fNotes
protected transient java.beans.PropertyChangeListener fReleaseIconListener
protected boolean fShowMapIconsFlag
public static final java.lang.String INCIDENT_MODEL
public static final int LOG_level
public static final java.lang.String PROP_incident
public static final java.lang.String PROP_modelIncident
public static final java.lang.String PROP_name
public static final java.lang.String PROP_notes
public static final java.lang.String PROP_showMapIconsFlag
public static final java.lang.String PROPS_EXT
public static final java.lang.String SHOW_RELEASES

```

Methods:

```

public void actionPerformed()
protected synchronized void addMapIcons()
protected void closeIncident()
public mil.dtra.hpac.client.dialog.ModelDialog createEditDialog()
protected abstract java.lang.Object[] createIncidentObjects()
protected java.util.Collection createMapIcons()
protected javax.swing.JPopupMenu createPopupMenu()
public final java.beans.BeanInfo getBeanInfo()
public final java.lang.String getBeanName()
public final java.awt.geom.Point2D getCoord()
public final java.lang.String getHelpContext()
public final mil.dtra.hpac.data.Incident getIncident()
public final mil.dtra.hpac.data.ModelIncident getModelIncident()
public final java.lang.String getNotes()
public java.lang.String getProjectName()
public final boolean getShowMapIconsFlag()
protected void handleException()
public void install()
public synchronized void readProps()
public void remove()
protected synchronized void removeMapIcons()
public void removeNotify()
public void setHelpContext()
public void setIncident()
public void setModelIncident()
public final void setNotes()
public void setShowMapIconsFlag()
public final void showEditDialog()
public void showEditDialog()
public final void showEditDialog()

```

```
public void writeProps()
```

Inner Classes:

 IncidentModel.MapListener
 IncidentModel.ReleaseIconListener

8.7.1 Field fBeanInfo

protected transient java.beans.BeanInfo **fBeanInfo**

8.7.2 Field fDialog

protected transient mil.dtra.hpac.client.dialog.ModelDialog **fDialog**

8.7.3 Field fHelpContext

protected java.lang.String **fHelpContext**

8.7.4 Field fIncident

protected mil.dtra.hpac.data.Incident **fIncident**

8.7.5 Field fMapIcons

protected transient java.util.Collection **fMapIcons**

8.7.6 Field fMapListener

protected transient java.awt.event.ContainerListener **fMapListener**

8.7.7 Field fModelIncident

protected mil.dtra.hpac.data.ModelIncident **fModelIncident**

8.7.8 Field fNotes

protected java.lang.String **fNotes**

8.7.9 Field **fReleaseIconListener**

protected transient java.beans.PropertyChangeListener **fReleaseIconListener**

8.7.10 Field **fShowMapIconsFlag**

protected boolean **fShowMapIconsFlag**

8.7.11 Field **INCIDENT_MODEL**

public static final java.lang.String **INCIDENT_MODEL**

8.7.12 Field **LOG_level**

public static final int **LOG_level**

8.7.13 Field **PROP_incident**

public static final java.lang.String **PROP_incident**

8.7.14 Field **PROP_modelIncident**

public static final java.lang.String **PROP_modelIncident**

8.7.15 Field **PROP_name**

public static final java.lang.String **PROP_name**

8.7.16 Field **PROP_notes**

public static final java.lang.String **PROP_notes**

8.7.17 Field **PROP_showMapIconsFlag**

public static final java.lang.String **PROP_showMapIconsFlag**

8.7.18 Field **PROPS_EXT**

public static final java.lang.String **PROPS_EXT**

8.7.19 Field SHOW_RELEASES

public static final java.lang.String SHOW_RELEASES

8.7.20 Constructor IncidentModel()

protected
IncidentModel(mil.dtra.hpac.client.models.ModelBeanInfo bean_info **)**

Constructor for a new model bean instance. It calls the most explicit constructor with null incident and model incident parameters and an undefined help context.

Parameters:

bean_info - ModelBeanInfo object describing the bean

8.7.21 Constructor IncidentModel()

protected
IncidentModel(
 mil.dtra.hpac.client.models.ModelBeanInfo bean_info,
 java.lang.String help_context
)

Constructor for a new model bean instance with a specified help context. It calls the most explicit constructor with null incident and model incident parameters.

Parameters:

bean_info - ModelBeanInfo object describing the bean
help_context - name of help context associated with this

8.7.22 Constructor IncidentModel()

protected
IncidentModel(
 mil.dtra.hpac.client.models.ModelBeanInfo bean_info,
 mil.dtra.hpac.data.Incident incident,
 mil.dtra.hpac.data.ModelIncident model_incident
)

Constructs the model bean instance assuming an undefined help context.

Parameters:

bean_info - ModelBeanInfo object describing the bean
 incident - Incident object to be managed by this bean
 model_incident - ModelIncident object for this bean

8.7.23 Constructor IncidentModel()

protected
IncidentModel(

```
mil.dtra.hpac.client.models.ModelBeanInfo bean_info,
mil.dtra.hpac.data.Incident incident,
mil.dtra.hpac.data.ModelIncident model_incident,
java.lang.String help_context
)
```

Constructs the model bean instance with the specified parameters.

Parameters:

bean_info - ModelBeanInfo object describing the bean
 incident - Incident object to be managed by this bean
 model_incident - ModelIncident object for this bean
 help_context - name of help context associated with this

8.7.24 Method actionPerformed()

public void
actionPerformed(java.awt.event.ActionEvent event **)**

Overrides ObjectPaletteButton.actionPerformed() to handle menu items added by this class.

Models which augment or change the popup menu may choose to override this method, being sure to call super.actionPerformed(). It may be preferable to provide an additional ActionListener.

Parameters:

event - action event

8.7.25 Method addMapIcons()

```
protected synchronized void
addMapIcons()
```

This method checks for the non-existence of the map icon collection. If it doesn't exist (`fMapIcons` is null) and the project editor has been defined, it calls `createMapIcons()` to create the collection. If the collection is successfully created, a container listener is registered with the project editor `mapContainer` to check for map icon removal.

8.7.26 Method closeIncident()

```
protected void
closeIncident()
```

Called when this is removed from its container, which signifies this incident model instance has been removed from the project. This is a noop implementation, but extensions should override if resources representing the server side state of the incident need to be released.

8.7.27 Method createEditDialog()

```
public mil.dtra.hpac.client.dialog.ModelDialog
createEditDialog( java.awt.Component component )
```

Creates an edit dialog for this model bean's incident description. It gets the `customizerClass` from the bean info and instantiates an instance of it to pass to a `ModelDialog`.

This method creates a `ModelDialog`. Subclasses may override this particular method to build another kind of dialog.

Parameters:

component - parent component for the dialog

Returns:

created dialog

Exceptions:

`InstantiationException` - on customizer class instantiation error
`IllegalAccessException` - on permission/access errors

8.7.28 Method `createIncidentObjects()`

```
protected abstract java.lang.Object[]
createIncidentObjects(
    mil.dtra.hpac.client.ProjectEditorIfc editor,
    java.awt.geom.Point2D coord
)
```

All source model implementations must implement this method. It must create and return in order two objects, an `Incident` and an instance of a class implementing `ModelIncident`. This is an opportunity for the source model to contact its server to have these objects initialized. This method is responsible for adding the releases and materials to the `Incident` object. When the `init()` method defined for this class is called, a check is made to see if the incident has been defined. If not, this method is called.

Parameters:

`editor` - project editor object
`coord` - user specified coordinate or null

Returns:

array of two objects, an `Incident` and a `ModelIncident` in that order

Exceptions:

`ModelException` - on model server error
`NamingException` - if the server could not be located in the naming service

8.7.29 Method `createMapIcons()`

```
protected java.util.Collection
createMapIcons()
```

This method provides the default incident model behavior of creating a `ReleaseIcon` for each location group of releases defined in the incident. Subclasses may override this method to create instances of other classes extending `SimpleMapIcon`.

Returns:

collection of icons created

8.7.30 Method `createPopupMenu()`

```
protected javax.swing.JPopupMenu
createPopupMenu()
```

Overrides and calls `ObjectPaletteButton.createPopupMenu()` to add a *Show Releases* item. Note that models wishing to augment the popup menu must also override and call this method. Future design may call for a separate model-specific pullright menu to be implemented at the model developer's discretion.

Returns:

popup menu

8.7.31 Method `getBeanInfo()`

```
public final java.beans.BeanInfo
getBeanInfo()
```

Accessor for the *beanInfo* property.

Returns:

reference to the `BeanInfo` object describing this bean.

8.7.32 Method `getBeanName()`

```
public final java.lang.String
getBeanName()
```

Accessor for the *beanName* property.

Returns:

bean class name

8.7.33 Method `getCoord()`

```
public final java.awt.geom.Point2D
getCoord()
```

Accessor for the *coord* property. Note that the coordinate is stored as a property of the incident object, or the *incident* property of this object. It is a notional idea of where the incident occurred and may or may not be used to place created releases.

Returns:

copy of the (lon,lat) coordinate location

8.7.34 Method `getHelpContext()`

```
public final java.lang.String  
getHelpContext()
```

Accessor for the *helpContext* property.

Returns:

 help context name

8.7.35 Method `getIncident()`

```
public final mil.dtra.hpac.data.Incident  
getIncident()
```

Accessor for the *incident* property.

Returns:

 reference (not a copy) to this model's incident object

8.7.36 Method `getModelIncident()`

```
public final mil.dtra.hpac.data.ModelIncident  
getModelIncident()
```

Accessor for the *modelIncident* property.

Returns:

 reference (not a copy) to this model's incident object

8.7.37 Method `getNotes()`

```
public final java.lang.String  
getNotes()
```

Accessor for the *notes* property.

8.7.38 Method `getProjectName()`

```
public java.lang.String  
getProjectName()
```

Convenience method to retrieve the project name.

Returns:

 either the project name or "unnamed"

8.7.39 Method `getShowMapIconsFlag()`

```
public final boolean
getShowMapIconsFlag()
```

Accessor for the *showMapIconsFlag* property.

Returns:

true if the icons for this incident are to be displayed on the map, false otherwise.

8.7.40 Method `handleException()`

```
protected void
handleException(
    java.lang.String title,
    java.lang.Object user_message,
    java.lang.String log_message
)
```

Provides a common mechanism for reporting exceptions. First, an error message dialog is presented, and then the message is written to the log.

Parameters:

- `title` - title to appear on the error dialog
- `user_message` - message to appear in the error dialog
- `log_message` - message intended solely for the application log

8.7.41 Method `install()`

```
public void
install( mil.dtra.hpac.client.ProjectEditorIfc project_editor )
```

Handles initialization that can only be performed in the context of the project editor, which serves as the bean context for this bean.

First, a check is made to see if the *incident* and *modelIncident* for this are defined. If not, `createIncidentObjects()` is called. The coordinate of the drag location is passed in this component's client property table as the `ProjectEditorIfc.KEY_coord`, the value of which may be null. If the this component's client property table has a value for `ProjectEditorIfc.KEY_showEditDialog` key, `showEditDialog()` called.

Parameters:

- `project_editor` - reference to the project editor context and environment object

8.7.42 Method `readProps()`

```
public synchronized void
readProps(

    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

This is the deserialization method for a `PropsSerializer`. We don't rely on implicit serialization based on bean property introspection here but instead explicitly read the `modelIncident`, `incident`, `showMapIconsFlag`, and `notes` properties.

Parameters:

`props` - object containing property values
`key` - property key, where null implies blank

Exceptions:

`IOException` - on I/O error

8.7.43 Method `remove()`

```
public void
remove()
```

Overrides `ModelIcon.remove()` to first remove map icons and then call `super.remove()`.

8.7.44 Method `removeMapIcons()`

```
protected synchronized void
removeMapIcons()
```

Removes the map icon collection if it exists.

8.7.45 Method `removeNotify()`

```
public void
removeNotify()
```

Overrides to call `removeMapIcons()` and `closeIncident()`.

8.7.46 Method setHelpContext()

```
public void
setHelpContext( java.lang.String help_context )
```

Accessor for the *helpContext* property. Changes the context for any previously created edit dialog as well.

Parameters:

help_context - help context name

8.7.47 Method setIncident()

```
public void
setIncident( mil.dtra.hpac.data.Incident incident )
```

Accessor for the *incident* property. Stores the incident object reference and updates the *name* and *toolTipText* properties. Also calls *removeMapIcons()* and *addMapIcons()* to create necessary icons on the map display.

Note that *getIncident()* returns a reference to this model's incident object. Thus, changes can be made to the incident. However, until this method is called, even with the same incident object, the visual state of the model is not altered. A call to this method updates the visual appearance of this object and fires an *incident* property change event.

Parameters:

incident - incident object reference to store

8.7.48 Method setModelIncident()

```
public void
setModelIncident( mil.dtra.hpac.data.ModelIncident model_incident )
```

Accessor for the *modelIncident* property.

Parameters:

model_incident - model incident object reference to save

8.7.49 Method setNotes()

```
public final void
setNotes( java.lang.String notes )
```

Accessor for the *notes* property.

Parameters:

notes - notes text

8.7.50 Method setShowMapIconsFlag()

```
public void
setShowMapIconsFlag( boolean flag )
```

Accessor for the *showMapIconsFlag* property.

Parameters:

flag - true if map icons are to be displayed, false if they are to be hidden

8.7.51 Method showEditDialog()

```
public final void
showEditDialog()
```

Calls `showEditDialog()` with the window for this component as the dialog parent.

8.7.52 Method showEditDialog()

```
public void
showEditDialog( java.awt.Component component )
```

Creates the edit dialog by calling `createEditDialog()` and shows it. We lazily create the dialog the first time its needed and save the reference in the `fDialog` attribute.

Parameters:

component - parent component for the dialog

8.7.53 Method showEditDialog()

```
public final void
showEditDialog(
    java.awt.Component component,
    java.lang.String help_context
)
```

Convenience method to first set the help context and then call `showEditDialog(Component)`.

Parameters:

component - parent component for the dialog
 help_context - context for the dialog help button

8.7.54 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

This is the serialization method for a `PropsSerializer`. We don't rely on implicit serialization based on bean property introspection here but instead explicitly read the `modelIncident`, `incident`, `showMapIconsFlag`, and `notes` properties.

Parameters:

props - object containing property values
 key - property key, where null implies blank

Exceptions:

`IOException` - on I/O error

8.8 Class IncidentModel.MapListener

```
mil.dtra.hpac.client.models
protected IncidentModel.MapListener
extends ContainerAdapter
```

Extension of `ContainerAdapter` to listen for removal of `MapIcons` in the project editor `map-Container`.

Methods:

```
public void componentRemoved()
```

8.8.1 Constructor IncidentModel.MapListener()

```
protected  
IncidentModel.MapListener( mil.dtra.hpac.client.models.IncidentModel this$0 )
```

8.8.2 Method componentRemoved()

```
public void  
componentRemoved( java.awt.event.ContainerEvent event )
```

If the removed child is a `ReleaseIcon` in the map icon list (`fMapIcons`), the corresponding release is removed from the incident `releaseList`.

8.9 Class IncidentModel.ReleaseIconListener

```
mil.dtra.hpac.client.models  
protected IncidentModel.ReleaseIconListener  
extends Object  
implements PropertyChangeListener,
```

Listener for property changes on `ReleaseIcon` instances.

Methods:

```
public void propertyChange()
```

8.9.1 Constructor IncidentModel.ReleaseIconListener()

```
protected  
IncidentModel.ReleaseIconListener( mil.dtra.hpac.client.models.IncidentModel this$0 )
```

8.9.2 Method propertyChange()

```
public void  
propertyChange( java.beans.PropertyChangeEvent event )
```

If the property name is `ReleaseIcon.PROP_releases`, each new release replaces its corresponding original release in the incident `releaseList`.

8.10 Class IncidentModel.MapListener

```
mil.dtra.hpac.client.models
protected IncidentModel.MapListener
extends ContainerAdapter
```

Extension of ContainerAdapter to listen for removal of MapIcons in the project editor *map-Container*.

Methods:

```
public void componentRemoved()
```

8.10.1 Constructor IncidentModel.MapListener()

```
protected
IncidentModel.MapListener( mil.dtra.hpac.client.models.IncidentModel this$0 )
```

8.10.2 Method componentRemoved()

```
public void
componentRemoved( java.awt.event.ContainerEvent event )
```

If the removed child is a ReleaseIcon in the map icon list (fMapIcons), the corresponding release is removed from the incident *releaseList*.

8.11 Class IncidentModel.ReleaseIconListener

```
mil.dtra.hpac.client.models
protected IncidentModel.ReleaseIconListener
extends Object
implements PropertyChangeListener,
```

Listener for property changes on ReleaseIcon instances.

Methods:

```
public void propertyChange()
```

8.11.1 Constructor IncidentModel.ReleaseIconListener()

```
protected
IncidentModel.ReleaseIconListener( mil.dtra.hpac.client.models.IncidentModel this$0 )
```

8.11.2 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

If the property name is `ReleaseIcon.PROP_releases`, each new release replaces its corresponding original release in the incident *releaseList*.

8.12 Class `ModelBeanInfo`

```
mil.dtra.hpac.client.models
public abstract ModelBeanInfo
extends SimpleBeanInfo
```

Extends `java.beans.SimpleBeanInfo` for two purposes:

Define information stored in the description of a model bean

Facilitate the definition of `BeanInfo` classes for model bean implementations.

The idea here is to provide all the grunge work in this class, so derived classes need only implement constructors. All model beans must extend this class for their own `XxxBeanInfo` class. An example extension appears below.

```
public class GoodModelBeanInfo extends ModelBeanInfo // Single bean info
instance used in bean constructors public final static ModelBeanInfo BEAN_INFO
= new GoodModelBeanInfo(); public GoodModelBeanInfo() super( GoodModel.class,
GoodModelPanel.class, "GoodMdl", "Good Model Incident" );
```

Fields:

```
protected java.beans.BeanDescriptor fBeanDescriptor
protected java.awt.Image[] fImages
public static final java.lang.String ICON_16x16_NAME
public static final java.lang.String ICON_32x32_NAME
```

Methods:

```
public java.beans.BeanDescriptor getBeanDescriptor()
public java.awt.Image getIcon()
```

8.12.1 Field `fBeanDescriptor`

`protected java.beans.BeanDescriptor fBeanDescriptor`

8.12.2 Field `fImages`

`protected java.awt.Image[] fImages`

8.12.3 Field ICON_16x16_NAME

public static final java.lang.String **ICON_16x16_NAME**

File/resource name extension for 16x16 color icon (.color16.gif)

8.12.4 Field ICON_32x32_NAME

public static final java.lang.String **ICON_32x32_NAME**

File/resource name extension for 32x32 color icon (.color32.gif)

8.12.5 Constructor ModelBeanInfo()

```
public  
ModelBeanInfo(  
    java.lang.Class bean_class,  
    java.lang.Class customizer_class,  
    java.lang.String display_name,  
    java.lang.String short_description  
)
```

Performs the initialization work for the BeanInfo class. Note that the customizer class must be a Component and must extend ModelPanel.

Parameters:

- bean_class - model bean class
- customizer_class - model bean customizer class, which must be a ModelPanel extension
- display_name - text displayed on object palette buttons for this model
- short_description - text used as a tool tip for object palette buttons and as default name for incidents

8.12.6 Method getBeanDescriptor()

public java.beans.BeanDescriptor
getBeanDescriptor()

Accessor for the *beanDescriptor* property.

Returns:

reference to the BeanDescriptor object

8.12.7 Method `getIcon()`

```
public java.awt.Image
getIcon( int kind )
```

Overrides `SimpleBeanInfo.getIcon()` to return the image for kind `ICON_COLOR_32x32` or `ICON_COLOR_16x16`. For other icon kinds, null is returned.

Parameters:

kind - icon requested

Returns:

icon image

8.13 Class `ModelInstanceFlavor`

```
mil.dtra.hpac.client.models
public ModelInstanceFlavor
extends DataFlavor
```

Extends `DataFlavor` to represent a model bean instance.

Fields:

```
public static final java.awt.datatransfer.DataFlavor FLAVOR
```

Methods:

```
public boolean equals()
```

8.13.1 Field `FLAVOR`

```
public static final java.awt.datatransfer.DataFlavor FLAVOR
```

Reusable instance of this class

8.13.2 Constructor `ModelInstanceFlavor()`

```
public
ModelInstanceFlavor()
```

Constructs calling the superclass constructor and passing `ValueProperties` as the representation class and "ModelInstance" as the human presentable name.

8.13.3 Method equals()

```
public boolean
equals( java.awt.datatransfer.DataFlavor flavor )
```

Overrides DataFlavor.equals(), calling super.equals() and ensuring the parameter is an instance of this class.

Parameters:

flavor - comparison object

8.14 Class ModelInstanceTransferable

```
mil.dtra.hpac.client.models
public ModelInstanceTransferable
extends Object
implements Transferable,
```

Transferable representing an instance of a model bean class.

Fields:

```
protected static final java.util.List flavorList_
public static final java.awt.datatransfer.DataFlavor[] FLAVORS
protected mil.dtra.util.ValueProperties fProps
public static final java.awt.datatransfer.DataFlavor MODEL_INSTANCE_FLAVOR
```

Methods:

```
public java.lang.Object getTransferData()
public final java.awt.datatransfer.DataFlavor[] getTransferDataFlavors()
public boolean isDataFlavorSupported()
```

8.14.1 Field flavorList_

protected static final java.util.List **flavorList_**

8.14.2 Field FLAVORS

public static final java.awt.datatransfer.DataFlavor[] **FLAVORS**

Flavors in which this transferable can be provided (MODEL_INSTANCE_FLAVOR and DataFlavor.stringFlavor)

8.14.3 Field fProps

protected mil.dtra.util.ValueProperties **fProps**

8.14.4 Field MODEL_INSTANCE_FLAVOR

public static final java.awt.datatransfer.DataFlavor MODEL_INSTANCE_FLAVOR

Reference to ModelInstanceFlavor.FLAVOR

8.14.5 Constructor ModelInstanceTransferable()

public
ModelInstanceTransferable(mil.dtra.hpac.client.models.IncidentModel model)

Constructs a transferable for the specified model bean, serializing it into a Properties object.

Parameters:

model - model bean to transfer

Exceptions:

IOException - on I/O error during serialization of the bean

8.14.6 Method getTransferData()

public java.lang.Object
getTransferData(java.awt.datatransfer.DataFlavor flavor)

Provides this transferable in the specified flavor.

Parameters:

flavor - requested flavor

Returns:

new transfer data object

Exceptions:

IOException - on I/O error transferring the data

UnsupportedFlavorException - if the requested flavor is not supported

8.14.7 Method `getTransferDataFlavors()`

```
public final java.awt.datatransfer.DataFlavor[]
getTransferDataFlavors()
```

Returns the flavors in which this transferable can be provided.

Returns:

reference to array of flavors

8.14.8 Method `isDataFlavorSupported()`

```
public boolean
isDataFlavorSupported( java.awt.datatransfer.DataFlavor flavor )
```

Tests a flavor to see if it's supported for this transferable.

Parameters:

flavor - flavor to check for support

Returns:

true if the specified flavor is supported, false otherwise

8.15 Class `ModelNameFlavor`

```
mil.dtra.hpac.client.models
public ModelNameFlavor
extends DataFlavor
```

Extends `DataFlavor` to represent the name of a incident model bean class.

Fields:

```
public static final java.awt.datatransfer.DataFlavor FLAVOR
```

Methods:

```
public boolean equals()
```

8.15.1 Field `FLAVOR`

```
public static final java.awt.datatransfer.DataFlavor FLAVOR
```

Reusable instance of this class

8.15.2 Constructor ModelNameFlavor()

```
public  
ModelNameFlavor()
```

Constructs calling the superclass constructor and passing `String` as the representation class and "modelName" as the human presentable name.

8.15.3 Method equals()

```
public boolean  
equals( java.awt.datatransfer.DataFlavor flavor )
```

Overrides `DataFlavor.equals()`, calling `super.equals()` and ensuring the parameter is an instance of this class.

Parameters:

flavor - comparison object

Returns:

true if this and flavor are equivalent

8.16 Class ModelNameTransferable

```
mil.dtra.hpac.client.models  
public ModelNameTransferable  
extends Object  
implements Transferable,
```

Transferable representing the name of a model bean class.

Fields:

```
protected java.lang.String fBeanName  
protected static final java.util.List flavorList_  
public static final java.awt.datatransfer.DataFlavor[] FLAVORS  
public static final java.awt.datatransfer.DataFlavor MODEL_NAME_FLAVOR
```

Methods:

```
public final java.lang.String getBeanName()  
public java.lang.Object getTransferData()  
public synchronized java.awt.datatransfer.DataFlavor[] getTransferDataFlavors()  
public boolean isDataFlavorSupported()
```

8.16.1 Field fBeanName

protected java.lang.String **fBeanName**

8.16.2 Field flavorList_

protected static final java.util.List **flavorList_**

8.16.3 Field FLAVORS

public static final java.awt.datatransfer.DataFlavor[] **FLAVORS**

Flavors in which this transferable can be provided (MODEL_NAME_FLAVOR and DataFlavor.stringFlavor)

8.16.4 Field MODEL_NAME_FLAVOR

public static final java.awt.datatransfer.DataFlavor **MODEL_NAME_FLAVOR**

Reference to ModelNameFlavor.FLAVOR

8.16.5 Constructor ModelNameTransferable()

public
ModelNameTransferable(java.lang.String bean_name)

Constructs a transferable for the model bean name.

Parameters:

bean_name - bean name for model instance

8.16.6 Method getBeanName()

public final java.lang.String
getBeanName()

Accessor for the *beanName* property

Returns:

bean class name

8.16.7 Method `getTransferData()`

```
public java.lang.Object  
getTransferData( java.awt.datatransfer.DataFlavor flavor )
```

Provides this transferable in the specified flavor.

Parameters:

flavor - requested flavor

Returns:

new transfer data object

Exceptions:

`IOException` - on I/O error transferring the data

`UnsupportedFlavorException` - if the requested flavor is not supported

8.16.8 Method `getTransferDataFlavors()`

```
public synchronized java.awt.datatransfer.DataFlavor[]  
getTransferDataFlavors()
```

Returns the flavors in which this transferable can be provided.

Returns:

reference to array of flavors

8.16.9 Method `isDataFlavorSupported()`

```
public boolean  
isDataFlavorSupported( java.awt.datatransfer.DataFlavor flavor )
```

Tests a flavor to see if it's supported for this transferable.

Parameters:

flavor - flavor to check for support

Returns:

true if the specified flavor is supported, false otherwise

8.17 Class ModelPanel

```
mil.dtra.hpac.client.models
public abstract ModelPanel
extends JPanel
implements HPAC Swing Constants,
```

Base class for model bean customizers. All model beans must extend this class for their own customizer component.

Two purposes are served with this class:

It defines methods providing a framework for other components to deal with model customization components

It provides some common facilities to be used by most models.

A few common tabs and beans are supported in this class:

`addNotesTab()`

Creates and adds a "Notes" tab and the *notesArea* `JTextArea` bean.

`addWhenTab()`

Creates and adds a "When" tab and the *startTimeBean*

`addWhereTab()`

Creates and adds a "Where" tab and the *locationBean*

Extensions may override `close()` and must implement `load()` and `store()` methods; `store()` may throw any `Runtime Exception` or extension to abort a dialog "OK" action and prevent closing of the dialog.

Managing Incident Objects

The `load()` and `storeAndUpdate()` methods implemented here handle most of the processing for the *incident* property of the *modelBean* using a reference to the `Incident` object. Moreover, `storeAndUpdate()` will call `updateReleaseProperties()` on the *incident* and `setIncident()` on the *modelBean* passing the reference. Although the reference is already stored in the *modelBean*, `setIncident()` takes care of rebuilding incident icons.

Not handled in `storeAndUpdate()` is the rebuilding of the `Releases` on the server, the `Releases` comprising the *releaseList* property of *incident*. This **must** be done in the subclass's `store()` method.

The *modelIncident* property must be managed by subclasses. They can do so by maintaining a reference to the `ModelIncident` instance returned from the model's `createIncidentObjects()` method, or they may make clones and copies in which to store the results of user interaction. In the latter case, the `store()` method must call `setModelIncident()` on the *modelBean* to pass the reference to the new `ModelIncident` object.

Fields:

```
protected mil.dtra.hpac.client.swing.location.LocationBean fLocationBean
protected mil.dtra.hpac.client.models.IncidentModel fModelBean
protected javax.swing.JTextField fNameField
protected javax.swing.JTextArea fNotesArea
protected javax.swing.JPopupMenu fNotesPopupMenu
protected mil.dtra.hpac.client.swing.time.StartTimeBean fStartTimeBean
protected javax.swing.JTabbedPane fTabbedPane
protected boolean fUseLastIncidentStartTime
```

```

protected static mil.dtra.hpac.data.Time lastIncidentStartTime__
public static final java.lang.String NOTES
public static final java.lang.String WHAT
public static final java.lang.String WHEN
public static final java.lang.String WHERE

```

Methods:

```

protected void addNotesTab()
protected void addWhenTab()
protected void addWhenTab()
protected final void addWhereTab()
protected void addWhereTab()
protected void checkModel()
protected void checkTabbedPane()
public void close()
protected java.awt.Component createNamePanel()
public mil.dtra.hpac.data.Incident getIncident()
public final mil.dtra.hpac.client.swing.location.LocationBean getLocationBean()
public final mil.dtra.hpac.client.models.IncidentModel getModelBean()
public final javax.swing.JTextField getNameField()
public final javax.swing.JTextArea getNotesArea()
public final mil.dtra.hpac.client.swing.time.StartTimeBean getStartTimeBean()
public final javax.swing.JTabbedPane getTabbedPane()
public void init()
public void load()
public abstract void store()
public void storeAndUpdate()

```

Inner Classes:

```

ModelPanel.NotesActionHandler
ModelPanel.NotesPopupHandler

```

8.17.1 Field fLocationBean

```
protected mil.dtra.hpac.client.swing.location.LocationBean fLocationBean
```

8.17.2 Field fModelBean

```
protected mil.dtra.hpac.client.models.IncidentModel fModelBean
```

8.17.3 Field fNameField

```
protected javax.swing.JTextField fNameField
```

8.17.4 Field **fNotesArea**

protected javax.swing.JTextArea **fNotesArea**

8.17.5 Field **fNotesPopupMenu**

protected javax.swing.JPopupMenu **fNotesPopupMenu**

8.17.6 Field **fStartTimeBean**

protected mil.dtra.hpac.client.swing.time.StartTimeBean **fStartTimeBean**

8.17.7 Field **fTabbedPane**

protected javax.swing.JTabbedPane **fTabbedPane**

8.17.8 Field **fUseLastIncidentStartTime**

protected boolean **fUseLastIncidentStartTime**

8.17.9 Field **lastIncidentStartTime__**

protected static mil.dtra.hpac.data.Time **lastIncidentStartTime__**

8.17.10 Field **NOTES**

public static final java.lang.String **NOTES**

8.17.11 Field **WHAT**

public static final java.lang.String **WHAT**

8.17.12 Field **WHEN**

public static final java.lang.String **WHEN**

8.17.13 Field **WHERE**

public static final java.lang.String **WHERE**

8.17.14 Constructor ModelPanel()

protected
ModelPanel()

Constructs with a BorderLayout.

8.17.15 Method addNotesTab()

protected void
addNotesTab(mil.dtra.util.ValueProperties props)

Creates the default "Notes" tab (and fNotesArea component) and adds it to the tabbed pane. Subclasses may call this method in their `init()` implementation.

Note that default handling of the `notes` property of the incident model bean will be turned on in the `load()` and `store()` methods.

Parameters:

props - object with properties for this

Exceptions:

IllegalStateException - if the tabbed pane is null, meaning `init()` has not been called

8.17.16 Method addWhenTab()

protected void
addWhenTab(mil.dtra.util.ValueProperties props)

Calls the other two-parameter `addWhenTab()` method specifying true `false` for the `useLastIncidentTime` parameter.

Parameters:

props - object with properties for this

Exceptions:

IllegalStateException - if the tabbed pane is null, meaning `init()` has not been called

8.17.17 Method addWhenTab()

```
protected void
addWhenTab(
    mil.dtra.util.ValueProperties props,
    boolean use_last_incident_time
)
```

Creates the default "When" tab (and `fStartTimeBean` component) and adds it to the tabbed pane. Subclasses may call this method in their `init()` implementation.

Note that default handling of the `startTime` and property of the `incident` property of the incident model bean will be turned on in the `load()` and `store()` methods.

Parameters:

`props` - object with properties for this
`use_last_incident_time` - true to use the last user-entered start time (if defined) as the initial value to edit; false to use only the Incident `startTime` property

Exceptions:

`IllegalStateException` - if the tabbed pane is null, meaning `init()` has not been called

8.17.18 Method addWhereTab()

```
protected final void
addWhereTab( mil.dtra.util.ValueProperties props )
```

Creates the default "Where" tab (and `fLocationBean` component) with altitude displayed and editable and adds it to the tabbed pane. Subclasses may call this method in their `init()` implementation.

Parameters:

`props` - object with properties for this

Exceptions:

`IllegalStateException` - if the tabbed pane is null, meaning `init()` has not been called

8.17.19 Method addWhereTab()

```
protected void
addWhereTab(

    mil.dtra.util.ValueProperties props,
    boolean show_altitude
)
```

Creates the default "Where" tab (and `fLocationBean` component) and adds it to the tabbed pane. Subclasses may call this method in their `init()` implementation.

Note that default handling of the `location` property of the `incident` property of the incident model bean will be turned on in the `load()` and `store()` methods.

Parameters:

`props` - object with properties for this
`show_altitude` - true if the altitude value is to be displayed and modified by the user,
false otherwise

Exceptions:

`IllegalStateException` - if the tabbed pane is null, meaning `init()` has not been called

8.17.20 Method checkModel()

```
protected void
checkModel()
```

This method simply throws an `IllegalStateException` if any of the following objects are null, which means `init()` has yet to be called and the model bean has not been `init()`'d either:
the `modelBean` of this the model bean's `incident` the model bean's `modelIncident`

Exceptions:

`IllegalStateException` - if any necessary objects have yet to be defined as described above

8.17.21 Method checkTabbedPane()

```
protected void
checkTabbedPane()
```

This method simply throws an `IllegalStateException` if the tabbed pane is null, which means `init()` has yet to be called.

8.17.22 Method close()

```
public void
close()
```

Called when the owning dialog is closed. This is a hook for subclasses to override and do any necessary cleanup, analogous to `init()` in which initialization occurs. This implementation is a noop.

8.17.23 Method createNamePanel()

```
protected java.awt.Component
createNamePanel( mil.dtra.util.ValueProperties props )
```

Builds a panel containing a label and a field for editing the incident name (`fNameField`). This method is called in `init()`.

Parameters:

props - object with component properties

Returns:

panel instance with appropriate components

8.17.24 Method getIncident()

```
public mil.dtra.hpac.data.Incident
getIncident()
```

Convenience method to get the reference to the *modelBean's incident* object.

Returns:

reference to the Incident object being edited by this component

8.17.25 Method getLocationBean()

```
public final mil.dtra.hpac.client.swing.location.LocationBean
getLocationBean()
```

Accessor for the *locationBean* property.

Returns:

reference to the LocationBean object or null if it wasn't created via `addWhereTab()`

8.17.26 Method `getModelBean()`

```
public final mil.dtra.hpac.client.models.IncidentModel  
getModelBean()
```

Accessor for the *modelBean* property.

Returns:

reference to the `IncidentModel` instance represented by this component

8.17.27 Method `getNameField()`

```
public final javax.swing.JTextField  
getNameField()
```

Accessor for the *nameField* property.

Returns:

reference to the `JTextField` object or null if it was created by `createNamePanel()`

8.17.28 Method `getNotesArea()`

```
public final javax.swing.JTextArea  
getNotesArea()
```

Accessor for the *notesArea* property.

Returns:

reference to the `JTextField` object or null if it wasn't created via `addNotesTab()`

8.17.29 Method `getStartTimeBean()`

```
public final mil.dtra.hpac.client.swing.time.StartTimeBean  
getStartTimeBean()
```

Accessor for the *startTimeBean* property.

Returns:

reference to the `StartTimeBean` object or null if it wasn't created via `addWhenTab()`

8.17.30 Method `getTabbedPane()`

```
public final javax.swing.JTabbedPane
getTabbedPane()
```

Accessor for the *tabbedPane* property. The tabbed pane is created by `init()`.

Returns:

reference to the tabbed pane object

8.17.31 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.models.IncidentModel model_beans
)
```

Performs initialization and child component creation for this component. The name field (*fName-Field*) and tabbed pane (*fTabbedPane*) are created.

Subclasses should override this method calling `super.init()` first.

Exceptions:

`IllegalArgumentException` - if `model_beans` is null

8.17.32 Method `load()`

```
public void
load()
```

Loads component values from properties common to all models. Subclasses should override this but call `super.load()` first.

Exceptions:

`IllegalStateException` - if the incident model is null, meaning `init()` has not been called

8.17.33 Method store()

```
public abstract void
store()
```

Set values in the incident object for properties specific to the model. Subclasses must implement this method.

Note: This has changed since 0.0.8. No longer must the source model panel call super.store() here. Instead, this method is now called from storeAndUpdate(), which calls checkModel() and performs updates of incident properties common to all source models **before** calling this method.

Subclass implementations of this method should throw a RuntimeException to abort an "OK" operation on the ModelDialog. Also, they should call setModelIncident() on the model bean if they need to update the model-specific incident data.

Refer to the notes on the class for a discussion of managing incident objects.

Exceptions:

RuntimeException - if the model determines the properties are inconsistent or invalid and must be revised

8.17.34 Method storeAndUpdate()

```
public void
storeAndUpdate()
```

First calls checkModel(). Next, sets values in the incident object for properties common to all models and calls store(), then calls updateReleaseProperties() on the incident. Finally, it calls setIncident() on the *modelBean* property to cause new map icons to be created.

Exceptions:

IllegalStateException - if any necessary objects have yet to be defined
 RuntimeException - if the model determines the properties are inconsistent or invalid and must be revised

8.18 Class ModelPanel.NotesActionHandler

```
mil.dtra.hpac.client.models
protected ModelPanel.NotesActionHandler
extends Object
implements ActionListener,
```

Methods:

```
public void actionPerformed()
```

8.18.1 Constructor ModelPanel.NotesActionHandler()

protected

ModelPanel.NotesActionHandler(mil.dtra.hpac.client.models.ModelPanel this\$0)

8.18.2 Method actionPerformed()

public void

actionPerformed(java.awt.event.ActionEvent event)

8.19 Class ModelPanel.NotesPopupHandler

mil.dtra.hpac.client.models

protected **ModelPanel.NotesPopupHandler**

extends MouseAdapter

Methods:

 public void mousePressed()

 public void mouseReleased()

8.19.1 Constructor ModelPanel.NotesPopupHandler()

protected

ModelPanel.NotesPopupHandler(mil.dtra.hpac.client.models.ModelPanel this\$0)

8.19.2 Method mousePressed()

public void

mousePressed(java.awt.event.MouseEvent event)

8.19.3 Method mouseReleased()

public void

mouseReleased(java.awt.event.MouseEvent event)

8.20 Class ModelPanel.NotesActionHandler

mil.dtra.hpac.client.models

protected **ModelPanel.NotesActionHandler**

extends Object

implements ActionListener,

Methods:

```
public void actionPerformed()
```

8.20.1 Constructor ModelPanel.NotesActionHandler()

```
protected
ModelPanel.NotesActionHandler( mil.dtra.hpac.client.models.ModelPanel this$0 )
```

8.20.2 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

8.21 Class ModelPanel.NotesPopupHandler

```
mil.dtra.hpac.client.models
protected ModelPanel.NotesPopupHandler
extends MouseAdapter
```

Methods:

```
public void mousePressed()
public void mouseReleased()
```

8.21.1 Constructor ModelPanel.NotesPopupHandler()

```
protected
ModelPanel.NotesPopupHandler( mil.dtra.hpac.client.models.ModelPanel this$0 )
```

8.21.2 Method mousePressed()

```
public void
mousePressed( java.awt.event.MouseEvent event )
```

8.21.3 Method mouseReleased()

```
public void
mouseReleased( java.awt.event.MouseEvent event )
```

CHAPTER 9

Package mil.dtra.hpac.client.poi

Defines the framework for processing point-of-interest (POI) groups. Interfaces and classes define how POI groups are defined and represented on the map.

Interfaces:

POIGroup

Classes:

AbstractPOIOverlay
AbstractPOIOverlay.ParentListener
IncidentPOIIcon
IncidentPOIIcon.DropListener
IncidentPOIOverlay
POIIcon
PointOfInterest
ReactorPOIGroup
SimplePOIGroup
SimplePOIOverlay

9.1 Interface POIGroup

```
mil.dtra.hpac.client.poi
public interface POIGroup
extends Cloneable, PropsSerializer, Serializable,
```

Definition of a point-of-interest group. In this new scheme, a **POIGroup** is represented on the map display as a map overlay, specifically a **MapOverlay** object, which **creatMapOverlay()** must create.

The paradigm is as follows. When the project editor profile is initialized, it will deserialize a list of **POIGroup** instances from the application properties files. At a minimum, a group must have a *name* property. The group will be initialized shortly after construct time with a call to **init()** with the root URL for the application.

Shortly thereafter, the project editor will add each group to the *View->Show Overlay* menu, at which time the group's `createMapOverlay()` method will be called. The overlay will be invisible initially. Note that a POI MapOverlay extension can choose to wait to load its data until it is made visible.

Fields:

```
public static final java.lang.String PROP_name
```

Methods:

```
public mil.dtra.hpac.client.display.MapOverlay createMapOverlay()
public java.lang.String getName()
public void init()
public void setName()
```

9.1.1 Field PROP_name

```
public static final java.lang.String PROP_name
```

9.1.2 Method createMapOverlay()

```
public mil.dtra.hpac.client.display.MapOverlay
createMapOverlay()
```

Create a `MapOverlay` object for the map pane. Note that an implementation can choose to read its data and create any child components in this method or do "lazy" initialization and wait until it is made visible.

The overlay should have a preferred size equal to the size of its parent.

Returns:

overlay component object

Exceptions:

`IOException` - on error creating the overlay

9.1.3 Method getName()

```
public java.lang.String
getName()
```

Accessor for the *name* property.

Returns:

name or label assigned to this definition

9.1.4 Method init()

```
public void
init( java.lang.String root_url )
```

Called shortly after construct time.

Parameters:

root_url - URL to the root of the installation which can be used to build complete URLs from relative ones

Exceptions:

RuntimeException - or extension if an error occurs during initialization

9.1.5 Method setName()

```
public void
setName( java.lang.String name )
```

Accessor for the *name* property.

Parameters:

name - name or label assigned to this definition

9.2 Class AbstractPOIOverlay

```
mil.dtra.hpac.client.poi
public abstract AbstractPOIOverlay
extends MapOverlay
implements PermanentMapOverlay,
```

Extends MapOverlay to force this component's size to be the size of it's parent. It listens to its parents' ComponentEvents and resizes as necessary.

A MapOverlay for a component may choose to read all its data at construct time, or may choose to delay reading the data until the overlay component is made visible.

Fields:

```
public static final java.awt.Dimension DEFAULT_SIZE
protected java.awt.Container fParent
protected transient java.awt.event.ComponentListener fParentListener
```

Methods:

```
public void addNotify()
public java.awt.Dimension getPreferredSize()
public void removeNotify()
```

Inner Classes:

AbstractPOIOverlay.ParentListener

9.2.1 Field DEFAULT_SIZE

```
public static final java.awt.Dimension DEFAULT_SIZE
```

9.2.2 Field fParent

```
protected java.awt.Container fParent
```

9.2.3 Field fParentListener

```
protected transient java.awt.event.ComponentListener fParentListener
```

9.2.4 Constructor AbstractPOIOverlay()

```
public
AbstractPOIOverlay()
```

Default constructor specifying a blank component *name*.

9.2.5 Constructor AbstractPOIOverlay()

```
public
AbstractPOIOverlay( java.lang.String name )
```

Constructs with the specified *name*.

Parameters:

name - component name

9.2.6 Method addNotify()

```
public void
addNotify()
```

Overrides `JComponent.addNotify()` to register a listener for parent resize events. After calling `super.addNotify()`, registers the listener and sets this components size to that of its parent container.

9.2.7 Method getPreferredSize()

```
public java.awt.Dimension
getPreferredSize()
```

Overrides `JComponent.getPreferredSize()` to return the size of its parent.

9.2.8 Method removeNotify()

```
public void
removeNotify()
```

Overrides `JComponent.removeNotify()` to unregister the component listener on the parent.

9.3 Class AbstractPOIOverlay.ParentListener

```
mil.dtra.hpac.client.poi
protected AbstractPOIOverlay.ParentListener
extends ComponentAdapter
```

Listener for parent component resize events.

Methods:

```
public void componentResized()
```

9.3.1 Constructor AbstractPOIOverlay.ParentListener()

```
protected
AbstractPOIOverlay.ParentListener( mil.dtra.hpac.client.poi.AbstractPOIOverlay this$0 )
```

9.3.2 Method componentResized()

```
public void
componentResized( java.awt.event.ComponentEvent event )
```

Sets the size of this component to the parent's new size.

9.4 Class AbstractPOIOverlay.ParentListener

```
mil.dtra.hpac.client.poi
protected AbstractPOIOverlay.ParentListener
extends ComponentAdapter
```

Listener for parent component resize events.

Methods:

```
public void componentResized()
```

9.4.1 Constructor AbstractPOIOverlay.ParentListener()

```
protected
AbstractPOIOverlay.ParentListener( mil.dtra.hpac.client.poi.AbstractPOIOverlay this$0 )
```

9.4.2 Method componentResized()

```
public void
componentResized( java.awt.event.ComponentEvent event )
```

Sets the size of this component to the parent's new size.

9.5 Class IncidentPOIIcon

```
mil.dtra.hpac.client.poi
public IncidentPOIIcon
extends POIIcon
```

Extends POIIcon to provide a drop target for incident definition. It adds a popup menu as well with an option to create an incident. The bean used to create the incident is specified with the *beanName* property.

Fields:

```

public static final java.lang.String CREATE INCIDENT
public static final java.lang.String DISPLAY INFO
protected static javax.swing.border.Border dragBorder_
protected java.lang.String fBeanName
protected transient java.awt.dnd.DropTargetListener fDropListener
protected transient java.awt.dnd.DropTarget fDropTarget
public static final java.awt.datatransfer.DataFlavor[] FLAVORS
public static final java.lang.String INCIDENT POI_ICON
public static final java.awt.datatransfer.DataFlavor MODEL_NAME_FLAVOR
protected static javax.swing.border.Border normalBorder_
protected static mil.dtra.swing.MenuItemSpec[] popupMenuItemSpecs_

```

Methods:

```

public void actionPerformed()
protected javax.swing.JPopupMenu createPopupMenu()
public final java.lang.String getBeanName()
public final void setBeanName()

```

Inner Classes:

IncidentPOIIcon.DropListener

9.5.1 Field CREATE INCIDENT

public static final java.lang.String CREATE INCIDENT

9.5.2 Field DISPLAY_INFO

public static final java.lang.String DISPLAY INFO

9.5.3 Field dragBorder_

protected static javax.swing.border.Border dragBorder_

9.5.4 Field fBeanName

protected java.lang.String fBeanName

9.5.5 Field fDropListener

protected transient java.awt.dnd.DropTargetListener fDropListener

9.5.6 Field fDropTarget

protected transient java.awt.dnd.DropTarget fDropTarget

9.5.7 Field FLAVORS

public static final java.awt.datatransfer.DataFlavor[] FLAVORS

Flavors handled by this guy's drop target (MODEL_NAME_FLAVOR)

9.5.8 Field INCIDENT_POI_ICON

public static final java.lang.String INCIDENT_POI_ICON

9.5.9 Field MODEL_NAME_FLAVOR

public static final java.awt.datatransfer.DataFlavor MODEL_NAME_FLAVOR

ModelNameFlavor . FLAVOR reference

9.5.10 Field normalBorder_

protected static javax.swing.border.Border normalBorder_

9.5.11 Field popupMenuItemSpecs_

protected static mil.dtra.swing.MenuItemSpec[] popupMenuItemSpecs_

9.5.12 Constructor IncidentPOIIcon()

```
public  
IncidentPOIIcon(  
    javax.swing.Icon icon,  
    mil.dtra.hpac.client.poi.PointOfInterest poi,  
    java.lang.String bean_name  
)
```

Constructs with an icon, a point of interest reference and the name of the model bean to create as a drag target.

Parameters:

- icon - icon to display
- poi - point of interest reference
- bean_name - name of model bean to create

9.5.13 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Overrides MapIcon.actionPerformed() to handle items on the popup menu.

9.5.14 Method createPopupMenu()

```
protected javax.swing.JPopupMenu
createPopupMenu()
```

Creates a popup menu with a single "Nuclear Facility" item. Obviously, this should be overridden in a subclass.

Returns:

popup menu

9.5.15 Method getBeanName()

```
public final java.lang.String
getBeanName()
```

Accessor for the *beanName* property.

Returns:

name of bean class to create

9.5.16 Method setBeanName()

```
public final void
setBeanName( java.lang.String name )
```

Accessor for the *beanName* property.

Parameters:

name - name of bean class to create

9.6 Class IncidentPOIIcon.DropListener

```
mil.dtra.hpac.client.poi
protected IncidentPOIIcon.DropListener
extends DropTargetHandler
```

Extension of DropTargetHandler to handle drops on this icon.

Methods:

```
public void dragEnter()
public void dragExit()
public boolean handleDrop()
```

9.6.1 Constructor IncidentPOIIcon.DropListener()

```
public
IncidentPOIIcon.DropListener( mil.dtra.hpac.client.poi.IncidentPOIIcon this$0 )
```

9.6.2 Method dragEnter()

```
public void
dragEnter( java.awt.dnd.DropTargetDragEvent event )
```

9.6.3 Method dragExit()

```
public void
dragExit( java.awt.dnd.DropTargetEvent event )
```

9.6.4 Method handleDrop()

```
public boolean
handleDrop(
    java.awt.dnd.DropTargetDropEvent event,
    java.awt.datatransfer.DataFlavor flavor
)
```

Handles ModelNameFlavor data by creating an incident model bean instance for the bean name passed as the transfer data.

9.7 Class IncidentPOIIcon.DropListener

```
mil.dtra.hpac.client.poi
protected IncidentPOIIcon.DropListener
extends DropTargetHandler
```

Extension of DropTargetHandler to handle drops on this icon.

Methods:

```
public void dragEnter()
public void dragExit()
public boolean handleDrop()
```

9.7.1 Constructor IncidentPOIIcon.DropListener()

```
public
IncidentPOIIcon.DropListener( mil.dtra.hpac.client.poi.IncidentPOIIcon this$0 )
```

9.7.2 Method dragEnter()

```
public void
dragEnter( java.awt.dnd.DropTargetDragEvent event )
```

9.7.3 Method dragExit()

```
public void
dragExit( java.awt.dnd.DropTargetEvent event )
```

9.7.4 Method handleDrop()

```
public boolean
handleDrop(
    java.awt.dnd.DropTargetDropEvent event,
    java.awt.datatransfer.DataFlavor flavor
)
```

Handles ModelNameFlavor data by creating an incident model bean instance for the bean name passed as the transfer data.

9.8 Class IncidentPOIOverlay

```
mil.dtra.hpac.client.poi
public IncidentPOIOverlay
extends SimplePOIOverlay
```

Extends SimplePOIOverlay to use IncidentPOIIcon instances.

Fields:

```
protected java.lang.String fBeanName
```

Methods:

```
protected mil.dtra.hpac.client.poi.POIIIcon createPOIIIcon()
public final java.lang.String getBeanName()
public void init()
public void install()
public final void setBeanName()
```

9.8.1 Field fBeanName

```
protected java.lang.String fBeanName
```

9.8.2 Constructor IncidentPOIOverlay()

```
public
IncidentPOIOverlay()
```

Default constructor. Must call init().

9.8.3 Constructor IncidentPOIOverlay()

```
public
IncidentPOIOverlay(
    java.lang.String name,
    java.lang.String data_url,
    javax.swing.Icon icon,
    java.lang.String bean_name
)
```

Explicit value constructor.

Parameters:

name - overlay component name
 data_url - relative or full URL for the POI data file
 icon - icon to use for poi icons
 bean_name - default bean for incident creation

9.8.4 Method `createPOIIcon()`

```
protected mil.dtra.hpac.client.poi.POIIcon
createPOIIcon(
  javax.swing.Icon icon,
  mil.dtra.hpac.client.poi.PointOfInterest poi
)
```

Overrides `SimplePOIOverlay.createPOIIcon()` to create an `IncidentPOIIcon` instance.

9.8.5 Method `getBeanName()`

```
public final java.lang.String
getBeanName()
```

Accessor for the `beanName` property, which is passed to created icons.

Returns:

name of model bean

9.8.6 Method `init()`

```
public void
init(
  java.lang.String name,
  java.lang.String data_url,
  javax.swing.Icon icon,
  java.lang.String bean_name
)
```

Loads data from the specified URL.

Parameters:

name - overlay component name
 data_url - relative or full URL for the POI data file
 icon - icon to use for poi icons
 bean_name - default bean for incident creation

9.8.7 Method install()

```
public void
install( mil.dtra.hpac.client.ProjectEditorIfc project_editor )
```

Override to set the project editor for each child component.

Parameters:

project_editor - reference to the project editor context and environment object

9.8.8 Method setBeanName()

```
public final void
setBeanName( java.lang.String bean_name )
```

Accessor for the *beanName* property, which is passed to created icons.

Parameters:

bean_name - name of model bean

9.9 Class POIIcon

```
mil.dtra.hpac.client.poi
public POIIcon
extends MapIcon
```

Extends *MapIcon* to keep a definition of the coord as a property of the object and add a *POI* property.

This class is oriented toward a particular approach to implementing POI overlays, namely to creation of an icon component for each POI record. It is primarily here for demonstration but could prove useful for some future POI group.

Fields:

```
protected mil.dtra.hpac.client.poi.PointOfInterest fPOI
public static final java.lang.String POI_ICON
```

Methods:

```
protected javax.swing.JPopupMenu createPopupMenu()
public java.awt.geom.Point2D getCoord()
public final mil.dtra.hpac.client.poi.PointOfInterest getPOI()
public mil.dtra.hpac.client.ProjectEditorIfc getProjectEditor()
public boolean isFocusTraversable()
public final void setPOI()
public void showEditDialog()
```

9.9.1 Field fPOI

protected mil.dtra.hpac.client.poi.PointOfInterest **fPOI**

9.9.2 Field POI_ICON

public static final java.lang.String **POI_ICON**

9.9.3 Constructor POIIcon()

```
public  
POIIcon(  
    javax.swing.Icon icon,  
    mil.dtra.hpac.client.poi.PointOfInterest poi  
)
```

Constructs with an icon and point of interest reference.

Parameters:

- icon - icon to display
- poi - point of interest reference

9.9.4 Method createPopupMenu()

protected javax.swing.JPopupMenu
createPopupMenu()

Noop implementation returning null.

Returns:

- null

9.9.5 Method getCoord()

public java.awt.geom.Point2D
getCoord()

Accessor for the *coord* property.

Returns:

- copy of PointOfInterest coord object

9.9.6 Method **getPOI()**

```
public final mil.dtra.hpac.client.poi.PointOfInterest
getPOI()
```

Accessor for the *POI* property.

Returns:

reference to the object

9.9.7 Method **getProjectEditor()**

```
public mil.dtra.hpac.client.ProjectEditorIfc
getProjectEditor()
```

Convenience method which attempts to retrieve the project editor from a *MapOverlay* parent.

Returns:

reference to the editor object or null if not found

9.9.8 Method **isFocusTraversable()**

```
public boolean
isFocusTraversable()
```

Overrides *MapIcon.isFocusTraversable()*.

Returns:

false

9.9.9 Method **setPOI()**

```
public final void
setPOI( mil.dtra.hpac.client.poi.PointOfInterest poi )
```

Accessor for the *POI* property.

Parameters:

poi - object reference to save

9.9.10 Method `showEditDialog()`

```
public void
showEditDialog( java.awt.Component component )
```

Overrides `MapIcon.showEditDialog()` to do nothing.

9.10 Class `PointOfInterest`

```
mil.dtra.hpac.client.poi
public PointOfInterest
extends Object
```

Basic definition of a point of interest, with *coord* and *name* properties used in the "Simple" classes. Without doubt, this will need to be extended or replaced for use by a POI overlay implementation.

Fields:

```
protected java.awt.geom.Point2D fCoord
protected java.lang.String fName
```

Methods:

```
public final java.awt.geom.Point2D getCoord()
public final java.lang.String getName()
public static java.util.List read()
public void setCoord()
public final void setName()
public java.lang.String toString()
public void valueOf()
```

9.10.1 Field `fCoord`

`protected java.awt.geom.Point2D fCoord`

9.10.2 Field `fName`

`protected java.lang.String fName`

9.10.3 Constructor `PointOfInterest()`

```
public
PointOfInterest()
```

Default constructor assuming a coordinate of (0,0) and a blank component name.

9.10.4 Constructor PointOfInterest()

```
public  
PointOfInterest( java.lang.String value )
```

Construct from string representation by calling `valueOf()`.

Parameters:

value - string representation

9.10.5 Constructor PointOfInterest()

```
public  
PointOfInterest(  
    java.awt.geom.Point2D coord,  
    java.lang.String name  
)
```

Construct from explicit property values.

Parameters:

coord - world (lon,lat) coordinate
name - component name

9.10.6 Method getCoord()

```
public final java.awt.geom.Point2D  
getCoord()
```

Accessor for the *coord* property.

Returns:

copy of the coordinate object

9.10.7 Method getName()

```
public final java.lang.String  
getName()
```

Accessor for the *name* property.

Returns:

component name

9.10.8 Method `read()`

```
public static java.util.List
read( java.io.InputStream input )
```

Reads the input stream and produces the array of objects. The input should have one object representation per line.

Parameters:

input - input stream to read

Returns:

list (ordered collection) of `PointOfInterest` objects

Exceptions:

`IOException` - on I/O error

9.10.9 Method `setCoord()`

```
public void
setCoord( java.awt.geom.Point2D coord )
```

Accessor for the *coord* property.

Parameters:

coord - coordinate object to copy

9.10.10 Method `setName()`

```
public final void
setName( java.lang.String name )
```

Accessor for the *name* property.

Parameters:

name - component name

9.10.11 Method `toString()`

```
public java.lang.String
toString()
```

Converts this to a string representation suited for parse via `valueOf()` with format `name,lon,lat`.

Returns:

string representation of this

9.10.12 Method `valueOf()`

```
public void
valueOf( java.lang.String value )
```

Parses the input with format `name,lon,lat`

Parameters:

`value` - string representation to parse.

Exceptions:

`IllegalArgumentException` - on format error

9.11 Class `ReactorPOIGroup`

```
mil.dtra.hpac.client.poi
public ReactorPOIGroup
extends SimplePOIGroup
```

Extension of `SimplePOIGroup` for representing nuclear reactors. It overrides `createMapOverlay()` to return an `IncidentPOIOverlay` object.

Fields:

```
public static final java.lang.String BEAN_NAME
public static final java.lang.String ICON_NAME
```

Methods:

```
public java.lang.Object clone()
public mil.dtra.hpac.client.display.MapOverlay createMapOverlay()
public boolean equals()
```

9.11.1 Field BEAN_NAME

public static final java.lang.String **BEAN_NAME**

Bean name

9.11.2 Field ICON_NAME

public static final java.lang.String **ICON_NAME**

9.11.3 Constructor ReactorPOIGroup()

public
ReactorPOIGroup()

Default constructor.

9.11.4 Constructor ReactorPOIGroup()

public
ReactorPOIGroup(
 java.lang.String name,
 java.lang.String data_url
)

Constructs with explicit property values assuming the default icon.

Parameters:

name - name
data_url - relative or full URL for the POI data file

9.11.5 Constructor ReactorPOIGroup()

public
ReactorPOIGroup(
 mil.dtra.util.ValueProperties props,
 java.lang.String prefix
)

Constructs from the specified properties object assuming the default icon.

Parameters:

props - object with properties for this
prefix - property key prefix

Exceptions:

IOException - on I/O error

9.11.6 Method clone()

public java.lang.Object
clone()

Overrides Cloneable.

9.11.7 Method createMapOverlay()

public mil.dtra.hpac.client.display.MapOverlay
createMapOverlay()

Creates an IncidentPOIOverlay object.

Returns:

overlay component object

9.11.8 Method equals()

public boolean
equals(java.lang.Object obj)

Overrides Object.equals().

9.12 Class SimplePOIGroup

mil.dtra.hpac.client.poi
public **SimplePOIGroup**
extends Object
implements POIGroup,

Simplest implementation of POIGroup which adds a *dataURL* property and creates a SimplePOIOverlay. An extension can override *createMapOverlay()* for create a different overlay object. Class methods are provided for deserializing POIGroup objects from properties and can be used to deserialize objects of any class implementing POIGroup.

Fields:

```

public static final java.lang.String DEFAULT_ICON_NAME
protected java.lang.String fDataURL
protected java.lang.String[] fIconNames
protected java.lang.String fName
protected transient java.lang.String fRootURL
public static final java.lang.String SEPARATOR
public static final mil.dtra.hpac.client.poi.POIGroup SEPARATOR_GROUP

```

Methods:

```

public java.lang.Object clone()
public mil.dtra.hpac.client.display.MapOverlay createMapOverlay()
public boolean equals()
public final java.lang.String getDataURL()
public final java.lang.String[] getIconNames()
public static mil.dtra.hpac.client.poi.POIGroup getInstance()
public static mil.dtra.hpac.client.poi.POIGroup getInstance()
public final java.lang.String getName()
public void init()
public static void putInstance()
public static java.util.List readGroups()
public void readProps()
public java.lang.String resolveURL()
public final void setDataURL()
public final void setName()
public void writeProps()

```

9.12.1 Field DEFAULT_ICON_NAME

public static final java.lang.String **DEFAULT_ICON_NAME**

9.12.2 Field fDataURL

protected java.lang.String **fDataURL**

9.12.3 Field fIconNames

protected java.lang.String[] **fIconNames**

9.12.4 Field fName

protected java.lang.String **fName**

9.12.5 Field fRootURL

```
protected transient java.lang.String fRootURL
```

9.12.6 Field SEPARATOR

```
public static final java.lang.String SEPARATOR
```

9.12.7 Field SEPARATOR_GROUP

```
public static final mil.dtra.hpac.client.poi.POIGroup SEPARATOR_GROUP
```

9.12.8 Constructor SimplePOIGroup()

```
public  
SimplePOIGroup()
```

Default constructor.

9.12.9 Constructor SimplePOIGroup()

```
public  
SimplePOIGroup( java.lang.String icon_resource_name )
```

Initializes the icon name.

Parameters:

icon_resource_name - resource name (relative to this class) of a single icon for POIs associated with this group

9.12.10 Constructor SimplePOIGroup()

```
public  
SimplePOIGroup( java.lang.String[] icon_resource_names )
```

Constructs with an array of icon resource names.

Parameters:

icon_resource_names - resource names (relative to this class) of icons for POIs associated with this group

9.12.11 Constructor SimplePOIGroup()

```
public
SimplePOIGroup(
    java.lang.String name,
    java.lang.String data_url
)
```

Constructs with explicit property values assuming the default icon.

Parameters:

name - name
data_url - relative or full URL for the POI data file

9.12.12 Constructor SimplePOIGroup()

```
public
SimplePOIGroup(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object assuming the default icon.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

9.12.13 Constructor SimplePOIGroup()

```
public
SimplePOIGroup(
    java.lang.String name,
    java.lang.String data_url,
    java.lang.String icon_resource_name
)
```

Constructs with explicit property values.

Parameters:

- name - name
- data_url - relative or full URL for the POI data file
- icon_resource_name - resource name (relative to this class) of a single icon for POIs associated with this group

9.12.14 Constructor SimplePOIGroup()

```
public
SimplePOIGroup(
    java.lang.String name,
    java.lang.String data_url,
    java.lang.String[] icon_resource_names
)
```

Constructs with explicit property values.

Parameters:

- name - name
- data_url - relative or full URL for the POI data file
- icon_resource_names - resource names (relative to this class) of icons for POIs associated with this group

9.12.15 Constructor SimplePOIGroup()

```
public
SimplePOIGroup(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix,
    java.lang.String icon_resource_name
)
```

Constructs from the specified properties object.

Parameters:

- props - object containing property values
- prefix - property key prefix
- icon_resource_name - resource name (relative to this class) of a single icon for POIs associated with this group

Exceptions:

IOException - on I/O error

9.12.16 Constructor SimplePOIGroup()

```
public
SimplePOIGroup(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix,
    java.lang.String[] icon_resource_names
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix
icon_resource_names - resource names (relative to this class) of icons for POIs associated with this group

Exceptions:

IOException - on I/O error

9.12.17 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

9.12.18 Method createMapOverlay()

```
public mil.dtra.hpac.client.display.MapOverlay
createMapOverlay()
```

Creates a SimplePOIOverlay object. Subclasses may override to create a different MapOverlay extension instance.

Returns:

overlay component object

Exceptions:

IOException - on error creating the overlay

9.12.19 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides Object.equals().

9.12.20 Method getDataURL()

```
public final java.lang.String
getDataURL( java.lang.String data_url )
```

Accessor for the *dataURL* property.

Returns:

URL (full or relative) to the poi data file

9.12.21 Method getIconNames()

```
public final java.lang.String[]
getIconNames()
```

Accessor for the *iconNames* property.

Returns:

array reference

9.12.22 Method getInstance()

```
public static mil.dtra.hpac.client.poi.POIGroup
getInstance(
    java.lang.String root_url,
    mil.dtra.util.ValueProperties props
)
```

Creates a POIGroup (or extension) instance by deserialization from properties assuming a blank key prefix.

Parameters:

root_url - root URL used to resolve relative ones
 props - properties object

Returns:

deserialized poi group object

Exceptions:

IOException - on I/O error

9.12.23 Method getInstance()

```
public static mil.dtra.hpac.client.poi.POIGroup
getInstance(
    java.lang.String root_url,
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Creates a POIGroup (or extension) instance by deserialization from properties with an assumed key prefix.

Parameters:

root.url - root URL used to resolve relative ones
 props - properties object
 key - property key prefix, where null implies blank

Returns:

deserialized POI group object

Exceptions:

IOException - on I/O error

9.12.24 Method getName()

```
public final java.lang.String
getName()
```

Accessor for the *name* property.

Returns:

name or label assigned to this definition

9.12.25 Method init()

```
public void
init( java.lang.String root_url )
```

Initializes this group with the specified root URL, which acts like a code base for relative *dataURL* values.

Parameters:

root_url - root URL string

9.12.26 Method putInstance()

```
public static void
putInstance(
    mil.dtra.hpac.client.poi.POIGroup group,
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Serializes the specified POI group object to properties with a key prefix.

Parameters:

group - POI group object to serialize
 props - properties object
 key - property key prefix, where null implies blank

Exceptions:

IOException - on I/O error

9.12.27 Method readGroups()

```
public static java.util.List
readGroups(
    java.lang.String root_url,
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Builds a list (ordered collection) of POIGroup object instances from a properties object. Appended to the property key prefix are integer indexes starting with 0 to form the prefix for individual object property values.

Parameters:

- root_url - root URL for relative URL values
- props - properties object
- key - property key, where null implies blank

Returns:

list of POIGroup objects as read from the properties

9.12.28 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Implicitly deserializes this from properties with a specified key prefix.

Parameters:

- props - object containing property values
- prefix - property key prefix

Exceptions:

IOException - on I/O error

9.12.29 Method resolveURL()

```
public java.lang.String
resolveURL()
```

If the *dataURL* is relative, appends it to the *rootURL*.

Returns:

full URL

9.12.30 Method `setDataURL()`

```
public final void
setDataURL( java.lang.String data_url )
```

Accessor for the *dataURL* property.

Parameters:

url - URL (full or relative) to the poi data file

9.12.31 Method `setName()`

```
public final void
setName( java.lang.String name )
```

Accessor for the *name* property.

Parameters:

name - name or label assigned to this definition

9.12.32 Method `writeProps()`

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Implicitly serializes this to properties with a specified key prefix.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

9.13 Class SimplePOIOVERLAY

```
mil.dtra.hpac.client.poi
public SimplePOIOVERLAY
extends AbstractPOIOVERLAY
```

Simplest AbstractPOIOVERLAY extension. It reads a file of PointOfInterest definitions and creates a POIIcon instance for each PointOfInterest read. The createPOIIcon method may be overridden by subclasses to create an instance of a POIIcon subclass.

Methods:

```
protected mil.dtra.hpac.client.poi.POIIcon createPOIIcon()
public void init()
protected void updateComponentLocations()
public void updateMapProjection()
```

9.13.1 Constructor SimplePOIOVERLAY()

```
public
SimplePOIOVERLAY()
```

Constructs with a default icon and no other properties set. Must call init().

9.13.2 Constructor SimplePOIOVERLAY()

```
public
SimplePOIOVERLAY(
    java.lang.String name,
    java.lang.String data_url,
    javax.swing.Icon icon
)
```

Explicit value constructor.

Parameters:

- icon_resource_name - resource name (relative to this' class) for the POIIcon image
- name - name
- data_url - relative or full URL for the POI data file

9.13.3 Method `createPOIIcon()`

```
protected mil.dtra.hpac.client.poi.POIIcon
createPOIIcon(
    javax.swing.Icon icon,
    mil.dtra.hpac.client.poi.PointOfInterest poi
)
```

Subclasses may override to produce icons in different ways (e.g., different POIIcon class, different icons)

9.13.4 Method `init()`

```
public void
init(
    java.lang.String name,
    java.lang.String data_url,
    javax.swing.Icon icon
)
```

Loads data from the specified URL.

Parameters:

- name - overlay name
- data_url - URL (full or relative) to the poi data file
- icon - icon to use in POIIcons

9.13.5 Method `updateComponentLocations()`

```
protected void
updateComponentLocations()
```

Uses the *mapProjection* to re-project each child component.

9.13.6 Method `updateMapProjection()`

```
public void
updateMapProjection( mil.dtra.map.MapProjection proj )
```

Overrides this method calling `super.updateMapProjection()` and then `updateComponentLocations()`.

Parameters:

- proj - map projection reference to store

CHAPTER 10

Package mil.dtra.hpac.client.swing

Contains Swing extensions and general editing and display components intended to be reused across the application.

Interfaces:

- AuxConstants
- HPAC Swing Constants
- IncidentEditor

Classes:

- ArrayBean
- ArrayBean.ArrayCellRenderer
- ArrayBean.ArrayListModel
- ArrayComputeBean
- AuxBox
- AuxBox.ReferenceListener
- AuxIcon
- AuxLine
- AuxLine.ComponentHandler
- HPAC Swing Utils
- Legend
- Legend.ColorItem
- MapIcon
- MaterialListBean
- MaterialListBean.MaterialListModel
- RadioOptionBean
- RealValueBean
- RealValueBean.FieldListener
- ReleaseIcon
- ReleaseListBean
- ReleaseListBean.ReleaseListModel
- ScipuffBean
- ScipuffBean.Poller
- ScipuffServerPoller

SimpleMapIcon
ValueUnitsBean
ValueUnitsBean.FieldListener

10.1 Interface AuxConstants

mil.dtra.hpac.client.swing
public interface **AuxConstants**

Constants used by auxiliary components.

Fields:

public static final int MODE_bounds
public static final int MODE_center

10.1.1 Field MODE_bounds

public static final int **MODE_bounds**

mode value for offsetting from the reference component's bounds

10.1.2 Field MODE_center

public static final int **MODE_center**

mode value for offsetting from the reference component's center

10.2 Interface HPAC Swing Constants

mil.dtra.hpac.client.swing
public interface **HPAC Swing Constants**

Constant values and objects used in building HPAC GUIs. The idea is to aid in consistency.

Fields:

public static final java.text.DecimalFormat DEGREES_FORMAT
public static final int HEADER_HORZ_STRUT_SIZE
public static final java.awt.Insets HEADER_INSETS
public static final int HEADER_VERT_STRUT_SIZE
public static final javax.swing.Icon HELP_ICON
public static final java.awt.Insets HORIZONTAL_INSETS
public static final java.awt.Insets HORIZONTAL_ITEM_INSETS
public static final int ITEM_HORZ_STRUT_SIZE
public static final java.awt.Insets ITEM_INSETS
public static final int ITEM_VERT_STRUT_SIZE

```

public static final javax.swing.border.Border LIST_CELL_FOCUSED_BORDER
public static final javax.swing.border.Border LIST_CELL_UNFOCUSSED_BORDER
public static final java.awt.Color LIST_FOCUSED_BACKGROUND
public static final java.awt.Color LIST_FOCUSED_COLOR
public static final java.awt.Color LIST_SELECTED_BACKGROUND
public static final java.text.DecimalFormat MINUTES_FORMAT
public static final double MINUTES_PER_DEGREE
public static final java.awt.Insets NO_INSETS
public static final javax.swing.border.Border PANEL_BORDER
public static final double SECONDS_PER_DEGREE
public static final double SECONDS_PER_MINUTE
public static final javax.swing.border.Border TAB_BORDER
public static final int TAB_VERT_MARGIN

```

10.2.1 Field DEGREES_FORMAT

public static final java.text.DecimalFormat **DEGREES_FORMAT**

Format for representing degrees

10.2.2 Field HEADER_HORZ_STRUT_SIZE

public static final int **HEADER_HORZ_STRUT_SIZE**

Horizontal strut pixel size when spacing b/w a header component and other components (10)

10.2.3 Field HEADER_INSETS

public static final java.awt.Insets **HEADER_INSETS**

Insets for a header component (**HEADER_VERT**, **HORZ_STRUT_SIZE**)

10.2.4 Field HEADER_VERT_STRUT_SIZE

public static final int **HEADER_VERT_STRUT_SIZE**

Vertical strut pixel size when spacing b/w a header component and other components (8)

10.2.5 Field HELP_ICON

public static final javax.swing.Icon **HELP_ICON**

10.2.6 Field HORIZONTAL_INSETS

public static final java.awt.Insets **HORIZONTAL_INSETS**

Insets for horizontally spacing a component (0, 4, 0, 4)

10.2.7 Field HORIZONTAL_ITEM_INSETS

```
public static final java.awt.Insets HORIZONTAL_ITEM_INSETS
```

Insets for horizontally spacing a non-header component (ITEM_VERT_STRUT_SIZE, 8 ITEM_VERT_STRUT_SIZE, 4)

10.2.8 Field ITEM_HORZ_STRUT_SIZE

```
public static final int ITEM_HORZ_STRUT_SIZE
```

Horizontal strut pixel size when spacing b/w a non-header component and other components (6)

10.2.9 Field ITEM_INSETS

```
public static final java.awt.Insets ITEM_INSETS
```

Insets for a non-header component (ITEM_VERT, HORZ_STRUT_SIZE)

10.2.10 Field ITEM_VERT_STRUT_SIZE

```
public static final int ITEM_VERT_STRUT_SIZE
```

Vertical strut pixel size when spacing b/w a non-header component and other components (4)

10.2.11 Field LIST_CELL_FOCUSED_BORDER

```
public static final javax.swing.border.Border LIST_CELL_FOCUSED_BORDER
```

Border for a focused list (line border with LIST_FOCUSED_COLOR)

10.2.12 Field LIST_CELL_UNFOCUSSED_BORDER

```
public static final javax.swing.border.Border LIST_CELL_UNFOCUSSED_BORDER
```

Border for an unfocused list (empty 1-pixel border)

10.2.13 Field LIST_FOCUSED_BACKGROUND

```
public static final java.awt.Color LIST_FOCUSED_BACKGROUND
```

Background color for a list item when focus is indicated with the list background (shouldn't be used any more)

10.2.14 Field LIST_FOCUSED_COLOR

```
public static final java.awt.Color LIST_FOCUSED_COLOR
```

Border color for a focused list

10.2.15 Field LIST_SELECTED_BACKGROUND

public static final java.awt.Color **LIST_SELECTED_BACKGROUND**

Background for a selected item in a list

10.2.16 Field MINUTES_FORMAT

public static final java.text.DecimalFormat **MINUTES_FORMAT**

Format for representing minutes

10.2.17 Field MINUTES_PER_DEGREE

public static final double **MINUTES_PER_DEGREE**

min/degree conversion (60.0)

10.2.18 Field NO_INSETS

public static final java.awt.Insets **NO_INSETS**

Zero-spaced insets (0, 0, 0, 0)

10.2.19 Field PANEL_BORDER

public static final javax.swing.border.Border **PANEL_BORDER**

Empty border for insetting a group-like component in a panel (HEADER_VERT, HORZ_STRUT_SIZE)

10.2.20 Field SECONDS_PER_DEGREE

public static final double **SECONDS_PER_DEGREE**

sec/degree conversion (3600.0)

10.2.21 Field SECONDS_PER_MINUTE

public static final double **SECONDS_PER_MINUTE**

sec/minute conversion (60.0)

10.2.22 Field TAB_BORDER

public static final javax.swing.border.Border **TAB_BORDER**

Empty border for insetting a component in a JTabbedPane tab (TAB_VERT_MARGIN, HEADER_HORZ_STRUT_SIZE, HEADER_VERT_STRUT_SIZE, HEADER_HORZ_STRUT_SIZE)

10.2.23 Field TAB_VERT_MARGIN

```
public static final int TAB_VERT_MARGIN
```

Vertical margin or struct pixel size for spacing a component under a tab components (12)

10.3 Interface IncidentEditor

```
mil.dtra.hpac.client.swing
public interface IncidentEditor
```

Defines the methods of an object which can present an editor dialog for an Incident. It is the interface to an IncidentModel exposed to a ReleaseIcon.

Methods:

```
public void showEditDialog()
```

10.3.1 Method showEditDialog()

```
public void
showEditDialog( java.awt.Component component )
```

Display the incident edit dialog with the specified component as the dialog owner.

Parameters:

component - dialog owner

10.4 Class ArrayBean

```
mil.dtra.hpac.client.swing
public ArrayBean
extends PDialogPanel
implements ActionListener, HPAC Swing Constants, ListSelectionListener, Swing Constants,
```

Bean for editing and viewing arrays of values. Two modes are supported, one in which the values are bucket or bin boundaries, and the other where values are not boundaries.

Fields:

```
public static final java.lang.String ADD
public static final java.lang.String ARRAY_BEAN
public static final java.lang.String CHANGE
public static final java.lang.String CLEAR
public static final java.lang.String COMPUTE
public static final java.lang.String DELETE
```

```

protected javax.swing.JButton fAddButton
protected boolean fAllowDuplicateValues
protected boolean fBoundaryModeFlag
protected javax.swing.JButton fChangeButton
protected javax.swing.JButton fClearButton
protected javax.swing.JButton fComputeButton
protected javax.swing.JLabel fCountLabel
protected javax.swing.JLabel fCountValueLabel
protected javax.swing.JButton fDeleteButton
protected transient boolean fListeningFlag
protected transient mil.dtra.hpac.client.swing.ArrayBean.ArrayListModel fListModel
protected javax.swing.JButton fLoadButton
protected mil.dtra.util.ValueProperties fProps
protected javax.swing.JButton fSaveButton
protected int fSignificantDigits
protected javax.swing.JTextField fValueField
protected volatile java.util.ArrayList fValueList
protected javax.swing.JList fValueListItem
protected javax.swing.JLabel fValueListLabel
public static final java.lang.String LOAD
public static final java.lang.String PROP_values
public static final java.lang.String SAVE

```

Methods:

```

public void actionPerformed()
public void clear()
protected void create()
protected javax.swing.JPanel createButtonPanel()
public final boolean getAllowDuplicateValues()
public final boolean getBoundaryModeFlag()
public final javax.swing.JLabel getCountLabel()
public final javax.swing.JLabel getCountValueLabel()
public final int getSignificantDigits()
public final javax.swing.JList getValueList()
public final javax.swing.JLabel getValueListLabel()
public final double[] getValues()
public void init()
public final void setAllowDuplicateValues()
public void setBoundaryModeFlag()
public void setEnabled()
public final void setSignificantDigits()
public final void setValues()
protected void showParseErrorBox()
protected synchronized void startListening()
protected synchronized void stopListening()
public void updateCountLabel()

```

```
public void valueChanged()
```

Inner Classes:

```
ArrayBean.ArrayCellRenderer  
ArrayBean.ArrayListModel
```

10.4.1 Field ADD

```
public static final java.lang.String ADD
```

10.4.2 Field ARRAY_BEAN

```
public static final java.lang.String ARRAY_BEAN
```

10.4.3 Field CHANGE

```
public static final java.lang.String CHANGE
```

10.4.4 Field CLEAR

```
public static final java.lang.String CLEAR
```

10.4.5 Field COMPUTE

```
public static final java.lang.String COMPUTE
```

10.4.6 Field DELETE

```
public static final java.lang.String DELETE
```

10.4.7 Field fAddButton

```
protected javax.swing.JButton fAddButton
```

10.4.8 Field fAllowDuplicateValues

```
protected boolean fAllowDuplicateValues
```

10.4.9 Field fBoundaryModeFlag

protected boolean **fBoundaryModeFlag**

10.4.10 Field fChangeButton

protected javax.swing.JButton **fChangeButton**

10.4.11 Field fClearButton

protected javax.swing.JButton **fClearButton**

10.4.12 Field fComputeButton

protected javax.swing.JButton **fComputeButton**

10.4.13 Field fCountLabel

protected javax.swing.JLabel **fCountLabel**

10.4.14 Field fCountValueLabel

protected javax.swing.JLabel **fCountValueLabel**

10.4.15 Field fDeleteButton

protected javax.swing.JButton **fDeleteButton**

10.4.16 Field fListeningFlag

protected transient boolean **fListeningFlag**

10.4.17 Field fListModel

protected transient mil.dtra.hpac.client.swing.ArrayBean.ArrayListModel **fListModel**

10.4.18 Field fLoadButton

protected javax.swing.JButton **fLoadButton**

10.4.19 Field fProps

protected mil.dtra.util.ValueProperties **fProps**

10.4.20 Field fSaveButton

protected javax.swing.JButton **fSaveButton**

10.4.21 Field fSignificantDigits

protected int **fSignificantDigits**

10.4.22 Field fValueField

protected javax.swing.JTextField **fValueField**

10.4.23 Field fValueList

protected volatile java.util.ArrayList **fValueList**

10.4.24 Field fValueListItem

protected javax.swing.JList **fValueListItem**

10.4.25 Field fValueListLabel

protected javax.swing.JLabel **fValueListLabel**

10.4.26 Field LOAD

public static final java.lang.String **LOAD**

10.4.27 Field PROP_values

public static final java.lang.String **PROP_values**

Property name ("value")

10.4.28 Field SAVE

public static final java.lang.String **SAVE**

10.4.29 Constructor ArrayBean()

```
public
ArrayBean()
```

Default constructor which does not create the bean. Must call `init()` if not deserialized.

10.4.30 Constructor ArrayBean()

```
public
ArrayBean(
    mil.dtra.util.ValueProperties props,
    boolean boundary_mode_flag
)
```

Constructs and creates this bean assuming no initial values and no title border. Calls `init()`.

Parameters:

`props` - object with properties for this
`boundary_mode_flag` - true if the values are considered to be boundaries, false otherwise

10.4.31 Constructor ArrayBean()

```
public
ArrayBean(
    mil.dtra.util.ValueProperties props,
    double[] values,
    boolean boundary_mode_flag
)
```

Constructs and creates this bean assuming no title border. Calls `init()`.

Parameters:

`props` - object with properties for this
`values` - initial array of values, or null
`boundary_mode_flag` - true if the values are considered to be boundaries, false otherwise

10.4.32 Constructor ArrayBean()

```
public
ArrayBean(
    mil.dtra.util.ValueProperties props,
    boolean boundary_mode_flag,
    java.lang.String title
)
```

Constructs and creates this bean assuming no initial values. Calls `init()`.

Parameters:

- props - object with properties for this
- boundary_mode_flag - true if the values are considered to be boundaries, false otherwise
- title - title for the border, or null for no title border

10.4.33 Constructor ArrayBean()

```
public
ArrayBean(
    mil.dtra.util.ValueProperties props,
    double[] values,
    boolean boundary_mode_flag,
    java.lang.String title
)
```

Constructs and creates this bean. Calls `init()`.

Parameters:

- props - object with properties for this
- values - initial array of values, or null
- boundary_mode_flag - true if the values are considered to be boundaries, false otherwise
- title - title for the border, or null for no title border

10.4.34 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles action events from the buttons in this bean.

Parameters:

event - action event

10.4.35 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

10.4.36 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    boolean boundary_mode_flag
)
```

Creates the components for this bean. This must be called before any event handling. It is called from `init()`.

Parameters:

props - object with properties for this
 boundary_mode_flag - true if the values are considered to be boundaries, false otherwise

10.4.37 Method createButtonPanel()

```
protected javax.swing.JPanel
createButtonPanel( mil.dtra.util.ValueProperties props )
```

Creates a panel with buttons for actions: ADD, CHANGE, CLEAR, COMPUTE, DELETE, LOAD, and SAVE.

Parameters:

props - object with properties for this

Returns:

new panel component

10.4.38 Method `getAllowDuplicateValues()`

```
public final boolean
getAllowDuplicateValues()
```

Accessor for the *allowDuplicateValues* property.

Returns:

true if duplicate values are to be allowed, false otherwise

10.4.39 Method `getBoundaryModeFlag()`

```
public final boolean
getBoundaryModeFlag()
```

Accessor for the *boundaryModeFlag* property.

Returns:

true if the values are considered to be boundaries, false otherwise

10.4.40 Method `getCountLabel()`

```
public final javax.swing.JLabel
getCountLabel()
```

Returns the count label `JLabel` object.

Returns:

reference to the count title label object

10.4.41 Method `getCountValueLabel()`

```
public final javax.swing.JLabel
getCountValueLabel()
```

Returns the count value `JLabel` object.

Returns:

reference to the count value label object

10.4.42 Method `getSignificantDigits()`

```
public final int  
getSignificantDigits()
```

Accessor for the *significantDigits* property.

Returns:

number of significant digits to display

10.4.43 Method `getValueList()`

```
public final javax.swing.JList  
getValueList()
```

Returns the value list `JList` object.

Returns:

reference to the list object

10.4.44 Method `getValueListLabel()`

```
public final javax.swing.JLabel  
getValueListLabel()
```

Returns the value list `JLabel` object.

Returns:

reference to the label object

10.4.45 Method `getValues()`

```
public final double[]  
getValues()
```

Accessor for the *values* property.

Returns:

array of values

10.4.46 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    double[] values,
    boolean boundary_mode_flag,
    java.lang.String title
)
```

Initializes and creates this bean, calling `create()`.

Parameters:

`props` - properties object for this (can be null)
`values` - initial array of values, or null
`boundary_mode_flag` - true if the values are considered to be boundaries, false otherwise
`title` - title for the border, or null for no title border

10.4.47 Method setAllowDuplicateValues()

```
public final void
setAllowDuplicateValues( boolean flag )
```

Accessor for the `allowDuplicateValues` property.

Parameters:

`flag` - true if duplicate values are to be allowed, false otherwise

10.4.48 Method setBoundaryModeFlag()

```
public void
setBoundaryModeFlag( boolean flag )
```

Accessor for the `boundaryModeFlag` property. If this method is called, you will probably want to change text for the count label via `getCountLabel().setText()`.

Parameters:

`flag` - true if the values are considered to be boundaries, false otherwise

10.4.49 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable each subcomponent bean.

Parameters:

`flag` - true to enable, false to disable

10.4.50 Method setSignificantDigits()

```
public final void
setSignificantDigits( int sig_digits )
```

Accessor for the `significantDigits` property. 8

Parameters:

`sig_digits` - number of significant digits to display

10.4.51 Method setValues()

```
public final void
setValues( double[] values )
```

Accessor for the `values` property.

Parameters:

`values` - array of values to load

10.4.52 Method showParseErrorBox()

```
protected void
showParseErrorBox( java.lang.String value_text )
```

Displays a warning message box with a message indicating an error parsing an entered value.

Parameters:

`value_text` - value entered by the user that was unparseable

10.4.53 Method startListening()

```
protected synchronized void
startListening()
```

Registers listeners for events on subcomponent beans.

10.4.54 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregisters listeners for events on subcomponent beans.

10.4.55 Method updateCountLabel()

```
public void
updateCountLabel()
```

Based on the number of values and the *boundaryModeFlag* property, updates the count value label.

10.4.56 Method valueChanged()

```
public void
valueChanged( javax.swing.event.ListSelectionEvent event )
```

ListSelectionListener event handler. It loads the value field with the item currently selected in the list.

Parameters:

event - list selection event

10.5 Class ArrayBean.ArrayCellRenderer

```
mil.dtra.hpac.client.swing
protected ArrayBean.ArrayCellRenderer
extends JLabel
implements ListCellRenderer,
```

ListCellRenderer implementation for representing a floating point value.

Methods:

```
public java.awt.Component getListCellRendererComponent()
```

10.5.1 Constructor ArrayBean.ArrayCellRenderer()

```
public  
ArrayBean.ArrayCellRenderer( mil.dtra.hpac.client.swing.ArrayBean this$0 )
```

Default constructor. Sets *opaque* to true and the *font* to the value list item's font.

10.5.2 Method getListCellRendererComponent()

```
public java.awt.Component  
getListCellRendererComponent(  
    javax.swing.JList list,  
    java.lang.Object value,  
    int index,  
    boolean is_selected,  
    boolean has_focus  
)
```

Represents the double value, setting the *foreground* and *background* according to whether or not the list has focus and the value is selected.

Parameters:

- list - list container
- value - value to represent
- index - value's index in the list
- is_selected - true if the value is currently selected in the list
- has_focus - true if the list has focus

10.6 Class ArrayBean.ArrayListModel

```
mil.dtra.hpac.client.swing  
protected ArrayBean.ArrayListModel  
extends AbstractListModel
```

ListModel implementation backed by a double[]. The fArrayList attribute of the ArrayBean holds the list of values.

Methods:

```
public void add()  
public java.lang.Object getElementAt()  
public int getSize()  
public final void remove()  
public void remove()  
public void removeAll()  
public void setValues()
```

10.6.1 Constructor ArrayBean.ArrayListModel()

protected
ArrayBean.ArrayListModel(mil.dtra.hpac.client.swing.ArrayBean this\$0)

10.6.2 Method add()

public void
add(double value)

Adds the specified value to the list.

Parameters:

value - value to add

10.6.3 Method getElementAt()

public java.lang.Object
getElementAt(int index)

Retrieves the value at the specified index.

Parameters:

index - index

Returns:

value at that index

10.6.4 Method getSize()

public int
getSize()

Retrieves the number of elements in the list.

Returns:

size of the list

10.6.5 Method remove()

```
public final void  
remove( double value )
```

Removes the value from the list.

Parameters:

value - value to remove

10.6.6 Method remove()

```
public void  
remove( int index )
```

Removes the value from the list at the specified index.

Parameters:

index - index of value to remove

10.6.7 Method removeAll()

```
public void  
removeAll()
```

Clears the list.

10.6.8 Method setValues()

```
public void  
setValues( double[] values )
```

Resets the list, loading the specified values.

Parameters:

values - new values for the list

10.7 Class ArrayBean.ArrayCellRenderer

```
mil.dtra.hpac.client.swing
protected ArrayBean.ArrayCellRenderer
extends JLabel
implements ListCellRenderer,
```

ListCellRenderer implementation for representing a floating point value.

Methods:

```
public java.awt.Component getListCellRendererComponent()
```

10.7.1 Constructor ArrayBean.ArrayCellRenderer()

```
public
ArrayBean.ArrayCellRenderer( mil.dtra.hpac.client.swing.ArrayBean this$0 )
```

Default constructor. Sets *opaque* to true and the *font* to the value list item's font.

10.7.2 Method getListCellRendererComponent()

```
public java.awt.Component
getListCellRendererComponent(
    javax.swing.JList list,
    java.lang.Object value,
    int index,
    boolean is_selected,
    boolean has_focus
)
```

Represents the double value, setting the *foreground* and *background* according to whether or not the list has focus and the value is selected.

Parameters:

- list - list container
- value - value to represent
- index - value's index in the list
- is_selected - true if the value is currently selected in the list
- has_focus - true if the list has focus

10.8 Class ArrayBean.ArrayListModel

```
mil.dtra.hpac.client.swing
protected ArrayListModel
extends AbstractListModel
```

`ListModel` implementation backed by a `double[]`. The `fArrayList` attribute of the `ArrayListBean` holds the list of values.

Methods:

```
public void add()
public java.lang.Object getElementAt()
public int getSize()
public final void remove()
public void remove()
public void removeAll()
public void setValues()
```

10.8.1 Constructor `ArrayListModel()`

```
protected
ArrayListModel( mil.dtra.hpac.client.swing.ArrayBean this$0 )
```

10.8.2 Method `add()`

```
public void
add( double value )
```

Adds the specified value to the list.

Parameters:

value - value to add

10.8.3 Method `getElementAt()`

```
public java.lang.Object
getElementAt( int index )
```

Retrieves the value at the specified index.

Parameters:

index - index

Returns:

value at that index

10.8.4 Method getSize()

```
public int  
getSize()
```

Retrieves the number of elements in the list.

Returns:

size of the list

10.8.5 Method remove()

```
public final void  
remove( double value )
```

Removes the value from the list.

Parameters:

value - value to remove

10.8.6 Method remove()

```
public void  
remove( int index )
```

Removes the value from the list at the specified index.

Parameters:

index - index of value to remove

10.8.7 Method removeAll()

```
public void
removeAll()
```

Clears the list.

10.8.8 Method setValues()

```
public void
setValues( double[] values )
```

Resets the list, loading the specified values.

Parameters:

values - new values for the list

10.9 Class ArrayComputeBean

```
mil.dtra.hpac.client.swing
public ArrayComputeBean
extends PDialogPanel
implements HPAC SwingConstants, SwingConstants,
```

Bean supporting the computation of an array of real values based on linear or logarithmic bounds and a specified array size.

Fields:

```
public static final java.lang.String ARRAY_COMPUTE_BEAN
protected boolean fBoundaryModeFlag
protected javax.swing.JTextField fCountField
protected javax.swing.JLabel fCountLabel
protected javax.swing.JRadioButton fLinearButton
protected javax.swing.JRadioButton fLogButton
protected javax.swing.JTextField fMaxField
protected javax.swing.JTextField fMinField
public static final int LINEAR
public static final int LOGARITHMIC
```

Methods:

```
public void clear()
public double[] computeValues()
protected void create()
public final boolean getBoundaryModeFlag()
```

```

public final int getCount()
public final javax.swing.JLabel getCountLabel()
public final double getMaximum()
public final double getMinimum()
public final int getMode()
public void init()
public void setBoundaryModeFlag()
public final void setCount()
public final void setMaximum()
public final void setMinimum()
public final void setMode()

```

10.9.1 Field `ARRAY_COMPUTE_BEAN`

public static final java.lang.String **ARRAY_COMPUTE_BEAN**

10.9.2 Field `fBoundaryModeFlag`

protected boolean **fBoundaryModeFlag**

10.9.3 Field `fCountField`

protected javax.swing.JTextField **fCountField**

10.9.4 Field `fCountLabel`

protected javax.swing.JLabel **fCountLabel**

10.9.5 Field `fLinearButton`

protected javax.swing.JRadioButton **fLinearButton**

10.9.6 Field `fLogButton`

protected javax.swing.JRadioButton **fLogButton**

10.9.7 Field `fMaxField`

protected javax.swing.JTextField **fMaxField**

10.9.8 Field fMinField

```
protected javax.swing.JTextField fMinField
```

10.9.9 Field LINEAR

```
public static final int LINEAR
```

Linear *mode* value

10.9.10 Field LOGARITHMIC

```
public static final int LOGARITHMIC
```

Logarithmic *mode* value

10.9.11 Constructor ArrayComputeBean()

```
public  
ArrayComputeBean()
```

Default constructor which does not create the bean. You must call `init()` if this has not been serialized.

10.9.12 Constructor ArrayComputeBean()

```
public  
ArrayComputeBean(  
    mil.dtra.util.ValueProperties props,  
    boolean boundary_mode_flag  
)
```

Constructs and creates this bean assuming no titled border. Calls `init()`.

Parameters:

`props` - object with properties for this
`boundary_mode_flag` - true if the values are considered to be boundaries, false otherwise

10.9.13 Constructor ArrayComputeBean()

```
public
ArrayComputeBean(
    mil.dtra.util.ValueProperties props,
    boolean boundary_mode_flag,
    java.lang.String title
)
```

Constructs and creates this bean. Calls init().

Parameters:

props - object with properties for this
boundary_mode_flag - true if the values are considered to be boundaries, false otherwise
title - title for titled border or null for no titled border

10.9.14 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

10.9.15 Method computeValues()

```
public double[]
computeValues()
```

Computes the value array based on current property values.

Returns:

new values or null if they could not be computed

10.9.16 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    boolean boundary_mode_flag
)
```

Creates the components for this bean.

Parameters:

props - object with properties for this
 boundary_mode_flag - true if the values are considered to be boundaries, false otherwise

10.9.17 Method **getBoundaryModeFlag()**

public final boolean
getBoundaryModeFlag()

Accessor for the *boundaryModeFlag* property.

Returns:

true if the values are considered to be boundaries, false otherwise

10.9.18 Method **getCount()**

public final int
getCount()

Accessor for the *count* property.

Returns:

number of values as entered by the user or 0

10.9.19 Method **getCountLabel()**

public final javax.swing.JLabel
getCountLabel()

Retrieves the JLabel label object for the count bean.

Returns:

reference to the label object

10.9.20 Method `getMaximum()`

```
public final double
getMaximum()
```

Accessor for the *maximum* property.

Returns:

maximum value as entered by the user or 0.0

10.9.21 Method `getMinimum()`

```
public final double
getMinimum()
```

Accessor for the *minimum* property.

Returns:

minimum value as entered by the user or 0.0

10.9.22 Method `getMode()`

```
public final int
getMode()
```

Accessor for the *mode* property.

Returns:

LINEAR or LOGARITHMIC

10.9.23 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    boolean boundary_mode_flag,
    java.lang.String title
)
```

Initializes and creates this bean.

Parameters:

props - object with properties for this
 boundary_mode_flag - true if the values are considered to be boundaries, false otherwise
 title - title for titled border or null for no titled border

10.9.24 Method **setBoundaryModeFlag()**

```
public void
setBoundaryModeFlag( boolean flag )
```

Accessor for the *boundaryModeFlag* property. If this method is called, you will probably want to change text for the count label via `getCountLabel().setText()`.

Parameters:

flag - true if the values are considered to be boundaries, false otherwise

10.9.25 Method **setCount()**

```
public final void
setCount( int count )
```

Accessor for the *count* property.

Parameters:

count - number of values for the array (array size)

10.9.26 Method **setMaximum()**

```
public final void
setMaximum( double value )
```

Accessor for the *minimum* property.

Parameters:

value - maximum value

10.9.27 Method **setMinimum()**

```
public final void
setMinimum( double value )
```

Accessor for the *minimum* property.

Parameters:

value - minimum value

10.9.28 Method setMode()

```
public final void
setMode( int mode )
```

Accessor for the *mode* property.

Parameters:

mode - LINEAR or LOGARITHMIC

10.10 Class AuxBox

```
mil.dtra.hpac.client.swing
public AuxBox
extends JPanel
implements AuxBoxIfc, AuxConstants, PropsSerializer, SwingConstants,
```

Auxiliary box to be displayed on the map display.

Fields:

```
public static final java.lang.String AUX_BOX
public static final int DEFAULT_OFFSET
protected transient boolean fAssignedVisibility
protected mil.dtra.hpac.client.swing.AuxLine fLine
protected int fMode
protected int fOffset
protected int fOrientation
protected java.awt.Component fReference
protected transient java.awt.event.ComponentListener fReferenceListener
protected boolean fShowLine
public static final java.lang.String PROP_mode
public static final java.lang.String PROP_offset
public static final java.lang.String PROP_orientation
public static final java.lang.String PROP_showLine
public static final java.lang.String PROP_visible
```

Methods:

```
protected void addLine()
public void addNotify()
protected java.awt.Point computeLocation()
protected mil.dtra.hpac.client.swing.AuxLine createLine()
public final mil.dtra.hpac.client.swing.AuxLine getLine()
public final int getMode()
public final int getOffset()
public final int getOrientation()
```

```

public final java.awt.Component getReferenceComponent()
public final boolean getShowLine()
public void init()
public boolean isFocusTraversable()
public void readProps()
protected void removeLine()
public void removeNotify()
public void setMode()
public final void setOffset()
public final void setOrientation()
public void setShowLine()
public void setTransientVisibility()
public void setVisible()
public void writeProps()

```

Inner Classes:

AuxBox.ReferenceListener

10.10.1 Field AUX_BOX

public static final java.lang.String AUX_BOX

10.10.2 Field DEFAULT_OFFSET

public static final int DEFAULT_OFFSET

10.10.3 Field fAssignedVisibility

protected transient boolean fAssignedVisibility

Tracks visibility as assigned via setVisible() versus that determined based response to reference component visibility

10.10.4 Field fLine

protected mil.dtra.hpac.client.swing.AuxLine fLine

Line drawn b/w this and the reference component (defaults to null)

10.10.5 Field fMode

protected int fMode

mode for determining the offset from the reference component (defaults to MODE_bounds)

10.10.6 Field fOffset

protected int **fOffset**

pixel distance from reference component (either bounds or center as per *mode* property)

10.10.7 Field fOrientation

protected int **fOrientation**

one of SwingConstants.BOTTOM, LEFT, RIGHT, TOP

10.10.8 Field fReference

protected java.awt.Component **fReference**

reference component

10.10.9 Field fReferenceListener

protected transient java.awt.event.ComponentListener **fReferenceListener**

10.10.10 Field fShowLine

protected boolean **fShowLine**

10.10.11 Field PROP_mode

public static final java.lang.String **PROP_mode**

10.10.12 Field PROP_offset

public static final java.lang.String **PROP_offset**

10.10.13 Field PROP_orientation

public static final java.lang.String **PROP_orientation**

10.10.14 Field PROP_showLine

public static final java.lang.String **PROP_showLine**

10.10.15 Field PROP_visible

```
public static final java.lang.String PROP_visible
```

10.10.16 Constructor AuxBox()

```
public  
AuxBox()
```

Default constructor. Must call init() or deserialize.

10.10.17 Constructor AuxBox()

```
public  
AuxBox(  
    mil.dtra.util.ValueProperties props,  
    java.awt.Component reference  
)
```

Explicit constructor. Calls init().

Parameters:

props - object with properties for this
reference - reference component

10.10.18 Method addLine()

```
protected void  
addLine()
```

10.10.19 Method addNotify()

```
public void  
addNotify()
```

10.10.20 Method computeLocation()

```
protected java.awt.Point  
computeLocation()
```

Computes the location for this relative to the reference component.

10.10.21 Method createLine()

```
protected mil.dtra.hpac.client.swing.AuxLine
createLine(
    mil.dtra.util.ValueProperties props,
    java.awt.Component reference
)
```

This implementation returns null, but extensions can override to create an AuxLine to be drawn from the reference component to this.

Returns:

null for no line, or a new AuxLine instance

10.10.22 Method getLine()

```
public final mil.dtra.hpac.client.swing.AuxLine
getLine()
```

Returns:

reference to the line object (may be null)

10.10.23 Method getMode()

```
public final int
getMode()
```

Accessor for the *mode* property. Specifies the mode for computing offset for this from the reference component.

10.10.24 Method getOffset()

```
public final int
getOffset()
```

Accessor for the *offset* property. Specifies the pixel offset for this from the reference component.

10.10.25 Method getOrientation()

```
public final int
getOrientation()
```

Accessor for the *orientation* property. One of SwingConstants.TOP, LEFT, RIGHT, BOTTOM

10.10.26 Method `getReferenceComponent()`

```
public final java.awt.Component
getReferenceComponent()
```

Returns the *referenceComponent* for which this is an auxiliary box.

Returns:

component reference

10.10.27 Method `getShowLine()`

```
public final boolean
getShowLine()
```

Accessor for the *showLine* property.

10.10.28 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    java.awt.Component reference
)
```

Initializes properties and calls `createLine()`.

Parameters:

`props` - object with properties for this
`reference` - reference component

10.10.29 Method `isFocusTraversable()`

```
public boolean
isFocusTraversable()
```

10.10.30 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Explicit deserialization.

10.10.31 Method removeLine()

```
protected void
removeLine()
```

10.10.32 Method removeNotify()

```
public void
removeNotify()
```

10.10.33 Method setMode()

```
public void
setMode( int mode )
```

Accessor for the *mode* property. Specifies the mode for computing offset for this from the reference component.

10.10.34 Method setOffset()

```
public final void
setOffset( int offset )
```

Accessor for the *offset* property. Specifies the pixel offset for this from the reference component.

10.10.35 Method setOrientation()

```
public final void
setOrientation( int orientation )
```

Accessor for the *orientation* property. One of `SwingConstants.TOP`, `LEFT`, `RIGHT`, `BOTTOM`

10.10.36 Method setShowLine()

```
public void
setShowLine( boolean flag )
```

Accessor for the *showLine* property.

10.10.37 Method setTransientVisibility()

```
public void
setTransientVisibility( boolean visible )
```

Sets visibility in a transient sense, relative to the visibility of the reference component.

10.10.38 Method setVisible()

```
public void
setVisible( boolean visible )
```

Overrides `JComponent.setVisible()` to hide the icon line as well.

10.10.39 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Explicit serialization.

10.11 Class AuxBox.ReferenceListener

```
mil.dtra.hpac.client.swing
protected AuxBox.ReferenceListener
extends Object
implements ComponentListener,
```

Methods:

```
public void componentHidden()
public void componentMoved()
public void componentResized()
public void componentShown()
```

10.11.1 Constructor AuxBox.ReferenceListener()

protected
AuxBox.ReferenceListener(mil.dtra.hpac.client.swing.AuxBox this\$0)

10.11.2 Method componentHidden()

public void
componentHidden(java.awt.event.ComponentEvent event)

10.11.3 Method componentMoved()

public void
componentMoved(java.awt.event.ComponentEvent event)

10.11.4 Method componentResized()

public void
componentResized(java.awt.event.ComponentEvent event)

10.11.5 Method componentShown()

public void
componentShown(java.awt.event.ComponentEvent event)

10.12 Class AuxBox.ReferenceListener

mil.dtra.hpac.client.swing
protected **AuxBox.ReferenceListener**
extends Object
implements ComponentListener,

Methods:

public void componentHidden()
public void componentMoved()
public void componentResized()
public void componentShown()

10.12.1 Constructor AuxBox.ReferenceListener()

protected

AuxBox.ReferenceListener(mil.dtra.hpac.client.swing.AuxBox this\$0)**10.12.2 Method componentHidden()**

public void

componentHidden(java.awt.event.ComponentEvent event)**10.12.3 Method componentMoved()**

public void

componentMoved(java.awt.event.ComponentEvent event)**10.12.4 Method componentResized()**

public void

componentResized(java.awt.event.ComponentEvent event)**10.12.5 Method componentShown()**

public void

componentShown(java.awt.event.ComponentEvent event)**10.13 Class AuxIcon**

mil.dtra.hpac.client.swing

public abstract **AuxIcon**

extends MapIcon

Extension of MapIcon for an icon which is associated with another MapIcon and has an optional line drawn to indicate the association.

Note: This implementation will need some beefing up to be used but is here as a place holder. It should probably do the same reference component listening as AuxBox.

Fields:

```
public static final java.lang.String AUX_ICON
protected mil.dtra.hpac.client.swing.MapIcon fAssociate
protected mil.dtra.hpac.client.swing.AuxLine fIconLine
```

Methods:

```
protected synchronized void addLine()
public void addNotify()
protected javax.swing.JPopupMenu createPopupMenu()
public final mil.dtra.hpac.client.swing.AuxLine getIconLine()
public void init()
protected synchronized void removeLine()
public void removeNotify()
```

10.13.1 Field AUX_ICON

public static final java.lang.String **AUX_ICON**

10.13.2 Field fAssociate

protected mil.dtra.hpac.client.swing.MapIcon **fAssociate**

10.13.3 Field fIconLine

protected mil.dtra.hpac.client.swing.AuxLine **fIconLine**

10.13.4 Constructor AuxIcon()

public
AuxIcon()

Default constructor in case we ever deserialize one of these. It assumes "self drag" will be disabled.

10.13.5 Constructor AuxIcon()

protected
AuxIcon(boolean enable_drag)

Constructs only with a specification of whether or not drags are enabled. This constructor is intended for subclasses.

Parameters:

enable_drag - true to enable "self drags" for this component, false otherwise

10.13.6 Constructor AuxIcon()

```
public
AuxIcon(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.swing.MapIcon associate,
    javax.swing.Icon icon,
    boolean enable_drag
)
```

Constructs this bean, calling `init()`.

Parameters:

props - object with properties for this
associate - reference component to which this is linked
icon - icon to use in displaying this

10.13.7 Method addLine()

protected synchronized void
addLine()

10.13.8 Method addNotify()

public void
addNotify()

10.13.9 Method createPopupMenu()

protected javax.swing.JPopupMenu
createPopupMenu()

Calls `createDefaultPopupMenu()`.

Returns:

default popup menu

10.13.10 Method getIconLine()

```
public final mil.dtra.hpac.client.swing.AuxLine
getIconLine()
```

Accessor for the *iconLine* property. The line is drawn from the reference or associated component to this.

Returns:

reference to the component

10.13.11 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.swing.MapIcon associate,
    javax.swing.Icon icon
)
```

Initializes and creates this bean.

Parameters:

props - object with properties for this
associate - reference component to which this is linked
icon - icon to use in displaying this

10.13.12 Method removeLine()

```
protected synchronized void
removeLine()
```

10.13.13 Method removeNotify()

```
public void
removeNotify()
```

10.14 Class AuxLine

```
mil.dtra.hpac.client.swing
public AuxLine
extends JComponent
implements AuxConstants, AuxLineIfc,
```

Line drawn on the map display b/w two components.

Fields:

```
public static final java.lang.String AUX_LINE
protected float fArrowLength
protected transient boolean fAssignedVisibility
protected int fClickDistance
protected transient java.awt.event.ComponentListener fComponentHandler
protected java.awt.Component fFrom
protected int fFromMode
protected transient java.awt.Point[] fPoints
protected boolean fShowArrow
protected transient java.awt.BasicStroke fStroke
protected java.awt.Dimension fTargetMargin
protected java.awt.Component fTo
protected int fToMode
```

Methods:

```
public void addNotify()
protected void configure()
public boolean contains()
public final float getArrowLength()
public final int getClickDistance()
public final java.awt.Component getFromComponent()
public final int getFromMode()
public final float getLineWidth()
public java.awt.Dimension getPreferredSize()
public final boolean getShowArrow()
public final java.awt.Dimension getTargetMargin()
public final java.awt.Component getToComponent()
public final int getToMode()
public void init()
public boolean isFocusTraversable()
protected void paintComponent()
public void reconfigure()
public final void setArrowLength()
public final void setClickDistance()
public void setFromComponent()
public final void setFromMode()
```

```
public void setLineWidth()
public final void setShowArrow()
public final void setTargetMargin()
public final void setTargetMargin()
public final void setToComponent()
public final void setToMode()
public void setTransientVisibility()
public void setVisible()
```

Inner Classes:

AuxLine.ComponentHandler

10.14.1 Field AUX_LINE

public static final java.lang.String **AUX_LINE**

10.14.2 Field fArrowLength

protected float **fArrowLength**

10.14.3 Field fAssignedVisibility

protected transient boolean **fAssignedVisibility**

10.14.4 Field fClickDistance

protected int **fClickDistance**

10.14.5 Field fComponentHandler

protected transient java.awt.event.ComponentListener **fComponentHandler**

10.14.6 Field fFrom

protected java.awt.Component **fFrom**

10.14.7 Field fFromMode

protected int **fFromMode**

10.14.8 Field fPoints

```
protected transient java.awt.Point[] fPoints
```

10.14.9 Field fShowArrow

```
protected boolean fShowArrow
```

10.14.10 Field fStroke

```
protected transient java.awt.BasicStroke fStroke
```

10.14.11 Field fTargetMargin

```
protected java.awt.Dimension fTargetMargin
```

10.14.12 Field fTo

```
protected java.awt.Component fTo
```

10.14.13 Field fToMode

```
protected int fToMode
```

10.14.14 Constructor AuxLine()

```
public  
AuxLine()
```

Default constructor. Must call `init()` or deserialize.

10.14.15 Constructor AuxLine()

```
public  
AuxLine(  
    mil.dtra.util.ValueProperties props,  
    java.awt.Component from,  
    java.awt.Component to  
)
```

Explicit constructor. Calls `init()`.

Parameters:

props - object with properties for this
 from - from component
 to - to component

10.14.16 Method `addNotify()`

public void
addNotify()

10.14.17 Method `configure()`

protected void
configure()

Computes bounds and line points.

10.14.18 Method `contains()`

public boolean
contains(
 int x,
 int y
)

Overrides `JComponent.contains()` to check for a point-line distance within *clickDistance*.

10.14.19 Method `getArrowLength()`

public final float
getArrowLength()

Accessor for the *arrowLength* property.

10.14.20 Method `getClickDistance()`

```
public final int  
getClickDistance()
```

Accessor for the *clickDistance* property.

10.14.21 Method `getFromComponent()`

```
public final java.awt.Component  
getFromComponent()
```

Accessor for the *fromComponent* property.

Returns:

object reference

10.14.22 Method `getFromMode()`

```
public final int  
getFromMode()
```

Accessor for the *fromMode* property.

10.14.23 Method `getLineWidth()`

```
public final float  
getLineWidth()
```

Accessor for the *lineWidth* property.

Returns:

pixel width

10.14.24 Method `getPreferredSize()`

```
public java.awt.Dimension  
getPreferredSize()
```

10.14.25 Method `getShowArrow()`

```
public final boolean  
getShowArrow()
```

Accessor for the *showArrow* property.

Returns:

true if a directional arrow is to be drawn, false otherwise

10.14.26 Method `getTargetMargin()`

```
public final java.awt.Dimension  
getTargetMargin()
```

Accessor for the *targetMargin* property.

Returns:

object copy

10.14.27 Method `getToComponent()`

```
public final java.awt.Component  
getToComponent()
```

Accessor for the *toComponent* property.

Returns:

object reference

10.14.28 Method `getToMode()`

```
public final int  
getToMode()
```

Accessor for the *toMode* property.

10.14.29 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    java.awt.Component from,
    java.awt.Component to
)
```

Parameters:

props - object with properties for this
 from - from component
 to - to component

10.14.30 Method isFocusTraversable()

```
public boolean
isFocusTraversable()
```

10.14.31 Method paintComponent()

```
protected void
paintComponent( java.awt.Graphics graphics )
```

10.14.32 Method reconfigure()

```
public void
reconfigure()
```

10.14.33 Method setArrowLength()

```
public final void
setArrowLength( float length )
```

Accessor for the *arrowLength* property.

10.14.34 Method setClickDistance()

```
public final void
setClickDistance( int distance )
```

Accessor for the *clickDistance* property.

10.14.35 Method **setFromComponent()**

```
public void  
setFromComponent( java.awt.Component from )
```

Accessor for the *fromComponent* property.

Parameters:

from - object reference

10.14.36 Method **setFromMode()**

```
public final void  
setFromMode( int mode )
```

Accessor for the *fromMode* property.

10.14.37 Method **setLineWidth()**

```
public void  
setLineWidth( float width )
```

Accessor for the *lineWidth* property.

Parameters:

width - pixel width

10.14.38 Method **setShowArrow()**

```
public final void  
setShowArrow( boolean flag )
```

Accessor for the *showArrow* property.

Parameters:

flag - true if a directional arrow is to be drawn, false otherwise

10.14.39 Method `setTargetMargin()`

```
public final void
setTargetMargin( java.awt.Dimension margin )
```

Accessor for the *targetMargin* property.

10.14.40 Method `setTargetMargin()`

```
public final void
setTargetMargin(
    int wd,
    int ht
)
```

Accessor for the *targetMargin* property.

10.14.41 Method `setToComponent()`

```
public final void
setToComponent( java.awt.Component to )
```

Accessor for the *toComponent* property.

Parameters:

from - object reference

10.14.42 Method `setToMode()`

```
public final void
setToMode( int mode )
```

Accessor for the *toMode* property.

10.14.43 Method `setTransientVisibility()`

```
public void
setTransientVisibility( boolean visible )
```

Sets visibility in a transient sense, relative to the visibility of the reference component.

10.14.44 Method setVisible()

```
public void
setVisible( boolean visible )
```

Overrides `JComponent.setVisible()` to hide the icon line as well.

10.15 Class AuxLine.ComponentHandler

```
mil.dtra.hpac.client.swing
protected AuxLine.ComponentHandler
extends Object
implements ComponentListener,
```

Methods:

```
public void componentHidden()
public void componentMoved()
public void componentResized()
public void componentShown()
```

10.15.1 Constructor AuxLine.ComponentHandler()

```
protected
AuxLine.ComponentHandler( mil.dtra.hpac.client.swing.AuxLine this$0 )
```

10.15.2 Method componentHidden()

```
public void
componentHidden( java.awt.event.ComponentEvent event )
```

10.15.3 Method componentMoved()

```
public void
componentMoved( java.awt.event.ComponentEvent event )
```

10.15.4 Method componentResized()

```
public void
componentResized( java.awt.event.ComponentEvent event )
```

10.15.5 Method componentShown()

```
public void
componentShown( java.awt.event.ComponentEvent event )
```

10.16 Class AuxLine.ComponentHandler

```
mil.dtra.hpac.client.swing
protected AuxLine.ComponentHandler
extends Object
implements ComponentListener,
```

Methods:

```
public void componentHidden()
public void componentMoved()
public void componentResized()
public void componentShown()
```

10.16.1 Constructor AuxLine.ComponentHandler()

```
protected
AuxLine.ComponentHandler( mil.dtra.hpac.client.swing.AuxLine this$0 )
```

10.16.2 Method componentHidden()

```
public void
componentHidden( java.awt.event.ComponentEvent event )
```

10.16.3 Method componentMoved()

```
public void
componentMoved( java.awt.event.ComponentEvent event )
```

10.16.4 Method componentResized()

```
public void
componentResized( java.awt.event.ComponentEvent event )
```

10.16.5 Method componentShown()

```
public void
componentShown( java.awt.event.ComponentEvent event )
```

10.17 Class HPAC Swing Utils

```
mil.dtra.hpac.client.swing
public final HPAC Swing Utils
extends Object
implements HPAC Swing Constants,
```

Utility class with methods supporting the creation of HPAC GUI components.

Methods:

```
public static java.awt.FlowLayout createFlowLayout()
public static java.awt.FlowLayout createFlowLayout()
public static java.awt.FlowLayout createHeaderFlowLayout()
public static javax.swing.JDialog createSimpleBox()
public static void setCursor()
public static void showMessageBox()
public static void showPopupMenu()
```

10.17.1 Constructor HPAC Swing Utils()

```
public
HPAC Swing Utils()
```

10.17.2 Method createFlowLayout()

```
public static java.awt.FlowLayout
createFlowLayout()
```

Creates a FlowLayout instance with the gaps set with the constants ITEM_HORIZ_STRUT_SIZE and ITEM_VERT_STRUT_SIZE in HPAC Swing Constants, respectively and a CENTER alignment.

10.17.3 Method createFlowLayout()

```
public static java.awt.FlowLayout
createFlowLayout( int alignment )
```

Creates a FlowLayout instance with the gaps set with the constants ITEM_HORIZ_STRUT_SIZE and ITEM_VERT_STRUT_SIZE in HPAC Swing Constants, respectively.

10.17.4 Method `createHeaderFlowLayout()`

```
public static java.awt.FlowLayout
createHeaderFlowLayout()
```

Creates a `FlowLayout` instance with the gaps set with the constants `HEADER_HORZ_STRUT_SIZE` and `HEADER_VERT_STRUT_SIZE` in `HPAC Swing Constants`, respectively and a `CENTER` alignment.

10.17.5 Method `createSimpleBox()`

```
public static javax.swing.JDialog
createSimpleBox(
    java.awt.Component parent,
    java.lang.String message
)
```

Creates a non-modal `JDialog` with a `JLabel` containing the specified message.

Parameters:

- `parent` - parent component (may be null)
- `message` - message to display

10.17.6 Method `setCursor()`

```
public static void
setCursor(
    java.awt.Component component,
    java.awt.Cursor cursor
)
```

Sets the component cursor in the event dispatch thread. Can be called from any thread.

Parameters:

- `component` - component for which to set a cursor
- `cursor` - cursor for the component

10.17.7 Method `showMessageBox()`

```
public static void
showMessageBox(

    java.awt.Component parent,
    java.lang.Object message,
    java.lang.String title,
    int type
)
```

Displays the message in a `JOptionPane` in the Swing event dispatch thread. It also wraps the message by calling `DataUtils.wrapString()` if it is a simple `String`. This method may be called from any thread.

Parameters:

- parent - parent for the message box dialog (null for the root frame)
- title - message box dialog title
- type - message type (one of constants defined in `JOptionPane`)

10.17.8 Method `showPopupMenu()`

```
public static void
showPopupMenu(

    javax.swing.JPopupMenu popup,
    java.awt.Component parent,
    int x,
    int y
)
```

Displays the popup menu in the event dispatch thread. Can be called from any thread.

Parameters:

- popup - popup menu to display
- parent - component owning the menu
- x - x menu display position relative to the parent
- y - y menu display position relative to the parent

10.18 Class Legend

```
mil.dtra.hpac.client.swing
public Legend
extends AuxBox
```

Fields:

```
protected java.util.HashMap fItemHash
public static final java.lang.String LEGEND
```

Methods:

```
public void addLegendItem()
protected mil.dtra.hpac.client.swing.AuxLine createLine()
public java.awt.Dimension getMinimumSize()
public void init()
public void removeLegendItem()
```

Inner Classes:

Legend.ColorItem

10.18.1 Field fItemHash

protected java.util.HashMap fItemHash

10.18.2 Field LEGEND

public static final java.lang.String LEGEND

10.18.3 Constructor Legend()

```
public
Legend()
```

Default constructor. Must call `init()` or deserialize.

10.18.4 Constructor Legend()

```
public
Legend(
    mil.dtra.util.ValueProperties props,
    java.awt.Component reference
)
```

Explicit constructor. Calls super constructor.

Parameters:

props - object with properties for this
reference - reference component

10.18.5 Method addLegendItem()

```
public void
addLegendItem(
    java.lang.String text,
    java.awt.Color color
)
```

10.18.6 Method createLine()

```
protected mil.dtra.hpac.client.swing.AuxLine
createLine(
    mil.dtra.util.ValueProperties props,
    java.awt.Component reference
)
```

Overrides AuxBox.createLine() to return an AuxLine instance.

Returns:

new AuxLine instance

10.18.7 Method getMinimumSize()

```
public java.awt.Dimension
getMinimumSize()
```

10.18.8 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    java.awt.Component reference
)
```

Overrides AuxBox.init() to set the mode to MODE_center after calling super.init().

Parameters:

props - object with properties for this
reference - reference component

10.18.9 Method removeLegendItem()

```
public void
removeLegendItem( java.lang.String text )
```

10.19 Class Legend.ColorItem

```
mil.dtra.hpac.client.swing
public static Legend.ColorItem
extends JComponent
```

Fields:

```
protected java.awt.Color fColor
```

Methods:

```
public java.awt.Dimension getMaximumSize()
public java.awt.Dimension getMinimumSize()
public java.awt.Dimension getPreferredSize()
public void paintComponent()
```

10.19.1 Field fColor

```
protected java.awt.Color fColor
```

10.19.2 Constructor Legend.ColorItem()

```
public
Legend.ColorItem()
```

Default constructor for deserialization.

10.19.3 Constructor Legend.ColorItem()

```
public
Legend.ColorItem( java.awt.Color color )
```

Explicit constructor.

10.19.4 Method getMaximumSize()

```
public java.awt.Dimension
getMaximumSize()
```

10.19.5 Method getMinimumSize()

```
public java.awt.Dimension
getMinimumSize()
```

10.19.6 Method getPreferredSize()

```
public java.awt.Dimension
getPreferredSize()
```

10.19.7 Method paintComponent()

```
public void
paintComponent( java.awt.Graphics gfx )
```

10.20 Class Legend.ColorItem

```
mil.dtra.hpac.client.swing
public static Legend.ColorItem
extends JComponent
```

Fields:

protected java.awt.Color fColor

Methods:

```
public java.awt.Dimension getMaximumSize()
public java.awt.Dimension getMinimumSize()
public java.awt.Dimension getPreferredSize()
public void paintComponent()
```

10.20.1 Field fColor

protected java.awt.Color fColor

10.20.2 Constructor Legend.ColorItem()

```
public
Legend.ColorItem()
```

Default constructor for deserialization.

10.20.3 Constructor Legend.ColorItem()

```
public
Legend.ColorItem( java.awt.Color color )
```

Explicit constructor.

10.20.4 Method getSize()

```
public java.awt.Dimension
getSize()
```

10.20.5 Method getPreferredSize()

```
public java.awt.Dimension
getPreferredSize()
```

10.20.6 Method paintComponent()

```
public java.awt.Dimension
paintComponent( java.awt.Graphics gfx )
```

10.21 Class MapIcon

```
mil.dtra.hpac.client.swing
public abstract MapIcon
extends SimpleMapIcon
implements ActionListener,
```

Extends SimpleMapIcon to provide constructs supporting a popup menu. Subclasses must implement showEditDialog(). Mouse support is added for showing the popup with a right click and showing the edit dialog on a left double-click.

Fields:

```
public static final java.lang.String DELETE
public static final java.lang.String EDIT
protected transient javax.swing.JPopupMenu fPopupMenu
public static final java.lang.String MAP_ICON
protected static mil.dtra.swing.MenuItemSpec[] popupMenuItemSpecs_
```

Methods:

```
public void actionPerformed()
protected javax.swing.JPopupMenu createDefaultPopupMenu()
protected abstract javax.swing.JPopupMenu createPopupMenu()
public boolean isFocusTraversable()
protected void processKeyEvent()
protected void processMouseEvent()
public void showEditDialog()
public abstract void showEditDialog()
public void showPopupMenu()
```

10.21.1 Field DELETE

```
public static final java.lang.String DELETE
```

10.21.2 Field EDIT

```
public static final java.lang.String EDIT
```

10.21.3 Field fPopupMenu

```
protected transient javax.swing.JPopupMenu fPopupMenu
```

10.21.4 Field MAP_ICON

```
public static final java.lang.String MAP_ICON
```

10.21.5 Field popupMenuItemSpecs_

```
protected static mil.dtra.swing.MenuItemSpec[] popupMenuItemSpecs_
```

10.21.6 Constructor MapIcon()

```
protected  
MapIcon( boolean enable_drag )
```

Base constructor for use by subclasses. Creates the popup menu by calling `createPopupMenu()`. Note that the `icon` property must be set after deserialization.

Parameters:

enable_drag - set to true if location changing "self drags" are to be supported

10.21.7 Constructor MapIcon()

```
protected  
MapIcon(  
    javax.swing.Icon icon,  
    boolean enable_drag  
)
```

Constructs with the specified icon. Calls the other constructor and `setIcon()`.

Parameters:

icon - icon to display in this
enable_drag - set to true if location changing "self drags" are to be supported

10.21.8 Method actionPerformed()

```
public void  
actionPerformed( java.awt.event.ActionEvent event )
```

Handles action events from popup menu items.

Parameters:

event - action event

10.21.9 Method createDefaultPopupMenu()

```
protected javax.swing.JPopupMenu  
createDefaultPopupMenu()
```

Creates the popup menu with "Delete" and "Edit..." items and a title of "Map Icon".

Returns:

new popup menu object

10.21.10 Method createPopupMenu()

```
protected abstract javax.swing.JPopupMenu
createPopupMenu()
```

Subclasses must define this method to either return null, for no popup menu, or to create one. The `createDefaultPopupMenu()` method may be called for a default menu.

Returns:

new popup menu object

10.21.11 Method isFocusTraversable()

```
public boolean
isFocusTraversable()
```

Overrides `JComponent.isFocusTraversable()`.

Returns:

true

10.21.12 Method processKeyEvent()

```
protected void
processKeyEvent( java.awt.event.KeyEvent event )
```

Overrides `SimpleMapIcon.processKeyEvent()` to support the Shift-F10 accelerator for posting the menu. Calls `super.processKeyEvent()`.

Parameters:

event - key event

10.21.13 Method processMouseEvent()

```
protected void
processMouseEvent( java.awt.event.MouseEvent event )
```

Overrides `SimpleMapIcon.processMouseEvent()` to check for the popup menu trigger, which results in a call to `showPopupMenu()`, and double-clicks resulting in a call to `showEditDialog()`. Calls `super.processMouseEvent()`.

Parameters:

event - mouse event

10.21.14 Method showEditDialog()

```
public void
showEditDialog()
```

Calls `showEditDialog()` with `this` as the component parameter.

10.21.15 Method showEditDialog()

```
public abstract void
showEditDialog( java.awt.Component component )
```

Show the edit dialog. Subclasses must implement.

Parameters:

`component` - dialog owner

10.21.16 Method showPopupMenu()

```
public void
showPopupMenu(
    int x,
    int y
)
```

Displays the popup menu at the specified location relative to this.

Parameters:

`x` - popup x pixel position relative to this
`y` - popup y pixel position relative to this

10.22 Class MaterialListBean

```
mil.dtra.hpac.client.swing
public MaterialListBean
extends PDialogPanel
implements ActionListener, HPACSwingConstants, ListSelectionListener, PropertyChangeListener,
```

Bean for editing a `MaterialList` value.

Has been supplanted by `MaterialEditor` and is not currently used in HPAC.

Fields:

```

public static final java.lang.String CLEAR
public static final java.lang.String DELETE
protected javax.swing.JPanel fCardPanel
protected transient volatile boolean fListeningFlag
protected volatile mil.dtra.hpac.material.data.MaterialList fMaterialList
protected mil.dtra.swing.PList fMaterialListItem
protected transient mil.dtra.hpac.client.swing.MaterialListBean.MaterialListModel fMaterialListModel
protected mil.dtra.util.ValueProperties fProps
public static final java.lang.String LOAD
public static final java.lang.String MATERIAL_LIST_BEAN
public static final java.lang.String NEW
public static final java.lang.String PROP_materialList
public static final java.lang.String SAVE

```

Methods:

```

public void actionPerformed()
public void checkMaterialListVeto()
public void clear()
protected void create()
protected javax.swing.JPanel createButtonPanel()
protected javax.swing.JPanel createListPanel()
public final mil.dtra.hpac.material.data.MaterialList getMaterialList()
public void init()
public void propertyChange()
public void setMaterialList()
protected void startListening()
protected void stopListening()
public void valueChanged()

```

Inner Classes:

M_{aterialList}Bean.M_{aterialList}Model

10.22.1 Field CLEAR

public static final java.lang.String CLEAR

10.22.2 Field DELETE

public static final java.lang.String DELETE

10.22.3 Field **fCardPanel**

protected javax.swing.JPanel **fCardPanel**

10.22.4 Field **fListeningFlag**

protected transient volatile boolean **fListeningFlag**

10.22.5 Field **fMaterialList**

protected volatile mil.dtra.hpac.material.data.MaterialList **fMaterialList**

10.22.6 Field **fMaterialListItem**

protected mil.dtra.swing.PList **fMaterialListItem**

10.22.7 Field **fMaterialListModel**

protected transient mil.dtra.hpac.client.swing.MaterialListBean.MaterialListModel **fMaterialListModel**

10.22.8 Field **fProps**

protected mil.dtra.util.ValueProperties **fProps**

10.22.9 Field **LOAD**

public static final java.lang.String **LOAD**

10.22.10 Field **MATERIAL_LIST_BEAN**

public static final java.lang.String **MATERIAL_LIST_BEAN**

10.22.11 Field **NEW**

public static final java.lang.String **NEW**

10.22.12 Field **PROP_materialList**

public static final java.lang.String **PROP_materialList**

Property name ("materialList")

10.22.13 Field SAVE

```
public static final java.lang.String SAVE
```

10.22.14 Constructor MaterialListBean()

```
public  
MaterialListBean()
```

Default constructor for bean instantiation. Must call `init()`.

10.22.15 Constructor MaterialListBean()

```
public  
MaterialListBean(  
    mil.dtra.util.ValueProperties props,  
    boolean allow_deletions  
)
```

Constructs assuming no initial material list or title border.

Parameters:

- `props` - object with properties for this
- `allow_deletions` - true if materials may be deleted from the list, false otherwise

10.22.16 Constructor MaterialListBean()

```
public  
MaterialListBean(  
    mil.dtra.util.ValueProperties props,  
    boolean allow_deletions,  
    java.lang.String title  
)
```

Constructs assuming no initial material list.

Parameters:

- `props` - object with properties for this
- `allow_deletions` - true if materials may be deleted from the list, false otherwise
- `title` - text for a title border, or null for no border

10.22.17 Constructor MaterialListBean()

```
public
MaterialListBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.material.data.MaterialList mat_list,
    boolean allow_deletions
)
```

Constructs assuming no title border.

Parameters:

props - object with properties for this
mat_list - initial *materialList*
allow_deletions - true if materials may be deleted from the list, false otherwise

10.22.18 Constructor MaterialListBean()

```
public
MaterialListBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.material.data.MaterialList mat_list,
    boolean allow_deletions,
    java.lang.String title
)
```

Constructs this bean, calling `init()`.

Parameters:

props - object with properties for this
mat_list - initial *materialList*
allow_deletions - true if materials may be deleted from the list, false otherwise
title - text for a title border, or null for no border

10.22.19 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles action events from buttons on this.

Parameters:

event - action event

10.22.20 Method checkMaterialListVeto()

```
public void
checkMaterialListVeto( mil.dtra.hpac.material.data.MaterialList new_list )
```

Checks VetoableChangeListeners to see if there are objections to the proposed list change.

Parameters:

new_list - proposed new list

Exceptions:

PropertyVetoException - on veto

10.22.21 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

10.22.22 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    boolean allow_deletions
)
```

Creates the components for this bean. This must be called before any event handling. It is called from init().

Parameters:

props - object with properties for this
 allow_deletions - true if materials may be deleted from the list, false otherwise

10.22.23 Method createButtonPanel()

```
protected javax.swing.JPanel
createButtonPanel(  

    mil.dtra.util.ValueProperties props,  

    boolean allow_deletions  

)
```

Creates a button panel with CLEAR, NEW, LOAD, and SAVE buttons. If allow_deletions is true, a DELETE button is added.

Parameters:

props - object with properties for this
 allow_deletions - true if materials may be deleted from the list, false otherwise

Returns:

new panel component

10.22.24 Method createListPanel()

```
protected javax.swing.JPanel
createListPanel( mil.dtra.util.ValueProperties props )
```

Creates a panel containing the scrollable list.

Parameters:

props - object with properties for this

Returns:

new panel component

10.22.25 Method getMaterialList()

```
public final mil.dtra.hpac.material.data.MaterialList
getMaterialList()
```

Accessor for the *materialList* property.

Returns:

material list object value

10.22.26 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.material.data.MaterialList mat_list,
    boolean allow_deletions,
    java.lang.String title
)
```

Initializes this bean, calling `create()`.

Parameters:

`props` - object with properties for this
`mat_list` - initial *materialList*
`allow_deletions` - true if materials may be deleted from the list, false otherwise
`title` - text for a title border, or null for no border

10.22.27 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined at this level. Calls `super.propertyChange()` if the event is not handled here.

Parameters:

`event` - property change event

10.22.28 Method setMaterialList()

```
public void
setMaterialList( mil.dtra.hpac.material.data.MaterialList mat_list )
```

Accessor for the *materialList* property.

Parameters:

`mat_list` - material list object value

10.22.29 Method startListening()

```
protected void
startListening()
```

Registers listeners for events on subcomponent beans.

10.22.30 Method stopListening()

```
protected void
stopListening()
```

Unregisters listeners for events on subcomponent beans.

10.22.31 Method valueChanged()

```
public void
valueChanged( javax.swing.event.ListSelectionEvent event )
```

ListSelectionListener event method. Handles the selection of a new item in the list by displaying the material bean for the item in the card panel.

Parameters:

event - list selection event

10.23 Class MaterialListBean.MaterialListModel

```
mil.dtra.hpac.client.swing
protected MaterialListBean.MaterialListModel
extends AbstractListModel
```

The philosophy is to localize changes to fMaterialList in this class, the instance of which is fMaterialListModel.

Methods:

```
public void add()
public java.lang.Object getElementAt()
public int getSize()
public void remove()
public void removeAll()
public void resetList()
```

10.23.1 Constructor MaterialListBean.MaterialListModel()

```
protected
MaterialListBean.MaterialListModel( mil.dtra.hpac.client.swing.MaterialListBean this$0 )
```

10.23.2 Method add()

```
public void
add( mil.dtra.hpac.material.data.Material material )
```

10.23.3 Method getElementAt()

```
public java.lang.Object
getElementAt( int index )
```

10.23.4 Method getSize()

```
public int
getSize()
```

10.23.5 Method remove()

```
public void
remove( int index )
```

10.23.6 Method removeAll()

```
public void
removeAll()
```

10.23.7 Method resetList()

```
public void
resetList( mil.dtra.hpac.material.data.MaterialList mat_list )
```

10.24 Class MaterialListBean.MaterialListModel

mil.dtra.hpac.client.swing
 protected MaterialListBean.MaterialListModel
 extends AbstractListModel

The philosophy is to localize changes to fMaterialList in this class, the instance of which is fMaterialListModel.

Methods:

```
public void add()
public java.lang.Object getElementAt()
public int getSize()
public void remove()
public void removeAll()
public void resetList()
```

10.24.1 Constructor MaterialListBean.MaterialListModel()

protected
MaterialListBean.MaterialListModel(mil.dtra.hpac.client.swing.MaterialListBean this\$0)

10.24.2 Method add()

```
public void
add( mil.dtra.hpac.material.data.Material material )
```

10.24.3 Method getElementAt()

```
public java.lang.Object
getElementAt( int index )
```

10.24.4 Method getSize()

```
public int
getSize()
```

10.24.5 Method remove()

```
public void
remove( int index )
```

10.24.6 Method removeAll()

```
public void
removeAll()
```

10.24.7 Method `resetList()`

```
public void
resetList( mil.dtra.hpac.material.data.MaterialList mat_list )
```

10.25 Class `RadioOptionBean`

```
mil.dtra.hpac.client.swing
public RadioOptionBean
extends PDialogPanel
implements HPAC Swing Constants,
```

Bean for displaying a set of choices as radio buttons and reporting the user selection of one of those choices.

The caller specifies a `String[][]`, each outer element representing an option. Each inner array holds the displayed text and tool tip text.

Fields:

```
protected javax.swing.JRadioButton[] fButtons
public static final java.lang.String RADIO_OPTION_BEAN
```

Methods:

```
public void clear()
protected void create()
public int getOption()
public void init()
public void setEnabled()
public void setOption()
```

10.25.1 Field `fButtons`

```
protected javax.swing.JRadioButton[] fButtons
```

10.25.2 Field `RADIO_OPTION_BEAN`

```
public static final java.lang.String RADIO_OPTION_BEAN
```

10.25.3 Constructor `RadioOptionBean()`

```
public
RadioOptionBean()
```

Default constructor which does not create the bean. Must call `init()` if not deserialized.

10.25.4 Constructor RadioOptionBean()

```
public
RadioOptionBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String[][] options
)
```

Constructs assuming no title.

Parameters:

props - properties object for this (can be null)
options - String[][] with each outer element representing an option and each inner array containing the text to display in the button and the tool tip text (null indicating no tip text)

10.25.5 Constructor RadioOptionBean()

```
public
RadioOptionBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String[][] options,
    java.lang.String title
)
```

Constructs and creates this bean. Calls init().

Parameters:

props - properties object for this (can be null)
options - String[][] with each outer element representing an option and each inner array containing the text to display in the button and the tool tip text (null indicating no tip text)
title - title for the border, or null for no title border

10.25.6 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

10.25.7 Method `create()`

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    java.lang.String[][] options
)
```

Creates the components for this bean. It is called from `init()`.

Parameters:

props - properties object for this (can be null)
 project_name - name of project which is the basis for clone and restart operations

10.25.8 Method `getOption()`

```
public int
getOption()
```

Accessor for the *option* property.

Returns:

option value (one of the option constants)

10.25.9 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    java.lang.String[][] options,
    java.lang.String title
)
```

Initializes and creates this bean, calling `create()`.

Parameters:

props - properties object for this (can be null)
 options - `String[][]` with each outer element representing an option and each inner array containing the text to display in the button and the tool tip text (null indicating no tip text)
 title - title for the border, or null for no title border

10.25.10 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides JComponent .setEnabled() to enable or disable each subcomponent bean.

Parameters:

flag - true to enable, false to disable

10.25.11 Method setOption()

```
public void
setOption( int option )
```

Accessor for the *option* property.

Parameters:

option - option value, which should match one of the option constants (defaults to new project)

Exceptions:

IndexOutOfBoundsException - if option < 0 or ≥ the number of options

10.26 Class RealValueBean

```
mil.dtra.hpac.client.swing
public RealValueBean
extends JPanel
implements HPAC Swing Constants,
```

Bean for editing a real value. This has been deprecated in favor of ValueUnitsBean.

Fields:

```
protected transient javax.swing.event.DocumentListener fFieldListener
protected java.text.DecimalFormat fFormat
protected javax.swing.JLabel fTitleLabel
protected javax.swing.JLabel fTrailerLabel
protected double fValue
protected javax.swing.JTextField fValueField
public static final java.lang.String PROP_value
public static final java.lang.String REAL_VALUE_BEAN
```

Methods:

```
public void clear()
protected void create()
public final java.text.DecimalFormat getFormat()
public final javax.swing.JLabel getTitleLabel()
public final javax.swing.JLabel getTrailerLabel()
public final double getValue()
public final javax.swing.JTextField getValueField()
public void init()
public void setFormat()
public void setValue()
```

Inner Classes:

RealValueBean.FieldListener

10.26.1 Field fFieldListener

protected transient javax.swing.event.DocumentListener **fFieldListener**

10.26.2 Field fFormat

protected java.text.DecimalFormat **fFormat**

10.26.3 Field fTitleLabel

protected javax.swing.JLabel **fTitleLabel**

10.26.4 Field fTrailerLabel

protected javax.swing.JLabel **fTrailerLabel**

10.26.5 Field fValue

protected double **fValue**

10.26.6 Field fValueField

protected javax.swing.JTextField **fValueField**

10.26.7 Field PROP_value

```
public static final java.lang.String PROP_value
```

10.26.8 Field REAL_VALUE_BEAN

```
public static final java.lang.String REAL_VALUE_BEAN
```

10.26.9 Constructor RealValueBean()

```
public  
RealValueBean()
```

Default constructor for bean instantiation. Must call `init()`.

10.26.10 Constructor RealValueBean()

```
public  
RealValueBean( mil.dtra.util.ValueProperties props )
```

10.26.11 Constructor RealValueBean()

```
public  
RealValueBean(  
    mil.dtra.util.ValueProperties props,  
    double value,  
    java.lang.String label,  
    java.lang.String trailer  
)
```

10.26.12 Method clear()

```
public void  
clear()
```

10.26.13 Method create()

```
protected void  
create()
```

```
mil.dtra.util.ValueProperties props,  
java.lang.String title,  
java.lang.String trailer  
)
```

10.26.14 Method `getFormat()`

```
public final java.text.DecimalFormat  
getFormat()
```

Returns a reference to the format object, which may be null.

10.26.15 Method `getTitleLabel()`

```
public final javax.swing.JLabel  
getTitleLabel()
```

Returns a reference to the title label object.

10.26.16 Method `getTrailerLabel()`

```
public final javax.swing.JLabel  
getTrailerLabel()
```

Returns a reference to the trailer label object.

10.26.17 Method `getValue()`

```
public final double  
getValue()
```

Returns the current value.

10.26.18 Method `getValueField()`

```
public final javax.swing.JTextField  
getValueField()
```

Returns a reference to the value text field object.

10.26.19 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    double value,
    java.lang.String title,
    java.lang.String trailer
)
```

10.26.20 Method setFormat()

```
public void
setFormat( java.text.DecimalFormat format )
```

10.26.21 Method setValue()

```
public void
setValue( double value )
```

10.27 Class RealValueBean.FieldListener

```
mil.dtra.hpac.client.swing
protected RealValueBean.FieldListener
extends Object
implements DocumentListener,
```

Methods:

```
    public void changedUpdate()
    public void insertUpdate()
    public void removeUpdate()
```

10.27.1 Constructor RealValueBean.FieldListener()

```
protected
RealValueBean.FieldListener( mil.dtra.hpac.client.swing.RealValueBean this$0 )
```

10.27.2 Method changedUpdate()

```
public void
changedUpdate( javax.swing.event.DocumentEvent event )
```

10.27.3 Method insertUpdate()

```
public void
insertUpdate( javax.swing.event.DocumentEvent event )
```

10.27.4 Method removeUpdate()

```
public void
removeUpdate( javax.swing.event.DocumentEvent event )
```

10.28 Class RealValueBean.FieldListener

```
mil.dtra.hpac.client.swing
protected RealValueBean.FieldListener
extends Object
implements DocumentListener,
```

Methods:

```
public void changedUpdate()
public void insertUpdate()
public void removeUpdate()
```

10.28.1 Constructor RealValueBean.FieldListener()

```
protected
RealValueBean.FieldListener( mil.dtra.hpac.client.swing.RealValueBean this$0 )
```

10.28.2 Method changedUpdate()

```
public void
changedUpdate( javax.swing.event.DocumentEvent event )
```

10.28.3 Method insertUpdate()

```
public void
insertUpdate( javax.swing.event.DocumentEvent event )
```

10.28.4 Method removeUpdate()

```
public void
removeUpdate( javax.swing.event.DocumentEvent event )
```

10.29 Class ReleaseIcon

```
mil.dtra.hpac.client.swing
public ReleaseIcon
extends MapIcon
implements VetoableChangeListener,
```

Extension of `MapIcon` to represent a release on a map display.

Fields:

```
public static final java.lang.String EDIT INCIDENT
public static final java.lang.String EDIT RELEASE
protected mil.dtra.hpac.client.swing.IncidentEditor fIncidentEditor
protected mil.dtra.util.ValueProperties fProps
protected mil.dtra.hpac.data.release.Release[] fReleases
protected static final java.lang.String LOCATION MESSAGE
public static final java.lang.String PROP_releaseIndex
public static final java.lang.String PROP_releases
public static final java.lang.String RELEASE ICON
protected static mil.dtra.swing.MenuItemSpec[] releasePopupMenuItemSpecs _
```

Methods:

```
public void actionPerformed()
protected javax.swing.JPopupMenu createPopupMenu()
public final java.awt.geom.Point2D getCoord()
public final mil.dtra.hpac.data.release.Release[] getReleases()
public void init()
public synchronized void setCoord()
public synchronized void setLocation()
public void setReleases()
public void showEditDialog()
public void vetoableChange()
```

10.29.1 Field EDIT INCIDENT

```
public static final java.lang.String EDIT INCIDENT
```

10.29.2 Field EDIT RELEASE

```
public static final java.lang.String EDIT RELEASE
```

10.29.3 Field fIncidentEditor

```
protected mil.dtra.hpac.client.swing.IncidentEditor fIncidentEditor
```

10.29.4 Field fProps

```
protected mil.dtra.util.ValueProperties fProps
```

10.29.5 Field fReleases

```
protected mil.dtra.hpac.data.release.Release[] fReleases
```

10.29.6 Field LOCATION_MESSAGE

```
protected static final java.lang.String LOCATION_MESSAGE
```

10.29.7 Field PROP_releaseIndex

```
public static final java.lang.String PROP_releaseIndex
```

Property name ("releaseIndex")

10.29.8 Field PROP_releases

```
public static final java.lang.String PROP_releases
```

Property name ("releases")

10.29.9 Field RELEASE_ICON

```
public static final java.lang.String RELEASE_ICON
```

10.29.10 Field releasePopupMenuItemSpecs_

```
protected static mil.dtra.swing.MenuItemSpec[] releasePopupMenuItemSpecs_
```

10.29.11 Constructor ReleaseIcon()

```
public  
ReleaseIcon()
```

Default constructor for instantiation and deserialization. The icon must be set. "Self drags" are not enabled here, but are enabled explicitly in `init()`.

10.29.12 Constructor ReleaseIcon()

```
public
ReleaseIcon(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.swing.IncidentEditor incident_editor,
    mil.dtra.hpac.data.release.Release[] releases,
    javax.swing.Icon icon
)
```

Constructs this bean, calling `init()`.

Parameters:

`props` - object with properties for this
`incident_editor` - reference to an object capable of showing an incident dialog
`releases` - releases in the location group represented by this
`icon` - icon for this

10.29.13 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Overrides `MapIcon.actionPerformed` to handle this guys menu items.

10.29.14 Method createPopupMenu()

```
protected javax.swing.JPopupMenu
createPopupMenu()
```

Overrides `MapIcon.createPopupMenu()` to provide an item for editing the incident and a pull-right for editing the releases represented by this icon.

Future design may call for a separate model-specific pullright menu to be implemented at the model developer's discretion.

Returns:

popup menu

10.29.15 Method getCoord()

```
public final java.awt.geom.Point2D
getCoord()
```

Accessor for the *coord* property.

Returns:

copy of the release(s) location coordinate

10.29.16 Method getReleases()

```
public final mil.dtra.hpac.data.release.Release[]
getReleases()
```

Accessor for the *releases* property. Returns the array of Releases represented by this icon.

Returns:

array of references (not copies) to the release objects represented by this

10.29.17 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.swing.IncidentEditor incident_editor,
    mil.dtra.hpac.data.release.Release[] releases,
    javax.swing.Icon icon
)
```

Initializes this bean. Calls `setIcon()` and `setReleases()`. If the releases are customizable, calls `setEnabledDrag()`.

Parameters:

- props - object with properties for this
- incident_editor - reference to an object capable of showing an incident dialog
- releases - releases in the location group represented by this
- icon - icon for this

10.29.18 Method setCoord()

```
public synchronized void
setCoord( java.awt.geom.Point2D coord )
```

Accessor for the *coord* property. Note the releases are **not** marked as customized. IncidentModel now calls `setCoord()` on its Incident object in order to mitigate user confusion.

Parameters:

coord - location coordinate to apply to releases

10.29.19 Method setLocation()

```
public synchronized void
setLocation(
    int x,
    int y
)
```

Override of `SimpleMapIcon.setLocation()` to check for conditions in which we must prompt the user for the release location customization.

10.29.20 Method setReleases()

```
public void
setReleases( mil.dtra.hpac.data.release.Release[] releases )
```

Accessor for the *releases* property. The specified releases are represented by this icon.

Parameters:

releases - array of release object references

10.29.21 Method showEditDialog()

```
public void
showEditDialog( java.awt.Component component )
```

Overrides `MapIcon.showEditDialog()` to display the release edit dialog.

10.29.22 Method vetoableChange()

```
public void
vetoableChange( java.beans.PropertyChangeEvent event )
```

Handles vetoable property change events from BeanDialog instances. Replaces the edited release. Applies its new location to all releases.

Parameters:

event - property change event

10.30 Class ReleaseListBean

```
mil.dtra.hpac.client.swing
public ReleaseListBean
extends JPanel
implements ActionListener, HPAC Swing Constants, Swing Constants, Vetoable Change Listener,
Bean for editing a ReleaseList value.
```

Fields:

```
public static final java.lang.String DELETE
public static final java.lang.String EDIT
protected mil.dtra.hpac.data.Location fDefaultLocation
protected mil.dtra.hpac.data.Time fDefaultStartTime
protected javax.swing.JButton fDeleteButton
protected javax.swing.JButton fEditButton
protected transient volatile boolean fListeningFlag
protected javax.swing.JButton fNewButton
protected mil.dtra.util.ValueProperties fProps
protected volatile mil.dtra.hpac.data.release.ReleaseList fReleaseList
protected mil.dtra.swing.PList fReleaseListItem
protected transient mil.dtra.hpac.client.swing.ReleaseListBean.ReleaseListModel fReleaseListModel
public static final java.lang.String NEW
public static final java.lang.String PROP_releaseList
public static final java.lang.String RELEASE_LIST_BEAN
```

Methods:

```
public void actionPerformed()
public void clear()
protected void create()
protected java.awt.Component createButtonPanel()
protected java.awt.Component createListPanel()
public void fireReleaseListChange()
```

```

public final mil.dtra.hpac.data.Location getDefaultLocation()
public final mil.dtra.hpac.data.Time getDefaultStartTime()
public final mil.dtra.hpac.data.release.ReleaseList getReleaseList()
public void init()
public final void setDefaultLocation()
public final void setDefaultStartTime()
public void setReleaseList()
protected void startListening()
protected void stopListening()
public void vetoableChange()

```

Inner Classes:

ReleaseListBean.ReleaseListModel

10.30.1 Field DELETE

public static final java.lang.String **DELETE**

10.30.2 Field EDIT

public static final java.lang.String **EDIT**

10.30.3 Field fDefaultLocation

protected mil.dtra.hpac.data.Location **fDefaultLocation**

10.30.4 Field fDefaultStartTime

protected mil.dtra.hpac.data.Time **fDefaultStartTime**

10.30.5 Field fDeleteButton

protected javax.swing.JButton **fDeleteButton**

10.30.6 Field fEditButton

protected javax.swing.JButton **fEditButton**

10.30.7 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

10.30.8 Field fNewButton

```
protected javax.swing.JButton fNewButton
```

10.30.9 Field fProps

```
protected mil.dtra.util.ValueProperties fProps
```

10.30.10 Field fReleaseList

```
protected volatile mil.dtra.hpac.data.release.ReleaseList fReleaseList
```

10.30.11 Field fReleaseListItem

```
protected mil.dtra.swing.PList fReleaseListItem
```

10.30.12 Field fReleaseListModel

```
protected transient mil.dtra.hpac.client.swing.ReleaseListBean.ReleaseListModel fReleaseList-Model
```

10.30.13 Field NEW

```
public static final java.lang.String NEW
```

10.30.14 Field PROP_releaseList

```
public static final java.lang.String PROP_releaseList
```

Property name ("releaseList")

10.30.15 Field RELEASE_LIST_BEAN

```
public static final java.lang.String RELEASE_LIST_BEAN
```

10.30.16 Constructor ReleaseListBean()

```
public  
ReleaseListBean()
```

Default constructor for bean instantiation. Must call `init()`.

10.30.17 Constructor ReleaseListBean()

```
public
ReleaseListBean( mil.dtra.util.ValueProperties props )
```

Constructs only with a properties object and no default location, start time, release list, or border title.

10.30.18 Constructor ReleaseListBean()

```
public
ReleaseListBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs with a border title and no default location, start time, or release list.

Parameters:

- props - object containing properties for this
- title - title for border title, if any

10.30.19 Constructor ReleaseListBean()

```
public
ReleaseListBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location default_location,
    mil.dtra.hpac.data.Time default_start_time,
    mil.dtra.hpac.data.release.ReleaseList release_list
)
```

Constructs with explicit property values assuming no title border.

Parameters:

- props - object containing properties for this
- default_location - location to apply to new releases, or null if none
- default_start_time - start time to apply to new releases, or null if none
- release_list - list of releases to manage

10.30.20 Constructor ReleaseListBean()

```
public
ReleaseListBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location default_location,
    mil.dtra.hpac.data.Time default_start_time,
    mil.dtra.hpac.data.release.ReleaseList release_list,
    java.lang.String title
)
```

Constructs with explicit property values.

Parameters:

- props - object containing properties for this
- default_location - location to apply to new releases, or null if none
- default_start_time - start time to apply to new releases, or null if none
- release_list - list of releases to manage
- title - title for border title, if any

10.30.21 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles action events from buttons in this bean.

Parameters:

- event - action event

10.30.22 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

10.30.23 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates the components for this bean. This must be called before any event handling. It is called from `init()`.

Parameters:

props - object with properties for this

10.30.24 Method createButtonPanel()

```
protected java.awt.Component
createButtonPanel( mil.dtra.util.ValueProperties props )
```

Creates a panel with DELETE, EDIT, and NEW buttons.

Parameters:

props - object with properties for this

Returns:

new panel

10.30.25 Method createListPanel()

```
protected java.awt.Component
createListPanel( mil.dtra.util.ValueProperties props )
```

Creates a container with a scrollable list of release names.

Parameters:

props - object with properties for this

Returns:

new component

10.30.26 Method fireReleaseListChange()

```
public void  
fireReleaseListChange( mil.dtra.hpac.data.release.ReleaseList old_list )
```

Calls `firePropertyChange()` when the *releaesList* changes.

Parameters:

old_list - old list

10.30.27 Method getDefaultLocation()

```
public final mil.dtra.hpac.data.Location  
getDefaultLocation()
```

Accessor for the *defaultLocation* property.

Returns:

copy of default location

10.30.28 Method getDefaultStartTime()

```
public final mil.dtra.hpac.data.Time  
getDefaultStartTime()
```

Accessor for the *defaultStartTime* property.

Returns:

copy of the default start time

10.30.29 Method getReleaseList()

```
public final mil.dtra.hpac.data.release.ReleaseList  
getReleaseList()
```

Accessor for the *releaseList* property.

Returns:

release list object value

10.30.30 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location default_location,
    mil.dtra.hpac.data.Time default_start_time,
    mil.dtra.hpac.data.release.ReleaseList release_list,
    java.lang.String title
)
```

Initializes this bean and creates its subcomponents.

Parameters:

props - object containing properties for this
 default_location - location to apply to new releases, or null if none
 default_start_time - start time to apply to new releases, or null if none
 release_list - list of releases to manage
 title - title for border title, if any

10.30.31 Method setDefaultLocation()

```
public final void
setDefaultLocation( mil.dtra.hpac.data.Location loc )
```

Accessor for the *defaultLocation* property.

Parameters:

loc - default location

10.30.32 Method setDefaultStartTime()

```
public final void
setDefaultStartTime( mil.dtra.hpac.data.Time start_time )
```

Accessor for the *defaultStartTime* property.

Parameters:

start_time - default start time

10.30.33 Method setReleaseList()

```
public void
setReleaseList( mil.dtra.hpac.data.release.ReleaseList release_list )
```

Accessor for the *releaseList* property.

Parameters:

release_list - release list object value

10.30.34 Method startListening()

```
protected void
startListening()
```

Registers listeners for events on subcomponent beans.

10.30.35 Method stopListening()

```
protected void
stopListening()
```

Unregisters listeners for events on subcomponent beans.

10.30.36 Method vetoableChange()

```
public void
vetoableChange( java.beans.PropertyChangeEvent event )
```

Handles vetoable property change events from a BeanDialog in which a release was edited.

Parameters:

event - property change event

10.31 Class ReleaseListBean.ReleaseListModel

```
mil.dtra.hpac.client.swing
protected ReleaseListBean.ReleaseListModel
extends AbstractListModel
```

ListModel implementation backed by the *fReleaseList* attribute. The philosophy is to localize changes to *fReleaseList*.

Methods:

```
public void add()
public java.lang.Object getElementAt()
public int getSize()
public void remove()
public void removeAll()
public void resetList()
public void update()
```

10.31.1 Constructor **ReleaseListBean.ReleaseListModel()**

protected

```
ReleaseListBean.ReleaseListModel( mil.dtra.hpac.client.swing.ReleaseListBean this$0 )
```

10.31.2 Method **add()**

```
public void
add( mil.dtra.hpac.data.release.Release release )
```

Adds a release to the list.

Parameters:

release - release to add

10.31.3 Method **getElementAt()**

```
public java.lang.Object
getElementAt( int index )
```

Retrieves the release at the specified index in the list.

Parameters:

index - release index

Returns:

release at the index

10.31.4 Method getSize()

```
public int  
getSize()
```

Retrieves the number of releases in the list.

Returns:

release size

10.31.5 Method remove()

```
public void  
remove( int index )
```

Removes a release from the list.

Parameters:

release - release to remove

10.31.6 Method removeAll()

```
public void  
removeAll()
```

Removes all releases from the list.

10.31.7 Method resetList()

```
public void  
resetList( mil.dtra.hpac.data.release.ReleaseList release_list )
```

Reloads the list with the release list. Existing releases are removed.

Parameters:

release_list - new release list

10.31.8 Method update()

```
public void
update( mil.dtra.hpac.data.release.Release updated_release )
```

Replaces the specified release in the list. Releases are matched by the *ID* property.

Parameters:

updated_release - new release

10.32 Class ReleaseListBean.ReleaseListModel

```
mil.dtra.hpac.client.swing
protected ReleaseListBean.ReleaseListModel
extends AbstractListModel
```

ListModel implementation backed by the fReleaseList attribute. The philosophy is to localize changes to fReleaseList.

Methods:

```
public void add()
public java.lang.Object getElementAt()
public int getSize()
public void remove()
public void removeAll()
public void resetList()
public void update()
```

10.32.1 Constructor ReleaseListBean.ReleaseListModel()

```
protected
ReleaseListBean.ReleaseListModel( mil.dtra.hpac.client.swing.ReleaseListBean this$0 )
```

10.32.2 Method add()

```
public void
add( mil.dtra.hpac.data.release.Release release )
```

Adds a release to the list.

Parameters:

release - release to add

10.32.3 Method `getElementAt()`

```
public java.lang.Object  
getElementAt( int index )
```

Retrieves the release at the specified index in the list.

Parameters:

index - release index

Returns:

release at the index

10.32.4 Method `getSize()`

```
public int  
getSize()
```

Retrieves the number of releases in the list.

Returns:

release size

10.32.5 Method `remove()`

```
public void  
remove( int index )
```

Removes a release from the list.

Parameters:

release - release to remove

10.32.6 Method `removeAll()`

```
public void  
removeAll()
```

Removes all releases from the list.

10.32.7 Method resetList()

```
public void
resetList( mil.dtra.hpac.data.release.ReleaseList release_list )
```

Reloads the list with the release list. Existing releases are removed.

Parameters:

release_list - new release list

10.32.8 Method update()

```
public void
update( mil.dtra.hpac.data.release.Release updated_release )
```

Replaces the specified release in the list. Releases are matched by the *ID* property.

Parameters:

updated_release - new release

10.33 Class ScipuffBean

```
mil.dtra.hpac.client.swing
public ScipuffBean
extends PDIALOGPanel
implements ActionListener, HPACswingConstants, PropertyNames,
```

Bean for initiating an HPACTool dispersion calculation via ScipuffServer and interacting with HPACTool during the calculation.

Threads, Synchronization, and Sequence of Activities

There are three threads which are used by this class, the AWT event thread and two others created here. Things begin when the user clicks "OK" to start the calculation. The project is checked, and if all is well, a thread is created and started to call the `startServer()` method.

Starting the Server

First, `startServer()` looks up the ScipuffServerFactory from the naming service and uses it to retrieve a ScipuffServer instance, a reference to which is stored in the `fServer` field. It then calls `startPolling()` to initiate the poller thread managed by the `Poller` inner class (extension of `ScipuffServerPoller`) instance. Next, `startServer()` retrieves a `DispersionCalculator` object from the server instance and looks up the file upload server, retaining a reference. Each incident in the project is processed to update its release properties, resolve file references (necessary file uploads are performed at this time).

After all incidents have been processed, file references are resolved on the weather object, and `calculate()` is called on the `DispersionCalculator` after setting the state to RUNNING.

Polling the Server

All polling is handled by the Poller instance created in `init()`, which is called by all constructors but the default. Poller extends ScipuffServerPoller overriding the `processMessage()` method to call the `handleMessage()` method of the ScipuffBean instance. All messages are handled in the Swing event dispatch thread.

Object Life Cycles

There are a couple of key object references. First is the `fServer` ScipuffServer reference. It is obtained in `startServer()` but released in `stopPolling()`, which is called when the state transitions to FINISHED.

Next is `fCalculator`, which is a DispersionCalculator reference. It is obtained by `startServer()` and used throughout polling and message handling. However, it must be terminated and released prior to obtaining a PlotEngine, so it is released in `handleDispersionEnd()`.

Fields:

```
public static final java.lang.String ABORT
public static final java.lang.String CANCEL
protected javax.swing.JLabel[] fButtonLabels
protected javax.swing.JButton[] fButtons
protected transient volatile mil.dtra.hpac.server.scipuff.DispersionCalculator fCalculator
protected javax.swing.JButton fCancelButton
protected javax.swing.JPanel fCardPanel
protected boolean fConvertedToUTM
protected transient int fEndMessageValue
protected javax.swing.JPanel fGaugePanel
public static final int FINISHED
protected transient volatile boolean fListeningFlag
protected javax.swing.JLabel[] fMessageLabels
protected javax.swing.JButton fOKButton
protected transient mil.dtra.hpac.client.swing.ScipuffBean.Poller fPoller
protected transient mil.dtra.hpac.client.ProjectEditorIfc fProjectEditor
protected transient mil.dtra.hpac.client.swing.project.ResumeBean fResumeBean
protected javax.swing.JButton fResumeButton
protected mil.dtra.swing.JAnimatedLabel fRunLabel
protected javax.swing.JProgressBar fRunProgressBar
protected transient volatile mil.dtra.hpac.server.scipuff.ScipuffServer fServer
protected mil.dtra.swing.PTextField fServerField
protected transient mil.dtra.hpac.data.project.SpatialDomain fSpatialDomain
protected volatile int fState
protected transient mil.dtra.hpac.data.project.TemporalDomain fTemporalDomain
public static final java.lang.String HALT
public static final java.lang.String KEY_running
public static final java.lang.String KEY_waiting
public static final int LOG_level
protected static final java.lang.String MESSAGE_LABEL_FILLER
public static final java.lang.String OK
public static final java.lang.String PROP_project
public static final java.lang.String PROP_state
```

```

public static final java.lang.String RESUME
public static final java.lang.String RUN
public static final int RUN_COMPLETE
public static final java.lang.String[] RUN_ICON_NAMES
protected static final int RUNMODE_fresh
protected static final int RUNMODE_restart
protected static final int RUNMODE_resume
public static final int RUNNING
public static final java.lang.String SCIPUFF_BEAN
public static final java.lang.String STOP
public static final int WAITING_FOR_RUN

```

Methods:

```

public void actionPerformed()
protected java.lang.String buildExceptionMessage()
protected mil.dtra.hpac.data.Project checkProject()
public void clear()
protected void create()
protected javax.swing.JPanel createGaugePanel()
protected javax.swing.JPanel createNormalButtonPanel()
protected javax.swing.JPanel createRunningButtonPanel()
protected javax.swing.JPanel createServerPanel()
public static java.lang.String fixMessageString()
public final javax.swing.JButton getOKButton()
public final mil.dtra.hpac.client.ProjectEditorIfc getProjectEditor()
public final int getState()
protected void handleDispersionEnd()
public void handleMessage()
public void init()
protected void launchCalculation()
protected void releaseCalculator()
protected void releaseServer()
protected void setMessage()
public synchronized void setProjectEditor()
protected void setState()
protected synchronized void startListening()
protected void startPolling()
protected void startServer()
protected synchronized void stopListening()
protected void stopPolling()

```

Inner Classes:

ScipuffBean.Poller

10.33.1 Field ABORT

public static final java.lang.String **ABORT**

10.33.2 Field CANCEL

public static final java.lang.String **CANCEL**

10.33.3 Field fButtonLabels

protected javax.swing.JLabel[] **fButtonLabels**

10.33.4 Field fButtons

protected javax.swing.JButton[] **fButtons**

10.33.5 Field fCalculator

protected transient volatile mil.dtra.hpac.server.scipuff.DispersionCalculator **fCalculator**

10.33.6 Field fCancelButton

protected javax.swing.JButton **fCancelButton**

10.33.7 Field fCardPanel

protected javax.swing.JPanel **fCardPanel**

10.33.8 Field fConvertedToUTM

protected boolean **fConvertedToUTM**

10.33.9 Field fEndMessageValue

protected transient int **fEndMessageValue**

10.33.10 Field fGaugePanel

protected javax.swing.JPanel **fGaugePanel**

10.33.11 Field FINISHED

public static final int **FINISHED**

State value (3)

10.33.12 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

10.33.13 Field fMessageLabels

protected javax.swing.JLabel[] **fMessageLabels**

10.33.14 Field fOKButton

protected javax.swing.JButton **fOKButton**

10.33.15 Field fPoller

protected transient mil.dtra.hpac.client.swing.ScipuffBean.Poller **fPoller**

10.33.16 Field fProjectEditor

protected transient mil.dtra.hpac.client.ProjectEditorIfc **fProjectEditor**

10.33.17 Field fResumeBean

protected transient mil.dtra.hpac.client.swing.project.ResumeBean **fResumeBean**

10.33.18 Field fResumeButton

protected javax.swing.JButton **fResumeButton**

10.33.19 Field fRunLabel

protected mil.dtra.swing.JAnimatedLabel **fRunLabel**

10.33.20 Field fRunProgressBar

protected javax.swing.JProgressBar **fRunProgressBar**

10.33.21 Field fServer

protected transient volatile mil.dtra.hpac.server.scipuff.ScipuffServer **fServer**

10.33.22 Field fServerField

protected mil.dtra.swing.PTextField **fServerField**

10.33.23 Field fSpatialDomain

protected transient mil.dtra.hpac.data.project.SpatialDomain **fSpatialDomain**

10.33.24 Field fState

protected volatile int **fState**

10.33.25 Field fTemporalDomain

protected transient mil.dtra.hpac.data.project.TemporalDomain **fTemporalDomain**

10.33.26 Field HALT

public static final java.lang.String **HALT**

10.33.27 Field KEY_running

public static final java.lang.String **KEY_running**

10.33.28 Field KEY_waiting

public static final java.lang.String **KEY_waiting**

10.33.29 Field LOG_level

public static final int **LOG_level**

10.33.30 Field MESSAGE_LABEL_FILLER

protected static final java.lang.String **MESSAGE_LABEL_FILLER**

10.33.31 Field OK

public static final java.lang.String **OK**

10.33.32 Field PROP_project

public static final java.lang.String **PROP_project**

Property name ("project")

10.33.33 Field PROP_state

public static final java.lang.String **PROP_state**

Property name ("state")

10.33.34 Field RESUME

public static final java.lang.String **RESUME**

10.33.35 Field RUN

public static final java.lang.String **RUN**

10.33.36 Field RUN_COMPLETE

public static final int **RUN_COMPLETE**

State value (2)

10.33.37 Field RUN_ICON_NAMES

public static final java.lang.String[] **RUN_ICON_NAMES**

10.33.38 Field RUNMODE_fresh

protected static final int **RUNMODE_fresh**

10.33.39 Field RUNMODE_restart

protected static final int **RUNMODE_restart**

10.33.40 Field RUNMODE_resume

protected static final int **RUNMODE_resume**

10.33.41 Field RUNNING

public static final int **RUNNING**

State value (1)

10.33.42 Field SCIPUFF_BEAN

public static final java.lang.String **SCIPUFF_BEAN**

10.33.43 Field STOP

public static final java.lang.String **STOP**

10.33.44 Field WAITING_FOR_RUN

public static final int **WAITING_FOR_RUN**

State value (0)

10.33.45 Constructor ScipuffBean()

public
ScipuffBean()

Default constructor for bean instantiation. Must call `init()` if not deserialized.

10.33.46 Constructor ScipuffBean()

public
ScipuffBean(mil.dtra.hpac.client.ProjectEditorIfc editor)

Constructs assuming no title border. Calls `init()`.

Parameters:

editor - reference to a project editor object

10.33.47 Constructor ScipuffBean()

```
public
ScipuffBean(
    mil.dtra.hpac.client.ProjectEditorIfc editor,
    java.lang.String title
)
```

Constructs this bean by calling `init()`.

Parameters:

`editor` - reference to a project editor object
`title` - text for a title border, or null for no border

10.33.48 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles actions from buttons on this bean.

Parameters:

`event` - action event

10.33.49 Method buildExceptionMessage()

```
protected java.lang.String
buildExceptionMessage( java.lang.Throwable th )
```

Builds an appropriate error message for the specified exception.

Parameters:

`ex` - exception to process

Returns:

message string

10.33.50 Method checkProject()

```
protected mil.dtra.hpac.data.Project
checkProject()
```

Checks for a valid `ProjectEditor` reference and `Project`.

Returns:

`project` object reference

Exceptions:

`IllegalStateException` - if the project editor or project reference is invalid

10.33.51 Method clear()

```
public void
clear()
```

Clears the message labels.

10.33.52 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Time run_time
)
```

Creates the components for this bean. This must be called before any event handling. It is called from `init()`.

Parameters:

`props` - object with properties for this
`run_time` - last project run time or null if project has not been run

10.33.53 Method createGaugePanel()

```
protected javax.swing.JPanel
createGaugePanel( mil.dtra.util.ValueProperties props )
```

Creates a panel with a gauge indicating progress and an animated label.

Parameters:

props - object with properties for this

Returns:

new component

10.33.54 Method createNormalButtonPanel()

```
protected javax.swing.JPanel
createNormalButtonPanel(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Time run_time
)
```

Creates a panel with OK and CANCEL buttons. This panel is used when dispersion calculation is **not** ongoing.

Parameters:

props - object with properties for this

run_time - last project run time or null if project has not been run

Returns:

new panel

10.33.55 Method createRunningButtonPanel()

```
protected javax.swing.JPanel
createRunningButtonPanel( mil.dtra.util.ValueProperties props )
```

Creates a panel with three labels and buttons, whose text is dictated by HPACTool. This panel is used when dispersion calculation **is** ongoing.

Parameters:

props - object with properties for this

Returns:

new panel

10.33.56 Method createServerPanel()

```
protected javax.swing.JPanel
createServerPanel( mil.dtra.util.ValueProperties props )
```

Creates a panel with a label and text field showing the URL to the server.

Parameters:

props - object with properties for this

Returns:

new panel

10.33.57 Method fixMessageString()

```
public static java.lang.String
fixMessageString( java.lang.String str )
```

Trims the string and replaces " " with a space " ".

Parameters:

str - string from a server message

Returns:

new string

10.33.58 Method getOKButton()

```
public final javax.swing.JButton
getOKButton()
```

Accessor for the *OKButton* property.

Returns:

reference to the button

10.33.59 Method getProjectEditor()

```
public final mil.dtra.hpac.client.ProjectEditorIfc
getProjectEditor()
```

Accessor for the *projectEditor* property, returns the reference to the object instead of a copy.

Returns:

reference to the editor object

10.33.60 Method getState()

```
public final int
getState()
```

Accessor for the *state* property.

Returns:

current state

10.33.61 Method handleDispersionEnd()

```
protected void
handleDispersionEnd( mil.dtra.hpac.server.scipuff.MessageT message )
```

Responds to server (HM_DISPERSION_END) message. It assumes this method is called from the event dispatch thread. Called by `handleMessage()`. If the message value is HPAC_SUCCESS, it retrieves plot data from the server. It then releases the remote calculator object (not the server reference).

Parameters:

message - message object from the server

10.33.62 Method handleMessage()

```
public void
handleMessage( mil.dtra.hpac.server.scipuff.MessageT message )
```

Properly responds to the HPACtool message. It is assumed this is called from the event dispatch thread. This method is called from `Poller.processMessage()`

Parameters:

message - HPACtool message object

10.33.63 Method init()

```
public void
init(
    mil.dtra.hpac.client.ProjectEditorIfc editor,
    java.lang.String title
)
```

Initializes this bean, calling `create()`. Sets the initial state to `WAITING_FOR_RUN`.

Parameters:

editor - reference to a project editor object
 title - text for a title border, or null for no border

10.33.64 Method `launchCalculation()`

```
protected void
launchCalculation( int run_mode )
```

Checks the project, launches a `startServer()` thread, and traps any exceptions before the launch. This method should be called from the event dispatch thread.

Parameters:

run_mode - one of the `RUNMODE` constants, indicating a fresh run, resuming a previous calculation, or a restart of a previous run

10.33.65 Method `releaseCalculator()`

```
protected void
releaseCalculator()
```

Releases the dispersion calculator reference after calling `terminate`.

10.33.66 Method `releaseServer()`

```
protected void
releaseServer()
```

Releases the server reference after calling `terminate`.

10.33.67 Method `setMessage()`

```
protected void
setMessage(
    int message_index,
    java.lang.String message
)
```

Handles the setting of a message label, placing the work on the event dispatch thread queue if necessary.

Parameters:

message_index - index [0..2] of message label
 message - message text

10.33.68 Method **setProjectEditor()**

public synchronized void
setProjectEditor(mil.dtra.hpac.client.ProjectEditorIfc editor)

Accessor for the *projectEditor* property, stores the reference to the specified object instead of making a copy.

Parameters:

editor - project editor object reference to store

10.33.69 Method **setState()**

protected void
setState(int state)

Transition the state, performing any necessary hiding and showing of components. It is assumed this is called from the event dispatch thread. When the state is set to FINISHED, remote objects are cleaned up if necessary with a call to handleDispersionEnd().

10.33.70 Method **startListening()**

protected synchronized void
startListening()

Registers listeners for events on subcomponent beans.

10.33.71 Method **startPolling()**

protected void
startPolling()

Ensures a ScipuffServer reference has been obtained. If so, starts the poller a-polling.

10.33.72 Method startServer()

```
protected void
startServer( int run_mode )
```

Initiates or resumes a calculation. Launched in a separate thread by launchCalculation(). Connects to ScipuffServerFactory and obtains a per-client ScipuffServer object, from which a DispersionCalculator object is obtained. Adds all the incidents in the *project* to the calculator object and starts the polling task. Finally, requests the calculation from the server. It is assumed that the project editor and its project are valid (Project.check() has been called). Should not be invoked from the event dispatching thread but rather from a new thread.

Exception conditions are reported to the user via message boxes and logged to System.err. These include:

An error occurred at the ScipuffServer
The ScipuffServer object was not found in the name service
There was a CORBA communications failure
The project is undefined

Parameters:

run_mode - one of the RUNMODE constants, indicating a fresh run, resuming a previous calculation, or a restart of a previous run

10.33.73 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregisters listeners for events on subcomponent beans.

10.33.74 Method stopPolling()

```
protected void
stopPolling()
```

Stops polling and releases the server object.

10.34 Class ScipuffBean.Poller

```
mil.dtra.hpac.client.swing
protected ScipuffBean.Poller
extends ScipuffServerPoller
```

Methods:

```
protected void notifyMessagesProcessed()
protected void notifyPollingAborted()
protected void processMessage()
```

10.34.1 Method `notifyMessagesProcessed()`

```
protected void
notifyMessagesProcessed()
```

10.34.2 Method `notifyPollingAborted()`

```
protected void
notifyPollingAborted()
```

10.34.3 Method `processMessage()`

```
protected void
processMessage( mil.dtra.hpac.server.scipuff.MessageT message )
```

10.35 Class `ScipuffBean.Poller`

```
mil.dtra.hpac.client.swing
protected ScipuffBean.Poller
extends ScipuffServerPoller
```

Methods:

```
protected void notifyMessagesProcessed()
protected void notifyPollingAborted()
protected void processMessage()
```

10.35.1 Method `notifyMessagesProcessed()`

```
protected void
notifyMessagesProcessed()
```

10.35.2 Method `notifyPollingAborted()`

```
protected void
notifyPollingAborted()
```

10.35.3 Method processMessage()

```
protected void
processMessage( mil.dtra.hpac.server.scipuff.MessageT message )
```

10.36 Class ScipuffServerPoller

```
mil.dtra.hpac.client.swing
public ScipuffServerPoller
extends Object
```

Polls ScipuffServer for messages and handles them.

Fields:

```
protected java.awt.Component fComponent
protected transient volatile boolean fPolling
protected int fPollTime
protected transient java.lang.Object fPollValve
protected transient volatile mil.dtra.hpac.server.scipuff.ScipuffServer fServer
public static final int LOG_level
public static final java.lang.String PROP_remotePollTime
public static final java.lang.String PROP_standalonePollTime
public static final java.lang.String SCIPUFF_SERVER_POLLER
```

Methods:

```
protected void notifyMessagesProcessed()
protected void notifyPollingAborted()
protected void pollServer()
protected void processMessage()
protected void processMessages()
protected void processReply()
public void showDialog()
public synchronized void startPolling()
public synchronized void stopPolling()
```

10.36.1 Field fComponent

```
protected java.awt.Component fComponent
```

10.36.2 Field fPolling

```
protected transient volatile boolean fPolling
```

10.36.3 Field fPollTime

```
protected int fPollTime
```

10.36.4 Field fPollValve

```
protected transient java.lang.Object fPollValve
```

10.36.5 Field fServer

```
protected transient volatile mil.dtra.hpac.server.scipuff.ScipuffServer fServer
```

10.36.6 Field LOG_level

```
public static final int LOG_level
```

10.36.7 Field PROP_remotePollTime

```
public static final java.lang.String PROP_remotePollTime
```

Application property name ("ScipuffServerPoller.remotePollTime")

10.36.8 Field PROP_standalonePollTime

```
public static final java.lang.String PROP_standalonePollTime
```

Application property name ("ScipuffServerPoller.standalonePollTime")

10.36.9 Field SCIPUFF_SERVER_POLLER

```
public static final java.lang.String SCIPUFF_SERVER_POLLER
```

10.36.10 Constructor ScipuffServerPoller()

```
public  
ScipuffServerPoller(  
    mil.dtra.hpac.client.ProjectEditorProfile profile,  
    java.awt.Component component  
)
```

Constructs with the specified server reference.

Parameters:

- profile - application properties
- component - parent component for dialogs, may be null

10.36.11 Method notifyMessagesProcessed()

```
protected void
notifyMessagesProcessed()
```

Called when an array of messages has been processed. This method is a noop, but subclasses may override to do things like repack a container.

10.36.12 Method notifyPollingAborted()

```
protected void
notifyPollingAborted()
```

Called when the poller quits polling due to an error condition. This method is a noop, but subclasses may override as desired.

10.36.13 Method pollServer()

```
protected void
pollServer()
```

10.36.14 Method processMessage()

```
protected void
processMessage( mil.dtra.hpac.server.scipuff.MessageT message )
```

Called by `processMessages()` to process a single message. Here only `HM_ERROR`, `HM_INFO`, and `HM_REPLY` are processed. All others are ignored. Subclasses should override this method to handle other message types and may call `super.processMessage()` to handle these three. When this method is called, the polling thread has been blocked.
It is assumed this method is called in the event dispatch thread.

Parameters:

`message` - SCIPUFF message object

10.36.15 Method processMessages()

```
protected void
processMessages( mil.dtra.hpac.server.scipuff.MessageT[] messages )
```

It is assumed this is called from the event dispatch thread.

Parameters:

messages - SCIPUFF message objects

10.36.16 Method processReply()

```
protected void
processReply( mil.dtra.hpac.server.scipuff.MessageT message )
```

Called by processMessage to respond to a server reply (HM_REPLY) request.
It is assumed this method is called in the event dispatch thread.

Parameters:

message - SCIPUFF message object

10.36.17 Method showDialog()

```
public void
showDialog(
    java.lang.String message1,
    java.lang.String message2,
    java.lang.String message3,
    int type
)
```

Displays an error or info dialog.

It is assumed this method is called in the event dispatch thread.

Parameters:

- message1 - first message line
- message2 - second message line
- message3 - third message line
- type - message type (one of JOptionPane constants)

10.36.18 Method startPolling()

```
public synchronized void
startPolling( mil.dtra.hpac.server.scipuff.ScipuffServer server )
```

Initiates polling via a separate poll thread with pollServer() as the thread method.

Parameters:

server - server reference

10.36.19 Method stopPolling()

```
public synchronized void
stopPolling()
```

Stops the polling thread by resetting the poll flag.

10.37 Class SimpleMapIcon

```
mil.dtra.hpac.client.swing
public abstract SimpleMapIcon
extends JLabel
implements MapComponent,
```

Extension of `JLabel` which implements `MapComponent` for icons representing objects on a `MapDisplay`. The principle functionality extensions here are:

support for a `coord` property (as per a `MapComponent`) a border indicating focus status support for "self dragging" to change position within the container

Note the `selected` property should be defined in the `MapComponent` interface, but it's too late in the beta cycle to make such a fundamental change.

Fields:

```
protected transient mil.dtra.awt.SelfDragSupport fDragSupport
protected transient mil.dtra.map.MapProjection fMapProjection
protected static javax.swing.border.Border focusedBorder_
protected boolean fSelected
protected transient boolean fUpdateCoordFlag
protected transient boolean fUpdateLocFlag
public static final java.lang.String KEY_CURSOR
public static final java.lang.String PROP_COORD
public static final java.lang.String PROP_SELECTED
protected static javax.swing.border.Border selectedBorder_
public static final java.lang.String SIMPLE_MAP_ICON
protected static javax.swing.border.Border unfocusedBorder_
```

Methods:

```
public void changeCursor()
public abstract java.awt.geom.Point2D getCoord()
public final boolean isSelected()
protected void processFocusEvent()
protected void processKeyEvent()
protected void processMouseEvent()
public void remove()
public void restoreCursor()
public synchronized void setCoord()
public void setEnableDrag()
```

```
public synchronized void setLocation()
public void setSelected()
public synchronized void updateCoord()
public synchronized void updateLocation()
public void updateMapProjection()
```

10.37.1 Field fDragSupport

protected transient mil.dtra.awt.SelfDragSupport **fDragSupport**

10.37.2 Field fMapProjection

protected transient mil.dtra.map.MapProjection **fMapProjection**

10.37.3 Field focusedBorder__

protected static javax.swing.border.Border **focusedBorder__**

10.37.4 Field fSelected

protected boolean **fSelected**

10.37.5 Field fUpdateCoordFlag

protected transient boolean **fUpdateCoordFlag**

10.37.6 Field fUpdateLocFlag

protected transient boolean **fUpdateLocFlag**

10.37.7 Field KEY_cursor

public static final java.lang.String **KEY_cursor**

10.37.8 Field PROP_coord

public static final java.lang.String **PROP_coord**

Property name ("coord")

10.37.9 Field PROP_selected

public static final java.lang.String PROP_selected

Property name ("selected")

10.37.10 Field selectedBorder_

protected static javax.swing.border.Border selectedBorder_

10.37.11 Field SIMPLE_MAP_ICON

public static final java.lang.String SIMPLE_MAP_ICON

10.37.12 Field unfocusedBorder_

protected static javax.swing.border.Border unfocusedBorder_

10.37.13 Constructor SimpleMapIcon()

protected

SimpleMapIcon(boolean enable_drag)

Constructs and applies the enable_drag flag.

Parameters:

enable_drag - set to true if location changing drags are to be supported

10.37.14 Constructor SimpleMapIcon()

protected

SimpleMapIcon(

 javax.swing.Icon icon,
 boolean enable_drag
)

Adds a setIcon() call to the other constructor.

Parameters:

enable_drag - set to true if location changing drags are to be supported

10.37.15 Method changeCursor()

```
public void
changeCursor( java.awt.Cursor cursor )
```

Changes the cursor to that specified, saving the current cursor for a future `restoreCursor()` call. Must be called from the event dispatch thread.

10.37.16 Method getCoord()

```
public abstract java.awt.geom.Point2D
getCoord()
```

Accessor for the *coord* property.

Returns:

copy of the WC value

10.37.17 Method isSelected()

```
public final boolean
isSelected()
```

Accessor for the *selected* property.

10.37.18 Method processFocusEvent()

```
protected void
processFocusEvent( java.awt.event.FocusEvent event )
```

Overrides `JLabel.processFocusEvent()` to change the border when focused. Calls `super.processFocusEvent()`.

Parameters:

`event` - focus event

10.37.19 Method processKeyEvent()

```
protected void  
processKeyEvent( java.awt.event.KeyEvent event )
```

Overrides JLabel .processKeyEvent () to transfer focus on Tab keys. Calls super .processKeyEvent ().

Parameters:

event - key event

10.37.20 Method processMouseEvent()

```
protected void  
processMouseEvent( java.awt.event.MouseEvent event )
```

Overrides JLabel .processMouseEvent () to request focus on single clicks. Calls super .processMouseEvent ().

Parameters:

event - mouse event

10.37.21 Method remove()

```
public void  
remove()
```

Removes this object from its parent container.

10.37.22 Method restoreCursor()

```
public void  
restoreCursor()
```

Restores the cursor to what it was prior to the previous changeCursor () call. Nothing happens if changeCursor () has not been called.

10.37.23 Method setCoord()

```
public synchronized void
setCoord( java.awt.geom.Point2D coord )
```

Sets the *coord* property value. Subclasses should override this method, first calling `super.setCoord()` and then updating the coordinate in the wrapped object. This method updates the *location* property via `updateLocation()` if necessary.

Parameters:

coord - new coordinate location

10.37.24 Method setEnableDrag()

```
public void
setEnableDrag( boolean on )
```

Accessor for the *enableDrag* property. Either enables or disables support for "self dragging" on this component.

Parameters:

on - true to enable, false to disable

10.37.25 Method setLocation()

```
public synchronized void
setLocation(
    int x,
    int y
)
```

Overrides `JLabel.setLocation()` to update the *coord* via `updateCoord()` if necessary.

Parameters:

x - x pixel location
y - y pixel location

10.37.26 Method setSelected()

```
public void
setSelected( boolean selected )
```

Accessor for the *selected* property.

10.37.27 Method updateCoord()

```
public synchronized void
updateCoord()
```

Computes the new *coord* value based on the current *location* by unprojecting the DC location to WC.

10.37.28 Method updateLocation()

```
public synchronized void
updateLocation()
```

Computes the new *location* value based on the current *coord* by projecting the WC coord to DC.

10.37.29 Method updateMapProjection()

```
public void
updateMapProjection( mil.dtra.map.MapProjection proj )
```

Calls `updateLocation()` after storing a reference to the projection object.

Parameters:

`proj` - map projection reference

10.38 Class ValueUnitsBean

```
mil.dtra.hpac.client.swing
public ValueUnitsBean
extends JPanel
implements ActionListener, HPAC Swing Constants,
```

Bean for editing a real value with selectable units. A `UnitsValue` object is supplied for managing and displaying the value.

In order to support user feedback of changed fields, this class offers the `showModified()` method.

Fields:

```

protected transient javax.swing.JLabel fErrorLabel
protected transient java.awt.event.FocusListener fFieldListener
protected transient javax.swing.JLabel fLimitLabel
protected transient boolean fListeningFlag
protected transient javax.swing.JRootPane fRootPane
protected boolean fShowLimitWindow
protected int fSignificantDigits
protected javax.swing.JLabel fTitleLabel
protected javax.swing.JComboBox fUnitsCombo
protected javax.swing.JLabel fUnitsLabel
protected mil.dtra.units.UnitsValue fUnitsValue
protected javax.swing.JTextField fValueField
protected transient java.awt.Color fValueFieldBgSave
protected transient java.awt.Color fValueFieldFgSave
protected transient java.lang.String fValueFieldText
protected transient java.awt.Window fWindow
public static final java.lang.String KEY_normalFg
public static final java.lang.String KEY_screenLocation
public static final java.lang.String PROP_storedValue
public static final java.lang.String VALUE_UNITS_BEAN

```

Methods:

```

public void actionPerformed()
public void clear()
protected void create()
protected java.lang.String createLimitString()
public java.awt.Dimension getMaximumSize()
public java.awt.Dimension getMinimumSize()
public final boolean getShowLimitWindow()
public final int getSignificantDigits()
public mil.dtra.units.StoredValue getStoredValue()
public final javax.swing.JLabel getTitleLabel()
public final javax.swing.JComboBox getUnitsCombo()
public final javax.swing.JLabel getUnitsLabel()
public final mil.dtra.units.UnitsValue getUnitsValue()
public double getValue()
public double getValue()
public final javax.swing.JTextField getValueField()
public java.awt.Color getValueFieldBackground()
public java.awt.Color getValueFieldForeground()
protected void handleFocusGained()
protected void handleFocusLost()
protected void hideErrorCondition()
public void init()
public void putValue()
public final void putValue()

```

```

public void refocus()
public void removeNotify()
public void setEnabled()
protected void setSelectedUnit()
public final void setShowLimitWindow()
public final void setSignificantDigits()
public void setStoredValue()
public final void setStoredValue()
public void setUnit()
public void setValue()
public void setValueFieldBackground()
public void setValueFieldForeground()
protected void showErrorCondition()
protected void showTransientComponent()
protected void startListening()
protected void stopListening()
protected void updateDisplay()

```

Inner Classes:

ValueUnitsBean.FieldListener

10.38.1 Field fErrorLabel

protected transient javax.swing.JLabel **fErrorLabel**

10.38.2 Field fFieldListener

protected transient java.awt.event.FocusListener **fFieldListener**

10.38.3 Field fLimitLabel

protected transient javax.swing.JLabel **fLimitLabel**

10.38.4 Field fListeningFlag

protected transient boolean **fListeningFlag**

10.38.5 Field fRootPane

protected transient javax.swing.JRootPane **fRootPane**

10.38.6 Field fShowLimitWindow

protected boolean **fShowLimitWindow**

10.38.7 Field fSignificantDigits

protected int **fSignificantDigits**

10.38.8 Field ftitleLabel

protected javax.swing.JLabel **ftitleLabel**

10.38.9 Field fUnitsCombo

protected javax.swing.JComboBox **fUnitsCombo**

10.38.10 Field fUnitsLabel

protected javax.swing.JLabel **fUnitsLabel**

10.38.11 Field fUnitsValue

protected mil.dtra.units.UnitsValue **fUnitsValue**

10.38.12 Field fValueField

protected javax.swing.JTextField **fValueField**

10.38.13 Field fValueFieldBgSave

protected transient java.awt.Color **fValueFieldBgSave**

10.38.14 Field fValueFieldFgSave

protected transient java.awt.Color **fValueFieldFgSave**

10.38.15 Field fValueFieldText

protected transient java.lang.String **fValueFieldText**

10.38.16 Field fWindow

```
protected transient java.awt.Window fWindow
```

10.38.17 Field KEY_normalFg

```
public static final java.lang.String KEY_normalFg
```

10.38.18 Field KEY_screenLocation

```
public static final java.lang.String KEY_screenLocation
```

10.38.19 Field PROP_storedValue

```
public static final java.lang.String PROP_storedValue
```

Property name ("storedValue")

10.38.20 Field VALUE_UNITS_BEAN

```
public static final java.lang.String VALUE_UNITS_BEAN
```

10.38.21 Constructor ValueUnitsBean()

```
public  
ValueUnitsBean()
```

Default constructor for bean instantiation. Must call `init()`.

10.38.22 Constructor ValueUnitsBean()

```
public  
ValueUnitsBean(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.units.UnitsValue units_value  
)
```

Constructs assuming no label.

Parameters:

- props - object with properties for this (can be null)
- units_value - object managing the value to use in this bean

10.38.23 Constructor ValueUnitsBean()

```
public
ValueUnitsBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.units.UnitsValue units_value,
    java.lang.String label
)
```

Constructs this bean by calling `init()`.

Parameters:

`props` - object with properties for this (can be null)
`units_value` - object managing the value to use in this bean
`label` - label text or null for no label

10.38.24 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles action events from the units combo box.

Parameters:

`event` - action event

10.38.25 Method clear()

```
public void
clear()
```

Clears the value to blank.

10.38.26 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    java.lang.String label
)
```

Creates this bean and all its subcomponents, which include a text field, an optional title label, and optionally a units combo box (if the *unitsValue* has two or more visible units) or label (for exactly one visible unit). This must be called before registering listeners. It is called from `init()`.

Parameters:

props - object with properties for this (can be null)
 label - label text or null for no label

10.38.27 Method `createLimitString()`

protected java.lang.String
`createLimitString()`

Builds a limit string to be displayed in the limit window. It is built from properties of the *unitsValue* object. Calls `DataUtils.formatDouble`.

Returns:

string to display in a limit window

10.38.28 Method `getMaximumSize()`

public java.awt.Dimension
`getMaximumSize()`

Overrides `JPanel.getMaximumSize()` to return the results of `getPreferredSize()`.

Returns:

maximum (preferred) size

10.38.29 Method `getMinimumSize()`

public java.awt.Dimension
`getMinimumSize()`

Overrides `JPanel.getMinimumSize()` to return the results of `getPreferredSize()`.

Returns:

minimum (preferred) size

10.38.30 Method `getShowLimitWindow()`

```
public final boolean
getShowLimitWindow()
```

Accessor for the *showLimitWindow* property.

Returns:

true if the window is shown, false otherwise

10.38.31 Method `getSignificantDigits()`

```
public final int
getSignificantDigits()
```

Accessor for the *significantDigits* property, which is the number of sig digits with which to display values.

Returns:

number of digits

10.38.32 Method `getStoredValue()`

```
public mil.dtra.units.StoredValue
getStoredValue()
```

Accessor for the *storedValue* property.

Returns:

current stored value

Exceptions:

`UnitException` - on unit error

10.38.33 Method `getTitleLabel()`

```
public final javax.swing.JLabel
getTitleLabel()
```

Accessor for the *titleLabel* property.

Returns:

reference to the label object or null if it was not created

10.38.34 Method getUnitsCombo()

```
public final javax.swing.JComboBox
getUnitsCombo()
```

Accessor for the *unitsCombo* property. A combo box is created if there are at least two visible units. Note: Setting the *selectedItem* property of the *unitsCombo* only works if the case of the unit name matches. An example of such a call would be `getUnitsCombo().setSelectedItem()`. Call `setUnit()` instead.

Returns:

reference to the combo box object or null if it was not created

10.38.35 Method getUnitsLabel()

```
public final javax.swing.JLabel
getUnitsLabel()
```

Accessor for the *unitsLabel* property. A label is created if there is only one visible unit.

Returns:

reference to the label object or null if it was not created

10.38.36 Method getUnitsValue()

```
public final mil.dtra.units.UnitsValue
getUnitsValue()
```

Accessor for the *unitsValue* property.

Returns:

reference to units value object

10.38.37 Method getValue()

```
public double
getValue()
```

Retrieves the current value in the current unit. This is equivalent to `getUnitsValue().getValue()`.

Returns:

current stored value in the specified unit

Exceptions:

`UnitException` - on unit error

10.38.38 Method `getValue()`

```
public double
getValue( java.lang.String unit )
```

Retrieves the current value in the specified unit, after converting from the currently selected unit. This is equivalent to `getUnitsValue().getValue(unit)`.

Parameters:

`unit` - unit to which to convert the current value

Returns:

current stored value in the specified unit

Exceptions:

`UnitException` - on unit error

10.38.39 Method `getValueField()`

```
public final javax.swing.JTextField
getValueField()
```

Accessor for the *valueField* property, the text field used for display and editing of values. Returns a reference to the value text field object.

10.38.40 Method `getValueFieldBackground()`

```
public java.awt.Color
getValueFieldBackground()
```

Convenience method to retrieve the *background* property of the *valueField* object.

Returns:

background color value

10.38.41 Method `getValueFieldForeground()`

```
public java.awt.Color
getValueFieldForeground()
```

Convenience method to retrieve the *foreground* property of the *valueField* object.

Returns:

background color value

10.38.42 Method handleFocusGained()

```
protected void
handleFocusGained( java.awt.event.FocusEvent event )
```

Processes focus gain events in the *valueField*. If *showLimitWindow* is true and there are limits defined by the *unitsValue*, the limit window is displayed below the value field.

Parameters:

event - focus event

10.38.43 Method handleFocusLost()

```
protected void
handleFocusLost( java.awt.event.FocusEvent event )
```

Processes focus loss events in the *valueField*. This is the big mondo method for this bean, for all processing of entered values occurs here.

First, an attempt is made to put the entered text as the value of the *unitsValue*. This may generate an exception, in which case *showErrorCondition()* is called. If the put succeeds, a property change is fired, and *updateDisplay()* is called. Any visible error window is hidden via a call to *hideErrorCondition()*, and the limit window is hidden if it's visible.

Parameters:

event - focus event

10.38.44 Method hideErrorCondition()

```
protected void
hideErrorCondition()
```

The converse of *showErrorCondition()*, this method hides any visible error window and restores the background and foreground of the *valueField* to their normal settings (which may have been established via *setValueFieldBackground()* and/or *setValueFieldForeground()*, respectively).

10.38.45 Method init()

```
public void
init(
```

```

mil.dtra.util.ValueProperties props,
mil.dtra.units.UnitsValue units_value,
java.lang.String label
)

```

Initializes this bean and calls `create()`.

Parameters:

`props` - object with properties for this (can be null)
`units_value` - object managing the value to use in this bean
`label` - label text or null for no label

10.38.46 Method `putValue()`

```

public void
putValue(
    double value,
    java.lang.String unit
)

```

Converts the value, which is in the specified unit, to the currently selected unit. This is equivalent to `fUnitsValue.put(value, unit)`.

Parameters:

`value` - value in the specified unit
`unit` - unit from which the specified value is converted

Exceptions:

`UnitException` - if the value is out of range or the unit or value is invalid

10.38.47 Method `putValue()`

```

public final void
putValue( mil.dtra.units.StoredValue stored_value )

```

Converts the value, which is in the specified unit, to the currently selected unit.

Parameters:

`stored_value` - stored value object with the value and the unit from which it is to be converted

Exceptions:

`UnitException` - if the value is out of range or the unit or value is invalid

10.38.48 Method refocus()

```
public void  
refocus()
```

Runs a task in the event dispatch thread to request focus on the *valueField*. May be called from any thread.

10.38.49 Method removeNotify()

```
public void  
removeNotify()
```

Called when this bean is removed from its parent. Hides the limit and error windows if they are visible.

10.38.50 Method setEnabled()

```
public void  
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable each subcomponent bean.

Parameters:

`flag` - true to enable, false to disable

10.38.51 Method setSelectedUnit()

```
protected void  
setSelectedUnit( java.lang.String unit )
```

Internal method called by `setUnit()` to set the *selectedItem* of the *unitsCombo*, if it exists. This method calls `UnitsValue.findVisibleUnit()` to do a case insensitive match on the unit name since the *selectedItem* of a `JComboBox` is case sensitive.

Parameters:

`unit` - case insensitive unit name

10.38.52 Method `setShowLimitWindow()`

```
public final void
setShowLimitWindow( boolean flag )
```

Accessor for the *showLimitWindow* property.

Parameters:

flag - true if the limit window is to be shown when the value field gets the focus, false otherwise

10.38.53 Method `setSignificantDigits()`

```
public final void
setSignificantDigits( int sig_digits )
```

Accessor for the *significantDigits* property, which is the number of sig digits with which to display values.

Parameters:

sig_digits - number of digits

10.38.54 Method `setStoredValue()`

```
public void
setStoredValue(
    double value,
    java.lang.String unit
)
```

If the value has changed, calls `setStoredValue()` on the *unitsValue*, fires a property change, and calls `updateDisplay()`.

Parameters:

value - new value
unit - unit

Exceptions:

`UnitException` - if the value is out of range or the unit or value is invalid

10.38.55 Method setStoredValue()

```
public final void
setStoredValue( mil.dtra.units.StoredValue stored_value )
```

Calls `setStoredValue(double, String)`.

Parameters:

`stored_value` - value and unit

Exceptions:

`UnitException` - if the value is out of range or the unit or value is invalid

10.38.56 Method setUnit()

```
public void
setUnit( java.lang.String unit )
```

Selects the specified unit in the units combo box, which results in assignment of the *unit* property of the *unitsValue*. Note the current *value* will be converted to the new unit.

Parameters:

`unit` - unit

10.38.57 Method setValue()

```
public void
setValue( double value )
```

Convenience method for changing only value associated with the *unitsValue*. Calls `setStoredValue()` passing the current unit as the unit parameter. In other words, changes the value while maintaining the current unit.

Parameters:

`value` - new value

Exceptions:

`UnitException` - if the value is out of range or the unit or value is invalid

10.38.58 Method `setValueFieldBackground()`

```
public void
setValueFieldBackground( java.awt.Color color )
```

Sets the *background* property of the *valueField* object, saving the color for restoration after an error condition.

NOTE: Although you can retrieve a reference to the *valueField* object via `getValueField()` and set its *background* directly, doing so circumvents the exception tracking mechanism employed in this class and could result in immediate restoration of the previous *valueField background*.

Parameters:

color - new background color

10.38.59 Method `setValueFieldForeground()`

```
public void
setValueFieldForeground( java.awt.Color color )
```

Sets the *foreground* property of the *valueField* object, saving the color for restoration after an error condition.

NOTE: Although you can retrieve a reference to the *valueField* object via `getValueField()` and set its *foreground* directly, doing so circumvents the exception tracking mechanism employed in this class and could result in immediate restoration of the previous *valueField foreground*.

Parameters:

color - new foreground color

10.38.60 Method `showErrorCondition()`

```
protected void
showErrorCondition( java.lang.String message )
```

Displays a transient window with an error message. If necessary, the error label and window are created. The error window is positioned just above the value text field. Also, changes the background and foreground of the *valueField* to red and white, respectively, to further indicate an error.

Parameters:

message - error message

10.38.61 Method showTransientComponent()

```
protected void
showTransientComponent(  
    javax.swing.JComponent component,  
    boolean show_flag  
)
```

Displays the transient component either in the root pane popup layer or in the parent window. The location the component must be screen-relative. XXXXX

10.38.62 Method startListening()

```
protected void
startListening()
```

Registers listeners for events on subcomponent beans.

10.38.63 Method stopListening()

```
protected void
stopListening()
```

Unregisters listeners for events on subcomponent beans.

10.38.64 Method updateDisplay()

```
protected void
updateDisplay()
```

Uses the current *unitsValue* to set the value field text and the selected item in the unit combo box.

10.39 Class ValueUnitsBean.FieldListener

```
mil.dtra.hpac.client.swing
protected ValueUnitsBean.FieldListener
extends Object
implements FocusListener,
```

FocusListener implementation for handling focus events on the value field.

Methods:

```
    public void focusGained()
    public void focusLost()
```

10.39.1 Constructor ValueUnitsBean.FieldListener()

protected

ValueUnitsBean.FieldListener(mil.dtra.hpac.client.swing.ValueUnitsBean this\$0)**10.39.2 Method focusGained()**public void
focusGained(java.awt.event.FocusEvent event)**10.39.3 Method focusLost()**public void
focusLost(java.awt.event.FocusEvent event)**10.40 Class ValueUnitsBean.FieldListener**mil.dtra.hpac.client.swing
protected **ValueUnitsBean.FieldListener**
extends Object
implements FocusListener,

FocusListener implementation for handling focus events on the value field.

Methods:public void focusGained()
public void focusLost()**10.40.1 Constructor ValueUnitsBean.FieldListener()**

protected

ValueUnitsBean.FieldListener(mil.dtra.hpac.client.swing.ValueUnitsBean this\$0)**10.40.2 Method focusGained()**public void
focusGained(java.awt.event.FocusEvent event)**10.40.3 Method focusLost()**public void
focusLost(java.awt.event.FocusEvent event)

CHAPTER 11

Package **mil.dtra.hpac.client.swing.location**

Provides GUI components for editing `mil.dtra.hpac.data.Location` (and derivative class) objects.

Interfaces:

`LocationCard`

Classes:

`AbstractLocationCard`
`CartesianBean`
`LLABean`
`LocationBean`
`UTMBean`
`UTMBean.FieldListener`

11.1 Interface LocationCard

`mil.dtra.hpac.client.swing.location`
public interface **LocationCard**

Definition of methods provided by a bean for a specific location type.

Fields:

```
public static final java.lang.String CARD_TITLE
public static final java.lang.String PROP_value
```

Methods:

```
public void addPropertyChangeListener()
public void clear()
public mil.dtra.hpac.data.Location getValue()
public void removePropertyChangeListener()
public void setEnabled()
public void setValue()
public void showAltitude()
```

11.1.1 Field CARD_TITLE

public static final java.lang.String CARD_TITLE

11.1.2 Field PROP_value

public static final java.lang.String PROP_value

11.1.3 Method addPropertyChangeListener()

public void
addPropertyChangeListener(java.beans.PropertyChangeListener listener)

Adds the specified listener for property changes.

Parameters:

listener - listener to add

11.1.4 Method clear()

public void
clear()

Clears all beans.

11.1.5 Method getValue()

public mil.dtra.hpac.data.Location
getValue()

Accessor for the *value* property.

Returns:

copy of the current location object

Exceptions:

NumberFormatException - on format error

11.1.6 Method removePropertyChangeListener()

public void
removePropertyChangeListener(java.beans.PropertyChangeListener listener)

Removes the specified listener for property changes.

Parameters:

listener - listener to remove

11.1.7 Method setEnabled()

public void
setEnabled(boolean flag)

Accessor for the *enabled* property.

Parameters:

true - to enable, false to disable

11.1.8 Method setValue()

public void
setValue(mil.dtra.hpac.data.Location loc)

Accessor for the *value* property.

Parameters:

loc - location object to copy

Exceptions:

UnitsException - on invalid value or unit in a units value

11.1.9 Method **showAltitude()**

```
public void
showAltitude( boolean flag )
```

Allows the altitude beans to be shown or hidden.

Parameters:

flag - true to show the beans, false otherwise

11.2 Class **AbstractLocationCard**

```
mil.dtra.hpac.client.swing.location
public abstract AbstractLocationCard
extends PDIALOGPanel
implements HPACSWINGConstants, LocationCard,
```

Abstract LocationCard implementation of methods common to all cards.

Fields:

```
protected transient volatile boolean fListeningFlag
protected mil.dtra.util.ValueProperties fProps
```

Methods:

```
protected abstract void create()
public mil.dtra.hpac.client.swing.ValueUnitsBean createAltitudeBean()
protected abstract void disableListeners()
protected abstract void enableListeners()
public void init()
public abstract void showAltitude()
protected void startListening()
protected void stopListening()
```

11.2.1 Field **fListeningFlag**

protected transient volatile boolean **fListeningFlag**

11.2.2 Field **fProps**

protected mil.dtra.util.ValueProperties **fProps**

11.2.3 Constructor AbstractLocationCard()

protected
AbstractLocationCard()

Default constructor.

11.2.4 Method create()

protected abstract void
create(
 mil.dtra.util.ValueProperties props,
 boolean show_altitude
)

Extensions must define a method to initialize themselves and create all sub-components.

Parameters:

props - object with properties for this
show_altitude - true if the altitude bean is to be shown, false otherwise

11.2.5 Method createAltitudeBean()

public mil.dtra.hpac.client.swing.ValueUnitsBean
createAltitudeBean(mil.dtra.util.ValueProperties props **)**

Creates a bean for editing the altitude value.

Parameters:

props - object with properties for this

Returns:

new bean

11.2.6 Method disableListeners()

protected abstract void
disableListeners()

Extensions must define this method to temporarily disable any registered listeners for subcomponent beans.

11.2.7 Method enableListeners()

```
protected abstract void
enableListeners()
```

Extensions must define this method to restore temporarily disabled listeners for subcomponent beans.

11.2.8 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location location,
    boolean show_altitude,
    java.lang.String title
)
```

Initializes and creates this bean. Subclass constructors should call this method, which calls `create()`.

Parameters:

- props - object with properties for this
- location - initial *value* or null
- show_altitude - true if the altitude bean is to be shown, false otherwise
- title - text for title border or null for no border

11.2.9 Method showAltitude()

```
public abstract void
showAltitude( boolean flag )
```

Allows the altitude bean to be shown or hidden.

Parameters:

- flag - true to show the beans, false otherwise

11.2.10 Method startListening()

```
protected void
startListening()
```

Registers listeners.

11.2.11 Method stopListening()

```
protected void
stopListening()
```

Unregisters listeners.

11.3 Class CartesianBean

```
mil.dtra.hpac.client.swing.location
public CartesianBean
extends AbstractLocationCard
implements ActionListener, PropertyChangeListener,
```

LocationCard for editing a CartesianLocation.

Fields:

```
public static final java.lang.String CARTESIAN_BEAN
protected mil.dtra.hpac.client.swing.ValueUnitsBean fAltitudeBean
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.data.CartesianLocation fLocation
protected mil.dtra.swing.PButton fReferenceButton
protected mil.dtra.hpac.client.swing.ValueUnitsBean fXBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fYBean
public static final java.text.DecimalFormat REFERENCE_FORMAT
```

Methods:

```
public void actionPerformed()
public void clear()
protected void create()
protected synchronized void disableListeners()
protected synchronized void enableListeners()
public mil.dtra.hpac.data.CartesianLocation getCartesianLocation()
public final mil.dtra.hpac.data.Location getValue()
public void propertyChange()
public void setEnabled()
public void setValue()
public final void showAltitude()
protected void showReferenceDialog()
protected void updateBeans()
```

11.3.1 Field CARTESIAN_BEAN

```
public static final java.lang.String CARTESIAN_BEAN
```

11.3.2 Field **fAltitudeBean**

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fAltitudeBean**

11.3.3 Field **fListeningFlag**

protected transient volatile boolean **fListeningFlag**

11.3.4 Field **fLocation**

protected mil.dtra.hpac.data.CartesianLocation **fLocation**

11.3.5 Field **fReferenceButton**

protected mil.dtra.swing.PButton **fReferenceButton**

11.3.6 Field **fXBean**

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fXBean**

11.3.7 Field **fYBean**

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fYBean**

11.3.8 Field **REFERENCE_FORMAT**

public static final java.text.DecimalFormat **REFERENCE_FORMAT**

Format for display reference location values

11.3.9 Constructor **CartesianBean()**

public
CartesianBean()

Default constructor which performs no initialization. Must call `init()`.

11.3.10 Constructor CartesianBean()

```
public
CartesianBean(
    mil.dtra.util.ValueProperties props,
    boolean show_altitude
)
```

Constructs and creates this bean assuming no initial *value* or title border.

Parameters:

props - object with properties for this
show_altitude - true if the altitude bean is to be shown, false otherwise

11.3.11 Constructor CartesianBean()

```
public
CartesianBean(
    mil.dtra.util.ValueProperties props,
    boolean show_altitude,
    java.lang.String title
)
```

Constructs and creates this bean assuming no initial *value*.

Parameters:

props - object with properties for this
show_altitude - true if the altitude bean is to be shown, false otherwise
title - text for title border or null for no border

11.3.12 Constructor CartesianBean()

```
public
CartesianBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location loc,
    boolean show_altitude
)
```

Constructs and creates this bean assuming no title border.

Parameters:

props - object with properties for this
 location - initial *value* or null
 show_altitude - true if the altitude bean is to be shown, false otherwise

11.3.13 Constructor CartesianBean()

```
public
CartesianBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location loc,
    boolean show_altitude,
    java.lang.String title
)
```

Constructs and creates this bean calling `init()`.

Parameters:

props - object with properties for this
 location - initial *value* or null
 show_altitude - true if the altitude bean is to be shown, false otherwise
 title - text for title border or null for no border

11.3.14 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles actions from buttons on this bean.

Parameters:

event - action event

11.3.15 Method clear()

```
public void
clear()
```

Clears this bean.

11.3.16 Method create()

```
protected void
create(

    mil.dtra.util.ValueProperties props,
    boolean show_altitude
)
```

Creates this bean and its sub-component beans.

Parameters:

props - object with properties for this
 show_altitude - true if the altitude bean is to be shown, false otherwise

11.3.17 Method disableListeners()

```
protected synchronized void
disableListeners()
```

Temporarily disables listeners registered for subcomponent beans.

11.3.18 Method enableListeners()

```
protected synchronized void
enableListeners()
```

Restores disabled listeners for subcomponent beans.

11.3.19 Method getCartesianLocation()

```
public mil.dtra.hpac.data.CartesianLocation
getCartesianLocation()
```

Convience getter to return the *value* as a CartesianLocation.

Returns:

copy of the location as a cartesian location object

11.3.20 Method `getValue()`

```
public final mil.dtra.hpac.data.Location
getValue()
```

Accessor for the *value* property.

Returns:

copy of the location object

11.3.21 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property changes on sub-component beans.

Parameters:

event - property change event

11.3.22 Method `setEnabled()`

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to (dis)enable all subcomponent beans.

Parameters:

flag - true to enable, false to disable

11.3.23 Method `setValue()`

```
public void
setValue( mil.dtra.hpac.data.Location value )
```

Accessor for the *value* property.

Parameters:

value - location object to copy

Exceptions:

`UnitsException` - on invalid value or unit in a units value

11.3.24 Method showAltitude()

```
public final void
showAltitude( boolean flag )
```

Allows the altitude beans to be shown or hidden.

Parameters:

flag - true to show the beans, false otherwise

11.3.25 Method showReferenceDialog()

```
protected void
showReferenceDialog()
```

Displays a dialog for editing the cartesian reference value, the *reference* property of a Cartesian-Location.

11.3.26 Method updateBeans()

```
protected void
updateBeans( boolean stop_listening_flag )
```

Loads subcomponent beans from the current *value*.

Parameters:

stop_listening_flag - flags whether current listeners should be disabled before changing bean properties

11.4 Class LLABean

```
mil.dtra.hpac.client.swing.location
public LLABean
extends AbstractLocationCard
implements ActionListener, PropertyChangeListener,
```

LocationCard for editing an LLALocation.

Fields:

```

protected mil.dtra.hpac.client.swing.ValueUnitsBean fAltitudeBean
protected java.util.Map fCardMap
protected javax.swing.JPanel fCardPanel
protected mil.dtra.hpac.client.swing.location.lla.LLACard[] fCards
protected mil.dtra.hpac.client.swing.location.lla.LLACard fCurrentCard
protected mil.dtra.swing.PComboBox fModeCombo
public static final java.lang.String LLA.BEAN
public static final java.lang.String MODE_DEG_MIN
public static final java.lang.String MODE_DEG_MIN_SEC
public static final java.lang.String MODE_DEGREES
public static final java.lang.String[] MODES

```

Methods:

```

public void actionPerformed()
public void clear()
protected void create()
protected synchronized void disableListeners()
protected synchronized void enableListeners()
public mil.dtra.hpac.data.LLALocation getLLALocation()
public final java.lang.String getMode()
public final mil.dtra.hpac.data.Location getValue()
public void propertyChange()
public void setEnabled()
public final void setMode()
public void setValue()
public final void showAltitude()
public final void showModeCombo()

```

11.4.1 Field fAltitudeBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fAltitudeBean**

11.4.2 Field fCardMap

protected java.util.Map **fCardMap**

11.4.3 Field fCardPanel

protected javax.swing.JPanel **fCardPanel**

11.4.4 Field fCards

protected mil.dtra.hpac.client.swing.location.lla.LLACard[] **fCards**

11.4.5 Field **fCurrentCard**

protected mil.dtra.hpac.client.swing.location.llा.LLACard **fCurrentCard**

11.4.6 Field **fModeCombo**

protected mil.dtra.swing.PComboBox **fModeCombo**

11.4.7 Field **LLA_BEAN**

public static final java.lang.String **LLA_BEAN**

11.4.8 Field **MODE_DEG_MIN**

public static final java.lang.String **MODE_DEG_MIN**

11.4.9 Field **MODE_DEG_MIN_SEC**

public static final java.lang.String **MODE_DEG_MIN_SEC**

11.4.10 Field **MODE_DEGREES**

public static final java.lang.String **MODE_DEGREES**

11.4.11 Field **MODES**

public static final java.lang.String[] **MODES**

11.4.12 Constructor **LLABean()**

public
LLABean()

Default constructor which performs no initialization. Must call `init()`.

11.4.13 Constructor LLABean()

```
public
LLABean(
    mil.dtra.util.ValueProperties props,
    boolean show_altitude
)
```

Constructs and creates this bean assuming no initial *value* or title border.

Parameters:

props - object with properties for this
show_altitude - true if the altitude bean is to be shown, false otherwise

11.4.14 Constructor LLABean()

```
public
LLABean(
    mil.dtra.util.ValueProperties props,
    boolean show_altitude,
    java.lang.String title
)
```

Constructs and creates this bean assuming no initial *value*.

Parameters:

props - object with properties for this
show_altitude - true if the altitude bean is to be shown, false otherwise
title - text for title border or null for no border

11.4.15 Constructor LLABean()

```
public
LLABean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location loc,
    boolean show_altitude
)
```

Constructs and creates this bean assuming no title border.

Parameters:

props - object with properties for this
 location - initial *value* or null
 show_altitude - true if the altitude bean is to be shown, false otherwise

11.4.16 Constructor LLABean()

```
public
LLABean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location loc,
    boolean show_altitude,
    java.lang.String title
)
```

Constructs and creates this bean calling `init()`.

Parameters:

props - object with properties for this
 location - initial *value* or null
 show_altitude - true if the altitude bean is to be shown, false otherwise
 title - text for title border or null for no border

11.4.17 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles actions from buttons on this bean.

Parameters:

event - action event

11.4.18 Method clear()

```
public void
clear()
```

Clears this bean.

11.4.19 Method create()

```
protected void
create(

    mil.dtra.util.ValueProperties props,
    boolean show_altitude
)
```

Creates this bean and its sub-component beans.

Parameters:

props - object with properties for this
 show_altitude - true if the altitude bean is to be shown, false otherwise

11.4.20 Method disableListeners()

```
protected synchronized void
disableListeners()
```

Temporarily disables listeners registered for subcomponent beans.

11.4.21 Method enableListeners()

```
protected synchronized void
enableListeners()
```

Restores disabled listeners for subcomponent beans.

11.4.22 Method getLLALocation()

```
public mil.dtra.hpac.data.LLALocation
getLLALocation()
```

Convience getter to return the *value* as a LLALocation.

Returns:

copy of the location as an LLA location object

11.4.23 Method getMode()

```
public final java.lang.String
getMode()
```

Returns the value of the current input mode as defined by the MODE_constants.

Returns:

one of the mode string constants

11.4.24 Method getValue()

```
public final mil.dtra.hpac.data.Location
getValue()
```

Accessor for the *value* property.

Returns:

copy of the location object

11.4.25 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property changes on sub-component beans.

Parameters:

event - property change event

11.4.26 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides JComponent.setEnabled() to (dis)enable all subcomponent beans.

Parameters:

flag - true to enable, false to disable

11.4.27 Method setMode()

```
public final void
setMode( java.lang.String mode )
```

Sets the input mode as defined by the MODE_ constants.

Parameters:

mode - one of the mode string constants

11.4.28 Method setValue()

```
public void
setValue( mil.dtra.hpac.data.Location value )
```

Accessor for the *value* property.

Parameters:

value - location object to copy

Exceptions:

UnitsException - on invalid value or unit in a units value

11.4.29 Method showAltitude()

```
public final void
showAltitude( boolean flag )
```

Allows the altitude beans to be shown or hidden.

Parameters:

flag - true to show the beans, false otherwise

11.4.30 Method showModeCombo()

```
public final void
showModeCombo( boolean flag )
```

Allows the mode combo box to be shown or hidden.

Parameters:

flag - true to show the combo, false otherwise

11.5 Class LocationBean

```

mil.dtra.hpac.client.swing.location
public LocationBean
extends PDialogPanel
implements ActionListener, HPACSwingConstants, PropertyChangeListener,
```

Bean for editing a Location value. It presents a combo box with selectable location types (LLA, cartesian, UTM) and brings up a bean for the selected type. Values are converted when switching b/w types.

Fields:

```

public static final java.awt.Color DEFAULT_BORDER_COLOR
protected java.util.HashMap fCardMap
protected javax.swing.JPanel fCardPanel
protected mil.dtra.hpac.client.swing.location.LocationCard[] fCards
protected mil.dtra.hpac.client.swing.location.LocationCard fCurrentCard
protected transient volatile boolean fListeningFlag
protected mil.dtra.swing.PComboBox fTypeCombo
protected mil.dtra.swing.PLabel fTypeLabel
public static final java.lang.String LOCATION_BEAN
public static final java.lang.String PROP_value
public static final java.lang.String TYPE_CARTESIAN
public static final java.lang.String TYPE_LLA
public static final java.lang.String TYPE_UTM
public static final java.lang.String[] TYPES
```

Methods:

```

public void actionPerformed()
public void clear()
protected void create()
public java.awt.Color getCardBorderColor()
public final java.lang.String getLocationType()
public final javax.swing.JLabel getTypeLabel()
public final mil.dtra.hpac.data.Location getValue()
public void init()
public void propertyChange()
public void setCardBorderColor()
public void setEnabled()
public final void setLocationType()
public void setValue()
public final void showAltitude()
protected void showCard()
public final void showTypeCombo()
protected synchronized void startListening()
protected synchronized void stopListening()
```

11.5.1 Field DEFAULT_BORDER_COLOR

public static final java.awt.Color **DEFAULT_BORDER_COLOR**

11.5.2 Field fCardMap

protected java.util.HashMap **fCardMap**

11.5.3 Field fCardPanel

protected javax.swing.JPanel **fCardPanel**

11.5.4 Field fCards

protected mil.dtra.hpac.client.swing.location.LocationCard[] **fCards**

11.5.5 Field fCurrentCard

protected mil.dtra.hpac.client.swing.location.LocationCard **fCurrentCard**

11.5.6 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

11.5.7 Field fTypeCombo

protected mil.dtra.swing.PComboBox **fTypeCombo**

11.5.8 Field fTypeLabel

protected mil.dtra.swing.PLabel **fTypeLabel**

11.5.9 Field LOCATION_BEAN

public static final java.lang.String **LOCATION_BEAN**

11.5.10 Field PROP_value

public static final java.lang.String **PROP_value**

11.5.11 Field TYPE_CARTESIAN

```
public static final java.lang.String TYPE_CARTESIAN
```

11.5.12 Field TYPE_LLA

```
public static final java.lang.String TYPE_LLA
```

11.5.13 Field TYPE_UTM

```
public static final java.lang.String TYPE_UTM
```

11.5.14 Field TYPES

```
public static final java.lang.String[] TYPES
```

11.5.15 Constructor LocationBean()

```
public  
LocationBean()
```

Default constructor for bean instantiation. Must call `init()`.

11.5.16 Constructor LocationBean()

```
public  
LocationBean(  
    mil.dtra.util.ValueProperties props,  
    boolean show_altitude  
)
```

Constructs this bean assuming no initial *value* or title border.

Parameters:

`props` - object with properties for this
`show_altitude` - true if the altitude bean is to be shown, false otherwise

11.5.17 Constructor LocationBean()

```
public
LocationBean(
    mil.dtra.util.ValueProperties props,
    boolean show_altitude,
    java.lang.String title
)
```

Constructs this bean assuming no initial *value*.

Parameters:

props - object with properties for this
show_altitude - true if the altitude bean is to be shown, false otherwise
title - text for title border or null for no border

11.5.18 Constructor LocationBean()

```
public
LocationBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location loc,
    boolean show_altitude
)
```

Constructs this bean assuming no title border.

Parameters:

props - object with properties for this
loc - initial *value* or null
show_altitude - true if the altitude bean is to be shown, false otherwise

11.5.19 Constructor LocationBean()

```
public
LocationBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location loc,
    boolean show_altitude,
    java.lang.String title
)
```

Constructs this bean calling `init()`.

Parameters:

`props` - object with properties for this
`loc` - initial *value* or null
`show_altitude` - true if the altitude bean is to be shown, false otherwise
`title` - text for title border or null for no border

11.5.20 Method `actionPerformed()`

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles action events for the location type combo box.

Parameters:

`event` - action event

11.5.21 Method `clear()`

```
public void
clear()
```

Clears all the subcomponent bean values.

11.5.22 Method `create()`

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    boolean show_altitude
)
```

Creates this bean and all subcomponent beans.

Parameters:

`props` - object with properties for this
`show_altitude` - true if the altitude bean is to be shown, false otherwise

11.5.23 Method getCardBorderColor()

```
public java.awt.Color
getCardBorderColor()
```

Convenience method to retrieve the color of the line border in the card panel compound border. If the border has been changed, null is returned.

Returns:

current line border color or null if not assigned

11.5.24 Method getLocationType()

```
public final java.lang.String
getLocationType()
```

Returns the value of the currently selected location type as defined by the TYPE_-constants.

Returns:

one of the type string constants

11.5.25 Method getTypeLabel()

```
public final javax.swing.JLabel
getTypeLabel()
```

Accessor for the *typeLabel* property.

Returns:

reference to the type label component

11.5.26 Method getValue()

```
public final mil.dtra.hpac.data.Location
getValue()
```

Accessor for the *value* property.

Returns:

copy of the current location value or null

11.5.27 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location loc,
    boolean show_altitude,
    java.lang.String title
)
```

Initializes this bean and creates subcomponents.

Parameters:

props - object with properties for this
 loc - initial *value* or null
 show_altitude - true if the altitude bean is to be shown, false otherwise
 title - text for title border or null for no border

11.5.28 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events in subcomponent beans.

Parameters:

event - property change event

11.5.29 Method setCardBorderColor()

```
public void
setCardBorderColor( java.awt.Color color )
```

Convenience method to set the line border of the card panel. The border is a CompoundBorder composed of a LineBorder outside an EmptyBorder.

Parameters:

color - color for the line border or null to use the default color

11.5.30 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides JComponent.setEnabled() to (dis)enable all subcomponent beans.

Parameters:

flag - true to enable, false to disable

11.5.31 Method setLocationType()

```
public final void
setLocationType( java.lang.String type )
```

Sets the value of the current location type as defined by the TYPE_constants.

Parameters:

type - one of the location type string constants

11.5.32 Method setValue()

```
public void
setValue( mil.dtra.hpac.data.Location loc )
```

Accessor for the *value* property. Shows the proper editing bean for the type of the location.

Parameters:

loc - new location value to load

11.5.33 Method showAltitude()

```
public final void
showAltitude( boolean flag )
```

Allows the altitude beans to be shown or hidden.

Parameters:

flag - true to show the beans, false otherwise

11.5.34 Method showCard()

```
protected void
showCard( java.lang.String type )
```

Shows the card for the specified type name.

Parameters:

type - type name as defined by the TYPE_constants

11.5.35 Method showTypeCombo()

```
public final void
showTypeCombo( boolean flag )
```

Allows the location type combo box to be shown or hidden.

Parameters:

flag - true to show the combo, false otherwise

11.5.36 Method startListening()

```
protected synchronized void
startListening()
```

Registers listeners.

11.5.37 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregisters listeners.

11.6 Class UTMBean

```
mil.dtra.hpac.client.swing.location
public UTMBean
extends AbstractLocationCard
implements ActionListener, PropertyChangeListener,
```

LocationCard for editing a UTMLocation.

Fields:

```

protected mil.dtra.hpac.client.swing.ValueUnitsBean fAltitudeBean
protected javax.swing.JPanel fCardPanel
protected javax.swing.JButton fDatumButton
protected mil.dtra.hpac.client.swing.ValueUnitsBean fEastingBean
protected transient mil.dtra.hpac.client.swing.location.UTMBean.FieldListener fField-
Listener
protected javax.swing.JComboBox fHemisphereCombo
protected mil.dtra.hpac.data.UTMLocation fLocation
protected javax.swing.JTextField fMGRSField
protected java.lang.String fMGRSFieldText
protected javax.swing.JComboBox fModeCombo
protected mil.dtra.hpac.client.swing.ValueUnitsBean fNorthingBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fZoneBean
public static final java.lang.String[] HEMISPHERES
public static final java.lang.String INVALID_MGRS
public static final int MGRS_INDEX
public static final java.lang.String[] MODES
public static final int NORTH_HEMIS_INDEX
public static final int SOUTH_HEMIS_INDEX
public static final java.lang.String UTM_BEAN
public static final int UTM_INDEX

```

Methods:

```

public void actionPerformed()
public void clear()
protected void create()
protected java.awt.Component createMGRSCard()
protected java.awt.Component createUTMCard()
protected synchronized void disableListeners()
protected synchronized void enableListeners()
public mil.dtra.hpac.data.UTMLocation getUTMLocation()
public final mil.dtra.hpac.data.Location getValue()
public void propertyChange()
public void setEnabled()
public void setValue()
public final void showAltitude()
protected void showDatumDialog()
protected void updateBeans()

```

Inner Classes:

UTMBean.FieldListener

11.6.1 Field fAltitudeBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fAltitudeBean**

11.6.2 Field **fCardPanel**

protected javax.swing.JPanel **fCardPanel**

11.6.3 Field **fDatumButton**

protected javax.swing.JButton **fDatumButton**

11.6.4 Field **fEastingBean**

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fEastingBean**

11.6.5 Field **fFieldListener**

protected transient mil.dtra.hpac.client.swing.location.UTMBean.FieldListener **fFieldListener**

11.6.6 Field **fHemisphereCombo**

protected javax.swing.JComboBox **fHemisphereCombo**

11.6.7 Field **fLocation**

protected mil.dtra.hpac.data.UTMLocation **fLocation**

11.6.8 Field **fMGRSField**

protected javax.swing.JTextField **fMGRSField**

11.6.9 Field **fMGRSFieldText**

protected java.lang.String **fMGRSFieldText**

11.6.10 Field **fModeCombo**

protected javax.swing.JComboBox **fModeCombo**

11.6.11 Field **fNorthingBean**

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fNorthingBean**

11.6.12 Field fZoneBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fZoneBean**

11.6.13 Field HEMISPHERES

public static final java.lang.String[] **HEMISPHERES**

11.6.14 Field INVALID_MGRS

public static final java.lang.String **INVALID_MGRS**

11.6.15 Field MGRS_INDEX

public static final int **MGRS_INDEX**

11.6.16 Field MODES

public static final java.lang.String[] **MODES**

11.6.17 Field NORTH_HEMIS_INDEX

public static final int **NORTH_HEMIS_INDEX**

11.6.18 Field SOUTH_HEMIS_INDEX

public static final int **SOUTH_HEMIS_INDEX**

11.6.19 Field UTM_BEAN

public static final java.lang.String **UTM_BEAN**

11.6.20 Field UTM_INDEX

public static final int **UTM_INDEX**

11.6.21 Constructor UTMBean()

```
public
UTMBean()
```

Default constructor which performs no initialization. Must call `init()`.

11.6.22 Constructor UTMBean()

```
public
UTMBean(
    mil.dtra.util.ValueProperties props,
    boolean show_altitude
)
```

Constructs and creates this bean assuming no initial *value* or title border.

Parameters:

`props` - object with properties for this
`show_altitude` - true if the altitude bean is to be shown, false otherwise

11.6.23 Constructor UTMBean()

```
public
UTMBean(
    mil.dtra.util.ValueProperties props,
    boolean show_altitude,
    java.lang.String title
)
```

Constructs and creates this bean assuming no initial *value*.

Parameters:

`props` - object with properties for this
`show_altitude` - true if the altitude bean is to be shown, false otherwise
`title` - text for title border or null for no border

11.6.24 Constructor UTMBean()

```
public
UTMBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location loc,
    boolean show_altitude
)
```

Constructs and creates this bean assuming no title border.

Parameters:

- props - object with properties for this
- location - initial *value* or null
- show_altitude - true if the altitude bean is to be shown, false otherwise

11.6.25 Constructor UTMBean()

```
public
UTMBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Location loc,
    boolean show_altitude,
    java.lang.String title
)
```

Constructs and creates this bean calling `init()`.

Parameters:

- props - object with properties for this
- location - initial *value* or null
- show_altitude - true if the altitude bean is to be shown, false otherwise
- title - text for title border or null for no border

11.6.26 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles actions from buttons and combo boxes on this bean.

Parameters:

- event - action event

11.6.27 Method clear()

```
public void
clear()
```

Clears this bean.

11.6.28 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    boolean show_altitude
)
```

Creates this bean and its sub-component beans.

Parameters:

props - object with properties for this
show_altitude - true if the altitude bean is to be shown, false otherwise

11.6.29 Method createMGRSCard()

```
protected java.awt.Component
createMGRSCard( mil.dtra.util.ValueProperties props )
```

Creates the bean for editing the MGRS value.

Parameters:

props - object with properties for the bean

Returns:

bean

11.6.30 Method createUTMCard()

```
protected java.awt.Component
createUTMCard( mil.dtra.util.ValueProperties props )
```

Creates the bean for editing the zone, easting, and northing.

Parameters:

props - object with properties for the bean

Returns:

bean

11.6.31 Method disableListeners()

protected synchronized void

disableListeners()

Temporarily disables listeners registered for subcomponent beans.

11.6.32 Method enableListeners()

protected synchronized void

enableListeners()

Restores disabled listeners for subcomponent beans.

11.6.33 Method getUTMLocation()

public mil.dtra.hpac.data.UTMLocation

getUTMLocation()

Convience getter to return the *value* as a UTMLocation.

Returns:

copy of the location as a cartesian location object

11.6.34 Method getValue()

public final mil.dtra.hpac.data.Location

getValue()

Accessor for the *value* property.

Returns:

copy of the location object

11.6.35 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property changes on sub-component beans.

Parameters:

event - property change event

11.6.36 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides JComponent .setEnabled() to (dis)enable all subcomponent beans.

Parameters:

flag - true to enable, false to disable

11.6.37 Method setValue()

```
public void
setValue( mil.dtra.hpac.data.Location value )
```

Accessor for the *value* property.

Parameters:

value - location object to copy

Exceptions:

UnitsException - on invalid value or unit in a units value

11.6.38 Method showAltitude()

```
public final void
showAltitude( boolean flag )
```

Allows the altitude beans to be shown or hidden.

Parameters:

flag - true to show the beans, false otherwise

11.6.39 Method showDatumDialog()

```
protected void
showDatumDialog()
```

Displays a dialog for choosing the UTM datum.

11.6.40 Method updateBeans()

```
protected void
updateBeans( boolean stop_listening_flag )
```

Loads subcomponent beans from the current *value*.

Parameters:

stop_listening_flag - flags whether current listeners should be disabled before changing bean properties

11.7 Class UTMBean.FieldListener

```
mil.dtra.hpac.client.swing.location
protected UTMBean.FieldListener
extends FocusAdapter
```

Extends FocusAdapter to listen for focus loss in the MGRS text field.

Methods:

```
public void focusLost()
```

11.7.1 Constructor UTMBean.FieldListener()

```
protected
UTMBean.FieldListener( mil.dtra.hpac.client.swing.location.UTMBean this$0 )
```

11.7.2 Method focusLost()

```
public void
focusLost( java.awt.event.FocusEvent event )
```

Updates the MGRS value when focus leaves the MGRS field.

Parameters:

event - focus event

11.8 Class UTMBean.FieldListener

```
mil.dtra.hpac.client.swing.location
protected UTMBean.FieldListener
extends FocusAdapter
```

Extends FocusAdapter to listen for focus loss in the MGRS text field.

Methods:

```
public void focusLost()
```

11.8.1 Constructor UTMBean.FieldListener()

```
protected
UTMBean.FieldListener( mil.dtra.hpac.client.swing.location.UTMBean this$0 )
```

11.8.2 Method focusLost()

```
public void
focusLost( java.awt.event.FocusEvent event )
```

Updates the MGRS value when focus leaves the MGRS field.

Parameters:

event - focus event

CHAPTER 12

Package **mil.dtra.hpac.client.swing.location.llा**

Components for editing mil.dtra.hpac.data.LLALocation objects.

Classes:

- LLACard
- LLADegMinBean
- LLADegMinSecBean
- LLADegreesBean

12.1 Class LLACard

```
mil.dtra.hpac.client.swing.location.llा
public abstract LLACard
extends JPanel
implements ActionListener, HPAC Swing Constants, PropertyChangeListener,
```

Base definition of and support for a card in a LLABean.

Fields:

```
public static final java.lang.String DEG
public static final java.lang.String DEGREES
public static final java.lang.String EAST
protected javax.swing.JButton fLatButton
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.data.LLAlocation fLocation
protected javax.swing.JButton fLonButton
public static final java.lang.String LATITUDE_LABEL
public static final java.lang.String LONGITUDE_LABEL
public static final java.lang.String MINUTES
public static final java.lang.String NORTH
public static final java.lang.String PROP_LLALocation
```

```
public static final java.lang.String SECONDS
public static final java.lang.String SOUTH
public static final java.lang.String WEST
```

Methods:

```
public void actionPerformed()
public abstract void clear()
protected abstract void create()
protected void createDirectionButtons()
public final javax.swing.JButton getLatButton()
protected double getLatButtonFactor()
public final mil.dtra.hpac.data.LLAlocation getLLAlocation()
public mil.dtra.hpac.data.LLAlocation getLLAlocation()
public final javax.swing.JButton getLonButton()
protected double getLonButtonFactor()
public java.awt.Dimension getMaximumSize()
public void init()
protected abstract void negateLatitude()
protected abstract void negateLongitude()
protected abstract mil.dtra.hpac.data.LLAlocation parseFields()
public void propertyChange()
public void setAltitude()
public void setLatDirection()
public void setLLAlocation()
public void setLonDirection()
protected abstract void startListening()
protected abstract void stopListening()
protected abstract void writeFields()
```

12.1.1 Field DEG

```
public static final java.lang.String DEG
```

12.1.2 Field DEGREES

```
public static final java.lang.String DEGREES
```

12.1.3 Field EAST

```
public static final java.lang.String EAST
```

12.1.4 Field fLatButton

```
protected javax.swing.JButton fLatButton
```

12.1.5 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

12.1.6 Field fLocation

protected mil.dtra.hpac.data.LLAlocation **fLocation**

12.1.7 Field fLonButton

protected javax.swing.JButton **fLonButton**

12.1.8 Field LATITUDE_LABEL

public static final java.lang.String **LATITUDE_LABEL**

12.1.9 Field LONGITUDE_LABEL

public static final java.lang.String **LONGITUDE_LABEL**

12.1.10 Field MINUTES

public static final java.lang.String **MINUTES**

12.1.11 Field NORTH

public static final java.lang.String **NORTH**

12.1.12 Field PROP_LLALocation

public static final java.lang.String **PROP_LLALocation**

Property name ("LLALocation")

12.1.13 Field SECONDS

public static final java.lang.String **SECONDS**

12.1.14 Field SOUTH

public static final java.lang.String **SOUTH**

12.1.15 Field WEST

```
public static final java.lang.String WEST
```

12.1.16 Constructor LLACard()

```
protected  
LLACard()
```

Default constructor. Sets *layout* to a GridBagLayout.

12.1.17 Method actionPerformed()

```
public void  
actionPerformed( java.awt.event.ActionEvent event )
```

Handles actions on the lat and lon buttons.

Parameters:

event - action event

12.1.18 Method clear()

```
public abstract void  
clear()
```

Extensions must define a method to clear all component beans.

12.1.19 Method create()

```
protected abstract void  
create( mil.dtra.util.ValueProperties props )
```

Extensions must define a method to initialize themselves and create all sub-components. Assume the direction buttons have been created before this method is called.

Parameters:

props - object with properties for this

12.1.20 Method createDirectionButtons()

```
protected void
createDirectionButtons( mil.dtra.util.ValueProperties props )
```

Builds the lat and lon buttons, referenced with the fLatButton and fLonButton fields, respectively.

Parameters:

props - object with properties for this

12.1.21 Method getLatButton()

```
public final javax.swing.JButton
getLatButton()
```

Returns:

object reference

12.1.22 Method getLatButtonFactor()

```
protected double
getLatButtonFactor()
```

Returns:

-1.0 if the lat button text is "S", 1.0 otherwise

12.1.23 Method getLLALocation()

```
public final mil.dtra.hpac.data.LLALocation
getLLALocation()
```

Accessor for the *LLALocation* property. Calls `getLLALocation()` overload with a null parameter.

Returns:

copy of the location object value

12.1.24 Method getLLALocation()

```
public mil.dtra.hpac.data.LLALocation
getLLALocation( mil.dtra.hpac.data.LLALocation loc )
```

Accessor for the *LLALocation* property accepting a location object to fill with the value. If loc is null, a new object is created.

Returns:

loc if not null; new location object otherwise

12.1.25 Method getLonButton()

```
public final javax.swing.JButton
getLonButton()
```

Returns:

object reference

12.1.26 Method getLonButtonFactor()

```
protected double
getLonButtonFactor()
```

Returns:

-1.0 if the lon button text is "W", 1.0 otherwise

12.1.27 Method getMaximumSize()

```
public java.awt.Dimension
getMaximumSize()
```

Overrides JPanel.getMaximumSize() to return the result of getPreferredSize().

Returns:

size object

12.1.28 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.LLAlocation loc,
    java.lang.String title
)
```

Initializes and creates this bean. Subclass constructors should call this method, which calls `create()`.

Parameters:

`props` - object with properties for this
`loc` - initial *LLAlocation* value or null
`title` - text for title border or null for no border

12.1.29 Method negateLatitude()

```
protected abstract void
negateLatitude()
```

Negate the sign of the latitude value.

12.1.30 Method negateLongitude()

```
protected abstract void
negateLongitude()
```

Negate the sign of the longitude value.

12.1.31 Method parseFields()

```
protected abstract mil.dtra.hpac.data.LLAlocation
parseFields()
```

Extensions must define this method to build a location object from subcomponent beans.

Returns:

new location object build from bean values

Exceptions:

`NumberFormatException` - on format error

12.1.32 Method **propertyChange()**

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property changes on component beans. Thus, this can be registered as a `PropertyChangeListener` by subclasses. Calls `parseFields()` to get the new location value and fires a `PROP_LLALocation` property change from this.

Parameters:

event - property change event

12.1.33 Method **setAltitude()**

```
public void
setAltitude( double altitude )
```

Convenience method to set the *altitude* property of the current *location*.

Parameters:

altitude - altitude value in meters

12.1.34 Method **setLatDirection()**

```
public void
setLatDirection( java.lang.String dir )
```

Parameters:

dir - NORTH or SOUTH; if not SOUTH NORTH is assumed

12.1.35 Method **setLLALocation()**

```
public void
setLLALocation( mil.dtra.hpac.data.LLALocation loc )
```

Accessor for the *LLALocation* property.

Parameters:

loc - location object to copy

12.1.36 Method setLonDirection()

```
public void
setLonDirection( java.lang.String dir )
```

Parameters:

dir - EAST or WEST; if not WEST EAST is assumed

12.1.37 Method startListening()

```
protected abstract void
startListening()
```

Extensions must provide this method to register listeners. The implementations must register this as an action listener for the direction buttons.

12.1.38 Method stopListening()

```
protected abstract void
stopListening()
```

Extensions must provide this method to unregister listeners. The implementations must unregister this as an action listener for the direction buttons.

12.1.39 Method writeFields()

```
protected abstract void
writeFields( mil.dtra.hpac.data.LLAlocation loc )
```

Extensions must define this method to load subcomponent beans from a location object.

Parameters:

loc - new location object with which to load beans

12.2 Class LLADegMinBean

```
mil.dtra.hpac.client.swing.location.ll
public LLADegMinBean
extends LLACard
```

LLACard extension providing LLALocation editing in degrees and decimal minutes.

Fields:

```

protected mil.dtra.hpac.client.swing.ValueUnitsBean fLatDegBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLatMinBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLonDegBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLonMinBean
public static final java.lang.String LLA_DEG_MIN_BEAN

```

Methods:

```

public void clear()
protected void create()
protected void negateLatitude()
protected void negateLongitude()
protected mil.dtra.hpac.data.LLAlocation parseFields()
public void setEnabled()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void writeFields()

```

12.2.1 Field fLatDegBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLatDegBean**

12.2.2 Field fLatMinBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLatMinBean**

12.2.3 Field fLonDegBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLonDegBean**

12.2.4 Field fLonMinBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLonMinBean**

12.2.5 Field LLA_DEG_MIN_BEAN

public static final java.lang.String **LLA_DEG_MIN_BEAN**

12.2.6 Constructor LLADegMinBean()

```
public
LLADegMinBean()
```

Default constructor which performs no initialization. Must call `init()`.

12.2.7 Constructor LLADegMinBean()

```
public
LLADegMinBean( mil.dtra.util.ValueProperties props )
```

Constructs and creates this bean assuming no initial *LLALocation* value or title border.

Parameters:

- props - object with properties for this
- title - text for title border or null for no border

12.2.8 Constructor LLADegMinBean()

```
public
LLADegMinBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs and creates this bean assuming no initial *LLALocation* value.

Parameters:

- props - object with properties for this
- title - text for title border or null for no border

12.2.9 Constructor LLADegMinBean()

```
public
LLADegMinBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.LLALocation loc
)
```

Constructs and creates this bean assuming no title border.

Parameters:

props - object with properties for this
 loc - initial *LLALocation* value or null

12.2.10 Constructor LLADegMinBean()

```
public
LLADegMinBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.LLAlocation loc,
    java.lang.String title
)
```

Constructs and calls *init()* to create this bean.

Parameters:

props - object with properties for this
 loc - initial *LLALocation* value or null
 title - text for title border or null for no border

12.2.11 Method clear()

```
public void
clear()
```

Clears all component beans.

12.2.12 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates and lays out subcomponent beans for this.

Parameters:

props - object with properties for this

12.2.13 Method negateLatitude()

```
protected void
negateLatitude()
```

Negate the sign of the latitude value.

12.2.14 Method negateLongitude()

```
protected void
negateLongitude()
```

Negate the sign of the longitude value.

12.2.15 Method parseFields()

```
protected mil.dtra.hpac.data.LLAlocation
parseFields()
```

Builds a location object from subcomponent beans.

Returns:

new location object build from bean values

Exceptions:

NumberFormatException - on format error

12.2.16 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides JComponent.setEnabled() to (dis)enable all subcomponent beans.

Parameters:

flag - true to enable, false to disable

12.2.17 Method startListening()

protected synchronized void
startListening()

Registers listeners.

12.2.18 Method stopListening()

protected synchronized void
stopListening()

Unregisters listeners.

12.2.19 Method writeFields()

protected void
writeFields(mil.dtra.hpac.data.LLAlocation loc)

Loads subcomponent beans from a location object.

Parameters:

loc - new location object with which to load beans

12.3 Class LLADegMinSecBean

```
mil.dtra.hpac.client.swing.location.ll
public LLADegMinSecBean
extends LLACard
```

LLACard extension providing LLALocation editing in integer degrees, minutes, and seconds.

Fields:

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLatDegBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLatMinBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLatSecBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLonDegBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLonMinBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLonSecBean
public static final java.lang.String LLA_DEG_MIN_SEC_BEAN
```

Methods:

```

public void clear()
protected void create()
protected void negateLatitude()
protected void negateLongitude()
protected mil.dtra.hpac.data.LLAlocation parseFields()
public void setEnabled()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void writeFields()

```

12.3.1 Field fLatDegBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLatDegBean**

12.3.2 Field fLatMinBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLatMinBean**

12.3.3 Field fLatSecBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLatSecBean**

12.3.4 Field fLonDegBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLonDegBean**

12.3.5 Field fLonMinBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLonMinBean**

12.3.6 Field fLonSecBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLonSecBean**

12.3.7 Field LLA_DEG_MIN_SEC_BEAN

public static final java.lang.String **LLA_DEG_MIN_SEC_BEAN**

12.3.8 Constructor LLADegMinSecBean()

```
public
LLADegMinSecBean()
```

Default constructor which performs no initialization. Must call `init()`.

12.3.9 Constructor LLADegMinSecBean()

```
public
LLADegMinSecBean( mil.dtra.util.ValueProperties props )
```

Constructs and creates this bean assuming no initial *LLALocation* value or title border.

Parameters:

- props - object with properties for this
- title - text for title border or null for no border

12.3.10 Constructor LLADegMinSecBean()

```
public
LLADegMinSecBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs and creates this bean assuming no initial *LLALocation* value.

Parameters:

- props - object with properties for this
- title - text for title border or null for no border

12.3.11 Constructor LLADegMinSecBean()

```
public
LLADegMinSecBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.LLALocation loc
)
```

Constructs and creates this bean assuming no title border.

Parameters:

props - object with properties for this
 loc - initial *LLALocation* value or null

12.3.12 Constructor LLAdegMinSecBean()

```
public
LLADegMinSecBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.LLAlocation loc,
    java.lang.String title
)
```

Constructs and calls *init()* to create this bean.

Parameters:

props - object with properties for this
 loc - initial *LLALocation* value or null
 title - text for title border or null for no border

12.3.13 Method clear()

```
public void
clear()
```

Clears all component beans.

12.3.14 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates and lays out subcomponent beans for this.

Parameters:

props - object with properties for this

12.3.15 Method negateLatitude()

```
protected void
negateLatitude()
```

Negate the sign of the latitude value.

12.3.16 Method negateLongitude()

```
protected void
negateLongitude()
```

Negate the sign of the longitude value.

12.3.17 Method parseFields()

```
protected mil.dtra.hpac.data.LLAlocation
parseFields()
```

Builds a location object from subcomponent beans.

Returns:

new location object build from bean values

Exceptions:

NumberFormatException - on format error

12.3.18 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides JComponent.setEnabled() to (dis)enable all subcomponent beans.

Parameters:

flag - true to enable, false to disable

12.3.19 Method startListening()

```
protected synchronized void
startListening()
```

Registers listeners.

12.3.20 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregisters listeners.

12.3.21 Method writeFields()

```
protected void
writeFields( mil.dtra.hpac.data.LLAlocation loc )
```

Loads subcomponent beans from a location object.

Parameters:

loc - new location object with which to load beans

12.4 Class LLADegreesBean

```
mil.dtra.hpac.client.swing.location.ll
public LLADegreesBean
extends LLACard
```

LLACard extension providing LLALocation editing in decimal degrees.

Fields:

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLatBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLonBean
public static final java.lang.String LLA_DEGREES_BEAN
```

Methods:

```
public void clear()
protected void create()
protected void negateLatitude()
protected void negateLongitude()
protected mil.dtra.hpac.data.LLAlocation parseFields()
```

```
public void setEnabled()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void writeFields()
```

12.4.1 Field fLatBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLatBean**

12.4.2 Field fLonBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLonBean**

12.4.3 Field LLA_DEGREES_BEAN

public static final java.lang.String **LLA_DEGREES_BEAN**

12.4.4 Constructor LLADegreesBean()

public
LLADegreesBean()

Default constructor which performs no initialization. Must call `init()`.

12.4.5 Constructor LLADegreesBean()

public
LLADegreesBean(mil.dtra.util.ValueProperties props)

Constructs and creates this bean assuming no initial *LLALocation* value or title border.

Parameters:

props - object with properties for this
title - text for title border or null for no border

12.4.6 Constructor LLADegreesBean()

```
public
LLADegreesBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs and creates this bean assuming no initial *LLALocation* value.

Parameters:

- props - object with properties for this
- title - text for title border or null for no border

12.4.7 Constructor LLADegreesBean()

```
public
LLADegreesBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.LLALocation loc
)
```

Constructs and creates this bean assuming no title border.

Parameters:

- props - object with properties for this
- loc - initial *LLALocation* value or null

12.4.8 Constructor LLADegreesBean()

```
public
LLADegreesBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.LLALocation loc,
    java.lang.String title
)
```

Constructs and calls *init()* to create this bean.

Parameters:

- props - object with properties for this
- loc - initial *LLALocation* value or null
- title - text for title border or null for no border

12.4.9 Method clear()

```
public void
clear()
```

Clears all component beans.

12.4.10 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates and lays out subcomponent beans for this.

Parameters:

props - object with properties for this

12.4.11 Method negateLatitude()

```
protected void
negateLatitude()
```

Negate the sign of the latitude value.

12.4.12 Method negateLongitude()

```
protected void
negateLongitude()
```

Negate the sign of the longitude value.

12.4.13 Method parseFields()

```
protected mil.dtra.hpac.data.LLAlocation
parseFields()
```

Builds a location object from subcomponent beans.

Returns:

new location object build from bean values

Exceptions:

NumberFormatException - on format error

12.4.14 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to (dis)enable all subcomponent beans.

Parameters:

`flag` - true to enable, false to disable

12.4.15 Method startListening()

```
protected synchronized void
startListening()
```

Registers listeners.

12.4.16 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregisters listeners.

12.4.17 Method writeFields()

```
protected void
writeFields( mil.dtra.hpac.data.LLAlocation loc )
```

Loads subcomponent beans from a location object.

Parameters:

`loc` - new location object with which to load beans

CHAPTER 13

Package **mil.dtra.hpac.client.swing.project**

Beans and components for editing HPAC project parameters, flags, and options objects.

Classes:

- AuditBean
- AuditBean.FieldListener
- FlagsBean
- LimitsBean
- NewProjectPrompter
- OptionsBean
- OptionsBean.TextAreaListener
- ParametersBean
- ParametersBean.FieldListener
- RestartBean
- RestartBean.TimeCellRenderer
- ResumeBean
- ScipuffMethodBean
- ScipuffModeBean
- SpatialDomainBean
- TemporalDomainBean

13.1 Class AuditBean

```
mil.dtra.hpac.client.swing.project
public AuditBean
extends PDialogPanel
implements ActionListener, HPAC Swing Constants,
```

Bean for editing an Audit value.

Fields:

```

public static final java.lang.String AUDIT_BEAN
public static final java.lang.String[] CLASSIFICATION_LABELS
protected javax.swing.JTextField fAnalystBean
protected mil.dtra.hpac.data.project.Audit fAudit
protected javax.swing.JComboBox fClassificationCombo
protected javax.swing.JTextField fDateBean
protected transient mil.dtra.hpac.client.swing.project.AuditBean.FieldListener fField-
Listener
protected transient volatile boolean fListeningFlag
protected javax.swing.JTextField fTitleBean
protected javax.swing.JTextField fVersionBean
public static final java.lang.String PROP_value

```

Methods:

```

public void actionPerformed()
public void clear()
protected void create()
public void firePropertyChange()
public final mil.dtra.hpac.data.project.Audit getValue()
public void init()
public void setEnabled()
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void updateBeans()

```

Inner Classes:

AuditBean.FieldListener

13.1.1 Field AUDIT_BEAN

public static final java.lang.String AUDIT_BEAN

13.1.2 Field CLASSIFICATION_LABELS

public static final java.lang.String[] CLASSIFICATION_LABELS

Array of classification names

13.1.3 Field fAnalystBean

protected javax.swing.JTextField fAnalystBean

13.1.4 Field fAudit

protected mil.dtra.hpac.data.project.Audit **fAudit**

13.1.5 Field fClassificationCombo

protected javax.swing.JComboBox **fClassificationCombo**

13.1.6 Field fDateBean

protected javax.swing.JTextField **fDateBean**

13.1.7 Field fFieldListener

protected transient mil.dtra.hpac.client.swing.project.AuditBean.FieldListener **fFieldListener**

13.1.8 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

13.1.9 Field fTitleBean

protected javax.swing.JTextField **fTitleBean**

13.1.10 Field fVersionBean

protected javax.swing.JTextField **fVersionBean**

13.1.11 Field PROP_value

public static final java.lang.String **PROP_value**

Property name ("value")

13.1.12 Constructor AuditBean()

public
AuditBean()

Default constructor for bean instantiation. Must call `init()`.

13.1.13 Constructor AuditBean()

```
public
AuditBean( mil.dtra.util.ValueProperties props )
```

Constructs assuming no initial value or border.

Parameters:

props - object with properties for this

13.1.14 Constructor AuditBean()

```
public
AuditBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs assuming no initial value.

Parameters:

props - object with properties for this
title - text for title border or null for no border

13.1.15 Constructor AuditBean()

```
public
AuditBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.Audit audit
)
```

Constructs assuming no border.

Parameters:

props - object with properties for this
audit - initial *value* or null

13.1.16 Constructor AuditBean()

```
public
AuditBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.Audit audit,
    java.lang.String title
)
```

Constructs calling init().

Parameters:

props - object with properties for this
audit - initial *value* or null
title - text for title border or null for no border

13.1.17 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles actions events on the classification combo box.

Parameters:

event - action event

13.1.18 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

13.1.19 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates sub-components for this bean.

Parameters:

props - object with bean properties.

13.1.20 Method firePropertyChange()

```
public void
firePropertyChange(
    java.lang.String name,
    java.lang.Object old_value,
    java.lang.Object new_value
)
```

Overrides `JComponent.firePropertyChange()` to make it publicly accessible.

Parameters:

- name - property name
- old_value - old property value
- new_value - new property value

13.1.21 Method getValue()

```
public final mil.dtra.hpac.data.project.Audit
getValue()
```

Accessor for the *value* property.

Returns:

- copy of the audit object

13.1.22 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.Audit audit,
    java.lang.String title
)
```

Initializes and creates this bean, calling `create()`.

Parameters:

- props - object with properties for this
- audit - initial *value* or null
- title - text for title border or null for no border

13.1.23 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

`flag` - true to enable, false to disable

13.1.24 Method setValue()

```
public void
setValue( mil.dtra.hpac.data.project.Audit audit )
```

Accessor for the *value* property.

Parameters:

`audit` - audit object to copy

13.1.25 Method startListening()

```
protected synchronized void
startListening()
```

Register listeners for sub-component bean events.

13.1.26 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregister listeners for sub-component bean events.

13.1.27 Method updateBeans()

```
protected void
updateBeans( mil.dtra.hpac.data.project.Audit audit )
```

Updates the display beans based on the `Audit` value.

Parameters:

`audit` - audit value with which to update display beans

13.2 Class AuditBean.FieldListener

```
mil.dtra.hpac.client.swing.project
protected AuditBean.FieldListener
extends FocusAdapter
```

FocusAdapter extension to listen for focus loss on the text fields in this bean.

Methods:

```
public void focusLost()
```

13.2.1 Constructor AuditBean.FieldListener()

```
protected
AuditBean.FieldListener( mil.dtra.hpac.client.swing.project.AuditBean this$0 )
```

13.2.2 Method focusLost()

```
public void
focusLost( java.awt.event.FocusEvent event )
```

Updates the audit property corresponding to the source bean.

Parameters:

```
event - focus event
```

13.3 Class AuditBean.FieldListener

```
mil.dtra.hpac.client.swing.project
protected AuditBean.FieldListener
extends FocusAdapter
```

FocusAdapter extension to listen for focus loss on the text fields in this bean.

Methods:

```
public void focusLost()
```

13.3.1 Constructor AuditBean.FieldListener()

```
protected
AuditBean.FieldListener( mil.dtra.hpac.client.swing.project.AuditBean this$0 )
```

13.3.2 Method focusLost()

```
public void
focusLost( java.awt.event.FocusEvent event )
```

Updates the audit property corresponding to the source bean.

Parameters:

event - focus event

13.4 Class FlagsBean

mil.dtra.hpac.client.swing.project

```
public FlagsBean
extends PDIALOGPanel
implements HelpContextBean, HPACSwingConstants, PropertyChangeListener,
```

Bean for editing a Flags value.

Fields:

```
protected mil.dtra.hpac.client.swing.project.AuditBean fAuditBean
protected mil.dtra.hpac.data.project.Flags fFlags
public static final java.lang.String FLAGS_BEAN
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.client.swing.project.ScipuffMethodBean fMethodBean
protected mil.dtra.hpac.client.swing.project.ScipuffModeBean fModeBean
public static final java.lang.String PROP_value
```

Methods:

```
public void clear()
protected void create()
public final java.lang.String getHelpContext()
public final mil.dtra.hpac.data.project.Flags getValue()
public void init()
public void propertyChange()
public void setEnabled()
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()
```

13.4.1 Field fAuditBean

protected mil.dtra.hpac.client.swing.project.AuditBean **fAuditBean**

13.4.2 Field fFlags

protected mil.dtra.hpac.data.project.Flags **fFlags**

13.4.3 Field FLAGS_BEAN

public static final java.lang.String **FLAGS_BEAN**

13.4.4 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

13.4.5 Field fMethodBean

protected mil.dtra.hpac.client.swing.project.ScipuffMethodBean **fMethodBean**

13.4.6 Field fModeBean

protected mil.dtra.hpac.client.swing.project.ScipuffModeBean **fModeBean**

13.4.7 Field PROP_value

public static final java.lang.String **PROP_value**

Property name ("value")

13.4.8 Constructor FlagsBean()

public
FlagsBean()

Default constructor for bean instantiation. Must call `init()`.

13.4.9 Constructor FlagsBean()

public
FlagsBean(mil.dtra.util.ValueProperties props)

Constructs assuming no initial value or border.

Parameters:

props - object with properties for this

13.4.10 Constructor FlagsBean()

```
public
FlagsBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs assuming no initial value.

Parameters:

props - object with properties for this
 title - text for title border or null for no border

13.4.11 Constructor FlagsBean()

```
public
FlagsBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.Flags flags
)
```

Constructs assuming no border.

Parameters:

props - object with properties for this
 flags - initial *value* or null

13.4.12 Constructor FlagsBean()

```
public
FlagsBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.Flags flags,
    java.lang.String title
)
```

Constructs calling `init()`.

Parameters:

props - object with properties for this
 flags - initial *value* or null
 title - text for title border or null for no border

13.4.13 Method clear()

```
public void  
clear()
```

Clears all the sub-component beans.

13.4.14 Method create()

```
protected void  
create( mil.dtra.util.ValueProperties props )
```

Creates sub-components for this bean.

Parameters:

props - object with bean properties.

13.4.15 Method getHelpContext()

```
public final java.lang.String  
getHelpContext()
```

Implements BeanWithHelp.

Returns:

help context name

13.4.16 Method getValue()

```
public final mil.dtra.hpac.data.project.Flags  
getValue()
```

Accessor for the *value* property.

Returns:

copy of the flags object

13.4.17 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.Flags flags,
    java.lang.String title
)
```

Initializes and creates this bean, calling `create()`.

Parameters:

`props` - object with properties for this
`flags` - initial *value* or null
`title` - text for title border or null for no border

13.4.18 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property changes in sub-component beans.

Parameters:

`event` - property change event

13.4.19 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

`flag` - true to enable, false to disable

13.4.20 Method setValue()

```
public void
setValue( mil.dtra.hpac.data.project.Flags flags )
```

Accessor for the *value* property.

Parameters:

flags - flags object to copy

13.4.21 Method startListening()

```
protected synchronized void
startListening()
```

Register listeners for sub-component bean events.

13.4.22 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregister listeners for sub-component bean events.

13.5 Class LimitsBean

```
mil.dtra.hpac.client.swing.project
public LimitsBean
extends PDialogPanel
implements ActionListener, HelpContextBean, HPACSwingConstants, PropertyChangeListener,
```

Bean for editing a `Limits` value.

Fields:

```
protected static final java.lang.String ACTION_extended
protected static final java.lang.String ACTION_operational
protected static final java.lang.String ACTION_ultimate
protected javax.swing.JButton fExtendedButton
protected mil.dtra.hpac.client.swing.ValueUnitsBean fGridCellsBean
protected mil.dtra.hpac.data.project.Limits fLimits
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.client.swing.ValueUnitsBean fMetHorzSizeBean
protected javax.swing.JButton fOperationalButton
protected mil.dtra.hpac.client.swing.ValueUnitsBean fPuffsBean
```

```
protected javax.swing.JButton fUltimateButton
public static final java.lang.String LIMITS_BEAN
public static final java.lang.String PROP_value
```

Methods:

```
public void actionPerformed()
public void clear()
protected void create()
protected javax.swing.JPanel createButtonPanel()
protected javax.swing.JPanel createMainPanel()
public final java.lang.String getHelpContext()
public final mil.dtra.hpac.data.project.Limits getValue()
public void init()
public void propertyChange()
public void setEnabled()
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()
```

13.5.1 Field ACTION_extended

protected static final java.lang.String **ACTION_extended**

13.5.2 Field ACTION_operational

protected static final java.lang.String **ACTION_operational**

13.5.3 Field ACTION_ultimate

protected static final java.lang.String **ACTION_ultimate**

13.5.4 Field fExtendedButton

protected javax.swing.JButton **fExtendedButton**

13.5.5 Field fGridCellsBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fGridCellsBean**

13.5.6 Field fLimits

protected mil.dtra.hpac.data.project.Limits **fLimits**

13.5.7 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

13.5.8 Field fMetHorzSizeBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fMetHorzSizeBean**

13.5.9 Field fOperationalButton

protected javax.swing.JButton **fOperationalButton**

13.5.10 Field fPuffsBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fPuffsBean**

13.5.11 Field fUltimateButton

protected javax.swing.JButton **fUltimateButton**

13.5.12 Field LIMITS_BEAN

public static final java.lang.String **LIMITS_BEAN**

13.5.13 Field PROP_value

public static final java.lang.String **PROP_value**

13.5.14 Constructor LimitsBean()

public
LimitsBean()

Default constructor for bean instantiation. Must call `init()`.

13.5.15 Constructor LimitsBean()

```
public
LimitsBean( mil.dtra.util.ValueProperties props )
```

Constructs assuming no initial value or title border.

Parameters:

props - object with properties for this

13.5.16 Constructor LimitsBean()

```
public
LimitsBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs assuming no initial value.

Parameters:

props - object with properties for this
 title - text for title border or null for no border

13.5.17 Constructor LimitsBean()

```
public
LimitsBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.Limits limits
)
```

Constructs assuming no title border.

Parameters:

props - object with properties for this
 limits - initial *value* or null

13.5.18 Constructor LimitsBean()

```
public
LimitsBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.Limits limits,
    java.lang.String title
)
```

Constructs calling `init()`.

Parameters:

`props` - object with properties for this
`limits` - initial *value* or null
`title` - text for title border or null for no border

13.5.19 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Listens to button events.

13.5.20 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

13.5.21 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates sub-components for this bean.

Parameters:

`props` - object with bean properties.

13.5.22 Method createButtonPanel()

```
protected javax.swing.JPanel
createButtonPanel( mil.dtra.util.ValueProperties props )
```

Creates sub-components for this bean.

Parameters:

props - object with bean properties.

13.5.23 Method createMainPanel()

```
protected javax.swing.JPanel
createMainPanel( mil.dtra.util.ValueProperties props )
```

Creates sub-components for this bean.

Parameters:

props - object with bean properties.

13.5.24 Method getHelpContext()

```
public final java.lang.String
getHelpContext()
```

Implements BeanWithHelp.

Returns:

help context name

13.5.25 Method getValue()

```
public final mil.dtra.hpac.data.project.Limits
getValue()
```

Accessor for the *value* property.

Returns:

copy of the limits object

13.5.26 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.Limits limits,
    java.lang.String title
)
```

Initializes and creates this bean, calling `create()`.

Parameters:

props - object with properties for this
 limits - initial *value* or null
 title - text for title border or null for no border

13.5.27 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property changes in sub-component beans.

Parameters:

event - property change event

13.5.28 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

flag - true to enable, false to disable

13.5.29 Method `setValue()`

```
public void
setValue( mil.dtra.hpac.data.project.Limits limits )
```

Accessor for the *value* property.

Parameters:

`flags` - flags object to copy

13.5.30 Method `startListening()`

```
protected synchronized void
startListening()
```

Registers listeners for sub-component bean events.

13.5.31 Method `stopListening()`

```
protected synchronized void
stopListening()
```

Unregisters listeners for sub-component bean events.

13.6 Class `NewProjectPrompter`

```
mil.dtra.hpac.client.swing.project
public NewProjectPrompter
extends Object
```

Prompts for a new project given an existing one. Options include creating an empty project, cloning the existing project, and restarting from the existing one. After instantiation, call `getNewProject()` to start everything.

Fields:

```
protected mil.dtra.hpac.data.Project fOldProject
protected java.awt.Component fParent
protected mil.dtra.util.ValueProperties fProps
public static final java.lang.String NEW_PROJECT_PROMPTER
```

Methods:

```
public mil.dtra.hpac.data.Project getNewProject()
protected void showCopyErrorMessage()
```

13.6.1 Field fOldProject

```
protected mil.dtra.hpac.data.Project fOldProject
```

13.6.2 Field fParent

```
protected java.awt.Component fParent
```

13.6.3 Field fProps

```
protected mil.dtra.util.ValueProperties fProps
```

13.6.4 Field NEW_PROJECT_PROMPTER

```
public static final java.lang.String NEW_PROJECT_PROMPTER
```

13.6.5 Constructor NewProjectPrompter()

```
public  
NewProjectPrompter(  
    mil.dtra.util.ValueProperties props,  
    java.awt.Component parent,  
    mil.dtra.hpac.data.Project old_project  
)
```

Default constructor for bean instantiation. Must call `init()`.

13.6.6 Method getNewProject()

```
public mil.dtra.hpac.data.Project  
getNewProject()
```

Returns:

newly created project or null if aborted or canceled

13.6.7 Method showCopyErrorMessage()

```
protected void  
showCopyErrorMessage(  
    java.awt.Component parent,  
    java.lang.String project_name  
)
```

13.7 Class OptionsBean

```

mil.dtra.hpac.client.swing.project
public OptionsBean
extends PTabbedPane
implements ActionListener, HelpContextBean, HPAC Swing Constants, PropertyChangeListener,
Bean for editing a Options value.

```

Fields:

```

public static final java.lang.String DISS_RATE_UNITS
protected mil.dtra.hpac.client.swing.ValueUnitsBean fAdaptiveGridMinSizeBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fGridResolutionBean
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.data.project.Options fOptions
protected mil.dtra.hpac.client.swing.ValueUnitsBean fPuffMinMassBean
protected javax.swing.JButton fSamplerLoadButton
protected mil.dtra.hpac.client.swing.ValueUnitsBean fSamplerMinOutputIntervalBean
protected javax.swing.JTextArea fSamplerTextArea
protected javax.swing.JComboBox fSubstrateIndexBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fSurfaceDoseHeightBean
protected transient mil.dtra.hpac.client.swing.project.OptionsBean.TextAreaListener
fTextAreaListener
protected mil.dtra.hpac.client.swing.ValueUnitsBean fTropoAvgEnergyDissipationRate-
Bean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fTropoVertLengthScaleBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fTropoVertVelocityVarianceBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fTurbDiffAvgTimeBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fTurbLightWindScaleBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fTurbLightWindValueBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fTurbVertGridPointCountBean
public static final java.lang.String MATERIAL_UNITS
public static final java.lang.String METERS
public static final java.lang.String OPTIONS_BEAN
public static final java.lang.String PROP_value
public static final java.lang.String SECONDS
public static final java.lang.String TURB_UNITS

```

Methods:

```

public void actionPerformed()
public void clear()
protected void create()
protected java.awt.Component createCalmConditionsTab()
protected java.awt.Component createParametersTab()
protected java.awt.Component createResolutionTab()
protected java.awt.Component createSamplersTab()

```

```

protected java.awt.Component createStableAtmosphereTab()
public void firePropertyChange()
public final java.lang.String getHelpContext()
public final mil.dtra.hpac.data.project.Options getValue()
public void init()
public void propertyChange()
public void setEnabled()
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()

```

Inner Classes:

OptionsBean.TextAreaListener

13.7.1 Field DISS_RATE_UNITS

public static final java.lang.String DISS_RATE_UNITS

13.7.2 Field fAdaptiveGridMinSizeBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean fAdaptiveGridMinSizeBean

13.7.3 Field fGridResolutionBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean fGridResolutionBean

13.7.4 Field fListeningFlag

protected transient volatile boolean fListeningFlag

13.7.5 Field fOptions

protected mil.dtra.hpac.data.project.Options fOptions

13.7.6 Field fPuffMinMassBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean fPuffMinMassBean

13.7.7 Field fSamplerLoadButton

protected javax.swing.JButton fSamplerLoadButton

13.7.8 Field fSamplerMinOutputIntervalBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fSamplerMinOutputIntervalBean**

13.7.9 Field fSamplerTextArea

protected javax.swing.JTextArea **fSamplerTextArea**

13.7.10 Field fSubstrateIndexBean

protected javax.swing.JComboBox **fSubstrateIndexBean**

13.7.11 Field fSurfaceDoseHeightBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fSurfaceDoseHeightBean**

13.7.12 Field fTextAreaListener

protected transient mil.dtra.hpac.client.swing.project.OptionsBean.TextAreaListener **fTextAreaListener**

13.7.13 Field fTropoAvgEnergyDissipationRateBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fTropoAvgEnergyDissipationRateBean**

13.7.14 Field fTropoVertLengthScaleBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fTropoVertLengthScaleBean**

13.7.15 Field fTropoVertVelocityVarianceBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fTropoVertVelocityVarianceBean**

13.7.16 Field fTurbDiffAvgTimeBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fTurbDiffAvgTimeBean**

13.7.17 Field fTurbLightWindScaleBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fTurbLightWindScaleBean**

13.7.18 Field fTurbLightWindValueBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fTurbLightWindValueBean**

13.7.19 Field fTurbVertGridPointCountBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fTurbVertGridPointCountBean**

13.7.20 Field MATERIAL_UNITS

public static final java.lang.String **MATERIAL_UNITS**

13.7.21 Field METERS

public static final java.lang.String **METERS**

13.7.22 Field OPTIONS_BEAN

public static final java.lang.String **OPTIONS_BEAN**

13.7.23 Field PROP_value

public static final java.lang.String **PROP_value**

13.7.24 Field SECONDS

public static final java.lang.String **SECONDS**

13.7.25 Field TURB_UNITS

public static final java.lang.String **TURB_UNITS**

13.7.26 Constructor OptionsBean()

public
OptionsBean()

Default constructor for bean instantiation. Must call `init()`.

13.7.27 Constructor OptionsBean()

```
public
OptionsBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String[] substrates
)
```

Constructs assuming no initial value or title border.

Parameters:

props - object with properties for this
substrates - substrate names

13.7.28 Constructor OptionsBean()

```
public
OptionsBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String[] substrates,
    java.lang.String title
)
```

Constructs assuming no initial value.

Parameters:

props - object with properties for this
substrates - substrate names
title - text for title border or null for no border

13.7.29 Constructor OptionsBean()

```
public
OptionsBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String[] substrates,
    mil.dtra.hpac.data.project.Options options
)
```

Constructs assuming no title border.

Parameters:

props - object with properties for this
 substrates - substrate names
 options - initial *value* or null

13.7.30 Constructor OptionsBean()

```
public
OptionsBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String[] substrates,
    mil.dtra.hpac.data.project.Options options,
    java.lang.String title
)
```

Constructs calling init().

Parameters:

props - object with properties for this
 substrates - substrate names
 options - initial *value* or null
 title - text for title border or null for no border

13.7.31 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles actions for buttons and combo boxes in this bean.

Parameters:

event - action event

13.7.32 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

13.7.33 Method `create()`

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    java.lang.String[] substrates
)
```

Creates sub-components for this bean.

Parameters:

props - object with bean properties.
 substrates - substrate names

13.7.34 Method `createCalmConditionsTab()`

```
protected java.awt.Component
createCalmConditionsTab( mil.dtra.util.ValueProperties props )
```

Creates the calm conditions tab bean.

Parameters:

props - object with bean properties.

Returns:

bean for the tab

13.7.35 Method `createParametersTab()`

```
protected java.awt.Component
createParametersTab(
    mil.dtra.util.ValueProperties props,
    java.lang.String[] substrates
)
```

Creates the parameters tab bean.

Parameters:

props - object with bean properties.

Returns:

bean for the tab

13.7.36 Method **createResolutionTab()**

```
protected java.awt.Component  
createResolutionTab( mil.dtra.util.ValueProperties props )
```

Creates the resolution tab bean.

Parameters:

props - object with bean properties.

Returns:

bean for the tab

13.7.37 Method **createSamplersTab()**

```
protected java.awt.Component  
createSamplersTab( mil.dtra.util.ValueProperties props )
```

Creates the samplers tab bean.

Parameters:

props - object with bean properties.

Returns:

bean for the tab

13.7.38 Method **createStableAtmosphereTab()**

```
protected java.awt.Component  
createStableAtmosphereTab( mil.dtra.util.ValueProperties props )
```

Creates the stable atmosphere tab bean.

Parameters:

props - object with bean properties.

Returns:

bean for the tab

13.7.39 Method firePropertyChange()

```
public void
firePropertyChange(
    java.lang.String name,
    java.lang.Object old_value,
    java.lang.Object new_value
)
```

Overrides `JComponent.firePropertyChange()` to make it publicly accessible.

Parameters:

`name` - property name
`old_value` - old property value
`new_value` - new property value

13.7.40 Method getHelpContext()

```
public final java.lang.String
getHelpContext()
```

Implements `BeanWithHelp`.

Returns:

help context name

13.7.41 Method getValue()

```
public final mil.dtra.hpac.data.project.Options
getValue()
```

Accessor for the `value` property.

Returns:

copy of the options object

13.7.42 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    java.lang.String[] substrates,
    mil.dtra.hpac.data.project.Options options,
    java.lang.String title
)
```

Initializes and creates this bean, calling `create()`.

Parameters:

props - object with properties for this
 substrates - substrate names
 options - initial *value* or null
 title - text for title border or null for no border

13.7.43 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property changes in sub-component beans.

Parameters:

event - property change event

13.7.44 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

flag - true to enable, false to disable

13.7.45 Method setValue()

```
public void
setValue( mil.dtra.hpac.data.project.Options options )
```

Accessor for the *value* property.

Parameters:

options - options object to copy

13.7.46 Method startListening()

```
protected synchronized void
startListening()
```

Register listeners for sub-component bean events.

13.7.47 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregister listeners for sub-component bean events.

13.8 Class OptionsBean.TextAreaListener

```
mil.dtra.hpac.client.swing.project
protected OptionsBean.TextAreaListener
extends FocusAdapter
```

FocusAdapter extension to listen for focus loss on text fields.

Methods:

```
public void focusLost()
```

13.8.1 Constructor OptionsBean.TextAreaListener()

```
protected
OptionsBean.TextAreaListener( mil.dtra.hpac.client.swing.project.OptionsBean this$0 )
```

13.8.2 Method focusLost()

```
public void
focusLost( java.awt.event.FocusEvent event )
```

13.9 Class OptionsBean.TextAreaListener

```
mil.dtra.hpac.client.swing.project
protected OptionsBean.TextAreaListener
extends FocusAdapter
```

FocusAdapter extension to listen for focus loss on text fields.

Methods:

```
public void focusLost()
```

13.9.1 Constructor OptionsBean.TextAreaListener()

```
protected
OptionsBean.TextAreaListener( mil.dtra.hpac.client.swing.project.OptionsBean this$0 )
```

13.9.2 Method focusLost()

```
public void
focusLost( java.awt.event.FocusEvent event )
```

13.10 Class ParametersBean

```
mil.dtra.hpac.client.swing.project
public ParametersBean
extends PDialogPanel
implements HelpContextBean, HPACSwingConstants, PropertyChangeListener, SwingConstants,
```

Bean for editing additional `mil.dtra.hpac.data.Project` properties.

Fields:

```
protected transient volatile boolean fListeningFlag
protected double fMaxTimeStep
protected mil.dtra.hpac.client.swing.ValueUnitsBean fMaxTimeStepBean
protected double fOutputInterval
protected mil.dtra.hpac.client.swing.ValueUnitsBean fOutputIntervalBean
protected java.lang.String fProjectName
protected javax.swing.JTextField fProjectNameBean
protected javax.swing.JLabel fProjectNameLabel
```

```
public static final java.lang.String PARAMETERS_BEAN
public static final java.lang.String PROP_maxTimeStep
public static final java.lang.String PROP_outputInterval
public static final java.lang.String PROP_projectName
```

Methods:

```
public void applyConstraints()
public void clear()
protected void create()
public final java.lang.String getHelpContext()
public final double getMaxTimeStep()
public final double getOutputInterval()
public final java.lang.String getProjectName()
public final boolean getShowProjectName()
public void init()
public void propertyChange()
public void setEnabled()
public void setMaxTimeStep()
public void setOutputInterval()
public void setProjectName()
public final void setShowProjectName()
protected synchronized void startListening()
protected synchronized void stopListening()
```

Inner Classes:

ParametersBean.FieldListener

13.10.1 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

13.10.2 Field fMaxTimeStep

protected double **fMaxTimeStep**

13.10.3 Field fMaxTimeStepBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fMaxTimeStepBean**

13.10.4 Field fOutputInterval

protected double **fOutputInterval**

13.10.5 Field fOutputIntervalBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fOutputIntervalBean**

13.10.6 Field fProjectName

protected java.lang.String **fProjectName**

13.10.7 Field fProjectNameBean

protected javax.swing.JTextField **fProjectNameBean**

13.10.8 Field fProjectNameLabel

protected javax.swing.JLabel **fProjectNameLabel**

13.10.9 Field PARAMETERS_BEAN

public static final java.lang.String **PARAMETERS_BEAN**

13.10.10 Field PROP_maxTimeStep

public static final java.lang.String **PROP_maxTimeStep**

Property value ("maxTimeStep")

13.10.11 Field PROP_outputInterval

public static final java.lang.String **PROP_outputInterval**

Property value ("outputInterval")

13.10.12 Field PROP_projectName

public static final java.lang.String **PROP_projectName**

Property value ("projectName")

13.10.13 Constructor ParametersBean()

public
ParametersBean()

Default constructor for bean instantiation. Must call `init()`.

13.10.14 Constructor ParametersBean()

```
public  
ParametersBean( mil.dtra.util.ValueProperties props )
```

Constructs with defaults for all properties.

Parameters:

props - object containing properties for this

13.10.15 Constructor ParametersBean()

```
public  
ParametersBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String title  
)
```

Constructs with a title border but defaults for other properties.

Parameters:

props - object containing properties for this
title - title for border

13.10.16 Constructor ParametersBean()

```
public  
ParametersBean(  
    mil.dtra.util.ValueProperties props,  
    double max_time_step,  
    double output_interval,  
    java.lang.String project_name  
)
```

Constructs with explicit property values and assuming no title border.

Parameters:

props - object containing properties for this
max_time_step - time step value in seconds
output_interval - output interval in hours
project_name - project name

13.10.17 Constructor ParametersBean()

```
public
ParametersBean(
    mil.dtra.util.ValueProperties props,
    double max_time_step,
    double output_interval,
    java.lang.String project_name,
    java.lang.String title
)
```

Constructs with explicit property values.

Parameters:

props - object containing properties for this
max_time_step - time step value in seconds
output_interval - output interval in hours
project_name - project name
title - title for border

13.10.18 Method applyConstraints()

```
public void
applyConstraints( java.awt.Component parent )
```

Applies the constraint that the outputInterval must be \geq the maxTimeStep. This should be called before the property accessors. Note, if values are changed to enforce the constraints, a message box is displayed.

13.10.19 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

13.10.20 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates sub-components for this bean.

Parameters:

props - object with bean properties.

13.10.21 Method `getHelpContext()`

public final java.lang.String
`getHelpContext()`

Implements BeanWithHelp.

Returns:

help context name

13.10.22 Method `getMaxTimeStep()`

public final double
`getMaxTimeStep()`

Accessor for the *maxTimeStep* property.

Returns:

time step value in seconds

13.10.23 Method `getOutputInterval()`

public final double
`getOutputInterval()`

Accessor for the *outputInterval* property.

Returns:

output interval in hours

13.10.24 Method `getProjectName()`

public final java.lang.String
`getProjectName()`

Accessor for the *projectName* property.

Returns:

name string

13.10.25 Method getShowProjectName()

```
public final boolean
getShowProjectName()
```

Accessor for the *showProjectName* property, which flags the visibility of the project name bean.

Returns:

true if the project name is visible, false if it's hidden

13.10.26 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    double max_time_step,
    double output_interval,
    java.lang.String project_name,
    java.lang.String title
)
```

Creates the component beans for this bean.

Parameters:

props - object containing properties for this
max_time_step - time step value in seconds
output_interval - output interval in hours
project_name - project name
title - title for border

13.10.27 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property changes in sub-component beans.

Parameters:

event - property change event

13.10.28 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

`flag` - true to enable, false to disable

13.10.29 Method setMaxTimeStep()

```
public void
setMaxTimeStep( double value )
```

Accessor for the `maxTimeStep` property.

Parameters:

`value` - time step value in seconds

13.10.30 Method setOutputInterval()

```
public void
setOutputInterval( double value )
```

Accessor for the `outputInterval` property.

Parameters:

`value` - output interval in hours

13.10.31 Method setProjectName()

```
public void
setProjectName( java.lang.String name )
```

Accessor for the `projectName` property.

Parameters:

`name` - name string

13.10.32 Method setShowProjectName()

```
public final void
setShowProjectName( boolean flag )
```

Accessor for the *showProjectName* property, which flags the visibility of the project name bean.

Parameters:

flag - true to show the project name, false to hide it

13.10.33 Method startListening()

```
protected synchronized void
startListening()
```

Register listeners for sub-component bean events.

13.10.34 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregister listeners for sub-component bean events.

13.11 Class ParametersBean.FieldListener

```
mil.dtra.hpac.client.swing.project
protected ParametersBean.FieldListener
extends FocusAdapter
```

FocusAdapter extension to listen for focus loss on the project name text field.

Methods:

```
public void focusLost()
```

13.11.1 Constructor ParametersBean.FieldListener()

```
protected
ParametersBean.FieldListener( mil.dtra.hpac.client.swing.project.ParametersBean this$0 )
```

13.11.2 Method focusLost()

```
public void
focusLost( java.awt.event.FocusEvent event )
```

13.12 Class ParametersBean.FieldListener

```
mil.dtra.hpac.client.swing.project
protected ParametersBean.FieldListener
extends FocusAdapter
```

FocusAdapter extension to listen for focus loss on the project name text field.

Methods:

```
public void focusLost()
```

13.12.1 Constructor ParametersBean.FieldListener()

```
protected
ParametersBean.FieldListener( mil.dtra.hpac.client.swing.project.ParametersBean this$0 )
```

13.12.2 Method focusLost()

```
public void
focusLost( java.awt.event.FocusEvent event )
```

13.13 Class RestartBean

```
mil.dtra.hpac.client.swing.project
public RestartBean
extends PDIALOGPanel
implements HPACSwingConstants, SwingConstants,
```

Bean for getting user inputs for resuming a calculation.

Fields:

```
protected javax.swing.JComboBox fStartTimeCombo
public static final java.lang.String RESTART_BEAN
```

Methods:

```

public void clear()
protected void create()
public mil.dtra.hpac.data.Time getStartTime()
public void init()
public void setEnabled()
public void setStartTime()

```

Inner Classes:

RestartBean.TimeCellRenderer

13.13.1 Field fStartTimeCombo

protected javax.swing.JComboBox fStartTimeCombo

13.13.2 Field RESTART_BEAN

public static final java.lang.String RESTART_BEAN

13.13.3 Constructor RestartBean()

```

public
RestartBean()

```

Default constructor for bean instantiation. Must call `init()`.

13.13.4 Constructor RestartBean()

```

public
RestartBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.plot.data.HPACTime[] start_times
)

```

Constructs with explicit property values and assuming no title border.

Parameters:

`props` - object containing properties for this
`start_times` - available re-start times

13.13.5 Constructor RestartBean()

```
public
RestartBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.plot.data.HPACTime[] start_times,
    java.lang.String title
)
```

Constructs with explicit property values, calling `init()`.

Parameters:

props - object containing properties for this
start_times - available re-start times
title - title for border

13.13.6 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

13.13.7 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.plot.data.HPACTime[] start_times
)
```

Creates sub-components for this bean.

Parameters:

props - object with bean properties.

13.13.8 Method `getStartTime()`

```
public mil.dtra.hpac.data.Time
getStartTime()
```

Accessor for the *startTime* property.

Returns:

copy of the TimeT object

13.13.9 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.plot.data.HPACTime[] start_times,
    java.lang.String title
)
```

Creates the component beans for this bean.

Parameters:

`props` - object containing properties for this
`start_times` - available re-start times
`title` - title for border

13.13.10 Method `setEnabled()`

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

`flag` - true to enable, false to disable

13.13.11 Method `setStartTime()`

```
public void
setStartTime( mil.dtra.hpac.data.Time time )
```

Accessor for the *startTime* property.

Returns:

copy of the TimeT object

13.14 Class RestartBean.TimeCellRenderer

```
mil.dtra.hpac.client.swing.project
protected RestartBean.TimeCellRenderer
extends JLabel
implements HPAC Swing Constants, ListCellRenderer,
```

Methods:

```
public java.awt.Component getListCellRendererComponent()
```

13.14.1 Constructor RestartBean.TimeCellRenderer()

```
public
RestartBean.TimeCellRenderer( mil.dtra.hpac.client.swing.project.RestartBean this$0 )
```

13.14.2 Method getListCellRendererComponent()

```
public java.awt.Component
getListCellRendererComponent(
    javax.swing.JList list,
    java.lang.Object value,
    int index,
    boolean is_selected,
    boolean has_focus
)
```

Modifies properties of this to represent the object in the environment defined by the parameters.

Parameters:

- list - list container object
- value - object to represent
- index - object's index in the list
- is_selected - true if the object is selected, false otherwise
- has_focus - true if the object has focus, false otherwise

Returns:

this (reference)

13.15 Class RestartBean.TimeCellRenderer

```
mil.dtra.hpac.client.swing.project
protected RestartBean.TimeCellRenderer
extends JLabel
implements HPAC Swing Constants, ListCellRenderer,
```

Methods:

```
public java.awt.Component getListCellRendererComponent()
```

13.15.1 Constructor RestartBean.TimeCellRenderer()

```
public
RestartBean.TimeCellRenderer( mil.dtra.hpac.client.swing.project.RestartBean this$0 )
```

13.15.2 Method getListCellRendererComponent()

```
public java.awt.Component
getListCellRendererComponent(
    javax.swing.JList list,
    java.lang.Object value,
    int index,
    boolean is_selected,
    boolean has_focus
)
```

Modifies properties of this to represent the object in the environment defined by the parameters.

Parameters:

- list - list container object
- value - object to represent
- index - object's index in the list
- is_selected - true if the object is selected, false otherwise
- has_focus - true if the object has focus, false otherwise

Returns:

this (reference)

13.16 Class ResumeBean

```
mil.dtra.hpac.client.swing.project
public ResumeBean
extends PDialogPanel
implements HPAC Swing Constants,
```

Bean for getting user inputs for resuming a calculation.

Fields:

```
protected mil.dtra.hpac.client.swing.project.ParametersBean fParametersBean
protected mil.dtra.hpac.client.swing.project.TemporalDomainBean fTemporalDomain-
Bean
public static final java.lang.String RESUME_BEAN
```

Methods:

```
public void clear()
protected void create()
public final double getMaxTimeStep()
public final double getOutputInterval()
public mil.dtra.hpac.data.project.TemporalDomain getTemporalDomain()
public void init()
public void setEnabled()
public void setMaxTimeStep()
public void setOutputInterval()
public void setTemporalDomain()
```

13.16.1 Field fParametersBean

```
protected mil.dtra.hpac.client.swing.project.ParametersBean fParametersBean
```

13.16.2 Field fTemporalDomainBean

```
protected mil.dtra.hpac.client.swing.project.TemporalDomainBean fTemporalDomainBean
```

13.16.3 Field RESUME_BEAN

```
public static final java.lang.String RESUME_BEAN
```

13.16.4 Constructor ResumeBean()

```
public
ResumeBean()
```

Default constructor for bean instantiation. Must call `init()`.

13.16.5 Constructor ResumeBean()

```
public
ResumeBean( mil.dtra.util.ValueProperties props )
```

Constructs with defaults for all properties.

Parameters:

`props` - object containing properties for this

13.16.6 Constructor ResumeBean()

```
public
ResumeBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs with a title border but defaults for other properties.

Parameters:

`props` - object containing properties for this
`title` - title for border

13.16.7 Constructor ResumeBean()

```
public
ResumeBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Project project
)
```

Constructs with explicit property values and assuming no title border.

Parameters:

props - object containing properties for this
 project - project object containing initial property values

13.16.8 Constructor ResumeBean()

```
public
ResumeBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Project project,
    java.lang.String title
)
```

Constructs with explicit property values.

Parameters:

props - object containing properties for this
 project - project object containing initial property values
 title - title for border

13.16.9 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

13.16.10 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates sub-components for this bean.

Parameters:

props - object with bean properties.

13.16.11 Method getMaxTimeStep()

```
public final double
getMaxTimeStep()
```

Accessor for the *maxTimeStep* property.

Returns:

time step value in seconds

13.16.12 Method getOutputInterval()

```
public final double
getOutputInterval()
```

Accessor for the *outputInterval* property.

Returns:

output interval in hours

13.16.13 Method getTemporalDomain()

```
public mil.dtra.hpac.data.project.TemporalDomain
getTemporalDomain()
```

Accessor for the *temporalDomain* property.

Returns:

copy of domain object

13.16.14 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Project project,
    java.lang.String title
)
```

Creates the component beans for this bean.

Parameters:

props - object containing properties for this
 project - project object containing initial property values
 title - title for border

13.16.15 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

`flag` - true to enable, false to disable

13.16.16 Method setMaxTimeStep()

```
public void
setMaxTimeStep( double value )
```

Accessor for the `maxTimeStep` property.

Parameters:

`value` - time step value in seconds

13.16.17 Method setOutputInterval()

```
public void
setOutputInterval( double value )
```

Accessor for the `outputInterval` property.

Parameters:

`value` - output interval in hours

13.16.18 Method setTemporalDomain()

```
public void
setTemporalDomain( mil.dtra.hpac.data.project.TemporalDomain domain )
```

Accessor for the `temporalDomain` property.

Parameters:

`domain` - domain object to copy

13.17 Class ScipuffMethodBean

```

mil.dtra.hpac.client.swing.project
public ScipuffMethodBean
extends PDialogPanel
implements ActionListener, HPAC Swing Constants,

```

Bean for selecting a SCIPUFF method value combination of HF_DENSE, HF_DYNAMIC, and HF_STATIC.

Fields:

```

protected javax.swing.JCheckBox fDenseBox
protected javax.swing.JCheckBox fDynamicBox
protected transient volatile boolean fListeningFlag
protected javax.swing.JCheckBox fStaticBox
protected int fValue
public static final java.lang.String PROP_value
public static final java.lang.String SCIPUFF_METHOD_BEAN

```

Methods:

```

public void actionPerformed()
public void clear()
protected void create()
public final int getValue()
public void init()
public void setEnabled()
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()

```

13.17.1 Field fDenseBox

protected javax.swing.JCheckBox **fDenseBox**

13.17.2 Field fDynamicBox

protected javax.swing.JCheckBox **fDynamicBox**

13.17.3 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

13.17.4 Field fStaticBox

protected javax.swing.JCheckBox **fStaticBox**

13.17.5 Field fValue

```
protected int fValue
```

13.17.6 Field PROP_value

```
public static final java.lang.String PROP_value
```

Property name ("value")

13.17.7 Field SCIPUFF_METHOD_BEAN

```
public static final java.lang.String SCIPUFF_METHOD_BEAN
```

13.17.8 Constructor ScipuffMethodBean()

```
public  
ScipuffMethodBean()
```

Default constructor for bean instantiation. Must call `init()`.

13.17.9 Constructor ScipuffMethodBean()

```
public  
ScipuffMethodBean(  
    mil.dtra.util.ValueProperties props,  
    int method  
)
```

Creates this bean assuming no title border or label.

Parameters:

`props` - object with properties for this
`method` - initial *value*

13.17.10 Constructor ScipuffMethodBean()

```
public
ScipuffMethodBean(
    mil.dtra.util.ValueProperties props,
    int method,
    java.lang.String label,
    java.lang.String title
)
```

Initializes and creates this bean, calling `create()`.

Parameters:

`props` - object with properties for this
`method` - initial *value*
`label` - label for the radio button group, or null for no label
`title` - text for title border or null for no border

13.17.11 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles actions for the radio buttons in this bean.

Parameters:

`event` - action event

13.17.12 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

13.17.13 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    java.lang.String label
)
```

Creates sub-components for this bean.

Parameters:

props - object with bean properties.
 label - label for the radio button group, or null for no label

13.17.14 Method `getValue()`

```
public final int  
getValue()
```

Accessor for the *value* property.

Returns:

method mask

13.17.15 Method `init()`

```
public void  
init(  
    mil.dtra.util.ValueProperties props,  
    int method,  
    java.lang.String label,  
    java.lang.String title  
)
```

Initializes and creates this bean, calling `create()`.

Parameters:

props - object with properties for this
 method - initial *value*
 label - label for the radio button group, or null for no label
 title - text for title border or null for no border

13.17.16 Method `setEnabled()`

```
public void  
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

flag - true to enable, false to disable

13.17.17 Method setValue()

```
public void
setValue( int method )
```

Accessor for the *value* property.

Parameters:

method - method mask

13.17.18 Method startListening()

```
protected synchronized void
startListening()
```

Register listeners for sub-component bean events.

13.17.19 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregister listeners for sub-component bean events.

13.18 Class ScipuffModeBean

```
mil.dtra.hpac.client.swing.project
public ScipuffModeBean
extends PDialogPanel
implements ActionListener, HPAC Swing Constants,
```

Bean for selecting a SCIPUFF mode value combination of HF_FAST, HF_HAZARD, and HF_DUAL.

Fields:

```
protected javax.swing.JCheckBox fDualBox
protected javax.swing.JCheckBox fFastBox
protected javax.swing.JCheckBox fHazardBox
protected transient volatile boolean fListeningFlag
protected int fValue
public static final java.lang.String PROP_value
public static final java.lang.String SCIPUFF_MODE_BEAN
```

Methods:

```

public void actionPerformed()
public void clear()
protected void create()
public final int getValue()
public void init()
public void setEnabled()
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()

```

13.18.1 Field fDualBox

protected javax.swing.JCheckBox **fDualBox**

13.18.2 Field fFastBox

protected javax.swing.JCheckBox **fFastBox**

13.18.3 Field fHazardBox

protected javax.swing.JCheckBox **fHazardBox**

13.18.4 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

13.18.5 Field fValue

protected int **fValue**

13.18.6 Field PROP_value

public static final java.lang.String **PROP_value**

Property name ("value")

13.18.7 Field SCIPUFF_MODE_BEAN

public static final java.lang.String **SCIPUFF_MODE_BEAN**

13.18.8 Constructor ScipuffModeBean()

```
public
ScipuffModeBean()
```

Default constructor for bean instantiation. Must call `init()`.

13.18.9 Constructor ScipuffModeBean()

```
public
ScipuffModeBean(
    mil.dtra.util.ValueProperties props,
    int mode
)
```

Creates this bean assuming no title border or label.

Parameters:

`props` - object with properties for this
`mode` - initial *value*

13.18.10 Constructor ScipuffModeBean()

```
public
ScipuffModeBean(
    mil.dtra.util.ValueProperties props,
    int mode,
    java.lang.String label,
    java.lang.String title
)
```

Initializes and creates this bean, calling `create()`.

Parameters:

`props` - object with properties for this
`mode` - initial *value*
`label` - label for the radio button group, or null for no label
`title` - text for title border or null for no border

13.18.11 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles actions for the radio buttons in this bean.

Parameters:

event - action event

13.18.12 Method clear()

```
public void
clear()
```

Clears all the sub-component beans.

13.18.13 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    java.lang.String label
)
```

Creates sub-components for this bean.

Parameters:

props - object with bean properties.
label - label for the radio button group, or null for no label

13.18.14 Method getValue()

```
public final int
getValue()
```

Accessor for the *value* property.

Returns:

mode mask

13.18.15 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    int mode,
    java.lang.String label,
    java.lang.String title
)
```

Initializes and creates this bean, calling `create()`.

Parameters:

`props` - object with properties for this
`mode` - initial *value*
`label` - label for the radio button group, or null for no label
`title` - text for title border or null for no border

13.18.16 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

`flag` - true to enable, false to disable

13.18.17 Method setValue()

```
public void
setValue( int mode )
```

Accessor for the *value* property.

Parameters:

`mode` - mode mask

13.18.18 Method startListening()

```
protected synchronized void
startListening()
```

Register listeners for sub-component bean events.

13.18.19 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregister listeners for sub-component bean events.

13.19 Class SpatialDomainBean

```
mil.dtra.hpac.client.swing.project
public SpatialDomainBean
extends PDialogPanel
implements ActionListener, HelpContextBean, HPAC Swing Constants, PropertyChangeListener,
```

Bean for editing a `SpatialDomain` value.

Fields:

```
protected javax.swing.JCheckBox fComputeBox
protected mil.dtra.hpac.data.project.SpatialDomain fComputedDomain
protected mil.dtra.hpac.data.project.SpatialDomain fDomain
protected mil.dtra.hpac.client.swing.ValueUnitsBean fHorzResBean
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.client.swing.location.LocationBean fNELocationBean
protected mil.dtra.hpac.client.swing.location.LocationBean fSWLocationBean
protected javax.swing.JComboBox fTypeCombo
protected javax.swing.JLabel fTypeLabel
protected mil.dtra.hpac.client.swing.ValueUnitsBean fVertResBean
public static final java.lang.String PROP_value
public static final java.lang.String SPATIAL_DOMAIN_BEAN
```

Methods:

```
public void actionPerformed()
protected void applyComputeBoxState()
public void clear()
protected void create()
protected java.awt.Component createLocationBox()
protected java.awt.Component createModeGroup()
protected java.awt.Component createResolutionGroup()
```

```

public final java.lang.String getHelpContext()
public final java.lang.String getLocationType()
public final mil.dtra.hpac.data.project.SpatialDomain getValue()
public void init()
protected mil.dtra.hpac.data.project.SpatialDomain parseFields()
public void propertyChange()
public void setEnabled()
public final void setLocationType()
public void setValue()
public final void showTypeCombo()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void writeFields()

```

13.19.1 Field **fComputeBox**

protected javax.swing.JCheckBox **fComputeBox**

13.19.2 Field **fComputedDomain**

protected mil.dtra.hpac.data.project.SpatialDomain **fComputedDomain**

13.19.3 Field **fDomain**

protected mil.dtra.hpac.data.project.SpatialDomain **fDomain**

13.19.4 Field **fHorzResBean**

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fHorzResBean**

13.19.5 Field **fListeningFlag**

protected transient volatile boolean **fListeningFlag**

13.19.6 Field **fNELocationBean**

protected mil.dtra.hpac.client.swing.location.LocationBean **fNELocationBean**

13.19.7 Field **fSWLocationBean**

protected mil.dtra.hpac.client.swing.location.LocationBean **fSWLocationBean**

13.19.8 Field fTypeCombo

```
protected javax.swing.JComboBox fTypeCombo
```

13.19.9 Field fTypeLabel

```
protected javax.swing.JLabel fTypeLabel
```

13.19.10 Field fVertResBean

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fVertResBean
```

13.19.11 Field PROP_value

```
public static final java.lang.String PROP_value
```

Property name ("value")

13.19.12 Field SPATIAL_DOMAIN_BEAN

```
public static final java.lang.String SPATIAL_DOMAIN_BEAN
```

13.19.13 Constructor SpatialDomainBean()

```
public  
SpatialDomainBean()
```

Default constructor for bean instantiation. Must call `init()`.

13.19.14 Constructor SpatialDomainBean()

```
public  
SpatialDomainBean( mil.dtra.util.ValueProperties props )
```

Creates this bean, assuming no initial value or title border.

Parameters:

`props` - object with properties for this
`title` - text for title border or null for no border

13.19.15 Constructor SpatialDomainBean()

```
public
SpatialDomainBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Creates this bean, assuming no initial value.

Parameters:

props - object with properties for this
 title - text for title border or null for no border

13.19.16 Constructor SpatialDomainBean()

```
public
SpatialDomainBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.SpatialDomain domain,
    mil.dtra.hpac.data.project.SpatialDomain computed_domain
)
```

Creates this bean, assuming no title border.

Parameters:

props - object with properties for this
 domain - initial value
 computed_domain - domain computed from incidents, reference to store

13.19.17 Constructor SpatialDomainBean()

```
public
SpatialDomainBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.SpatialDomain domain,
    mil.dtra.hpac.data.project.SpatialDomain computed_domain,
    java.lang.String title
)
```

Creates this bean, calling `create()`.

Parameters:

props - object with properties for this
 domain - initial value
 computed_domain - domain computed from incidents, reference to store
 title - text for title border or null for no border

13.19.18 Method actionPerformed()

public void
actionPerformed(java.awt.event.ActionEvent event)

Handles actions from check boxes and combo boxes in this bean.

Parameters:

event - action event

13.19.19 Method applyComputeBoxState()

protected void
applyComputeBoxState()

Enables or disables sub-component beans based on whether the compute box is selected or not and this bean itself is enabled.

13.19.20 Method clear()

public void
clear()

Clears all the sub-component beans.

13.19.21 Method create()

protected void
create(mil.dtra.util.ValueProperties props)

Creates sub-components for this bean.

Parameters:

props - object with bean properties.

13.19.22 Method **createLocationBox()**

```
protected java.awt.Component  
createLocationBox( mil.dtra.util.ValueProperties props )
```

Creates a component with southwest and northeast location components.

Parameters:

props - object with bean properties.

Returns:

new component

13.19.23 Method **createModeGroup()**

```
protected java.awt.Component  
createModeGroup( mil.dtra.util.ValueProperties props )
```

Creates a group with a compute default check box, a location type combo box, and a help button.

Parameters:

props - object with bean properties.

Returns:

new component

13.19.24 Method **createResolutionGroup()**

```
protected java.awt.Component  
createResolutionGroup( mil.dtra.util.ValueProperties props )
```

Creates a group with beans for horizontal and vertical resolution.

Parameters:

props - object with bean properties.

Returns:

new component

13.19.25 Method getHelpContext()

```
public final java.lang.String
getHelpContext()
```

Implements BeanWithHelp.

Returns:

help context name

13.19.26 Method getLocationType()

```
public final java.lang.String
getLocationType()
```

Returns the value of the current location type as defined by the TYPE_ constants.

Returns:

one of the type string constants

13.19.27 Method getValue()

```
public final mil.dtra.hpac.data.project.SpatialDomain
getValue()
```

Accessor for the *value* property.

Returns:

copy of the domain object

13.19.28 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.SpatialDomain domain,
    mil.dtra.hpac.data.project.SpatialDomain computed_domain,
    java.lang.String title
)
```

Initializes and creates this bean, calling `create()`.

Parameters:

`props` - object with properties for this
`domain` - initial value
`title` - text for title border or null for no border

13.19.29 Method parseFields()

```
protected mil.dtra.hpac.data.project.SpatialDomain
parseFields()
```

Builds a domain object from properties of the sub-component beans.

Returns:

new domain object

13.19.30 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property changes in sub-component beans.

Parameters:

event - property change event

13.19.31 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides JComponent.setEnabled() to enable or disable sub-component beans.

Parameters:

flag - true to enable, false to disable

13.19.32 Method setLocationType()

```
public final void
setLocationType( java.lang.String type )
```

Sets the value of the current location type as defined by the TYPE_constants in LocationTypes.

Parameters:

type - one of the location type string constants

13.19.33 Method setValue()

```
public void
setValue( mil.dtra.hpac.data.project.SpatialDomain domain )
```

Accessor for the *value* property.

Parameters:

domain - domain object to copy

13.19.34 Method showTypeCombo()

```
public final void
showTypeCombo( boolean flag )
```

Allows the location type combo box to be shown or hidden.

Parameters:

flag - true to show the combo, false otherwise

13.19.35 Method startListening()

```
protected synchronized void
startListening()
```

Register listeners for sub-component bean events.

13.19.36 Method stopListening()

```
protected synchronized void
stopListening()
```

Unregister listeners for sub-component bean events.

13.19.37 Method writeFields()

```
protected void
writeFields( mil.dtra.hpac.data.project.SpatialDomain domain )
```

Updates sub-component bean properties from the domain object.

Parameters:

domain - object with which to update component beans

13.20 Class TemporalDomainBean

```

mil.dtra.hpac.client.swing.project
public TemporalDomainBean
extends PDialogPanel
implements ActionListener, HelpContextBean, HPAC Swing Constants, PropertyChangeListener,
Bean for editing a TemporalDomain value.

```

Fields:

```

protected javax.swing.JCheckBox fComputeBox
protected mil.dtra.hpac.data.project.TemporalDomain fComputedDomain
protected mil.dtra.hpac.data.project.TemporalDomain fDomain
protected transient volatile boolean fListeningFlag
protected transient boolean fStartTimeEnabled
protected mil.dtra.hpac.client.swing.time.TimesBean fTimesBean
public static final java.lang.String PROP_value
public static final java.lang.String SPATIAL_DOMAIN_BEAN

```

Methods:

```

public void actionPerformed()
protected void applyComputeBoxState()
public void clear()
protected void create()
public final java.lang.String getHelpContext()
public boolean getShowComputeBox()
public final boolean getStartTimeEnabled()
public final mil.dtra.hpac.data.project.TemporalDomain getValue()
public void init()
protected mil.dtra.hpac.data.project.TemporalDomain parseFields()
public void propertyChange()
public void setEnabled()
public void setShowComputeBox()
public void setStartTimeEnabled()
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void writeFields()

```

13.20.1 Field fComputeBox

protected javax.swing.JCheckBox **fComputeBox**

13.20.2 Field fComputedDomain

protected mil.dtra.hpac.data.project.TemporalDomain **fComputedDomain**

13.20.3 Field fDomain

```
protected mil.dtra.hpac.data.project.TemporalDomain fDomain
```

13.20.4 Field fListeningFlag

```
protected transient volatile boolean fListeningFlag
```

13.20.5 Field fStartTimeEnabled

```
protected transient boolean fStartTimeEnabled
```

13.20.6 Field fTimesBean

```
protected mil.dtra.hpac.client.swing.time.TimesBean fTimesBean
```

13.20.7 Field PROP_value

```
public static final java.lang.String PROP_value
```

13.20.8 Field SPATIAL_DOMAIN_BEAN

```
public static final java.lang.String SPATIAL_DOMAIN_BEAN
```

13.20.9 Constructor TemporalDomainBean()

```
public  
TemporalDomainBean()
```

Default constructor for bean instantiation. Must call `init()`.

13.20.10 Constructor TemporalDomainBean()

```
public  
TemporalDomainBean( mil.dtra.util.ValueProperties props )
```

Creates this bean, assuming no initial value or title border.

Parameters:

- props - object with properties for this
- title - text for title border or null for no border

13.20.11 Constructor TemporalDomainBean()

```
public
TemporalDomainBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Creates this bean, assuming no initial value.

Parameters:

props - object with properties for this
 title - text for title border or null for no border

13.20.12 Constructor TemporalDomainBean()

```
public
TemporalDomainBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.TemporalDomain domain,
    mil.dtra.hpac.data.project.TemporalDomain computed_domain
)
```

Creates this bean, assuming no title border.

Parameters:

props - object with properties for this
 domain - initial value
 computed_domain - domain computed from incidents, reference to store

13.20.13 Constructor TemporalDomainBean()

```
public
TemporalDomainBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.TemporalDomain domain,
    mil.dtra.hpac.data.project.TemporalDomain computed_domain,
    java.lang.String title
)
```

Creates this bean, calling `create()`.

Parameters:

props - object with properties for this
 domain - initial value
 computed_domain - domain computed from incidents, reference to store
 title - text for title border or null for no border

13.20.14 Method actionPerformed()

public void
actionPerformed(java.awt.event.ActionEvent event)

Handles action events from the combo boxes in this bean.

Parameters:

event - action event

13.20.15 Method applyComputeBoxState()

protected void
applyComputeBoxState()

Enables or disables sub-component beans based on whether the compute box is selected or not and this bean itself is enabled.

13.20.16 Method clear()

public void
clear()

Clears all the sub-component beans.

13.20.17 Method create()

protected void
create(mil.dtra.util.ValueProperties props)

Creates sub-components for this bean.

Parameters:

props - object with bean properties.

13.20.18 Method getHelpContext()

```
public final java.lang.String  
getHelpContext()
```

Implements BeanWithHelp.

Returns:

help context name

13.20.19 Method getShowComputeBox()

```
public boolean  
getShowComputeBox()
```

Returns the visibility state of the compute flag check box.

Returns:

true if visible, false otherwise

13.20.20 Method getStartTimeEnabled()

```
public final boolean  
getStartTimeEnabled()
```

Convenience method check if edits are enabled for the start time.

Returns:

true if the start time is enabled, false otherwise

13.20.21 Method getValue()

```
public final mil.dtra.hpac.data.project.TemporalDomain  
getValue()
```

Accessor for the *value* property.

Returns:

copy of the domain object

13.20.22 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.project.TemporalDomain domain,
    mil.dtra.hpac.data.project.TemporalDomain computed_domain,
    java.lang.String title
)
```

Initializes and creates this bean, calling `create()`.

Parameters:

`props` - object with properties for this
`domain` - initial value
`computed_domain` - domain computed from incidents, reference to store
`title` - text for title border or null for no border

13.20.23 Method parseFields()

protected mil.dtra.hpac.data.project.TemporalDomain
parseFields()

Builds a domain object from properties of the sub-component beans.

Returns:

new domain object

13.20.24 Method propertyChange()

public void
propertyChange(java.beans.PropertyChangeEvent event)

Handles property changes in sub-component beans.

Parameters:

`event` - property change event

13.20.25 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Creates this bean, calling `create()`.

Parameters:

- props - object with properties for this
- domain - initial value
- title - text for title border or null for no border

13.20.26 Method setShowComputeBox()

```
public void
setShowComputeBox( boolean flag )
```

Shows or hides the compute flag check box.

Parameters:

- flag - true to show the box, false to hide it

13.20.27 Method setStartTimeEnabled()

```
public void
setStartTimeEnabled( boolean flag )
```

Convenience method to dis/enable edits to the start time.

Parameters:

- flag - true to enable the start time, false otherwise

13.20.28 Method setValue()

```
public void
setValue( mil.dtra.hpac.data.project.TemporalDomain domain )
```

Accessor for the *value* property.

Parameters:

- domain - domain object to copy

13.20.29 Method startListening()

protected synchronized void
startListening()

Register listeners for sub-component bean events.

13.20.30 Method stopListening()

protected synchronized void
stopListening()

Unregister listeners for sub-component bean events.

13.20.31 Method writeFields()

protected void
writeFields(mil.dtra.hpac.data.project.TemporalDomain domain)

Updates sub-component bean properties from the domain object.

Parameters:

domain - object with which to update component beans

CHAPTER 14

Package **mil.dtra.hpac.client.swing.release**

Provides GUI components for editing `mil.dtra.hpac.data.Release` objects.

Interfaces:

`ReleaseBean`

Classes:

`AbstractReleaseBean`
`AbstractReleaseBean.TabChangeHandler`
`ContinuousReleaseBean`
`FileReleaseBean`
`InstantaneousReleaseBean`
`LiquidPoolReleaseBean`
`MaterialComboBox`
`MaterialComboBox.MaterialRenderer`
`MovingReleaseBean`
`RelDistributionBean`
`RelDurationRateBean`
`ReleaseAddBean`
`ReleaseArrayBean`
`ReleaseCellRenderer`
`RelRandomizeBean`
`RelSizeBean`
`RelVelocityBean`
`StackReleaseBean`

14.1 Interface `ReleaseBean`

`mil.dtra.hpac.client.swing.release`
public interface **ReleaseBean**

Definition of methods provided by release beans.

Fields:

```
public static final java.lang.String DEFAULT
public static final java.lang.String HELP_CONTEXT
public static final java.lang.String PROP_release
public static final java.lang.String PROP_releaseLocation
```

Methods:

```
public void clear()
public mil.dtra.hpac.client.swing.ValueUnitsBean getLocationGroupBean()
public javax.swing.JButton getMaterialButton()
public mil.dtra.hpac.data.release.Release getRelease()
public mil.dtra.hpac.data.release.Release getReleaseReference()
public void init()
public void setEnabled()
public java.lang.String setRelease()
```

14.1.1 Field DEFAULT

public static final java.lang.String **DEFAULT**

14.1.2 Field HELP_CONTEXT

public static final java.lang.String **HELP_CONTEXT**

14.1.3 Field PROP_release

public static final java.lang.String **PROP_release**

Property name ("release")

14.1.4 Field PROP_releaseLocation

public static final java.lang.String **PROP_releaseLocation**

Property name ("releasesLocation")

14.1.5 Method clear()

```
public void
clear()
```

Clears all sub-component beans.

14.1.6 Method **getLocationGroupBean()**

```
public mil.dtra.hpac.client.swing.ValueUnitsBean  
getLocationGroupBean()
```

Accessor for the *locationGroupBean* property.

Returns:

reference to the bean

14.1.7 Method **getMaterialButton()**

```
public javax.swing.JButton  
getMaterialButton()
```

Accessor for the *materialButton* property.

Returns:

reference to the button

14.1.8 Method **getRelease()**

```
public mil.dtra.hpac.data.release.Release  
getRelease()
```

Accessor for the *release* property.

Returns:

copy of the release object

14.1.9 Method **getReleaseReference()**

```
public mil.dtra.hpac.data.release.Release  
getReleaseReference()
```

Retrieves a reference to the release object.

Returns:

reference to the release object

14.1.10 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.Release release,
    java.lang.String title
)
```

Initializes the bean.

Parameters:

props - bean properties object
 release - release object
 title - if equal to DEFAULT, default border title; if null, no border; otherwise, border with specified title

Exceptions:

IllegalArgumentException - if release is not of the proper class

14.1.11 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Accessor for the *enabled* property.

Parameters:

flag - true to enable, false to disable

14.1.12 Method setRelease()

```
public java.lang.String
setRelease( mil.dtra.hpac.data.release.Release release )
```

Accessor for the *release* property.

Parameters:

release - release object to copy

Returns:

string containing messages for all properties resulting in UnitExceptions; an empty string means no problems occurred

14.2 Class AbstractReleaseBean

```

mil.dtra.hpac.client.swing.release
public abstract AbstractReleaseBean
extends PTabbedPane
implements ActionListener, HPAC Swing Constants, PropertyChangeListener, ReleaseBean,

```

Abstract implementation of `ReleaseBean` forming the basis for release editor beans. This class provides support for editing properties common to all release types.

Fields:

```

public static final java.lang.String ABSTRACT_RELEASE_BEAN
public static final java.lang.String DEFAULT_TITLE
public static final java.lang.String EDIT_MATERIAL
protected mil.dtra.hpac.client.swing.ValueUnitsBean fHorzSizeBean
protected javax.swing.JLabel fHorzSizeLabel
protected mil.dtra.hpac.client.swing.ValueUnitsBean fHorzUncertaintyBean
protected javax.swing.JLabel fHorzUncertaintyLabel
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.client.swing.location.LocationBean fLocationBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fLocationGroupBean
protected javax.swing.JButton fMaterialButton
protected transient mil.dtra.hpac.client.swing.material.MaterialEditor fMaterialEditor
protected javax.swing.JLabel fMaterialLabel
protected mil.dtra.util.ValueProperties fProps
protected mil.dtra.hpac.client.swing.ValueUnitsBean fPuffDurationBean
protected javax.swing.JLabel fPuffDurationLabel
protected mil.dtra.hpac.client.swing.time.StartTimeBean fStartTimeBean
protected transient javax.swing.event.ChangeListener fTabListener
protected mil.dtra.hpac.client.swing.ValueUnitsBean fVertSizeBean
protected javax.swing.JLabel fVertSizeLabel
protected mil.dtra.hpac.client.swing.ValueUnitsBean fVertUncertaintyBean
protected javax.swing.JLabel fVertUncertaintyLabel
public static final java.lang.String MATERIAL_UNITS

```

Methods:

```

public synchronized void actionPerformed()
public void addNotify()
protected abstract void addReleaseTabs()
protected void applyReleaseStatus()
protected void checkMaterial()
public void clear()
protected void create()
protected java.awt.Component createCommonParamsTab()
protected mil.dtra.hpac.client.swing.release.RelDistributionBean createDistribution-
Bean()

```

```

public static mil.dtra.hpac.client.swing.release.ReleaseBean createInstance()
protected java.awt.Component createLocationParamsGroup()
protected java.awt.Component createLocationTab()
protected mil.dtra.hpac.client.swing.release.RelRandomizeBean createRandomizeBean()
protected mil.dtra.hpac.client.swing.release.RelSizeBean createSizeBean()
protected java.awt.Component createSizeGroup()
protected java.awt.Component createSpecTab()
protected mil.dtra.hpac.client.swing.time.StartTimeBean createStartTimeBean()
protected abstract void disableListeners()
protected abstract void enableListeners()
public abstract java.lang.String getDefaultTitle()
public final mil.dtra.hpac.client.swing.ValueUnitsBean getLocationGroupBean()
public javax.swing.JButton getMaterialButton()
protected synchronized void handleNewMaterial()
public void init()
protected java.lang.String loadRelease()
public void propertyChange()
public void setEnabled()
protected void startListening()
protected void stopListening()
protected void updateMaterialBeans()

```

Inner Classes:

AbstractReleaseBean.TabChangeHandler

14.2.1 Field ABSTRACT_RELEASE_BEAN

public static final java.lang.String ABSTRACT_RELEASE_BEAN

14.2.2 Field DEFAULT_TITLE

public static final java.lang.String DEFAULT_TITLE

14.2.3 Field EDIT_MATERIAL

public static final java.lang.String EDIT_MATERIAL

14.2.4 Field fHorzSizeBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean fHorzSizeBean

14.2.5 Field fHorzSizeLabel

protected javax.swing.JLabel **fHorzSizeLabel**

14.2.6 Field fHorzUncertaintyBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fHorzUncertaintyBean**

14.2.7 Field fHorzUncertaintyLabel

protected javax.swing.JLabel **fHorzUncertaintyLabel**

14.2.8 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

14.2.9 Field fLocationBean

protected mil.dtra.hpac.client.swing.location.LocationBean **fLocationBean**

14.2.10 Field fLocationGroupBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fLocationGroupBean**

14.2.11 Field fMaterialButton

protected javax.swing.JButton **fMaterialButton**

14.2.12 Field fMaterialEditor

protected transient mil.dtra.hpac.client.swing.material.MaterialEditor **fMaterialEditor**

14.2.13 Field fMaterialLabel

protected javax.swing.JLabel **fMaterialLabel**

14.2.14 Field fProps

protected mil.dtra.util.ValueProperties **fProps**

14.2.15 Field fPuffDurationBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fPuffDurationBean**

14.2.16 Field fPuffDurationLabel

protected javax.swing.JLabel **fPuffDurationLabel**

14.2.17 Field fStartTimeBean

protected mil.dtra.hpac.client.swing.time.StartTimeBean **fStartTimeBean**

14.2.18 Field fTabListener

protected transient javax.swing.event.ChangeListener **fTabListener**

14.2.19 Field fVertSizeBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fVertSizeBean**

14.2.20 Field fVertSizeLabel

protected javax.swing.JLabel **fVertSizeLabel**

14.2.21 Field fVertUncertaintyBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fVertUncertaintyBean**

14.2.22 Field fVertUncertaintyLabel

protected javax.swing.JLabel **fVertUncertaintyLabel**

14.2.23 Field MATERIAL_UNITS

public static final java.lang.String **MATERIAL_UNITS**

14.2.24 Constructor AbstractReleaseBean()

protected
AbstractReleaseBean()

Default (noop) constructor.

14.2.25 Method actionPerformed()

public synchronized void
actionPerformed(java.awt.event.ActionEvent event)

Handles material button actions at this level.

Parameters:

event - action event

14.2.26 Method addNotify()

public void
addNotify()

Override to initialize the *helpContext* of a `ProjectEditorDialog` parent.

14.2.27 Method addReleaseTabs()

protected abstract void
addReleaseTabs(mil.dtra.util.ValueProperties props)

Adds tabs for editing properties specific to the release tab. Subclasses must implement this method.

Parameters:

props - object with properties for this

14.2.28 Method applyReleaseStatus()

```
protected void
applyReleaseStatus( mil.dtra.hpac.data.release.Release release )
```

Applies the status flags for the release properties to corresponding beans common to all releases. Subclasses should overload this method with a parameter of the specific release class, but they should not call this method via the super reference. This method is called in `loadRelease()`, which must be called by subclass release-type-specific load methods.

Parameters:

release - release object

14.2.29 Method checkMaterial()

```
protected void
checkMaterial( mil.dtra.hpac.material.data.Material material )
```

Hook for subclasses to check a Material object as valid for the Release. This implementation does nothing.

Exceptions:

`IllegalArgumentException` - if the material is invalid

14.2.30 Method clear()

```
public void
clear()
```

Clears all sub-component beans. Subclasses should override calling `super.clear()` between calls to `stopListening()` and `startListening()`.

14.2.31 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates this bean and populates it with common sub-component beans. Calls `addReleaseTabs()` for release-specific bean creation.

Parameters:

props - bean properties object

14.2.32 Method createCommonParamsTab()

```
protected java.awt.Component
createCommonParamsTab( mil.dtra.util.ValueProperties props )
```

Creates the component for the common params tab.

Parameters:

props - bean properties object

Returns:

component

14.2.33 Method createDistributionBean()

```
protected mil.dtra.hpac.client.swing.release.RelDistributionBean
createDistributionBean( mil.dtra.util.ValueProperties props )
```

Creates a RelDistributionBean instance with a title border with text "Particle/Droplet Distribution".

Parameters:

props - bean properties object

Returns:

new bean instance

14.2.34 Method createInstance()

```
public static mil.dtra.hpac.client.swing.release.ReleaseBean
createInstance(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.Release release
)
```

Creates the appropriate release bean for the specified release object. Errors instantiating a release bean are logged to System.err.

Parameters:

props - bean properties object
release - release object for which an editing bean is desired

Returns:

release bean component (extends Component, implements ReleaseBean) or null if the release bean couldn't be instantiated.

14.2.35 Method createLocationParamsGroup()

```
protected java.awt.Component
createLocationParamsGroup( mil.dtra.util.ValueProperties props )
```

Creates a group component with location parameters beans.

Parameters:

props - bean properties object

Returns:

component

14.2.36 Method createLocationTab()

```
protected java.awt.Component
createLocationTab( mil.dtra.util.ValueProperties props )
```

Creates the component for the location tab.

Parameters:

props - bean properties object

Returns:

component

14.2.37 Method createRandomizeBean()

```
protected mil.dtra.hpac.client.swing.release.RelRandomizeBean
createRandomizeBean( mil.dtra.util.ValueProperties props )
```

Creates a RelRandomizeBean instance with a title border with text "Randomize".

Parameters:

props - bean properties object

Returns:

new bean instance

14.2.38 Method createSizeBean()

```
protected mil.dtra.hpac.client.swing.release.RelSizeBean
createSizeBean(
    mil.dtra.util.ValueProperties props,
    int disable_mask,
    java.lang.String title
)
```

Creates a RelSizeBean instance with the specified mask disabling bean components and title border.

Parameters:

props - bean properties object
 disable_mask - bit mask indicating which of the bean components to disable (mask constant sdefined in RelSizeBean)
 title - title border text for the bean or null for no border

Returns:

new bean instance

14.2.39 Method createSizeGroup()

```
protected java.awt.Component
createSizeGroup( mil.dtra.util.ValueProperties props )
```

Creates a group component with size beans.

Parameters:

props - bean properties object

Returns:

component

14.2.40 Method createSpecTab()

```
protected java.awt.Component
createSpecTab( mil.dtra.util.ValueProperties props )
```

Creates the component for the specification tab.

Parameters:

props - bean properties object

Returns:

component

14.2.41 Method **createStartTimeBean()**

protected mil.dtra.hpac.client.swing.time.StartTimeBean
createStartTimeBean(mil.dtra.util.ValueProperties props)

Creates a StartTimeBEan instance with a title border with text "Start of Release (UTC)".

Parameters:

props - bean properties object

Returns:

new bean instance

14.2.42 Method **disableListeners()**

protected abstract void
disableListeners()

Unregisters listeners for release-type-specific beans.

14.2.43 Method **enableListeners()**

protected abstract void
enableListeners()

Registers listeners for release-type-specific beans.

14.2.44 Method **getDefaultTitle()**

public abstract java.lang.String
getDefaultTitle()

Accessor for the *defaultTitle* property.

Returns:

default title for this

14.2.45 Method getLocationGroupBean()

```
public final mil.dtra.hpac.client.swing.ValueUnitsBean
getLocationGroupBean()
```

Accessor for the *locationGroupBean* property.

Returns:

reference to the location group bean.

14.2.46 Method getMaterialButton()

```
public javax.swing.JButton
getMaterialButton()
```

Accessor for the *materialButton* property.

Returns:

reference to the material button object

14.2.47 Method handleNewMaterial()

```
protected synchronized void
handleNewMaterial()
```

Handles the definition of a new `Material` object via the material editor.

14.2.48 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.Release release,
    java.lang.String title
)
```

Initializes the bean calling `create()`, setting the release and border if they are specified, and calling `startListening()`.

Parameters:

`props` - bean properties object

`release` - release object

`title` - if equal to `DEFAULT`, default border title; if null, no border; otherwise, border with specified title

Exceptions:

IllegalArgumentException - if release is not the proper type for the subclass

14.2.49 Method loadRelease()

```
protected java.lang.String
loadRelease( mil.dtra.hpac.data.release.Release release )
```

Loads properties for beans defined at this level from the specified release object. Subclasses should define a load method accepting a specific release class, and that method should call this one as super.loadRelease(). This method calls applyReleaseStatus() with a Release interface reference.

Parameters:

release - reference to the release object

Returns:

UnitException messages

14.2.50 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined here. Subclasses should override this method and call super.propertyChange() if the property was not handled at the subclass level.

Parameters:

event - property change event

14.2.51 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides JComponent.setEnabled() to enable/disable beans created at this level. Subclasses must override calling super.setEnabled().

Parameters:

flag - true to enable, false to disable

14.2.52 Method startListening()

```
protected void
startListening()
```

Registers listeners for component beans. Calls enableListeners() for subclasses to register their listeners.

14.2.53 Method stopListening()

```
protected void
stopListening()
```

Must be overridden by subclasses to call super.stopListening() and remove their listeners. Unregisters listeners for component beans. Calls disableListeners() for subclasses to unregister their listeners.

14.2.54 Method updateMaterialBeans()

```
protected void
updateMaterialBeans( mil.dtra.hpac.material.data.Material material )
```

Called when the a new material is assigned. This method does nothing, but extensions should override to update any beans that depend on material properties.

14.3 Class AbstractReleaseBean.TabChangeHandler

```
mil.dtra.hpac.client.swing.release
protected AbstractReleaseBean.TabChangeHandler
extends Object
implements ChangeListener,
```

ChangeListener for updating the *helpContext* of the dialog when tabs are selected.

Methods:

```
public void stateChanged()
```

14.3.1 Constructor AbstractReleaseBean.TabChangeHandler()

```
protected
AbstractReleaseBean.TabChangeHandler( mil.dtra.hpac.client.swing.release.AbstractReleaseBean
this$0 )
```

14.3.2 Method stateChanged()

```
public void
stateChanged( javax.swing.event.ChangeEvent event )
```

14.4 Class AbstractReleaseBean.TabChangeHandler

```
mil.dtra.hpac.client.swing.release
protected AbstractReleaseBean.TabChangeHandler
extends Object
implements ChangeListener,
```

ChangeListener for updating the *helpContext* of the dialog when tabs are selected.

Methods:

```
public void stateChanged()
```

14.4.1 Constructor AbstractReleaseBean.TabChangeHandler()

```
protected
AbstractReleaseBean.TabChangeHandler( mil.dtra.hpac.client.swing.release.AbstractReleaseBean
this$0 )
```

14.4.2 Method stateChanged()

```
public void
stateChanged( javax.swing.event.ChangeEvent event )
```

14.5 Class ContinuousReleaseBean

```
mil.dtra.hpac.client.swing.release
public ContinuousReleaseBean
extends AbstractReleaseBean
```

Bean for editing a continuous release.

Fields:

```
public static final java.lang.String CONTINUOUS_RELEASE_BEAN
public static final java.lang.String DEFAULT_TITLE
protected mil.dtra.hpac.client.swing.ValueUnitsBean fBuoyancyBean
protected javax.swing.JLabel fBuoyancyLabel
protected mil.dtra.hpac.client.swing.release.RelDistributionBean fDistributionBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fDryMassFractionBean
protected javax.swing.JLabel fDryMassFractionLabel
```

```

protected mil.dtra.hpac.client.swing.release.RelDurationRateBean fDurationRateBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fMomentumBean
protected javax.swing.JLabel fMomentumLabel
protected mil.dtra.hpac.data.release.ContinuousRelease fRelease
protected mil.dtra.hpac.client.swing.release.RelSizeBean fSpreadBean

```

Methods:

```

protected void addReleaseTabs()
protected void applyReleaseStatus()
public void clear()
protected java.awt.Component createContinuousParamsTab()
protected javax.swing.JPanel createGeneralGroup()
protected void disableListeners()
protected void enableBuoyancyAndMomentumBeans()
protected void enableListeners()
public final java.lang.String getDefaultTitle()
public final mil.dtra.hpac.data.release.Release getRelease()
public final mil.dtra.hpac.data.release.Release getReleaseReference()
public java.lang.String loadContinuousRelease()
public void propertyChange()
public void setEnabled()
public final java.lang.String setRelease()
protected synchronized void updateMaterialBeans()

```

14.5.1 Field CONTINUOUS_RELEASE_BEAN

public static final java.lang.String **CONTINUOUS_RELEASE_BEAN**

14.5.2 Field DEFAULT_TITLE

public static final java.lang.String **DEFAULT_TITLE**

Default border title

14.5.3 Field fBuoyancyBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fBuoyancyBean**

14.5.4 Field fBuoyancyLabel

protected javax.swing.JLabel **fBuoyancyLabel**

14.5.5 Field fDistributionBean

protected mil.dtra.hpac.client.swing.release.RelDistributionBean **fDistributionBean**

14.5.6 Field fDryMassFractionBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fDryMassFractionBean**

14.5.7 Field fDryMassFractionLabel

protected javax.swing.JLabel **fDryMassFractionLabel**

14.5.8 Field fDurationRateBean

protected mil.dtra.hpac.client.swing.release.RelDurationRateBean **fDurationRateBean**

14.5.9 Field fMomentumBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fMomentumBean**

14.5.10 Field fMomentumLabel

protected javax.swing.JLabel **fMomentumLabel**

14.5.11 Field fRelease

protected mil.dtra.hpac.data.release.ContinuousRelease **fRelease**

14.5.12 Field fSpreadBean

protected mil.dtra.hpac.client.swing.release.RelSizeBean **fSpreadBean**

14.5.13 Constructor ContinuousReleaseBean()

public
ContinuousReleaseBean()

Default constructor for bean instantiation. You must call `init()`.

14.5.14 Constructor ContinuousReleaseBean()

```
public
ContinuousReleaseBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.ContinuousRelease release
)
```

Constructs assuming no title border.

Parameters:

props - bean properties object
release - release object

Exceptions:

IllegalArgumentException - if release is not the proper type for the subclass

14.5.15 Constructor ContinuousReleaseBean()

```
public
ContinuousReleaseBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.ContinuousRelease release,
    java.lang.String title
)
```

Constructs this bean calling init().

Parameters:

props - bean properties object
release - release object
title - if equal to DEFAULT, default border title; if null, no border; otherwise, border with specified title

Exceptions:

IllegalArgumentException - if release is not the proper type for the subclass

14.5.16 Method addReleaseTabs()

```
protected void
addReleaseTabs( mil.dtra.util.ValueProperties props )
```

Adds tabs for editing properties specific to continuous releases.

Parameters:

props - object with properties for this

14.5.17 Method applyReleaseStatus()

```
protected void
applyReleaseStatus( mil.dtra.hpac.data.release.ContinuousRelease release )
```

Applies status flags to beans for editing continuous release properties.

Parameters:

release - release object

14.5.18 Method clear()

```
public void
clear()
```

Clears all sub-component beans.

14.5.19 Method createContinuousParamsTab()

```
protected java.awt.Component
createContinuousParamsTab( mil.dtra.util.ValueProperties props )
```

Creates the component for the tab with continuous parameter beans.

Parameters:

props - bean properties object

Returns:

component

14.5.20 Method createGeneralGroup()

```
protected javax.swing.JPanel
createGeneralGroup( mil.dtra.util.ValueProperties props )
```

Creates the group component with general parameter beans.

Parameters:

props - bean properties object

Returns:

component

14.5.21 Method disableListeners()

```
protected void
disableListeners()
```

Unregisters listeners.

14.5.22 Method enableBuoyancyAndMomentumBeans()

```
protected void
enableBuoyancyAndMomentumBeans()
```

Enables the buoyancy and momentum beans if the material is a gas or the material is a liquid and the vapor phase (0) is value of the *distribution* property.

14.5.23 Method enableListeners()

```
protected void
enableListeners()
```

Registers listeners.

14.5.24 Method getTitle()

```
public final java.lang.String
getTitle()
```

Accessor for the *defaultTitle* property.

Returns:

DEFAULT_TITLE

14.5.25 Method getRelease()

```
public final mil.dtra.hpac.data.release.Release
getRelease()
```

Accessor for the *release* property.

Returns:

copy of the release object

14.5.26 Method getReleaseReference()

```
public final mil.dtra.hpac.data.release.Release
getReleaseReference()
```

Returns a reference to the release object

Returns:

release object reference

14.5.27 Method loadContinuousRelease()

```
public java.lang.String
loadContinuousRelease( mil.dtra.hpac.data.release.ContinuousRelease release )
```

Loads properties for beans defined at this level from the specified continuous release object. Calls `loadRelease()`.

Parameters:

release - reference to the release object

Returns:

UnitException messages

14.5.28 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined at this level. Calls `super.propertyChange()` if the event is not handled here.

Parameters:

event - property change event

14.5.29 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides AbstractReleaseBean.setEnabled() calling super.setEnabled() last.

Parameters:

flag - true to enable, false to disable

14.5.30 Method setRelease()

```
public final java.lang.String
setRelease( mil.dtra.hpac.data.release.Release release )
```

Accessor for the *release* property. Calls loadContinuousRelease().

Parameters:

release - release object to copy

Returns:

UnitException messages

Exceptions:

IllegalArgumentException - if release is not a ContinuousRelease

14.5.31 Method updateMaterialBeans()

```
protected synchronized void
updateMaterialBeans( mil.dtra.hpac.material.data.Material material )
```

Notifies the RelDistributionBean of the new material by calling its setMaterial() method.

14.6 Class FileReleaseBean

```
mil.dtra.hpac.client.swing.release
public FileReleaseBean
extends AbstractReleaseBean
implements ActionListener, HPAC SwingConstants, SwingConstants,
```

Bean for editing a instantaneous release.

Fields:

```

public static final java.lang.String DEFAULT_TITLE
protected javax.swing.JButton fFileBrowseButton
protected javax.swing.JTextField fFileField
public static final java.lang.String FILE_RELEASE_BEAN
protected mil.dtra.hpac.client.swing.release.RelRandomizeBean fRandomizeBean
protected mil.dtra.hpac.data.release.FileRelease fRelease
protected transient mil.dtra.hpac.client.io.SimpleFileFilter fReleaseFileFilter

```

Methods:

```

public void actionPerformed()
protected void addReleaseTabs()
protected void applyReleaseStatus()
public void clear()
protected javax.swing.JPanel createFileParamsTab()
protected void disableListeners()
protected void enableListeners()
public final java.lang.String getDefaultTitle()
public final mil.dtra.hpac.data.release.Release getRelease()
public final mil.dtra.hpac.data.release.Release getReleaseReference()
public java.lang.String loadFileRelease()
public void propertyChange()
public void setEnabled()
public final java.lang.String setRelease()

```

14.6.1 Field DEFAULT_TITLE

public static final java.lang.String **DEFAULT_TITLE**

Default border title

14.6.2 Field fFileBrowseButton

protected javax.swing.JButton **fFileBrowseButton**

14.6.3 Field fFileField

protected javax.swing.JTextField **fFileField**

14.6.4 Field FILE_RELEASE_BEAN

public static final java.lang.String **FILE_RELEASE_BEAN**

14.6.5 Field fRandomizeBean

protected mil.dtra.hpac.client.swing.release.RelRandomizeBean **fRandomizeBean**

14.6.6 Field fRelease

protected mil.dtra.hpac.data.release.FileRelease **fRelease**

14.6.7 Field fReleaseFileFilter

protected transient mil.dtra.hpac.client.io.SimpleFileFilter **fReleaseFileFilter**

14.6.8 Constructor FileReleaseBean()

```
public  
FileReleaseBean()
```

Default constructor for bean instantiation. You must call `init()`.

14.6.9 Constructor FileReleaseBean()

```
public  
FileReleaseBean(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.data.release.FileRelease release  
)
```

Constructs assuming no title border.

Parameters:

- props - bean properties object
- release - release object

Exceptions:

- `IllegalArgumentException` - if release is not the proper type for the subclass

14.6.10 Constructor FileReleaseBean()

```
public
FileReleaseBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.FileRelease release,
    java.lang.String title
)
```

Constructs this bean calling `init()`.

Parameters:

`props` - bean properties object
`release` - release object
`title` - if equal to `DEFAULT`, default border title; if null, no border; otherwise, border with specified title

Exceptions:

`IllegalArgumentException` - if release is not the proper type for the subclass

14.6.11 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Respond to the file browse button.

Parameters:

`event` - action event

14.6.12 Method addReleaseTabs()

```
protected void
addReleaseTabs( mil.dtra.util.ValueProperties props )
```

Adds tabs for editing properties specific to file releases.

Parameters:

`props` - object with properties for this

14.6.13 Method applyReleaseStatus()

```
protected void  
applyReleaseStatus( mil.dtra.hpac.data.release.FileRelease release )
```

Applies status flags to beans for editing file release properties.

Parameters:

release - release object

14.6.14 Method clear()

```
public void  
clear()
```

Clears all sub-component beans.

14.6.15 Method createFileParamsTab()

```
protected javax.swing.JPanel  
createFileParamsTab( mil.dtra.util.ValueProperties props )
```

Creates the component for the tab with file parameter beans.

Parameters:

props - bean properties object

Returns:

component

14.6.16 Method disableListeners()

```
protected void  
disableListeners()
```

Unregisters listeners.

14.6.17 Method enableListeners()

```
protected void  
enableListeners()
```

Registers listeners.

14.6.18 Method getDefaultTitle()

```
public final java.lang.String  
getDefaultTitle()
```

Accessor for the *defaultTitle* property.

Returns:

DEFAULT_TITLE

14.6.19 Method getRelease()

```
public final mil.dtra.hpac.data.release.Release  
getRelease()
```

Accessor for the *release* property.

Returns:

copy of the release object

14.6.20 Method getReleaseReference()

```
public final mil.dtra.hpac.data.release.Release  
getReleaseReference()
```

Returns a reference to the release object

Returns:

release object reference

14.6.21 Method loadFileRelease()

```
public java.lang.String
loadFileRelease( mil.dtra.hpac.data.release.FileRelease release )
```

Loads properties for beans defined at this level from the specified file release object. Calls `loadRelease()`.

Parameters:

`release` - reference to the release object

Returns:

`UnitException` messages

14.6.22 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined at this level. Calls `super.propertyChange()` if the event is not handled here.

Parameters:

`event` - property change event

14.6.23 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `AbstractReleaseBean.setEnabled()` calling `super.setEnabled()` last.

Parameters:

`flag` - true to enable, false to disable

14.6.24 Method `setRelease()`

```
public final java.lang.String
setRelease( mil.dtra.hpac.data.release.Release release )
```

Accessor for the *release* property. Calls `loadFileRelease()`.

Parameters:

`release` - release object to copy

Returns:

UnitException messages

Exceptions:

`IllegalArgumentException` - if release is not a `FileRelease`

14.7 Class InstantaneousReleaseBean

```
mil.dtra.hpac.client.swing.release
public InstantaneousReleaseBean
extends AbstractReleaseBean
```

Bean for editing a instantaneous release.

Fields:

```
public static final java.lang.String DEFAULT_TITLE
protected mil.dtra.hpac.client.swing.ValueUnitsBean fBuoyancyBean
protected javax.swing.JLabel fBuoyancyLabel
protected mil.dtra.hpac.client.swing.release.RelDistributionBean fDistributionBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fDryMassFractionBean
protected javax.swing.JLabel fDryMassFractionLabel
protected mil.dtra.hpac.client.swing.ValueUnitsBean fMassBean
protected javax.swing.JLabel fMassLabel
protected mil.dtra.hpac.client.swing.ValueUnitsBean fMomentumBean
protected javax.swing.JLabel fMomentumLabel
protected mil.dtra.hpac.client.swing.release.RelRandomizeBean fRandomizeBean
protected mil.dtra.hpac.data.release.InstantaneousRelease fRelease
protected mil.dtra.hpac.client.swing.release.RelSizeBean fSpreadBean
public static final java.lang.String INSTANTANEOUS_RELEASE_BEAN
```

Methods:

```

protected void addReleaseTabs()
protected void applyReleaseStatus()
public void clear()
protected javax.swing.JPanel createGeneralGroup()
protected javax.swing.JPanel createInstantaneousParamsTab()
protected void disableListeners()
protected void enableBuoyancyAndMomentumBeans()
protected void enableListeners()
public final java.lang.String getDefaultTitle()
public final mil.dtra.hpac.data.release.Release getRelease()
public final mil.dtra.hpac.data.release.Release getReleaseReference()
public java.lang.String loadInstantaneousRelease()
public void propertyChange()
public void setEnabled()
public final java.lang.String setRelease()
protected synchronized void updateMaterialBeans()

```

14.7.1 Field DEFAULT_TITLE

public static final java.lang.String **DEFAULT_TITLE**

Default border title

14.7.2 Field fBuoyancyBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fBuoyancyBean**

14.7.3 Field fBuoyancyLabel

protected javax.swing.JLabel **fBuoyancyLabel**

14.7.4 Field fDistributionBean

protected mil.dtra.hpac.client.swing.release.RelDistributionBean **fDistributionBean**

14.7.5 Field fDryMassFractionBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fDryMassFractionBean**

14.7.6 Field fDryMassFractionLabel

protected javax.swing.JLabel **fDryMassFractionLabel**

14.7.7 Field fMassBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fMassBean**

14.7.8 Field fMassLabel

protected javax.swing.JLabel **fMassLabel**

14.7.9 Field fMomentumBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fMomentumBean**

14.7.10 Field fMomentumLabel

protected javax.swing.JLabel **fMomentumLabel**

14.7.11 Field fRandomizeBean

protected mil.dtra.hpac.client.swing.release.RelRandomizeBean **fRandomizeBean**

14.7.12 Field fRelease

protected mil.dtra.hpac.data.release.InstantaneousRelease **fRelease**

14.7.13 Field fSpreadBean

protected mil.dtra.hpac.client.swing.release.RelSizeBean **fSpreadBean**

14.7.14 Field INSTANTANEOUS_RELEASE_BEAN

public static final java.lang.String **INSTANTANEOUS_RELEASE_BEAN**

14.7.15 Constructor InstantaneousReleaseBean()

public
InstantaneousReleaseBean()

Default constructor for bean instantiation. You must call `init()`.

14.7.16 Constructor InstantaneousReleaseBean()

```
public
InstantaneousReleaseBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.InstantaneousRelease release
)
```

Constructs assuming no title border.

Parameters:

props - bean properties object
release - release object

Exceptions:

IllegalArgumentException - if release is not the proper type for the subclass

14.7.17 Constructor InstantaneousReleaseBean()

```
public
InstantaneousReleaseBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.InstantaneousRelease release,
    java.lang.String title
)
```

Constructs this bean calling init().

Parameters:

props - bean properties object
release - release object
title - if equal to DEFAULT, default border title; if null, no border; otherwise, border with specified title

Exceptions:

IllegalArgumentException - if release is not the proper type for the subclass

14.7.18 Method addReleaseTabs()

```
protected void
addReleaseTabs( mil.dtra.util.ValueProperties props )
```

Adds tabs for editing properties specific to instantaneous releases.

Parameters:

props - object with properties for this

14.7.19 Method applyReleaseStatus()

```
protected void
applyReleaseStatus( mil.dtra.hpac.data.release.InstantaneousRelease release )
```

Applies status flags to beans for editing instantaneous release properties.

Parameters:

release - release object

14.7.20 Method clear()

```
public void
clear()
```

Clears all sub-component beans.

14.7.21 Method createGeneralGroup()

```
protected javax.swing.JPanel
createGeneralGroup( mil.dtra.util.ValueProperties props )
```

Creates a group component with beans for general properties.

Parameters:

props - bean properties object

Returns:

component

14.7.22 Method `createInstantaneousParamsTab()`

```
protected javax.swing.JPanel
createInstantaneousParamsTab( mil.dtra.util.ValueProperties props )
```

Creates the component for the tab with instantaneous parameter beans.

Parameters:

props - bean properties object

Returns:

component

14.7.23 Method `disableListeners()`

```
protected void
disableListeners()
```

Unregisters listeners.

14.7.24 Method `enableBuoyancyAndMomentumBeans()`

```
protected void
enableBuoyancyAndMomentumBeans()
```

Enables the buoyancy and momentum beans if the material is a gas or the material is a liquid and the vapor phase (0) is value of the *distribution* property.

14.7.25 Method `enableListeners()`

```
protected void
enableListeners()
```

Registers listeners.

14.7.26 Method `getDialogTitle()`

```
public final java.lang.String
getDialogTitle()
```

Accessor for the *defaultTitle* property.

Returns:

DEFAULT_TITLE

14.7.27 Method getRelease()

```
public final mil.dtra.hpac.data.release.Release
getRelease()
```

Accessor for the *release* property.

Returns:

copy of the release object

14.7.28 Method getReleaseReference()

```
public final mil.dtra.hpac.data.release.Release
getReleaseReference()
```

Returns a reference to the release object

Returns:

release object reference

14.7.29 Method loadInstantaneousRelease()

```
public java.lang.String
loadInstantaneousRelease( mil.dtra.hpac.data.release.InstantaneousRelease release )
```

Loads properties for beans defined at this level from the specified instantaneous release object.
Calls `loadRelease()`.

Parameters:

release - reference to the release object

Returns:

UnitException messages

14.7.30 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined at this level. Calls `super.propertyChange()`
if the event is not handled here.

Parameters:

event - property change event

14.7.31 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides AbstractReleaseBean.setEnabled() calling super.setEnabled() last.

Parameters:

flag - true to enable, false to disable

14.7.32 Method setRelease()

```
public final java.lang.String
setRelease( mil.dtra.hpac.data.release.Release release )
```

Accessor for the *release* property. Calls loadFileRelease().

Parameters:

release - release object to copy

Returns:

UnitException messages

Exceptions:

IllegalArgumentException - if release is not a InstantaneousRelease

14.7.33 Method updateMaterialBeans()

```
protected synchronized void
updateMaterialBeans( mil.dtra.hpac.material.data.Material material )
```

Notifies the RelDistributionBean of the new material by calling its setMaterial() method.

14.8 Class LiquidPoolReleaseBean

```
mil.dtra.hpac.client.swing.release
public LiquidPoolReleaseBean
extends AbstractReleaseBean
implements PropertyChangeListener,
```

Bean for editing a liquid pool release.

Fields:

```

public static final java.lang.String DEFAULT_TITLE
protected mil.dtra.hpac.client.swing.ValueUnitsBean fMassBean
protected mil.dtra.hpac.data.release.LiquidPoolRelease fRelease
protected mil.dtra.hpac.client.swing.release.RelSizeBean fSizeBean
public static final java.lang.String LIQUID_POOL_RELEASE_BEAN

```

Methods:

```

protected void addReleaseTabs()
protected void applyReleaseStatus()
protected void checkMaterial()
public void clear()
protected javax.swing.JPanel createLiquidPoolParamsTab()
protected void disableListeners()
protected void enableListeners()
public final java.lang.String getDefaultTitle()
public final mil.dtra.hpac.data.release.Release getRelease()
public final mil.dtra.hpac.data.release.Release getReleaseReference()
public java.lang.String loadLiquidPoolRelease()
public void propertyChange()
public void setEnabled()
public final java.lang.String setRelease()
protected synchronized void updateMaterialBeans()

```

14.8.1 Field DEFAULT_TITLE

public static final java.lang.String **DEFAULT_TITLE**

Default border title

14.8.2 Field fMassBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fMassBean**

14.8.3 Field fRelease

protected mil.dtra.hpac.data.release.LiquidPoolRelease **fRelease**

14.8.4 Field fSizeBean

protected mil.dtra.hpac.client.swing.release.RelSizeBean **fSizeBean**

14.8.5 Field LIQUID_POOL_RELEASE_BEAN

```
public static final java.lang.String LIQUID_POOL_RELEASE_BEAN
```

14.8.6 Constructor LiquidPoolReleaseBean()

```
public
LiquidPoolReleaseBean()
```

Default constructor for bean instantiation. You must call `init()`.

14.8.7 Constructor LiquidPoolReleaseBean()

```
public
LiquidPoolReleaseBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.LiquidPoolRelease release
)
```

Constructs assuming no title border.

Parameters:

- props - bean properties object
- release - release object

Exceptions:

- IllegalArgumentException - if release is not the proper type for the subclass

14.8.8 Constructor LiquidPoolReleaseBean()

```
public
LiquidPoolReleaseBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.LiquidPoolRelease release,
    java.lang.String title
)
```

Constructs this bean calling `init()`.

Parameters:

props - bean properties object

release - release object

title - if equal to DEFAULT, default border title; if null, no border; otherwise, border with specified title

Exceptions:

IllegalArgumentException - if release is not the proper type for the subclass

14.8.9 Method addReleaseTabs()

protected void

addReleaseTabs(mil.dtra.util.ValueProperties props)

Adds tabs for editing properties specific to liquid pool releases.

Parameters:

props - object with properties for this

14.8.10 Method applyReleaseStatus()

protected void

applyReleaseStatus(mil.dtra.hpac.data.release.LiquidPoolRelease release)

Applies status flags to beans for editing liquid pool release properties.

Parameters:

release - release object

14.8.11 Method checkMaterial()

protected void

checkMaterial(mil.dtra.hpac.material.data.Material material)

Ensures the material is a LiquidMaterial.

Exceptions:

IllegalArgumentException - if the material is not a LiquidMaterial

14.8.12 Method clear()

```
public void  
clear()
```

Clears all sub-component beans.

14.8.13 Method createLiquidPoolParamsTab()

```
protected javax.swing.JPanel  
createLiquidPoolParamsTab( mil.dtra.util.ValueProperties props )
```

Creates the component for the tab with liquid pool parameter beans.

Parameters:

props - bean properties object

Returns:

component

14.8.14 Method disableListeners()

```
protected void  
disableListeners()
```

Unregisters listeners.

14.8.15 Method enableListeners()

```
protected void  
enableListeners()
```

Registers listeners.

14.8.16 Method getDefaultTitle()

```
public final java.lang.String  
getDefaultTitle()
```

Accessor for the *defaultTitle* property.

Returns:

DEFAULT_TITLE

14.8.17 Method getRelease()

```
public final mil.dtra.hpac.data.release.Release
getRelease()
```

Accessor for the *release* property.

Returns:

copy of the release object

14.8.18 Method getReleaseReference()

```
public final mil.dtra.hpac.data.release.Release
getReleaseReference()
```

Returns a reference to the release object

Returns:

release object reference

14.8.19 Method loadLiquidPoolRelease()

```
public java.lang.String
loadLiquidPoolRelease( mil.dtra.hpac.data.release.LiquidPoolRelease release )
```

Loads properties for beans defined at this level from the specified liquid pool release object. Calls *loadRelease()*.

Parameters:

release - reference to the release object

Returns:

UnitException messages

14.8.20 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined at this level. Calls *super.propertyChange()* if the event is not handled here.

Parameters:

event - property change event

14.8.21 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides AbstractReleaseBean.setEnabled() calling super.setEnabled() last.

Parameters:

flag - true to enable, false to disable

14.8.22 Method setRelease()

```
public final java.lang.String
setRelease( mil.dtra.hpac.data.release.Release release )
```

Accessor for the *release* property. Calls loadLiquidPoolRelease().

Parameters:

release - release object to copy

Returns:

UnitException messages

Exceptions:

IllegalArgumentException - if release is not a LiquidPoolRelease

14.8.23 Method updateMaterialBeans()

```
protected synchronized void
updateMaterialBeans( mil.dtra.hpac.material.data.Material material )
```

Notifies the RelDistributionBean of the new material by calling its setMaterial() method.

14.9 Class MaterialComboBox

```
mil.dtra.hpac.client.swing.release
public MaterialComboBox
extends PComboBox
```

Extension of PComboBox which backs a combo box with a MaterialList.

Methods:

```
public void setMaterialList()
```

Inner Classes:

MaterialComboBox.MaterialRenderer

14.9.1 Constructor MaterialComboBox()

```
public  
MaterialComboBox(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.material.data.MaterialList mat_list  
)
```

Constructs passing an array of `Material` objects as the combo box data.

14.9.2 Method setMaterialList()

```
public void  
setMaterialList( mil.dtra.hpac.material.data.MaterialList mat_list )
```

Accessor for the `materialList` property.

Parameters:

`mat_list` - new material list

14.10 Class MaterialComboBox.MaterialRenderer

```
mil.dtra.hpac.client.swing.release  
protected MaterialComboBox.MaterialRenderer  
extends JLabel  
implements ListCellRenderer,
```

`ListCellRenderer` implementation for display `Material` objects.

Methods:

```
public java.awt.Component getListCellRendererComponent()
```

14.10.1 Constructor MaterialComboBox.MaterialRenderer()

```
public
MaterialComboBox.MaterialRenderer( mil.dtra.hpac.client.swing.release.MaterialComboBox this$0
)
```

14.10.2 Method getListCellRendererComponent()

```
public java.awt.Component
getListCellRendererComponent(
    javax.swing.JList list,
    java.lang.Object value,
    int index,
    boolean is_selected,
    boolean has_focus
)
```

14.11 Class MaterialComboBox.MaterialRenderer

`mil.dtra.hpac.client.swing.release`
protected MaterialComboBox.MaterialRenderer
extends JLabel
implements ListCellRenderer,

ListCellRenderer implementation for display Material objects.

Methods:

```
public java.awt.Component getListCellRendererComponent()
```

14.11.1 Constructor MaterialComboBox.MaterialRenderer()

```
public
MaterialComboBox.MaterialRenderer( mil.dtra.hpac.client.swing.release.MaterialComboBox this$0
)
```

14.11.2 Method getListCellRendererComponent()

```
public java.awt.Component
getListCellRendererComponent(
    javax.swing.JList list,
    java.lang.Object value,
    int index,
    boolean is_selected,
```

```
boolean has_focus
)
```

14.12 Class MovingReleaseBean

```
mil.dtra.hpac.client.swing.release
public MovingReleaseBean
extends AbstractReleaseBean
```

Bean for editing a moving release.

Fields:

```
public static final java.lang.String DEFAULT_TITLE
protected mil.dtra.hpac.client.swing.ValueUnitsBean fBuoyancyBean
protected javax.swing.JLabel fBuoyancyLabel
protected mil.dtra.hpac.client.swing.release.RelDistributionBean fDistributionBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fDryMassFractionBean
protected javax.swing.JLabel fDryMassFractionLabel
protected mil.dtra.hpac.client.swing.release.RelDurationRateBean fDurationRateBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fMomentumBean
protected javax.swing.JLabel fMomentumLabel
protected mil.dtra.hpac.data.release.MovingRelease fRelease
protected mil.dtra.hpac.client.swing.release.RelSizeBean fSpreadBean
protected mil.dtra.hpac.client.swing.release.RelVelocityBean fVelocityBean
public static final java.lang.String MOVING_RELEASE_BEAN
```

Methods:

```
protected void addReleaseTabs()
protected void applyReleaseStatus()
public void clear()
protected javax.swing.JPanel createGeneralGroup()
protected javax.swing.JPanel createMovingParamsTab()
protected void disableListeners()
protected void enableBuoyancyAndMomentumBeans()
protected void enableListeners()
public final java.lang.String getDefaultTitle()
public final mil.dtra.hpac.data.release.Release getRelease()
public final mil.dtra.hpac.data.release.Release getReleaseReference()
public java.lang.String loadMovingRelease()
public void propertyChange()
public void setEnabled()
public final java.lang.String setRelease()
protected synchronized void updateMaterialBeans()
```

14.12.1 Field DEFAULT_TITLE

public static final java.lang.String **DEFAULT_TITLE**

Default border title

14.12.2 Field fBuoyancyBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fBuoyancyBean**

14.12.3 Field fBuoyancyLabel

protected javax.swing.JLabel **fBuoyancyLabel**

14.12.4 Field fDistributionBean

protected mil.dtra.hpac.client.swing.release.RelDistributionBean **fDistributionBean**

14.12.5 Field fDryMassFractionBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fDryMassFractionBean**

14.12.6 Field fDryMassFractionLabel

protected javax.swing.JLabel **fDryMassFractionLabel**

14.12.7 Field fDurationRateBean

protected mil.dtra.hpac.client.swing.release.RelDurationRateBean **fDurationRateBean**

14.12.8 Field fMomentumBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fMomentumBean**

14.12.9 Field fMomentumLabel

protected javax.swing.JLabel **fMomentumLabel**

14.12.10 Field fRelease

protected mil.dtra.hpac.data.release.MovingRelease **fRelease**

14.12.11 Field fSpreadBean

protected mil.dtra.hpac.client.swing.release.RelSizeBean **fSpreadBean**

14.12.12 Field fVelocityBean

protected mil.dtra.hpac.client.swing.release.RelVelocityBean **fVelocityBean**

14.12.13 Field MOVING_RELEASE_BEAN

public static final java.lang.String **MOVING_RELEASE_BEAN**

14.12.14 Constructor MovingReleaseBean()

public
MovingReleaseBean()

Default constructor for bean instantiation. You must call `init()`.

14.12.15 Constructor MovingReleaseBean()

public
MovingReleaseBean(
 mil.dtra.util.ValueProperties props,
 mil.dtra.hpac.data.release.MovingRelease release
)

Constructs assuming no title border.

Parameters:

props - bean properties object
release - release object

Exceptions:

IllegalArgumentException - if release is not the proper type for the subclass

14.12.16 Constructor MovingReleaseBean()

```
public
MovingReleaseBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.MovingRelease release,
    java.lang.String title
)
```

Constructs this bean calling `init()`.

Parameters:

`props` - bean properties object
`release` - release object
`title` - if equal to `DEFAULT`, default border title; if null, no border; otherwise, border with specified title

Exceptions:

`IllegalArgumentException` - if release is not the proper type for the subclass

14.12.17 Method addReleaseTabs()

```
protected void
addReleaseTabs( mil.dtra.util.ValueProperties props )
```

Adds tabs for editing properties specific to file releases.

Parameters:

`props` - object with properties for this

14.12.18 Method applyReleaseStatus()

```
protected void
applyReleaseStatus( mil.dtra.hpac.data.release.MovingRelease release )
```

Applies status flags to beans for editing moving release properties.

Parameters:

`release` - release object

14.12.19 Method clear()

```
public void  
clear()
```

Clears all sub-component beans.

14.12.20 Method createGeneralGroup()

```
protected javax.swing.JPanel  
createGeneralGroup( mil.dtra.util.ValueProperties props )
```

Creates a group component with general property beans.

Parameters:

props - bean properties object

Returns:

component

14.12.21 Method createMovingParamsTab()

```
protected javax.swing.JPanel  
createMovingParamsTab( mil.dtra.util.ValueProperties props )
```

Creates the component for the tab with moving parameter beans.

Parameters:

props - bean properties object

Returns:

component

14.12.22 Method disableListeners()

```
protected void  
disableListeners()
```

Unregisters listeners.

14.12.23 Method enableBuoyancyAndMomentumBeans()

```
protected void
enableBuoyancyAndMomentumBeans()
```

Enables the buoyancy and momentum beans if the material is a gas or the material is a liquid and the vapor phase (0) is value of the *distribution* property.

14.12.24 Method enableListeners()

```
protected void
enableListeners()
```

Registers listeners.

14.12.25 Method getDefaultTitle()

```
public final java.lang.String
getDefaultTitle()
```

Accessor for the *defaultTitle* property.

Returns:

DEFAULT_TITLE

14.12.26 Method getRelease()

```
public final mil.dtra.hpac.data.release.Release
getRelease()
```

Accessor for the *release* property.

Returns:

copy of the release object

14.12.27 Method getReleaseReference()

```
public final mil.dtra.hpac.data.release.Release
getReleaseReference()
```

Returns a reference to the release object

Returns:

release object reference

14.12.28 Method loadMovingRelease()

```
public java.lang.String
loadMovingRelease( mil.dtra.hpac.data.release.MovingRelease release )
```

Loads properties for beans defined at this level from the specified moving release object. Calls `loadRelease()`.

Parameters:

`release` - reference to the release object

Returns:

`UnitException` messages

14.12.29 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined at this level. Calls `super.propertyChange()` if the event is not handled here.

Parameters:

`event` - property change event

14.12.30 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `AbstractReleaseBean.setEnabled()` calling `super.setEnabled()` last.

Parameters:

`flag` - true to enable, false to disable

14.12.31 Method setRelease()

```
public final java.lang.String
setRelease( mil.dtra.hpac.data.release.Release release )

loadMovingRelease( ).
```

Parameters:

release - release object to copy

Returns:

UnitException messages

Exceptions:

IllegalArgumentException - if release is not a FileRelease

14.12.32 Method updateMaterialBeans()

```
protected synchronized void
updateMaterialBeans( mil.dtra.hpac.material.data.Material material )
```

Notifies the RelDistributionBean of the new material by calling its setMaterial() method.

14.13 Class RelDistributionBean

```
mil.dtra.hpac.client.swing.release
public RelDistributionBean
extends PDialogPanel
implements ActionListener, HPAC Swing Constants, PropertyChangeListener,
```

Bean for editing release distribution properties.

Fields:

```
protected int fDistribution
protected javax.swing.JComboBox fDistributionCombo
protected javax.swing.JLabel fDistributionLabel
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.client.swing.ValueUnitsBean fMassSigmaBean
protected javax.swing.JLabel fMassSigmaLabel
protected mil.dtra.hpac.material.data.Material fMaterial
protected mil.dtra.hpac.client.swing.ValueUnitsBean fMMDBean
protected javax.swing.JLabel fMMDLabel
public static final java.lang.String LOG_NORMAL
```

```

public static final java.lang.String PROP_distribution
public static final java.lang.String PROP_massMeanDiameter
public static final java.lang.String PROP_massSigma
public static final java.lang.String REL_DISTRIBUTION_BEAN
public static final java.lang.String VAPOR_PHASE

```

Methods:

```

public void actionPerformed()
public void clear()
protected void create()
protected void enableBeans()
public final int getDistribution()
public final javax.swing.JComboBox getDistributionCombo()
public final javax.swing.JLabel getDistributionLabel()
public final mil.dtra.units.StoredValue getMassMeanDiameter()
public final mil.dtra.hpac.client.swing.ValueUnitsBean getMassMeanDiameterBean()
public final javax.swing.JLabel getMassMeanDiameterLabel()
public final mil.dtra.units.StoredValue getMassSigma()
public final mil.dtra.hpac.client.swing.ValueUnitsBean getMassSigmaBean()
public final javax.swing.JLabel getMassSigmaLabel()
public void init()
public void propertyChange()
public void setDistribution()
public void setEnabled()
public final void setMassMeanDiameter()
public final void setMassSigma()
public void setMaterial()
protected void startListening()
protected void stopListening()

```

14.13.1 Field fDistribution

protected int fDistribution

14.13.2 Field fDistributionCombo

protected javax.swing.JComboBox fDistributionCombo

14.13.3 Field fDistributionLabel

protected javax.swing.JLabel fDistributionLabel

14.13.4 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

14.13.5 Field fMassSigmaBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fMassSigmaBean**

14.13.6 Field fMassSigmaLabel

protected javax.swing.JLabel **fMassSigmaLabel**

14.13.7 Field fMaterial

protected mil.dtra.hpac.material.data.Material **fMaterial**

14.13.8 Field fMMDBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fMMDBean**

14.13.9 Field fMMDLabel

protected javax.swing.JLabel **fMMDLabel**

14.13.10 Field LOG_NORMAL

public static final java.lang.String **LOG_NORMAL**

14.13.11 Field PROP_distribution

public static final java.lang.String **PROP_distribution**

Property name ("distribution")

14.13.12 Field PROP_massMeanDiameter

public static final java.lang.String **PROP_massMeanDiameter**

Property name ("massMeanDiameter")

14.13.13 Field PROP_massSigma

public static final java.lang.String **PROP_massSigma**

Property name ("massSigma")

14.13.14 Field REL_DISTRIBUTION_BEAN

```
public static final java.lang.String REL_DISTRIBUTION_BEAN
```

14.13.15 Field VAPOR_PHASE

```
public static final java.lang.String VAPOR_PHASE
```

14.13.16 Constructor RelDistributionBean()

```
public  
RelDistributionBean()
```

Default constructor. Must call init().

14.13.17 Constructor RelDistributionBean()

```
public  
RelDistributionBean( mil.dtra.util.ValueProperties props )
```

Constructs assuming no initial values and no title border.

Parameters:

props - properties object

14.13.18 Constructor RelDistributionBean()

```
public  
RelDistributionBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String title  
)
```

Constructs assuming no initial values.

Parameters:

props - properties object
title - text for a title border or null for no border

14.13.19 Constructor RelDistributionBean()

```
public
RelDistributionBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.material.data.Material material,
    int distribution,
    mil.dtra.units.StoredValue mmd,
    mil.dtra.units.StoredValue mass_sigma
)
```

Constructs assuming no title border.

Parameters:

- props - properties object
- material - material object associated with the release, required for initialization
- distribution - distribution value (required)
- mmd - mass mean diameter value
- mass_sigma - mass sigma value

14.13.20 Constructor RelDistributionBean()

```
public
RelDistributionBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.material.data.Material material,
    int distribution,
    mil.dtra.units.StoredValue mmd,
    mil.dtra.units.StoredValue mass_sigma,
    java.lang.String title
)
```

Constructs calling init().

Parameters:

- props - properties object
- material - material object associated with the release, required for initialization
- distribution - distribution value (required)
- mmd - mass mean diameter value
- mass_sigma - mass sigma value
- title - text for a title border or null for no border

14.13.21 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles action events from combo boxes in this bean.

Parameters:

event - action event

14.13.22 Method clear()

```
public void
clear()
```

Clears all sub-component beans.

14.13.23 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates sub-component beans for this bean.

Parameters:

props - bean properties object

14.13.24 Method enableBeans()

```
protected void
enableBeans()
```

Based on the value of the distribution combo box and the *enabled* property of this bean, enables or disables the MMD bean and the mass sigma bean.

14.13.25 Method getDistribution()

```
public final int
getDistribution()
```

Accessor for the *distribution* property.

Returns:

distribution value

14.13.26 Method `getDistributionCombo()`

```
public final javax.swing.JComboBox  
getDistributionCombo()
```

Accessor for the *distributionCombo* property.

Returns:

combo box object reference

14.13.27 Method `getDistributionLabel()`

```
public final javax.swing.JLabel  
getDistributionLabel()
```

Accessor for the *distributionLabel* property.

Returns:

label object reference

14.13.28 Method `getMassMeanDiameter()`

```
public final mil.dtra.units.StoredValue  
getMassMeanDiameter()
```

Accessor for the *massMeanDiameter* property.

Returns:

MMD stored value

14.13.29 Method `getMassMeanDiameterBean()`

```
public final mil.dtra.hpac.client.swing.ValueUnitsBean  
getMassMeanDiameterBean()
```

Accessor for the *massMeanDiameterBean* property.

Returns:

bean reference

14.13.30 Method getMassMeanDiameterLabel()

```
public final javax.swing.JLabel  
getMassMeanDiameterLabel()
```

Accessor for the *massMeanDiameterLabel* property.

Returns:

label object reference

14.13.31 Method getMassSigma()

```
public final mil.dtra.units.StoredValue  
getMassSigma()
```

Accessor for the *massSigma* property.

Returns:

mass sigma stored value

14.13.32 Method getMassSigmaBean()

```
public final mil.dtra.hpac.client.swing.ValueUnitsBean  
getMassSigmaBean()
```

Accessor for the *massSigmaBean* property.

Returns:

bean reference

14.13.33 Method getMassSigmaLabel()

```
public final javax.swing.JLabel  
getMassSigmaLabel()
```

Accessor for the *massSigmaLabel* property.

Returns:

label object reference

14.13.34 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.material.data.Material material,
    int distribution,
    mil.dtra.units.StoredValue mmd,
    mil.dtra.units.StoredValue mass_sigma,
    java.lang.String title
)
```

Initializes this bean calling `create()`.

Parameters:

`props` - properties object
`material` - material object associated with the release, required for initialization
`distribution` - distribution value (required)
`mmd` - mass mean diameter value
`mass_sigma` - mass sigma value
`title` - text for a title border or null for no border

14.13.35 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined at this level. Calls `super.propertyChange()` if the event is not handled here.

Parameters:

`event` - property change event

14.13.36 Method setDistribution()

```
public void
setDistribution( int value )
```

Accessor for the *distribution* property.

Parameters:

`value` - distribution value

14.13.37 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

`flag` - true to enable, false to disable

14.13.38 Method setMassMeanDiameter()

```
public final void
setMassMeanDiameter( mil.dtra.units.StoredValue value )
```

Accessor for the *massMeanDiameter* property.

Parameters:

`value` - MMD stored value

14.13.39 Method setMassSigma()

```
public final void
setMassSigma( mil.dtra.units.StoredValue value )
```

Accessor for the *massSigma* property.

Parameters:

`value` - mass sigma stored value

14.13.40 Method setMaterial()

```
public void
setMaterial( mil.dtra.hpac.material.data.Material material )
```

Accessor for the *material* property.

Parameters:

`material` - material object reference

14.13.41 Method startListening()

```
protected void
startListening()
```

Registers listeners for component beans.

14.13.42 Method stopListening()

```
protected void
stopListening()
```

Unregisters listeners for component beans.

14.14 Class RelDurationRateBean

```
mil.dtra.hpac.client.swing.release
public RelDurationRateBean
extends PDialogPanel
implements HPAC Swing Constants, PropertyChangeListener,
```

Bean for editing a release duration and rate.

Fields:

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fDurationBean
protected javax.swing.JLabel fDurationLabel
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.client.swing.ValueUnitsBean fRateBean
protected javax.swing.JLabel fRateLabel
public static final java.lang.String PROP_duration
public static final java.lang.String PROP_rate
public static final java.lang.String REL_DURATION_RATE_BEAN
```

Methods:

```
public synchronized void applyMaterialUnits()
public void clear()
protected void create()
public final mil.dtra.units.StoredValue getDuration()
public final mil.dtra.hpac.client.swing.ValueUnitsBean getDurationBean()
public final boolean getDurationEnabled()
public final javax.swing.JLabel getDurationLabel()
public final mil.dtra.units.StoredValue getRate()
public final mil.dtra.hpac.client.swing.ValueUnitsBean getRateBean()
public final javax.swing.JLabel getRateLabel()
public void init()
```

```
public void propertyChange()
public final void setDuration()
public final void setDurationEnabled()
public void setEnabled()
public final void setRate()
protected void startListening()
protected void stopListening()
```

14.14.1 Field fDurationBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fDurationBean**

14.14.2 Field fDurationLabel

protected javax.swing.JLabel **fDurationLabel**

14.14.3 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

14.14.4 Field fRateBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fRateBean**

14.14.5 Field fRateLabel

protected javax.swing.JLabel **fRateLabel**

14.14.6 Field PROP_duration

public static final java.lang.String **PROP_duration**

Property name ("duration")

14.14.7 Field PROP_rate

public static final java.lang.String **PROP_rate**

Property name ("rate")

14.14.8 Field REL_DURATION_RATE_BEAN

public static final java.lang.String **REL_DURATION_RATE_BEAN**

14.14.9 Constructor RelDurationRateBean()

```
public
RelDurationRateBean()
```

14.14.10 Constructor RelDurationRateBean()

```
public
RelDurationRateBean( mil.dtra.util.ValueProperties props )
```

Constructs this bean assuming no initial values or title border.

Parameters:

props - properties object

14.14.11 Constructor RelDurationRateBean()

```
public
RelDurationRateBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs this bean assuming no initial values.

Parameters:

props - properties object
title - border title string or null for no border

14.14.12 Constructor RelDurationRateBean()

```
public
RelDurationRateBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.units.StoredValue duration,
    mil.dtra.units.StoredValue rate
)
```

Constructs this bean assuming no title border.

Parameters:

props - properties object
duration - stored value object or null
rate - stored value object or null

14.14.13 Constructor RelDurationRateBean()

```
public
RelDurationRateBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.units.StoredValue duration,
    mil.dtra.units.StoredValue rate,
    java.lang.String title
)
```

Constructs this bean calling `init()`.

Parameters:

props - properties object
duration - stored value object or null
rate - stored value object or null
title - border title string or null for no border

14.14.14 Method applyMaterialUnits()

```
public synchronized void
applyMaterialUnits( java.lang.String units )
```

Changes the units label of the rate bean to reflect the material units.

Parameters:

units - material units

14.14.15 Method clear()

```
public void
clear()
```

Clears all sub-component beans.

14.14.16 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates sub-component beans for this bean.

Parameters:

props - bean properties object

14.14.17 Method getDuration()

```
public final mil.dtra.units.StoredValue
getDuration()
```

Accessor for the *duration* property.

Returns:

duration stored value

14.14.18 Method getDurationBean()

```
public final mil.dtra.hpac.client.swing.ValueUnitsBean
getDurationBean()
```

Accessor for the *durationBean* property.

Returns:

bean reference

14.14.19 Method getDurationEnabled()

```
public final boolean
getDurationEnabled()
```

Convenience method to access the *enabled* property fo the *durationBean*.

Returns:

true if enabled, false if disabled

14.14.20 Method getDurationLabel()

```
public final javax.swing.JLabel  
getDurationLabel()
```

Accessor for the *durationLabel* property.

Returns:

label object reference

14.14.21 Method getRate()

```
public final mil.dtra.units.StoredValue  
getRate()
```

Accessor for the *rate* property.

Returns:

rate stored value

14.14.22 Method getRateBean()

```
public final mil.dtra.hpac.client.swing.ValueUnitsBean  
getRateBean()
```

Accessor for the *rateBean* property.

Returns:

bean reference

14.14.23 Method getRateLabel()

```
public final javax.swing.JLabel  
getRateLabel()
```

Accessor for the *rateLabel* property.

Returns:

label object reference

14.14.24 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.units.StoredValue duration,
    mil.dtra.units.StoredValue rate,
    java.lang.String title
)
```

Initializes this bean calling `create()`.

Parameters:

`props` - properties object
`duration` - stored value object or null
`rate` - stored value object or null
`title` - border title string or null for no border

14.14.25 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined at this level. Calls `super.propertyChange()` if the event is not handled here.

Parameters:

`event` - property change event

14.14.26 Method setDuration()

```
public final void
setDuration( mil.dtra.units.StoredValue value )
```

Accessor for the *duration* property.

Parameters:

`value` - duration stored value

14.14.27 Method setDurationEnabled()

```
public final void
setDurationEnabled( boolean flag )
```

Convenience method to access the *enabled* property fo the *durationBean*.

Parameters:

flag - true to enable, false to disable

14.14.28 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

flag - true to enable, false to disable

14.14.29 Method setRate()

```
public final void
setRate( mil.dtra.units.StoredValue value )
```

Accessor for the *rate* property.

Parameters:

value - rate stored value

14.14.30 Method startListening()

```
protected void
startListening()
```

Registers listeners for component beans.

14.14.31 Method stopListening()

```
protected void
stopListening()
```

Unregisters listeners for component beans.

14.15 Class ReleaseAddBean

```
mil.dtra.hpac.client.swing.release
public ReleaseAddBean
extends JPanel
implements ChangeListener, HPAC Swing Constants,
```

Bean for defining a new release.

Fields:

```
protected mil.dtra.swing.PRadioButton fContinuousButton
protected mil.dtra.swing.PRadioButton fCopyButton
protected mil.dtra.swing.PComboBox fCopyCombo
protected mil.dtra.swing.PRadioButton fFileButton
protected mil.dtra.swing.PRadioButton fInstantaneousButton
protected mil.dtra.swing.PRadioButton fLiquidPoolButton
protected mil.dtra.swing.PRadioButton fMovingButton
protected mil.dtra.swing.PRadioButton fStackButton
public static final java.lang.String RELEASE_ADD_BEAN
```

Methods:

```
protected void create()
public boolean getCopyFlag()
public mil.dtra.hpac.data.release.Release getRelease()
public void init()
public void stateChanged()
```

14.15.1 Field fContinuousButton

```
protected mil.dtra.swing.PRadioButton fContinuousButton
```

14.15.2 Field fCopyButton

```
protected mil.dtra.swing.PRadioButton fCopyButton
```

14.15.3 Field `fCopyCombo`

protected mil.dtra.swing.PComboBox **`fCopyCombo`**

14.15.4 Field `fFileButton`

protected mil.dtra.swing.PRadioButton **`fFileButton`**

14.15.5 Field `fInstantaneousButton`

protected mil.dtra.swing.PRadioButton **`fInstantaneousButton`**

14.15.6 Field `fLiquidPoolButton`

protected mil.dtra.swing.PRadioButton **`fLiquidPoolButton`**

14.15.7 Field `fMovingButton`

protected mil.dtra.swing.PRadioButton **`fMovingButton`**

14.15.8 Field `fStackButton`

protected mil.dtra.swing.PRadioButton **`fStackButton`**

14.15.9 Field `RELEASE_ADD_BEAN`

public static final java.lang.String **`RELEASE_ADD_BEAN`**

14.15.10 Constructor `ReleaseAddBean()`

public
`ReleaseAddBean()`

Default constructors. Must call `init()`.

14.15.11 Constructor ReleaseAddBean()

```
public
ReleaseAddBean( mil.dtra.util.ValueProperties props )
```

Constructs assuming no list of cloneable releases and no border.

Parameters:

props - object with properties for this

14.15.12 Constructor ReleaseAddBean()

```
public
ReleaseAddBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.ReleaseList release_list
)
```

Constructs assuming no border.

Parameters:

props - object with properties for this
release_list - list of existing release for clone selection

14.15.13 Constructor ReleaseAddBean()

```
public
ReleaseAddBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.ReleaseList release_list,
    java.lang.String title
)
```

Constructs this bean calling `init()`.

Parameters:

props - object with properties for this
release_list - list of existing release for clone selection
title - text for a border title or null for no border

14.15.14 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.ReleaseList release_list
)
```

Creates the sub-component beans for this bean.

Parameters:

props - object with properties for this
release_list - list of existing release for clone selection

14.15.15 Method getCopyFlag()

```
public boolean
getCopyFlag()
```

Returns true if the release returned by `getRelease()` is a copy of another release.

Returns:

true if the release is a copy, false otherwise

14.15.16 Method getRelease()

```
public mil.dtra.hpac.data.release.Release
getRelease()
```

Accessor for the `release` property. Builds the release based on the user's selection of a release type or an existing release to clone. New releases for a specified type are deserialized from properties resources.

Returns:

new release object

14.15.17 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.ReleaseList release_list,
    java.lang.String title
)
```

Initializes this bean, calling `create()`.

Parameters:

props - object with properties for this
release_list - list of existing release for clone selection
title - text for a border title or null for no border

14.15.18 Method stateChanged()

```
public void
stateChanged( javax.swing.event.ChangeEvent event )
```

ChangeListener implementation method. Enables or disables the copy combo box based on the selected state of the copy button. 8

Parameters:

event - change event

14.16 Class ReleaseArrayBean

```
mil.dtra.hpac.client.swing.release
public ReleaseArrayBean
extends PDialogPanel
implements ActionListener, HPAC Swing Constants, PropertyChangeListener,
```

Bean for editing an array of Release objects. Releases are selected via a combo box.

Fields:

```
protected javax.swing.JPanel fCardPanel
protected transient volatile boolean fListeningFlag
protected mil.dtra.util.ValueProperties fProps
protected javax.swing.JComboBox fReleaseCombo
public static final java.lang.String PROP_releases
public static final java.lang.String RELEASE_ARRAY_BEAN
```

Methods:

```
public void actionPerformed()
protected void create()
protected javax.swing.JPanel createComboPanel()
public mil.dtra.hpac.data.release.Release[] getReleases()
public void init()
public void propertyChange()
public void setReleases()
protected void startListening()
protected void stopListening()
```

14.16.1 Field fCardPanel

protected javax.swing.JPanel **fCardPanel**

14.16.2 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

14.16.3 Field fProps

protected mil.dtra.util.ValueProperties **fProps**

14.16.4 Field fReleaseCombo

protected javax.swing.JComboBox **fReleaseCombo**

14.16.5 Field PROP_releases

public static final java.lang.String **PROP_releases**

Property name ("releases")

14.16.6 Field RELEASE_ARRAY_BEAN

public static final java.lang.String **RELEASE_ARRAY_BEAN**

14.16.7 Constructor ReleaseArrayBean()

```
public
ReleaseArrayBean()
```

Default constructor for bean instantiation. Must call `init()`.

14.16.8 Constructor ReleaseArrayBean()

```
public
ReleaseArrayBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.Release[] releases
)
```

Constructs assuming no border.

Parameters:

props - object with properties for this
releases - *releases* property value

14.16.9 Constructor ReleaseArrayBean()

```
public
ReleaseArrayBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.Release[] releases,
    java.lang.String title
)
```

Constructs this bean, calling `init()`.

Parameters:

props - object with properties for this
releases - *releases* property value
title - text for a border title or null for no border

14.16.10 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles action events from the release combo box.

Parameters:

event - action event

14.16.11 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates this bean and all its sub-component beans.

Parameters:

props - object with properties for this

14.16.12 Method createComboPanel()

```
protected javax.swing.JPanel
createComboPanel( mil.dtra.util.ValueProperties props )
```

Creates a panel with the release selection combo box.

Parameters:

props - object with properties for this

Returns:

new panel component

14.16.13 Method getReleases()

```
public mil.dtra.hpac.data.release.Release[]
getReleases()
```

Accessor for the *releases* property.

Returns:

release array

14.16.14 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.Release[] releases,
    java.lang.String title
)
```

Initializes this bean, calling `create()`.

Parameters:

props - object with properties for this
 releases - *releases* property value
 title - text for a border title or null for no border

14.16.15 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined at this level. Calls `super.propertyChange()` if the event is not handled here.

Parameters:

event - property change event

14.16.16 Method `setReleases()`

```
public void
setReleases( mil.dtra.hpac.data.release.Release[] releases )
```

Accessor for the *releases* property.

Parameters:

releases - release array

14.16.17 Method `startListening()`

```
protected void
startListening()
```

Registers listeners for component beans.

14.16.18 Method `stopListening()`

```
protected void
stopListening()
```

Unregisters listeners for component beans.

14.17 Class ReleaseCellRenderer

```
mil.dtra.hpac.client.swing.release
public ReleaseCellRenderer
extends JLabel
implements HPAC Swing Constants, ListCellRenderer,
```

Extension of `JLabel` implementing `ListCellRenderer`. Displays a release's `Release.createSummaryString` value.

Methods:

```
public java.awt.Component getListCellRendererComponent()
```

14.17.1 Constructor `ReleaseCellRenderer()`

```
public
ReleaseCellRenderer()
```

Default constructor. Sets the *opaque* property to true.

14.17.2 Method `getListCellRendererComponent()`

```
public java.awt.Component
getListCellRendererComponent(
    javax.swing.JList list,
    java.lang.Object value,
    int index,
    boolean is_selected,
    boolean has_focus
)
```

Modifies properties of this to represent the object in the environment defined by the parameters.

Parameters:

- list - list container object
- value - object to represent
- index - object's index in the list
- is_selected - true if the object is selected, false otherwise
- has_focus - true if the object has focus, false otherwise

Returns:

this (reference)

14.18 Class RelRandomizeBean

```
mil.dtra.hpac.client.swing.release
public RelRandomizeBean
extends PDialogPanel
implements ActionListener, HPAC Swing Constants, PropertyChangeListener,
```

Bean for editing release random properties size.

Fields:

```
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.client.swing.ValueUnitsBean fRandomCountBean
protected javax.swing.JLabel fRandomCountLabel
protected javax.swing.JCheckBox fRandomizeBox
protected mil.dtra.hpac.client.swing.ValueUnitsBean fRandomSpreadBean
protected javax.swing.JLabel fRandomSpreadLabel
public static final java.lang.String PROP_randomCount
public static final java.lang.String PROP_randomSpread
public static final java.lang.String REL_RANDOMIZE_BEAN
```

Methods:

```
public void actionPerformed()
public void clear()
protected void create()
protected void enableBeans()
public int getRandomCount()
public final mil.dtra.hpac.client.swing.ValueUnitsBean getRandomCountBean()
public final javax.swing.JLabel getRandomCountLabel()
public final mil.dtra.units.StoredValue getRandomSpread()
public final mil.dtra.hpac.client.swing.ValueUnitsBean getRandomSpreadBean()
public final javax.swing.JLabel getRandomSpreadLabel()
public void init()
public void propertyChange()
public void setEnabled()
public void setRandomCount()
public final void setRandomSpread()
protected void startListening()
protected void stopListening()
```

14.18.1 Field fListeningFlag

```
protected transient volatile boolean fListeningFlag
```

14.18.2 Field fRandomCountBean

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fRandomCountBean
```

14.18.3 Field fRandomCountLabel

protected javax.swing.JLabel **fRandomCountLabel**

14.18.4 Field fRandomizeBox

protected javax.swing.JCheckBox **fRandomizeBox**

14.18.5 Field fRandomSpreadBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fRandomSpreadBean**

14.18.6 Field fRandomSpreadLabel

protected javax.swing.JLabel **fRandomSpreadLabel**

14.18.7 Field PROP_randomCount

public static final java.lang.String **PROP_randomCount**

Property name ("randomCount")

14.18.8 Field PROP_randomSpread

public static final java.lang.String **PROP_randomSpread**

Property name ("randomSpread")

14.18.9 Field REL_RANDOMIZE_BEAN

public static final java.lang.String **REL_RANDOMIZE_BEAN**

14.18.10 Constructor RelRandomizeBean()

public
RelRandomizeBean()

Must call `init()`.

14.18.11 Constructor RelRandomizeBean()

```
public
RelRandomizeBean( mil.dtra.util.ValueProperties props )
```

Constructs assuming no initial values or title border.

Parameters:

- props - properties object
- title - border title or null for no border

14.18.12 Constructor RelRandomizeBean()

```
public
RelRandomizeBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs assuming no initial values.

Parameters:

- props - properties object
- title - border title or null for no border

14.18.13 Constructor RelRandomizeBean()

```
public
RelRandomizeBean(
    mil.dtra.util.ValueProperties props,
    int count,
    mil.dtra.units.StoredValue spread
)
```

Constructs assuming no border title.

Parameters:

- props - properties object
- count - random location count
- spread - spread radius

14.18.14 Constructor RelRandomizeBean()

```
public
RelRandomizeBean(
    mil.dtra.util.ValueProperties props,
    int count,
    mil.dtra.units.StoredValue spread,
    java.lang.String title
)
```

Constructs this bean calling `init()`.

Parameters:

- `props` - properties object
- `count` - random location count
- `spread` - spread radius
- `title` - border title or null for no border

14.18.15 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Handles action events for the randomize check box.

Parameters:

- `event` - action event

14.18.16 Method clear()

```
public void
clear()
```

Clears all sub-component beans.

14.18.17 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates sub-component beans for this bean.

Parameters:

props - bean properties object

14.18.18 Method enableBeans()

protected void
enableBeans()

Based on the state of the randomize check box and the *enabled* property of this, enables or disables the random count and random spread beans.

14.18.19 Method getRandomCount()

public int
getRandomCount()

Accessor for the *randomCount* property.

Returns:

random count value

14.18.20 Method getRandomCountBean()

public final mil.dtra.hpac.client.swing.ValueUnitsBean
getRandomCountBean()

Accessor for the *randomCountBean* property.

Returns:

bean reference

14.18.21 Method getRandomCountLabel()

public final javax.swing.JLabel
getRandomCountLabel()

Accessor for the *randomCountLabel* property.

Returns:

label object reference

14.18.22 Method getRandomSpread()

```
public final mil.dtra.units.StoredValue
getRandomSpread()
```

Accessor for the *randomSpread* property.

Returns:

random spread stored value

14.18.23 Method getRandomSpreadBean()

```
public final mil.dtra.hpac.client.swing.ValueUnitsBean
getRandomSpreadBean()
```

Accessor for the *randomSpreadBean* property.

Returns:

bean reference

14.18.24 Method getRandomSpreadLabel()

```
public final javax.swing.JLabel
getRandomSpreadLabel()
```

Accessor for the *randomSpreadLabel* property.

Returns:

label object reference

14.18.25 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    int count,
    mil.dtra.units.StoredValue spread,
    java.lang.String title
)
```

Initializes this bean calling `create()`.

Parameters:

props - properties object
 count - random location count
 spread - spread radius
 title - border title or null for no border

14.18.26 Method `propertyChange()`

public void
propertyChange(java.beans.PropertyChangeEvent event)

Handles property change events for beans defined at this level. Calls `super.propertyChange()` if the event is not handled here.

Parameters:

event - property change event

14.18.27 Method `setEnabled()`

public void
setEnabled(boolean flag)

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

flag - true to enable, false to disable

14.18.28 Method `setRandomCount()`

public void
setRandomCount(int value)

Accessor for the *randomCount* property.

Parameters:

value - random count

14.18.29 Method setRandomSpread()

```
public final void
setRandomSpread( mil.dtra.units.StoredValue value )
```

Accessor for the *randomSpread* property.

Parameters:

value - random spread stored value

14.18.30 Method startListening()

```
protected void
startListening()
```

Registers listeners for component beans.

14.18.31 Method stopListening()

```
protected void
stopListening()
```

Unregisters listeners for component beans.

14.19 Class RelSizeBean

```
mil.dtra.hpac.client.swing.release
public RelSizeBean
extends PDialogPanel
implements HPAC Swing Constants, PropertyChange Listener,
```

Bean for editing release size properties.

Fields:

```
public static final int DISABLE_X
public static final int DISABLE_Z
public static final int ENABLE_ALL
protected mil.dtra.hpac.client.swing.ValueUnitsBean[] fBeans
protected int fDisableMask
protected javax.swing.JLabel[] fLabels
protected transient volatile boolean fListeningFlag
public static final java.lang.String PROP_XSize
public static final java.lang.String PROP_YSize
public static final java.lang.String PROP_ZSize
```

```
protected static final java.lang.String[] PROPERTY_NAMES
public static final java.lang.String REL_SIZE_BEAN
```

Methods:

```
public void clear()
protected void create()
protected void disableFields()
public final mil.dtra.hpac.client.swing.ValueUnitsBean[] getBeans()
public final javax.swing.JLabel[] getLabels()
public mil.dtra.units.StoredValue getXSize()
public mil.dtra.units.StoredValue getYSize()
public mil.dtra.units.StoredValue getZSize()
public void init()
public void propertyChange()
public void setEnabled()
public void setXSize()
public void setYSize()
public void setZSize()
protected void startListening()
protected void stopListening()
```

14.19.1 Field DISABLE_X

public static final int **DISABLE_X**

Mask to disable the X size bean

14.19.2 Field DISABLE_Z

public static final int **DISABLE_Z**

Mask to disable the Z size bean

14.19.3 Field ENABLE_ALL

public static final int **ENABLE_ALL**

Mask to disable no beans

14.19.4 Field fBeans

protected mil.dtra.hpac.client.swing.ValueUnitsBean[] **fBeans**

14.19.5 Field fDisableMask

protected int **fDisableMask**

14.19.6 Field fLabels

```
protected javax.swing.JLabel[] fLabels
```

14.19.7 Field fListeningFlag

```
protected transient volatile boolean fListeningFlag
```

14.19.8 Field PROP_XSize

```
public static final java.lang.String PROP_XSize
```

Property name ("XSize")

14.19.9 Field PROP_YSize

```
public static final java.lang.String PROP_YSize
```

Property name ("YSize")

14.19.10 Field PROP_ZSize

```
public static final java.lang.String PROP_ZSize
```

Property name ("ZSize")

14.19.11 Field PROPERTY_NAMES

```
protected static final java.lang.String[] PROPERTY_NAMES
```

14.19.12 Field REL_SIZE_BEAN

```
public static final java.lang.String REL_SIZE_BEAN
```

14.19.13 Constructor RelSizeBean()

```
public  
RelSizeBean()
```

Default constructor. Must call init().

14.19.14 Constructor RelSizeBean()

```
public
RelSizeBean(

    mil.dtra.util.ValueProperties props,
    int disable_mask
)
```

Constructs assuming initial values or border.

Parameters:

props - object with properties for this
 disable_mask - mask indicating which beans to disable

14.19.15 Constructor RelSizeBean()

```
public
RelSizeBean(

    mil.dtra.util.ValueProperties props,
    int disable_mask,
    java.lang.String title
)
```

Constructs assuming initial values.

Parameters:

props - object with properties for this
 disable_mask - mask indicating which beans to disable
 title - text for title border or null for no border

14.19.16 Constructor RelSizeBean()

```
public
RelSizeBean(

    mil.dtra.util.ValueProperties props,
    int disable_mask,
    mil.dtra.units.StoredValue x_size,
    mil.dtra.units.StoredValue y_size,
    mil.dtra.units.StoredValue z_size
)
```

Constructs assuming no border.

Parameters:

props - object with properties for this
 disable_mask - mask indicating which beans to disable
 x_size - initial XSize value
 y_size - initial YSize value
 z_size - initial ZSize value

14.19.17 Constructor RelSizeBean()

```
public
RelSizeBean(
  mil.dtra.util.ValueProperties props,
  int disable_mask,
  mil.dtra.units.StoredValue x_size,
  mil.dtra.units.StoredValue y_size,
  mil.dtra.units.StoredValue z_size,
  java.lang.String title
)
```

Constructs calling init().

Parameters:

props - object with properties for this
 disable_mask - mask indicating which beans to disable
 x_size - initial XSize value
 y_size - initial YSize value
 z_size - initial ZSize value
 title - text for title border or null for no border

14.19.18 Method clear()

```
public void
clear()
```

Clears all sub-component beans.

14.19.19 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates sub-component beans for this bean.

Parameters:

props - bean properties object

14.19.20 Method disableFields()

```
protected void
disableFields()
```

Disable fields according to the *disableMask* property.

14.19.21 Method getBeans()

```
public final mil.dtra.hpac.client.swing.ValueUnitsBean[]
getBeans()
```

Accessor for the *beans* property.

Returns:

array of bean references in x, y, z order

14.19.22 Method getLabels()

```
public final javax.swing.JLabel[]
getLabels()
```

Accessor for the *labels* property.

Returns:

array of label object references in x, y, z order

14.19.23 Method getXSize()

```
public mil.dtra.units.StoredValue
getXSize()
```

Accessor for the *XSize* property.

Returns:

X size value or null if the X field is disabled

14.19.24 Method getYSize()

```
public mil.dtra.units.StoredValue
getYSize()
```

Accessor for the *YSize* property.

Returns:

Y size value

14.19.25 Method getZSize()

```
public mil.dtra.units.StoredValue
getZSize()
```

Accessor for the *ZSize* property.

Returns:

Z size value or null if the Z field is disabled

14.19.26 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    int disable_mask,
    mil.dtra.units.StoredValue x_size,
    mil.dtra.units.StoredValue y_size,
    mil.dtra.units.StoredValue z_size,
    java.lang.String title
)
```

Initializes this bean calling `create()`.

Parameters:

props - object with properties for this
 disable_mask - mask indicating which beans to disable
 x_size - initial XSize value
 y_size - initial YSize value
 z_size - initial ZSize value
 title - text for title border or null for no border

14.19.27 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined at this level. Calls `super.propertyChange()` if the event is not handled here.

Parameters:

event - property change event

14.19.28 Method `setEnabled()`

```
public void
setEnabled( boolean on )
```

Overrides `JComponent.setEnabled()` to enable or disable sub-component beans.

Parameters:

flag - true to enable, false to disable

14.19.29 Method `setXSize()`

```
public void
setXSize( mil.dtra.units.StoredValue value )
```

Accessor for the `XSize` property. This method does nothing if the X field is disabled.

Parameters:

value - X size value

14.19.30 Method setYSize()

```
public void
setYSize( mil.dtra.units.StoredValue value )
```

Accessor for the *YSize* property.

Parameters:

value - Y size value

14.19.31 Method setZSize()

```
public void
setZSize( mil.dtra.units.StoredValue value )
```

Accessor for the *ZSize* property. This method does nothing if the Z field is disabled.

Parameters:

value - Z size value

14.19.32 Method startListening()

```
protected void
startListening()
```

Registers listeners for component beans.

14.19.33 Method stopListening()

```
protected void
stopListening()
```

Unregisters listeners for component beans.

14.20 Class RelVelocityBean

```
mil.dtra.hpac.client.swing.release
public RelVelocityBean
extends PDialogPanel
implements HPACSwingConstants, PropertyChangeListener,
```

Bean for editing release velocity properties.

Fields:

```

protected mil.dtra.hpac.client.swing.ValueUnitsBean[] fBeans
protected javax.swing.JLabel[] fLabels
protected transient volatile boolean fListeningFlag
public static final java.lang.String PROP_XVelocity
public static final java.lang.String PROP_YVelocity
public static final java.lang.String PROP_ZVelocity
protected static final java.lang.String[] PROPERTY_NAMES
public static final java.lang.String REL_VELOCITY_BEAN

```

Methods:

```

public void clear()
protected void create()
public final mil.dtra.hpac.client.swing.ValueUnitsBean[] getBeans()
public final javax.swing.JLabel[] getLabels()
public mil.dtra.units.StoredValue getXVelocity()
public mil.dtra.units.StoredValue getYVelocity()
public mil.dtra.units.StoredValue getZVelocity()
public void init()
public void propertyChange()
public void setXVelocity()
public void setYVelocity()
public void setZVelocity()
protected void startListening()
protected void stopListening()

```

14.20.1 Field fBeans

protected mil.dtra.hpac.client.swing.ValueUnitsBean[] **fBeans**

14.20.2 Field fLabels

protected javax.swing.JLabel[] **fLabels**

14.20.3 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

14.20.4 Field PROP_XVelocity

public static final java.lang.String **PROP_XVelocity**

Property name ("XVelocity")

14.20.5 Field PROP_YVelocity

```
public static final java.lang.String PROP_YVelocity
```

Property name ("YVelocity")

14.20.6 Field PROP_ZVelocity

```
public static final java.lang.String PROP_ZVelocity
```

Property name ("ZVelocity")

14.20.7 Field PROPERTY_NAMES

```
protected static final java.lang.String[] PROPERTY_NAMES
```

14.20.8 Field REL_VELOCITY_BEAN

```
public static final java.lang.String REL_VELOCITY_BEAN
```

14.20.9 Constructor RelVelocityBean()

```
public  
RelVelocityBean()
```

Default constructor. Must call `init()`.

14.20.10 Constructor RelVelocityBean()

```
public  
RelVelocityBean( mil.dtra.util.ValueProperties props )
```

Constructs this bean assuming no initial values or title border.

Parameters:

`props` - object with properties for this

14.20.11 Constructor RelVelocityBean()

```
public
RelVelocityBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs this bean assuming no initial values.

Parameters:

props - object with properties for this
 title - text for title border or null for no border

14.20.12 Constructor RelVelocityBean()

```
public
RelVelocityBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.units.StoredValue x_velocity,
    mil.dtra.units.StoredValue y_velocity,
    mil.dtra.units.StoredValue z_velocity
)
```

Constructs this bean assuming no title border.

Parameters:

props - object with properties for this
 x_velocity - initial *XVelocity* value
 y_velocity - initial *YVelocity* value
 z_velocity - initial *ZVelocity* value

14.20.13 Constructor RelVelocityBean()

```
public
RelVelocityBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.units.StoredValue x_velocity,
    mil.dtra.units.StoredValue y_velocity,
    mil.dtra.units.StoredValue z_velocity,
    java.lang.String title
)
```

Constructs this bean calling `init()`.

Parameters:

`props` - object with properties for this
`x_velocity` - initial *XVelocity* value
`y_velocity` - initial *YVelocity* value
`z_velocity` - initial *ZVelocity* value
`title` - text for title border or null for no border

14.20.14 Method `clear()`

```
public void
clear()
```

Clears all sub-component beans.

14.20.15 Method `create()`

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Creates sub-component beans for this bean.

Parameters:

`props` - bean properties object

14.20.16 Method `getBeans()`

```
public final mil.dtra.hpac.client.swing.ValueUnitsBean[]
getBeans()
```

Accessor for the *beans* property.

Returns:

array of bean references in x, y, z order

14.20.17 Method getLabels()

```
public final javax.swing.JLabel[]
getLabels()
```

Accessor for the *labels* property.

Returns:

array of label object references in x, y, z order

14.20.18 Method getXVelocity()

```
public mil.dtra.units.StoredValue
getXVelocity()
```

Accessor for the *XVelocity* property.

Returns:

X velocity value

14.20.19 Method getYVelocity()

```
public mil.dtra.units.StoredValue
getYVelocity()
```

Accessor for the *YVelocity* property.

Returns:

Y velocity value

14.20.20 Method getZVelocity()

```
public mil.dtra.units.StoredValue
getZVelocity()
```

Accessor for the *ZVelocity* property.

Returns:

Z velocity value

14.20.21 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.units.StoredValue x_velocity,
    mil.dtra.units.StoredValue y_velocity,
    mil.dtra.units.StoredValue z_velocity,
    java.lang.String title
)
```

Initializes this bean calling `create()`.

Parameters:

`props` - object with properties for this
`x_velocity` - initial *XVelocity* value
`y_velocity` - initial *YVelocity* value
`z_velocity` - initial *ZVelocity* value
`title` - text for title border or null for no border

14.20.22 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined at this level. Calls `super.propertyChange()` if the event is not handled here.

Parameters:

`event` - property change event

14.20.23 Method setXVelocity()

```
public void
setXVelocity( mil.dtra.units.StoredValue value )
```

Accessor for the *XVelocity* property.

Parameters:

`value` - X velocity value

14.20.24 Method setYVelocity()

```
public void
setYVelocity( mil.dtra.units.StoredValue value )
```

Accessor for the *YVelocity* property.

Parameters:

value - Y velocity value

14.20.25 Method setZVelocity()

```
public void
setZVelocity( mil.dtra.units.StoredValue value )
```

Accessor for the *ZVelocity* property.

Parameters:

value - Z velocity value

14.20.26 Method startListening()

```
protected void
startListening()
```

Registers listeners for component beans.

14.20.27 Method stopListening()

```
protected void
stopListening()
```

Unregisters listeners for component beans.

14.21 Class StackReleaseBean

```
mil.dtra.hpac.client.swing.release
public StackReleaseBean
extends AbstractReleaseBean
```

Bean for editing a stack release.

Fields:

```

public static final java.lang.String DEFAULT_TITLE
protected mil.dtra.hpac.client.swing.ValueUnitsBean fDiameterBean
protected javax.swing.JLabel fDiameterLabel
protected mil.dtra.hpac.client.swing.release.RelDistributionBean fDistributionBean
protected mil.dtra.hpac.client.swing.release.RelDurationRateBean fDurationRateBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fExitTemperatureBean
protected javax.swing.JLabel fExitTemperatureLabel
protected mil.dtra.hpac.client.swing.ValueUnitsBean fExitVelocityBean
protected javax.swing.JLabel fExitVelocityLabel
protected mil.dtra.hpac.data.release.StackRelease fRelease
public static final java.lang.String STACK_RELEASE_BEAN

```

Methods:

```

protected void addReleaseTabs()
protected void applyReleaseStatus()
public void clear()
protected javax.swing.JPanel createStackGroup()
protected javax.swing.JPanel createStackParamsTab()
protected void disableListeners()
protected void enableListeners()
public final java.lang.String getDefaultTitle()
public final mil.dtra.hpac.data.release.Release getRelease()
public final mil.dtra.hpac.data.release.Release getReleaseReference()
public java.lang.String loadStackRelease()
public void propertyChange()
public void setEnabled()
public final java.lang.String setRelease()
protected synchronized void updateMaterialBeans()

```

14.21.1 Field DEFAULT_TITLE

public static final java.lang.String **DEFAULT_TITLE**

Default border title

14.21.2 Field fDiameterBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fDiameterBean**

14.21.3 Field fDiameterLabel

protected javax.swing.JLabel **fDiameterLabel**

14.21.4 Field fDistributionBean

protected mil.dtra.hpac.client.swing.release.RelDistributionBean **fDistributionBean**

14.21.5 Field fDurationRateBean

protected mil.dtra.hpac.client.swing.release.RelDurationRateBean **fDurationRateBean**

14.21.6 Field fExitTemperatureBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fExitTemperatureBean**

14.21.7 Field fExitTemperatureLabel

protected javax.swing.JLabel **fExitTemperatureLabel**

14.21.8 Field fExitVelocityBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fExitVelocityBean**

14.21.9 Field fExitVelocityLabel

protected javax.swing.JLabel **fExitVelocityLabel**

14.21.10 Field fRelease

protected mil.dtra.hpac.data.release.StackRelease **fRelease**

14.21.11 Field STACK_RELEASE_BEAN

public static final java.lang.String **STACK_RELEASE_BEAN**

14.21.12 Constructor StackReleaseBean()

public
StackReleaseBean()

Default constructor for bean instantiation. You must call `init()`.

14.21.13 Constructor StackReleaseBean()

```
public
StackReleaseBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.StackRelease release
)
```

Constructs assuming no title border.

Parameters:

props - bean properties object
release - release object

Exceptions:

IllegalArgumentException - if release is not the proper type for the subclass

14.21.14 Constructor StackReleaseBean()

```
public
StackReleaseBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.release.StackRelease release,
    java.lang.String title
)
```

Constructs this bean calling init().

Parameters:

props - bean properties object
release - release object
title - if equal to DEFAULT, default border title; if null, no border; otherwise, border with specified title

Exceptions:

IllegalArgumentException - if release is not the proper type for the subclass

14.21.15 Method addReleaseTabs()

```
protected void
addReleaseTabs( mil.dtra.util.ValueProperties props )
```

Applies status flags to beans for editing stack release properties.

Parameters:

release - release object

14.21.16 Method applyReleaseStatus()

```
protected void
applyReleaseStatus( mil.dtra.hpac.data.release.StackRelease release )
```

Applies status flags to beans for editing stack release properties.

Parameters:

release - release object

14.21.17 Method clear()

```
public void
clear()
```

Clears all sub-component beans.

14.21.18 Method createStackGroup()

```
protected javax.swing.JPanel
createStackGroup( mil.dtra.util.ValueProperties props )
```

Creates a group component with beans for stack properties.

Parameters:

props - bean properties object

Returns:

component

14.21.19 Method createStackParamsTab()

```
protected javax.swing.JPanel  
createStackParamsTab( mil.dtra.util.ValueProperties props )
```

Creates the component for the tab with stack parameter beans.

Parameters:

props - bean properties object

Returns:

component

14.21.20 Method disableListeners()

```
protected void  
disableListeners()
```

Unregisters listeners.

14.21.21 Method enableListeners()

```
protected void  
enableListeners()
```

Registers listeners.

14.21.22 Method getDefaultTitle()

```
public final java.lang.String  
getDefaultTitle()
```

Accessor for the *defaultTitle* property.

Returns:

DEFAULT_TITLE

14.21.23 Method getRelease()

```
public final mil.dtra.hpac.data.release.Release
getRelease()
```

Accessor for the *release* property.

Returns:

copy of the release object

14.21.24 Method getReleaseReference()

```
public final mil.dtra.hpac.data.release.Release
getReleaseReference()
```

Returns a reference to the release object

Returns:

release object reference

14.21.25 Method loadStackRelease()

```
public java.lang.String
loadStackRelease( mil.dtra.hpac.data.release.StackRelease release )
```

Loads properties for beans defined at this level from the specified stack release object. Calls `loadRelease()`.

Parameters:

`release` - reference to the release object

Returns:

UnitException messages

14.21.26 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

Handles property change events for beans defined at this level. Calls `super.propertyChange()` if the event is not handled here.

Parameters:

`event` - property change event

14.21.27 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

Overrides AbstractReleaseBean.setEnabled() calling super.setEnabled() last.

Parameters:

flag - true to enable, false to disable

14.21.28 Method setRelease()

```
public final java.lang.String
setRelease( mil.dtra.hpac.data.release.Release release )
```

Accessor for the *release* property. Calls loadStackRelease().

Parameters:

release - release object to copy

Returns:

UnitException messages

Exceptions:

IllegalArgumentException - if release is not a StackRelease

14.21.29 Method updateMaterialBeans()

```
protected synchronized void
updateMaterialBeans( mil.dtra.hpac.material.data.Material material )
```

Notifies the RelDistributionBean of the new material by calling its setMaterial() method.

CHAPTER 15

Package mil.dtra.hpac.client.swing.time

Provides GUI components (beans) for editing `mil.dtra.hpac.data.Time` and `java.util.TimeZone` objects.

Classes:

- StartTimeBean
- TimeBean
- TimesBean
- TimeZoneBean

15.1 Class StartTimeBean

```
mil.dtra.hpac.client.swing.time
public StartTimeBean
extends JPanel
implements HPAC Swing Constants, PropertyChangeListener,
```

Panel for editing time values related to an incident.

Fields:

```
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.client.swing.time.TimeBean fTimeBean
protected mil.dtra.hpac.client.swing.time.TimeZoneBean fTimeZoneBean
public static final java.lang.String PROP_startTime
public static final java.lang.String START_TIME_BEAN
```

Methods:

```
public void clear()
protected void create()
public java.awt.Dimension getMaximumSize()
public final mil.dtra.hpac.data.Time getStartTime()
public mil.dtra.hpac.data.Time getStartTime()
```

```

public final mil.dtra.hpac.client.swing.time.TimeBean getTimeBean()
public final mil.dtra.hpac.client.swing.time.TimeZoneBean getTimeZoneBean()
public void init()
public void propertyChange()
public void setEnabled()
public void setStartTime()
protected synchronized void startListening()
protected synchronized void stopListening()

```

15.1.1 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

15.1.2 Field fTimeBean

protected mil.dtra.hpac.client.swing.time.TimeBean **fTimeBean**

15.1.3 Field fTimeZoneBean

protected mil.dtra.hpac.client.swing.time.TimeZoneBean **fTimeZoneBean**

15.1.4 Field PROP_startTime

public static final java.lang.String **PROP_startTime**

15.1.5 Field START_TIME_BEAN

public static final java.lang.String **START_TIME_BEAN**

15.1.6 Constructor StartTimeBean()

public
StartTimeBean()

Default constructor for bean instantiation. Must call `init()`.

15.1.7 Constructor StartTimeBean()

public
StartTimeBean(mil.dtra.util.ValueProperties props)

15.1.8 Constructor StartTimeBean()

```
public  
StartTimeBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String title  
)
```

15.1.9 Constructor StartTimeBean()

```
public  
StartTimeBean(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.data.Time start_time  
)
```

15.1.10 Constructor StartTimeBean()

```
public  
StartTimeBean(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.data.Time start_time,  
    java.lang.String time_title  
)
```

15.1.11 Constructor StartTimeBean()

```
public  
StartTimeBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String time_title,  
    java.lang.String title  
)
```

15.1.12 Constructor StartTimeBean()

```
public  
StartTimeBean(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.data.Time start_time,  
    java.lang.String time_title,  
    java.lang.String title  
)
```

15.1.13 Method clear()

```
public void
clear()
```

15.1.14 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    java.lang.String time_title
)
```

15.1.15 Method getMaximumSize()

```
public java.awt.Dimension
getMaximumSize()
```

15.1.16 Method getStartTime()

```
public final mil.dtra.hpac.data.Time
getStartTime()
```

Exceptions:

NumberFormatException - on format error

15.1.17 Method getStartTime()

```
public mil.dtra.hpac.data.Time
getStartTime( mil.dtra.hpac.data.Time time )
```

Exceptions:

NumberFormatException - on format error

15.1.18 Method getTimeBean()

```
public final mil.dtra.hpac.client.swing.time.TimeBean
getTimeBean()
```

Returns a reference to the time bean component.

Returns:

reference to the time bean

15.1.19 Method `getTimeZoneBean()`

```
public final mil.dtra.hpac.client.swing.time.TimeZoneBean
getTimeZoneBean()
```

Returns a reference to the time zone bean component.

Returns:

reference to the time zone bean

15.1.20 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Time start_time,
    java.lang.String time_title,
    java.lang.String title
)
```

15.1.21 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

15.1.22 Method `setEnabled()`

```
public void
setEnabled( boolean flag )
```

15.1.23 Method `setStartTime()`

```
public void
setStartTime( mil.dtra.hpac.data.Time time )
```

15.1.24 Method `startListening()`

```
protected synchronized void
startListening()
```

15.1.25 Method stopListening()

```
protected synchronized void
stopListening()
```

15.2 Class TimeBean

```
mil.dtra.hpac.client.swing.time
public TimeBean
extends JPanel
implements HPAC Swing Constants, PropertyChangeListener,
```

Bean for editing a mil.dtra.hpac.data.Time value.

Fields:

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fDayBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fHourBean
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.client.swing.ValueUnitsBean fMinuteBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fMonthBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fSecondBean
protected mil.dtra.hpac.data.Time fTime
protected mil.dtra.hpac.client.swing.ValueUnitsBean fYearBean
public static final java.lang.String PROP_time
public static final java.lang.String TIME_BEAN
```

Methods:

```
public void clear()
protected void create()
public java.awt.Dimension getMaximumSize()
public final mil.dtra.hpac.data.Time getTime()
public mil.dtra.hpac.data.Time getTime()
public void init()
public void propertyChange()
public void setEnabled()
public void setTime()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void updateBeans()
```

15.2.1 Field fDayBean

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fDayBean
```

15.2.2 Field **fHourBean**

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fHourBean**

15.2.3 Field **fListeningFlag**

protected transient volatile boolean **fListeningFlag**

15.2.4 Field **fMinuteBean**

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fMinuteBean**

15.2.5 Field **fMonthBean**

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fMonthBean**

15.2.6 Field **fSecondBean**

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fSecondBean**

15.2.7 Field **fTime**

protected mil.dtra.hpac.data.Time **fTime**

15.2.8 Field **fYearBean**

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fYearBean**

15.2.9 Field **PROP_time**

public static final java.lang.String **PROP_time**

15.2.10 Field **TIME_BEAN**

public static final java.lang.String **TIME_BEAN**

15.2.11 Constructor TimeBean()

```
public
TimeBean()
```

Default constructor for bean instantiation. Must call `init()`.

15.2.12 Constructor TimeBean()

```
public
TimeBean( mil.dtra.util.ValueProperties props )
```

Constructs with no initial value or title.

15.2.13 Constructor TimeBean()

```
public
TimeBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Time time
)
```

Constructs with an explicit time value.

15.2.14 Constructor TimeBean()

```
public
TimeBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs with no initial value but a specified border title.

15.2.15 Constructor TimeBean()

```
public
TimeBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Time time,
    java.lang.String title
)
```

Constructs with an explicit time value and a title for a border.

15.2.16 Method clear()

```
public void  
clear()
```

15.2.17 Method create()

```
protected void  
create( mil.dtra.util.ValueProperties props )
```

15.2.18 Method getMaximumSize()

```
public java.awt.Dimension  
getMaximumSize()
```

15.2.19 Method getTime()

```
public final mil.dtra.hpac.data.Time  
getTime()
```

Returns:

copy of the current time object

Exceptions:

NumberFormatException - on format error

15.2.20 Method getTime()

```
public mil.dtra.hpac.data.Time  
getTime( mil.dtra.hpac.data.Time time )
```

Exceptions:

NumberFormatException - on format error

15.2.21 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Time time,
    java.lang.String title
)
```

15.2.22 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

15.2.23 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

15.2.24 Method setTime()

```
public void
setTime( mil.dtra.hpac.data.Time time )
```

15.2.25 Method startListening()

```
protected synchronized void
startListening()
```

15.2.26 Method stopListening()

```
protected synchronized void
stopListening()
```

15.2.27 Method updateBeans()

```
protected void
updateBeans( mil.dtra.hpac.data.Time time )
```

It is assumed that listeners for beans have been deactivated or removed.

15.3 Class TimesBean

```

mil.dtra.hpac.client.swing.time
public TimesBean
extends JPanel
implements HPAC Swing Constants, PropertyChangeListener, StandardUnits,
Panel for editing time values related to an incident.

```

Fields:

```

public static final double DURATION_EPSILON
protected mil.dtra.hpac.client.swing.ValueUnitsBean fDurationBean
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.client.swing.time.StartTimeBean fStartTimeBean
protected mil.dtra.hpac.client.swing.time.TimeBean fStopTimeBean
public static final double MSEC_PER_HOUR
public static final java.lang.String PROP_duration
public static final java.lang.String PROP_startTime
public static final java.lang.String TIMES_BEAN

```

Methods:

```

public void clear()
protected void create()
public final mil.dtra.units.StoredValue getDuration()
public final mil.dtra.hpac.client.swing.ValueUnitsBean getDurationBean()
public java.awt.Dimension getMaximumSize()
public final mil.dtra.hpac.data.Time getStartTime()
public mil.dtra.hpac.data.Time getStartTime()
public final mil.dtra.hpac.client.swing.time.StartTimeBean getStartTimeBean()
public void init()
public void propertyChange()
public void setDuration()
public void setEnabled()
public void setStartTime()
protected synchronized void startListening()
protected synchronized void stopListening()
protected synchronized void updateDuration()
protected synchronized void updateStopTime()

```

15.3.1 Field DURATION_EPSILON

```
public static final double DURATION_EPSILON
```

15.3.2 Field fDurationBean

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fDurationBean
```

15.3.3 Field **fListeningFlag**

protected transient volatile boolean **fListeningFlag**

15.3.4 Field **fStartTimeBean**

protected mil.dtra.hpac.client.swing.time.StartTimeBean **fStartTimeBean**

15.3.5 Field **fStopTimeBean**

protected mil.dtra.hpac.client.swing.time.TimeBean **fStopTimeBean**

15.3.6 Field **MSEC_PER_HOUR**

public static final double **MSEC_PER_HOUR**

15.3.7 Field **PROP_duration**

public static final java.lang.String **PROP_duration**

15.3.8 Field **PROP_startTime**

public static final java.lang.String **PROP_startTime**

15.3.9 Field **TIMES_BEAN**

public static final java.lang.String **TIMES_BEAN**

15.3.10 Constructor **TimesBean()**

public
TimesBean()

Default constructor for bean instantiation. Must call `init()`.

15.3.11 Constructor TimesBean()

```
public
TimesBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String start_time_title
)
```

Constructs assuming default start time and duration values and no title border.

15.3.12 Constructor TimesBean()

```
public
TimesBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String start_time_title,
    java.lang.String title
)
```

Constructs assuming default start time and duration values.

15.3.13 Constructor TimesBean()

```
public
TimesBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Time start_time,
    mil.dtra.units.StoredValue duration,
    java.lang.String start_time_title
)
```

Constructs assuming no title border.

15.3.14 Constructor TimesBean()

```
public
TimesBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Time start_time,
    mil.dtra.units.StoredValue duration,
    java.lang.String start_time_title,
    java.lang.String title
)
```

Constructs with complete property specification.

15.3.15 Method clear()

```
public void  
clear()
```

15.3.16 Method create()

```
protected void  
create(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String start_time_title  
)
```

15.3.17 Method getDuration()

```
public final mil.dtra.units.StoredValue  
getDuration()
```

15.3.18 Method getDurationBean()

```
public final mil.dtra.hpac.client.swing.ValueUnitsBean  
getDurationBean()
```

Returns:

reference to the duration bean used by this object

15.3.19 Method getMaximumSize()

```
public java.awt.Dimension  
getMaximumSize()
```

15.3.20 Method getStartTime()

```
public final mil.dtra.hpac.data.Time  
getStartTime()
```

15.3.21 Method `getStartTime()`

```
public mil.dtra.hpac.data.Time
getStartTime( mil.dtra.hpac.data.Time time )
```

15.3.22 Method `getStartTimeBean()`

```
public final mil.dtra.hpac.client.swing.time.StartTimeBean
getStartTimeBean()
```

Returns:

reference to the start time bean used by this object

15.3.23 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.data.Time start_time,
    mil.dtra.units.StoredValue duration,
    java.lang.String start_time_title,
    java.lang.String title
)
```

15.3.24 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

15.3.25 Method `setDuration()`

```
public void
setDuration( mil.dtra.units.StoredValue duration )
```

15.3.26 Method `setEnabled()`

```
public void
setEnabled( boolean flag )
```

15.3.27 Method setStartTime()

```
public void
setStartTime( mil.dtra.hpac.data.Time time )
```

15.3.28 Method startListening()

```
protected synchronized void
startListening()
```

15.3.29 Method stopListening()

```
protected synchronized void
stopListening()
```

15.3.30 Method updateDuration()

```
protected synchronized void
updateDuration( mil.dtra.hpac.data.Time stop_time )
```

15.3.31 Method updateStopTime()

```
protected synchronized void
updateStopTime( mil.dtra.units.StoredValue duration )
```

15.4 Class TimeZoneBean

mil.dtra.hpac.client.swing.time
 public **TimeZoneBean**
 extends JPanel
 implements ChangeListener, HPAC Swing Constants, PropertyChangeListener,
 Panel for editing a time zone value.

Fields:

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fHoursBean
protected transient volatile boolean fListeningFlag
protected mil.dtra.swing.PRadioButton fLocalButton
protected mil.dtra.hpac.client.swing.ValueUnitsBean fMinutesBean
protected java.util.TimeZone fTimeZone
protected mil.dtra.swing.PRadioButton fUTCButton
public static final java.lang.String PROP_timeZone
public static final java.lang.String TIME_ZONE_BEAN
public static final java.lang.String UTC
```

Methods:

```
public void clear()
protected void create()
public java.awt.Dimension getMaximumSize()
public final java.util.TimeZone getTimeZone()
public java.util.TimeZone getTimeZone()
public void init()
public void propertyChange()
public void setEnabled()
public void setTimeZone()
protected void startListening()
public void stateChanged()
protected void stopListening()
protected void updateBeans()
```

15.4.1 Field fHoursBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fHoursBean**

15.4.2 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

15.4.3 Field fLocalButton

protected mil.dtra.swing.PRadioButton **fLocalButton**

15.4.4 Field fMinutesBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fMinutesBean**

15.4.5 Field fTimeZone

protected java.util.TimeZone **fTimeZone**

15.4.6 Field fUTCButton

protected mil.dtra.swing.PRadioButton **fUTCButton**

15.4.7 Field PROP_timeZone

public static final java.lang.String **PROP_timeZone**

15.4.8 Field TIME_ZONE_BEAN

```
public static final java.lang.String TIME_ZONE_BEAN
```

15.4.9 Field UTC

```
public static final java.lang.String UTC
```

15.4.10 Constructor TimeZoneBean()

```
public  
TimeZoneBean()
```

Default constructor for bean instantiation. Must call `init()`.

15.4.11 Constructor TimeZoneBean()

```
public  
TimeZoneBean( mil.dtra.util.ValueProperties props )
```

15.4.12 Constructor TimeZoneBean()

```
public  
TimeZoneBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String title  
)
```

15.4.13 Constructor TimeZoneBean()

```
public  
TimeZoneBean(  
    mil.dtra.util.ValueProperties props,  
    java.util.TimeZone time_zone  
)
```

15.4.14 Constructor TimeZoneBean()

```
public
TimeZoneBean(
    mil.dtra.util.ValueProperties props,
    java.util.TimeZone time_zone,
    java.lang.String title
)
```

Constructs with an explicit time zone value and a title for a border.

15.4.15 Method clear()

```
public void
clear()
```

15.4.16 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

15.4.17 Method getMaximumSize()

```
public java.awt.Dimension
getMaximumSize()
```

15.4.18 Method getTimeZone()

```
public final java.util.TimeZone
getTimeZone()
```

Exceptions:

NumberFormatException - on format errors

15.4.19 Method getTimeZone()

```
public java.util.TimeZone
getTimeZone( java.util.TimeZone time_zone )
```

Exceptions:

NumberFormatException - on format errors

15.4.20 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    java.util.TimeZone time_zone,
    java.lang.String title
)
```

Constructs with an explicit time zone value and a title for a border.

15.4.21 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

15.4.22 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

15.4.23 Method setTimeZone()

```
public void
setTimeZone( java.util.TimeZone time_zone )
```

15.4.24 Method startListening()

```
protected void
startListening()
```

15.4.25 Method stateChanged()

```
public void
stateChanged( javax.swing.event.ChangeEvent event )
```

15.4.26 Method stopListening()

```
protected void
stopListening()
```

15.4.27 Method updateBeans()

```
protected void  
updateBeans()
```

It is assumed that listeners for beans have been deactivated or removed.

CHAPTER 16

Package mil.dtra.hpac.client.util

Classes:

FileCopier
PathBean
UserProperties
UserPropsMgr

16.1 Class FileCopier

```
mil.dtra.hpac.client.util
public FileCopier
extends Object
```

Performs file copies from a source URL document base to a destination filesystem directory, with a URL specified for a file containing the list of URLs relative to the document base of files to copy. This file should name files as relative URLs from the document base and can include subdirectories, which are created under the destination directory as necessary.

`FileCopier` instances are not thread safe and should not be processed by more than one thread.

Fields:

```
protected transient byte[] fBuffer
protected java.lang.String fCopyListURL
protected java.io.File fDestination
protected java.lang.String fDocumentBase
public static final int LOG_level
```

Methods:

```
public void copy()
protected void copyFile()
protected java.lang.String[] readCopyList()
```

16.1.1 Field fBuffer

```
protected transient byte[] fBuffer
```

16.1.2 Field fCopyListURL

```
protected java.lang.String fCopyListURL
```

16.1.3 Field fDestination

```
protected java.io.File fDestination
```

16.1.4 Field fDocumentBase

```
protected java.lang.String fDocumentBase
```

16.1.5 Field LOG_level

```
public static final int LOG_level
```

16.1.6 Constructor FileCopier()

```
public  
FileCopier(  
    java.net.URL document_base,  
    java.lang.String copy_list_url,  
    java.io.File destination  
)
```

Constructor.

Parameters:

- document_base - full URL representing the document base from which the copy occurs (and containing a file named `copylist.txt` with content of a relative URL per line specifying files to copy)
- copy_list_url - relative URL from document_base specifying the file containing the list of files (as relative URLs) to copy
- destination - destination directory for copy and in which subdirectories are created

Exceptions:

IllegalArgumentException - if either parameter is null or the directory parameter is not really a directory
 IOException - if destination doesn't exist and couldn't be created or does exist but is not writable

16.1.7 Method copy()

```
public void
copy()
```

Performs the copy. If the *copylist.txt* file is not found, no copies are performed.

Exceptions:

IOException - on I/O errors

16.1.8 Method copyFile()

```
protected void
copyFile( java.lang.String file_url )
```

Copy an individual file, creating subdirectories if necessary.

Parameters:

file_url - file URL relative to the document base

Exceptions:

IOException - on I/O errors

16.1.9 Method readCopyList()

```
protected java.lang.String[]
readCopyList( java.io.InputStream input )
```

Reads the copy list from the specified input stream.

Parameters:

input - input stream from which to read

Exceptions:

IOException - on I/O errors

16.2 Class PathBean

```
mil.dtra.hpac.client.util
public PathBean
extends JPanel
implements ActionListener,
```

Fields:

```
public static final java.lang.String ACTION_browse
protected javax.swing.JButton fBrowseButton
protected java.lang.String fBrowseTitle
protected javax.swing.JPanel fGroupPanel
protected javax.swing.JTextField fPathField
protected javax.swing.JLabel fPathLabel
protected javax.swing.JCheckBox fSamplesCheckBox
```

Methods:

```
public void actionPerformed()
protected void create()
public java.io.File getPath()
public java.lang.String getPathLabel()
public final javax.swing.JCheckBox getSamplesCheckBox()
public boolean getSamplesFlag()
public final boolean isSamplesCheckBoxEnabled()
public void setPath()
public void setPathLabel()
public void setSamplesCheckBoxEnabled()
public void setSamplesFlag()
```

16.2.1 Field ACTION_browse

```
public static final java.lang.String ACTION_browse
```

16.2.2 Field fBrowseButton

```
protected javax.swing.JButton fBrowseButton
```

16.2.3 Field fBrowseTitle

```
protected java.lang.String fBrowseTitle
```

16.2.4 Field **fGroupPanel**

protected javax.swing.JPanel **fGroupPanel**

16.2.5 Field **fPathField**

protected javax.swing.JTextField **fPathField**

16.2.6 Field **fPathLabel**

protected javax.swing.JLabel **fPathLabel**

16.2.7 Field **fSamplesCheckBox**

protected javax.swing.JCheckBox **fSamplesCheckBox**

16.2.8 Constructor **PathBean()**

public
PathBean()

Constructs by loading from from the file specified by `getUserPropsFile()`.

16.2.9 Method **actionPerformed()**

public void
actionPerformed(java.awt.event.ActionEvent event)

16.2.10 Method **create()**

protected void
create()

16.2.11 Method **getPath()**

public java.io.File
getPath()

16.2.12 Method getPathLabel()

```
public java.lang.String  
getPathLabel()
```

16.2.13 Method getSamplesCheckBox()

```
public final javax.swing.JCheckBox  
getSamplesCheckBox()
```

Returns:

object reference

16.2.14 Method getSamplesFlag()

```
public boolean  
getSamplesFlag()
```

16.2.15 Method isSamplesCheckBoxEnabled()

```
public final boolean  
isSamplesCheckBoxEnabled()
```

16.2.16 Method setPath()

```
public void  
setPath( java.io.File path )
```

16.2.17 Method setPathLabel()

```
public void  
setPathLabel( java.lang.String path_label )
```

16.2.18 Method setSamplesCheckBoxEnabled()

```
public void  
setSamplesCheckBoxEnabled( boolean flag )
```

16.2.19 Method setSamplesFlag()

```
public void  
setSamplesFlag( boolean flag )
```

16.3 Class UserProperties

```
mil.dtra.hpac.client.util
public UserProperties
extends Properties
```

Extension of `java.util.Properties` which loads its contents from `$user.home$/hpac.userPropsFile`, or `$user.home$/hpacuser.properties` if `hpac.userPropsFile` is not defined.

Fields:

```
public static final java.lang.String DEFAULT_userPropsFile
public static final java.lang.String KEY_userHPACDir
public static final java.lang.String PROP_userPropsFile
```

Methods:

```
public final java.lang.String getUserHPACDir()
public static java.io.File getUserPropsFile()
public final void setUserHPACDir()
public void store()
public void store()
```

16.3.1 Field DEFAULT_userPropsFile

`public static final java.lang.String DEFAULT_userPropsFile`

Default name of the user properties file; `.hpacuser.properties`

16.3.2 Field KEY_userHPACDir

`public static final java.lang.String KEY_userHPACDir`

Key in the user properties file which specifies the user's HPAC directory; `hpacuser.userHPACDir`

16.3.3 Field PROP_userPropsFile

`public static final java.lang.String PROP_userPropsFile`

System property key naming the user properties file under `user.home;hpac.userPropsFile`

16.3.4 Constructor UserProperties()

```
public
UserProperties()
```

Constructs by loading from the file specified by `getUserPropsFile()`.

16.3.5 Constructor UserProperties()

```
public  
UserProperties( java.io.File props_file )
```

Constructs by loading from the specified file, if it exists. If the file doesn't exist, this object will be empty.

16.3.6 Method getUserHPACDir()

```
public final java.lang.String  
getUserHPACDir()
```

Convenience method to return the value for the KEY_userHPACDir key.

Returns:

value or null

16.3.7 Method getUserPropsFile()

```
public static java.io.File  
getUserPropsFile()
```

Returns a file representing the path determined by \$user.home\$/\$hpac.userPropsFile, or \$user.home\$/.hpacuser.props if *hpac.userPropsFile* is not defined.

16.3.8 Method setUserHPACDir()

```
public final void  
setUserHPACDir( java.lang.String path )
```

Convenience method to set or clear the value for the KEY_userHPACDir key.

Parameters:

path - path to store for the KEY_userHPACDir key; if null, the key is removed

16.3.9 Method store()

```
public void
store()
```

Stores to the file returned by `getUserPropsFile()`.

Exceptions:

`IOException` - on I/O error

16.3.10 Method store()

```
public void
store( java.io.File props_file )
```

Stores to the specified file.

Parameters:

`file` - destination file

Exceptions:

`IOException` - on I/O error

16.4 Class UserPropsMgr

```
mil.dtra.hpac.client.util
public final UserPropsMgr
extends Object
```

Instances of this class determine the user's client HPAC directory and the shared client directory for all HPAC users. The side effect of instantiating this class is the setting of `hpac.userHPACDir` and `hpac.userSharedDir` system properties. If these properties are already set, they are accepted as is.

`hpac.userHPACDir`

If the system property `hpac.userHPACDir` is not set at instantiation time, the user's properties file is consulted for a `hpac.userHPACDir` key. This is done by instantiating `UserProperties`. If no such key exists, the user is prompted with a dialog for choosing a path in which he/she has write permissions.

`hpac.userSharedDir`

If the system property `hpac.userSharedDir` is not already set, the root URL (`hpac.rootURL`) is used to determine a value. If this is a "file" protocol URL, a directory with name specified by the `hpac.sharedSubdir` system property or a default of "user" is appended to the root URL.

Fields:

```

public static final java.lang.String DEFAULT_optionalCopyListURL
public static final java.lang.String DEFAULT_requiredCopyListURL
public static final java.lang.String DEFAULT_sharedSubdir
public static final java.lang.String PROP_lastCurrentDir
public static final java.lang.String PROP_optionalCopyListURL
public static final java.lang.String PROP_requiredCopyListURL
public static final java.lang.String PROP_rootURL
public static final java.lang.String PROP_sharedSubdir
public static final java.lang.String PROP_userHPACDir
public static final java.lang.String PROP_userSharedDir

```

Methods:

```

protected java.io.File checkPath()
protected final java.io.File checkPath()
public static java.io.File getDefaultUserHPACDir()
protected java.io.File getFile()
protected java.lang.String getFullPath()
public java.io.File getUserHPACDir()
public java.io.File getUserSharedDir()
protected void initUserHPACDir()
protected void initUserSharedDir()
protected java.io.File promptUserForPath()
protected java.io.File readPathFromUserProps()
protected void showMessage()
protected void showMessage()
protected void showMessage()

```

16.4.1 Field DEFAULT_optionalCopyListURL

public static final java.lang.String **DEFAULT_optionalCopyListURL**

Default relative URL for the optional copy list; `copylist.optional.txt`

16.4.2 Field DEFAULT_requiredCopyListURL

public static final java.lang.String **DEFAULT_requiredCopyListURL**

Default relative URL for the required copy list; `copylist.required.txt`

16.4.3 Field DEFAULT_sharedSubdir

public static final java.lang.String **DEFAULT_sharedSubdir**

Default name of the shared subdirectory; `user`

16.4.4 Field PROP_lastCurrentDir

public static final java.lang.String PROP_lastCurrentDir

System property to be used as pre- and post-condition setting when using a JFileChooser instance; hpac.lastCurrentDir

16.4.5 Field PROP_optionalCopyListURL

public static final java.lang.String PROP_optionalCopyListURL

System property key specifying the relative URL of the required copy list file; hpac.optionalCopyListURL

16.4.6 Field PROP_requiredCopyListURL

public static final java.lang.String PROP_requiredCopyListURL

System property key specifying the relative URL of the required copy list file; hpac.requiredCopyListURL

16.4.7 Field PROP_rootURL

public static final java.lang.String PROP_rootURL

System property key for referencing the HPAC root URL; value is hpac.rootURL

16.4.8 Field PROP_sharedSubdir

public static final java.lang.String PROP_sharedSubdir

System property naming the shared subdirectory name; hpac.sharedSubdir

16.4.9 Field PROP_userHPACDir

public static final java.lang.String PROP_userHPACDir

System property referencing the user's HPAC directory; value is hpac.userHPACDir

16.4.10 Field PROP_userSharedDir

public static final java.lang.String PROP_userSharedDir

System property referencing the shared HPAC user directory; value is hpac.userSharedDir

16.4.11 Constructor UserPropsMgr()

```
public
UserPropsMgr()
```

Constructor which determines values for *hpac.userHPACDir* and *hpac.userSharedDir* system properties.

16.4.12 Method checkPath()

```
protected java.io.File
checkPath( java.io.File path_file )
```

Verifies the file exists and is readable and writable.

Parameters:

path - platform-specific path

Returns:

the path_file parameter or null if it is not readable and writable

16.4.13 Method checkPath()

```
protected final java.io.File
checkPath( java.lang.String path )
```

Verifies the specified file exists and is readable and writable. Calls the other checkPath() method.

Parameters:

path - platform-specific path string

Returns:

created valid path or null

16.4.14 Method getDefaultUserHPACDir()

```
public static java.io.File
getDefaultUserHPACDir()
```

Determines the default as \$user.home\$/hpac, except for when \$user.home = "drive:/windows", in which case it's drive:/hpacuser.

Returns:

default path file

16.4.15 Method getFile()

```
protected java.io.File
getFile( java.lang.String url_str )
```

Checks the URL for the "file" protocol and returns the file portion of the URL if this is true.

Parameters:

url_str - URL from which to extract the file

Returns:

file portion of url_str or null if url_str is null or not a file URL

16.4.16 Method getFullPath()

```
protected java.lang.String
getFullPath( java.io.File path_file )
```

Returns the full path for the file as a string, first trying the canonical path and resorting to the absolute path if necessary.

Parameters:

path_file - file for which the full path is desired

Returns:

the canonical path, or the absolute path if the canonical couldn't be determined

16.4.17 Method getUserHPACDir()

```
public java.io.File
getUserHPACDir()
```

Convenience method to return the user HPAC directory as a file.

Returns:

file object corresponding to the *hpac.userHPACDir* system property

16.4.18 Method getUserSharedDir()

```
public java.io.File
getUserSharedDir()
```

Convenience method to return the user shared directory as a file.

Returns:

file object corresponding to the *hpac.userHPACDir* system property

16.4.19 Method initUserHPACDir()

```
protected void
initUserHPACDir()
```

Returns the user's HPAC directory, as specified by the *hpac.userHPACDir* system property. If this is not defined, the user's properties file is consulted for a *hpacuser.userHPACDir* key. Otherwise, the user is presented a dialog for choosing a path for which he/she has write permissions.

Returns:

object representing the user's HPAC directory

16.4.20 Method initUserSharedDir()

```
protected void
initUserSharedDir()
```

Determines a value for *hpac.userSharedDir* if it isn't already specified.

16.4.21 Method promptUserForPath()

```
protected java.io.File
promptUserForPath()
```

Prompt the user to specify a user path. The user properties file is updated with the specified path as the value for the *hpacuser.userHPACDir* key.

There is a special "hook" here for initiating the copy of existing projects from a \$hpac.rootURL/runs directory. Specifically, the *hpac.projectsToImport* system property will be set to a comma-delimited list of paths to existing projects. This is picked up later in ProjectEditorLauncher.

Returns:

valid path or null

16.4.22 Method `readPathFromUserProps()`

```
protected java.io.File
readPathFromUserProps()
```

Get the path from *hpacuser.userHPACDir* key in user properties.

Returns:

path file as specified in the properties or null if the properties file doesn't exist or the key is not specified

16.4.23 Method `showMessage()`

```
protected void
showMessage(
    java.io.File file,
    java.lang.String message
)
```

16.4.24 Method `showMessage()`

```
protected void
showMessage( java.lang.String message )
```

Assumes a `JOptionPane.ERROR_MESSAGE`.

16.4.25 Method `showMessage()`

```
protected void
showMessage(
    java.lang.String message,
    int message_type
)
```

CHAPTER 17

Package mil.dtra.hpac.data

Contains interface and class definitions representing the data model used by the HPAC Tool Engine. Primarily, this will be used by the client side and the UI components which present the user with capabilities for editing the definition of a Project. If RMI is used for remote object distribution, these classes could be used by the server as well. However, if a traditional CORBA paradigm is used, IDL interface definitions will be necessary for most of these.

Interfaces:

- IncidentOwner
- Location
- ModelIncident

Classes:

- AbstractLocation
- AvailableEffects
- CartesianLocation
- ContourList
- EmptyModelIncident
- Incident
- IncidentList
- LargeString
- LLALocation
- LocationUtils
- ObjectSet
- Point3D
- Project
- ScipuffOutput
- SPoint2D
- Time
- UTMLocation

17.1 Interface IncidentOwner

mil.dtra.hpac.data
 public interface **IncidentOwner**

Defines an object which can own or contain an `Incident`.

Methods:

```
public mil.dtra.hpac.data.Incident getIncident()
public mil.dtra.hpac.data.ModelIncident getModelIncident()
```

17.1.1 Method `getIncident()`

public mil.dtra.hpac.data.Incident
getIncident()

Accesses the `Incident` object.

Returns:

reference to the incident object

17.1.2 Method `getModelIncident()`

public mil.dtra.hpac.data.ModelIncident
getModelIncident()

Accesses the `Model Incident` object.

Returns:

reference to the model incident object

17.2 Interface Location

mil.dtra.hpac.data
 public interface **Location**
 extends Cloneable, PropsSerializer, Serializable,

This interface defines common methods for objects specifying a geographic location. Various implementing classes effect a union with use of the *instanceof* operator replacing a type tag.

Fields:

```
public static final java.lang.String PROP_class
public static final java.lang.String PROP_value
```

Methods:

```
public java.lang.Object clone()
public double getAltitude()
public java.awt.geom.Point2D getCoord()
public void setAltitude()
public void setCoord()
public void setCoord()
public void setLocation()
```

17.2.1 Field PROP_class

public static final java.lang.String PROP_class

17.2.2 Field PROP_value

public static final java.lang.String PROP_value

17.2.3 Method clone()

public java.lang.Object
clone()

Overrides Cloneable.

17.2.4 Method getAltitude()

public double
getAltitude()

Accessor for the *altitude* property common to all Locations.

Returns:

altitude in meters

17.2.5 Method getCoord()

public java.awt.geom.Point2D
getCoord()

Computes a world coordinate (lon,lat) object in decimal degrees.

Returns:

world coordinate in degrees

17.2.6 Method setAltitude()

```
public void
setAltitude( double altitude )
```

Accessor for the *altitude* property common to all Locations.

Parameters:

altitude - altitude in meters

17.2.7 Method setCoord()

```
public void
setCoord(
    double lon,
    double lat
)
```

Assigns the location from a world coordinate (lon,lat) object in decimal degrees, performing any necessary conversion.

Parameters:

lon - longitude in decimal degrees
lat - latitude in decimal degrees

17.2.8 Method setCoord()

```
public void
setCoord( java.awt.geom.Point2D coord )
```

Assigns the location from a world coordinate (lon,lat) object in decimal degrees, performing any necessary conversion.

Parameters:

coord - world coordinate in degrees

17.2.9 Method setLocation()

```
public void
setLocation( mil.dtra.hpac.data.Location from )
```

Assigns the value of the specified location, performing any necessary conversions.

17.3 Interface ModelIncident

```
mil.dtra.hpac.data
public interface ModelIncident
extends Cloneable, PropsSerializer,
```

At this point, this is a tagging interface for classes encapsulating an incident model's data needed to create releases. Data that was saved in the private block should be made properties of a class implementing this interface.

Methods:

```
public java.lang.Object clone()
public void extractFromAny()
public void insertIntoAny()
```

17.3.1 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable. ModelIncident objects must be Cloneable.

17.3.2 Method extractFromAny()

```
public void
extractFromAny( org.omg.CORBA.Any any )
```

Use the IDL-generated helper class to load this object from a CORBA Any object.

17.3.3 Method insertIntoAny()

```
public void
insertIntoAny( org.omg.CORBA.Any any )
```

Use the IDL-generated helper class to store this object in a CORBA Any object.

17.4 Class AbstractLocation

```
mil.dtra.hpac.data
public abstract AbstractLocation
extends Object
implements Location,
```

This class serves as a placeholder for commonality among Location subclasses.

Fields:

protected double fAltitude

Methods:

```
public java.lang.Object clone()
public boolean equals()
public final double getAltitude()
public final void setAltitude()
public final void setCoord()
```

17.4.1 Field fAltitude

protected double **fAltitude**

in meters

17.4.2 Constructor AbstractLocation()

protected
AbstractLocation()

Default constructor.

17.4.3 Constructor AbstractLocation()

protected
AbstractLocation(double altitude)

Accessor specifying *altitude* value.

Parameters:

altitude - altitude in meters

17.4.4 Method clone()

public java.lang.Object
clone()

Overrides Cloneable.

17.4.5 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides `Object.equals()` for this class only. Subclasses should call `super.equals()`.

17.4.6 Method getAltitude()

```
public final double
getAltitude()
```

Accessor for the *altitude* property common to all Locations.

Returns:

altitude in meters

17.4.7 Method setAltitude()

```
public final void
setAltitude( double altitude )
```

Accessor for the *altitude* property common to all Locations.

Parameters:

altitude - altitude in meters

17.4.8 Method setCoord()

```
public final void
setCoord( java.awt.geom.Point2D coord )
```

Calls `setCoord(double, double)`.

17.5 Class AvailableEffects

```
mil.dtra.hpac.data
public AvailableEffects
extends Object
implements Cloneable, PropsSerializer,
```

Encapsulation of an available effect mask supporting serialization with symbolic names instead of integer values.

Fields:

```
public static final java.lang.String CASUALTY_PROMPT
public static final java.lang.String CIRCLE_BLAST
public static final java.lang.String CIRCLE_PROMPT
public static final java.lang.String CIRCLE_THERM
protected int fMask
```

Methods:

```
public java.lang.Object clone()
public boolean equals()
public final int getEffects()
public void readProps()
public final void setEffects()
public void setEffects()
public java.lang.String toString()
public void valueOf()
public void valueOf()
public void writeProps()
```

17.5.1 Field CASUALTY_PROMPT

public static final java.lang.String **CASUALTY_PROMPT**

Casualty protection factor effect name

17.5.2 Field CIRCLE_BLAST

public static final java.lang.String **CIRCLE_BLAST**

Blast circle effect name

17.5.3 Field CIRCLE_PROMPT

public static final java.lang.String **CIRCLE_PROMPT**

Prompt circle effect name

17.5.4 Field CIRCLE_THERM

public static final java.lang.String **CIRCLE_THERM**

Thermal circle effect name

17.5.5 Field fMask

protected int **fMask**

17.5.6 Constructor AvailableEffects()

```
public  
AvailableEffects()
```

Default constructor.

17.5.7 Constructor AvailableEffects()

```
public  
AvailableEffects( int effects_mask )
```

Constructs from the int effect mask.

Parameters:

effects_mask - mask of available effects

17.5.8 Constructor AvailableEffects()

```
public  
AvailableEffects( java.lang.String[] effects )
```

Constructs from the array of effect names.

Parameters:

effects - names of effects to mask as available

17.5.9 Method clone()

```
public java.lang.Object  
clone()
```

Overrides Cloneable.

17.5.10 Method equals()

```
public boolean  
equals( java.lang.Object obj )
```

Overrides Object.equals() to compare the masks.

17.5.11 Method getEffects()

```
public final int
getEffects()
```

Returns the effect mask suitable for `IncidentT.fAvailableEffects`.

Returns:

available effects mask

17.5.12 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Deserializes explicitly by parsing a comma-delimited list of effect names.

Parameters:

`props` - object containing property values
`key` - property key

Exceptions:

`IOException` - on I/O error

17.5.13 Method setEffects()

```
public final void
setEffects( int effects_mask )
```

Sets the effect mask.

Parameters:

`effects_mask` - mask of available effects

17.5.14 Method setEffects()

```
public void
setEffects( java.lang.String[] effects )
```

Sets the effect mask from the array of effect names as defined in the effects IDL module.

Parameters:

effects - names of effects to mask as available

17.5.15 Method toString()

```
public java.lang.String
toString()
```

Builds a string representation as a comma-delimited list of effect names.

Returns:

string representation

17.5.16 Method valueOf()

```
public void
valueOf( mil.dtra.hpac.data.AvailableEffects from )
```

Assigns from another object.

Parameters:

from - object from which to copy mask

17.5.17 Method valueOf()

```
public void
valueOf( java.lang.String value )
```

Parses from a string representation consisting of a comma-delimited list of effect names.

Parameters:

value - string representation

17.5.18 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Explicitly serializes by storing a comma-delimited list of effect names.

Parameters:

props - object containing property values
key - property key

Exceptions:

IOException - on I/O error

17.6 Class CartesianLocation

```
mil.dtra.hpac.data
public CartesianLocation
extends AbstractLocation
```

Extension of `AbstractLocation` (`Location` implementation) for a cartesian location specified as a lat-lon reference point, an origin positioned at the reference point, and a position (X km, (Y km) from the origin.

Fields:

```
public static final double DEGREES_PER_KM
public static final double EARTH_RADIUS_KM
protected java.awt.geom.Point2D fPosition
protected java.awt.geom.Point2D fReference
public static final double NAUTICAL_MILES_PER_KM
public static final double RADS_PER_DEGREE
public static final double STATUTE_MILES_PER_KM
```

Methods:

```
public java.lang.Object clone()
protected double computeLatitude()
protected double computeLongitude()
public boolean equals()
public java.awt.geom.Point2D getCoord()
public final java.awt.geom.Point2D getPosition()
```

```

public final java.awt.geom.Point2D getReference()
public final double getX()
public final double getY()
public void readProps()
public void setCoord()
public void setLocation()
public final void setPosition()
public final void setReference()
public final void setReference()
public final void setReference()
public java.lang.String toString()
public void valueOf()
public void writeProps()

```

17.6.1 Field DEGREES_PER_KM

public static final double **DEGREES_PER_KM**

Degrees per km (180 / (pi * earthradius))

17.6.2 Field EARTH_RADIUS_KM

public static final double **EARTH_RADIUS_KM**

Earth radius in km (6370.949)

17.6.3 Field fPosition

protected java.awt.geom.Point2D **fPosition**

position in kilometers

17.6.4 Field fReference

protected java.awt.geom.Point2D **fReference**

reference lon,lat coordinate

17.6.5 Field NAUTICAL_MILES_PER_KM

public static final double **NAUTICAL_MILES_PER_KM**

Knots per km (0.5396)

17.6.6 Field RADS_PER_DEGREE

```
public static final double RADS_PER_DEGREE
```

Radians per degree ($\pi / 180$)

17.6.7 Field STATUTE_MILES_PER_KM

```
public static final double STATUTE_MILES_PER_KM
```

Statute miles per km (0.6213712)

17.6.8 Constructor CartesianLocation()

```
public  
CartesianLocation()
```

Default (noop) constructor.

17.6.9 Constructor CartesianLocation()

```
public  
CartesianLocation( java.lang.String value )
```

Constructs from the string representation of the value.

Parameters:

value - the cartesian location in string form.

Exceptions:

IllegalArgumentException - on format errors

17.6.10 Constructor CartesianLocation()

```
public  
CartesianLocation( java.awt.geom.Point2D reference )
```

Constructs with the specified reference location, assuming a zero origin and position.

Parameters:

reference - reference lon,lat coordinate

17.6.11 Constructor CartesianLocation()

```
public
CartesianLocation(
    java.awt.geom.Point2D reference,
    mil.dtra.hpac.data.Point3D position
)
```

Constructs with the specified reference location and position assuming a zero origin.

Parameters:

reference - reference lon,lat coordinate
position - position or easting, northing, and altitude

17.6.12 Constructor CartesianLocation()

```
public
CartesianLocation(
    java.awt.geom.Point2D reference,
    double x,
    double y,
    double z
)
```

Constructs with the specified reference coordinate and offset values. The origin of the cartesian system is assumed to be at the reference coordinate.

Parameters:

reference - reference lon,lat coordinate
x - x offset (km)
y - y offset (km)
z - z offset (m)

17.6.13 Constructor CartesianLocation()

```
public
CartesianLocation(
    java.awt.geom.Point2D reference,
    java.awt.geom.Point2D origin,
    mil.dtra.hpac.data.Point3D position
)
```

Constructs with the specified reference location, origin, and position.

Parameters:

- reference - reference lon,lat coordinate
- origin - location in the cartesian system (in km) of the reference coordinate
- position - position or easting, northing, and altitude

17.6.14 Constructor **CartesianLocation()**

```
public  
CartesianLocation(  
    float[] reference,  
    float[] position  
)
```

Special constructor for specifying reference and position values via arrays.

Parameters:

- reference - reference lon,lat array
- position - x, y, z, position

17.6.15 Method **clone()**

```
public java.lang.Object  
clone()
```

Overrides Cloneable.

17.6.16 Method **computeLatitude()**

```
protected double  
computeLatitude()
```

Computes the latitude from the reference and x offset.

We take the simple approach of converting to degrees using the mean earth radius.

Returns:

latitude in degrees

17.6.17 Method computeLongitude()

```
protected double
computeLongitude()
```

Computes the longitude from the reference and x offset.

We take the simple approach of converting to degrees using the mean earth radius.

Returns:

longitude in degrees

17.6.18 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides `AbstractLocation.equals()`.

17.6.19 Method getCoord()

```
public java.awt.geom.Point2D
getCoord()
```

Computes the equivalent world coordinate value in degrees.

We take the simple approach of converting to degrees using the mean earth radius.

Returns:

world coordinate object in degrees

17.6.20 Method getPosition()

```
public final java.awt.geom.Point2D
getPosition()
```

17.6.21 Method getReference()

```
public final java.awt.geom.Point2D
getReference()
```

17.6.22 Method getX()

```
public final double
getX()
```

17.6.23 Method getY()

```
public final double
getY()
```

17.6.24 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Parameters:

props - object containing property values
key - property key, where null implies blank

Exceptions:

IOException - on I/O error

17.6.25 Method setCoord()

```
public void
setCoord(
    double lon,
    double lat
)
```

Sets this location from a world coordinate value in degrees.

We take the simple approach of converting to degrees using the mean earth radius.

Parameters:

lon - world coordinate longitude in decimal degrees
lat - world coordinate latitude in decimal degrees

17.6.26 Method setLocation()

```
public void
setLocation( mil.dtra.hpac.data.Location from )
```

17.6.27 Method **setPosition()**

```
public final void  
setPosition(  
    double x,  
    double y  
)
```

17.6.28 Method **setPosition()**

```
public final void  
setPosition(  
    double x,  
    double y,  
    double z  
)
```

17.6.29 Method **setPosition()**

```
public final void  
setPosition( java.awt.geom.Point2D position )
```

17.6.30 Method **setPosition()**

```
public final void  
setPosition( mil.dtra.hpac.data.Point3D position )
```

17.6.31 Method **setReference()**

```
public final void  
setReference(  
    double lon,  
    double lat  
)
```

17.6.32 Method **setReference()**

```
public final void  
setReference( java.awt.geom.Point2D reference )
```

17.6.33 Method **setReference()**

```
public final void
setReference(
    java.awt.geom.Point2D reference,
    java.awt.geom.Point2D origin
)
```

Parameters:

reference - reference lon,lat coordinate
 origin - location in the cartesian system (in km) of the reference coordinate

17.6.34 Method **toString()**

```
public java.lang.String
toString()
```

Produces a string representation.

17.6.35 Method **valueOf()**

```
public void
valueOf( java.lang.String value )
```

Assigns this object's property values by parsing a string representation. The reference and point values, each of which are comma-delimited triples, are separated by a colon.

Parameters:

value - string representation

Exceptions:

NumberFormatException - on numeric format error
 IllegalArgumentException - on format errors

17.6.36 Method **writeProps()**

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Parameters:

props - object containing property values
 key - property key, where null implies blank

Exceptions:

IOException - on I/O error

17.7 Class ContourList

```
mil.dtra.hpac.data
public ContourList
extends ArrayList
implements PropsSerializer,
```

This class defines a list (ordered collection) of `Point2D[]` objects, where order is maintained as a semantic requirement. As an extension of `ArrayList`, it inherits all the semantics of being a `List` and a `Collection`. In addition, this class attempts to enforce that each element be a `Point2D[]`.

Fields:

```
public static final java.lang.String DELIMITER
```

Methods:

```
public void add()
public boolean add()
public boolean addAll()
public boolean addAll()
public void readProps()
public java.lang.Object set()
public void writeProps()
```

17.7.1 Field DELIMITER

```
public static final java.lang.String DELIMITER
```

17.7.2 Constructor ContourList()

```
public
ContourList()
```

Default (noop) constructor.

17.7.3 Constructor ContourList()

```
public  
ContourList( java.util.Collection contours )
```

Constructs with an explicit list of point arrays.

Parameters:

contours - collection of point arrays to comprise the list initially

17.7.4 Constructor ContourList()

```
public  
ContourList( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing incident properties

Exceptions:

IOException - on I/O error

17.7.5 Constructor ContourList()

```
public  
ContourList(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
key - property key, where null implies blank

Exceptions:

IOException - on I/O error

17.7.6 Method add()

```
public void
add(  
    int index,  
    java.lang.Object object  
)
```

Overrides `ArrayList.add()` to ensure the object is a `Point2D[]`.

Parameters:

object - contour object to add

Returns:

true

Exceptions:

`IllegalArgumentException` - if the object is not a `Point2D[]`
`IndexOutOfBoundsException` - if the index is < 0 or > `size()`

17.7.7 Method add()

```
public boolean
add( java.lang.Object object )
```

Overrides `ArrayList.add()` to ensure the object is a `Point2D[]`.

Parameters:

object - contour object to add

Returns:

true

Exceptions:

`IllegalArgumentException` - if the object is not a `Point2D[]`

17.7.8 Method addAll()

```
public boolean
addAll( java.util.Collection contours )
```

Overrides `ArrayList.addAll()` to add only `Point2D[]` objects in the collection. Note that elements are added in iterator order from the collection.

Parameters:

contours - collection of contour objects to add

Returns:

true if elements were added

17.7.9 Method addAll()

```
public boolean
addAll(
    int index,
    java.util.Collection contours
)
```

Overrides `ArrayList.addAll()` to add only `Point2D[]` objects in the collection. Note that elements are added in iterator order from the collection.

Parameters:

index - index at which to insert the first element
 incidents - collection of contour objects to add

Returns:

true if elements were added

Exceptions:

`IndexOutOfBoundsException` - if the index is < 0 or > `size()`

17.7.10 Method `readProps()`

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Iterates over enumerated property keys of `prefix.n`.

Parameters:

props - object containing property values
 key - property key, where null implies blank

17.7.11 Method `set()`

```
public java.lang.Object
set(
    int index,
    java.lang.Object object
)
```

Overrides `ArrayList.set()` to ensure the object is a `Incident`.

Parameters:

object - incident object to add

Returns:

true

Exceptions:

`IllegalArgumentException` - if the object is not a `Incident`
`IndexOutOfBoundsException` - if the index is < 0 or > `size()`

17.7.12 Method writeProps()

```
public void
writeProps(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Iterates over each contour (Point2D[]) object calling ValueProperties.putArray() for each one.

Parameters:

props - object in which to put property values
key - property key, where null implies blank

17.8 Class EmptyModelIncident

```
mil.dtra.hpac.data
public EmptyModelIncident
extends Object
implements ModelIncident,
```

Minimal ModelIncident implementation for use when a model has no specific incident information to maintain.

Methods:

```
public java.lang.Object clone()
public boolean equals()
public void extractFromAny()
public void insertIntoAny()
public void readProps()
public void writeProps()
```

17.8.1 Constructor EmptyModelIncident()

```
public
EmptyModelIncident()
```

17.8.2 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

17.8.3 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

17.8.4 Method extractFromAny()

```
public void
extractFromAny( org.omg.CORBA.Any any )
```

17.8.5 Method insertIntoAny()

```
public void
insertIntoAny( org.omg.CORBA.Any any )
```

17.8.6 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

17.8.7 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

17.9 Class Incident

```
mil.dtra.hpac.data
public Incident
extends Object
implements Cloneable, PropsSerializer, Serializable,
```

This is the definition of an HPAC incident for use in the nice abstract world of Java.
Incident Life Cycle

A new source model bean will create a new `Incident` object during construction. The bean will then generate the corresponding `IncidentT` object via `Incident.toIncidentT()` and pass it

to the server's `initIncident()` method. Upon return, the bean will call `Incident.fromIncidentT()` to update the `Incident` object.

Incident Serialization

`Material`, `Release`, and `Incident` are all prepared for storage via properties objects and files.

Fields:

```
public static final float[] DEFAULT_TRIPLE
public static final float[] EMPTY_TRIPLE
protected mil.dtra.hpac.data.AvailableEffects fAvailableEffects
protected boolean fHasCustomMaterials
protected boolean fHasCustomReleases
protected java.lang.String fID
protected mil.dtra.hpac.data.Location fLocation
protected java.lang.String fmodelName
protected java.lang.String fModelServiceName
protected java.lang.String fName
protected mil.dtra.hpac.data.release.ReleaseList fReleaseList
protected mil.dtra.hpac.data.Time fStartTime
protected static mil.dtra.hpac.data.Time lastStartTime_
protected static long lastTimeStamp_
public static final int LOG_level
public static final java.lang.String PROP_hasCustomMaterials
public static final java.lang.String PROP_hasCustomReleases
public static final java.lang.String PROP_ID
public static final java.lang.String PROP_location
public static final java.lang.String PROP_name
public static final java.lang.String PROP_releaseList
public static final java.lang.String PROP_startTime
```

Methods:

```
public java.lang.Object clone()
public static java.lang.String createID()
public static mil.dtra.hpac.server.IncidentT createIncidentT()
public static boolean equals()
public boolean equals()
public void fromIncidentT()
public final mil.dtra.hpac.data.AvailableEffects getAvailableEffects()
public final java.awt.geom.Point2D getCoord()
public final boolean getHasCustomMaterials()
public final boolean getHasCustomReleases()
public final java.lang.String getID()
public final mil.dtra.hpac.data.Location getLocation()
public final java.lang.String getModelName()
public final java.lang.String getModelServiceName()
public final java.lang.String getName()
public final mil.dtra.hpac.data.release.ReleaseList getReleaseList()
```

```

public final mil.dtra.hpac.data.Time getStartTime()
public void readProps()
public void resetID()
public void resolveFileReferences()
public final void setAvailableEffects()
public final void setCoord()
public final void setHasCustomMaterials()
public final void setHasCustomReleases()
public final void setLocation()
public final void setModelName()
public final void setModelServiceName()
public final void setName()
public final void setReleaseList()
public final void setStartTime()
public mil.dtra.hpac.server.IncidentT toIncidentT()
public static java.lang.String toString()
public void updateReleaseProperties()
public void writeProps()

```

17.9.1 Field DEFAULT_TRIPLE

public static final float[] **DEFAULT_TRIPLE**

17.9.2 Field EMPTY_TRIPLE

public static final float[] **EMPTY_TRIPLE**

17.9.3 Field fAvailableEffects

protected mil.dtra.hpac.data.AvailableEffects **fAvailableEffects**

17.9.4 Field fHasCustomMaterials

protected boolean **fHasCustomMaterials**

17.9.5 Field fHasCustomReleases

protected boolean **fHasCustomReleases**

17.9.6 Field fID

protected java.lang.String **fID**

17.9.7 Field fLocation

protected mil.dtra.hpac.data.Location **fLocation**

17.9.8 Field fModelName

protected java.lang.String **fModelName**

17.9.9 Field fModelServiceName

protected java.lang.String **fModelServiceName**

17.9.10 Field fName

protected java.lang.String **fName**

17.9.11 Field fReleaseList

protected mil.dtra.hpac.data.release.ReleaseList **fReleaseList**

17.9.12 Field fStartTime

protected mil.dtra.hpac.data.Time **fStartTime**

17.9.13 Field lastStartTime_

protected static mil.dtra.hpac.data.Time **lastStartTime_**

17.9.14 Field lastTimeStamp_

protected static long **lastTimeStamp_**

17.9.15 Field LOG_level

public static final int **LOG_level**

17.9.16 Field PROP_hasCustomMaterials

public static final java.lang.String **PROP_hasCustomMaterials**

17.9.17 Field PROP_hasCustomReleases

```
public static final java.lang.String PROP_hasCustomReleases
```

17.9.18 Field PROP_ID

```
public static final java.lang.String PROP_ID
```

17.9.19 Field PROP_location

```
public static final java.lang.String PROP_location
```

17.9.20 Field PROP_name

```
public static final java.lang.String PROP_name
```

17.9.21 Field PROP_releaseList

```
public static final java.lang.String PROP_releaseList
```

17.9.22 Field PROP_startTime

```
public static final java.lang.String PROP_startTime
```

17.9.23 Constructor Incident()

```
protected  
Incident()
```

Default constructor to be used in a class `getInstance()` method.

17.9.24 Constructor Incident()

```
public  
Incident( mil.dtra.hpac.server.IncidentT object )
```

Initializes from an `IncidentT` object.

Parameters:

`object` - IDL-defined incident object.

17.9.25 Constructor Incident()

```
public
Incident(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs reading property values from the specified properties object assuming the property key prefix.

Parameters:

props - object containing property values
prefix - prefix for property keys, where null implies blank

Exceptions:

IOException - on I/O error

17.9.26 Constructor Incident()

```
public
Incident(
    java.beans.BeanInfo bean_info,
    java.lang.String model_service_name
)
```

Constructs an incident with information provided by the model BeanInfo object. The user name for the incident is initialized to the *beanDescriptor.displayName* property of the bean info, and the model name is taken as the *beanDescriptor.shortDescription*.

Parameters:

bean_info - object with which the name and model name are derived
model_service_name - name of the server factory for the model or null if the model has no server

17.9.27 Constructor Incident()

```
public
Incident(
    java.lang.String name,
    java.lang.String model_name,
    java.lang.String model_service_name
)
```

Constructs with the specified user name, model name, and model service object name.

Parameters:

- name - incident display name (not the id)
 - model_name - display (short) name of the model managing this incident
 - model_service_name - name of the server factory for the model or null if the model has no server
-

17.9.28 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

17.9.29 Method createID()

```
public static java.lang.String
createID()
```

Creates a unique identifier for an incident object using the current time.

Returns:

- unique incident identifier
-

17.9.30 Method createIncidentT()

```
public static mil.dtra.hpac.server.IncidentT
createIncidentT()
```

Creates a newly initialized `IncidentT` object with defaulted property values.

Returns:

- new `IncidentT` object
-

17.9.31 Method equals()

```
public static boolean
equals(
    mil.dtra.hpac.data.Incident one,
    mil.dtra.hpac.data.Incident two
)
```

Compares two `Incident` objects for equality, first checking for either being null.

Returns:

true if the objects are not null and equal, false otherwise

17.9.32 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides `Object.equals()` to compare each property value.

17.9.33 Method fromIncidentT()

```
public void
fromIncidentT( mil.dtra.hpac.server.IncidentT obj )
```

Loads all properties for this from the `IncidentT` object.

Parameters:

`obj` - object from which to copy values

17.9.34 Method getAvailableEffects()

```
public final mil.dtra.hpac.data.AvailableEffects
getAvailableEffects()
```

Accessor for the `availableEffects` property.

Returns:

copy of the available effects value

17.9.35 Method getCoord()

```
public final java.awt.geom.Point2D
getCoord()
```

Convenience method which retrieves the world coordinate in decimal degrees from the *location* property.

Returns:

two-dimensional world coordinate

17.9.36 Method getHasCustomMaterials()

```
public final boolean
getHasCustomMaterials()
```

Accessor for the *hasCustomMaterials* property.

Returns:

true if this incident has release with custom materials, false otherwise

17.9.37 Method getHasCustomReleases()

```
public final boolean
getHasCustomReleases()
```

Accessor for the *hasCustomReleases* property.

Returns:

true if this incident has customized releases

17.9.38 Method getID()

```
public final java.lang.String
getID()
```

Accessor for the *ID* property.

Returns:

unique identifier for this incident object

17.9.39 Method `getLocation()`

```
public final mil.dtra.hpac.data.Location  
getLocation()
```

Accessor for the *location* property.

Returns:

copy of the location value.

17.9.40 Method `getModelName()`

```
public final java.lang.String  
getModelName()
```

Accessor for the *modelName* property.

Returns:

name of the incident source model managing this incident

17.9.41 Method `getModelServiceName()`

```
public final java.lang.String  
getModelServiceName()
```

Accessor for the *modelServiceName* property.

Returns:

name of the server factory for the model or null if the model has no server

17.9.42 Method `getName()`

```
public final java.lang.String  
getName()
```

Accessor for the *name* property.

Returns:

the user-assigned (or default) name for this incident

17.9.43 Method `getReleaseList()`

```
public final mil.dtra.hpac.data.release.ReleaseList
getReleaseList()
```

Accessor for the *releaseList* property. Note that this returns the actual reference to the list object and not a copy.

Returns:

reference to the release list object

17.9.44 Method `getStartTime()`

```
public final mil.dtra.hpac.data.Time
getStartTime()
```

Accessor for the *time* property.

Returns:

copy of the start time object

17.9.45 Method `readProps()`

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Reads property values from the specified properties object assuming the property key prefix. Calls `ValueProperties.setObjectProperties()` for implicit deserialization, and then explicitly reads the *ID* property.

Parameters:

`props` - object containing property values
`key` - property key, where null implies blank

Exceptions:

`IOException` - on I/O error

17.9.46 Method resetID()

```
public void
resetID()
```

Creates a new unique identifier for this object.

17.9.47 Method resolveFileReferences()

```
public void
resolveFileReferences(
    mil.dtra.hpac.server.fileutils.FileServer file_server,
    java.lang.String user_name,
    java.lang.String project_name
)
```

Resolves file references in releases.

Parameters:

- file_server - object with which to upload files
- user_name - user name (used to identify target directory)
- project_name - name of project (used to identify target directory)

Exceptions:

- IOException - on an error

17.9.48 Method setAvailableEffects()

```
public final void
setAvailableEffects( mil.dtra.hpac.data.AvailableEffects effects )
```

Accessor for the *availableEffects* property.

Parameters:

- effects - available effects object to copy

17.9.49 Method setCoord()

```
public final void
setCoord( java.awt.geom.Point2D coord )
```

Convenience method for assigning the *location* property value from a two-dimensional world coordinate in decimal degrees.

Parameters:

coord - world coordinate location

17.9.50 Method setHasCustomMaterials()

```
public final void
setHasCustomMaterials( boolean flag )
```

Accessor for the *hasCustomMaterials* property.

Parameters:

flag - true if this incident has release with custom materials, false otherwise

17.9.51 Method setHasCustomReleases()

```
public final void
setHasCustomReleases( boolean flag )
```

Accessor for the *hasCustomReleases* property.

Parameters:

flag - true if this incident has customized releases

17.9.52 Method setLocation()

```
public final void
setLocation( mil.dtra.hpac.data.Location loc )
```

Accessor for the *location* property.

Parameters:

loc - location object to be copied

17.9.53 Method setModelName()

```
public final void
setModelName( java.lang.String name )
```

Accessor for the *modelName* property.

Parameters:

name - name of the incident source model managing this incident

17.9.54 Method setModelServiceName()

```
public final void
setModelServiceName( java.lang.String name )
```

Accessor for the *modelServiceName* property.

Parameters:

name - name of the server factory for the model or null if the model has no server

17.9.55 Method setName()

```
public final void
setName( java.lang.String name )
```

Accessor for the *name* property.

Parameters:

name - the user-assigned (or default) name for this incident

17.9.56 Method setReleaseList()

```
public final void
setReleaseList( mil.dtra.hpac.data.release.ReleaseList release_list )
```

Accessor for the *releaseList* property.

Parameters:

release_list - new release list object, the reference to which is stored

17.9.57 Method setStartTime()

```
public final void
setStartTime( mil.dtra.hpac.data.Time time )
```

Accessor for the *startTime* property.

Parameters:

time - object to copy

17.9.58 Method toIncidentT()

```
public mil.dtra.hpac.server.IncidentT
toIncidentT()
```

Creates a new `IncidentT` object with values from this one.

Returns:

object with values from this

17.9.59 Method toString()

```
public static java.lang.String
toString( mil.dtra.hpac.server.IncidentT obj )
```

Builds a string representation of the `IncidentT` object. This is primarily useful for debugging server side processing.

Parameters:

obj - object for which to build a string representation

17.9.60 Method updateReleaseProperties()

```
public void
updateReleaseProperties()
```

Sets the *incidentID* property of each release to this object's *ID* property value. Also, checks for customized release and customized materials in releases, setting the appropriate property values for this.

17.9.61 Method writeProps()

```
public void
writeProps(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Writes property values to the specified properties object assuming the property key prefix using implicit serialization.

Parameters:

props - object containing property values
key - property key, where null implies blank

17.10 Class IncidentList

```
mil.dtra.hpac.data
public IncidentList
extends ArrayList
implements PropsSerializer,
```

This class defines a list (ordered collection) of `Incident` objects, where order is maintained as a semantic requirement. As an extension of `ArrayList`, it inherits all the semantics of being a `List` and a `Collection`. In addition, this class attempts to enforce that each element be an `Incident`.

Methods:

```
public void add()  
public boolean add()  
public boolean addAll()  
public boolean addAll()  
public mil.dtra.hpac.data.Incident findIncident()  
public java.lang.String[] getIncidentNames()  
public void readProps()  
public java.lang.Object set()  
public void writeProps()
```

17.10.1 Constructor IncidentList()

```
public
IncidentList()
```

Default (noop) constructor.

17.10.2 Constructor IncidentList()

```
public  
IncidentList( java.util.Collection incidents )
```

Constructs with an explicit list of incidents.

Parameters:

incidents - collection of incidents to comprise the list initially

17.10.3 Constructor IncidentList()

```
public  
IncidentList( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing incident properties

Exceptions:

IOException - on I/O error

17.10.4 Constructor IncidentList()

```
public  
IncidentList(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
key - property key

Exceptions:

IOException - on I/O error

17.10.5 Method add()

```
public void
add(
    int index,
    java.lang.Object object
)
```

Overrides `ArrayList.add()` to ensure the object is a `Incident`.

Parameters:

object - incident object to add

Returns:

true

Exceptions:

`IllegalArgumentException` - if the object is not a `Incident`
`IndexOutOfBoundsException` - if the index is < 0 or > `size()`

17.10.6 Method add()

```
public boolean
add( java.lang.Object object )
```

Overrides `ArrayList.add()` to ensure the object is a `Incident`.

Parameters:

object - incident object to add

Returns:

true

Exceptions:

`IllegalArgumentException` - if the object is not a `Incident`

17.10.7 Method addAll()

```
public boolean
addAll( java.util.Collection incidents )
```

Overrides `ArrayList.addAll()` to add only `Incident` objects in the collection. Note that elements are added in iterator order from the collection.

Parameters:

incidents - collection of incident objects to add

Returns:

true if elements were added

17.10.8 Method addAll()

```
public boolean
addAll(
    int index,
    java.util.Collection incidents
)
```

Overrides `ArrayList.addAll()` to add only `Incident` objects in the collection. Note that elements are added in iterator order from the collection.

Parameters:

index - index at which to insert the first element
 incidents - collection of incident objects to add

Returns:

true if elements were added

Exceptions:

`IndexOutOfBoundsException` - if the index is < 0 or > `size()`

17.10.9 Method findIncident()

```
public mil.dtra.hpac.data.Incident
findIncident( java.lang.String name )
```

Retrieves the (first and should be only) incident with the specified name.

Parameters:

name - incident name

Returns:

incident object if found, null otherwise

17.10.10 Method getIncidentNames()

```
public java.lang.String[]
getIncidentNames()
```

Builds an array of names of the incidents in list order.

Returns:

array of incident names

17.10.11 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Iterates over enumerated property keys of `prefix.n`.

Parameters:

props - object containing property values
key - property key, where null implies blank

17.10.12 Method set()

```
public java.lang.Object
set(
    int index,
    java.lang.Object object
)
```

Overrides `ArrayList.set()` to ensure the object is a `Incident`.

Parameters:

`object` - incident object to add

Returns:

`true`

Exceptions:

`IllegalArgumentException` - if the object is not a `Incident`
`IndexOutOfBoundsException` - if the index is < 0 or > `size()`

17.10.13 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Iterates enumerating property keys of `prefix.n`.

Parameters:

`props` - object in which to put property values
`key` - property key, where null implies blank

17.11 Class LargeString

```
mil.dtra.hpac.data
public LargeString
extends Object
implements Cloneable, PropsSerializer, Serializable,
```

Wraps a `String` for the sole purpose of providing properties serialization without overrunning the allowed length of a string value in a `Properties` file.

Fields:

```
protected java.lang.String fValue
public static final java.lang.String PROP_lineCount
```

Methods:

```
public java.lang.Object clone()
public boolean equals()
public void readProps()
public final java.lang.String toString()
public final void valueOf()
public final void valueOf()
public void writeProps()
```

17.11.1 Field fValue

protected java.lang.String fValue

17.11.2 Field PROP_lineCount

public static final java.lang.String PROP_lineCount

17.11.3 Constructor LargeString()

```
public
LargeString()
```

Default constructor. Initializes to an empty string.

17.11.4 Constructor LargeString()

```
public
LargeString( java.lang.String value )
```

Constructs from the specified string value

Parameters:

value - initial string value

17.11.5 Constructor LargeString()

```
public
LargeString(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object. Calls `readProps()`.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

`IOException` - on I/O error

17.11.6 Method clone()

```
public java.lang.Object
clone()
```

Overrides `Cloneable`.

17.11.7 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides `Object.equals()` to compare string values.

17.11.8 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Reads property values from the specified properties object assuming the property key prefix. Each line is stored as a separate property with keys beginning with 0 and incrementing. The special property *lineCount* stores the number of lines.

Parameters:

props - object containing property values
 key - property key, where null implies blank

17.11.9 Method **toString()**

```
public final java.lang.String
toString()
```

Overrides `Object .toString()` to return the string value.

Returns:

string value

17.11.10 Method **valueOf()**

```
public final void
valueOf( mil.dtra.hpac.data.LargeString value )
```

Assigns the specified value.

Parameters:

value - object from which to copy the string value

17.11.11 Method **valueOf()**

```
public final void
valueOf( java.lang.String value )
```

Assigns the specified value.

Parameters:

value - string value

17.11.12 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Writes property values to the specified properties object assuming the property key prefix. Each line is stored as a separate property with keys beginning with 0 and incrementing. The special property *lineCount* stores the number of lines.

Parameters:

props - object containing property values
key - property key, where null implies blank

17.12 Class LLALocation

```
mil.dtra.hpac.data
public LLALocation
extends AbstractLocation
```

Extension of AbstractLocation (Location implementation) for a standard (lon [deg], lat [deg], alt [m]) definition of a geographic position.

Fields:

protected java.awt.geom.Point2D fCoord

Methods:

```
public java.lang.Object clone()
public boolean equals()
public final java.awt.geom.Point2D getCoord()
public final double getLatitude()
public final double getLongitude()
public void readProps()
public final void setCoord()
public final void setLocation()
public java.lang.String toString()
public void valueOf()
public void writeProps()
```

17.12.1 Field **fCoord**

protected java.awt.geom.Point2D **fCoord**

longitude, latitude in decimal degrees

17.12.2 Constructor **LLALocation()**

public
LLALocation()

Default constructor.

17.12.3 Constructor **LLALocation()**

public
LLALocation(mil.dtra.hpac.data.Location loc)

Constructs from the specified Location object. Calls `setLocation()`.

Parameters:

loc - object from which initial location is obtained

17.12.4 Constructor **LLALocation()**

public
LLALocation(java.lang.String value)

Constructs from the string representation of the value.

Parameters:

value - the LLA location in string form.

Exceptions:

IllegalArgumentException - on format errors

17.12.5 Constructor LLALocation()

```
public
LLALocation( float[] values )
```

Constructs from the specified array.

Parameters:

values - array of lon (deg), lat (deg), alt (m) values, assumed to have length of 3

17.12.6 Constructor LLALocation()

```
public
LLALocation(
    java.awt.geom.Point2D coord,
    double alt
)
```

Constructs from the specified world coordinate and altitude

Parameters:

coord - world coordinate in degrees
alt - altitude in meters

17.12.7 Constructor LLALocation()

```
public
LLALocation(
    double lon,
    double lat,
    double alt
)
```

Constructs from the explicit lon, lat, and alt values.

Parameters:

lon - longitude in degrees
lat - latitude in degrees
alt - altitude in meters

17.12.8 Method clone()

```
public java.lang.Object  
clone()
```

Overrides Cloneable.

17.12.9 Method equals()

```
public boolean  
equals( java.lang.Object obj )
```

Overrides AbstractLocation.equals().

17.12.10 Method getCoord()

```
public final java.awt.geom.Point2D  
getCoord()
```

Accessor for the *coord* property.

Returns:

world coordinate in degrees

17.12.11 Method getLatitude()

```
public final double  
getLatitude()
```

Retrieves the latitude from the *coord* property.

Returns:

latitude in degrees

17.12.12 Method getLongitude()

```
public final double  
getLongitude()
```

Retrieves the longitude from the *coord* property.

Returns:

longitude in degrees

17.12.13 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Reads and sets property values for this object from a properties object.

Parameters:

props - object containing property values
 key - property key, where null implies blank

Exceptions:

IOException - on I/O error

17.12.14 Method setCoord()

```
public final void
setCoord(
    double lon,
    double lat
)
```

Accessor for the *coord* property.

Parameters:

lon - longitude in decimal degrees
 lat - latitude in decimal degrees

17.12.15 Method setLocation()

```
public final void
setLocation(
    double lon,
    double lat
)
```

Assigns the location from the explicit longitude and latitude values.

Parameters:

lon - longitude in degrees
 lat - latitude in degrees

17.12.16 Method setLocation()

```
public final void
setLocation(
    double lon,
    double lat,
    double alt
)
```

Assigns the location from the explicit longitude, latitude, and altitude values.

Parameters:

lon - longitude in degrees
 lat - latitude in degrees
 alt - altitude in meters

17.12.17 Method setLocation()

```
public final void
setLocation( float[] location )
```

Assigns from the specified array.

Parameters:

location - array of lon (deg), lat (deg), alt (m) values

17.12.18 Method setLocation()

```
public final void
setLocation( mil.dtra.hpac.data.Location loc )
```

Assigns the location from a Location object.

Parameters:

loc - location object from which to set property values

17.12.19 Method setLocation()

```
public final void
setLocation(
    java.awt.geom.Point2D coord,
    double alt
)
```

Assigns the location from world coordinate and altitude values.

Parameters:

coord - world coordinate in degrees
 alt - altitude in meters

17.12.20 Method toString()

```
public java.lang.String
toString()
```

Builds a string representation of this object as a comma-separated triplet.

Returns:

string representation of this object

17.12.21 Method valueOf()

```
public void
valueOf( java.lang.String value )
```

Assigns this object's property values by parsing a string representation. The longitude, latitude, and altitude values are assumed to be comma-separated, with the altitude optional.

Parameters:

value - string representation

Exceptions:

IllegalArgumentException - on format errors

17.12.22 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Stores property values for this object in a properties object.

Parameters:

props - object containing property values
key - property key, where null implies blank

Exceptions:

IOException - on I/O error

17.13 Class LocationUtils

```
mil.dtra.hpac.data
public final LocationUtils
extends Object
```

Utility class with methods for processing and providing conversion between Location objects.

Fields:

```
public static final java.text.DecimalFormat LAT_FORMAT
public static final int LOG_level
public static final java.text.DecimalFormat LON_FORMAT
```

Methods:

```
public static double computeGCAzimuth()
public static double computeGCDistance()
public static double computeLonDelta()
public static java.awt.geom.Rectangle2D computePointDistanceBounds()
public static java.awt.geom.Rectangle2D computeUnion()
public static boolean equals()
public static mil.dtra.hpac.data.Location getInstance()
public static mil.dtra.hpac.data.LLAlocation getLLAlocation()
public static double normalize()
public static double normalizeLon()
public static double normalizeLonWidth()
public static java.awt.geom.Rectangle2D[] sortWestToEast()
public static java.lang.String toString()
```

17.13.1 Field LAT_FORMAT

```
public static final java.text.DecimalFormat LAT_FORMAT
```

17.13.2 Field LOG_level

```
public static final int LOG_level
```

17.13.3 Field LON_FORMAT

```
public static final java.text.DecimalFormat LON_FORMAT
```

17.13.4 Constructor LocationUtils()

```
public  
LocationUtils()
```

17.13.5 Method computeGCAzimuth()

```
public static double  
computeGCAzimuth(  
    double lon1,  
    double lat1,  
    double lon2,  
    double lat2  
)
```

Uses spherical geometry to compute the true azimuth b/w two points.

Parameters:

- lon1 - longitude of first/from point in degrees
- lat1 - latitude of first/from point in degrees
- lon2 - longitude of second/to point in degrees
- lat2 - latitude of second/to point in degrees

Returns:

azimuth in radians

17.13.6 Method computeGCDistance()

```
public static double
computeGCDistance(
    double lon1,
    double lat1,
    double lon2,
    double lat2
)
```

Computes the great circle distance b/w the lat,lon points in kilometers using a simple spherical algorithm.

Parameters:

- lon1 - longitude of first point
- lat1 - latitude of first point
- lon2 - longitude of second point
- lat2 - latitude of second point

Returns:

distance in kilometers

17.13.7 Method computeLonDelta()

```
public static double
computeLonDelta(
    double one,
    double two
)
```

Computes the absolute longitude delta in the range [0..180].

Parameters:

- one - first longitude
- two - second longitude

Returns:

longitude delta in the range [0..180]

17.13.8 Method computePointDistanceBounds()

```
public static java.awt.geom.Rectangle2D
computePointDistanceBounds(
    double lon,
    double lat,
    double distance,
    java.awt.geom.Rectangle2D bounds
)
```

Computes the bounding box enclosing a point with a specified diameter distance in kilometers.

Parameters:

- lon - longitude of reference point
- lat - latitude of reference point
- distance - distance in kilometers of circle diameter
- bounds - object to hold result (is returned) or null to create a new rectangle object

Returns:

enclosing bounding box in degrees

17.13.9 Method computeUnion()

```
public static java.awt.geom.Rectangle2D
computeUnion(
    java.awt.geom.Rectangle2D one,
    java.awt.geom.Rectangle2D two,
    java.awt.geom.Rectangle2D result
)
```

Computes the union of two lat-lon boundaries.

Parameters:

- one - first bounds
- two - second bounds
- result - bounds in which to store the result or null to allocate a new object

Returns:

union of the two bounds; either the supplied results argument or a newly allocated object

17.13.10 Method equals()

```
public static boolean
equals(
    mil.dtra.hpac.data.Location one,
    mil.dtra.hpac.data.Location two
)
```

Provides equality checking for two Location objects, which are first checked for null.

Returns:

true if the two objects are not null and are equal, false otherwise

17.13.11 Method getInstance()

```
public static mil.dtra.hpac.data.Location
getInstance(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Deserializes a Location (subclass) instance from properties stored in a properties object. The special property class identifies the complete path of the the Location class to be instantiated. Calls ValueProperties.getObjectInstance().

Parameters:

props - properties object containing object values
key - property key for the object to get, null implying a blank prefix

Returns:

location object created

Exceptions:

IOException - on I/O error

17.13.12 Method getLLALocation()

```
public static mil.dtra.hpac.data.LLALocation
getLLALocation( mil.dtra.hpac.data.Location from )
```

Converts (if necessary) the specified location to a LLALocation object.

17.13.13 Method normalize()

```
public static double
normalize( double longitude )
```

Normalizes the longitude value to a range of (-180,180]. Name changed to normalizedLon().

Parameters:

longitude - original value

Returns:

normalized value

17.13.14 Method normalizeLon()

```
public static double
normalizeLon( double longitude )
```

Normalizes the longitude value to a range of (-180,180].

Parameters:

longitude - original value

Returns:

normalized value

17.13.15 Method normalizeLonWidth()

```
public static double
normalizeLonWidth( double longitude )
```

Normalizes the longitude width value to a range of [0,360].

Parameters:

longitude - original value

Returns:

normalized value

17.13.16 Method sortWestToEast()

```
public static java.awt.geom.Rectangle2D[]
sortWestToEast(
    java.awt.geom.Rectangle2D one,
    java.awt.geom.Rectangle2D two,
    java.awt.geom.Rectangle2D[] result
)
```

Sorts the rectangles into west-to-east order.

Parameters:

- one - first bounds
- two - second bounds
- result - array of length at least 2 in which to store the result or null to allocate an array

Returns:

array of length 2 referencing the rectangle arguments in west-to-east order; either the supplied result argument or an allocated array

17.13.17 Method toString()

```
public static java.lang.String
toString( java.awt.geom.Point2D coord )
```

Formats a coordinate for a String representation.

Parameters:

- coord - coordinate value to format.

Returns:

string representation of the coordinate

17.14 Class ObjectSet

```
mil.dtra.hpac.data
public ObjectSet
extends HashSet
implements PropsSerializer,
```

Extends HashSet to provide properties serialization for a set of objects associated with a Project. Anything created during the course of the user's project edit which is to be (de)serialized with the Project object must be stored in an ObjectSet instance.

For now, we insist that all objects added to this implement `PropsSerializer`, although a more specific interface may be defined at some point in the future.

Methods:

```
public synchronized boolean add()
public synchronized boolean addAll()
public void readProps()
public synchronized void removeObjects()
public java.util.Set retrieveObjects()
public void writeProps()
```

17.14.1 Constructor ObjectSet()

```
public
ObjectSet()
```

Default (noop) constructor.

17.14.2 Constructor ObjectSet()

```
public
ObjectSet( java.util.Collection objects )
```

Constructs with an explicit collection of objects. Calls `addAll()`.

Parameters:

objects - collection of objects to comprise the set

17.14.3 Constructor ObjectSet()

```
public
ObjectSet( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing incident properties

Exceptions:

`IOException` - on I/O error

17.14.4 Constructor ObjectSet()

```
public
ObjectSet(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix, where null implies blank

Exceptions:

IOException - on I/O error

17.14.5 Method add()

```
public synchronized boolean
add( java.lang.Object object )
```

Overrides HashSet.add() to ensure the object implements PropsSerializer.

Parameters:

object - incident object to add

Returns:

true

Exceptions:

IllegalArgumentException - if the object does not implement PropsSerializer

17.14.6 Method addAll()

```
public synchronized boolean
addAll( java.util.Collection objects )
```

Overrides HashSet.addAll() to add only PropsSerializer objects in the collection.

Parameters:

objects - collection of objects to add

Returns:

true if elements were added

17.14.7 Method `readProps()`

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Iterates over property prefix indexes beginning 0 until the "class" subproperty is not defined.
Calls `ValueProperties.getObjectInstance()` for each object.

Parameters:

props - object containing property values
key - property key, where null implies blank

17.14.8 Method `removeObjects()`

```
public synchronized void
removeObjects( java.lang.Class match_class )
```

Removes all objects which are instances of the specified class in a set.

Parameters:

match_class - class, instances of which objects must be to match

17.14.9 Method `retrieveObjects()`

```
public java.util.Set
retrieveObjects( java.lang.Class match_class )
```

Retrieves all objects which are instances of the specified class in a set.

Parameters:

match_class - class, instances of which objects must be to match

Returns:

set of matching objects

17.14.10 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Iterates over each object calling ValueProperties.putObjectInstance() with property key prefixes beginning with 0.

Parameters:

props - object in which to put property values
key - property key, where null implies blank

17.15 Class Point3D

```
mil.dtra.hpac.data
public Point3D
extends Object
implements Cloneable, PropsSerializer, Serializable,
```

This defines a three-dimensional vector object which can be used as a point or size.

Fields:

```
protected double fX
protected double fY
protected double fZ
```

Methods:

```
public java.lang.Object clone()
public boolean equals()
public final double getX()
public final double getY()
public final double getZ()
public void readProps()
public final void setLocation()
public void setLocation()
public java.lang.String toString()
public void valueOf()
public void writeProps()
```

17.15.1 Field fX

protected double **fX**

17.15.2 Field fY

protected double **fY**

17.15.3 Field fZ

protected double **fZ**

17.15.4 Constructor Point3D()

public
Point3D()

Default constructor which initializes to zero values.

17.15.5 Constructor Point3D()

public
Point3D(java.lang.String value)

Constructs from the string representation. Calls `valueOf()`.

Parameters:

`value` - string representation

17.15.6 Constructor Point3D()

public
Point3D(mil.dtra.hpac.data.Point3D from)

Copy constructor, which seems better than `clone()`'ing.

Parameters:

`from` - object to copy

17.15.7 Constructor Point3D()

```
public  
Point3D(  
    double x,  
    double y,  
    double z  
)
```

Constructs from the explicit values.

Parameters:

- x - x dimension value
- y - y dimension value
- z - z dimension value

17.15.8 Method clone()

```
public java.lang.Object  
clone()
```

Overrides Cloneable.

17.15.9 Method equals()

```
public boolean  
equals( java.lang.Object obj )
```

Overrides Object.equals() to compare values.

17.15.10 Method getX()

```
public final double  
getX()
```

Accessor for the *x* property.

17.15.11 Method getY()

```
public final double  
getY()
```

Accessor for the *y* property.

17.15.12 Method getZ()

```
public final double
getZ()
```

Accessor for the z property.

17.15.13 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Implements PropsSerializer by storing the value as a comma-delimited triple.

17.15.14 Method setLocation()

```
public final void
setLocation(
    double x,
    double y,
    double z
)
```

Sets the vector from the explicit values.

Parameters:

- x - x dimension value
 - y - y dimension value
 - z - z dimension value
-

17.15.15 Method setLocation()

```
public void
setLocation( mil.dtra.hpac.data.Point3D from )
```

Sets the vector from the specified object.

Parameters:

- from - object to copy
-

17.15.16 Method `toString()`

```
public java.lang.String
toString()
```

Builds a string representation of this object, with property values comma delimited.

Returns:

string representation

17.15.17 Method `valueOf()`

```
public void
valueOf( java.lang.String value )
```

Assigns property values by parsing a string representation, which is assumed to be a comma-delimited triplet.

Parameters:

value - string representation

Exceptions:

`IllegalArgumentException` - on format errors
`NumberFormatException` - on format errors

17.15.18 Method `writeProps()`

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Implements `PropsSerializer` by storing the value as a comma-delimited triple.

17.16 Class Project

```
mil.dtra.hpac.data
public Project
extends Object
implements Cloneable, PropsSerializer, Serializable, StandardUnits,
```

This is the Java world definition of an HPAC project.

Project Life Cycle

Each ProjectEditor window, corresponding to an instance of `mil.dtra.hpac.client.ProjectEditorFrame`, contains a `mil.dtra.hpac.client.ProjectEditor` instance, which in turn maintains a `Project` instance. The user sets some properties via various GUI components, and the model `Incident` instances are gathered prior to submitting the `Project` instance to `ScipuffServer` for computation.

Philosophy

We wish to hide the particulars of the HPAC Tool Engine (implemented in Fortran) as much as possible from Java clients. Thus, coupling is kept as loose as reasonable. For example, Material objects are retrieved from a material server and sent to the engine as complete objects, not as references to some file on the server side.

The `HPACtool` wrapper, `ScipuffServer`, employs JNI methods to convert this object and the objects it references to the proper Fortran constructs.

Serialization

We want to use Java properties objects and files for storage of `Project` instances (and hence the contained object instances). The advantages of having ASCII representations are numerous. For example:

Other tools can process or generate them Humans can examine and manually edit them Binary object serialization in Java doesn't perform all that well Java property objects map well to the Bean paradigm with property names as property object keys

However, this necessitates properties serialization for all objects contained in a project.

In the very near future we will offer XML import and export of serialized objects as well.

Fields:

```
public static final int BUFFER_SIZE
protected static final java.lang.String BULLET
public static final double DEFAULT_OUTPUT_INTERVAL
public static final double DEFAULT_TIME_STEP
protected mil.dtra.hpac.data.Time fCurrentRunTime
protected mil.dtra.hpac.data.project.Flags fFlags
protected mil.dtra.hpac.data.project.Limits fLimits
protected double fMaxTimeStep
protected java.lang.String fName
protected mil.dtra.hpac.data.ObjectSet fObjectSet
protected mil.dtra.hpac.data.project.Options fOptions
protected double fOutputInterval
protected java.lang.String fRestartProjectName
protected mil.dtra.hpac.data.Time fRestartTime
protected mil.dtra.hpac.data.project.SpatialDomain fSpatialDomain
protected boolean fSwiftFlag
protected mil.dtra.hpac.data.project.TemporalDomain fTemporalDomain
```

```

protected java.lang.String fURL
protected java.lang.String fVersion
protected mil.dtra.weather.shared.data.WxWeather fWeather
protected mil.dtra.hpac.data.project.SpatialDomain fWxSpatialDomain
protected mil.dtra.hpac.data.project.TemporalDomain fWxTemporalDomain
public static final int LOG_level
protected static final java.lang.String NFAC_START_FEEDBACK
public static final java.lang.String PROJECT
public static final java.lang.String UNNAMED

```

Methods:

```

public void check()
public java.lang.Object clone()
public boolean compareWxDomains()
public final double computeOutputInterval()
public double computeOutputInterval()
public mil.dtra.hpac.data.project.SpatialDomain computeSpatialDomain()
public mil.dtra.hpac.data.project.SpatialDomain computeSpatialDomainForIncidents()
public mil.dtra.hpac.data.project.TemporalDomain computeTemporalDomain()
public mil.dtra.hpac.data.project.TemporalDomain computeTemporalDomainForIncidents()
public mil.dtra.hpac.data.Project copy()
public int countIncidents()
public boolean equals()
public mil.dtra.hpac.data.Time getCurrentRunTime()
public final mil.dtra.hpac.data.project.Flags getFlags()
public final mil.dtra.hpac.data.project.Limits getLimits()
public final double getMaxTimeStep()
public final java.lang.String getName()
public final mil.dtra.hpac.data.ObjectSet getObjectSet()
public final mil.dtra.hpac.data.project.Options getOptions()
public final double getOutputInterval()
public final java.lang.String getRestartProjectName()
public final mil.dtra.hpac.data.Time getRestartTime()
public final mil.dtra.hpac.data.project.SpatialDomain getSpatialDomain()
public final boolean getSwiftFlag()
public final mil.dtra.hpac.data.project.TemporalDomain getTemporalDomain()
public final java.lang.String getURL()
public final java.lang.String getVersion()
public final mil.dtra.weather.shared.data.WxWeather getWeather()
public final mil.dtra.hpac.data.project.SpatialDomain getWxSpatialDomain()
public final mil.dtra.hpac.data.project.TemporalDomain getWxTemporalDomain()
public void readProps()
public void removeObjects()
public void removeObjects()
public void reset()

```

```

public void reset()
public java.lang.Object[] retrieveEffectIncidentObjects()
public java.util.Set retrieveIncidents()
public java.util.Set retrieveMaterials()
public java.util.Set retrieveObjects()
public void setCurrentRunTime()
public final void setFlags()
public final void setLimits()
public final void setMaxTimeStep()
public final void setName()
public final void setObjectSet()
public final void setOptions()
public final void setOutputInterval()
public final void setRestartProjectName()
public final void setRestartTime()
public final void setSpatialDomain()
public final void setSwiftFlag()
public final void setTemporalDomain()
public final void setURL()
public final void setVersion()
public final void setWeather()
public final void setWxSpatialDomain()
public final void setWxTemporalDomain()
public void writeProps()

```

17.16.1 Field `BUFFER_SIZE`

public static final int **BUFFER_SIZE**

17.16.2 Field `BULLET`

protected static final java.lang.String **BULLET**

17.16.3 Field `DEFAULT_OUTPUT_INTERVAL`

public static final double **DEFAULT_OUTPUT_INTERVAL**

Default value for the *outputInterval* property, was 2.0 hours, now `DEFAULT_FLOAT`

17.16.4 Field `DEFAULT_TIME_STEP`

public static final double **DEFAULT_TIME_STEP**

Default value for the *maxTimeStep* property, 900.0 seconds

17.16.5 Field fCurrentRunTime

protected mil.dtra.hpac.data.Time **fCurrentRunTime**

17.16.6 Field fFlags

protected mil.dtra.hpac.data.project.Flags **fFlags**

17.16.7 Field fLimits

protected mil.dtra.hpac.data.project.Limits **fLimits**

17.16.8 Field fMaxTimeStep

protected double **fMaxTimeStep**

time step in seconds

17.16.9 Field fName

protected java.lang.String **fName**

17.16.10 Field fObjectSet

protected mil.dtra.hpac.data.ObjectSet **fObjectSet**

17.16.11 Field fOptions

protected mil.dtra.hpac.data.project.Options **fOptions**

17.16.12 Field fOutputInterval

protected double **fOutputInterval**

output interval in hours

17.16.13 Field fRestartProjectName

protected java.lang.String **fRestartProjectName**

17.16.14 Field fRestartTime

protected mil.dtra.hpac.data.Time **fRestartTime**

17.16.15 Field fSpatialDomain

protected mil.dtra.hpac.data.project.SpatialDomain **fSpatialDomain**

17.16.16 Field fSwiftFlag

protected boolean **fSwiftFlag**

17.16.17 Field fTemporalDomain

protected mil.dtra.hpac.data.project.TemporalDomain **fTemporalDomain**

17.16.18 Field fURL

protected java.lang.String **fURL**

17.16.19 Field fVersion

protected java.lang.String **fVersion**

17.16.20 Field fWeather

protected mil.dtra.weather.shared.data.WxWeather **fWeather**

17.16.21 Field fWxSpatialDomain

protected mil.dtra.hpac.data.project.SpatialDomain **fWxSpatialDomain**

17.16.22 Field fWxTemporalDomain

protected mil.dtra.hpac.data.project.TemporalDomain **fWxTemporalDomain**

17.16.23 Field LOG_level

public static final int **LOG_level**

17.16.24 Field NFAC_START_FEEDBACK

protected static final java.lang.String **NFAC_START_FEEDBACK**

17.16.25 Field PROJECT

```
public static final java.lang.String PROJECT
```

17.16.26 Field UNNAMED

```
public static final java.lang.String UNNAMED
```

Default project name given upon construction

17.16.27 Constructor Project()

```
public  
Project()
```

Default constructor.

17.16.28 Constructor Project()

```
public  
Project( java.lang.String url )
```

Constructs from the specified URL assuming a blank property prefix.

Parameters:

url - URL of file containing material properties

Exceptions:

IOException - on I/O error

17.16.29 Constructor Project()

```
public  
Project(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String prefix  
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
 prefix - property key prefix, where null implies blank

Exceptions:

IOException - on I/O error

17.16.30 Method check()

```
public void
check()
```

Checks this project for consistency, throwing an exception with a message describing any problem.
 Current checks:

The output interval must be \geq the max time step Each incident must have at least one release
 Each non-file release must have a valid material

*We check for NFAC incidents with an incident start time that is not coincident with the project start time
 Any combination of NFAC and NWI incidents is flagged*

At some point, this should be tied into a call to ScipuffServer making its way to the HPACCheck-Input() function-HPAC 4.1 or later

Exceptions:

IllegalStateException - if this project is not valid or is somehow inconsistent (currently limited to checking if an incident has no release or a release has no material)

17.16.31 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

Note this is **not** a deep copy clone, since the objectSet cannot be deep copy cloned.

17.16.32 Method compareWxDomains()

```
public boolean
compareWxDomains()
```

Compares the *wxSpatial,TemporalDomain* properties with the corresponding project properties.

Returns:

true if the domains are equivalent, false otherwise

17.16.33 Method computeOutputInterval()

```
public final double
computeOutputInterval()
```

Calls `computeOutputInterval()` passing the current *outputInterval* property value.

Returns:

computed or user-specified interval value

17.16.34 Method computeOutputInterval()

```
public double
computeOutputInterval( double interval )
```

If the specified interval value is `DEFAULT_FLOAT.value`, computes an optimal one, otherwise returns the value as user-specified. The temporal domain is computed, and the interval is chosen such that approximately twelve outputs will be generated. It is also forced to be at least as big as the *maxTimeStep*.

Note this method calls `computeTemporalDomain()`, which could be called twice, forcing another iteration through the releases, but such is life when adding new functionality at the last minute.

Parameters:

`interval` - user-specified interval value in hours or `DEFAULT_FLOAT.value` for a computed value

Returns:

computed or user-specified interval value

17.16.35 Method computeSpatialDomain()

```
public mil.dtra.hpac.data.project.SpatialDomain
computeSpatialDomain()
```

Determines the spatial domain for this project. If the *spatialDomain* object's *computeDefaultFlag* is true, this method computes the domain from all releases on all defined incidents via `computeSpatialDomainForIncidents()`. If *computeDefaultFlag* is false, this method returns a copy of the *spatialDomain* object.

Returns:

computed spatial domain or a copy of the *spatialDomain* property object if specified

17.16.36 Method computeSpatialDomainForIncidents()

```
public mil.dtra.hpac.data.project.SpatialDomain
computeSpatialDomainForIncidents()
```

Computes the spatial domain based on the all releases in the incidents currently defined for the project.

Returns:

computed spatial domain

17.16.37 Method computeTemporalDomain()

```
public mil.dtra.hpac.data.project.TemporalDomain
computeTemporalDomain()
```

Determines the temporal domain for this project. If the *temporalDomain* object's *computeDefaultFlag* is true, this method computes the domain from all releases on all defined incidents via *computeTemporalDomainForIncidents()*. If *computeDefaultFlag* is false, this method returns a copy of the *temporalDomain* object.

Returns:

computed temporal domain or a copy of the *temporalDomain* property object if specified

17.16.38 Method computeTemporalDomainForIncidents()

```
public mil.dtra.hpac.data.project.TemporalDomain
computeTemporalDomainForIncidents()
```

Computes the temporal domain based on the all releases in the incidents currently defined for the project.

Returns:

computed temporal domain

17.16.39 Method copy()

```
public mil.dtra.hpac.data.Project
copy()
```

Produces a copy of this via (de)serialization.

Returns:

new project equivalent to this or null if the copy fails

17.16.40 Method countIncidents()

```
public int  
countIncidents()
```

Count the number of incidents defined for this project.

Returns:

number of incidents defined for this project

17.16.41 Method equals()

```
public boolean  
equals( java.lang.Object obj )
```

Overrides Object.equals().

17.16.42 Method getCurrentRunTime()

```
public mil.dtra.hpac.data.Time  
getCurrentRunTime()
```

Accessor for the *currentRunTime* property. This is the current project time for the last run in HPACtool.

Returns:

copy of the time object or null if not set

17.16.43 Method getFlags()

```
public final mil.dtra.hpac.data.project.Flags  
getFlags()
```

Accessor for the *flags* property.

Returns:

copy of the flags object for this project

17.16.44 Method `getLimits()`

```
public final mil.dtra.hpac.data.project.Limits  
getLimits()
```

Accessor for the *limits* property.

Returns:

copy of the limits object for this project

17.16.45 Method `getMaxTimeStep()`

```
public final double  
getMaxTimeStep()
```

Accessor for the *maxTimeStep* property.

Returns:

max time step value in seconds

17.16.46 Method `getName()`

```
public final java.lang.String  
getName()
```

Accessor for the *name* property.

Returns:

name assigned to this project, derived from the file name

17.16.47 Method `getObjectSet()`

```
public final mil.dtra.hpac.data.ObjectSet  
getObjectSet()
```

Accessor for the *objectSet* property. Note that this returns the actual reference to the object and not a copy.

Returns:

reference to the object set

17.16.48 Method **getOptions()**

```
public final mil.dtra.hpac.data.project.Options  
getOptions()
```

Accessor for the *options* property.

Returns:

copy of the options object for this project

17.16.49 Method **getOutputInterval()**

```
public final double  
getOutputInterval()
```

Accessor for the *outputInterval* property.

Returns:

output interval value in hours

17.16.50 Method **getRestartProjectName()**

```
public final java.lang.String  
getRestartProjectName()
```

Accessor for the *restartProjectName* property.

Returns:

restart project name or null if this is not a restart project

17.16.51 Method **getRestartTime()**

```
public final mil.dtra.hpac.data.Time  
getRestartTime()
```

Accessor for the *restartTime* property.

Returns:

null if this is not a restart project, a copy of the time object otherwise

17.16.52 Method `getSpatialDomain()`

```
public final mil.dtra.hpac.data.project.SpatialDomain  
getSpatialDomain()
```

Accessor for the *spatialDomain* property.

Returns:

copy of the spatial domain object

17.16.53 Method `getSwiftFlag()`

```
public final boolean  
getSwiftFlag()
```

Accessor for the *spatialDomain* property.

Returns:

true if SWIFT is to be loaded and used (if possible), false if SWIFT is not be loaded

17.16.54 Method `getTemporalDomain()`

```
public final mil.dtra.hpac.data.project.TemporalDomain  
getTemporalDomain()
```

Accessor for the *temporalDomain* property.

Returns:

copy of the temporal domain object

17.16.55 Method `getURL()`

```
public final java.lang.String  
getURL()
```

Accessor for the *URL* property.

Returns:

URL under which this object originated or is stored

17.16.56 Method getVersion()

```
public final java.lang.String  
getVersion()
```

Accessor for the *version* property.

Returns:

version string for this instance

17.16.57 Method getWeather()

```
public final mil.dtra.weather.shared.data.WxWeather  
getWeather()
```

Accessor for the *weather* property.

Returns:

reference to the weather definition object

17.16.58 Method getWxSpatialDomain()

```
public final mil.dtra.hpac.data.project.SpatialDomain  
getWxSpatialDomain()
```

Accessor for the *wxSpatialDomain* property.

Returns:

copy of the spatial domain object (may be null)

17.16.59 Method getWxTemporalDomain()

```
public final mil.dtra.hpac.data.project.TemporalDomain  
getWxTemporalDomain()
```

Accessor for the *wxTemporalDomain* property.

Returns:

copy of the temporal domain object (may be null)

17.16.60 Method `readProps()`

```
public void
readProps(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Reads property values from the specified properties object assuming the property key prefix. Performs implicit deserialization by calling `ValueProperties.setObjectProperties()`.

Parameters:

props - object containing property values
key - property key, where null implies blank

17.16.61 Method `removeObjects()`

```
public void
removeObjects( java.lang.Class match_class )
```

Convenience method to remove a set of objects from the *objectSet*. Equivalent to `getObjectSet().removeObjects()`.

Parameters:

match_class - class, instances of which objects must be to match

17.16.62 Method `removeObjects()`

```
public void
removeObjects( java.lang.String match_class_path )
```

Convenience method to remove a set of objects from the *objectSet*. Equivalent to `getObjectSet().removeObjects()` after loading the specified class and provided it loaded successfully.

Parameters:

match_class_path - path to class for which instances are to be removed

17.16.63 Method reset()

```
public void
reset( java.lang.Class remove_class )
```

Returns this project to a "uncomputed" state. Specifically, the *currentRunTime* property is reset to null, and all instances of the specified class removed from the *objectSet*.

Parameters:

remove_class - class; if not null instances are removed from the *objectSet*

17.16.64 Method reset()

```
public void
reset( java.lang.String remove_class_path )
```

Equivalent to other *reset()* method except that the remove class is specified by class path.

Parameters:

remove_class_path - class path for objects to remove from *objectSet*; must not be null

17.16.65 Method retrieveEffectIncidentObjects()

```
public java.lang.Object[]
retrieveEffectIncidentObjects()
```

Builds two array objects, an *IncidentT[]* and an *Any[]* holding the incident and model incident, respectively, objects for each effects-able incident.

Returns:

array of length two containing the *IncidentT[]* and *Any[]* (model incident) objects

17.16.66 Method retrieveIncidents()

```
public java.util.Set
retrieveIncidents()
```

Builds a set of *Incidents* from the *IncidentOwner* instances in the *objectSet*. Calls *retrieveObjects()* for *IncidentOwner* instances and calls their *getIncident()* method.

Returns:

new set of incidents

17.16.67 Method retrieveMaterials()

```
public java.util.Set
retrieveMaterials()
```

Convenience method to retrieve all materials defined for this project. Each material for each release for each incident is stored. Calls `retrieveIncidents()`.

Returns:

set of materials defined in this project

17.16.68 Method retrieveObjects()

```
public java.util.Set
retrieveObjects( java.lang.Class match_class )
```

Convenience method to retrieve a set of objects from the `objectSet`. Equivalent to `getObjectSet().retrieveObjects()`.

Parameters:

`match_class` - class, instances of which objects must be to match

Returns:

set of matching objects

17.16.69 Method setCurrentRunTime()

```
public void
setCurrentRunTime( mil.dtra.hpac.data.Time time )
```

Accessor for the `currentRunTime` property. This is the current project time for the last run in HPACtool.

Parameters:

`time` - null or time object to copy

17.16.70 Method setFlags()

```
public final void
setFlags( mil.dtra.hpac.data.project.Flags flags )
```

Accessor for the *limits* property.

Parameters:

flags - flags object to copy

17.16.71 Method setLimits()

```
public final void
setLimits( mil.dtra.hpac.data.project.Limits limits )
```

Accessor for the *limits* property.

Parameters:

limits - limits object to copy

17.16.72 Method setMaxTimeStep()

```
public final void
setMaxTimeStep( double value )
```

Accessor for the *maxTimeStep* property.

Parameters:

value - max time step value in seconds

17.16.73 Method setName()

```
public final void
setName( java.lang.String name )
```

Accessor for the *name* property.

Parameters:

name - name assigned to this project, assumed to be derived from or associated with a file name

17.16.74 Method setObjectSet()

```
public final void
setObjectSet( mil.dtra.hpac.data.ObjectSet object_set )
```

Accessor for the *objectSet* property. Note that the specified reference is saved.

Parameters:

object_set - new object set object to reference

17.16.75 Method setOptions()

```
public final void
setOptions( mil.dtra.hpac.data.project.Options options )
```

Accessor for the *options* property.

Parameters:

options - options object to copy

17.16.76 Method setOutputInterval()

```
public final void
setOutputInterval( double value )
```

Accessor for the *outputInterval* property.

Parameters:

value - output interval value in hours

17.16.77 Method setRestartProjectName()

```
public final void
setRestartProjectName( java.lang.String name )
```

Accessor for the *restartProjectName* property.

Parameters:

name - restart project name or null to make this not a restart project

17.16.78 Method setRestartTime()

```
public final void
setRestartTime( mil.dtra.hpac.data.Time time )
```

Accessor for the *restartTime* property.

Parameters:

name - restart project name or null to make this not a restart project

17.16.79 Method setSpatialDomain()

```
public final void
setSpatialDomain( mil.dtra.hpac.data.project.SpatialDomain domain )
```

Accessor for the *spatialDomain* property.

Parameters:

domain - spatial domain object to copy

17.16.80 Method setSwiftFlag()

```
public final void
setSwiftFlag( boolean flag )
```

Accessor for the *spatialDomain* property.

Parameters:

flag - true if SWIFT is to be loaded and used (if possible), false if SWIFT is not be loaded

17.16.81 Method setTemporalDomain()

```
public final void
setTemporalDomain( mil.dtra.hpac.data.project.TemporalDomain domain )
```

Accessor for the *temporalDomain* property.

Parameters:

domain - temporal domain object to copy

17.16.82 Method setURL()

```
public final void  
setURL( java.lang.String url )
```

Accessor for the *URL* property.

Parameters:

url - URL under which this object originated or is stored

17.16.83 Method setVersion()

```
public final void  
setVersion( java.lang.String version )
```

Accessor for the *version* property.

Parameters:

version - version string for this instance

17.16.84 Method setWeather()

```
public final void  
setWeather( mil.dtra.weather.shared.data.WxWeather weather )
```

Accessor for the *weather* property.

Parameters:

weather - weather object to reference

17.16.85 Method setWxSpatialDomain()

```
public final void  
setWxSpatialDomain( mil.dtra.hpac.data.project.SpatialDomain domain )
```

Accessor for the *wxSpatialDomain* property.

Parameters:

domain - spatial domain object to copy (may be null)

17.16.86 Method setWxTemporalDomain()

```
public final void
setWxTemporalDomain( mil.dtra.hpac.data.project.TemporalDomain domain )
```

Accessor for the *wxTemporalDomain* property.

Parameters:

domain - temporal domain object to copy (may be null)

17.16.87 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Writes property values to the specified properties object assuming the property key prefix. Performs implicit serialization by calling `ValueProperties.putObjectProperties()`.

Parameters:

props - object containing property values
key - property key, where null implies blank

17.17 Class ScipuffOutput

```
mil.dtra.hpac.data
public ScipuffOutput
extends AbstractPropsSerializer
implements Serializable,
```

Represents the client's reference to output/results from a SCIPUFF computation. Enough information must be stored here for retrieval of the object from persistent storage on the server. Methods here should mimic those of the remote reference this guy must be able to bring into existence when necessary.

It looks like it will be a long time before we can support the concept of multiple outputs per project. So, this class' intended purpose is in the future. It's not currently used, but we're hanging on to it just in case.

Fields:

```

protected java.lang.String fName
protected java.lang.String fServerURL
public static final java.lang.String PROP_name
public static final java.lang.String PROP_objectID
public static final java.lang.String PROP_project
public static final java.lang.String PROP_serverURL

```

Methods:

```

protected java.awt.geom.Point2D[] createCircle()
protected java.awt.geom.Point2D[] createEllipse()
protected java.awt.geom.Point2D[] createEllipsoid()
public final java.lang.String getName()
public final java.lang.String getServerURL()
public final void setName()
public final void setServerURL()

```

17.17.1 Field fName

protected java.lang.String fName

Descriptive name

17.17.2 Field fServerURL

protected java.lang.String fServerURL

URL (rmi or iiop) to the service which has the data

17.17.3 Field PROP_name

public static final java.lang.String PROP_name

17.17.4 Field PROP_objectID

public static final java.lang.String PROP_objectID

17.17.5 Field PROP_project

public static final java.lang.String PROP_project

17.17.6 Field PROP_serverURL

public static final java.lang.String PROP_serverURL

17.17.7 Constructor ScipuffOutput()

```
public
ScipuffOutput()
```

Default constructor.

17.17.8 Constructor ScipuffOutput()

```
public
ScipuffOutput( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing properties

Exceptions:

IOException - on I/O error

17.17.9 Constructor ScipuffOutput()

```
public
ScipuffOutput(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

17.17.10 Constructor ScipuffOutput()

```
public
ScipuffOutput(
    java.lang.String name,
    java.lang.String server_url
)
```

Constructs from explicit property values.

Parameters:

- name - object's display name
- server_url - URL for the database service

17.17.11 Method createCircle()

```
protected java.awt.geom.Point2D[]
createCircle(
    java.awt.geom.Point2D center,
    double radius
)
```

Temporary method to build a circle.

17.17.12 Method createEllipse()

```
protected java.awt.geom.Point2D[]
createEllipse(
    java.awt.geom.Point2D center,
    double a_radius,
    double b_radius
)
```

Temporary method to build a circle.

17.17.13 Method createEllipsoid()

```
protected java.awt.geom.Point2D[]
createEllipsoid(
    java.awt.geom.Point2D center,
    double radius,
    double yfactor
)
```

17.17.14 Method getName()

```
public final java.lang.String  
getName()
```

Accessor for the *name* property.

Returns:

name value

17.17.15 Method getServerURL()

```
public final java.lang.String  
getServerURL()
```

Accessor for the *serverURL* property.

Returns:

server URL value

17.17.16 Method setName()

```
public final void  
setName( java.lang.String name )
```

Accessor for the *name* property.

Parameters:

name - name

17.17.17 Method setServerURL()

```
public final void  
setServerURL( java.lang.String url )
```

Accessor for the *serverURL* property.

Parameters:

id - server URL

17.18 Class SPoint2D

```
mil.dtra.hpac.data
public SPoint2D
extends Point2D.Double
implements Serializable,
```

This is a serializable extension of `java.awt.geom.Point2D` used as a two-dimensional vector value.

Methods:

```
public java.lang.String  toString()
public void  valueOf()
```

17.18.1 Constructor SPoint2D()

```
public
SPoint2D()
```

Default constructor.

17.18.2 Constructor SPoint2D()

```
public
SPoint2D( mil.dtra.hpac.data.SPoint2D  from )
```

Copy constructs from the specified object.

Parameters:

from - point object to copy

17.18.3 Constructor SPoint2D()

```
public
SPoint2D(
    double  x,
    double  y
)
```

Constructs from explicit values.

Parameters:

x - x coordinate value
y - y coordinate value

17.18.4 Method **toString()**

```
public java.lang.String
toString()
```

Builds a string representation of this object as the *x* and *y* values comma-delimited.

Returns:

string representation

17.18.5 Method **valueOf()**

```
public void
valueOf( java.lang.String value )
```

Assigns this object's property values from a string representation, where the string is assumed to hold the *x* and *y* values delimited by a comma.

Parameters:

value - string representation

Exceptions:

IllegalArgumentException - on format errors

17.19 Class Time

```
mil.dtra.hpac.data
public Time
extends GregorianCalendar
implements Comparable, PropsSerializer,
```

Extension of `java.util.GregorianCalendar` for defining time in HPAC.

Fields:

```
protected static java.text.DecimalFormat formatFour_
protected static java.text.DecimalFormat formatThree_
protected static java.text.DecimalFormat formatTwo_
public static final int MSEC_PER_HOUR
public static final int MSEC_PER_MINUTE
public static final java.util.TimeZone UTC
```

Methods:

```

public void addHours()
public int compareTo()
public double computeDifference()
public double computeDifference()
public static int[] computeIntegralValues()
public static int[] computeZoneCurrentOffset()
public static int[] convertToHoursAndMinutes()
public boolean equals()
public void fromTimeT()
public void fromUTCTimeT()
public final int getDay()
public final int getHour()
public float getHours()
public float getHours()
public final int getMilliSecond()
public final int getMinute()
public final int getMonth()
public final int getSecond()
public long getTimeInMillis()
public static java.util.TimeZone getTimeZone()
public final int getYear()
public final int getZoneOffset()
public void readProps()
public final void setDay()
public final void setHour()
public final void setHours()
public void setHours()
public final void setMilliSecond()
public final void setMinute()
public final void setMonth()
public final void setSecond()
public void setTime()
public void setTime()
public final void setTime()
public void setTimeInMillis()
public void setTimeZoneAndUpdate()
public final void setYear()
public final void setZoneOffset()
public java.lang.String toPrettyString()
public java.lang.String toString()
public static java.lang.String toString()
public static java.lang.String toString()
public mil.dtra.hpac.server.project.TimeT toTimeT()
public mil.dtra.hpac.server.project.TimeT toUTCTimeT()
public void valueOf()
public void writeProps()

```

17.19.1 Field formatFour_

```
protected static java.text.DecimalFormat formatFour_
```

17.19.2 Field formatThree_

```
protected static java.text.DecimalFormat formatThree_
```

17.19.3 Field formatTwo_

```
protected static java.text.DecimalFormat formatTwo_
```

17.19.4 Field MSEC_PER_HOUR

```
public static final int MSEC_PER_HOUR
```

Number of milliseconds per hour

17.19.5 Field MSEC_PER_MINUTE

```
public static final int MSEC_PER_MINUTE
```

Number of milliseconds per minute

17.19.6 Field UTC

```
public static final java.util.TimeZone UTC
```

Constant UTC TimeZone

17.19.7 Constructor Time()

```
public  
Time()
```

Constructs a time object in the UTC time zone.

17.19.8 Constructor Time()

```
public  
Time( java.util.TimeZone time_zone )
```

Constructs with a specified timezone object.

17.19.9 Constructor Time()

```
public
Time( java.util.Date date )
```

Constructs with an explicit date value in the UTC time zone.

17.19.10 Constructor Time()

```
public
Time( mil.dtra.hpac.server.project.TimeT timet )
```

Constructs assuming the UTC time zone and copying field values from the specified TimeT object.

17.19.11 Constructor Time()

```
public
Time( mil.dtra.hpac.data.Time time )
```

Copy constructs with an explicit time object.

17.19.12 Constructor Time()

```
public
Time( java.lang.String value )
```

Constructs with an explicit string value representation with UTC assumed for the time zone.

Exceptions:

NumberFormatException - on format error.

17.19.13 Constructor Time()

```
public
Time(
    int year,
    int month,
    int day,
    int hour,
    int minute,
    int second
)
```

Constructs with explicit integral field values in the default (local) time zone.

Parameters:

- year - year value
- month - month of year index starting with 0
- day - day of month value starting with 1
- hour - hour in day value
- minute - minute in hour value
- second - second in minute value

17.19.14 Method addHours()

```
public void
addHours( double hours )
```

Adds the integral hour, minute, and second values from the specified decimal hours value.

Parameters:

- hour - decimal hour value

17.19.15 Method compareTo()

```
public int
compareTo( java.lang.Object object )
```

Implementation of Comparable interface which compares the underlying Date objects returned by `getTime()`.

Returns:

< 0 if this is less than the object, 0 if they are equivalent, > if this is greater than the object

Exceptions:

- `ClassCastException` - if the object is not a Calendar object

17.19.16 Method computeDifference()

```
public double
computeDifference( mil.dtra.hpac.data.Time from )
```

Computes the difference in hours to this time from the specified time.

Parameters:

from - time in hours from which the difference to this time is computed

17.19.17 Method computeDifference()

```
public double
computeDifference( mil.dtra.hpac.server.project.TimeT from )
```

Computes the difference in hours to this time from the specified time. Assumes the parameter is UTC-based.

Parameters:

from - (UTC) time from which the difference to this time is computed

17.19.18 Method computeIntegralValues()

```
public static int[]
computeIntegralValues( double hours )
```

Computes integral values for the real time value.

Parameters:

hours - real time value in hours

Returns:

array with integer hour, minute, second, and msec values

17.19.19 Method computeZoneCurrentOffset()

```
public static int[]
computeZoneCurrentOffset( java.util.TimeZone zone )
```

Computes the hours and minutes offset from UTC for the specified time zone and the current date.

Parameters:

zone - time zone

Returns:

array with hours and minutes values

17.19.20 Method convertToHoursAndMinutes()

```
public static int[]
convertToHoursAndMinutes( int msecs )
```

Converts the milliseconds value to hours and minutes.

Parameters:

msecs - time in milliseconds

Returns:

array with hours and minutes time values

17.19.21 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

17.19.22 Method fromTimeT()

```
public void
fromTimeT( mil.dtra.hpac.server.project.TimeT from )
```

Sets individual fields from the TimeT object. Truncates to seconds.

Parameters:

from - object from which field values are copied

17.19.23 Method fromUTCTimeT()

```
public void
fromUTCTimeT( mil.dtra.hpac.server.project.TimeT from )
```

Assigns this value assuming the TimeT object is UTC based. Truncates to seconds.

Parameters:

from - object from which to assign the time

17.19.24 Method getDay()

```
public final int
getDay()
```

Retrieves the day of month value.

Returns:

day of month value starting with 1

17.19.25 Method getHour()

```
public final int
getHour()
```

Retrieves the hour of day integer value

Returns:

hour of day value

17.19.26 Method getHours()

```
public float
getHours()
```

Computes the decimal hour of day using the minute and hour values assuming milliseconds are to be included. Calls getHours() passing false for the truncate parameter.

Returns:

decimal hour value

17.19.27 Method `getHours()`

```
public float  
getHours( boolean truncate_to_seconds )
```

Computes the decimal hour of day using the minute and hour values.

Parameters:

`truncate_to_seconds` - true to ignore millisecond values and truncate to seconds, false otherwise

Returns:

decimal hour value

17.19.28 Method `getMilliSecond()`

```
public final int  
getMilliSecond()
```

Retrieves the millisecond in second value

Returns:

millisecond in second value

17.19.29 Method `getMinute()`

```
public final int  
getMinute()
```

Retrieves the minute in hour value

Returns:

minute value

17.19.30 Method `getMonth()`

```
public final int  
getMonth()
```

Retrieves the month of year value.

Returns:

month index starting with 0

17.19.31 Method getSecond()

```
public final int
getSecond()
```

Retrieves the second in minute value

Returns:

second value

17.19.32 Method getTimeInMillis()

```
public long
getTimeInMillis()
```

Computes milliseconds since the epoch (19700101). This is an override of `Calendar.getTimeInMillis()` made public and is equivalent to `getTime().getTime()`.

Returns:

time value in milliseconds since the epoch

17.19.33 Method getTimeZone()

```
public static java.util.TimeZone
getTimeZone()
```

```
int hours_offset,
int minutes_offset
)
```

Creates a `java.util.TimeZone` object from the specified offset from GMT Time.

Parameters:

`hours_offset` - hours to add **to** GMT time
`minutes_offset` - minutes to add **to** GMT time

Returns:

time zone object

17.19.34 Method `getYear()`

```
public final int
getYear()
```

Retrieves the year value.

Returns:

year value

17.19.35 Method `getZoneOffset()`

```
public final int
getZoneOffset()
```

Retrieves the raw zone offset value.

Returns:

zone offset value

17.19.36 Method `readProps()`

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Reads and sets property values for this object from a properties object using `valueOf()` on the single property value.

Parameters:

`props` - object containing property values
`key` - property key, where null implies blank

Exceptions:

`IOException` - on I/O error

17.19.37 Method setDay()

```
public final void
setDay( int day )
```

Sets the day value.

Parameters:

day - day of month value starting with 1

17.19.38 Method setHour()

```
public final void
setHour( int hour )
```

Sets the hour of day value.

Parameters:

hour - hour of day value

17.19.39 Method setHours()

```
public final void
setHours( double hours )
```

Assigns the integral hour, minute, second, and millisecond values from the specified decimal hours value. Calls `setHours()` with a false truncate flag.

Parameters:

hour - decimal hour value

17.19.40 Method setHours()

```
public void
setHours(
    double hours,
    boolean truncate_to_seconds
)
```

Assigns the integral hour, minute, second, and optionally millisecond values from the specified decimal hours value.

Parameters:

hour - decimal hour value
 truncate_to_seconds - true to ignore millisecond values and truncate to seconds, false otherwise

17.19.41 Method setMillisecond()

public final void
setMillisecond(int millisecond)

Sets the millisecond in minute value.

Parameters:

hour - millisecond in second value

17.19.42 Method setMinute()

public final void
setMinute(int minute)

Sets the minute in hour value.

Parameters:

hour - minute in hour value

17.19.43 Method setMonth()

public final void
setMonth(int month)

Sets the month of year value.

Parameters:

month - month index starting with 0

17.19.44 Method setSecond()

```
public final void
setSecond( int second )
```

Sets the second in minute value.

Parameters:

hour - second in minute value

17.19.45 Method setTime()

```
public void
setTime(
    int year,
    int month,
    int day,
    double hours
)
```

Convenience method for setting the complete time representation from explicit values with decimal hours. Note the time zone is unaffected.

Parameters:

year - year value
month - month of year index starting with 0
day - day of month value starting with 1
hours - decimal hours value representing integral hour, minute, and second

17.19.46 Method setTime()

```
public void
setTime(
    int year,
    int month,
    int day,
    int hour,
    int minute,
    int second,
    int msec
)
```

Convenience method for setting the complete time representation from explicit integral values.

Parameters:

- year - year value
- month - month of year index starting with 0
- day - day of month value starting with 1
- hour - hour in day value
- minute - minute in hour value
- second - second in minute value
- msec - millisecond in second value

17.19.47 Method setTime()

```
public final void
setTime( mil.dtra.hpac.data.Time from )
```

Assigns this time's value and zone from the specified object.

Parameters:

- from - time object to copy

17.19.48 Method setTimeInMillis()

```
public void
setTimeInMillis( long millis )
```

Sets the current time from the given long milliseconds since the epoch. This is an override of `Calendar.setTimeInMillis()` made public.

Parameters:

- millis - the new time in UTC milliseconds from the epoch

17.19.49 Method setTimeZoneAndUpdate()

```
public void
setTimeZoneAndUpdate( java.util.TimeZone value )
```

The `setTimeZone()` method does **not** result in an update of the fields but rather establishes the time zone for future settings. This method will update the calendar fields for the time zone, but understand that the underlying `Date`, or time since the epoch, remains unchanged.

Parameters:

zone - time zone object

17.19.50 Method `setYear()`

```
public final void  
setYear( int year )
```

Sets the year value.

Parameters:

year - year value

17.19.51 Method `setZoneOffset()`

```
public final void  
setZoneOffset( int offset )
```

Sets the zone raw offset value.

Parameters:

offset - zone offset value

17.19.52 Method `toPrettyString()`

```
public java.lang.String  
toPrettyString()
```

Builds a less compact string representation of the form mm/dd/yyyy at hh:mm:ss

Returns:

string representation

17.19.53 Method `toString()`

```
public java.lang.String  
toString()
```

Builds a compact string representation of the form yyyyymmddhhmmssmmm,zone.

Returns:

string representation

17.19.54 Method `toString()`

```
public static java.lang.String
toString( int zone_offset )
```

Converts a time zone offset into a custom zone ID

Returns:

custom time zone ID

17.19.55 Method `toString()`

```
public static java.lang.String
toString( java.util.TimeZone time_zone )
```

Converts a time zone into a custom zone id.

Returns:

custom time zone ID

17.19.56 Method `toTimeT()`

```
public mil.dtra.hpac.server.project.TimeT
toTimeT()
```

Sets fields of the TimeT from this. Truncates to seconds.

17.19.57 Method `toUTCTimeT()`

```
public mil.dtra.hpac.server.project.TimeT
toUTCTimeT()
```

Returns:

a UTC TimeT object truncated to seconds.

17.19.58 Method `valueOf()`

```
public void
valueOf( java.lang.String value )
```

Parses a string representation of the form yyyyymmddhhmmssmmm,value and assigns values. Portions of the representation may be dropped from the right. For example, 19990102 is assumed to be midnight on the second of January, 1999.

Parameters:

value - string representation

Exceptions:

NumberFormatException - on format error

17.19.59 Method writeProps()

```
public void
writeProps(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Stores property values for this object in a properties object.

Parameters:

props - object containing property values
key - property key, where null implies blank

Exceptions:

IOException - on I/O error

17.20 Class UTMLocation

```
mil.dtra.hpac.data
public UTMLocation
extends AbstractLocation
```

Extension of AbstractLocation (Location implementation) for a UTM geographic location.

Fields:

```
protected int fDatumIndex
protected transient mil.dtra.datums.Datums fDatums
protected double fEasting
protected java.lang.String fMGRS
protected double fNorthing
protected int fZone
public static final double RADIANS_PER_DEGREE
```

Methods:

```

public java.lang.Object clone()
public final void convertToDatumIndex()
public boolean equals()
public final java.awt.geom.Point2D getCoord()
public final int getDatumIndex()
public final mil.dtra.datums.Datums getDatums()
public final double getEasting()
public final java.lang.String getMGRS()
public final double getNorthing()
public final int getZone()
public void readProps()
public final void setCoord()
public final void setDatumIndex()
public final void setEasting()
public final void setLocation()
public void setLocation()
public final void setMGRS()
public final void setNorthing()
public final void setPosition()
public final void setPosition()
public final void setZone()
public java.lang.String toString()
public void updateMGRS()
public void updateZoneEastingNorthing()
public void valueOf()
public void writeProps()

```

17.20.1 Field fDatumIndex

protected int **fDatumIndex**

17.20.2 Field fDatums

protected transient mil.dtra.datums.Datums **fDatums**

17.20.3 Field fEasting

protected double **fEasting**

easting in km

17.20.4 Field fMGRS

protected java.lang.String **fMGRS**

17.20.5 Field fNorthing

protected double **fNorthing**

northing in km

17.20.6 Field fZone

protected int **fZone**

17.20.7 Field RADIANS_PER_DEGREE

public static final double **RADIANS_PER_DEGREE**

17.20.8 Constructor UTMLocation()

public
UTMLocation()

Default constructor.

17.20.9 Constructor UTMLocation()

public
UTMLocation(java.lang.String value)

Constructs from the string representation of the value.

Parameters:

value - the UTM location in string form.

Exceptions:

`IllegalArgumentException` - on format errors

17.20.10 Constructor UTMLocation()

```
public
UTMLocation(
    float[] values,
    int zone,
    int datum_index,
    java.lang.String mgrs
)
```

Constructs from the explicit property values.

Parameters:

- values - easting (km), northing (km), altitude (m)
- zone - utm zone
- datum_index - zone index
- mgrs - mgrs string

17.20.11 Constructor UTMLocation()

```
public
UTMLocation(
    java.awt.geom.Point2D position,
    double altitude,
    int zone,
    int datum_index,
    java.lang.String mgrs
)
```

Constructs from the explicit property values.

Parameters:

- position - easting and northin in km
- altitude - altitude in m
- zone - utm zone
- datum_index - zone index
- mgrs - mgrs string

17.20.12 Constructor UTMLocation()

```
public
UTMLocation(
    double easting,
    double northing,
    double altitude,
    int zone,
    int datum_index,
    java.lang.String mgrs
)
```

Constructs from the explicit property values.

Parameters:

- easting - easting in km
- northing - northing in km
- altitude - altitude in m
- zone - utm zone
- datum_index - zone index
- mgrs - mgrs string

17.20.13 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

17.20.14 Method convertToDatumIndex()

```
public final void
convertToDatumIndex( int new_datum_index )
```

If the specified datum index differs from the current *datumIndex* property, converts to the specified datum.

Parameters:

- new_datum_index - datum index to which to convert

Exceptions:

- IllegalStateException - if the conversion fails

17.20.15 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides AbstractLocation.equals().

17.20.16 Method getCoord()

```
public final java.awt.geom.Point2D
getCoord()
```

Computes a world coordinate (lon,lat) object in decimal degrees.

Returns:

world coordinate in degrees

Exceptions:

IllegalStateException - if the conversion fails

17.20.17 Method getDatumIndex()

```
public final int
getDatumIndex()
```

Accessor for the *datumIndex* property.

Returns:

current datum index

17.20.18 Method getDatums()

```
public final mil.dtra.datums.Datums
getDatums()
```

Returns the Datums object used by this object.

Returns:

reference to the Datums object use by this object

17.20.19 Method `getEasting()`

```
public final double  
getEasting()
```

Accessor for the *easting* property.

Returns:

eastng value in kilometers

17.20.20 Method `getMGRS()`

```
public final java.lang.String  
getMGRS()
```

Accessor for the *MGRS* property.

Returns:

MGRS string

17.20.21 Method `getNorthing()`

```
public final double  
getNorthing()
```

Accessor for the *northing* property.

Returns:

northing value in kilometers

17.20.22 Method `getZone()`

```
public final int  
getZone()
```

Accessor for the *zone* property.

Returns:

datums zone value

17.20.23 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Deserializes this object.

Parameters:

props - object containing property values
key - property key, where null implies blank

Exceptions:

IOException - on I/O error

17.20.24 Method setCoord()

```
public final void
setCoord(
    double lon,
    double lat
)
```

Assigns the world coordinate (lon,lat) in decimal degrees performing the necessary conversion.

Parameters:

lon - longitude in decimal degrees
lat - latitude in decimal degrees

17.20.25 Method setDatumIndex()

```
public final void
setDatumIndex( int datum_index )
```

Accessor for the *datumIndex* property.

Parameters:

datum_index - datum index to use

17.20.26 Method setEasting()

```
public final void  
setEasting( double easting )
```

Accessor for the *easting* property.

Parameters:

easting - easting value in kilometers

17.20.27 Method setLocation()

```
public final void  
setLocation(  
    double easting,  
    double northing,  
    double altitude  
)
```

Assigns from the specified UTM values.

Parameters:

easting - easting in km
northing - northin in km
altitude - altitude in m

17.20.28 Method setLocation()

```
public void  
setLocation( mil.dtra.hpac.data.Location from )
```

Assigns the specified location, converting to UTM if necessary.

Parameters:

from - location object to copy or convert

17.20.29 Method setMGRS()

```
public final void
setMGRS( java.lang.String value )
```

Accessor for the *MGRS* property.

Parameters:

value - MGRS string

17.20.30 Method setNorthing()

```
public final void
setNorthing( double northing )
```

Accessor for the *northing* property.

Parameters:

northing - northing value in kilometers

17.20.31 Method setPosition()

```
public final void
setPosition(
    double easting,
    double northing
)
```

Assigns the easting and northing.

Parameters:

easting - easting value in km
northing - northing value in km

17.20.32 Method setPosition()

```
public final void
setPosition( java.awt.geom.Point2D position )
```

Assigns the easting and northing from the coordinate.

Parameters:

position - easting and northing in km

17.20.33 Method setZone()

```
public final void
setZone( int zone )
```

Accessor for the *zone* property.

Parameters:

zone - datums zone value

Exceptions:

IllegalArgumentException - if the zone is not in the range [1..60]

17.20.34 Method toString()

```
public java.lang.String
toString()
```

Produces a string representation consisting of a comma-delimited tuple with properties in order: *datumIndex, zone, easting, northing, MGRS, altitude*.

Returns:

string representation

17.20.35 Method updateMGRS()

```
public void
updateMGRS()
```

Uses Datums to update the MGRS for the current zone, easting, and northing.

Exceptions:

IllegalStateException - if the conversion fails

17.20.36 Method updateZoneEastingNorthing()

```
public void
updateZoneEastingNorthing()
```

Uses Datums to update the zone, easting, and northing for the current MGRS.

Exceptions:

IllegalArgumentException - if the zone is not in the range [1..60]

17.20.37 Method valueOf()

```
public void
valueOf( java.lang.String value )
```

Assigns this object's property values by parsing a string representation. The property values form a comma-delimited tuple in order: *datumIndex, zone, easting, northing, MGRS, altitude*.

Parameters:

value - string representation

Returns:

string representation

Exceptions:

IllegalArgumentException - on format errors
 NumberFormatException - on invalid numbers

17.20.38 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Serializes this object.

Parameters:

props - object containing property values
 key - property key, where null implies blank

Exceptions:

IOException - on I/O error

CHAPTER 18

Package mil.dtra.hpac.data.project

Contains support classes defining a project.

Classes:

- Audit
- Flags
- Limits
- Options
- SpatialDomain
- TemporalDomain

18.1 Class Audit

```
mil.dtra.hpac.data.project
public Audit
extends AbstractPropsSerializer
implements Cloneable, Serializable,
```

Class implementing PropsSerializer which corresponds to the IDL AuditT structure.

Fields:

```
public static final java.lang.String CONF
protected java.lang.String fAnalyst
protected java.lang.String fClassification
protected java.lang.String fDate
protected java.lang.String fHPACVersion
protected java.lang.String fProjectTitle
public static final java.lang.String SECRET
public static final java.lang.String TS
public static final java.lang.String UNCL
```

Methods:

```

public java.lang.Object clone()
public boolean equals()
public final java.lang.String getAnalyst()
public final java.lang.String getClassification()
public final java.lang.String getDate()
public final java.lang.String getHPACVersion()
public final java.lang.String getTitle()
public final void setAnalyst()
public final void setClassification()
public final void setDate()
public final void setHPACVersion()
public final void setTitle()
public mil.dtra.hpac.server.project.AuditT toAuditT()

```

18.1.1 Field CONF

public static final java.lang.String **CONF**

"Confidential" classification

18.1.2 Field fAnalyst

protected java.lang.String **fAnalyst**

18.1.3 Field fClassification

protected java.lang.String **fClassification**

18.1.4 Field fDate

protected java.lang.String **fDate**

18.1.5 Field fHPACVersion

protected java.lang.String **fHPACVersion**

18.1.6 Field fProjectTitle

protected java.lang.String **fProjectTitle**

18.1.7 Field SECRET

public static final java.lang.String **SECRET**

"Secret" classification

18.1.8 Field TS

```
public static final java.lang.String TS
```

"Top Secret" classification

18.1.9 Field UNCL

```
public static final java.lang.String UNCL
```

"Unclassified" classification

18.1.10 Constructor Audit()

```
public  
Audit()
```

Default constructor.

18.1.11 Constructor Audit()

```
public  
Audit( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing material properties

Exceptions:

IOException - on I/O error

18.1.12 Constructor Audit()

```
public  
Audit(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String prefix  
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
 prefix - property key prefix

Exceptions:

IOException - on I/O error

18.1.13 Method clone()

public java.lang.Object
clone()

Overrides Cloneable.

18.1.14 Method equals()

public boolean
equals(java.lang.Object obj)

Overrides Object.equals() to compare property values.

18.1.15 Method getAnalyst()

public final java.lang.String
getAnalyst()

Accessor for the *analyst* property.

Returns:

name of the analyst

18.1.16 Method getClassification()

public final java.lang.String
getClassification()

Accessor for the *classification* property.

Returns:

classification level

18.1.17 Method getDate()

```
public final java.lang.String  
getDate()
```

Accessor for the *date* property.

Returns:

date string

18.1.18 Method getHPACVersion()

```
public final java.lang.String  
getHPACVersion()
```

Accessor for the *HPACVersion* property.

Returns:

HPAC version

18.1.19 Method getTitle()

```
public final java.lang.String  
getTitle()
```

Accessor for the *projectTitle* property.

Returns:

project title

18.1.20 Method setAnalyst()

```
public final void  
setAnalyst( java.lang.String value )
```

Accessor for the *analyst* property.

Parameters:

value - name of the analyst

18.1.21 Method **setClassification()**

```
public final void  
setClassification( java.lang.String value )
```

Accessor for the *classification* property.

Parameters:

value - classification level

18.1.22 Method **setDate()**

```
public final void  
setDate( java.lang.String value )
```

Accessor for the *date* property.

Parameters:

value - date string

18.1.23 Method **setHPACVersion()**

```
public final void  
setHPACVersion( java.lang.String value )
```

Accessor for the *HPACVersion* property.

Parameters:

value - HPAC version

18.1.24 Method **setProjectTitle()**

```
public final void  
setProjectTitle( java.lang.String value )
```

Accessor for the *projectTitle* property.

Parameters:

value - project title

18.1.25 Method toAuditT()

```
public mil.dtra.hpac.server.project.AuditT
toAuditT()
```

Creates a new AuditT object with properties copied from this.

Returns:

new object with properties copied from this

18.2 Class Flags

```
mil.dtra.hpac.data.project
public Flags
extends Object
implements Cloneable, PropsSerializer, Serializable,
```

Class implementing PropsSerializer which corresponds to the IDL FlagsT structure.

Fields:

```
protected mil.dtra.hpac.data.project.Audit fAudit
protected boolean fRestartFlag
protected int fScipuffMethod
protected int fScipuffMode
public static final java.lang.String PROP_audit
public static final java.lang.String PROP_restartFlag
public static final java.lang.String PROP_scipuffMethod
public static final java.lang.String PROP_scipuffMode
```

Methods:

```
public java.lang.Object clone()
public boolean equals()
public final mil.dtra.hpac.data.project.Audit getAudit()
public final boolean getRestartFlag()
public final int getScipuffMethod()
public final int getScipuffMode()
public void readProps()
public final void setAudit()
public final void setRestartFlag()
public final void setScipuffMethod()
public final void setScipuffMode()
public mil.dtra.hpac.server.project.FlagsT toFlagsT()
public static java.lang.String toScipuffMethodString()
public static java.lang.String toScipuffModeString()
public static int valueOfScipuffMethod()
public static int valueOfScipuffMode()
public void writeProps()
```

18.2.1 Field fAudit

protected mil.dtra.hpac.data.project.Audit **fAudit**

18.2.2 Field fRestartFlag

protected boolean **fRestartFlag**

(HPACtool: restart)

18.2.3 Field fScipuffMethod

protected int **fScipuffMethod**

(HPACtool: method)

18.2.4 Field fScipuffMode

protected int **fScipuffMode**

(HPACtool: mode)

18.2.5 Field PROP_audit

public static final java.lang.String **PROP_audit**

18.2.6 Field PROP_restartFlag

public static final java.lang.String **PROP_restartFlag**

18.2.7 Field PROP_scipuffMethod

public static final java.lang.String **PROP_scipuffMethod**

18.2.8 Field PROP_scipuffMode

public static final java.lang.String **PROP_scipuffMode**

18.2.9 Constructor Flags()

public
Flags()

Default constructor.

18.2.10 Constructor Flags()

```
public
Flags( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing material properties

Exceptions:

IOException - on I/O error

18.2.11 Constructor Flags()

```
public
Flags(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

18.2.12 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

18.2.13 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides `Object.equals()` to compare property values.

18.2.14 Method getAudit()

```
public final mil.dtra.hpac.data.project.Audit
getAudit()
```

Accessor for the *audit* property.

Returns:

copy of the audit object

18.2.15 Method getRestartFlag()

```
public final boolean
getRestartFlag()
```

Accessor for the *restartFlag* property.

Returns:

true if the calculation is to be restarted

18.2.16 Method getScipuffMethod()

```
public final int
getScipuffMethod()
```

Accessor for the *scipuffMethod* property.

Returns:

method value, a bitwise combination of `HF_DENSE.value`, `HF_DYNAMIC.value`, `HF_STATIC.value`.

18.2.17 Method getScipuffMode()

```
public final int
getScipuffMode()
```

Accessor for the *scipuffMode* property.

Returns:

mode value, a bitwise combination of `HF_FAST.value`, `HF_HAZARD.value`, `HF_DUAL.value`.

18.2.18 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Performs explicit properties deserialization.

Parameters:

`props` - object containing property values
`key` - property key, where null implies blank

Exceptions:

`IOException` - on I/O error

18.2.19 Method setAudit()

```
public final void
setAudit( mil.dtra.hpac.data.project.Audit audit )
```

Accessor for the *audit* property.

Parameters:

`audit` - audit object to be copied

18.2.20 Method setRestartFlag()

```
public final void
setRestartFlag( boolean value )
```

Accessor for the *restartFlag* property.

Parameters:

value - true if the calculation is to be restarted

18.2.21 Method setScipuffMethod()

```
public final void
setScipuffMethod( int value )
```

Accessor for the *scipuffMethod* property.

Parameters:

value - bitwise combination of HF_DENSE.value, HF_DYNAMIC.value, HF_STATIC.value.

18.2.22 Method setScipuffMode()

```
public final void
setScipuffMode( int value )
```

Accessor for the *scipuffMode* property.

Returns:

bitwise combination of HF_FAST.value, HF_HAZARD.value, HF_DUAL.value.

18.2.23 Method toFlagsT()

```
public mil.dtra.hpac.server.project.FlagsT
toFlagsT()
```

Creates a new FlagsT object with property values copied from this.

Returns:

new object with properties copied from this

18.2.24 Method **toScipuffMethodString()**

```
public static java.lang.String  
toScipuffMethodString( int method )
```

Converts a scipuff method value to a string equivalent.

Parameters:

method - method value

Returns:

string representation

18.2.25 Method **toScipuffModeString()**

```
public static java.lang.String  
toScipuffModeString( int mode )
```

Converts a scipuff mode value to a string equivalent.

Parameters:

mode - mode value

Returns:

string representation

18.2.26 Method **valueOfScipuffMethod()**

```
public static int  
valueOfScipuffMethod( java.lang.String value )
```

Parses a string representation of a scipuff method value.

Parameters:

value - string representation

Returns:

method value

18.2.27 Method valueOfScipuffMode()

```
public static int
valueOfScipuffMode( java.lang.String value )
```

Parses a string representation of a scipuff mode value.

Parameters:

value - string representation

Returns:

mode value

18.2.28 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Performs explicit properties serialization.

Parameters:

props - object containing property values
key - property key, where null implies blank

Exceptions:

IOException - on I/O error

18.3 Class Limits

```
mil.dtra.hpac.data.project
public Limits
extends Object
implements Cloneable, PropsSerializer, Serializable,
```

Class implementing `PropsSerializer` which corresponds to the IDL `LimitT` structure.

Fields:

```
protected int fMaxGridCellsPerSurface
protected int fMaxMetHorzSize
protected int fMaxPuffs
```

Methods:

```
public java.lang.Object clone()
public boolean equals()
public final int getMaxGridCellsPerSurface()
public final int getMaxMetHorzSize()
public final int getMaxPuffs()
public void readProps()
public final void setMaxGridCellsPerSurface()
public final void setMaxMetHorzSize()
public final void setMaxPuffs()
public mil.dtra.hpac.server.project.LimitT toLimitT()
public void writeProps()
```

18.3.1 Field fMaxGridCellsPerSurface

protected int fMaxGridCellsPerSurface

(HPACtool: surfaceGrid)

18.3.2 Field fMaxMetHorzSize

protected int fMaxMetHorzSize

(HPACtool: met1D)

18.3.3 Field fMaxPuffs

protected int fMaxPuffs

(HPACtool: puffs)

18.3.4 Constructor Limits()

```
public
Limits()
```

Default constructor.

18.3.5 Constructor Limits()

```
public
Limits( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing material properties

Exceptions:

IOException - on I/O error

18.3.6 Constructor Limits()

```
public
Limits(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

18.3.7 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

18.3.8 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides `Object.equals()` to compare property values.

18.3.9 Method getMaxGridCellsPerSurface()

```
public final int
getMaxGridCellsPerSurface()
```

Accessor for the `maxGridCellsPerSurface` property (HPACTool: `surfaceGrid`).

Returns:

max number of grid cells per surface

18.3.10 Method getMaxMetHorzSize()

```
public final int
getMaxMetHorzSize()
```

Accessor for the `maxMetHorzSize` property (HPACTool: `met1D`).

Returns:

max horizontal extent of the met grid

18.3.11 Method getMaxPuffs()

```
public final int
getMaxPuffs()
```

Accessor for the `maxPuffs` property (HPACTool: `puffs`).

Returns:

max number of puffs to track

18.3.12 Method `readProps()`

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Reads property values from the specified properties object assuming the property key prefix.

Parameters:

props - object containing property values
 key - property key, where null implies blank

18.3.13 Method `setMaxGridCellsPerSurface()`

```
public final void
setMaxGridCellsPerSurface( int value )
```

Accessor for the *maxGridCellsPerSurface* property (HPACtool: *surfaceGrid*).

Parameters:

value - max number of grid cells per surface

18.3.14 Method `setMaxMetHorzSize()`

```
public final void
setMaxMetHorzSize( int value )
```

Accessor for the *maxMetHorzSize* property (HPACtool: *met1D*).

Parameters:

value - max horizontal extent of the met grid

18.3.15 Method `setMaxPuffs()`

```
public final void
setMaxPuffs( int value )
```

Accessor for the *maxPuffs* property (HPACTool: *puffs*).

Parameters:

value - max number of puffs to track

18.3.16 Method toLimitT()

```
public mil.dtra.hpac.server.project.LimitT
toLimitT()
```

Creates a new LimitT object with properties copied from this.

Returns:

new object with properties copied from this

18.3.17 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Writes property values to the specified properties object assuming the property key prefix.

Parameters:

props - object containing property values
key - property key, where null implies blank

18.4 Class Options

```
mil.dtra.hpac.data.project
public Options
extends AbstractPropsSerializer
implements Cloneable, Serializable,
```

Class implementing PropsSerializer which corresponds to the IDL OptionsT structure.

Fields:

```
protected double fAdaptiveGridMinSize
protected int fGridResolution
protected double fPuffMinMass
protected mil.dtra.hpac.data.LargeString fSamplerLocations
protected double fSamplerMinOutputInterval
protected int fSubstrateIndex
protected double fSurfaceDoseHeight
protected double fTropoAvgEnergyDissipationRate
protected double fTropoVertLengthScale
protected double fTropoVertVelocityVariance
```

```
protected double fTurbDiffusiveAvgTime
protected double fTurbLightWindScale
protected double fTurbLightWindValue
protected int fTurbVertGridPointCount
```

Methods:

```
public java.lang.Object clone()
public boolean equals()
public final double getAdaptiveGridMinSize()
public final int getGridResolution()
public final double getPuffMinMass()
public final mil.dtra.hpac.data.LargeString getSamplerLocations()
public final double getSamplerMinOutputInterval()
public final int getSubstrateIndex()
public final double getSurfaceDoseHeight()
public final double getTropoAvgEnergyDissipationRate()
public final double getTropoVertLengthScale()
public final double getTropoVertVelocityVariance()
public final double getTurbDiffusiveAvgTime()
public final double getTurbLightWindScale()
public final double getTurbLightWindValue()
public final int getTurbVertGridPointCount()
public final void setAdaptiveGridMinSize()
public final void setGridResolution()
public final void setPuffMinMass()
public final void setSamplerLocations()
public final void setSamplerMinOutputInterval()
public final void setSubstrateIndex()
public final void setSurfaceDoseHeight()
public final void setTropoAvgEnergyDissipationRate()
public final void setTropoVertLengthScale()
public final void setTropoVertVelocityVariance()
public final void setTurbDiffusiveAvgTime()
public final void setTurbLightWindScale()
public final void setTurbLightWindValue()
public final void setTurbVertGridPointCount()
public mil.dtra.hpac.server.project.OptionsT toOptionsT()
```

18.4.1 Field fAdaptiveGridMinSize

protected double fAdaptiveGridMinSize

Minimum grid size for the adaptive grids in meters (HPACtool: delMin)

18.4.2 Field fGridResolution**protected int fGridResolution**

Grid resolution parameter that limits the horizontal growth of a puff (HPACtool: mGrd)

18.4.3 Field fPuffMinMass**protected double fPuffMinMass**

Minimum puff mass in material mass units. A puff with mass less than this value does not split or distort due to velocity gradients but it may merge with other puffs. (HPACtool: massMin)

18.4.4 Field fSamplerLocations**protected mil.dtra.hpac.data.LargeString fSamplerLocations**

Sampler location file contents (HPACtool: samplerFile)

18.4.5 Field fSamplerMinOutputInterval**protected double fSamplerMinOutputInterval**

Minimum output interval for output of sampler data (HPACtool: dtSampler)

18.4.6 Field fSubstrateIndex**protected int fSubstrateIndex**

Zero-based index into the list of available substrate types for the secondary evaporation model. (HPACtool: substrate)

18.4.7 Field fSurfaceDoseHeight**protected double fSurfaceDoseHeight**

Height in meters above the surface where the surface dose is calculated (HPACtool: zDosage)

18.4.8 Field fTropoAvgEnergyDissipationRate**protected double fTropoAvgEnergyDissipationRate**Average tropospheric energy dissipation rate in m²/s³ (HPACtool: epsTrop)**18.4.9 Field fTropoVertLengthScale****protected double fTropoVertLengthScale**

Tropospheric vertical length scale in meters (HPACtool: s1Trop)

18.4.10 Field fTropoVertVelocityVariance

protected double **fTropoVertVelocityVariance**

Tropospheric vertical velocity variance in m²/s² (HPACtool: wwTrop)

18.4.11 Field fTurbDiffusiveAvgTime

protected double **fTurbDiffusiveAvgTime**

Average time in seconds for defining the diffusive component of turbulence (HPACtool: timeAvg)

18.4.12 Field fTurbLightWindScale

protected double **fTurbLightWindScale**

Turbulence scale in meters used in light wind conditions (HPACtool: s1Calm)

18.4.13 Field fTurbLightWindValue

protected double **fTurbLightWindValue**

Minimum turbulence value used under light wind conditions in m²/s² (HPACtool: uuCalm)

18.4.14 Field fTurbVertGridPointCount

protected int **fTurbVertGridPointCount**

Number of grid points used in the vertical direction to represent the turbulence profiles in the boundary layer (HPACtool: nzBL)

18.4.15 Constructor Options()

public
Options()

Default constructor.

18.4.16 Constructor Options()

public
Options(java.lang.String url)

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing material properties

Exceptions:

IOException - on I/O error

18.4.17 Constructor Options()

```
public
Options(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

18.4.18 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

18.4.19 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides Object.equals() to compare property values.

18.4.20 Method getAdaptiveGridMinSize()

```
public final double
getAdaptiveGridMinSize()
```

Accessor for the *adaptiveGridMinSize* property (HPACtool: `delMin`).

Returns:

min grid size in meters

18.4.21 Method getGridResolution()

```
public final int
getGridResolution()
```

Accessor for the *gridResolution* property (HPACtool: `mGrd`).

Returns:

number of grids

18.4.22 Method getPuffMinMass()

```
public final double
getPuffMinMass()
```

Accessor for the *puffMinMass* property (HPACtool: `massMin`).

Returns:

min puff mass in material units

18.4.23 Method getSamplerLocations()

```
public final mil.dtra.hpac.data.LargeString
getSamplerLocations()
```

Accessor for the *samplerLocations* property (HPACtool: `samplerFile`).

Returns:

sampler location file contents object reference

18.4.24 Method getSamplerMinOutputInterval()

```
public final double
getSamplerMinOutputInterval()
```

Accessor for the *samplerMinOutputInterval* property (HPACtool: dtSampler).

Returns:

min output interval in seconds

18.4.25 Method getSubstrateIndex()

```
public final int
getSubstrateIndex()
```

Accessor for the *substrateIndex* property (HPACtool: substrate).

Returns:

zero-based index into the list of available substrate types fo the secondary evaporation model

18.4.26 Method getSurfaceDoseHeight()

```
public final double
getSurfaceDoseHeight()
```

Accessor for the *surfaceDoseHeight* property (HPACtool: zDosage).

Returns:

height in meters

18.4.27 Method getTropoAvgEnergyDissipationRate()

```
public final double
getTropoAvgEnergyDissipationRate()
```

Accessor for the *tropoAvgEnergyDissipationRate* property (HPACtool: epsTrop).

Returns:

rate in m²/s³

18.4.28 Method `getTropoVertLengthScale()`

```
public final double
getTropoVertLengthScale()
```

Accessor for the *tropoVertLengthScale* property (HPACtool: `s1Trop`).

Returns:

scale in meters

18.4.29 Method `getTropoVertVelocityVariance()`

```
public final double
getTropoVertVelocityVariance()
```

Accessor for the *tropoVertVelocityVariance* property (HPACtool: `wwTrop`).

Returns:

variance in m²/s²

18.4.30 Method `getTurbDiffusiveAvgTime()`

```
public final double
getTurbDiffusiveAvgTime()
```

Accessor for the *turbDiffusiveAvgTime* property (HPACtool: `timeAvg`).

Returns:

time in seconds

18.4.31 Method `getTurbLightWindScale()`

```
public final double
getTurbLightWindScale()
```

Accessor for the *turbLightWindScale* property (HPACtool: `s1Calm`).

Returns:

scale in meters

18.4.32 Method `getTurbLightWindValue()`

```
public final double
getTurbLightWindValue()
```

Accessor for the *turbLightWindValue* property (HPACtool: uuCalm).

Returns:

turbulence in m²/s²

18.4.33 Method `getTurbVertGridPointCount()`

```
public final int
getTurbVertGridPointCount()
```

Accessor for the *turbVertGridPointCount* property (HPACtool: nzBL).

Returns:

number of vertical grid points

18.4.34 Method `setAdaptiveGridMinSize()`

```
public final void
setAdaptiveGridMinSize( double value )
```

Accessor for the *adaptiveGridMinSize* property (HPACtool: delMin).

Parameters:

value - min grid size in meters

18.4.35 Method `setGridResolution()`

```
public final void
setGridResolution( int value )
```

Accessor for the *gridResolution* property (HPACtool: mGrd).

Parameters:

value - number of grids

18.4.36 Method setPuffMinMass()

```
public final void
setPuffMinMass( double value )
```

Accessor for the *puffMinMass* property (HPACtool: `massMin`).

Parameters:

value - min puff mass in material units

18.4.37 Method setSamplerLocations()

```
public final void
setSamplerLocations( mil.dtra.hpac.data.LargeString value )
```

Accessor for the *samplerLocations* property (HPACtool: `samplerFile`).

Parameters:

value - sampler location file contents (copied)

18.4.38 Method setSamplerMinOutputInterval()

```
public final void
setSamplerMinOutputInterval( double value )
```

Accessor for the *samplerMinOutputInterval* property (HPACtool: `dtSampler`).

Parameters:

value - min output interval in seconds

18.4.39 Method setSubstrateIndex()

```
public final void
setSubstrateIndex( int value )
```

Accessor for the *substrateIndex* property (HPACtool: `substrate`).

Parameters:

value - zero-based index into the list of available substrate types fo the secondary evaporation model

18.4.40 Method setSurfaceDoseHeight()

```
public final void
setSurfaceDoseHeight( double value )
```

Accessor for the *surfaceDoseHeight* property (HPACtool: *zDosage*).

Parameters:

value - height in meters

18.4.41 Method setTropoAvgEnergyDissipationRate()

```
public final void
setTropoAvgEnergyDissipationRate( double value )
```

Accessor for the *tropoAvgEnergyDissipationRate* property (HPACtool: *epsTrop*).

Parameters:

value - rate in m²/s³

18.4.42 Method setTropoVertLengthScale()

```
public final void
setTropoVertLengthScale( double value )
```

Accessor for the *tropoVertLengthScale* property (HPACtool: *s1Trop*).

Parameters:

value - scale in meters

18.4.43 Method setTropoVertVelocityVariance()

```
public final void
setTropoVertVelocityVariance( double value )
```

Accessor for the *tropoVertVelocityVariance* property (HPACtool: *wwTrop*).

Parameters:

value - variance in m²/s²

18.4.44 Method setTurbDiffusiveAvgTime()

```
public final void
setTurbDiffusiveAvgTime( double value )
```

Accessor for the *turbDiffusiveAvgTime* property (HPACtool: *timeAvg*).

Parameters:

value - time in seconds

18.4.45 Method setTurbLightWindScale()

```
public final void
setTurbLightWindScale( double value )
```

Accessor for the *turbLightWindScale* property (HPACtool: *s1Calm*).

Parameters:

value - scale in meters

18.4.46 Method setTurbLightWindValue()

```
public final void
setTurbLightWindValue( double value )
```

Accessor for the *turbLightWindValue* property (HPACtool: *uuCalm*).

Parameters:

value - turbulence in m²/s²

18.4.47 Method setTurbVertGridPointCount()

```
public final void
setTurbVertGridPointCount( int value )
```

Accessor for the *turbVertGridPointCount* property (HPACtool: *nzBL*).

Parameters:

value - number of vertical grid points

18.4.48 Method **toOptionsT()**

```
public mil.dtra.hpac.server.project.OptionsT
toOptionsT()
```

Creates a new OptionsT object with properties copied from this.

Returns:

new object with properties copied from this

18.5 Class SpatialDomain

```
mil.dtra.hpac.data.project
public SpatialDomain
extends Object
implements Cloneable, PropsSerializer, Serializable,
```

Class implementing PropsSerializer which corresponds to the IDL SpatialDomainT structure.

Fields:

```
protected boolean fComputeDefaultFlag
protected double fHorizontalResolution
protected mil.dtra.hpac.data.Location fNorthEast
protected mil.dtra.hpac.data.Location fSouthWest
protected double fVerticalResolution
public static final int LOG_level
public static final double MAX_LAT
public static final double MIN_LAT
public static final java.lang.String PROP_computeDefaultFlag
public static final java.lang.String PROP_horizontalResolution
public static final java.lang.String PROP_northEast
public static final java.lang.String PROP_southWest
public static final java.lang.String PROP_verticalResolution
```

Methods:

```
public java.lang.Object clone()
public java.awt.geom.Rectangle2D computeBounds()
public boolean equals()
public void fromSpatialDomainT()
public final boolean getComputeDefaultFlag()
public final double getHorizontalResolution()
public final double getMaxAltitude()
public final mil.dtra.hpac.data.Location getNorthEast()
public final mil.dtra.hpac.data.Location getSouthWest()
public final double getVerticalResolution()
```

```

public void readProps()
public final void setComputeDefaultFlag()
public final void setHorizontalResolution()
public final void setMaxAltitude()
public final void setNorthEast()
public final void setSouthWest()
public final void setVerticalResolution()
public mil.dtra.hpac.server.project.SpatialDomainT toSpatialDomainT()
public void valueOf()
public void writeProps()

```

18.5.1 Field fComputeDefaultFlag

protected boolean **fComputeDefaultFlag**

18.5.2 Field fHorizontalResolution

protected double **fHorizontalResolution**

in meters

18.5.3 Field fNorthEast

protected mil.dtra.hpac.data.Location **fNorthEast**

18.5.4 Field fSouthWest

protected mil.dtra.hpac.data.Location **fSouthWest**

18.5.5 Field fVerticalResolution

protected double **fVerticalResolution**

in meters

18.5.6 Field LOG_level

public static final int **LOG_level**

18.5.7 Field MAX_LAT

public static final double **MAX_LAT**

18.5.8 Field MIN_LAT

```
public static final double MIN_LAT
```

18.5.9 Field PROP_computeDefaultFlag

```
public static final java.lang.String PROP_computeDefaultFlag
```

18.5.10 Field PROP_horizontalResolution

```
public static final java.lang.String PROP_horizontalResolution
```

18.5.11 Field PROP_northEast

```
public static final java.lang.String PROP_northEast
```

18.5.12 Field PROP_southWest

```
public static final java.lang.String PROP_southWest
```

18.5.13 Field PROP_verticalResolution

```
public static final java.lang.String PROP_verticalResolution
```

18.5.14 Constructor SpatialDomain()

```
public  
SpatialDomain()
```

Default constructor.

18.5.15 Constructor SpatialDomain()

```
public  
SpatialDomain( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing material properties

Exceptions:

IOException - on I/O error

18.5.16 Constructor SpatialDomain()

```
public  
SpatialDomain( mil.dtra.hpac.server.project.SpatialDomainT domain )
```

Constructs from the specified SpatialDomainT object.

Parameters:

domain - domain object

18.5.17 Constructor SpatialDomain()

```
public  
SpatialDomain(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String prefix  
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

18.5.18 Method clone()

```
public java.lang.Object  
clone()
```

Overrides Cloneable.

18.5.19 Method computeBounds()

```
public java.awt.geom.Rectangle2D
computeBounds()
```

Generates a lon-lat bounding box from the 2D domain.

Returns:

horizontal bounds for this domain from southwest to northeast

18.5.20 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides `Object.equals()` to compare property values.

18.5.21 Method fromSpatialDomainT()

```
public void
fromSpatialDomainT( mil.dtra.hpac.server.project.SpatialDomainT from )
```

Copies property values from a `SpatialDomainT` object.

Parameters:

`from` - object from which to copy property values.

18.5.22 Method getComputeDefaultFlag()

```
public final boolean
getComputeDefaultFlag()
```

Accessor for the `computeDefaultFlag` property.

Returns:

true if this domain is to be computed based on release definitions in the project

18.5.23 Method `getHorizontalResolution()`

```
public final double  
getHorizontalResolution()
```

Accessor for the *horizontalResolution* property.

Returns:

horizontal resolution in meters

18.5.24 Method `getMaxAltitude()`

```
public final double  
getMaxAltitude()
```

Convenience method to return the altitude from the *northEast* property.

Returns:

altitude value in meters

18.5.25 Method `getNorthEast()`

```
public final mil.dtra.hpac.data.Location  
getNorthEast()
```

Accessor for the *northEast* property.

Returns:

copy of the north east location value

18.5.26 Method `getSouthWest()`

```
public final mil.dtra.hpac.data.Location  
getSouthWest()
```

Accessor for the *southWest* property.

Returns:

copy of the south west location value

18.5.27 Method getVerticalResolution()

```
public final double
getVerticalResolution()
```

Accessor for the *verticalResolution* property.

Returns:

vertical resolution in meters

18.5.28 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Implements *PropsSerializer* with explicit deserialization due to convenience setters.

Parameters:

props - object containing property values
key - property key, where null implies blank

18.5.29 Method setComputeDefaultFlag()

```
public final void
setComputeDefaultFlag( boolean flag )
```

Accessor for the *computeDefaultFlag* property.

Parameters:

flag - true if this domain is to be computed based on release definitions in the project

18.5.30 Method setHorizontalResolution()

```
public final void
setHorizontalResolution( double res )
```

Accessor for the *horizontalResolution* property.

Parameters:

res - horizontal resolution in meters

18.5.31 Method setMaxAltitude()

```
public final void
setMaxAltitude( double altitude )
```

Convenience method to set the altitude of the *northEast* property.

Parameters:

altitude - altitude in meters

18.5.32 Method setNorthEast()

```
public final void
setNorthEast( mil.dtra.hpac.data.Location loc )
```

Accessor for the *northEast* property.

Parameters:

loc - north east location object to copy

18.5.33 Method setSouthWest()

```
public final void
setSouthWest( mil.dtra.hpac.data.Location loc )
```

Accessor for the *southWest* property.

Parameters:

loc - south west location object to copy

18.5.34 Method setVerticalResolution()

```
public final void
setVerticalResolution( double res )
```

Accessor for the *verticalResolution* property.

Parameters:

res - vertical resolution in meters

18.5.35 Method toSpatialDomainT()

```
public mil.dtra.hpac.server.project.SpatialDomainT
toSpatialDomainT()
```

Creates a new SpatialDomainT object with properties copied from this.

Returns:

new object with properties copied from this

18.5.36 Method valueOf()

```
public void
valueOf( mil.dtra.hpac.data.project.SpatialDomain domain )
```

Assigns property values from the SpatialDomain object.

Parameters:

domain - object from which to copy properties

18.5.37 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Implements PropsSerializer with explicit serialization due to convenience getters.

Parameters:

props - object containing property values
key - property key, where null implies blank

18.6 Class TemporalDomain

```
mil.dtra.hpac.data.project
public TemporalDomain
extends AbstractPropsSerializer
implements Cloneable, Serializable,
```

Class implementing PropsSerializer which corresponds to the IDL TemporalDomainT structure.

Fields:

```
protected boolean fComputeDefaultFlag
protected mil.dtra.hpac.data.Time fEndTime
protected mil.dtra.hpac.data.Time fStartTime
```

Methods:

```
public java.lang.Object clone()
public boolean equals()
public void fromTemporalDomainT()
public final boolean getComputeDefaultFlag()
public final mil.dtra.hpac.data.Time getEndTime()
public final mil.dtra.hpac.data.Time getStartTime()
public final void setComputeDefaultFlag()
public final void setEndTime()
public final void setStartTime()
public mil.dtra.hpac.server.project.TemporalDomainT toTemporalDomainT()
public void valueOf()
```

18.6.1 Field fComputeDefaultFlag

protected boolean **fComputeDefaultFlag**

18.6.2 Field fEndTime

protected mil.dtra.hpac.data.Time **fEndTime**

18.6.3 Field fStartTime

protected mil.dtra.hpac.data.Time **fStartTime**

18.6.4 Constructor TemporalDomain()

public
TemporalDomain()

Default constructor.

18.6.5 Constructor TemporalDomain()

```
public
TemporalDomain( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing material properties

Exceptions:

IOException - on I/O error

18.6.6 Constructor TemporalDomain()

```
public
TemporalDomain( mil.dtra.hpac.server.project.TemporalDomainT domain )
```

Constructs from the specified TemporalDomainT object.

Parameters:

domain - domain object

18.6.7 Constructor TemporalDomain()

```
public
TemporalDomain(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

18.6.8 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

18.6.9 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides Object.equals() to compare property values.

18.6.10 Method fromTemporalDomainT()

```
public void
fromTemporalDomainT( mil.dtra.hpac.server.project.TemporalDomainT from )
```

Copies property values from a TemporalDomainT object.

Parameters:

from - object from which to copy property values.

18.6.11 Method getComputeDefaultFlag()

```
public final boolean
getComputeDefaultFlag()
```

Accessor for the *computeDefaultFlag* property.

Returns:

true if this domain is to be computed based on release definitions in the project

18.6.12 Method getEndTime()

```
public final mil.dtra.hpac.data.Time
getEndTime()
```

Accessor for the *endTime* property.

Returns:

copy of the end time object

18.6.13 Method **getStartTime()**

```
public final mil.dtra.hpac.data.Time  
getStartTime()
```

Accessor for the *startTime* property.

Returns:

copy of the start time object

18.6.14 Method **setComputeDefaultFlag()**

```
public final void  
setComputeDefaultFlag( boolean flag )
```

Accessor for the *computeDefaultFlag* property.

Parameters:

flag - true if this domain is to be computed based on release definitions in the project

18.6.15 Method **setEndTime()**

```
public final void  
setEndTime( mil.dtra.hpac.data.Time value )
```

Accessor for the *endTime* property.

Parameters:

value - time value to copy

18.6.16 Method **setStartTime()**

```
public final void  
setStartTime( mil.dtra.hpac.data.Time value )
```

Accessor for the *startTime* property.

Parameters:

value - time value to copy

18.6.17 Method `toTemporalDomainT()`

```
public mil.dtra.hpac.server.project.TemporalDomainT  
toTemporalDomainT()
```

Creates a new TemporalDomainT object with properties copied from this.

Returns:

new object with properties copied from this

18.6.18 Method `valueOf()`

```
public void  
valueOf( mil.dtra.hpac.data.project.TemporalDomain domain )
```

Assigns property values from the TemporalDomain object.

Parameters:

domain - object from which to copy properties

CHAPTER 19

Package mil.dtra.hpac.data.release

Contains the various release classes and interfaces.

Interfaces:

Release

Classes:

AbstractRelease
AbstractRelease.PropertyStatusIndex
ContinuousRelease
FileRelease
InstantaneousRelease
LiquidPoolRelease
MovingRelease
ReleaseList
ReleaseUtils
StackRelease
StatusMap

19.1 Interface Release

```
mil.dtra.hpac.data.release
public interface Release
extends Cloneable, PropsSerializer, Serializable,
```

This interface defines the properties and behavior common to all release classes.

Fields:

```
public static final java.lang.String BUOYANCY_UNIT
public static final int CUSTOMIZED
public static final java.lang.String DURATION_UNIT
public static final int EMPTY
```

```

public static final java.lang.String HORZ_SIZE_UNIT
public static final int INVALID
public static final java.lang.String MASS_RATE_UNIT
public static final java.lang.String MASS_UNIT
public static final int MET_DEPENDENT
public static final java.lang.String MO_UNIT
public static final int NOT_CUSTOMIZABLE
public static final java.lang.String PROP_horzSize
public static final java.lang.String PROP_horzUncertainty
public static final java.lang.String PROP_location
public static final java.lang.String PROP_material
public static final java.lang.String PROP_puffDuration
public static final java.lang.String PROP_releaseStatus
public static final java.lang.String PROP_startTime
public static final java.lang.String PROP_vertSize
public static final java.lang.String PROP_vertUncertainty
public static final java.lang.String SIZE_UNIT
public static final java.lang.String SPEED_UNIT
public static final java.lang.String TEMPERATURE_UNIT
public static final java.lang.String TIME_UNIT
public static final int VALID

```

Methods:

```

public boolean checkPropertyCustomized()
public boolean checkPropertyStatus()
public java.lang.Object clone()
public double computeTotalDuration()
public int[] createStatusArray()
public java.lang.String createSummaryString()
public java.lang.String createSummaryString()
public mil.dtra.units.StoredValue getHorzSize()
public mil.dtra.units.StoredValue getHorzUncertainty()
public java.lang.String getID()
public java.lang.String getIncidentID()
public mil.dtra.hpac.data.Location getLocation()
public int getLocationGroup()
public mil.dtra.hpac.material.data.Material getMaterial()
public mil.dtra.units.StoredValue getPuffDuration()
public mil.dtra.hpac.data.Time getStartTime()
public mil.dtra.hpac.data.release.StatusMap getStatusMap()
public mil.dtra.units.StoredValue getVertSize()
public mil.dtra.units.StoredValue getVertUncertainty()
public boolean isMaterialCustomized()
public void loadStatusArray()
public void putPropertyCustomized()
public void putPropertyStatus()

```

```

public void resetID()
public int retrievePropertyStatus()
public void setHorzSize()
public void setHorzUncertainty()
public void setIncidentID()
public void setLocation()
public void setLocationGroup()
public void setMaterial()
public void setMaterialCustomized()
public void setPuffDuration()
public void setStartTime()
public void setVertSize()
public void setVertUncertainty()
public mil.dtra.hpac.server.release.ReleaseT toReleaseT()

```

19.1.1 Field BUOYANCY_UNIT

public static final java.lang.String **BUOYANCY_UNIT**

19.1.2 Field CUSTOMIZED

public static final int **CUSTOMIZED**

Status value indicating the field has been customized by the user in an advanced edit

19.1.3 Field DURATION_UNIT

public static final java.lang.String **DURATION_UNIT**

19.1.4 Field EMPTY

public static final int **EMPTY**

Status value indicating the field is not used

19.1.5 Field HORZ_SIZE_UNIT

public static final java.lang.String **HORZ_SIZE_UNIT**

19.1.6 Field INVALID

public static final int **INVALID**

Status value indicating the field is empty but must be populated before the release is valid

19.1.7 Field MASS_RATE_UNIT

public static final java.lang.String **MASS_RATE_UNIT**

19.1.8 Field MASS_UNIT

public static final java.lang.String **MASS_UNIT**

19.1.9 Field MET_DEPENDENT

public static final int **MET_DEPENDENT**

Status mask indicating the field cannot be filled until met data are available

19.1.10 Field MO_UNIT

public static final java.lang.String **MO_UNIT**

19.1.11 Field NOT_CUSTOMIZABLE

public static final int **NOT_CUSTOMIZABLE**

Status value indicating the field should not be customized

19.1.12 Field PROP_horzSize

public static final java.lang.String **PROP_horzSize**

19.1.13 Field PROP_horzUncertainty

public static final java.lang.String **PROP_horzUncertainty**

19.1.14 Field PROP_location

public static final java.lang.String **PROP_location**

19.1.15 Field PROP_material

public static final java.lang.String **PROP_material**

19.1.16 Field PROP_puffDuration

public static final java.lang.String **PROP_puffDuration**

19.1.17 Field PROP_releaseStatus

public static final java.lang.String PROP_releaseStatus

19.1.18 Field PROP_startTime

public static final java.lang.String PROP_startTime

19.1.19 Field PROP_vertSize

public static final java.lang.String PROP_vertSize

19.1.20 Field PROP_vertUncertainty

public static final java.lang.String PROP_vertUncertainty

19.1.21 Field SIZE_UNIT

public static final java.lang.String SIZE_UNIT

19.1.22 Field SPEED_UNIT

public static final java.lang.String SPEED_UNIT

19.1.23 Field TEMPERATURE_UNIT

public static final java.lang.String TEMPERATURE_UNIT

19.1.24 Field TIME_UNIT

public static final java.lang.String TIME_UNIT

19.1.25 Field VALID

public static final int VALID

Status value indicating the field is valid

19.1.26 Method checkPropertyCustomized()

```
public boolean
checkPropertyCustomized( java.lang.String property_name )
```

Convenience method to check whether or not the specified property is customized.

Parameters:

property_name - should be one of the constants defined here or in the specific implementation class

Returns:

true if customized, false otherwise

19.1.27 Method checkPropertyStatus()

```
public boolean
checkPropertyStatus(
    java.lang.String property_name,
    int mask
)
```

Retrieves the status flag value for specified property name.

Parameters:

property_name - should be one of the constants defined here or in the specific implementation class
mask - mask of property status values to check for the specified property

Returns:

true if all the values in the mask are set for the property, false otherwise

19.1.28 Method clone()

```
public java.lang.Object
clone()
```

All releases must be Cloneable.

19.1.29 Method computeTotalDuration()

```
public double
computeTotalDuration()
```

Computes the total duration for this release. For most releases, this is the *puffDuration* property. Others must add *puffDuration* to a continuous duration.

Returns:

total duration of puffs in hours

19.1.30 Method createStatusArray()

```
public int[]
createStatusArray()
```

Builds an int status array with property status values.

Returns:

array of length `RELEASE_STATUS_LENGTH`.`value` containing property status values

19.1.31 Method createSummaryString()

```
public java.lang.String
createSummaryString()
```

Builds a verbose string summarizing the release.

Returns:

verbose summary string

19.1.32 Method createSummaryString()

```
public java.lang.String
createSummaryString( boolean verbose )
```

Builds a string summarizing the release.

Parameters:

`verbose` - if true, a longer version including the start time is returned, otherwise an abbreviated version is returned

Returns:

summary string

19.1.33 Method `getHorzSize()`

```
public mil.dtra.units.StoredValue  
getHorzSize()
```

Accessor for the *horzSize* property, which is being used as the **radius** by source models.

Returns:

horizontal size (**radius**) in kilometers

19.1.34 Method `getHorzUncertainty()`

```
public mil.dtra.units.StoredValue  
getHorzUncertainty()
```

Accessor for the *horzUncertainty* property.

Returns:

horizontal uncertainty in meters

19.1.35 Method `getID()`

```
public java.lang.String  
getID()
```

Accessor for the *ID* property.

Returns:

unique identifier for this object

19.1.36 Method `getIncidentID()`

```
public java.lang.String  
getIncidentID()
```

Accessor for the *incidentID* property.

Returns:

identifier of incident to which this release belongs, or null if it has yet to be added to an incident's release list

19.1.37 Method getLocation()

```
public mil.dtra.hpac.data.Location
getLocation()
```

Accessor for the *location* property. Note that the coordinate system chosen by the user is inherent in the class of the location object.

Returns:

copy of the location object

19.1.38 Method getLocationGroup()

```
public int
getLocationGroup()
```

Accessor for the *locationGroup* property. Co-located releases should have the same value for this property to indicate releases which must occur at the same physical location. Indexes should, but don't have to, start with 0 and increment by 1.

Returns:

location group index

19.1.39 Method getMaterial()

```
public mil.dtra.hpac.material.data.Material
getMaterial()
```

Accessor for the *material* property.

Returns:

copy of the material object or null if one has yet to be defined

19.1.40 Method getPuffDuration()

```
public mil.dtra.units.StoredValue
getPuffDuration()
```

Accessor for the *puffDuration* property.

Returns:

estimated duration of the puffs related to this release in hours

19.1.41 Method `getStartTime()`

```
public mil.dtra.hpac.data.Time  
getStartTime()
```

Accessor for the *startTime* property.

Returns:

copy of the start time object

19.1.42 Method `getStatusMap()`

```
public mil.dtra.hpac.data.release.StatusMap  
getStatusMap()
```

Accessor for the *statusMap* property.

Returns:

reference to the status map object

19.1.43 Method `getVertSize()`

```
public mil.dtra.units.StoredValue  
getVertSize()
```

Accessor for the *vertSize* property.

Returns:

vertical size in meters

19.1.44 Method `getVertUncertainty()`

```
public mil.dtra.units.StoredValue  
getVertUncertainty()
```

Accessor for the *vertUncertainty* property.

Returns:

vertical uncertainty in meters

19.1.45 Method `isMaterialCustomized()`

```
public boolean
isMaterialCustomized()
```

Accessor for the *materialCustomized* property.

Returns:

true if the material has been customized, false otherwise

19.1.46 Method `loadStatusArray()`

```
public void
loadStatusArray( int[] status )
```

Loads property status values from the integer array.

Parameters:

status - array presumed, but not assumed, to be of length `RELEASE_STATUS_LENGTH`.

19.1.47 Method `putPropertyCustomized()`

```
public void
putPropertyCustomized(
    java.lang.String property_name,
    boolean flag
)
```

Convenience method to set the customized bit of the property status.

Parameters:

property_name - should be one of the constants defined here or in the specific implementation class
 flag - true if the property is to be marked customized, false otherwise

19.1.48 Method putPropertyStatus()

```
public void
putPropertyStatus(
    java.lang.String property_name,
    int status
)
```

Sets the status flag value for specified property name. This corresponds to the status flag arrays used in HPAC engine release data structures.

Parameters:

property_name - should be one of the constants defined here or in the specific implementation class
 status - status value, constants for which are defined in this interface

19.1.49 Method resetID()

```
public void
resetID()
```

Creates a new unique identifier for this object based on the current time.

19.1.50 Method retrievePropertyStatus()

```
public int
retrievePropertyStatus( java.lang.String property_name )
```

Retrieves the status flag value for specified property name.

Returns:

flag value, for which mask constants are defined in the Release interface

19.1.51 Method setHorzSize()

```
public void
setHorzSize( mil.dtra.units.StoredValue value )
```

Accessor for the *horzSize* property.

Parameters:

value - horizontal size in kilometers

19.1.52 Method setHorzUncertainty()

```
public void  
setHorzUncertainty( mil.dtra.units.StoredValue value )
```

Accessor for the *horzUncertainty* property.

Parameters:

value - horizontal uncertainty in meters

19.1.53 Method setIncidentID()

```
public void  
setIncidentID( java.lang.String name )
```

Accessor for the *incidentID* property.

Parameters:

name - identifier of incident to which this release belongs

19.1.54 Method setLocation()

```
public void  
setLocation( mil.dtra.hpac.data.Location loc )
```

Accessor for the *location* property.

Parameters:

loc - location object to copy

Exceptions:

IllegalStateException - if UTM conversion failed

19.1.55 Method setLocationGroup()

```
public void
setLocationGroup( int group )
```

Accessor for the *locationGroup* property. Co-located releases should have the same value for this property to indicate release which must occur at the same physical location. Indexes should, but don't have to, start with 0 and increment by 1.

Parameters:

group - location group index

19.1.56 Method setMaterial()

```
public void
setMaterial( mil.dtra.hpac.material.data.Material material )
```

Accessor for the *material* property.

Parameters:

material - material object to copy

19.1.57 Method setMaterialCustomized()

```
public void
setMaterialCustomized( boolean customized )
```

Accessor for the *materialCustomized* property.

Parameters:

customized - true if the material has been customized, false otherwise

19.1.58 Method setPuffDuration()

```
public void
setPuffDuration( mil.dtra.units.StoredValue value )
```

Accessor for the *puffDuration* property.

Parameters:

value - estimated duration of the puffs related to this release in hours

19.1.59 Method setStartTime()

```
public void
setStartTime( mil.dtra.hpac.data.Time value )
```

Accessor for the *startTime* property.

Parameters:

time - time object from which to copy start time values

19.1.60 Method setVertSize()

```
public void
setVertSize( mil.dtra.units.StoredValue value )
```

Accessor for the *vertSize* property.

Parameters:

value - vertical size in meters

19.1.61 Method setVertUncertainty()

```
public void
setVertUncertainty( mil.dtra.units.StoredValue value )
```

Accessor for the *vertUncertainty* property.

Parameters:

value - vertical uncertainty in meters

19.1.62 Method toReleaseT()

```
public mil.dtra.hpac.server.release.ReleaseT
toReleaseT()
```

Builds a *ReleaseT* object corresponding to this.

Returns:

new *ReleaseT* object

19.2 Class AbstractRelease

```
mil.dtra.hpac.data.release
public abstract AbstractRelease
extends Object
implements Release, StandardUnits,
```

This is the base class for all release types and defines properties common to all releases. It also provides static methods for instantiating `Release` objects from and storing them to representation in properties objects.

Status flags are handled by using a `java.util.HashMap`. Properties which are not represented in the map are assumed to have an `INVALID` status.

Fields:

```
public static final java.text.DateFormat DATETIME_FORMAT
protected mil.dtra.units.DistanceValue fHorzSize
protected mil.dtra.units.DistanceValue fHorzUncertainty
protected java.lang.String fID
protected java.lang.String fIncidentID
protected mil.dtra.hpac.data.Location fLocation
protected int fLocationGroup
protected mil.dtra.hpac.material.data.Material fMaterial
protected boolean fMaterialCustomized
protected mil.dtra.units.TimeValue fPuffDuration
protected mil.dtra.hpac.data.Time fStartTime
protected mil.dtra.hpac.data.release.StatusMap fStatusMap
protected mil.dtra.units.DistanceValue fVertSize
protected mil.dtra.units.DistanceValue fVertUncertainty
public static final java.lang.String PROP_ID
public static final java.lang.String PROP_statusMap
public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] SHARED_STATUS
```

Methods:

```
public final boolean checkPropertyCustomized()
public boolean checkPropertyStatus()
public java.lang.Object clone()
public double computeTotalDuration()
protected int[] createStatusArray()
public java.lang.String createSummaryString()
public java.lang.String createSummaryString()
public boolean equals()
public final mil.dtra.units.StoredValue getHorzSize()
public final mil.dtra.units.StoredValue getHorzUncertainty()
public final java.lang.String getID()
public final java.lang.String getIncidentID()
public mil.dtra.hpac.data.Location getLocation()
```

```

public final int getLocationGroup()
public final mil.dtra.hpac.material.data.Material getMaterial()
public final mil.dtra.units.StoredValue getPuffDuration()
public final mil.dtra.hpac.data.Time getStartTime()
public final mil.dtra.hpac.data.release.StatusMap getStatusMap()
public final mil.dtra.units.StoredValue getVertSize()
public final mil.dtra.units.StoredValue getVertUncertainty()
public final boolean isMaterialCustomized()
protected void loadStatusArray()
public void putPropertyCustomized()
public void putPropertyStatus()
public final void readProps()
public void readProps()
public void resetID()
public int retrievePropertyStatus()
public void setHorzSize()
public final void setHorzUncertainty()
public final void setIncidentID()
public void setLocation()
public final void setLocationGroup()
public final void setMaterial()
public final void setMaterialCustomized()
public void setPuffDuration()
public final void setStartTime()
public void setVertSize()
public final void setVertUncertainty()
public mil.dtra.hpac.server.release.ReleaseT toReleaseT()
public void writeProps()

```

Inner Classes:

AbstractRelease.PropertyStatusIndex

19.2.1 Field DATETIME_FORMAT

public static final java.text.DateFormat **DATETIME_FORMAT**

19.2.2 Field fHorzSize

protected mil.dtra.units.DistanceValue **fHorzSize**

19.2.3 Field fHorzUncertainty

protected mil.dtra.units.DistanceValue **fHorzUncertainty**

19.2.4 Field fID

protected java.lang.String **fID**

19.2.5 Field fIncidentID

protected java.lang.String **fIncidentID**

19.2.6 Field fLocation

protected mil.dtra.hpac.data.Location **fLocation**

19.2.7 Field fLocationGroup

protected int **fLocationGroup**

19.2.8 Field fMaterial

protected mil.dtra.hpac.material.data.Material **fMaterial**

19.2.9 Field fMaterialCustomized

protected boolean **fMaterialCustomized**

19.2.10 Field fPuffDuration

protected mil.dtra.units.TimeValue **fPuffDuration**

19.2.11 Field fStartTime

protected mil.dtra.hpac.data.Time **fStartTime**

19.2.12 Field fStatusMap

protected mil.dtra.hpac.data.release.StatusMap **fStatusMap**

19.2.13 Field fVertSize

protected mil.dtra.units.DistanceValue **fVertSize**

19.2.14 Field fVertUncertainty

```
protected mil.dtra.units.DistanceValue fVertUncertainty
```

19.2.15 Field PROP_ID

```
public static final java.lang.String PROP_ID
```

19.2.16 Field PROP_statusMap

```
public static final java.lang.String PROP_statusMap
```

19.2.17 Field SHARED_STATUS

```
public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] SHARED_STATUS
```

19.2.18 Constructor AbstractRelease()

```
protected  
AbstractRelease()
```

Default constructor.

19.2.19 Constructor AbstractRelease()

```
protected  
AbstractRelease( mil.dtra.hpac.server.release.ReleaseT object )
```

Constructs from a ReleaseT, setting properties common to all release types.

19.2.20 Method checkPropertyCustomized()

```
public final boolean  
checkPropertyCustomized( java.lang.String property_name )
```

Convenience method to check whether or not the specified property is customized.

Parameters:

property_name - should be one of the constants defined here or in the specific implementation class

Returns:

true if customized, false otherwise

19.2.21 Method checkPropertyStatus()

```
public boolean
checkPropertyStatus(
    java.lang.String property_name,
    int mask
)
```

Tests the status for the property specified by name.

Parameters:

property_name - should be one of the constants defined here or in the specific implementation class
mask - mask of property status values to check for the specified property

Returns:

true if all the values in the mask are set for the property, false otherwise

19.2.22 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

19.2.23 Method computeTotalDuration()

```
public double
computeTotalDuration()
```

Returns the *puffDuration* property in hours.

Returns:

puff duration in hours

19.2.24 Method `createStatusArray()`

```
protected int[]
createStatusArray( mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] properties
)
```

Builds an int status array using the specified property status indexes **in addition to** the SHARED_STATUS array defined in this class. It is to be used by subclasses to implement their `createStatusArray()` method.

Parameters:

properties - array of property indexes to check in addition to the SHARED_STATUS properties

Returns:

array of length RELEASE_STATUS_LENGTH.value containing property status values

19.2.25 Method `createSummaryString()`

```
public java.lang.String
createSummaryString()
```

Builds a verbose string summarizing the release.

Returns:

verbose summary string

19.2.26 Method `createSummaryString()`

```
public java.lang.String
createSummaryString( boolean verbose )
```

Builds a summary string.

Parameters:

verbose - if true, a longer version including the start time is returned, otherwise an abbreviated version is returned

Returns:

summary string

19.2.27 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides `Object.equals()` to compare values of properties specified in this class.

19.2.28 Method getHorzSize()

```
public final mil.dtra.units.StoredValue
getHorzSize()
```

Accessor for the *horzSize* property.

Returns:

horizontal size (`DistanceUnits`)

19.2.29 Method getHorzUncertainty()

```
public final mil.dtra.units.StoredValue
getHorzUncertainty()
```

Accessor for the *horzUncertainty* property.

Returns:

horizontal uncertainty (`DistanceUnits`)

19.2.30 Method getID()

```
public final java.lang.String
getID()
```

Accessor for the *ID* property.

Returns:

unique identifier for this object

19.2.31 Method `getIncidentID()`

```
public final java.lang.String
getIncidentID()
```

Accessor for the *incidentID* property.

Returns:

identifier of incident to which this release belongs, or null if it has yet to be added to an incident's release list

19.2.32 Method `getLocation()`

```
public mil.dtra.hpac.data.Location
getLocation()
```

Accessor for the *location* property.

Returns:

copy of the location object

19.2.33 Method `getLocationGroup()`

```
public final int
getLocationGroup()
```

Accessor for the *locationGroup* property. Co-located releases should have the same value for this property to indicate releases which must occur at the same physical location. Indexes should, but don't have to, start with 0 and increment by 1.

Returns:

location group index

19.2.34 Method `getMaterial()`

```
public final mil.dtra.hpac.material.data.Material
getMaterial()
```

Accessor for the *material* property.

Returns:

copy of the material object or null if one has yet to be defined

19.2.35 Method `getPuffDuration()`

```
public final mil.dtra.units.StoredValue  
getPuffDuration()
```

Accessor for the *puffDuration* property.

Returns:

estimated duration of the puffs related to this release (TimeUnits)

19.2.36 Method `getStartTime()`

```
public final mil.dtra.hpac.data.Time  
getStartTime()
```

Accessor for the *startTime* property.

Returns:

copy of the start time object

19.2.37 Method `getStatusMap()`

```
public final mil.dtra.hpac.data.release.StatusMap  
getStatusMap()
```

Accessor for the *statusMap* property.

Returns:

reference to the status map object

19.2.38 Method `getVertSize()`

```
public final mil.dtra.units.StoredValue  
getVertSize()
```

Accessor for the *vertSize* property.

Returns:

vertical size (DistanceUnits)

19.2.39 Method getVertUncertainty()

```
public final mil.dtra.units.StoredValue
getVertUncertainty()
```

Accessor for the *vertUncertainty* property.

Returns:

vertical uncertainty (DistanceUnits)

19.2.40 Method isMaterialCustomized()

```
public final boolean
isMaterialCustomized()
```

Accessor for the *materialCustomized* property.

Returns:

true if the material has been customized, false otherwise

19.2.41 Method loadStatusArray()

```
protected void
loadStatusArray(
    int[] status,
    mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] properties
)
```

Loads an int status array. It is to be used by subclasses to implement their `loadStatusArray()` method.

Parameters:

`properties` - array of property indexes to check in addition to the SHARED_STATUS properties

19.2.42 Method putPropertyCustomized()

```
public void
putPropertyCustomized(
    java.lang.String property_name,
    boolean flag
)
```

Convenience method to set the customized bit of the property status. Also sets the CUSTOMIZED bit for PROP_releaseStatus.

Parameters:

property_name - should be one of the constants defined here or in the specific implementation class
 flag - true if the property is to be marked customized, false otherwise

19.2.43 Method putPropertyStatus()

```
public void
putPropertyStatus(
    java.lang.String property_name,
    int status
)
```

Sets the status flag value for specified property name. This corresponds to the status flag arrays used in IDL-defined release data structures.

Parameters:

property_name - should be one of the constants defined here or in the specific implementation class
 status - status value to set for the property

19.2.44 Method readProps()

```
public final void
readProps( java.lang.String url )
```

Convenience method to facilitate subclass construction from a URL.

Parameters:

url - URL of file containing release properties

Exceptions:

IOException - on I/O error

19.2.45 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Implicitly serializes via `ValueProperties.setObjectProperties()` and explicitly retrieves the *ID* property.

Parameters:

`props` - object containing property values
`key` - property key, where null implies blank

Exceptions:

`IOException` - on I/O error

19.2.46 Method resetID()

```
public void
resetID()
```

Creates a new unique identifier for this object based on the current time.

19.2.47 Method retrievePropertyStatus()

```
public int
retrievePropertyStatus( java.lang.String propertyName )
```

Retrieves the status flag value for specified property name.

Returns:

flag value, for which mask constants are defined in the `Release` interface

19.2.48 Method setHorzSize()

```
public void
setHorzSize( mil.dtra.units.StoredValue value )
```

Accessor for the *horzSize* property.

Parameters:

`value` - horizontal size (`DistanceUnits`)

19.2.49 Method setHorzUncertainty()

```
public final void  
setHorzUncertainty( mil.dtra.units.StoredValue value )
```

Accessor for the *horzUncertainty* property.

Parameters:

value - horizontal uncertainty (DistanceUnits)

19.2.50 Method setIncidentID()

```
public final void  
setIncidentID( java.lang.String name )
```

Accessor for the *incidentID* property.

Parameters:

name - identifier of incident to which this release belongs

19.2.51 Method setLocation()

```
public void  
setLocation( mil.dtra.hpac.data.Location loc )
```

Accessor for the *location* property.

Parameters:

loc - location object to copy

Exceptions:

IllegalStateException - if UTM conversion failed

19.2.52 Method setLocationGroup()

```
public final void
setLocationGroup( int group )
```

Accessor for the *locationGroup* property. Co-located releases should have the same value for this property to indicate release which must occur at the same physical location. Indexes should, but don't have to, start with 0 and increment by 1.

Parameters:

group - location group index

19.2.53 Method setMaterial()

```
public final void
setMaterial( mil.dtra.hpac.material.data.Material material )
```

Accessor for the *material* property.

Parameters:

material - material object to copy

19.2.54 Method setMaterialCustomized()

```
public final void
setMaterialCustomized( boolean customized )
```

Accessor for the *materialCustomized* property.

Parameters:

customized - true if the material has been customized, false otherwise

19.2.55 Method setPuffDuration()

```
public void
setPuffDuration( mil.dtra.units.StoredValue value )
```

Accessor for the *puffDuration* property.

Parameters:

value - estimated duration of the puffs related to this release (TimeUnits)

19.2.56 Method setStartTime()

```
public final void
setStartTime( mil.dtra.hpac.data.Time time )
```

Accessor for the *startTime* property.

Parameters:

time - time object from which to copy start time values

19.2.57 Method setVertSize()

```
public void
setVertSize( mil.dtra.units.StoredValue value )
```

Accessor for the *vertSize* property.

Parameters:

value - vertical size (*DistanceUnits*)

19.2.58 Method setVertUncertainty()

```
public final void
setVertUncertainty( mil.dtra.units.StoredValue value )
```

Accessor for the *vertUncertainty* property.

Parameters:

value - vertical uncertainty (*DistanceUnits*)

19.2.59 Method toReleaseT()

```
public mil.dtra.hpac.server.release.ReleaseT
toReleaseT()
```

Copies common property values. Subclasses must override calling `super.toReleasT()` first.

Returns:

`new ReleaseT object with property values copied from this`

19.2.60 Method writeProps()

```
public void
writeProps(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Implicitly serializes via `ValueProperties.putObjectProperties()`.

Parameters:

`props` - object containing property values
`key` - property key, where null implies blank

Exceptions:

`IOException` - on I/O error

19.3 Class AbstractRelease.PropertyStatusIndex

```
mil.dtra.hpac.data.release
public static AbstractRelease.PropertyStatusIndex
extends Object
```

Encapsulates a property name and a corresponding set of status array indexes.

Fields:

```
public int[] fIndexes
public java.lang.String fName
```

19.3.1 Field fIndexes

`public int[] fIndexes`

19.3.2 Field fName

`public java.lang.String fName`

19.3.3 Constructor AbstractRelease.PropertyStatusIndex()

```
public
AbstractRelease.PropertyStatusIndex(
    java.lang.String name,
    int index
)
```

19.3.4 Constructor AbstractRelease.PropertyStatusIndex()

```
public
AbstractRelease.PropertyStatusIndex(
    java.lang.String name,
    int[] indexes
)
```

19.4 Class AbstractRelease.PropertyStatusIndex

mil.dtra.hpac.data.release
 public static AbstractRelease.PropertyStatusIndex
 extends Object

Encapsulates a property name and a corresponding set of status array indexes.

Fields:

```
public int[] fIndexes
public java.lang.String fName
```

19.4.1 Field fIndexes

public int[] fIndexes

19.4.2 Field fName

public java.lang.String fName

19.4.3 Constructor AbstractRelease.PropertyStatusIndex()

```
public
AbstractRelease.PropertyStatusIndex(
    java.lang.String name,
    int index
)
```

19.4.4 Constructor AbstractRelease.PropertyStatusIndex()

```
public
AbstractRelease.PropertyStatusIndex(
    java.lang.String name,
    int[] indexes
)
```

19.5 Class ContinuousRelease

```
mil.dtra.hpac.data.release
public ContinuousRelease
extends AbstractRelease
```

Wrapper for a ReleaseT with a fReleaseData that is a ContinuousReleaseT.

Fields:

```
public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] CONTINUOUS_STATUS
protected mil.dtra.units.NoUnitsValue fBuoyancy
protected int fDistribution
protected mil.dtra.units.NoUnitsValue fDryMassFraction
protected mil.dtra.units.TimeValue fDuration
protected mil.dtra.units.DistanceValue fMassMeanDiameter
protected mil.dtra.units.MassRateValue fMassRate
protected mil.dtra.units.NoUnitsValue fMassSigma
protected mil.dtra.units.NoUnitsValue fMomentum
protected mil.dtra.units.DistanceValue fSigmaY
protected mil.dtra.units.DistanceValue fSigmaZ
public static final java.lang.String PROP_buoyancy
public static final java.lang.String PROP_distribution
public static final java.lang.String PROP_dryMassFraction
public static final java.lang.String PROP_duration
public static final java.lang.String PROP_massMeanDiameter
public static final java.lang.String PROP_massRate
public static final java.lang.String PROP_massSigma
public static final java.lang.String PROP_momentum
public static final java.lang.String PROP_sigmaY
public static final java.lang.String PROP_sigmaZ
```

Methods:

```
public java.lang.Object clone()
public double computeTotalDuration()
public static mil.dtra.hpac.server.release.ContinuousReleaseT createContinuousReleaseT()
public int[] createStatusArray()
public boolean equals()
```

```

public final mil.dtra.units.StoredValue getBuoyancy()
public final int getDistribution()
public final mil.dtra.units.StoredValue getDryMassFraction()
public final mil.dtra.units.StoredValue getDuration()
public final mil.dtra.units.StoredValue getMassMeanDiameter()
public final mil.dtra.units.StoredValue getMassRate()
public final mil.dtra.units.StoredValue getMassSigma()
public final mil.dtra.units.StoredValue getMomentum()
public final mil.dtra.units.StoredValue getSigmaY()
public final mil.dtra.units.StoredValue getSigmaZ()
public void loadStatusArray()
public final void setBuoyancy()
public final void setDistribution()
public final void setDryMassFraction()
public final void setDuration()
public final void setMassMeanDiameter()
public final void setMassRate()
public final void setMassSigma()
public final void setMomentum()
public final void setSigmaY()
public final void setSigmaZ()
public mil.dtra.hpac.server.release.ReleaseT toReleaseT()

```

19.5.1 Field CONTINUOUS_STATUS

public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] **CONTINUOUS_STATUS**

19.5.2 Field fBuoyancy

protected mil.dtra.units.NoUnitsValue **fBuoyancy**

19.5.3 Field fDistribution

protected int **fDistribution**

19.5.4 Field fDryMassFraction

protected mil.dtra.units.NoUnitsValue **fDryMassFraction**

19.5.5 Field fDuration

protected mil.dtra.units.TimeValue **fDuration**

19.5.6 Field **fMassMeanDiameter**

protected mil.dtra.units.DistanceValue **fMassMeanDiameter**

19.5.7 Field **fMassRate**

protected mil.dtra.units.MassRateValue **fMassRate**

19.5.8 Field **fMassSigma**

protected mil.dtra.units.NoUnitsValue **fMassSigma**

19.5.9 Field **fMomentum**

protected mil.dtra.units.NoUnitsValue **fMomentum**

19.5.10 Field **fSigmaY**

protected mil.dtra.units.DistanceValue **fSigmaY**

19.5.11 Field **fSigmaZ**

protected mil.dtra.units.DistanceValue **fSigmaZ**

19.5.12 Field **PROP_buoyancy**

public static final java.lang.String **PROP_buoyancy**

19.5.13 Field **PROP_distribution**

public static final java.lang.String **PROP_distribution**

19.5.14 Field **PROP_dryMassFraction**

public static final java.lang.String **PROP_dryMassFraction**

19.5.15 Field **PROP_duration**

public static final java.lang.String **PROP_duration**

19.5.16 Field PROP_massMeanDiameter

```
public static final java.lang.String PROP_massMeanDiameter
```

19.5.17 Field PROP_massRate

```
public static final java.lang.String PROP_massRate
```

19.5.18 Field PROP_massSigma

```
public static final java.lang.String PROP_massSigma
```

19.5.19 Field PROP_momentum

```
public static final java.lang.String PROP_momentum
```

19.5.20 Field PROP_sigmaY

```
public static final java.lang.String PROP_sigmaY
```

19.5.21 Field PROP_sigmaZ

```
public static final java.lang.String PROP_sigmaZ
```

19.5.22 Constructor ContinuousRelease()

```
public  
ContinuousRelease()
```

Default constructor. *

19.5.23 Constructor ContinuousRelease()

```
public  
ContinuousRelease( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing release properties

Exceptions:

IOException - on I/O error

19.5.24 Constructor ContinuousRelease()

```
public
ContinuousRelease( mil.dtra.hpac.server.release.ReleaseT object )
```

Constructs from a ReleaseT object.

Parameters:

object - ReleaseT object

Exceptions:

IllegalArgumentException - if the object's release data is not a ContinuousReleaseT

19.5.25 Constructor ContinuousRelease()

```
public
ContinuousRelease(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

19.5.26 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

19.5.27 Method computeTotalDuration()

```
public double
computeTotalDuration()
```

Returns the *puffDuration* property in hours.

Returns:

puff duration in hours

19.5.28 Method createContinuousReleaseT()

```
public static mil.dtra.hpac.server.release.ContinuousReleaseT
createContinuousReleaseT()
```

Creates a new ContinuousReleaseT object with default values:

19.5.29 Method createStatusArray()

```
public int[]
createStatusArray()
```

Builds an int status array for the ContinuousReleaseT object.

Returns:

array of length RELEASE_STATUS_LENGTH.value containing property status values

19.5.30 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides AbstractRelease.equals() to compare values of properties specified in this class.

19.5.31 Method **getBuoyancy()**

```
public final mil.dtra.units.StoredValue  
getBuoyancy()
```

Accessor for the *buoyancy* property.

Returns:

buoyance value copy

19.5.32 Method **getDistribution()**

```
public final int  
getDistribution()
```

Accessor for the *distribution* property.

Returns:

distribution index

19.5.33 Method **getDryMassFraction()**

```
public final mil.dtra.units.StoredValue  
getDryMassFraction()
```

Accessor for the *dryMassFraction* property.

Returns:

dry mass fraction

19.5.34 Method **getDuration()**

```
public final mil.dtra.units.StoredValue  
getDuration()
```

Accessor for the *duration* property.

Returns:

duration value (TimeUnits)

19.5.35 Method **getMassMeanDiameter()**

```
public final mil.dtra.units.StoredValue  
getMassMeanDiameter()
```

Accessor for the *massMeanDiameter* property.

Returns:

mass mean diameter (DistanceUnits)

19.5.36 Method **getMassRate()**

```
public final mil.dtra.units.StoredValue  
getMassRate()
```

Accessor for the *massRate* property.

Returns:

mass rate value (MassRateUnits)

19.5.37 Method **getMassSigma()**

```
public final mil.dtra.units.StoredValue  
getMassSigma()
```

Accessor for the *massSigma* property.

Returns:

mass sigma value

19.5.38 Method **getMomentum()**

```
public final mil.dtra.units.StoredValue  
getMomentum()
```

Accessor for the *momentum* property.

Returns:

momentum value with unit MO_UNIT (m4/s2)

19.5.39 Method **getSigmaY()**

```
public final mil.dtra.units.StoredValue  
getSigmaY()
```

Accessor for the *sigmaY* property.

Returns:

sigma y value (DistanceUnits)

19.5.40 Method **getSigmaZ()**

```
public final mil.dtra.units.StoredValue  
getSigmaZ()
```

Accessor for the *sigmaZ* property.

Returns:

sigma z value (DistanceUnits)

19.5.41 Method **loadStatusArray()**

```
public void  
loadStatusArray( int[] status )
```

Loads ContinuousReleaseT status valuse.

19.5.42 Method **setBuoyancy()**

```
public final void  
setBuoyancy( mil.dtra.units.StoredValue value )
```

Accessor for the *buoyancy* property.

Parameters:

value - buoyance value with unit BUOYANCY_UNIT (Cm³/sec)

19.5.43 Method setDistribution()

```
public final void
setDistribution( int value )
```

Accessor for the *distribution* property.

Returns:

distribution index

19.5.44 Method setDryMassFraction()

```
public final void
setDryMassFraction( mil.dtra.units.StoredValue value )
```

Accessor for the *dryMassFraction* property.

Parameters:

value - dry mass fraction

19.5.45 Method setDuration()

```
public final void
setDuration( mil.dtra.units.StoredValue value )
```

Accessor for the *duration* property.

Parameters:

value - duration value (TimeUnits)

19.5.46 Method setMassMeanDiameter()

```
public final void
setMassMeanDiameter( mil.dtra.units.StoredValue value )
```

Accessor for the *massMeanDiameter* property.

Parameters:

value - mass mean diameter value (DistanceUnits)

19.5.47 Method **setMassRate()**

```
public final void
setMassRate( mil.dtra.units.StoredValue value )
```

Accessor for the *massRate* property.

Parameters:

value - mass rate value (MassRateUnits)

19.5.48 Method **setMassSigma()**

```
public final void
setMassSigma( mil.dtra.units.StoredValue value )
```

Accessor for the *massSigma* property.

Parameters:

value - mass sigma value (> 1.0)

19.5.49 Method **setMomentum()**

```
public final void
setMomentum( mil.dtra.units.StoredValue value )
```

Accessor for the *momentum* property.

Parameters:

value - momentum value, which must have unit MO_UNIT (m4/s2)

19.5.50 Method **setSigmaY()**

```
public final void
setSigmaY( mil.dtra.units.StoredValue value )
```

Accessor for the *sigmaY* property.

Parameters:

value - sigma y value (DistanceUnits)

19.5.51 Method setSigmaZ()

```
public final void
setSigmaZ( mil.dtra.units.StoredValue value )
```

Accessor for the *sigmaZ* property.

Parameters:

value - sigma z value (DistanceUnits)

19.5.52 Method toReleaseT()

```
public mil.dtra.hpac.server.release.ReleaseT
toReleaseT()
```

Calls super.`toReleaseT()` and assigns properties specified in this class.

Returns:

new `ReleaseT` object with property values copied from this

19.6 Class FileRelease

```
mil.dtra.hpac.data.release
public FileRelease
extends AbstractRelease
```

Wrapper for a `ReleaseT` with a `fReleaseData` that is a `FileReleaseT`.

Fields:

```
public mil.dtra.hpac.server.fileutils.FileReference fFile
public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] FILE_STATUS
protected int fRandomCount
protected int fRandomSeed
protected mil.dtra.units.DistanceValue fRandomSpread
public static final java.lang.String PROP_randomCount
public static final java.lang.String PROP_randomSeed
public static final java.lang.String PROP_randomSpread
```

Methods:

```
public java.lang.Object clone()
public static mil.dtra.hpac.server.release.FileReleaseT createFileReleaseT()
public int[] createStatusArray()
public boolean equals()
public final mil.dtra.hpac.server.fileutils.FileReference getFile()
```

```

public final int getRandomCount()
public final int getRandomSeed()
public final mil.dtra.units.StoredValue getRandomSpread()
public void loadStatusArray()
public final void setFile()
public final void setRandomCount()
public final void setRandomSeed()
public final void setRandomSpread()
public mil.dtra.hpac.server.release.ReleaseT toReleaseT()

```

19.6.1 Field fFile

public mil.dtra.hpac.server.fileutils.FileReference **fFile**

Public so FileReferenceTMgr can find it (easily) via reflection

19.6.2 Field FILE_STATUS

public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] **FILE_STATUS**

19.6.3 Field fRandomCount

protected int **fRandomCount**

19.6.4 Field fRandomSeed

protected int **fRandomSeed**

19.6.5 Field fRandomSpread

protected mil.dtra.units.DistanceValue **fRandomSpread**

19.6.6 Field PROP_randomCount

public static final java.lang.String **PROP_randomCount**

19.6.7 Field PROP_randomSeed

public static final java.lang.String **PROP_randomSeed**

19.6.8 Field PROP_randomSpread

```
public static final java.lang.String PROP_randomSpread
```

19.6.9 Constructor FileRelease()

```
public  
FileRelease()
```

Default constructor.*

19.6.10 Constructor FileRelease()

```
public  
FileRelease( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing release properties

Exceptions:

IOException - on I/O error

19.6.11 Constructor FileRelease()

```
public  
FileRelease( mil.dtra.hpac.server.release.ReleaseT object )
```

Constructs from a ReleaseT object.

Parameters:

object - ReleaseT object

Exceptions:

IllegalArgumentException - if the object's release data is not a FileReleaseT

19.6.12 Constructor FileRelease()

```
public
FileRelease(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the properties object with the specified prefix.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

19.6.13 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

19.6.14 Method createFileReleaseT()

```
public static mil.dtra.hpac.server.release.FileReleaseT
createFileReleaseT()
```

Creates a new `FileReleaseT` object with default values:

19.6.15 Method createStatusArray()

```
public int[]
createStatusArray()
```

Builds an int status array for the `FileReleaseT` object.

Returns:

array of length `RELEASE_STATUS_LENGTH`.value containing property status values

19.6.16 Method equals()

```
public boolean  
equals( java.lang.Object obj )
```

Overrides `AbstractRelease.equals()` to compare values of properties specified in this class.

19.6.17 Method getFile()

```
public final mil.dtra.hpac.server.fileutils.FileReference  
getFile()
```

Accessor for the *file* property.

Returns:

reference to the `FileReference` object

19.6.18 Method getRandomCount()

```
public final int  
getRandomCount()
```

Accessor for the *randomCount* property.

Returns:

random count value

19.6.19 Method getRandomSeed()

```
public final int  
getRandomSeed()
```

Accessor for the *randomSeed* property.

Returns:

random seed (`DistanceUnits`)

19.6.20 Method getRandomSpread()

```
public final mil.dtra.units.StoredValue  
getRandomSpread()
```

Accessor for the *randomSpread* property.

Returns:

random spread value

19.6.21 Method loadStatusArray()

```
public void  
loadStatusArray( int[] status )
```

Loads FileReleaseT status value.

19.6.22 Method setFile()

```
public final void  
setFile( mil.dtra.hpac.server.fileutils.FileReference file )
```

Accessor for the *file* property.

Parameters:

file - FileReference object reference to be stored (not copied)

19.6.23 Method setRandomCount()

```
public final void  
setRandomCount( int count )
```

Accessor for the *randomCount* property.

Parameters:

count - random count value

19.6.24 Method setRandomSeed()

```
public final void
setRandomSeed( int seed )
```

Accessor for the *randomSeed* property.

Parameters:

seed - random seed value

19.6.25 Method setRandomSpread()

```
public final void
setRandomSpread( mil.dtra.units.StoredValue value )
```

Accessor for the *randomSpread* property.

Parameters:

radius - random spread (*DistanceUnits*)

19.6.26 Method toReleaseT()

```
public mil.dtra.hpac.server.release.ReleaseT
toReleaseT()
```

Calls super.*toReleaseT()* and assigns properties specified in this class.

Returns:

new *ReleaseT* object with property values copied from this

19.7 Class InstantaneousRelease

```
mil.dtra.hpac.data.release
public InstantaneousRelease
extends AbstractRelease
```

Wrapper for a *ReleaseT* with a *fReleaseData* that is a *InstantaneousReleaseT*.

Fields:

```

protected mil.dtra.units.NoUnitsValue fBuoyancy
protected int fDistribution
protected mil.dtra.units.NoUnitsValue fDryMassFraction
protected mil.dtra.units.NoUnitsValue fMass
protected mil.dtra.units.DistanceValue fMassMeanDiameter
protected mil.dtra.units.NoUnitsValue fMassSigma
protected mil.dtra.units.NoUnitsValue fMomentum
protected int fRandomCount
protected int fRandomSeed
protected mil.dtra.units.DistanceValue fRandomSpread
protected mil.dtra.units.DistanceValue fSigmaX
protected mil.dtra.units.DistanceValue fSigmaY
protected mil.dtra.units.DistanceValue fSigmaZ
public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] INSTANTANEOUS_STATUS
public static final java.lang.String PROP_buoyancy
public static final java.lang.String PROP_distribution
public static final java.lang.String PROP_dryMassFraction
public static final java.lang.String PROP_mass
public static final java.lang.String PROP_massMeanDiameter
public static final java.lang.String PROP_massSigma
public static final java.lang.String PROP_momentum
public static final java.lang.String PROP_randomCount
public static final java.lang.String PROP_randomSeed
public static final java.lang.String PROP_randomSpread
public static final java.lang.String PROP_sigmaX
public static final java.lang.String PROP_sigmaY
public static final java.lang.String PROP_sigmaZ

```

Methods:

```

public java.lang.Object clone()
public static mil.dtra.hpac.server.release.InstantaneousReleaseT createInstantaneousReleaseT()
public int[] createStatusArray()
public boolean equals()
public final mil.dtra.units.StoredValue getBuoyancy()
public final int getDistribution()
public final mil.dtra.units.StoredValue getDryMassFraction()
public final mil.dtra.units.StoredValue getMass()
public final mil.dtra.units.StoredValue getMassMeanDiameter()
public final mil.dtra.units.StoredValue getMassSigma()
public final mil.dtra.units.StoredValue getMomentum()
public final int getRandomCount()
public final int getRandomSeed()
public final mil.dtra.units.StoredValue getRandomSpread()
public final mil.dtra.units.StoredValue getSigmaX()

```

```

public final mil.dtra.units.StoredValue getSigmaY()
public final mil.dtra.units.StoredValue getSigmaZ()
public void loadStatusArray()
public final void setBuoyancy()
public final void setDistribution()
public final void setDryMassFraction()
public final void setMass()
public final void setMassMeanDiameter()
public final void setMassSigma()
public final void setMomentum()
public final void setRandomCount()
public final void setRandomSeed()
public final void setRandomSpread()
public final void setSigmaX()
public final void setSigmaY()
public final void setSigmaZ()
public mil.dtra.hpac.server.release.ReleaseT toReleaseT()

```

19.7.1 Field fBuoyancy

protected mil.dtra.units.NoUnitsValue **fBuoyancy**

19.7.2 Field fDistribution

protected int **fDistribution**

19.7.3 Field fDryMassFraction

protected mil.dtra.units.NoUnitsValue **fDryMassFraction**

19.7.4 Field fMass

protected mil.dtra.units.NoUnitsValue **fMass**

19.7.5 Field fMassMeanDiameter

protected mil.dtra.units.DistanceValue **fMassMeanDiameter**

19.7.6 Field fMassSigma

protected mil.dtra.units.NoUnitsValue **fMassSigma**

19.7.7 Field **fMomentum**

protected mil.dtra.units.NoUnitsValue **fMomentum**

19.7.8 Field **fRandomCount**

protected int **fRandomCount**

19.7.9 Field **fRandomSeed**

protected int **fRandomSeed**

19.7.10 Field **fRandomSpread**

protected mil.dtra.units.DistanceValue **fRandomSpread**

19.7.11 Field **fSigmaX**

protected mil.dtra.units.DistanceValue **fSigmaX**

19.7.12 Field **fSigmaY**

protected mil.dtra.units.DistanceValue **fSigmaY**

19.7.13 Field **fSigmaZ**

protected mil.dtra.units.DistanceValue **fSigmaZ**

19.7.14 Field **INSTANTANEOUS_STATUS**

public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] **INSTANTANEOUS_STATUS**

19.7.15 Field **PROP_buoyancy**

public static final java.lang.String **PROP_buoyancy**

19.7.16 Field **PROP_distribution**

public static final java.lang.String **PROP_distribution**

19.7.17 Field PROP_dryMassFraction

```
public static final java.lang.String PROP_dryMassFraction
```

19.7.18 Field PROP_mass

```
public static final java.lang.String PROP_mass
```

19.7.19 Field PROP_massMeanDiameter

```
public static final java.lang.String PROP_massMeanDiameter
```

19.7.20 Field PROP_massSigma

```
public static final java.lang.String PROP_massSigma
```

19.7.21 Field PROP_momentum

```
public static final java.lang.String PROP_momentum
```

19.7.22 Field PROP_randomCount

```
public static final java.lang.String PROP_randomCount
```

19.7.23 Field PROP_randomSeed

```
public static final java.lang.String PROP_randomSeed
```

19.7.24 Field PROP_randomSpread

```
public static final java.lang.String PROP_randomSpread
```

19.7.25 Field PROP_sigmaX

```
public static final java.lang.String PROP_sigmaX
```

19.7.26 Field PROP_sigmaY

```
public static final java.lang.String PROP_sigmaY
```

19.7.27 Field PROP_sigmaZ

```
public static final java.lang.String PROP_sigmaZ
```

19.7.28 Constructor InstantaneousRelease()

```
public
InstantaneousRelease()
```

Default constructor. *

19.7.29 Constructor InstantaneousRelease()

```
public
InstantaneousRelease( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing release properties

Exceptions:

IOException - on I/O error

19.7.30 Constructor InstantaneousRelease()

```
public
InstantaneousRelease( mil.dtra.hpac.server.release.ReleaseT object )
```

Constructs from a ReleaseT object.

Parameters:

object - ReleaseT object

Exceptions:

IllegalArgumentException - if the object's release data is not a InstantaneousReleaseT

19.7.31 Constructor InstantaneousRelease()

```
public
InstantaneousRelease(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

19.7.32 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

19.7.33 Method createInstantaneousReleaseT()

```
public static mil.dtra.hpac.server.release.InstantaneousReleaseT
createInstantaneousReleaseT()
```

Creates a new InstantaneousReleaseT object with default values:

19.7.34 Method createStatusArray()

```
public int[]
createStatusArray()
```

Builds an int status array for the InstantaneousReleaseT object.

Returns:

array of length RELEASE_STATUS_LENGTH.value containing property status values

19.7.35 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides `AbstractRelease.equals()` to compare values of properties specified in this class.

19.7.36 Method getBuoyancy()

```
public final mil.dtra.units.StoredValue
getBuoyancy()
```

Accessor for the *buoyancy* property.

Returns:

buoyance value with unit BUOYANCY_UNIT (Cm³/sec)

19.7.37 Method getDistribution()

```
public final int
getDistribution()
```

Accessor for the *distribution* property.

Returns:

distribution index

19.7.38 Method getDryMassFraction()

```
public final mil.dtra.units.StoredValue
getDryMassFraction()
```

Accessor for the *dryMassFraction* property.

Returns:

dry mass fraction

19.7.39 Method `getMass()`

```
public final mil.dtra.units.StoredValue  
getMass()
```

Accessor for the *mass* property.

Returns:

mass value (MASS_UNIT, "material units")

19.7.40 Method `getMassMeanDiameter()`

```
public final mil.dtra.units.StoredValue  
getMassMeanDiameter()
```

Accessor for the *massMeanDiameter* property.

Returns:

mass mean diameter value (DistanceUnits)

19.7.41 Method `getMassSigma()`

```
public final mil.dtra.units.StoredValue  
getMassSigma()
```

Accessor for the *massSigma* property.

Returns:

mass sigma value

19.7.42 Method `getMomentum()`

```
public final mil.dtra.units.StoredValue  
getMomentum()
```

Accessor for the *momentum* property.

Returns:

momentum value with unit MO_UNIT (m4/s2)

19.7.43 Method **getRandomCount()**

```
public final int  
getRandomCount()
```

Accessor for the *randomCount* property.

Returns:

random count value

19.7.44 Method **getRandomSeed()**

```
public final int  
getRandomSeed()
```

Accessor for the *randomSeed* property.

Returns:

random seed value

19.7.45 Method **getRandomSpread()**

```
public final mil.dtra.units.StoredValue  
getRandomSpread()
```

Accessor for the *randomSpread* property.

Returns:

random spread value (DistanceUnits)

19.7.46 Method **getSigmaX()**

```
public final mil.dtra.units.StoredValue  
getSigmaX()
```

Accessor for the *sigmaX* property.

Returns:

sigma x value (DistanceUnits)

19.7.47 Method getSigmaY()

```
public final mil.dtra.units.StoredValue
getSigmaY()
```

Accessor for the *sigmaY* property.

Returns:

sigma y value (DistanceUnits)

19.7.48 Method getSigmaZ()

```
public final mil.dtra.units.StoredValue
getSigmaZ()
```

Accessor for the *sigmaZ* property.

Returns:

sigma z value (DistanceUnits)

19.7.49 Method loadStatusArray()

```
public void
loadStatusArray( int[] status )
```

Loads InstantaneousReleaseT status value.

19.7.50 Method setBuoyancy()

```
public final void
setBuoyancy( mil.dtra.units.StoredValue value )
```

Accessor for the *buoyancy* property.

Parameters:

value - buoyance value with unit BUOYANCY_UNIT (Cm³/sec)

19.7.51 Method setDistribution()

```
public final void
setDistribution( int value )
```

Accessor for the *distribution* property.

Returns:

distribution index

19.7.52 Method setDryMassFraction()

```
public final void
setDryMassFraction( mil.dtra.units.StoredValue value )
```

Accessor for the *dryMassFraction* property.

Parameters:

value - dry mass fraction

19.7.53 Method setMass()

```
public final void
setMass( mil.dtra.units.StoredValue value )
```

Accessor for the *mass* property.

Parameters:

value - mass value (MASS_UNIT, "material units")

19.7.54 Method setMassMeanDiameter()

```
public final void
setMassMeanDiameter( mil.dtra.units.StoredValue value )
```

Accessor for the *massMeanDiameter* property.

Parameters:

value - mass mean diameter value (DistanceUnits)

19.7.55 Method **setMassSigma()**

```
public final void
setMassSigma( mil.dtra.units.StoredValue value )
```

Accessor for the *massSigma* property.

Parameters:

value - mass sigma value (> 1.0)

19.7.56 Method **setMomentum()**

```
public final void
setMomentum( mil.dtra.units.StoredValue value )
```

Accessor for the *momentum* property.

Parameters:

value - momentum value, which must have unit MO_UNIT (m4/s2)

19.7.57 Method **setRandomCount()**

```
public final void
setRandomCount( int value )
```

Accessor for the *randomCount* property.

Parameters:

count - random count value

19.7.58 Method **setRandomSeed()**

```
public final void
setRandomSeed( int seed )
```

Accessor for the *randomSeed* property.

Parameters:

seed - random seed value

19.7.59 Method setRandomSpread()

```
public final void
setRandomSpread( mil.dtra.units.StoredValue value )
```

Accessor for the *randomSpread* property.

Parameters:

radius - random spread value (DistanceUnits)

19.7.60 Method setSigmaX()

```
public final void
setSigmaX( mil.dtra.units.StoredValue value )
```

Accessor for the *sigmaX* property.

Parameters:

value - sigma x value (DistanceUnits)

19.7.61 Method setSigmaY()

```
public final void
setSigmaY( mil.dtra.units.StoredValue value )
```

Accessor for the *sigmaY* property.

Parameters:

value - sigma y value (DistanceUnits)

19.7.62 Method setSigmaZ()

```
public final void
setSigmaZ( mil.dtra.units.StoredValue value )
```

Accessor for the *sigmaZ* property.

Parameters:

value - sigma z value (DistanceUnits)

19.7.63 Method **toReleaseT()**

```
public mil.dtra.hpac.server.release.ReleaseT
toReleaseT()
```

Calls super.`toReleaseT()` and assigns properties specified in this class.

Returns:

new `ReleaseT` object with property values copied from this

19.8 Class **LiquidPoolRelease**

```
mil.dtra.hpac.data.release
public LiquidPoolRelease
extends AbstractRelease
```

Wrapper for a `ReleaseT` with a `fReleaseData` that is a `PoolReleaseT`.

Fields:

```
protected mil.dtra.units.NoUnitsValue fMass
protected mil.dtra.units.DistanceValue fSizeX
protected mil.dtra.units.DistanceValue fSizeY
public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] POOL_STATUS
public static final java.lang.String PROP_mass
public static final java.lang.String PROP_sizeX
public static final java.lang.String PROP_sizeY
```

Methods:

```
public java.lang.Object clone()
public static mil.dtra.hpac.server.release.PoolReleaseT createPoolReleaseT()
public int[] createStatusArray()
public boolean equals()
public final mil.dtra.units.StoredValue getMass()
public final mil.dtra.units.StoredValue getSizeX()
public final mil.dtra.units.StoredValue getSizeY()
public void loadStatusArray()
public final void setMass()
public final void setSizeX()
public final void setSizeY()
public mil.dtra.hpac.server.release.ReleaseT toReleaseT()
```

19.8.1 Field **fMass**

protected mil.dtra.units.NoUnitsValue **fMass**

19.8.2 Field fSizeX

```
protected mil.dtra.units.DistanceValue fSizeX
```

19.8.3 Field fSizeY

```
protected mil.dtra.units.DistanceValue fSizeY
```

19.8.4 Field POOL_STATUS

```
public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] POOL_STATUS
```

19.8.5 Field PROP_mass

```
public static final java.lang.String PROP_mass
```

19.8.6 Field PROP_sizeX

```
public static final java.lang.String PROP_sizeX
```

19.8.7 Field PROP_sizeY

```
public static final java.lang.String PROP_sizeY
```

19.8.8 Constructor LiquidPoolRelease()

```
public  
LiquidPoolRelease()
```

Default constructor. *

19.8.9 Constructor LiquidPoolRelease()

```
public  
LiquidPoolRelease( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing release properties

Exceptions:

IOException - on I/O error

19.8.10 Constructor LiquidPoolRelease()

```
public
LiquidPoolRelease( mil.dtra.hpac.server.release.ReleaseT object )
```

Constructs from a ReleaseT object.

Parameters:

object - ReleaseT object

Exceptions:

IllegalArgumentException - if the object's release data is not a LiquidPoolReleaseT

19.8.11 Constructor LiquidPoolRelease()

```
public
LiquidPoolRelease(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

19.8.12 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

19.8.13 Method createPoolReleaseT()

```
public static mil.dtra.hpac.server.release.PoolReleaseT
createPoolReleaseT()
```

Creates a new PoolReleaseT object with property values set to zero.

19.8.14 Method createStatusArray()

```
public int[]
createStatusArray()
```

Builds an int status array for the PoolReleaseT object.

Returns:

array of length RELEASE_STATUS_LENGTH.value containing property status values

19.8.15 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides AbstractRelease.equals() to compare values of properties specified in this class.

19.8.16 Method getMass()

```
public final mil.dtra.units.StoredValue
getMass()
```

Accessor for the *mass* property.

Returns:

mass value in material units

19.8.17 Method getSizeX()

```
public final mil.dtra.units.StoredValue
getSizeX()
```

Accessor for the *sizeX* property.

Returns:

size x value (DistanceUnits)

19.8.18 Method getSizeY()

```
public final mil.dtra.units.StoredValue
getSizeY()
```

Accessor for the *sizeY* property.

Returns:

size y value (DistanceUnits)

19.8.19 Method loadStatusArray()

```
public void
loadStatusArray( int[] status )
```

Loads PoolReleaseT status valuse.

19.8.20 Method setMass()

```
public final void
setMass( mil.dtra.units.StoredValue value )
```

Accessor for the *mass* property.

Returns:

mass value in material units

19.8.21 Method setSizeX()

```
public final void
setSizeX( mil.dtra.units.StoredValue value )
```

Accessor for the *sizeX* property.

Returns:

size x value (DistanceUnits)

19.8.22 Method **setSizeY()**

```
public final void
setSizeY( mil.dtra.units.StoredValue value )
```

Accessor for the *sizeY* property.

Returns:

size y value (DistanceUnits)

19.8.23 Method **toReleaseT()**

```
public mil.dtra.hpac.server.release.ReleaseT
toReleaseT()
```

Calls super.*toReleaseT()* and assigns properties specified in this class.

Returns:

new ReleaseT object with property values copied from this

19.9 Class MovingRelease

```
mil.dtra.hpac.data.release
public MovingRelease
extends AbstractRelease
```

Wrapper for a ReleaseT with a fReleaseData that is a MovingReleaseT.

Fields:

```
protected mil.dtra.units.NoUnitsValue fBuoyancy
protected int fDistribution
protected mil.dtra.units.NoUnitsValue fDryMassFraction
protected mil.dtra.units.TimeValue fDuration
protected mil.dtra.units.DistanceValue fMassMeanDiameter
protected mil.dtra.units.MassRateValue fMassRate
protected mil.dtra.units.NoUnitsValue fMassSigma
protected mil.dtra.units.NoUnitsValue fMomentum
protected mil.dtra.units.DistanceValue fSigmaY
protected mil.dtra.units.DistanceValue fSigmaZ
protected mil.dtra.units.SpeedValue fVelocityX
protected mil.dtra.units.SpeedValue fVelocityY
protected mil.dtra.units.SpeedValue fVelocityZ
public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] MOV-
ING_STATUS
public static final java.lang.String PROP_buoyancy
public static final java.lang.String PROP_distribution
```

```

public static final java.lang.String PROP_dryMassFraction
public static final java.lang.String PROP_duration
public static final java.lang.String PROP_massMeanDiameter
public static final java.lang.String PROP_massRate
public static final java.lang.String PROP_massSigma
public static final java.lang.String PROP_momentum
public static final java.lang.String PROP_sigmaY
public static final java.lang.String PROP_sigmaZ
public static final java.lang.String PROP_velocityX
public static final java.lang.String PROP_velocityY
public static final java.lang.String PROP_velocityZ

```

Methods:

```

public java.lang.Object clone()
public double computeTotalDuration()
public static mil.dtra.hpac.server.release.MovingReleaseT createMovingReleaseT()
public int[] createStatusArray()
public boolean equals()
public final mil.dtra.units.StoredValue getBuoyancy()
public final int getDistribution()
public final mil.dtra.units.StoredValue getDryMassFraction()
public final mil.dtra.units.StoredValue getDuration()
public final mil.dtra.units.StoredValue getMassMeanDiameter()
public final mil.dtra.units.StoredValue getMassRate()
public final mil.dtra.units.StoredValue getMassSigma()
public final mil.dtra.units.StoredValue getMomentum()
public final mil.dtra.units.StoredValue getSigmaY()
public final mil.dtra.units.StoredValue getSigmaZ()
public final mil.dtra.units.StoredValue getVelocityX()
public final mil.dtra.units.StoredValue getVelocityY()
public final mil.dtra.units.StoredValue getVelocityZ()
public void loadStatusArray()
public final void setBuoyancy()
public final void setDistribution()
public final void setDryMassFraction()
public final void setDuration()
public final void setMassMeanDiameter()
public final void setMassRate()
public final void setMassSigma()
public final void setMomentum()
public final void setSigmaY()
public final void setSigmaZ()
public final void setVelocityX()
public final void setVelocityY()
public final void setVelocityZ()
public mil.dtra.hpac.server.release.ReleaseT toReleaseT()

```

19.9.1 Field **fBuoyancy**

protected mil.dtra.units.NoUnitsValue **fBuoyancy**

19.9.2 Field **fDistribution**

protected int **fDistribution**

19.9.3 Field **fDryMassFraction**

protected mil.dtra.units.NoUnitsValue **fDryMassFraction**

19.9.4 Field **fDuration**

protected mil.dtra.units.TimeValue **fDuration**

19.9.5 Field **fMassMeanDiameter**

protected mil.dtra.units.DistanceValue **fMassMeanDiameter**

19.9.6 Field **fMassRate**

protected mil.dtra.units.MassRateValue **fMassRate**

19.9.7 Field **fMassSigma**

protected mil.dtra.units.NoUnitsValue **fMassSigma**

19.9.8 Field **fMomentum**

protected mil.dtra.units.NoUnitsValue **fMomentum**

19.9.9 Field **fSigmaY**

protected mil.dtra.units.DistanceValue **fSigmaY**

19.9.10 Field **fSigmaZ**

protected mil.dtra.units.DistanceValue **fSigmaZ**

19.9.11 Field fVelocityX

protected mil.dtra.units.SpeedValue **fVelocityX**

19.9.12 Field fVelocityY

protected mil.dtra.units.SpeedValue **fVelocityY**

19.9.13 Field fVelocityZ

protected mil.dtra.units.SpeedValue **fVelocityZ**

19.9.14 Field MOVING_STATUS

public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] **MOVING_STATUS**

19.9.15 Field PROP_buoyancy

public static final java.lang.String **PROP_buoyancy**

19.9.16 Field PROP_distribution

public static final java.lang.String **PROP_distribution**

19.9.17 Field PROP_dryMassFraction

public static final java.lang.String **PROP_dryMassFraction**

19.9.18 Field PROP_duration

public static final java.lang.String **PROP_duration**

19.9.19 Field PROP_massMeanDiameter

public static final java.lang.String **PROP_massMeanDiameter**

19.9.20 Field PROP_massRate

public static final java.lang.String **PROP_massRate**

19.9.21 Field PROP_massSigma

```
public static final java.lang.String PROP_massSigma
```

19.9.22 Field PROP_momentum

```
public static final java.lang.String PROP_momentum
```

19.9.23 Field PROP_sigmaY

```
public static final java.lang.String PROP_sigmaY
```

19.9.24 Field PROP_sigmaZ

```
public static final java.lang.String PROP_sigmaZ
```

19.9.25 Field PROP_velocityX

```
public static final java.lang.String PROP_velocityX
```

19.9.26 Field PROP_velocityY

```
public static final java.lang.String PROP_velocityY
```

19.9.27 Field PROP_velocityZ

```
public static final java.lang.String PROP_velocityZ
```

19.9.28 Constructor MovingRelease()

```
public  
MovingRelease()
```

Default constructor. *

19.9.29 Constructor MovingRelease()

```
public
MovingRelease( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing release properties

Exceptions:

IOException - on I/O error

19.9.30 Constructor MovingRelease()

```
public
MovingRelease( mil.dtra.hpac.server.release.ReleaseT object )
```

Constructs from a ReleaseT object.

Parameters:

object - ReleaseT object

Exceptions:

IllegalArgumentException - if the object's release data is not a MovingReleaseT

19.9.31 Constructor MovingRelease()

```
public
MovingRelease(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

19.9.32 Method clone()

```
public java.lang.Object  
clone()
```

Overrides Cloneable.

19.9.33 Method computeTotalDuration()

```
public double  
computeTotalDuration()
```

Returns the *puffDuration* property in hours.

Returns:

puff duration in hours

19.9.34 Method createMovingReleaseT()

```
public static mil.dtra.hpac.server.release.MovingReleaseT  
createMovingReleaseT()
```

Creates a new MovingReleaseT object with default values:

19.9.35 Method createStatusArray()

```
public int[]  
createStatusArray()
```

Builds an int status array for the MovingReleaseT object.

Returns:

array of length RELEASE_STATUS_LENGTH.value containing property status values

19.9.36 Method equals()

```
public boolean  
equals( java.lang.Object obj )
```

Overrides AbstractRelease.equals() to compare values of properties specified in this class.

19.9.37 Method **getBuoyancy()**

```
public final mil.dtra.units.StoredValue  
getBuoyancy()
```

Accessor for the *buoyancy* property.

Returns:

buoyance value with unit BUOYANCY_UNIT (Cm³/sec)

19.9.38 Method **getDistribution()**

```
public final int  
getDistribution()
```

Accessor for the *distribution* property.

Returns:

distribution index

19.9.39 Method **getDryMassFraction()**

```
public final mil.dtra.units.StoredValue  
getDryMassFraction()
```

Accessor for the *dryMassFraction* property.

Returns:

dry mass fraction

19.9.40 Method **getDuration()**

```
public final mil.dtra.units.StoredValue  
getDuration()
```

Accessor for the *duration* property.

Returns:

duration value (TimeUnits)

19.9.41 Method **getMassMeanDiameter()**

```
public final mil.dtra.units.StoredValue  
getMassMeanDiameter()
```

Accessor for the *massMeanDiameter* property.

Returns:

mass mean diameter value (DistanceUnits)

19.9.42 Method **getMassRate()**

```
public final mil.dtra.units.StoredValue  
getMassRate()
```

Accessor for the *massRate* property.

Returns:

mass rate value (MassRateUnits)

19.9.43 Method **getMassSigma()**

```
public final mil.dtra.units.StoredValue  
getMassSigma()
```

Accessor for the *massSigma* property.

Returns:

mass sigma value

19.9.44 Method **getMomentum()**

```
public final mil.dtra.units.StoredValue  
getMomentum()
```

Accessor for the *momentum* property.

Returns:

momentum value with unit MO_UNIT (m4/s2)

19.9.45 Method `getSigmaY()`

```
public final mil.dtra.units.StoredValue  
getSigmaY()
```

Accessor for the *sigmaY* property.

Returns:

sigma y value (DistanceUnits)

19.9.46 Method `getSigmaZ()`

```
public final mil.dtra.units.StoredValue  
getSigmaZ()
```

Accessor for the *sigmaZ* property.

Returns:

sigma z value (DistanceUnits)

19.9.47 Method `getVelocityX()`

```
public final mil.dtra.units.StoredValue  
getVelocityX()
```

Accessor for the *velocityX* property.

Returns:

velocity x value (SpeedUnits)

19.9.48 Method `getVelocityY()`

```
public final mil.dtra.units.StoredValue  
getVelocityY()
```

Accessor for the *velocityY* property.

Returns:

velocity y value (SpeedUnits)

19.9.49 Method `getVelocityZ()`

```
public final mil.dtra.units.StoredValue
getVelocityZ()
```

Accessor for the *velocityZ* property.

Returns:

velocity z value (SpeedUnits)

19.9.50 Method `loadStatusArray()`

```
public void
loadStatusArray( int[] status )
```

Loads ContinuousReleaseT status value.

19.9.51 Method `setBuoyancy()`

```
public final void
setBuoyancy( mil.dtra.units.StoredValue value )
```

Accessor for the *buoyancy* property.

Parameters:

value - buoyance value with unit BUOYANCY_UNIT (Cm³/sec)

19.9.52 Method `setDistribution()`

```
public final void
setDistribution( int value )
```

Accessor for the *distribution* property.

Returns:

distribution index

19.9.53 Method setDryMassFraction()

```
public final void
setDryMassFraction( mil.dtra.units.StoredValue value )
```

Accessor for the *dryMassFraction* property.

Parameters:

value - dry mass fraction

19.9.54 Method setDuration()

```
public final void
setDuration( mil.dtra.units.StoredValue value )
```

Accessor for the *duration* property.

Parameters:

value - duration value (TimeUnits)

19.9.55 Method setMassMeanDiameter()

```
public final void
setMassMeanDiameter( mil.dtra.units.StoredValue value )
```

Accessor for the *massMeanDiameter* property.

Parameters:

value - mass mean diameter value (DistanceUnits)

19.9.56 Method setMassRate()

```
public final void
setMassRate( mil.dtra.units.StoredValue value )
```

Accessor for the *massRate* property.

Parameters:

value - mass rate value (MassRateUnits)

19.9.57 Method setMassSigma()

```
public final void
setMassSigma( mil.dtra.units.StoredValue value )
```

Accessor for the *massSigma* property.

Parameters:

value - mass sigma value (> 1.0)

19.9.58 Method setMomentum()

```
public final void
setMomentum( mil.dtra.units.StoredValue value )
```

Accessor for the *momentum* property.

Parameters:

value - momentum value, which must have unit MO_UNIT (m4/s2)

19.9.59 Method setSigmaY()

```
public final void
setSigmaY( mil.dtra.units.StoredValue value )
```

Accessor for the *sigmaY* property.

Parameters:

value - sigma y value (DistanceUnits)

19.9.60 Method setSigmaZ()

```
public final void
setSigmaZ( mil.dtra.units.StoredValue value )
```

Accessor for the *sigmaZ* property.

Parameters:

value - sigma z value (DistanceUnits)

19.9.61 Method setVelocityX()

```
public final void
setVelocityX( mil.dtra.units.StoredValue value )
```

Accessor for the *velocityX* property.

Returns:

velocity x value (SpeedUnits)

19.9.62 Method setVelocityY()

```
public final void
setVelocityY( mil.dtra.units.StoredValue value )
```

Accessor for the *velocityY* property.

Returns:

velocity y value (SpeedUnits)

19.9.63 Method setVelocityZ()

```
public final void
setVelocityZ( mil.dtra.units.StoredValue value )
```

Accessor for the *velocityZ* property.

Returns:

velocity z value (SpeedUnits)

19.9.64 Method toReleaseT()

```
public mil.dtra.hpac.server.release.ReleaseT
toReleaseT()
```

Calls super.*toReleaseT()* and assigns properties specified in this class.

Returns:

new ReleaseT object with property values copied from this

19.10 Class ReleaseList

```
mil.dtra.hpac.data.release
public ReleaseList
extends ArrayList
implements PropsSerializer,
```

This class defines a list (ordered collection) of `Release` objects, where order is maintained as a semantic requirement. As an extension of `ArrayList`, it inherits all the semantics of being a `List` and a `Collection`. In addition, this class attempts to enforce that each element be a `Release`. Properties serialization is explicit.

Methods:

```
public void add()
public boolean add()
public boolean addAll()
public boolean addAll()
public mil.dtra.hpac.data.release.ReleaseList copyDeep()
public java.util.Collection createLocationGroups()
public mil.dtra.hpac.data.release.Release findRelease()
public int findReleaseIndex()
public void fromReleaseListT()
public void readProps()
public mil.dtra.hpac.data.release.Release replace()
public java.lang.Object set()
public mil.dtra.hpac.server.release.ReleaseT[] toReleaseListT()
public void writeProps()
```

19.10.1 Constructor `ReleaseList()`

```
public
ReleaseList()
```

Default (noop) constructor.

19.10.2 Constructor `ReleaseList()`

```
public
ReleaseList( java.util.Collection releases )
```

Constructs with an explicit list of releases.

Parameters:

`releases` - collection of releases to comprise the list initially

19.10.3 Constructor ReleaseList()

```
public
ReleaseList( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing release properties

Exceptions:

IOException - on I/O error

19.10.4 Constructor ReleaseList()

```
public
ReleaseList(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
key - property key, where null implies blank

Exceptions:

IOException - on I/O error

19.10.5 Method add()

```
public void
add(
    int index,
    java.lang.Object object
)
```

Overrides ArrayList .add() to ensure the object is a Release.

Parameters:

object - release object to add

Returns:

true

Exceptions:

IllegalArgumentException - if the object is not a Release
 IndexOutOfBoundsException - if the index is < 0 or > size()

19.10.6 Method add()

```
public boolean
add( java.lang.Object object )
```

Overrides ArrayList.add() to ensure the object is a Release.

Parameters:

object - release object to add

Returns:

true

Exceptions:

IllegalArgumentException - if the object is not a Release

19.10.7 Method addAll()

```
public boolean
addAll( java.util.Collection releases )
```

Overrides ArrayList.addAll() to add only Release objects in the collection. Note that elements are added in iterator order from the collection.

Parameters:

releases - collection of release objects to add

Returns:

true if elements were added

19.10.8 Method addAll()

```
public boolean
addAll(
    int index,
    java.util.Collection releases
)
```

Overrides `ArrayList.addAll()` to add only `Release` objects in the collection. Note that elements are added in iterator order from the collection.

Parameters:

`index` - index at which to insert the first element
`releases` - collection of release objects to add

Returns:

true if elements were added

Exceptions:

`IndexOutOfBoundsException` - if the index is < 0 or > `size()`

19.10.9 Method copyDeep()

```
public mil.dtra.hpac.data.release.ReleaseList
copyDeep()
```

Creates a new deep copy clone of this.

Returns:

deep copy clone

19.10.10 Method createLocationGroups()

```
public java.util.Collection
createLocationGroups()
```

Organizes the release objects by their `locationGroup` property.

Returns:

collection of `Release`[] where each entry in the collection represents a location group

19.10.11 Method findRelease()

```
public mil.dtra.hpac.data.release.Release
findRelease( java.lang.String id )
```

Retrieves the (first and should be only) release with the specified ID.

Parameters:

id - release id

Returns:

release object if found, null otherwise

19.10.12 Method findReleaseIndex()

```
public int
findReleaseIndex( java.lang.String id )
```

Finds the index of the release having the specified id.

Parameters:

id - release id

Returns:

index of found release, or -1 if not found

19.10.13 Method fromReleaseListT()

```
public void
fromReleaseListT( mil.dtra.hpac.server.release.ReleaseT[] tRELEASES )
```

Populates this with Release objects converted from the ReleaseT specified objects.

19.10.14 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Iterates through indexes beginning with 0 as long as a "class" property definition exists. Calls `ReleaseUtils.getInstance()` for each one.

Parameters:

`props` - object containing property values
`key` - property key, where null implies blank

19.10.15 Method `replace()`

```
public mil.dtra.hpac.data.release.Release
replace( mil.dtra.hpac.data.release.Release new_release )
```

Finds the release in the list whose id matches that of the specified release, and, if found, replaces it with the specified release. If a current release is not found, the new one is added.

Parameters:

`new_release` - new release

Returns:

old release if found and replaced, null if not found

19.10.16 Method `set()`

```
public java.lang.Object
set(
    int index,
    java.lang.Object object
)
```

Overrides `ArrayList.set()` to ensure the object is a `Release`.

Parameters:

`object` - release object to add

Returns:

true

Exceptions:

`IllegalArgumentException` - if the object is not a `Release`
`IndexOutOfBoundsException` - if the index is < 0 or > `size()`

19.10.17 Method toReleaseListT()

```
public mil.dtra.hpac.server.release.ReleaseT[]
toReleaseListT()
```

Generates an array of ReleaseT object conversions from the Release objects in this.

19.10.18 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Calls ValueProperties.putObjectInstance() for each release in the list. Objects are serialized in order with a prefix beginnin with 0.

Parameters:

props - object in which to put property values
key - property key, where null implies blank

19.11 Class ReleaseUtils

```
mil.dtra.hpac.data.release
public final ReleaseUtils
extends Object
```

Utility class with methods for processing Release and ReleaseT objects.

Methods:

```
public static mil.dtra.hpac.data.release.Release[] clone()
public static mil.dtra.hpac.server.release.ReleaseT clone()
public static mil.dtra.hpac.server.project.TimeT clone()
public static java.lang.String createID()
public static mil.dtra.hpac.data.release.Release fromReleaseT()
public static mil.dtra.hpac.data.release.Release getInstance()
public static mil.dtra.hpac.data.release.Release getInstance()
public static mil.dtra.hpac.data.release.Release getInstance()
public static java.util.List readReleases()
public static java.lang.String toStringCommon()
public static void writeReleases()
```

19.11.1 Constructor ReleaseUtils()

```
public
ReleaseUtils()
```

19.11.2 Method clone()

```
public static mil.dtra.hpac.data.release.Release[]
clone( mil.dtra.hpac.data.release.Release[] from )
```

Performs a deep copy clone of the array of Release objects. That is, each object in the array is also cloned.

Parameters:

from - array to deep-copy clone

Returns:

cloned array

19.11.3 Method clone()

```
public static mil.dtra.hpac.server.release.ReleaseT
clone( mil.dtra.hpac.server.release.ReleaseT from )
```

Clones a ReleaseT object.

Parameters:

from - object to clone

Returns:

cloned ReleaseT object

19.11.4 Method clone()

```
public static mil.dtra.hpac.server.project.TimeT
clone( mil.dtra.hpac.server.project.TimeT from )
```

Clones a TimeT object.

Parameters:

from - object to clone

Returns:

cloned object

19.11.5 Method createID()

```
public static java.lang.String
createID( java.lang.String prefix )
```

Creates a unique object identifier in a canonical form: *prefix-current-time-in-ms*.

Parameters:

prefix - identifier prefix

Returns:

unique identifier

19.11.6 Method fromReleaseT()

```
public static mil.dtra.hpac.data.release.Release
fromReleaseT( mil.dtra.hpac.server.release.ReleaseT object )
```

Builds a Release object cloned from the specified ReleaseT object.

Parameters:

object - source ReleaseT object

Returns:

new Release object with values copied from to the source object

19.11.7 Method getInstance()

```
public static mil.dtra.hpac.data.release.Release
getInstance( java.lang.String url )
```

Creates a Release (subclass) instance from properties stored at the specified URL.

Parameters:

url - URL of the object properties

Returns:

release object created

Exceptions:

IOException - on I/O error

19.11.8 Method getInstance()

```
public static mil.dtra.hpac.data.release.Release
getInstance( java.net.URL url )
```

Creates a Release (subclass) instance from properties stored at the specified URL.

Parameters:

url - URL object

Returns:

release object created

Exceptions:

IOException - on I/O error

19.11.9 Method getInstance()

```
public static mil.dtra.hpac.data.release.Release
getInstance(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Creates a Release (subclass) instance from properties stored in a properties object. The special property `class` identifies the complete path of the Release class to be instantiated.

Parameters:

props - properties object containing object values
key - property key

Returns:

release object created

Exceptions:

IOException - on I/O error

19.11.10 Method readReleases()

```
public static java.util.List
readReleases(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Builds a list (ordered collection) of Release object instances from a properties object. Appended to the property key prefix are integer indexes starting with 0 to form the prefix for individual Release object property values.

Parameters:

props - properties object to contain object property values
key - property key, where null implies blank

Returns:

list view of the release objects read

19.11.11 Method toStringCommon()

```
public static java.lang.String
toStringCommon( mil.dtra.hpac.server.release.ReleaseT release )
```

Generates debug output with values of common release properties.

19.11.12 Method writeReleases()

```
public static void
writeReleases(
    java.util.List releases,
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Stores a list of Release objects to a properties object. Appended to the property key prefix are integer indexes starting with 0 to form the prefix for individual Release object property values.

Parameters:

releases - list of releases to store in sequence
props - properties object to contain object property values
key - property key, where null implies blank

Returns:

collection view of the release objects read

19.12 Class StackRelease

```
mil.dtra.hpac.data.release
public StackRelease
extends AbstractRelease
```

Wrapper for a `ReleaseT` with a `fReleaseData` that is a `StackReleaseT`.

Fields:

```
protected mil.dtra.units.DistanceValue fDiameter
protected int fDistribution
protected mil.dtra.units.TimeValue fDuration
protected mil.dtra.units.TemperatureValue fExitTemperature
protected mil.dtra.units.SpeedValue fExitVelocity
protected mil.dtra.units.DistanceValue fMassMeanDiameter
protected mil.dtra.units.MassRateValue fMassRate
protected mil.dtra.units.NoUnitsValue fMassSigma
public static final java.lang.String PROP_diameter
public static final java.lang.String PROP_distribution
public static final java.lang.String PROP_duration
public static final java.lang.String PROP_exitTemperature
public static final java.lang.String PROP_exitVelocity
public static final java.lang.String PROP_massMeanDiameter
public static final java.lang.String PROP_massRate
public static final java.lang.String PROP_massSigma
public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] STACK_STATUS
```

Methods:

```
public java.lang.Object clone()
public double computeTotalDuration()
public static mil.dtra.hpac.server.release.StackReleaseT createStackReleaseT()
public int[] createStatusArray()
public boolean equals()
public final mil.dtra.units.StoredValue getDiameter()
public final int getDistribution()
public final mil.dtra.units.StoredValue getDuration()
public final mil.dtra.units.StoredValue getExitTemperature()
public final mil.dtra.units.StoredValue getExitVelocity()
public final mil.dtra.units.StoredValue getMassMeanDiameter()
public final mil.dtra.units.StoredValue getMassRate()
public final mil.dtra.units.StoredValue getMassSigma()
public void loadStatusArray()
public final void setDiameter()
public final void setDistribution()
public final void setDuration()
public final void setExitTemperature()
```

```
public final void setExitVelocity()
public final void setMassMeanDiameter()
public final void setMassRate()
public final void setMassSigma()
public mil.dtra.hpac.server.release.ReleaseT toReleaseT()
```

19.12.1 Field fDiameter

protected mil.dtra.units.DistanceValue **fDiameter**

19.12.2 Field fDistribution

protected int **fDistribution**

19.12.3 Field fDuration

protected mil.dtra.units.TimeValue **fDuration**

19.12.4 Field fExitTemperature

protected mil.dtra.units.TemperatureValue **fExitTemperature**

19.12.5 Field fExitVelocity

protected mil.dtra.units.SpeedValue **fExitVelocity**

19.12.6 Field fMassMeanDiameter

protected mil.dtra.units.DistanceValue **fMassMeanDiameter**

19.12.7 Field fMassRate

protected mil.dtra.units.MassRateValue **fMassRate**

19.12.8 Field fMassSigma

protected mil.dtra.units.NoUnitsValue **fMassSigma**

19.12.9 Field PROP_diameter

public static final java.lang.String **PROP_diameter**

19.12.10 Field PROP_distribution

```
public static final java.lang.String PROP_distribution
```

19.12.11 Field PROP_duration

```
public static final java.lang.String PROP_duration
```

19.12.12 Field PROP_exitTemperature

```
public static final java.lang.String PROP_exitTemperature
```

19.12.13 Field PROP_exitVelocity

```
public static final java.lang.String PROP_exitVelocity
```

19.12.14 Field PROP_massMeanDiameter

```
public static final java.lang.String PROP_massMeanDiameter
```

19.12.15 Field PROP_massRate

```
public static final java.lang.String PROP_massRate
```

19.12.16 Field PROP_massSigma

```
public static final java.lang.String PROP_massSigma
```

19.12.17 Field STACK_STATUS

```
public static final mil.dtra.hpac.data.release.AbstractRelease.PropertyStatusIndex[] STACK_STATUS
```

19.12.18 Constructor StackRelease()

```
public  
StackRelease()
```

Default constructor. *

19.12.19 Constructor StackRelease()

```
public
StackRelease( java.lang.String url )
```

Constructs from the specified URL assuming no property prefix.

Parameters:

url - URL of file containing release properties

Exceptions:

IOException - on I/O error

19.12.20 Constructor StackRelease()

```
public
StackRelease( mil.dtra.hpac.server.release.ReleaseT object )
```

Constructs from a ReleaseT object.

Parameters:

object - ReleaseT object

Exceptions:

IllegalArgumentException - if the object's release data is not a StackReleaseT

19.12.21 Constructor StackRelease()

```
public
StackRelease(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Constructs from the specified properties object.

Parameters:

props - object containing property values
prefix - property key prefix

Exceptions:

IOException - on I/O error

19.12.22 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

19.12.23 Method computeTotalDuration()

```
public double
computeTotalDuration()
```

Returns the *puffDuration* property in hours.

Returns:

puff duration in hours

19.12.24 Method createStackReleaseT()

```
public static mil.dtra.hpac.server.release.StackReleaseT
createStackReleaseT()
```

Creates a new StackReleaseT object with default values:

19.12.25 Method createStatusArray()

```
public int[]
createStatusArray()
```

Builds an int status array for the StackReleaseT object.

Returns:

array of length RELEASE_STATUS_LENGTH.value containing property status values

19.12.26 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides AbstractRelease.equals() to compare values of properties specified in this class.

19.12.27 Method **getDiameter()**

```
public final mil.dtra.units.StoredValue  
getDiameter()
```

Accessor for the *diameter* property.

Returns:

diameter value (DistanceUnits)

19.12.28 Method **getDistribution()**

```
public final int  
getDistribution()
```

Accessor for the *distribution* property.

Returns:

distribution index

19.12.29 Method **getDuration()**

```
public final mil.dtra.units.StoredValue  
getDuration()
```

Accessor for the *duration* property.

Returns:

duration value (TimeUnits)

19.12.30 Method **getExitTemperature()**

```
public final mil.dtra.units.StoredValue  
getExitTemperature()
```

Accessor for the *exitTemperature* property.

Returns:

exit temperature value (TemperatureUnits)

19.12.31 Method `getExitVelocity()`

```
public final mil.dtra.units.StoredValue  
getExitVelocity()
```

Accessor for the *exitVelocity* property.

Returns:

exit velocity value (`SpeedUnits`)

19.12.32 Method `getMassMeanDiameter()`

```
public final mil.dtra.units.StoredValue  
getMassMeanDiameter()
```

Accessor for the *massMeanDiameter* property.

Returns:

mass mean diameter value (`DistanceUnits`)

19.12.33 Method `getMassRate()`

```
public final mil.dtra.units.StoredValue  
getMassRate()
```

Accessor for the *massRate* property.

Returns:

mass rate value (`MassRateUnits`)

19.12.34 Method `getMassSigma()`

```
public final mil.dtra.units.StoredValue  
getMassSigma()
```

Accessor for the *massSigma* property.

Returns:

mass sigma value

19.12.35 Method **loadStatusArray()**

```
public void  
loadStatusArray( int[] status )
```

Loads `StackReleaseT` status value.

19.12.36 Method **setDiameter()**

```
public final void  
setDiameter( mil.dtra.units.StoredValue value )
```

Accessor for the *diameter* property.

Parameters:

value - diameter value (`DistanceUnits`)

19.12.37 Method **setDistribution()**

```
public final void  
setDistribution( int value )
```

Accessor for the *distribution* property.

Returns:

distribution index

19.12.38 Method **setDuration()**

```
public final void  
setDuration( mil.dtra.units.StoredValue value )
```

Accessor for the *duration* property.

Parameters:

value - duration value (`TimeUnits`)

19.12.39 Method setExitTemperature()

```
public final void
setExitTemperature( mil.dtra.units.StoredValue value )
```

Accessor for the *exitTemperature* property.

Parameters:

value - exit temperature value (TemperatureUnits)

19.12.40 Method setExitVelocity()

```
public final void
setExitVelocity( mil.dtra.units.StoredValue value )
```

Accessor for the *exitVelocity* property.

Parameters:

value - exit velocity value (SpeedUnits)

19.12.41 Method setMassMeanDiameter()

```
public final void
setMassMeanDiameter( mil.dtra.units.StoredValue value )
```

Accessor for the *massMeanDiameter* property.

Parameters:

value - mass mean diameter value (DistanceUnits)

19.12.42 Method setMassRate()

```
public final void
setMassRate( mil.dtra.units.StoredValue value )
```

Accessor for the *massRate* property.

Parameters:

value - mass rate value (MassRateUnits)

19.12.43 Method setMassSigma()

```
public final void
setMassSigma( mil.dtra.units.StoredValue value )
```

Accessor for the *massSigma* property.

Parameters:

value - mass sigma value (> 1.0)

19.12.44 Method toReleaseT()

```
public mil.dtra.hpac.server.release.ReleaseT
toReleaseT()
```

Calls super.*toReleaseT()* and assigns properties specified in this class.

Returns:

new *ReleaseT* object with property values copied from this

19.13 Class StatusMap

```
mil.dtra.hpac.data.release
public StatusMap
extends HashMap
implements PropsSerializer,
```

Map of status values for release fields, where the absence of a property name in the map implies an INVALID value.

Fields:

```
public static final java.lang.String DELIMITER
public static final java.lang.String VALUE_DELIMITER
public static final char VALUE_DELIMITER_CHAR
```

Methods:

```
public void readProps()
public void writeProps()
```

19.13.1 Field DELIMITER

```
public static final java.lang.String DELIMITER
```

19.13.2 Field VALUE_DELIMITER

```
public static final java.lang.String VALUE_DELIMITER
```

19.13.3 Field VALUE_DELIMITER_CHAR

```
public static final char VALUE_DELIMITER_CHAR
```

19.13.4 Constructor StatusMap()

```
public  
StatusMap()
```

19.13.5 Method readProps()

```
public void  
readProps(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Reads property values from the specified properties object assuming the property key name.

Parameters:

props - object containing property values
key - property key

Exceptions:

IOException - on I/O error

19.13.6 Method writeProps()

```
public void  
writeProps(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Writes property value to the specified properties object assuming the property key.

Parameters:

props - object containing property values
key - property key

Exceptions:

IOException - on I/O error

CHAPTER 20

Package mil.dtra.hpac.ippts.client

Contains classes implementing the glue between HPAC and IPTTS, supporting calls in both directions.

Classes:

```
IPPTSAgent
IPPTSAgent.FolderNodeSelector
IPPTSAgent.ReleaseNodeSelector
IPPTSPProjectFolderIO
```

20.1 Class IPPTSAgent

```
mil.dtra.hpac.ippts.client
public IPPTSAgent
extends Object
implements IHPACToolAgent, IPPTSAAdapter,
```

Acts as a double agent, doing HPAC things for IPTTS and IPTTS things for HPAC. There should be one of these per `ProjectEditor`.

We don't really know what we're doing here, so this is largely a copy of what ARA gave as `ProjectEditor.IPTTSBehavior`.

Fields:

```
public static final java.lang.String PROJECT_FILENAME
public static final java.lang.String PROP_primaryKey
public static final java.lang.String PROP_session
```

Methods:

```
protected void connectSession()
public void exportMapImage()
public boolean exportProjectFolder()
public final mil.dtra.hpac.ippts.client.Database getLastDatabase()
```

```

public final mil.dtra.hpac.itpts.client.DatabaseSession getLastSession()
public final java.lang.String getPrimaryKey()
public final java.lang.String getSession()
public java.lang.Object[] importProjectFolder()
public void init()
public void openChild()
public void openNode()
public mil.dtra.hpac.data.Project openProject()
public java.lang.Object[] openProjectFolder()
protected java.lang.Object[] openProjectFolderNode()
protected mil.dtra.hpac.data.Project openProjectNode()
public void release()
public boolean saveProject()
public boolean saveProjectAs()
public boolean saveProjectFolder()
public boolean saveProjectFolderAs()
protected boolean saveProjectFolderToNode()
protected boolean saveProjectToNode()
public void setDatabaseSession()
public void terminate()

```

Inner Classes:

ITPTSAgent.FolderNodeSelector
 ITPTSAgent.ReleaseNodeSelector

20.1.1 Field PROJECT_FILENAME

public static final java.lang.String PROJECT_FILENAME

20.1.2 Field PROP_primaryKey

public static final java.lang.String PROP_primaryKey

20.1.3 Field PROP_session

public static final java.lang.String PROP_session

20.1.4 Constructor ITPTSAgent()

public
 ITPTSAgent()

20.1.5 Method connectSession()

```
protected void
connectSession( mil.dtra.hpac.ippts.client.DatabaseSession session )
```

Returns a reference to a tool agent. All ITPTS internals are hidden.

Returns:

reference to a IHPACToolAgent object

20.1.6 Method exportMapImage()

```
public void
exportMapImage( java.awt.image.BufferedImage image )
```

Saves the image in the ITPTS database. *HPAC calling ITPTS.*

Parameters:

image - image to save

20.1.7 Method exportProjectFolder()

```
public boolean
exportProjectFolder(
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Exports the project as a folder to ITPTS. *HPAC calling ITPTS.*

Parameters:

project - project to export
server_data - server files folder

Returns:

true if folder exported, false otherwise

20.1.8 Method getLastDatabase()

```
public final mil.dtra.hpac.itpts.client.Database  
getLastDatabase()
```

Returns the object reference.

Returns:

object reference

20.1.9 Method getLastSession()

```
public final mil.dtra.hpac.itpts.client.DatabaseSession  
getLastSession()
```

Returns the object reference.

Returns:

object reference

20.1.10 Method getPrimaryKey()

```
public final java.lang.String  
getPrimaryKey()
```

Returns the primary key of the last project database operation. *HPAC calling ITPTS.*

Returns:

node primary key

20.1.11 Method getSession()

```
public final java.lang.String  
getSession()
```

Returns the session of the last project database operation. *HPAC calling ITPTS.*

Returns:

database session

20.1.12 Method importProjectFolder()

```
public java.lang.Object[]
importProjectFolder()
```

Imports a project folder from IPTS. *HPAC calling IPTS.*

Returns:

two-element array containing the imported project and server files folder (may be null) in order, `Project, byte[]`; if null, the import failed or was aborted

20.1.13 Method init()

```
public void
init( mil.dtra.hpac.client.ProjectEditorIfc project_editor )
```

Initializes with the `ProjectEditorIfc` reference. This must be called after instantiation and before any other methods. *HPAC calling IPTS.*

Parameters:

`project_editor` - project editor reference

20.1.14 Method openChild()

```
public void
openChild( java.lang.String primary_key )
```

HPAC will open a project open dialog with this node expanded and prompt the user to pick one of the children. This method is deprecated and exists only for MEA to defer the selection of a (low, med, high) release until HPAC is opened. *IPTS calling HPAC.*

20.1.15 Method openNode()

```
public void
openNode( java.lang.String primary_key )
```

Force HPAC to open the specified node immediately. This is called from `openChild()` after a new node has been determined. *IPTS calling HPAC.*

20.1.16 Method openProject()

```
public mil.dtra.hpac.data.Project
openProject()
```

Opens an HPAC project from ITPTS. *HPAC calling ITPTS.*

Returns:

project

20.1.17 Method openProjectFolder()

```
public java.lang.Object[]
openProjectFolder()
```

Opens imports a project folder from ITPTS. *HPAC calling ITPTS.*

Returns:

two-element array containing the imported project and server files folder (may be null) in order, Project, byte[] ; if null, the import failed or was aborted

20.1.18 Method openProjectFolderNode()

```
protected java.lang.Object[]
openProjectFolderNode( java.lang.String primary_key )
```

Imports a project folder from ITPTS. *HPAC calling ITPTS.*

Parameters:

node - primary key

Returns:

two-element array containing the imported project and server files folder (may be null) in order, Project, byte[] ; if null, the import failed or was aborted

Exceptions:

IOException - on I/O Error

20.1.19 Method openProjectNode()

```
protected mil.dtra.hpac.data.Project
openProjectNode( java.lang.String primary_key )
```

Internal method to return the project at the node.

Parameters:

node - primary key

Returns:

new project object

20.1.20 Method release()

```
public void
release()
```

20.1.21 Method saveProject()

```
public boolean
saveProject( mil.dtra.hpac.data.Project project )
```

Saves a project in ITPTS. *HPAC calling ITPTS.*

Returns:

true if the save succeeded, false otherwise

20.1.22 Method saveProjectAs()

```
public boolean
saveProjectAs( mil.dtra.hpac.data.Project project )
```

Saves a project in ITPTS under a new name or database node (whatever ITPTS calls it). *HPAC calling ITPTS.*

Returns:

true if the save succeeded, false otherwise

20.1.23 Method saveProjectFolder()

```
public boolean
saveProjectFolder(
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Saves/exports the project folder into ITPTS. *HPAC calling ITPTS.*

Parameters:

project - project to export
 server_data - server files folder

Returns:

true if folder exported, false otherwise

20.1.24 Method saveProjectFolderAs()

```
public boolean
saveProjectFolderAs(
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Saves/exports the project folder into ITPTS after prompting for a new node. *HPAC calling ITPTS.*

Parameters:

project - project to export
 server_data - server files folder

Returns:

true if folder exported, false otherwise

20.1.25 Method saveProjectFolderToNode()

```
protected boolean
saveProjectFolderToNode(
    java.lang.String node_key,
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Internal method shared b/w `saveProjectFolder()` and `saveProjectFolderAs()` which saves the specified project folder to a node. *HPAC calling IPTTS.*

Parameters:

`node_key` - primary key of node in which to save
`project` - project to export
`server_data` - server files folder

Returns:

true if folder saved, false otherwise

Exceptions:

`IOException` - on I/O Error

20.1.26 Method `saveProjectToNode()`

```
protected boolean
saveProjectToNode(
    mil.dtra.hpac.itpts.client.Node node,
    mil.dtra.hpac.data.Project project
)
```

Internal method shared b/w `saveProject()` and `saveProjectAs()` which saves the specified project to a node.

Parameters:

`node` - node in which to save
`project` - project to save

Returns:

true if the save succeeded, false otherwise

20.1.27 Method `setDatabaseSession()`

```
public void
setDatabaseSession( java.lang.String session )
```

Sets the database session that will be used by HPAC when performing file open and save operations.

20.1.28 Method `terminate()`

```
public void
terminate()
```

Kills HPAC. *ITPTS calling HPAC.*

20.2 Class `ITPTSAgent.FolderNodeSelector`

```
mil.dtra.hpac.ippts.client
protected static ITPTSAgent.FolderNodeSelector
```

Methods:

```
public boolean isSelectable()
```

20.2.1 Constructor `ITPTSAgent.FolderNodeSelector()`

```
protected
ITPTSAgent.FolderNodeSelector()
```

20.2.2 Method `isSelectable()`

```
public boolean
isSelectable(
    mil.dtra.hpac.ippts.client.Node node,
    mil.dtra.hpac.ippts.client.Database database,
    mil.dtra.hpac.ippts.client.DatabaseSession session
)
```

20.3 Class `ITPTSAgent.ReleaseNodeSelector`

```
mil.dtra.hpac.ippts.client
protected static ITPTSAgent.ReleaseNodeSelector
```

Methods:

```
public boolean isSelectable()
```

20.3.1 Constructor ITPTSAgent.ReleaseNodeSelector()

protected
ITPTSAgent.ReleaseNodeSelector()

20.3.2 Method isSelectable()

```
public boolean
isSelectable(
    mil.dtra.hpac.ippts.client.Node node,
    mil.dtra.hpac.ippts.client.Database database,
    mil.dtra.hpac.ippts.client.DatabaseSession session
)
```

20.4 Class ITPTSAgent.FolderNodeSelector

mil.dtra.hpac.ippts.client
protected static **ITPTSAgent.FolderNodeSelector**

Methods:

```
public boolean isSelectable()
```

20.4.1 Constructor ITPTSAgent.FolderNodeSelector()

protected
ITPTSAgent.FolderNodeSelector()

20.4.2 Method isSelectable()

```
public boolean
isSelectable(
    mil.dtra.hpac.ippts.client.Node node,
    mil.dtra.hpac.ippts.client.Database database,
    mil.dtra.hpac.ippts.client.DatabaseSession session
)
```

20.5 Class ITPTSAgent.ReleaseNodeSelector

mil.dtra.hpac.ippts.client
protected static **ITPTSAgent.ReleaseNodeSelector**

Methods:

```
public boolean isSelectable()
```

20.5.1 Constructor `ITPTSAgent.ReleaseNodeSelector()`

protected
ITPTSAgent.ReleaseNodeSelector()

20.5.2 Method `isSelectable()`

public boolean
isSelectable(
 mil.dtra.hpac.ippts.client.Node node,
 mil.dtra.hpac.ippts.client.Database database,
 mil.dtra.hpac.ippts.client.DatabaseSession session
)

20.6 Class `ITPTSProjectFolderIO`

mil.dtra.hpac.ippts.client
public ITPTSProjectFolderIO
 extends AbstractProjectFolderIO

ProjectFolder extension for storage in an IPTTS node.

Methods:

protected void copyFile()
 public void exportFolder()
 protected void exportFolderImpl()
 protected void importFile()
 public java.lang.Object[] importFolder()
 protected java.lang.Object[] importFolderImpl()

20.6.1 Constructor `ITPTSProjectFolderIO()`

public
ITPTSProjectFolderIO(
 mil.dtra.hpac.ippts.client.Database db,
 mil.dtra.hpac.ippts.client.DatabaseSession session,
 java.lang.String folder_primary_key
)

Constructs for an export or import.

Parameters:

- db - IPTS database
- session - IPTS database session
- folder_primary_key - node from which to read the folder

20.6.2 Method copyFile()

```
protected void
copyFile(
    java.lang.String from,
    java.lang.String to
)
```

Simply copies a file.

Returns:

true if the copy was successful, false otherwise

Exceptions:

IOException - on I/O error

20.6.3 Method exportFolder()

```
public void
exportFolder(
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Exports the specified project folder into an IPTS node.

Parameters:

- project - project object
- server_data - server files folder

Exceptions:

- IllegalArgumentException - if the project is null
- IllegalStateException - if this hasn't been set up for export
- IOException - on I/O error

20.6.4 Method exportFolderImpl()

```
protected void
exportFolderImpl(
    mil.dtra.hpac.data.Project project,
    byte[] server_data
)
```

Does the work of exporting the specified project folder into an IPTS node.

Parameters:

project - project object
 server_data - server files folder

Exceptions:

IllegalArgumentException - if the project is null
 IllegalStateException - if the project has not been defined
 IOException - on I/O error

20.6.5 Method importFile()

```
protected void
importFile(
    java.io.InputStream input,
    java.lang.String name,
    mil.dtra.util.ValueProperties props
)
```

Handles the details of importing a file.

Parameters:

directory - directory into which to write files; it is assumed to exist

Exceptions:

IllegalStateException - if the project has not been defined
 IOException - on I/O error

20.6.6 Method importFolder()

```
public java.lang.Object[]  
importFolder()
```

Imports a project folder from an IPTS node.

Returns:

null on an abort or an array containing the project object and server folder (if it exists) in order, Project, byte[]

Exceptions:

IllegalStateException - if this hasn't been set up for import
IOException - on I/O error

20.6.7 Method importFolderImpl()

```
protected java.lang.Object[]  
importFolderImpl()
```

Does the work of importing a project folder from an IPTS node.

Returns:

project folder array

Exceptions:

IllegalStateException - if the project has not been defined
IOException - on I/O error

CHAPTER 21

Package mil.dtra.hpac.itpts.tool

Contains IPTTS classes generated by the JacORB IDL compiler from the toolagent.idl source provided by ARA.

Interfaces:

HPACToolAgent
HPACToolAgentOperations

Classes:

_HPACToolAgentImplBase
_HPACToolAgentStub
HPACToolAgentHelper
HPACToolAgentHolder

21.1 Interface HPACToolAgent

```
mil.dtra.hpac.itpts.tool
public interface HPACToolAgent
extends HPACToolAgentOperations, IDLEntity, Object,
```

21.2 Interface HPACToolAgentOperations

```
mil.dtra.hpac.itpts.tool
public interface HPACToolAgentOperations
```

Methods:

```
public int getProcess()
public boolean isActive()
public void openNode()
public void release()
```

```
public void setDatabaseSession()
```

21.2.1 Method getProcess()

```
public int  
getProcess()
```

???

21.2.2 Method isActive()

```
public boolean  
isActive()
```

Verifies that the server is running.

21.2.3 Method openNode()

```
public void  
openNode( java.lang.String primary_key )
```

Opens a node—requires the database session to be set.

21.2.4 Method release()

```
public void  
release()
```

Releases the interface.

21.2.5 Method setDatabaseSession()

```
public void  
setDatabaseSession( java.lang.String session )
```

Sets the default IPTS database session.

21.3 Class _HPACToolAgentImplBase

```
mil.dtra.hpac.ippts.tool
public abstract _HPACToolAgentImplBase
extends ObjectImpl
implements HPACToolAgent, InvokeHandler,
```

Methods:

```
    public java.lang.String[] _ids()
    public org.omg.CORBA.portable.OutputStream _invoke()
```

21.3.1 Constructor _HPACToolAgentImplBase()

```
public
_HPACToolAgentImplBase()
```

21.3.2 Method _ids()

```
public java.lang.String[]
_ids()
```

21.3.3 Method _invoke()

```
public org.omg.CORBA.portable.OutputStream
_invoke(
    java.lang.String method,
    org.omg.CORBA.portable.InputStream in,
    org.omg.CORBA.portable.ResponseHandler rh
)
```

21.4 Class _HPACToolAgentStub

```
mil.dtra.hpac.ippts.tool
public _HPACToolAgentStub
extends ObjectImpl
implements HPACToolAgent,
```

Methods:

```
public java.lang.String[] _ids()
public int getProcess()
public boolean isActive()
public void openNode()
public void release()
public void setDatabaseSession()
```

21.4.1 Constructor _HPACToolAgentStub()

```
public
_HPACToolAgentStub()
```

21.4.2 Constructor _HPACToolAgentStub()

```
public
_HPACToolAgentStub( org.omg.CORBA.portable.Delegate delegate )
```

21.4.3 Method _ids()

```
public java.lang.String[]
_ids()
```

21.4.4 Method getProcess()

```
public int
getProcess()
```

???

21.4.5 Method isActive()

```
public boolean
isActive()
```

Verifies that the server is running.

21.4.6 Method openNode()

```
public void
openNode( java.lang.String primary_key )
```

Opens a node—requires the database session to be set.

21.4.7 Method release()

```
public void
release()
```

Releases the interface.

21.4.8 Method setDatabaseSession()

```
public void
setDatabaseSession( java.lang.String session )
```

Sets the default IPTS database session.

21.5 Class HPACToolAgentHelper

```
mil.dtra.hpac.ippts.tool
public abstract HPACToolAgentHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.ippts.tool.HPACToolAgent extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.ippts.tool.HPACToolAgent narrow()
public static mil.dtra.hpac.ippts.tool.HPACToolAgent read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

21.5.1 Constructor HPACToolAgentHelper()

```
public
HPACToolAgentHelper()
```

21.5.2 Method extract()

```
public static mil.dtra.hpac.ippts.tool.HPACToolAgent
extract( org.omg.CORBA.Any a )
```

21.5.3 Method id()

```
public static java.lang.String
id()
```

21.5.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.ippts.tool.HPACToolAgent that
)
```

21.5.5 Method narrow()

```
public static mil.dtra.hpac.ippts.tool.HPACToolAgent
narrow( org.omg.CORBA.Object obj )
```

21.5.6 Method read()

```
public static mil.dtra.hpac.ippts.tool.HPACToolAgent
read( org.omg.CORBA.portable.InputStream istream )
```

21.5.7 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

21.5.8 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.ippts.tool.HPACToolAgent value
)
```

21.6 Class HPACToolAgentHolder

```
mil.dtra.hpac.ippts.tool
public final HPACToolAgentHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.ippts.tool.HPACToolAgent value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

21.6.1 Field value

```
public mil.dtra.hpac.ippts.tool.HPACToolAgent value
```

21.6.2 Constructor HPACToolAgentHolder()

```
public
HPACToolAgentHolder()
```

21.6.3 Constructor HPACToolAgentHolder()

```
public
HPACToolAgentHolder( mil.dtra.hpac.ippts.tool.HPACToolAgent initialValue )
```

21.6.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

21.6.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

21.6.6 Method `_write()`

```
public void  
_write( org.omg.CORBA.portable.OutputStream o )
```

CHAPTER 22

Package mil.dtra.hpac.itpts.tool.impl

Contains HPAC implementations IPTS tool agent classes.

Interfaces:

IHPACToolAgent

Classes:

HPACToolAppClient
HPACToolAppServer
HPACToolClient
HPACToolServer
HPACToolStartup

22.1 Interface IHPACToolAgent

mil.dtra.hpac.itpts.tool.impl
public interface **IHPACToolAgent**

Mirrors the IDL-defined HPACToolAgent but exists to hide CORBA. These are IPTS calls into HPAC.

22.2 Class HPACToolAppClient

mil.dtra.hpac.itpts.tool.impl
public **HPACToolAppClient**
extends HPACToolClient

Extends HPACToolClient to perform an application launch. Tools wishing to use HPAC services will create instance of this class. It will locate or launch a new copy of HPAC.

Methods:

```
public void checkVersion()
protected void launch()
public void tryCreate()
```

22.2.1 Constructor HPACToolAppClient()

```
public
HPACToolAppClient( java.util.Properties properties )
```

Constructs with launch properties.

22.2.2 Method checkVersion()

```
public void
checkVersion()
```

Verifies IPTS jar version.

22.2.3 Method launch()

```
protected void
launch()
```

Launch HPAC application.

22.2.4 Method tryCreate()

```
public void
tryCreate( java.lang.String command )
```

Try to create a hpacitpts.bat file.

22.3 Class HPACToolAppServer

```
mil.dtra.hpac.ippts.tool.impl
public HPACToolAppServer
extends HPACToolServer
```

Extends HPACToolServer to implement launch() for a standalone application.

Methods:

```
public static mil.dtra.hpac.ippts.tool.impl.IHPACToolAgent getToolAgent()
public static void main()
```

22.3.1 Constructor HPACToolAppServer()

```
public
HPACToolAppServer(  
    mil.dtra.hpac.ippts.tool.impl.IHPACToolAgent agent,  
    java.lang.String[] args  
)
```

Constructs with the specified delegate and command-line arguments.

Parameters:

server - delegate that will do with the work of HPACToolAgent methods
args - command-line arguments

22.3.2 Method getToolAgent()

```
public static mil.dtra.hpac.ippts.tool.impl.IHPACToolAgent
getToolAgent()
```

Returns the object in the latch.

Returns:

hpac tool agent reference

22.3.3 Method main()

```
public static void
main( java.lang.String[] argv )
```

22.4 Class HPACToolClient

```
mil.dtra.hpac.ippts.tool.impl
public abstract HPACToolClient
extends Object
implements IHPACToolAgent,
```

Converts the IDL HPACToolAgent into an IHPACToolAgent. Tries to locate the HPAC server (HPACToolServer providing HPACToolAgent services). If not found, it launches HPAC.

Fields:

```
protected mil.dtra.hpac.ippts.tool.HPACToolAgent fDelegate
protected java.util.Properties fLaunchProperties
```

Methods:

```
protected java.lang.String getHPACRun()
protected abstract void launch()
public void openNode()
public void release()
public void setDatabaseSession()
public void tryCreate()
```

22.4.1 Field fDelegate

protected mil.dtra.hpac.ippts.tool.HPACToolAgent **fDelegate**

22.4.2 Field fLaunchProperties

protected java.util.Properties **fLaunchProperties**

22.4.3 Constructor HPACToolClient()

```
public
HPACToolClient( java.util.Properties properties )
```

Constructs with launch properties.

22.4.4 Method getHPACRun()

```
protected java.lang.String
getHPACRun()
```

22.4.5 Method launch()

```
protected abstract void
launch()
```

Performs the launch in an environment-specific way.

22.4.6 Method openNode()

```
public void
openNode( java.lang.String primary_key )
```

Force HPAC to open the specified node immediately

Parameters:

primary_key - database node id

22.4.7 Method release()

```
public void
release()
```

Releases the CORBA interface. Called when the caller is finished with this tool.

22.4.8 Method setDatabaseSession()

```
public void
setDatabaseSession( java.lang.String session )
```

Set the database session that will be used by HPAC when performing file open and save operations

Parameters:

session - session id

22.4.9 Method tryCreate()

```
public void
tryCreate( java.lang.String command )
```

22.5 Class HPACToolServer

```
mil.dtra.hpac.itpts.tool.impl
public HPACToolServer
extends _HPACToolAgentImplBase
```

JacORB server whose main goal is to register itself with the CORBA name service.

Fields:

protected mil.dtra.hpac.ippts.tool.impl.IHPACToolAgent fDelegate

Methods:

```
public int getProcess()
public boolean isActive()
public void openNode()
public void release()
public void setDatabaseSession()
```

22.5.1 Field fDelegate

protected mil.dtra.hpac.ippts.tool.impl.IHPACToolAgent **fDelegate**

22.5.2 Constructor HPACToolServer()

```
public
HPACToolServer( mil.dtra.hpac.ippts.tool.impl.IHPACToolAgent server )
```

Constructs with the specified delegate.

Parameters:

server - delegate that will do with the work of HPACToolAgent methods

22.5.3 Method getProcess()

```
public int
getProcess()
```

22.5.4 Method isActive()

```
public boolean
isActive()
```

22.5.5 Method openNode()

```
public void
openNode( java.lang.String primary_key )
```

22.5.6 Method release()

```
public void
release()
```

22.5.7 Method setDatabaseSession()

```
public void
setDatabaseSession( java.lang.String session )
```

22.6 Class HPACToolStartup

mil.dtra.hpac.ippts.tool.impl
public HPACToolStartup

What does this do?

Fields:

```
protected java.util.Properties fLaunchProperties
```

Methods:

```
public final java.lang.String getHelpString()
protected java.lang.String getHPACRun()
public javax.swing.Icon getIcon()
public final java.lang.String getName()
public final java.lang.String getShortName()
public boolean isToolInstalled()
```

22.6.1 Field fLaunchProperties

```
protected java.util.Properties fLaunchProperties
```

22.6.2 Constructor HPACToolStartup()

```
public
HPACToolStartup( java.util.Properties properties )
```

Constructs with launch properties.

22.6.3 Method getHelpString()

```
public final java.lang.String  
getHelpString()
```

22.6.4 Method getHPACRun()

```
protected java.lang.String  
getHPACRun()
```

22.6.5 Method getIcon()

```
public javax.swing.Icon  
getIcon( int i )
```

22.6.6 Method getName()

```
public final java.lang.String  
getName()
```

22.6.7 Method getShortName()

```
public final java.lang.String  
getShortName()
```

22.6.8 Method isToolInstalled()

```
public boolean  
isToolInstalled()
```

CHAPTER 23

Package mil.dtra.hpac.server

Contains classes and interfaces generated from `server.idl` with `idlj`.

Interfaces:

DEFAULT_FLOAT
DEFAULT_LONG
DEFERRED_FLOAT
DEFERRED_LONG
EMPTY_FLOAT
EMPTY_LONG
EMPTY_STRING
HU_ENVIRONMENT
HU_LASTCHANCE
IncidentModelServer
IncidentModelServerFactory
IncidentModelServerFactoryOperations
IncidentModelServerOperations
NO_SERVICE_NAME
NOT_SET
NOT_SUPPORTED
VERBOSE_PROP_NAME

Classes:

_IncidentModelServerFactoryStub
_IncidentModelServerStub
ByteArrayHelper
ByteArrayHolder
EnviroBLT
EnviroBLTHelper
EnviroBLTHolder
EnvironmentT
EnvironmentTHelper
EnvironmentTHolder
IncidentLocationHelper

IncidentLocationHolder
 IncidentModelServer_Tie
 IncidentModelServerFactory_Tie
 IncidentModelServerFactoryHelper
 IncidentModelServerFactoryHolder
 IncidentModelServerHelper
 IncidentModelServerHolder
 IncidentT
 IncidentTHelper
 IncidentTHolder
 ModelExceptionHelper
 ModelExceptionHolder
 PointEnvironmentT
 PointEnvironmentTHelper
 PointEnvironmentTHolder
 ReleaseListTHelper
 ReleaseTHelper
 ScipuffServerUtils
 TimeMode
 TimeModeHelper
 TimeModeHolder
 TimeTHelper

Exceptions:

ModelException

Errors:

ModelException

23.1 Interface DEFAULT_FLOAT

```

mil.dtra.hpac.server
public interface DEFAULT_FLOAT
extends IDLEntity,

```

mil/dtra/hpac/server/DEFAULT_FLOAT.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

public static final float value

23.1.1 Field value

public static final float **value**

Constant for a default real value

23.2 Interface DEFAULT_LONG

mil.dtra.hpac.server

public interface **DEFAULT_LONG**

extends IDLEntity,

mil/dtra/hpac/server/DEFAULT_LONG.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

public static final int **value**

23.2.1 Field value

public static final int **value**

Constant for a default integer value

23.3 Interface DEFERRED_FLOAT

mil.dtra.hpac.server

public interface **DEFERRED_FLOAT**

extends IDLEntity,

mil/dtra/hpac/server/DEFERRED_FLOAT.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

public static final float **value**

23.3.1 Field value

public static final float **value**

Constant for a deferred real value; deferred values are dependent upon met

23.4 Interface DEFERRED_LONG

```
mil.dtra.hpac.server
public interface DEFERRED_LONG
extends IDLEntity,
```

mil/dtra/hpac/server/DEFERRED_LONG.java Generated by the IDL-to-Java compiler (portable), version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

```
    public static final int value
```

23.4.1 Field value

public static final int **value**

Constant for a deferred integer value; deferred values are dependent upon met

23.5 Interface EMPTY_FLOAT

```
mil.dtra.hpac.server
public interface EMPTY_FLOAT
extends IDLEntity,
```

mil/dtra/hpac/server/EMPTY_FLOAT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

```
    public static final float value
```

23.5.1 Field value

public static final float **value**

Constant for an empty real value

23.6 Interface EMPTY_LONG

```
mil.dtra.hpac.server
public interface EMPTY_LONG
extends IDLEntity,
```

mil/dtra/hpac/server/EMPTY_LONG.java Generated by the IDL-to-Java compiler (portable), version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

```
    public static final int value
```

23.6.1 Field value

public static final int **value**

Constant for an empty integer value

23.7 Interface EMPTY_STRING

mil.dtra.hpac.server
 public interface **EMPTY_STRING**
 extends IDLEntity,

mil/dtra/hpac/server/EMPTY_STRING.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

public static final java.lang.String **value**

23.7.1 Field value

public static final java.lang.String **value**

Constant for an empty string (not used)

23.8 Interface HU_ENVIRONMENT

mil.dtra.hpac.server
 public interface **HU_ENVIRONMENT**
 extends IDLEntity,

mil/dtra/hpac/server/HU_ENVIRONMENT.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

public static final int **value**

23.8.1 Field value

public static final int **value**

Mode value for `IncidentModelServer.updateRelease()` indicating updated environment
 data is available

23.9 Interface HU_LASTCHANCE

```
mil.dtra.hpac.server
public interface HU_LASTCHANCE
extends IDLEntity,
```

mil/dtra/hpac/server/HU_LASTCHANCE.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

```
public static final int value
```

23.9.1 Field value

```
public static final int value
```

Request mask value for `IncidentModelServer.updateIncident()` indicating the last call before calculation begins

23.10 Interface IncidentModelServer

```
mil.dtra.hpac.server
public interface IncidentModelServer
extends IDLEntity, IncidentModelServerOperations, Object,
```

Defines the common interface for all incident source model server objects.
We adopt a stateless, connectionless communication paradigm from client to server. Each time a client needs a model server to process an incident, the client must obtain a per-client instance of an `IncidentModelServer` from the corresponding `IncidentModelServerFactory`, which is a singleton object registered under a well known name in the naming service.

23.11 Interface IncidentModelServerFactory

```
mil.dtra.hpac.server
public interface IncidentModelServerFactory
extends IDLEntity, IncidentModelServerFactoryOperations, Object,
```

Defines the common interface for all incident source model server factory objects.
We adopt a stateless, connectionless communication paradigm from client to server. Each time a client needs a model server to process an incident, the client must obtain a per-client instance of an `IncidentModelServer` from the corresponding `IncidentModelServerFactory`, which is a singleton object registered under a well known name in the naming service.

23.12 Interface IncidentModelServerFactoryOperations

```
mil.dtra.hpac.server
public interface IncidentModelServerFactoryOperations
```

Defines the common interface for all incident source model server factory objects.

We adopt a stateless, connectionless communication paradigm from client to server. Each time a client needs a model server to process an incident, the client must obtain a per-client instance of an `IncidentModelServer` from the corresponding `IncidentModelServerFactory`, which is a singleton object registered under a well known name in the naming service.

Methods:

```
public mil.dtra.hpac.server.IncidentModelServer getInstance()
```

23.12.1 Method getInstance()

```
public mil.dtra.hpac.server.IncidentModelServer
getInstance(
    java.lang.String user_name,
    java.lang.String project_name,
    java.lang.String incident_id
)
```

Instantiates and returns an instance of the model server.

Parameters:

- user_name - user name
- project_name - project name
- incident_id - incident identifier

Returns:

model server instance

23.13 Interface IncidentModelServerOperations

```
mil.dtra.hpac.server
public interface IncidentModelServerOperations
```

Defines the common interface for all incident source model server objects.

We adopt a stateless, connectionless communication paradigm from client to server. Each time a client needs a model server to process an incident, the client must obtain a per-client instance of an `IncidentModelServer` from the corresponding `IncidentModelServerFactory`, which is a singleton object registered under a well known name in the naming service.

Methods:

```
public void closeIncident()
public int computeEffect()
public void initIncident()
public void restoreCustomizedProperties()
public void terminate()
public void updateIncident()
public void updateRelease()
public void updateReleaseData()
```

23.13.1 Method closeIncident()

```
public void
closeIncident( mil.dtra.hpac.server.IncidentT incident )
```

Gives the incident model server an opportunity to clean up any resources created. [*Will be called at the end of a run, when the incident model server will be no longer needed?*]

Parameters:

incident - the incident to close

23.13.2 Method computeEffect()

```
public int
computeEffect(
    int request,
    int effect_id,
    org.omg.CORBA.Any effect_in,
    org.omg.CORBA.AnyHolder effect_out,
    mil.dtra.hpac.server.project.TimeT incident_time,
    float[] incident_location,
    org.omg.CORBA.AnyHolder model_incident
))
```

Computes effects associated with an incident.

Parameters:

request - identifies the request as defined in effects.idl, one of EID_INIT, EID_COMP, or (EID_EXIT
 effect_id - identifies the effect to be processed, as per effect ID constants defined in effects.idl, one of EID_CIRCLE_BLAST, EID_CIRCLE_THERM, EID_CIRCLE_PROMPT, or EID_CASUALTY_PROMPT
 effect_in - effect-dependent input data

effect_out - effect-dependent output data
 incident_time - incident time (`IncidentT.fAbsoluteTime`)
 incident_location - incident location (`IncidentT.fLLALocation`)
 model_incident - model-specific data updated on return

Returns:

non-zero indicating a problem computing the effect, `NOT_SUPPORTED.value` if the computation is not supported by this model, or zero if the function succeeded

23.13.3 Method initIncident()

```

public void
initIncident(
  mil.dtra.hpac.server.IncidentTHolder incident,
  org.omg.CORBA.AnyHolder model_incident
)
  
```

Initializes the model incident data, the incident object and its corresponding release list. This method is part of the services provided by the IncidentModelServer to **any** client needing initialized `Incident` (and thus `Releases`) and `ModelIncident` objects. This avoids requiring clients to be knowledgeable of how to initialize objects for a particular incident model.

HPAC 4 model beans make this call in their `createIncidentObjects()` methods. The incident is initialized with a unique ID and a default name and anything else that may be documented with the model server implementation.

Parameters:

incident - default incident object returned
 model_incident - default model-specific data

23.13.4 Method restoreCustomizedProperties()

```

public void
restoreCustomizedProperties(
  mil.dtra.hpac.server.release.ReleaseTHolder to,
  mil.dtra.hpac.server.release.ReleaseT from
)
  
```

Restores customized properties as saved in the `from` parameter.

Parameters:

to - release object to update
 from - release object from which to read customized props

23.13.5 Method terminate()

```
public void
terminate()
```

Hook for the server implementation to do things before shutting down a per-client instance. Clients must call this method before releasing the remote server object.

23.13.6 Method updateIncident()

```
public void
updateIncident(
    int request_mask,
    mil.dtra.hpac.server.IncidentTHolder incident,
    org.omg.CORBA.AnyHolder model_incident
)
```

Based on the properties of the incident and model incident objects, updates and/or recomputes the incident object and its release list.

Called by the model bean when the user *Apply* or *OKs* changes to the operational model parameters.

Called by ScipuffServer with the HU_LASTCHANCE bit set in request_mask right before a call to the Tool Engine/SCIPUFF.

Parameters:

- request_mask - mask of flags indicating the type of request; currently the only flag is HU_LASTCHANCE
- incident - incident object updated on return
- model_incident - model-specific data updated on return

23.13.7 Method updateRelease()

```
public void
updateRelease(
    int mode,
    float current_time,
    float next_update,
    mil.dtra.hpac.server.EnvironmentT environ,
    mil.dtra.hpac.server.IncidentT incident,
    org.omg.CORBA.AnyHolder model_incident,
    mil.dtra.hpac.server.release.ReleaseTHolder release
)
```

This is the model server's opportunity to update release parameters based on environment data computed by the Tool Engine.

This method is implemented in `IncidentModelServerImpl` and should not normally be overridden by incident model servers. Instead, this method calls `updateReleaseData()` while preserving user customizations of release properties. Subclasses should override `updateReleaseData()`.

Parameters:

- mode - mode for the request; currently the only defined modes are 0 (meaning none), `HU_ENVIRONMENT`, and `HF_FAST`
- current_time - current time of the update request in hours from the project start time
- next_update - time of the next anticipated update request in hours from the project start time
- environ - computed environment data to use for update
- incident - incident associated with the release
- model_incident - model-specific data updated on return
- release - release object to update on return

23.13.8 Method `updateReleaseData()`

```
public void
updateReleaseData(
    int mode,
    float current_time,
    float next_update,
    mil.dtra.hpac.server.EnvironmentT environ,
    mil.dtra.hpac.server.IncidentT incident,
    org.omg.CORBA.AnyHolder model_incident,
    mil.dtra.hpac.server.release.ReleaseTHolder release
)
```

Called by `updateRelease()` to perform model-specific updates to release properties based on the environment.

Model servers must implement this method.

Parameters:

- mode - mode for the request; currently the only defined modes are 0 (meaning none), `HU_ENVIRONMENT`, and `HF_FAST`
- current_time - current time of the update request in hours from the project start time
- next_update - time of the next anticipated update request in hours from the project start time
- environ - computed environment data to use for update
- incident - incident associated with the release
- model_incident - model-specific data updated on return
- release - release object to update on return

23.14 Interface NO_SERVICE_NAME

```
mil.dtra.hpac.server
public interface NO_SERVICE_NAME
extends IDLEntity,
```

mil/dtra/hpac/server/NO_SERVICE_NAME.java Generated by the IDL-to-Java compiler (portable), version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

```
    public static final java.lang.String value
```

23.14.1 Field value

```
public static final java.lang.String value
```

Constant for specifying no service for a model which has no incident model server and, therefore, does not update releases.

23.15 Interface NOT_SET

```
mil.dtra.hpac.server
public interface NOT_SET
extends IDLEntity,
```

mil/dtra/hpac/server/NOT_SET.java Generated by the IDL-to-Java compiler (portable), version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

```
    public static final float value
```

23.15.1 Field value

```
public static final float value
```

Constant for an empty real value, equivalent to EMPTY_FLOAT

23.16 Interface NOT_SUPPORTED

```
mil.dtra.hpac.server
public interface NOT_SUPPORTED
extends IDLEntity,
```

mil/dtra/hpac/server/NOT_SUPPORTED.java Generated by the IDL-to-Java compiler (portable), version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

```
public static final int value
```

23.16.1 Field value

public static final int **value**

Constant value indicating a property is not supported

23.17 Interface VERBOSE_PROP_NAME

```
mil.dtra.hpac.server
public interface VERBOSE_PROP_NAME
extends IDLEntity,
```

mil/dtra/hpac/server/VERBOSE_PROP_NAME.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

```
public static final java.lang.String value
```

23.17.1 Field value

public static final java.lang.String **value**

Name of boolean system property indicating verbose/debug log output.

23.18 Class _IncidentModelServerFactoryStub

```
mil.dtra.hpac.server
public _IncidentModelServerFactoryStub
extends ObjectImpl
implements IncidentModelServerFactory,
```

Defines the common interface for all incident source model server factory objects.

We adopt a stateless, connectionless communication paradigm from client to server. Each time a client needs a model server to process an incident, the client must obtain a per-client instance of an `IncidentModelServer` from the corresponding `IncidentModelServerFactory`, which is a singleton object registered under a well known name in the naming service.

Methods:

```
public java.lang.String[] _ids()
public mil.dtra.hpac.server.IncidentModelServer getInstance()
```

23.18.1 Constructor _IncidentModelServerFactoryStub()

```
public
_IncidentModelServerFactoryStub()
```

23.18.2 Constructor _IncidentModelServerFactoryStub()

```
public
_IncidentModelServerFactoryStub( org.omg.CORBA.portable.Delegate delegate )
```

23.18.3 Method _ids()

```
public java.lang.String[]
_ids()
```

23.18.4 Method getInstance()

```
public mil.dtra.hpac.server.IncidentModelServer
getInstance(
    java.lang.String user_name,
    java.lang.String project_name,
    java.lang.String incident_id
)
```

Instantiates and returns an instance of the model server.

Parameters:

- user_name - user name
- project_name - project name
- incident_id - incident identifier

Returns:

- model server instance

23.19 Class _IncidentModelServerStub

```
mil.dtra.hpac.server
public _IncidentModelServerStub
extends ObjectImpl
implements IncidentModelServer,
```

Defines the common interface for all incident source model server objects.

We adopt a stateless, connectionless communication paradigm from client to server. Each time a client needs a model server to process an incident, the client must obtain a per-client instance of an `IncidentModelServer` from the corresponding `IncidentModelServerFactory`, which is a singleton object registered under a well known name in the naming service.

Methods:

```
public java.lang.String[] _ids()
public void closeIncident()
public int computeEffect()
public void initIncident()
public void restoreCustomizedProperties()
public void terminate()
public void updateIncident()
public void updateRelease()
public void updateReleaseData()
```

23.19.1 Constructor `_IncidentModelServerStub()`

```
public
_IncidentModelServerStub()
```

23.19.2 Constructor `_IncidentModelServerStub()`

```
public
_IncidentModelServerStub( org.omg.CORBA.portable.Delegate delegate )
```

23.19.3 Method `_ids()`

```
public java.lang.String[]
_ids()
```

23.19.4 Method `closeIncident()`

```
public void
closeIncident( mil.dtra.hpac.server.IncidentT incident )
```

Gives the incident model server an opportunity to clean up any resources created. [*Will be called at the end of a run, when the incident model server will be no longer needed?*]

Parameters:

incident - the incident to close

23.19.5 Method computeEffect()

```
public int
computeEffect(
    int request,
    int effect_id,
    org.omg.CORBA.Any effect_in,
    org.omg.CORBA.AnyHolder effect_out,
    mil.dtra.hpac.server.project.TimeT incident_time,
    float[] incident_location,
    org.omg.CORBA.AnyHolder model_incident
)
```

Computes effects associated with an incident.

Parameters:

- request - identifies the request as defined in effects.idl, one of EID_INIT, EID_COMP, or (EID_EXIT)
- effect_id - identifies the effect to be processed, as per effect ID constants defined in effects.idl, one of EID_CIRCLE_BLAST, EID_CIRCLE_THERM, EID_CIRCLE_PROMPT, or EID_CASUALTY_PROMPT
- effect_in - effect-dependent input data
- effect_out - effect-dependent output data
- incident_time - incident time (IncidentT.fAbsoluteTime)
- incident_location - incident location (IncidentT.fLLALocation)
- model_incident - model-specific data updated on return

Returns:

non-zero indicating a problem computing the effect, NOT_SUPPORTED.value if the computation is not supported by this model, or zero if the function succeeded

23.19.6 Method initIncident()

```
public void
initIncident(
    mil.dtra.hpac.server.IncidentTHolder incident,
    org.omg.CORBA.AnyHolder model_incident
)
```

Initializes the model incident data, the incident object and its corresponding release list. This method is part of the services provided by the IncidentModelServer to **any** client needing initialized Incident (and thus Releases) and ModelIncident objects. This avoids requiring clients to be knowledgeable of how to initialize objects for a particular incident model.

HPAC 4 model beans make this call in their `createIncidentObjects()` methods. The incident is initialized with a unique ID and a default name and anything else that may be documented with the model server implementation.

Parameters:

incident - default incident object returned
 model_incident - default model-specific data

23.19.7 Method `restoreCustomizedProperties()`

```
public void
restoreCustomizedProperties(  

    mil.dtra.hpac.server.release.ReleaseTHolder to,  

    mil.dtra.hpac.server.release.ReleaseT from  

)
```

Restores customized properties as saved in the *from* parameter.

Parameters:

to - release object to update
 from - release object from which to read customized props

23.19.8 Method `terminate()`

```
public void
terminate()
```

Hook for the server implementation to do things before shutting down a per-client instance. Clients must call this method before releasing the remote server object.

23.19.9 Method `updateIncident()`

```
public void
updateIncident(  

    int request_mask,  

    mil.dtra.hpac.server.IncidentTHolder incident,  

    org.omg.CORBA.AnyHolder model_incident  

)
```

Based on the properties of the incident and model incident objects, updates and/or recomputes the incident object and its release list.

Called by the model bean when the user *Apply* or OKs changes to the operational model parameters.

Called by ScipuffServer with the HU_LASTCHANCE bit set in request_mask right before a call to the Tool Engine/SCIPUFF.

Parameters:

- request_mask - mask of flags indicating the type of request; currently the only flag is HU_LASTCHANCE
- incident - incident object updated on return
- model_incident - model-specific data updated on return

23.19.10 Method updateRelease()

```
public void
updateRelease(
    int mode,
    float current_time,
    float next_update,
    mil.dtra.hpac.server.EnvironmentT environ,
    mil.dtra.hpac.server.IncidentT incident,
    org.omg.CORBA.AnyHolder model_incident,
    mil.dtra.hpac.server.release.ReleaseTHolder release
)
```

This is the model server's opportunity to update release parameters based on environment data computed by the Tool Engine.

This method is implemented in `IncidentModelServerImpl` and should not normally be overridden by incident model servers. Instead, this method calls `updateReleaseData()` while preserving user customizations of release properties. Subclasses should override `updateReleaseData()`.

Parameters:

- mode - mode for the request; currently the only defined modes are 0 (meaning none), HU_ENVIRONMENT, and HF_FAST
- current_time - current time of the update request in hours from the project start time
- next_update - time of the next anticipated update request in hours from the project start time
- environ - computed environment data to use for update
- incident - incident associated with the release
- model_incident - model-specific data updated on return
- release - release object to update on return

23.19.11 Method updateReleaseData()

```
public void
updateReleaseData(
    int mode,
    float current_time,
    float next_update,
    mil.dtra.hpac.server.EnvironmentT environ,
    mil.dtra.hpac.server.IncidentT incident,
    org.omg.CORBA.AnyHolder model_incident,
    mil.dtra.hpac.server.release.ReleaseTHolder release
)
```

Called by updateRelease() to perform model-specific updates to release properties based on the environment.

Model servers must implement this method.

Parameters:

- mode - mode for the request; currently the only defined modes are 0 (meaning none), HU_ENVIRONMENT, and HF_FAST
- current_time - current time of the update request in hours from the project start time
- next_update - time of the next anticipated update request in hours from the project start time
- environ - computed environment data to use for update
- incident - incident associated with the release
- model_incident - model-specific data updated on return
- release - release object to update on return

23.20 Class ByteArrayHelper

```
mil.dtra.hpac.server
public abstract ByteArrayHelper
extends Object
```

Array of bytes.

Methods:

```
public static byte[] extract()
public static java.lang.String id()
public static void insert()
public static byte[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

23.20.1 Constructor ByteArrayHelper()

```
public
ByteArrayHelper()
```

23.20.2 Method extract()

```
public static byte[]
extract( org.omg.CORBA.Any a )
```

23.20.3 Method id()

```
public static java.lang.String
id()
```

23.20.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    byte[] that
)
```

23.20.5 Method read()

```
public static byte[]
read( org.omg.CORBA.portable.InputStream istream )
```

23.20.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

23.20.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    byte[] value
)
```

23.21 Class ByteArrayHolder

```
mil.dtra.hpac.server
public final ByteArrayHolder
extends Object
implements Streamable,
```

Array of bytes.

Fields:

```
public byte[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

23.21.1 Field value

```
public byte[] value
```

23.21.2 Constructor ByteArrayHolder()

```
public
ByteArrayHolder()
```

23.21.3 Constructor ByteArrayHolder()

```
public
ByteArrayHolder( byte[] initialValue )
```

23.21.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

23.21.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

23.21.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

23.22 Class EnviroBLT

```
mil.dtra.hpac.server
public final EnviroBLT
extends Object
implements IDLEntity,
```

Definition derived from the HPACTool API.

Fields:

```
public float fBLMixingHeight
public float fCanopyFlowIndex
public float fCanopyHeight
public float fHorizVelocityScale
public float fMoninObukovLength
public float fSurfaceHeatFlux
public float fSurfaceLayerHeight
public float fSurfaceRoughness
public float fTemperatureGradient
public float fVertVelocityScale
```

23.22.1 Field `fBLMixingHeight`

```
public float fBLMixingHeight
```

23.22.2 Field `fCanopyFlowIndex`

```
public float fCanopyFlowIndex
```

23.22.3 Field `fCanopyHeight`

```
public float fCanopyHeight
```

23.22.4 Field `fHorizVelocityScale`

```
public float fHorizVelocityScale
```

23.22.5 Field fMoninObukovLength

```
public float fMoninObukovLength
```

23.22.6 Field fSurfaceHeatFlux

```
public float fSurfaceHeatFlux
```

23.22.7 Field fSurfaceLayerHeight

```
public float fSurfaceLayerHeight
```

23.22.8 Field fSurfaceRoughness

```
public float fSurfaceRoughness
```

23.22.9 Field fTemperatureGradient

```
public float fTemperatureGradient
```

23.22.10 Field fVertVelocityScale

```
public float fVertVelocityScale
```

23.22.11 Constructor EnviroBLT()

```
public  
EnviroBLT()
```

23.22.12 Constructor EnviroBLT()

```
public  
EnviroBLT(  
    float _fSurfaceRoughness,  
    float _fCanopyHeight,  
    float _fCanopyFlowIndex,  
    float _fMoninObukovLength,  
    float _fSurfaceLayerHeight,  
    float _fBLMixingHeight,  
    float _fSurfaceHeatFlux,  
    float _fHorizVelocityScale,  
    float _fVertVelocityScale,  
    float _fTemperatureGradient  
)
```

23.23 Class EnviroBLTHelper

```
mil.dtra.hpac.server
public abstract EnviroBLTHelper
extends Object
```

Definition derived from the HPACTool API.

Methods:

```
public static mil.dtra.hpac.server.EnviroBLT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.EnviroBLT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

23.23.1 Constructor EnviroBLTHelper()

```
public
EnviroBLTHelper()
```

23.23.2 Method extract()

```
public static mil.dtra.hpac.server.EnviroBLT
extract( org.omg.CORBA.Any a )
```

23.23.3 Method id()

```
public static java.lang.String
id()
```

23.23.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.EnviroBLT that
)
```

23.23.5 Method read()

```
public static mil.dtra.hpac.server.EnviroBLT
read( org.omg.CORBA.portable.InputStream istream )
```

23.23.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

23.23.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.EnviroBLT value
)
```

23.24 Class EnviroBLTHolder

mil.dtra.hpac.server
public final EnviroBLTHolder
 extends Object
 implements Streamable,

Definition derived from the HPACTool API.

Fields:

```
public mil.dtra.hpac.server.EnviroBLT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

23.24.1 Field value

```
public mil.dtra.hpac.server.EnviroBLT value
```

23.24.2 Constructor EnviroBLTHolder()

```
public
EnviroBLTHolder()
```

23.24.3 Constructor EnviroBLTHolder()

```
public
EnviroBLTHolder( mil.dtra.hpac.server.EnviroBLT initialValue )
```

23.24.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

23.24.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

23.24.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

23.25 Class EnvironmentT

mil.dtra.hpac.server
 public final **EnvironmentT**
 extends Object
 implements IDLEntity,

Definition derived from the HPACTool API.

Fields:

```
public float fMixingLayerHeight
public short fSampleCount
public mil.dtra.hpac.server.PointEnvironmentT[] fSamples
public float fSurfaceElevation
public float fSurfacePressure
```

23.25.1 Field fMixingLayerHeight

```
public float fMixingLayerHeight
```

23.25.2 Field fSampleCount

```
public short fSampleCount
```

23.25.3 Field fSamples

```
public mil.dtra.hpac.server.PointEnvironmentT[] fSamples
```

23.25.4 Field fSurfaceElevation

```
public float fSurfaceElevation
```

23.25.5 Field fSurfacePressure

```
public float fSurfacePressure
```

23.25.6 Constructor EnvironmentT()

```
public  
EnvironmentT()
```

23.25.7 Constructor EnvironmentT()

```
public  
EnvironmentT(  
    float _fMixingLayerHeight,  
    mil.dtra.hpac.server.PointEnvironmentT[] _fSamples,  
    short _fSampleCount,  
    float _fSurfaceElevation,  
    float _fSurfacePressure  
)
```

23.26 Class EnvironmentTHelper

```
mil.dtra.hpac.server
public abstract EnvironmentTHelper
extends Object
```

Definition derived from the HPACTool API.

Methods:

```
public static mil.dtra.hpac.server.EnvironmentT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.EnvironmentT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

23.26.1 Constructor EnvironmentTHelper()

```
public
EnvironmentTHelper()
```

23.26.2 Method extract()

```
public static mil.dtra.hpac.server.EnvironmentT
extract( org.omg.CORBA.Any a )
```

23.26.3 Method id()

```
public static java.lang.String
id()
```

23.26.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.EnvironmentT that
)
```

23.26.5 Method read()

```
public static mil.dtra.hpac.server.EnvironmentT
read( org.omg.CORBA.portable.InputStream istream )
```

23.26.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

23.26.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.EnvironmentT value
)
```

23.27 Class EnvironmentTHolder

mil.dtra.hpac.server
public final EnvironmentTHolder
 extends Object
 implements Streamable,

Definition derived from the HPACTool API.

Fields:

```
public mil.dtra.hpac.server.EnvironmentT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

23.27.1 Field value

```
public mil.dtra.hpac.server.EnvironmentT value
```

23.27.2 Constructor EnvironmentTHolder()

```
public
EnvironmentTHolder()
```

23.27.3 Constructor EnvironmentTHolder()

```
public
EnvironmentTHolder( mil.dtra.hpac.server.EnvironmentT initialValue )
```

23.27.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

23.27.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

23.27.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

23.28 Class IncidentLocationHelper

mil.dtra.hpac.server
 public abstract **IncidentLocationHelper**
 extends Object

Methods:

```
public static float[] extract()
public static java.lang.String id()
public static void insert()
public static float[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

23.28.1 Constructor IncidentLocationHelper()

```
public
IncidentLocationHelper()
```

23.28.2 Method extract()

```
public static float[]
extract( org.omg.CORBA.Any a )
```

23.28.3 Method id()

```
public static java.lang.String
id()
```

23.28.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    float[] that
)
```

23.28.5 Method read()

```
public static float[]
read( org.omg.CORBA.portable.InputStream istream )
```

23.28.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

23.28.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    float[] value
)
```

23.29 Class IncidentLocationHolder

```
mil.dtra.hpac.server
public final IncidentLocationHolder
extends Object
implements Streamable,
```

Fields:

```
public float[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

23.29.1 Field value

```
public float[] value
```

23.29.2 Constructor IncidentLocationHolder()

```
public
IncidentLocationHolder()
```

23.29.3 Constructor IncidentLocationHolder()

```
public
IncidentLocationHolder( float[] initialValue )
```

23.29.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

23.29.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

23.29.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

23.30 Class IncidentModelServer_Tie

```
mil.dtra.hpac.server
public IncidentModelServer_Tie
extends ObjectImpl
implements IncidentModelServer, InvokeHandler,
```

Defines the common interface for all incident source model server objects. We adopt a stateless, connectionless communication paradigm from client to server. Each time a client needs a model server to process an incident, the client must obtain a per-client instance of an `IncidentModelServer` from the corresponding `IncidentModelServerFactory`, which is a singleton object registered under a well known name in the naming service.

Methods:

```
public java.lang.String[] _ids()
public org.omg.CORBA.portable.OutputStream _invoke()
public void closeIncident()
public int computeEffect()
public void initIncident()
public void restoreCustomizedProperties()
public void terminate()
public void updateIncident()
public void updateRelease()
public void updateReleaseData()
```

23.30.1 Constructor IncidentModelServer_Tie()

```
public
IncidentModelServer_Tie()
```

23.30.2 Constructor IncidentModelServer_Tie()

```
public
IncidentModelServer_Tie( mil.dtra.hpac.server.IncidentModelServerOperations impl )
```

23.30.3 Method `_ids()`

```
public java.lang.String[]
_ids()
```

23.30.4 Method `_invoke()`

```
public org.omg.CORBA.portable.OutputStream
_invoke(
    java.lang.String method,
    org.omg.CORBA.portable.InputStream in,
    org.omg.CORBA.portable.ResponseHandler rh
)
```

23.30.5 Method `closeIncident()`

```
public void
closeIncident( mil.dtra.hpac.server.IncidentT incident )
```

Gives the incident model server an opportunity to clean up any resources created. [*Will be called at the end of a run, when the incident model server will be no longer needed?*]

Parameters:

incident - the incident to close

23.30.6 Method `computeEffect()`

```
public int
computeEffect(
    int request,
    int effect_id,
    org.omg.CORBA.Any effect_in,
    org.omg.CORBA.AnyHolder effect_out,
    mil.dtra.hpac.server.project.TimeT incident_time,
    float[] incident_location,
    org.omg.CORBA.AnyHolder model_incident
)
```

Computes effects associated with an incident.

Parameters:

request - identifies the request as defined in effects.idl, one of EID_INIT, EID_COMP, or (EID_EXIT)
 effect_id - identifies the effect to be processed, as per effect ID constants defined in effects.idl, one of EID_CIRCLE_BLAST, EID_CIRCLE_THERM, EID_CIRCLE_PROMPT, or EID_CASUALTY_PROMPT
 effect_in - effect-dependent input data
 effect_out - effect-dependent output data
 incident_time - incident time (IncidentT.fAbsoluteTime)
 incident_location - incident location (IncidentT.fLLALocation)
 model_incident - model-specific data updated on return

Returns:

non-zero indicating a problem computing the effect, NOT_SUPPORTED.value if the computation is not supported by this model, or zero if the function succeeded

23.30.7 Method initIncident()

```
public void
initIncident(
  mil.dtra.hpac.server.IncidentTHolder incident,
  org.omg.CORBA.AnyHolder model_incident
)
```

Initializes the model incident data, the incident object and its corresponding release list. This method is part of the services provided by the IncidentModelServer to **any** client needing initialized Incident (and thus Releases) and ModelIncident objects. This avoids requiring clients to be knowledgeable of how to initialize objects for a particular incident model. HPAC 4 model beans make this call in their createIncidentObjects() methods. The incident is initialized with a unique ID and a default name and anything else that may be documented with the model server implementation.

Parameters:

incident - default incident object returned
 model_incident - default model-specific data

23.30.8 Method restoreCustomizedProperties()

```
public void
restoreCustomizedProperties(
  mil.dtra.hpac.server.release.ReleaseTHolder to,
  mil.dtra.hpac.server.release.ReleaseT from
)
```

Restores customized properties as saved in the *from* parameter.

Parameters:

to - release object to update
 from - release object from which to read customized props

23.30.9 Method terminate()

```
public void
terminate()
```

Hook for the server implementation to do things before shutting down a per-client instance. Clients must call this method before releasing the remote server object.

23.30.10 Method updateIncident()

```
public void
updateIncident(
    int request_mask,
    mil.dtra.hpac.server.IncidentTHolder incident,
    org.omg.CORBA.AnyHolder model_incident
)
```

Based on the properties of the incident and model incident objects, updates and/or recomputes the incident object and its release list.

Called by the model bean when the user *Apply* or *OKs* changes to the operational model parameters.

Called by ScipuffServer with the `HU_LASTCHANCE` bit set in `request_mask` right before a call to the Tool Engine/SCIPUFF.

Parameters:

`request_mask` - mask of flags indicating the type of request; currently the only flag is `HU_LASTCHANCE`
`incident` - incident object updated on return
`model_incident` - model-specific data updated on return

23.30.11 Method updateRelease()

```
public void
updateRelease(
    int mode,
    float current_time,
    float next_update,
    mil.dtra.hpac.server.EnvironmentT environ,
    mil.dtra.hpac.server.IncidentT incident,
    org.omg.CORBA.AnyHolder model_incident,
    mil.dtra.hpac.server.release.ReleaseTHolder release
)
```

This is the model server's opportunity to update release parameters based on environment data computed by the Tool Engine.

This method is implemented in `IncidentModelServerImpl` and should not normally be overridden by incident model servers. Instead, this method calls `updateReleaseData()` while preserving user customizations of release properties. Subclasses should override `updateReleaseData()`.

Parameters:

- mode - mode for the request; currently the only defined modes are 0 (meaning none), `HU_ENVIRONMENT`, and `HF_FAST`
- current_time - current time of the update request in hours from the project start time
- next_update - time of the next anticipated update request in hours from the project start time
- environ - computed environment data to use for update
- incident - incident associated with the release
- model_incident - model-specific data updated on return
- release - release object to update on return

23.30.12 Method updateReleaseData()

```
public void
updateReleaseData(
    int mode,
    float current_time,
    float next_update,
    mil.dtra.hpac.server.EnvironmentT environ,
    mil.dtra.hpac.server.IncidentT incident,
    org.omg.CORBA.AnyHolder model_incident,
    mil.dtra.hpac.server.release.ReleaseTHolder release
)
```

Called by `updateRelease()` to perform model-specific updates to release properties based on the environment.

Model servers must implement this method.

Parameters:

- mode - mode for the request; currently the only defined modes are 0 (meaning none), HU_ENVIRONMENT, and HF_FAST
- current_time - current time of the update request in hours from the project start time
- next_update - time of the next anticipated update request in hours from the project start time
- environ - computed environment data to use for update
- incident - incident associated with the release
- model_incident - model-specific data updated on return
- release - release object to update on return

23.31 Class IncidentModelServerFactory_Tie

```
mil.dtra.hpac.server
public IncidentModelServerFactory_Tie
extends ObjectImpl
implements IncidentModelServerFactory, InvokeHandler,
```

Defines the common interface for all incident source model server factory objects.

We adopt a stateless, connectionless communication paradigm from client to server. Each time a client needs a model server to process an incident, the client must obtain a per-client instance of an `IncidentModelServer` from the corresponding `IncidentModelServerFactory`, which is a singleton object registered under a well known name in the naming service.

Methods:

```
public java.lang.String[] _ids()
public org.omg.CORBA.portable.OutputStream _invoke()
public mil.dtra.hpac.server.IncidentModelServer getInstance()
```

23.31.1 Constructor IncidentModelServerFactory_Tie()

```
public
IncidentModelServerFactory_Tie()
```

23.31.2 Constructor IncidentModelServerFactory_Tie()

```
public
IncidentModelServerFactory_Tie( mil.dtra.hpac.server.IncidentModelServerFactoryOperations
impl )
```

23.31.3 Method `_ids()`

```
public java.lang.String[]
_ids()
```

23.31.4 Method `_invoke()`

```
public org.omg.CORBA.portable.OutputStream
_invoke(
    java.lang.String method,
    org.omg.CORBA.portable.InputStream in,
    org.omg.CORBA.portable.ResponseHandler rh
)
```

23.31.5 Method `getInstance()`

```
public mil.dtra.hpac.server.IncidentModelServer
getInstance(
    java.lang.String user_name,
    java.lang.String project_name,
    java.lang.String incident_id
)
```

Instantiates and returns an instance of the model server.

Parameters:

- user_name - user name
- project_name - project name
- incident_id - incident identifier

Returns:

- model server instance

23.32 Class `IncidentModelServerFactoryHelper`

```
mil.dtra.hpac.server
public abstract IncidentModelServerFactoryHelper
extends Object
```

Defines the common interface for all incident source model server factory objects.

We adopt a stateless, connectionless communication paradigm from client to server. Each time a client needs a model server to process an incident, the client must obtain a per-client instance of an `IncidentModelServer` from the corresponding `IncidentModelServerFactory`, which is a singleton object registered under a well known name in the naming service.

Methods:

```
public static mil.dtra.hpac.server.IncidentModelServerFactory extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.IncidentModelServerFactory narrow()
public static mil.dtra.hpac.server.IncidentModelServerFactory read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

23.32.1 Constructor IncidentModelServerFactoryHelper()

```
public
IncidentModelServerFactoryHelper()
```

23.32.2 Method extract()

```
public static mil.dtra.hpac.server.IncidentModelServerFactory
extract( org.omg.CORBA.Any a )
```

23.32.3 Method id()

```
public static java.lang.String
id()
```

23.32.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.IncidentModelServerFactory that
)
```

23.32.5 Method narrow()

```
public static mil.dtra.hpac.server.IncidentModelServerFactory
narrow( org.omg.CORBA.Object obj )
```

23.32.6 Method read()

```
public static mil.dtra.hpac.server.IncidentModelServerFactory
read( org.omg.CORBA.portable.InputStream istream )
```

23.32.7 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

23.32.8 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.IncidentModelServerFactory value
)
```

23.33 Class IncidentModelServerFactoryHolder

```
mil.dtra.hpac.server
public final IncidentModelServerFactoryHolder
extends Object
implements Streamable,
```

Defines the common interface for all incident source model server factory objects.

We adopt a stateless, connectionless communication paradigm from client to server. Each time a client needs a model server to process an incident, the client must obtain a per-client instance of an `IncidentModelServer` from the corresponding `IncidentModelServerFactory`, which is a singleton object registered under a well known name in the naming service.

Fields:

```
public mil.dtra.hpac.server.IncidentModelServerFactory value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

23.33.1 Field value

```
public mil.dtra.hpac.server.IncidentModelServerFactory value
```

23.33.2 Constructor IncidentModelServerFactoryHolder()

```
public
IncidentModelServerFactoryHolder()
```

23.33.3 Constructor **IncidentModelServerFactoryHolder()**

```
public  
IncidentModelServerFactoryHolder( mil.dtra.hpac.server.IncidentModelServerFactory initialValue )
```

23.33.4 Method **_read()**

```
public void  
_read( org.omg.CORBA.portable.InputStream i )
```

23.33.5 Method **_type()**

```
public org.omg.CORBA.TypeCode  
_type()
```

23.33.6 Method **_write()**

```
public void  
_write( org.omg.CORBA.portable.OutputStream o )
```

23.34 Class **IncidentModelServerHelper**

```
mil.dtra.hpac.server  
public abstract IncidentModelServerHelper  
extends Object
```

Defines the common interface for all incident source model server objects.

We adopt a stateless, connectionless communication paradigm from client to server. Each time a client needs a model server to process an incident, the client must obtain a per-client instance of an **IncidentModelServer** from the corresponding **IncidentModelServerFactory**, which is a singleton object registered under a well known name in the naming service.

Methods:

```
public static mil.dtra.hpac.server.IncidentModelServer extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.IncidentModelServer narrow()  
public static mil.dtra.hpac.server.IncidentModelServer read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

23.34.1 Constructor IncidentModelServerHelper()

```
public  
IncidentModelServerHelper()
```

23.34.2 Method extract()

```
public static mil.dtra.hpac.server.IncidentModelServer  
extract( org.omg.CORBA.Any a )
```

23.34.3 Method id()

```
public static java.lang.String  
id()
```

23.34.4 Method insert()

```
public static void  
insert(  
    org.omg.CORBA.Any a,  
    mil.dtra.hpac.server.IncidentModelServer that  
)
```

23.34.5 Method narrow()

```
public static mil.dtra.hpac.server.IncidentModelServer  
narrow( org.omg.CORBA.Object obj )
```

23.34.6 Method read()

```
public static mil.dtra.hpac.server.IncidentModelServer  
read( org.omg.CORBA.portable.InputStream istream )
```

23.34.7 Method type()

```
public static synchronized org.omg.CORBA.TypeCode  
type()
```

23.34.8 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.IncidentModelServer value
)
```

23.35 Class IncidentModelServerHolder

```
mil.dtra.hpac.server
public final IncidentModelServerHolder
extends Object
implements Streamable,
```

Defines the common interface for all incident source model server objects. We adopt a stateless, connectionless communication paradigm from client to server. Each time a client needs a model server to process an incident, the client must obtain a per-client instance of an `IncidentModelServer` from the corresponding `IncidentModelServerFactory`, which is a singleton object registered under a well known name in the naming service.

Fields:

```
public mil.dtra.hpac.server.IncidentModelServer value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

23.35.1 Field value

```
public mil.dtra.hpac.server.IncidentModelServer value
```

23.35.2 Constructor IncidentModelServerHolder()

```
public
IncidentModelServerHolder()
```

23.35.3 Constructor IncidentModelServerHolder()

```
public
IncidentModelServerHolder( mil.dtra.hpac.server.IncidentModelServer initialValue )
```

23.35.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

23.35.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

23.35.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

23.36 Class IncidentT

```
mil.dtra.hpac.server
public final IncidentT
extends Object
implements IDLEntity,
```

Encapsulates the incident abstraction as seen by ScipuffServer.

Fields:

```
public mil.dtra.hpac.server.project.TimeT fAbsoluteTime
public int fAvailableEffects
public boolean fHasCustomMaterials
public boolean fHasCustomReleases
public java.lang.String fID
public float[] fLLALocation
public java.lang.String fmodelName
public java.lang.String fModelServiceName
public java.lang.String fName
public mil.dtra.hpac.server.release.ReleaseT[] fReleaseList
```

23.36.1 Field `fAbsoluteTime`

```
public mil.dtra.hpac.server.project.TimeT fAbsoluteTime
```

Absolute time reference for the beginning of the incident

23.36.2 Field `fAvailableEffects`

```
public int fAvailableEffects
```

Bit mask composed of the defined `EM_` constants in effects.idl

23.36.3 Field fHasCustomMaterials

public boolean **fHasCustomMaterials**

True if the incident has releases with custom materials (does anyone use this?)

23.36.4 Field fHasCustomReleases

public boolean **fHasCustomReleases**

True if the incident has customized releases (does anyone use this?)

23.36.5 Field fID

public java.lang.String **fID**

Assigned, unique identifier for the incident object

23.36.6 Field fLLALocation

public float[] **fLLALocation**

Logical location of the incident in LLA coordinates

23.36.7 Field fmodelName

public java.lang.String **fmodelName**

Name of the source model that generated the incident

23.36.8 Field fModelServiceName

public java.lang.String **fModelServiceName**

Name in the naming or lookup service of the factory server object which can produce an IncidentModelServer instance for processing this object

23.36.9 Field fName

public java.lang.String **fName**

Name assigned to this incident by the user

23.36.10 Field fReleaseList

public mil.dtra.hpac.server.release.ReleaseT[] **fReleaseList**

List of release objects comprising the incident

23.36.11 Constructor IncidentT()

```
public
IncidentT()
```

23.36.12 Constructor IncidentT()

```
public
IncidentT(
    mil.dtra.hpac.server.project.TimeT _fAbsoluteTime,
    int _fAvailableEffects,
    boolean _fHasCustomMaterials,
    boolean _fHasCustomReleases,
    java.lang.String _fID,
    float[] _fLLALocation,
    java.lang.String _fModelName,
    java.lang.String _fModelServiceName,
    java.lang.String _fName,
    mil.dtra.hpac.server.release.ReleaseT[] _fReleaseList
)
```

23.37 Class IncidentTHelper

```
mil.dtra.hpac.server
public abstract IncidentTHelper
extends Object
```

Encapsulates the incident abstraction as seen by ScipuffServer.

Methods:

```
public static mil.dtra.hpac.server.IncidentT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.IncidentT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

23.37.1 Constructor IncidentTHelper()

```
public
IncidentTHelper()
```

23.37.2 Method extract()

```
public static mil.dtra.hpac.server.IncidentT
extract( org.omg.CORBA.Any a )
```

23.37.3 Method id()

```
public static java.lang.String
id()
```

23.37.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.IncidentT that
)
```

23.37.5 Method read()

```
public static mil.dtra.hpac.server.IncidentT
read( org.omg.CORBA.portable.InputStream istream )
```

23.37.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

23.37.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.IncidentT value
)
```

23.38 Class IncidentTHolder

```
mil.dtra.hpac.server
public final IncidentTHolder
extends Object
implements Streamable,
```

Encapsulates the incident abstraction as seen by ScipuffServer.

Fields:

```
public mil.dtra.hpac.server.IncidentT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

23.38.1 Field value

```
public mil.dtra.hpac.server.IncidentT value
```

23.38.2 Constructor IncidentTHolder()

```
public
IncidentTHolder()
```

23.38.3 Constructor IncidentTHolder()

```
public
IncidentTHolder( mil.dtra.hpac.server.IncidentT initialValue )
```

23.38.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

23.38.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

23.38.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

23.39 Class ModelExceptionHelper

```
mil.dtra.hpac.server
public abstract ModelExceptionHelper
extends Object
```

mil/dtra/hpac/server/ModelExceptionHelper.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Methods:

```
public static mil.dtra.hpac.server.ModelException extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.ModelException read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

23.39.1 Constructor ModelExceptionHelper()

```
public
ModelExceptionHelper()
```

23.39.2 Method extract()

```
public static mil.dtra.hpac.server.ModelException
extract( org.omg.CORBA.Any a )
```

23.39.3 Method id()

```
public static java.lang.String
id()
```

23.39.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.ModelException that
)
```

23.39.5 Method read()

```
public static mil.dtra.hpac.server.ModelException
read( org.omg.CORBA.portable.InputStream istream )
```

23.39.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

23.39.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.ModelException value
)
```

23.40 Class ModelExceptionHolder

mil.dtra.hpac.server
public final ModelExceptionHolder
 extends Object
 implements Streamable,

mil/dtra/hpac/server/ModelExceptionHolder.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

```
public mil.dtra.hpac.server.ModelException value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

23.40.1 Field value

```
public mil.dtra.hpac.server.ModelException value
```

23.40.2 Constructor ModelExceptionHolder()

```
public
ModelExceptionHolder()
```

23.40.3 Constructor ModelExceptionHolder()

```
public
ModelExceptionHolder( mil.dtra.hpac.server.ModelException initialValue )
```

23.40.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

23.40.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

23.40.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

23.41 Class PointEnvironmentT

mil.dtra.hpac.server
 public final **PointEnvironmentT**
 extends Object
 implements IDLEntity,

Definition derived from the HPACTool API.

Fields:

```
public float fHumidity
public float fPotentialTemp
public float fPressure
public float fWindUComponent
public float fWindVComponent
public float fWindWComponent
public float fZ
```

23.41.1 Field fHumidity

public float **fHumidity**

23.41.2 Field fPotentialTemp

public float **fPotentialTemp**

23.41.3 Field fPressure

public float **fPressure**

23.41.4 Field fWindUComponent

public float **fWindUComponent**

23.41.5 Field fWindVComponent

public float **fWindVComponent**

23.41.6 Field fWindWComponent

public float **fWindWComponent**

23.41.7 Field fZ

public float **fZ**

23.41.8 Constructor PointEnvironmentT()

public
PointEnvironmentT()

23.41.9 Constructor PointEnvironmentT()

```
public
PointEnvironmentT(
    float _fHumidity,
    float _fPotentialTemp,
    float _fPressure,
    float _fWindUComponent,
    float _fWindVComponent,
    float _fWindWComponent,
    float _fZ
)
```

23.42 Class PointEnvironmentTHelper

```
mil.dtra.hpac.server
public abstract PointEnvironmentTHelper
extends Object
```

Definition derived from the HPACTool API.

Methods:

```
public static mil.dtra.hpac.server.PointEnvironmentT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.PointEnvironmentT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

23.42.1 Constructor PointEnvironmentTHelper()

```
public
PointEnvironmentTHelper()
```

23.42.2 Method extract()

```
public static mil.dtra.hpac.server.PointEnvironmentT
extract( org.omg.CORBA.Any a )
```

23.42.3 Method id()

```
public static java.lang.String
id()
```

23.42.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.PointEnvironmentT that
)
```

23.42.5 Method read()

```
public static mil.dtra.hpac.server.PointEnvironmentT
read( org.omg.CORBA.portable.InputStream istream )
```

23.42.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

23.42.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.PointEnvironmentT value
)
```

23.43 Class PointEnvironmentTHolder

```
mil.dtra.hpac.server
public final PointEnvironmentTHolder
extends Object
implements Streamable,
```

Definition derived from the HPACTool API.

Fields:

```
public mil.dtra.hpac.server.PointEnvironmentT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

23.43.1 Field value

```
public mil.dtra.hpac.server.PointEnvironmentT value
```

23.43.2 Constructor PointEnvironmentTHolder()

```
public  
PointEnvironmentTHolder()
```

23.43.3 Constructor PointEnvironmentTHolder()

```
public  
PointEnvironmentTHolder( mil.dtra.hpac.server.PointEnvironmentT initialValue )
```

23.43.4 Method _read()

```
public void  
_read( org.omg.CORBA.portable.InputStream i )
```

23.43.5 Method _type()

```
public org.omg.CORBA.TypeCode  
_type()
```

23.43.6 Method _write()

```
public void  
_write( org.omg.CORBA.portable.OutputStream o )
```

23.44 Class ReleaseListTHelper

```
mil.dtra.hpac.server  
public abstract ReleaseListTHelper  
extends Object
```

mil/dtra/hpac/server/ReleaseListTHelper.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Methods:

```
public static mil.dtra.hpac.server.release.ReleaseT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.release.ReleaseT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

23.44.1 Constructor ReleaseListTHelper()

```
public
ReleaseListTHelper()
```

23.44.2 Method extract()

```
public static mil.dtra.hpac.server.release.ReleaseT[]
extract( org.omg.CORBA.Any a )
```

23.44.3 Method id()

```
public static java.lang.String
id()
```

23.44.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.release.ReleaseT[] that
)
```

23.44.5 Method read()

```
public static mil.dtra.hpac.server.release.ReleaseT[]
read( org.omg.CORBA.portable.InputStream istream )
```

23.44.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

23.44.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.release.ReleaseT[] value
)
```

23.45 Class ReleaseTHelper

```
mil.dtra.hpac.server
public abstract ReleaseTHelper
extends Object
```

mil/dtra/hpac/server/ReleaseTHelper.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Methods:

```
public static mil.dtra.hpac.server.release.ReleaseT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.release.ReleaseT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

23.45.1 Constructor ReleaseTHelper()

```
public
ReleaseTHelper()
```

23.45.2 Method extract()

```
public static mil.dtra.hpac.server.release.ReleaseT
extract( org.omg.CORBA.Any a )
```

23.45.3 Method id()

```
public static java.lang.String
id()
```

23.45.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.release.ReleaseT that
)
```

23.45.5 Method read()

```
public static mil.dtra.hpac.server.release.ReleaseT
read( org.omg.CORBA.portable.InputStream istream )
```

23.45.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

23.45.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.release.ReleaseT value
)
```

23.46 Class ScipuffServerUtils

```
mil.dtra.hpac.server
public final ScipuffServerUtils
extends Object
```

Utility class with methods for accessing ScipuffServer and its children DispersionCalculator and PlotGenerator.

Methods:

```
public static mil.dtra.hpac.server.scipuff.PlotGenerator getPlotGenerator()
```

23.46.1 Constructor ScipuffServerUtils()

```
public
ScipuffServerUtils()
```

23.46.2 Method `getPlotGenerator()`

```
public static mil.dtra.hpac.server.scipuff.PlotGenerator
getPlotGenerator(
    mil.dtra.hpac.server.scipuff.ScipuffServer server,
    mil.dtra.hpac.data.Project project,
    int max_grid_cells_per_surface
)
```

Obtains a `PlotGenerator` object from the `ScipuffServer`, building the necessary `IncidentT[]` and `Any[]` objects containing incident and model incident, respectively, data for effects-able incidents.

Parameters:

`server` - `ScipuffServer` reference to use for retrieving the plot generator reference
`project` - `Project` object reference
`max_grid_cells_per_surface` - the maximum number of grid cells per surface field.
Used for creating horizontal/vertical slices. May be 0 in which case a default value will be assigned by the HPAC Tool Engine.

Exceptions:

`PlotException` - if there's an error from a plot API routine
`SystemException` - on a CORBA transport error

23.47 Class `TimeMode`

```
mil.dtra.hpac.server
public TimeMode
extends Object
implements IDLEntity,
```

Time mode enumeration as defined in the HPACTool API.

Fields:

```
public static final int HT_LOCAL
public static final int HT_UTC
public static final mil.dtra.hpac.server.TimeMode HT_LOCAL
public static final mil.dtra.hpac.server.TimeMode HT_UTC
```

Methods:

```
public static mil.dtra.hpac.server.TimeMode from_int()
public int value()
```

23.47.1 Field _HT_LOCAL

```
public static final int _HT_LOCAL
```

23.47.2 Field _HT_UTC

```
public static final int _HT_UTC
```

23.47.3 Field HT_LOCAL

```
public static final mil.dtra.hpac.server.TimeMode HT_LOCAL
```

23.47.4 Field HT_UTC

```
public static final mil.dtra.hpac.server.TimeMode HT_UTC
```

23.47.5 Constructor TimeMode()

```
protected  
TimeMode( int value )
```

23.47.6 Method from_int()

```
public static mil.dtra.hpac.server.TimeMode  
from_int( int value )
```

23.47.7 Method value()

```
public int  
value()
```

23.48 Class TimeModeHelper

```
mil.dtra.hpac.server  
public abstract TimeModeHelper  
extends Object
```

Time mode enumeration as defined in the HPACTool API.

Methods:

```
public static mil.dtra.hpac.server.TimeMode extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.TimeMode read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

23.48.1 Constructor TimeModeHelper()

```
public
TimeModeHelper()
```

23.48.2 Method extract()

```
public static mil.dtra.hpac.server.TimeMode
extract( org.omg.CORBA.Any a )
```

23.48.3 Method id()

```
public static java.lang.String
id()
```

23.48.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.TimeMode that
)
```

23.48.5 Method read()

```
public static mil.dtra.hpac.server.TimeMode
read( org.omg.CORBA.portable.InputStream istream )
```

23.48.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

23.48.7 Method write()

```
public static void
write(

    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.TimeMode value
)
```

23.49 Class TimeModeHolder

```
mil.dtra.hpac.server
public final TimeModeHolder
extends Object
implements Streamable,
```

Time mode enumeration as defined in the HPACTool API.

Fields:

```
public mil.dtra.hpac.server.TimeMode value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

23.49.1 Field value

```
public mil.dtra.hpac.server.TimeMode value
```

23.49.2 Constructor TimeModeHolder()

```
public
TimeModeHolder()
```

23.49.3 Constructor TimeModeHolder()

```
public
TimeModeHolder( mil.dtra.hpac.server.TimeMode initialValue )
```

23.49.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

23.49.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

23.49.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

23.50 Class TimeTHelper

```
mil.dtra.hpac.server
public abstract TimeTHelper
extends Object
```

mil/dtra/hpac/server/TimeTHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Methods:

```
public static mil.dtra.hpac.server.project.TimeT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.TimeT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

23.50.1 Constructor TimeTHelper()

```
public
TimeTHelper()
```

23.50.2 Method `extract()`

```
public static mil.dtra.hpac.server.project.TimeT
extract( org.omg.CORBA.Any a )
```

23.50.3 Method id()

```
public static java.lang.String
id()
```

23.50.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.TimeT that
)
```

23.50.5 Method read()

```
public static mil.dtra.hpac.server.project.TimeT
read( org.omg.CORBA.portable.InputStream istream )
```

23.50.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

23.50.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.TimeT value
)
```

23.51 Exception ModelException

```
mil.dtra.hpac.server
public final ModelException
extends UserException
implements IDLEntity,
```

mil/dtra/hpac/server/ModelException.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

```
public java.lang.String fMessage
public java.lang.String fName
```

23.51.1 Field fMessage

```
public java.lang.String fMessage
```

exception message

23.51.2 Field fModelName

```
public java.lang.String fModelName
```

name of the model in which the exception occurred

23.51.3 Constructor ModelException()

```
public  
ModelException()
```

23.51.4 Constructor ModelException()

```
public  
ModelException(  
    java.lang.String _fModelName,  
    java.lang.String _fMessage  
)
```

23.52 Exception ModelException

```
mil.dtra.hpac.server  
public final ModelException  
extends UserException  
implements IDLEntity,
```

mil/dtra/hpac/server/ModelException.java Generated by the IDL-to-Java compiler (portable), version "3.0" from server.idl Friday, February 8, 2002 4:38:01 PM EST

Fields:

```
public java.lang.String fMessage  
public java.lang.String fModelName
```

23.52.1 Field fMessage

```
public java.lang.String fMessage
```

exception message

23.52.2 Field **fModelName**

```
public java.lang.String fmodelName
```

name of the model in which the exception occurred

23.52.3 Constructor **ModelException()**

```
public  
ModelException()
```

23.52.4 Constructor **ModelException()**

```
public  
ModelException(  
    java.lang.String _fModelName,  
    java.lang.String _fMessage  
)
```

CHAPTER 24

Package mil.dtra.hpac.server.effects

Contains classes and interfaces generated from `effects.idl` with `idlj`.

Interfaces:

CPE_MAX_RADII
CPE_MAX_SETTINGS
CPE_MAX_VNTK
EID_CASUALTY_PROMPT
EID_CIRCLE_BLAST
EID_CIRCLE_PROMPT
EID_CIRCLE_THERM
EID_COMP
EID_EXIT
EID_INIT
EM_CASUALTY_PROMPT
EM_CIRCLE_BLAST
EM_CIRCLE_PROMPT
EM_CIRCLE_THERM

Classes:

CasualtyPromptCompInT
CasualtyPromptCompInTHelper
CasualtyPromptCompInTHolder
CasualtyPromptCompOutT
CasualtyPromptCompOutTArrayHelper
CasualtyPromptCompOutTArrayHolder
CasualtyPromptCompOutTHelper
CasualtyPromptCompOutTHolder
CasualtyPromptInitInT
CasualtyPromptInitInTHelper
CasualtyPromptInitInTHolder
CasualtyPromptInitOutT
CasualtyPromptInitOutTHelper
CasualtyPromptInitOutTHolder

```

CircleCompInT
CircleCompInTHelper
CircleCompInTHolder
CircleCompOutT
CircleCompOutTArrayHelper
CircleCompOutTArrayHolder
CircleCompOutTHelper
CircleCompOutTHolder
CircleInitOutT
CircleInitOutTHelper
CircleInitOutTHolder
FloatArrayHelper
FloatArrayHolder

```

24.1 Interface CPE_MAX_RADII

```

mil.dtra.hpac.server.effects
public interface CPE_MAX_RADII
extends IDLEntity,

```

mil/dtra/hpac/server/effects/CPE_MAX_RADII.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

```
public static final int value
```

24.1.1 Field value

```
public static final int value
```

24.2 Interface CPE_MAX_SETTINGS

```

mil.dtra.hpac.server.effects
public interface CPE_MAX_SETTINGS
extends IDLEntity,

```

mil/dtra/hpac/server/effects/CPE_MAX_SETTINGS.java Generated by the IDL-to-Java compiler
(portable), version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

```
public static final int value
```

24.2.1 Field value

public static final int **value**

24.3 Interface CPE_MAX_VNTK

mil.dtra.hpac.server.effects
 public interface **CPE_MAX_VNTK**
 extends IDLEntity,

mil/dtra/hpac/server/effects/CPE_MAX_VNTK.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

public static final int **value**

24.3.1 Field value

public static final int **value**

24.4 Interface EID_CASUALTY_PROMPT

mil.dtra.hpac.server.effects
 public interface **EID_CASUALTY_PROMPT**
 extends IDLEntity,

mil/dtra/hpac/server/effects/EID_CASUALTY_PROMPT.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

public static final int **value**

24.4.1 Field value

public static final int **value**

Casualty prompt effect ID value in calls to `IncidentModelServer.computeEffect()`

24.5 Interface EID_CIRCLE_BLAST

```
mil.dtra.hpac.server.effects
public interface EID_CIRCLE_BLAST
extends IDLEntity,
```

mil/dtra/hpac/server/effects/EID_CIRCLE_BLAST.java Generated by the IDL-to-Java compiler (portable), version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

```
    public static final int value
```

24.5.1 Field value

public static final int **value**

Blast circle effect ID value in calls to `IncidentModelServer.computeEffect()`

24.6 Interface EID_CIRCLE_PROMPT

```
mil.dtra.hpac.server.effects
public interface EID_CIRCLE_PROMPT
extends IDLEntity,
```

mil/dtra/hpac/server/effects/EID_CIRCLE_PROMPT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

```
    public static final int value
```

24.6.1 Field value

public static final int **value**

Prompt circle effect ID value in calls to `IncidentModelServer.computeEffect()`

24.7 Interface EID_CIRCLE_THERM

```
mil.dtra.hpac.server.effects
public interface EID_CIRCLE_THERM
extends IDLEntity,
```

mil/dtra/hpac/server/effects/EID_CIRCLE_THERM.java Generated by the IDL-to-Java compiler (portable), version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

```
    public static final int value
```

24.7.1 Field value

public static final int **value**

Thermal circle effect ID value in calls to `IncidentModelServer.computeEffect()`

24.8 Interface EID_COMP

mil.dtra.hpac.server.effects
 public interface **EID_COMP**
 extends IDLEntity,

mil/dtra/hpac/server/effects/EID_COMP.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

public static final int **value**

24.8.1 Field value

public static final int **value**

Request value passed to `IncidentModelServer.computeEffect()` specifying computation
 of an effect

24.9 Interface EID_EXIT

mil.dtra.hpac.server.effects
 public interface **EID_EXIT**
 extends IDLEntity,

mil/dtra/hpac/server/effects/EID_EXIT.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

public static final int **value**

24.9.1 Field value

public static final int **value**

Request value passed to `IncidentModelServer.computeEffect()` specifying the end of an
 effect computation

24.10 Interface EID_INIT

```
mil.dtra.hpac.server.effects
public interface EID_INIT
extends IDLEntity,
```

mil/dtra/hpac/server/effects/EID_INIT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

```
public static final int value
```

24.10.1 Field value

public static final int **value**

Request value passed to `IncidentModelServer.computeEffect()` specifying initialization of an effect computation

24.11 Interface EM_CASUALTY_PROMPT

```
mil.dtra.hpac.server.effects
public interface EM_CASUALTY_PROMPT
extends IDLEntity,
```

mil/dtra/hpac/server/effects/EM_CASUALTY_PROMPT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

```
public static final int value
```

24.11.1 Field value

public static final int **value**

Casualty prompt bit mask; this is the prompt casualty calculation

24.12 Interface EM_CIRCLE_BLAST

```
mil.dtra.hpac.server.effects
public interface EM_CIRCLE_BLAST
extends IDLEntity,
```

mil/dtra/hpac/server/effects/EM_CIRCLE_BLAST.java Generated by the IDL-to-Java compiler (portable), version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

```
public static final int value
```

24.12.1 Field value

```
public static final int value
```

Blast circle bit mask; blast circle is the NWPN 1 PSI overpressure blast radius

24.13 Interface EM_CIRCLE_PROMPT

```
mil.dtra.hpac.server.effects
public interface EM_CIRCLE_PROMPT
extends IDLEntity,
```

mil/dtra/hpac/server/effects/EM_CIRCLE_PROMPT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

```
public static final int value
```

24.13.1 Field value

```
public static final int value
```

Prompt circle bit mask; prompt circle is the NWPN 50 rad prompt radius

24.14 Interface EM_CIRCLE_THERM

```
mil.dtra.hpac.server.effects
public interface EM_CIRCLE_THERM
extends IDLEntity,
```

mil/dtra/hpac/server/effects/EM_CIRCLE_THERM.java Generated by the IDL-to-Java compiler (portable), version "3.0" from effects.idl Friday, February 8, 2002 4:37:19 PM EST

Fields:

```
public static final int value
```

24.14.1 Field value

```
public static final int value
```

Thermal circle bit mask; thermal circle is the NWPN 2 cal/cm² thermal radius

24.15 Class CasualtyPromptCompInT

```
mil.dtra.hpac.server.effects
public final CasualtyPromptCompInT
extends Object
implements IDLEntity,
```

Fields:

```
public int fNumberWeapons
```

24.15.1 Field fNumberWeapons

```
public int fNumberWeapons
```

24.15.2 Constructor CasualtyPromptCompInT()

```
public
CasualtyPromptCompInT()
```

24.15.3 Constructor CasualtyPromptCompInT()

```
public
CasualtyPromptCompInT( int _fNumberWeapons )
```

24.16 Class CasualtyPromptCompInTHelper

```
mil.dtra.hpac.server.effects
public abstract CasualtyPromptCompInTHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.effects.CasualtyPromptCompInT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.effects.CasualtyPromptCompInT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

24.16.1 Constructor CasualtyPromptCompInTHelper()

```
public
CasualtyPromptCompInTHelper()
```

24.16.2 Method extract()

```
public static mil.dtra.hpac.server.effects.CasualtyPromptCompInT
extract( org.omg.CORBA.Any a )
```

24.16.3 Method id()

```
public static java.lang.String
id()
```

24.16.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.effects.CasualtyPromptCompInT that
)
```

24.16.5 Method read()

```
public static mil.dtra.hpac.server.effects.CasualtyPromptCompInT
read( org.omg.CORBA.portable.InputStream istream )
```

24.16.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

24.16.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.effects.CasualtyPromptCompInT value
)
```

24.17 Class CasualtyPromptCompInTHolder

```
mil.dtra.hpac.server.effects
public final CasualtyPromptCompInTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.effects.CasualtyPromptCompInT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

24.17.1 Field value

```
public mil.dtra.hpac.server.effects.CasualtyPromptCompInT value
```

24.17.2 Constructor CasualtyPromptCompInTHolder()

```
public
CasualtyPromptCompInTHolder()
```

24.17.3 Constructor CasualtyPromptCompInTHolder()

```
public
CasualtyPromptCompInTHolder( mil.dtra.hpac.server.effects.CasualtyPromptCompInT initialValue )
```

24.17.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

24.17.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

24.17.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

24.18 Class `CasualtyPromptCompOutT`

```
mil.dtra.hpac.server.effects
public final CasualtyPromptCompOutT
extends Object
implements IDLEntity,
```

Fields:

```
public float[][] fCasualtyProbabilityRadii
public float[][] fFatalityProbabilityRadii
public float fWeaponBurstTime
public float[] fWeaponCasualtyRadii
public float[] fWeaponFatalityRadii
public float[] fWeaponLocation
```

24.18.1 Field `fCasualtyProbabilityRadii`

```
public float[][] fCasualtyProbabilityRadii
```

24.18.2 Field `fFatalityProbabilityRadii`

```
public float[][] fFatalityProbabilityRadii
```

24.18.3 Field `fWeaponBurstTime`

```
public float fWeaponBurstTime
```

24.18.4 Field `fWeaponCasualtyRadii`

```
public float[] fWeaponCasualtyRadii
```

24.18.5 Field `fWeaponFatalityRadii`

```
public float[] fWeaponFatalityRadii
```

24.18.6 Field fWeaponLocation

```
public float[] fWeaponLocation
```

24.18.7 Constructor CasualtyPromptCompOutT()

```
public  
CasualtyPromptCompOutT()
```

24.18.8 Constructor CasualtyPromptCompOutT()

```
public  
CasualtyPromptCompOutT(  
    float[] _fWeaponLocation,  
    float _fWeaponBurstTime,  
    float[][] _fCasualtyProbabilityRadii,  
    float[][] _fFatalityProbabilityRadii,  
    float[] _fWeaponCasualtyRadii,  
    float[] _fWeaponFatalityRadii  
)
```

24.19 Class CasualtyPromptCompOutTArrayHelper

```
mil.dtra.hpac.server.effects  
public abstract CasualtyPromptCompOutTArrayHelper  
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.effects.CasualtyPromptCompOutT[] extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.effects.CasualtyPromptCompOutT[] read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

24.19.1 Constructor CasualtyPromptCompOutTArrayHelper()

```
public  
CasualtyPromptCompOutTArrayHelper()
```

24.19.2 Method extract()

```
public static mil.dtra.hpac.server.effects.CasualtyPromptCompOutT[]
extract( org.omg.CORBA.Any a )
```

24.19.3 Method id()

```
public static java.lang.String
id()
```

24.19.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.effects.CasualtyPromptCompOutT[] that
)
```

24.19.5 Method read()

```
public static mil.dtra.hpac.server.effects.CasualtyPromptCompOutT[]
read( org.omg.CORBA.portable.InputStream istream )
```

24.19.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

24.19.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.effects.CasualtyPromptCompOutT[] value
)
```

24.20 Class CasualtyPromptCompOutTArrayHolder

```
mil.dtra.hpac.server.effects
public final CasualtyPromptCompOutTArrayHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.effects.CasualtyPromptCompOutT[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

24.20.1 Field value

```
public mil.dtra.hpac.server.effects.CasualtyPromptCompOutT[] value
```

24.20.2 Constructor CasualtyPromptCompOutTArrayHolder()

```
public
CasualtyPromptCompOutTArrayHolder()
```

24.20.3 Constructor CasualtyPromptCompOutTArrayHolder()

```
public
CasualtyPromptCompOutTArrayHolder( mil.dtra.hpac.server.effects.CasualtyPromptCompOutT[]
initialValue )
```

24.20.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

24.20.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

24.20.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

24.21 Class CasualtyPromptCompOutTHelper

```
mil.dtra.hpac.server.effects
public abstract CasualtyPromptCompOutTHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.effects.CasualtyPromptCompOutT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.effects.CasualtyPromptCompOutT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

24.21.1 Constructor CasualtyPromptCompOutTHelper()

```
public
CasualtyPromptCompOutTHelper()
```

24.21.2 Method extract()

```
public static mil.dtra.hpac.server.effects.CasualtyPromptCompOutT
extract( org.omg.CORBA.Any a )
```

24.21.3 Method id()

```
public static java.lang.String
id()
```

24.21.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.effects.CasualtyPromptCompOutT that
)
```

24.21.5 Method read()

```
public static mil.dtra.hpac.server.effects.CasualtyPromptCompOutT
read( org.omg.CORBA.portable.InputStream istream )
```

24.21.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

24.21.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.effects.CasualtyPromptCompOutT value
)
```

24.22 Class CasualtyPromptCompOutTHolder

```
mil.dtra.hpac.server.effects
public final CasualtyPromptCompOutTHolder
extends Object
implements Streamable,
```

Fields:

```
    public mil.dtra.hpac.server.effects.CasualtyPromptCompOutT value
```

Methods:

```
    public void _read()
    public org.omg.CORBA.TypeCode _type()
    public void _write()
```

24.22.1 Field value

```
public mil.dtra.hpac.server.effects.CasualtyPromptCompOutT value
```

24.22.2 Constructor CasualtyPromptCompOutTHolder()

```
public
CasualtyPromptCompOutTHolder()
```

24.22.3 Constructor CasualtyPromptCompOutTHolder()

```
public
CasualtyPromptCompOutTHolder( mil.dtra.hpac.server.effects.CasualtyPromptCompOutT initialValue )
```

24.22.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

24.22.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

24.22.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

24.23 Class `CasualtyPromptInitInT`

```
mil.dtra.hpac.server.effects
public final CasualtyPromptInitInT
extends Object
implements IDLEntity,
```

Fields:

```
public int fNumberVNTKs
public int[] fVNTKArray
```

24.23.1 Field `fNumberVNTKs`

```
public int fNumberVNTKs
```

24.23.2 Field `fVNTKArray`

```
public int[] fVNTKArray
```

24.23.3 Constructor `CasualtyPromptInitInT()`

```
public
CasualtyPromptInitInT()
```

24.23.4 Constructor CasualtyPromptInitInT()

```
public
CasualtyPromptInitInT(
    int _fNumberVNTKs,
    int[] _fVNTKArray
)
```

24.24 Class CasualtyPromptInitInTHelper

```
mil.dtra.hpac.server.effects
public abstract CasualtyPromptInitInTHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.effects.CasualtyPromptInitInT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.effects.CasualtyPromptInitInT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

24.24.1 Constructor CasualtyPromptInitInTHelper()

```
public
CasualtyPromptInitInTHelper()
```

24.24.2 Method extract()

```
public static mil.dtra.hpac.server.effects.CasualtyPromptInitInT
extract( org.omg.CORBA.Any a )
```

24.24.3 Method id()

```
public static java.lang.String
id()
```

24.24.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.effects.CasualtyPromptInitInT that
)
```

24.24.5 Method read()

```
public static mil.dtra.hpac.server.effects.CasualtyPromptInitInT
read( org.omg.CORBA.portable.InputStream istream )
```

24.24.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

24.24.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.effects.CasualtyPromptInitInT value
)
```

24.25 Class CasualtyPromptInitInTHolder

```
mil.dtra.hpac.server.effects
public final CasualtyPromptInitInTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.effects.CasualtyPromptInitInT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

24.25.1 Field value

```
public mil.dtra.hpac.server.effects.CasualtyPromptInitInT value
```

24.25.2 Constructor CasualtyPromptInitInTHolder()

```
public  
CasualtyPromptInitInTHolder()
```

24.25.3 Constructor CasualtyPromptInitInTHolder()

```
public  
CasualtyPromptInitInTHolder( mil.dtra.hpac.server.effects.CasualtyPromptInitInT initialValue  
)
```

24.25.4 Method _read()

```
public void  
_read( org.omg.CORBA.portable.InputStream i )
```

24.25.5 Method _type()

```
public org.omg.CORBA.TypeCode  
_type()
```

24.25.6 Method _write()

```
public void  
_write( org.omg.CORBA.portable.OutputStream o )
```

24.26 Class CasualtyPromptInitOutT

```
mil.dtra.hpac.server.effects  
public final CasualtyPromptInitOutT  
extends Object  
implements IDLEntity,
```

Fields:

```
public int fNumberWeapons  
public float[] fProbabilityFactors  
public float[][] fProtectionFactors
```

24.26.1 Field fNumberWeapons

```
public int fNumberWeapons
```

24.26.2 Field fProbabilityFactors

```
public float[] fProbabilityFactors
```

24.26.3 Field fProtectionFactors

```
public float[][] fProtectionFactors
```

24.26.4 Constructor CasualtyPromptInitOutT()

```
public  
CasualtyPromptInitOutT()
```

24.26.5 Constructor CasualtyPromptInitOutT()

```
public  
CasualtyPromptInitOutT(  
    int _fNumberWeapons,  
    float[][] _fProtectionFactors,  
    float[] _fProbabilityFactors  
)
```

24.27 Class CasualtyPromptInitOutTHelper

```
mil.dtra.hpac.server.effects  
public abstract CasualtyPromptInitOutTHelper  
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.effects.CasualtyPromptInitOutT extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.effects.CasualtyPromptInitOutT read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

24.27.1 Constructor CasualtyPromptInitOutTHelper()

```
public
CasualtyPromptInitOutTHelper()
```

24.27.2 Method extract()

```
public static mil.dtra.hpac.server.effects.CasualtyPromptInitOutT
extract( org.omg.CORBA.Any a )
```

24.27.3 Method id()

```
public static java.lang.String
id()
```

24.27.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.effects.CasualtyPromptInitOutT that
)
```

24.27.5 Method read()

```
public static mil.dtra.hpac.server.effects.CasualtyPromptInitOutT
read( org.omg.CORBA.portable.InputStream istream )
```

24.27.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

24.27.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.effects.CasualtyPromptInitOutT value
)
```

24.28 Class CasualtyPromptInitOutTHolder

```
mil.dtra.hpac.server.effects
public final CasualtyPromptInitOutTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.effects.CasualtyPromptInitOutT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

24.28.1 Field value

```
public mil.dtra.hpac.server.effects.CasualtyPromptInitOutT value
```

24.28.2 Constructor CasualtyPromptInitOutTHolder()

```
public
CasualtyPromptInitOutTHolder()
```

24.28.3 Constructor CasualtyPromptInitOutTHolder()

```
public
CasualtyPromptInitOutTHolder( mil.dtra.hpac.server.effects.CasualtyPromptInitOutT initialValue )
```

24.28.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

24.28.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

24.28.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

24.29 Class CircleCompInT

```
mil.dtra.hpac.server.effects
public final CircleCompInT
extends Object
implements IDLEntity,
```

Fields:

```
public int fNumberWeapons
```

24.29.1 Field `fNumberWeapons`

```
public int fNumberWeapons
```

24.29.2 Constructor `CircleCompInT()`

```
public
CircleCompInT()
```

24.29.3 Constructor `CircleCompInT()`

```
public
CircleCompInT( int _fNumberWeapons )
```

24.30 Class CircleCompInTHelper

```
mil.dtra.hpac.server.effects
public abstract CircleCompInTHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.effects.CircleCompInT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.effects.CircleCompInT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

24.30.1 Constructor CircleCompInTHelper()

```
public  
CircleCompInTHelper()
```

24.30.2 Method extract()

```
public static mil.dtra.hpac.server.effects.CircleCompInT  
extract( org.omg.CORBA.Any a )
```

24.30.3 Method id()

```
public static java.lang.String  
id()
```

24.30.4 Method insert()

```
public static void  
insert(  
    org.omg.CORBA.Any a,  
    mil.dtra.hpac.server.effects.CircleCompInT that  
)
```

24.30.5 Method read()

```
public static mil.dtra.hpac.server.effects.CircleCompInT  
read( org.omg.CORBA.portable.InputStream istream )
```

24.30.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode  
type()
```

24.30.7 Method write()

```
public static void  
write(  
    org.omg.CORBA.portable.OutputStream ostream,  
    mil.dtra.hpac.server.effects.CircleCompInT value  
)
```

24.31 Class CircleCompInTHolder

```
mil.dtra.hpac.server.effects
public final CircleCompInTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.effects.CircleCompInT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

24.31.1 Field value

```
public mil.dtra.hpac.server.effects.CircleCompInT value
```

24.31.2 Constructor CircleCompInTHolder()

```
public
CircleCompInTHolder()
```

24.31.3 Constructor CircleCompInTHolder()

```
public
CircleCompInTHolder( mil.dtra.hpac.server.effects.CircleCompInT initialValue )
```

24.31.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

24.31.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

24.31.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

24.32 Class CircleCompOutT

```
mil.dtra.hpac.server.effects
public final CircleCompOutT
extends Object
implements IDLEntity,
```

Fields:

```
public float[] fLocation
public float fRadius
public float fTime
```

24.32.1 Field `fLocation`

```
public float[] fLocation
```

24.32.2 Field `fRadius`

```
public float fRadius
```

24.32.3 Field `fTime`

```
public float fTime
```

24.32.4 Constructor `CircleCompOutT()`

```
public
CircleCompOutT()
```

24.32.5 Constructor `CircleCompOutT()`

```
public
CircleCompOutT(
    float[] _fLocation,
    float _fTime,
    float _fRadius
)
```

24.33 Class CircleCompOutTArrayHelper

```
mil.dtra.hpac.server.effects
public abstract CircleCompOutTArrayHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.effects.CircleCompOutT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.effects.CircleCompOutT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

24.33.1 Constructor CircleCompOutTArrayHelper()

```
public
CircleCompOutTArrayHelper()
```

24.33.2 Method extract()

```
public static mil.dtra.hpac.server.effects.CircleCompOutT[]
extract( org.omg.CORBA.Any a )
```

24.33.3 Method id()

```
public static java.lang.String
id()
```

24.33.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.effects.CircleCompOutT[] that
)
```

24.33.5 Method read()

```
public static mil.dtra.hpac.server.effects.CircleCompOutT[]
read( org.omg.CORBA.portable.InputStream istream )
```

24.33.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

24.33.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.effects.CircleCompOutT[] value
)
```

24.34 Class CircleCompOutTArrayHolder

```
mil.dtra.hpac.server.effects
public final CircleCompOutTArrayHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.effects.CircleCompOutT[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

24.34.1 Field value

```
public mil.dtra.hpac.server.effects.CircleCompOutT[] value
```

24.34.2 Constructor CircleCompOutTArrayHolder()

```
public
CircleCompOutTArrayHolder()
```

24.34.3 Constructor CircleCompOutTArrayHolder()

```
public
CircleCompOutTArrayHolder( mil.dtra.hpac.server.effects.CircleCompOutT[] initialValue )
```

24.34.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

24.34.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

24.34.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

24.35 Class CircleCompOutTHelper

```
mil.dtra.hpac.server.effects
public abstract CircleCompOutTHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.effects.CircleCompOutT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.effects.CircleCompOutT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

24.35.1 Constructor CircleCompOutTHelper()

```
public
CircleCompOutTHelper()
```

24.35.2 Method `extract()`

```
public static mil.dtra.hpac.server.effects.CircleCompOutT
extract( org.omg.CORBA.Any a )
```

24.35.3 Method id()

```
public static java.lang.String
id()
```

24.35.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.effects.CircleCompOutT that
)
```

24.35.5 Method read()

```
public static mil.dtra.hpac.server.effects.CircleCompOutT
read( org.omg.CORBA.portable.InputStream istream )
```

24.35.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

24.35.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.effects.CircleCompOutT value
)
```

24.36 Class CircleCompOutTHolder

```
mil.dtra.hpac.server.effects
public final CircleCompOutTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.effects.CircleCompOutT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

24.36.1 Field value

```
public mil.dtra.hpac.server.effects.CircleCompOutT value
```

24.36.2 Constructor CircleCompOutTHolder()

```
public
CircleCompOutTHolder()
```

24.36.3 Constructor CircleCompOutTHolder()

```
public
CircleCompOutTHolder( mil.dtra.hpac.server.effects.CircleCompOutT initialValue )
```

24.36.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

24.36.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

24.36.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

24.37 Class CircleInitOutT

```
mil.dtra.hpac.server.effects
public final CircleInitOutT
extends Object
implements IDLEntity,
```

Fields:

```
public int fNumberWeapons
```

24.37.1 Field fNumberWeapons

```
public int fNumberWeapons
```

24.37.2 Constructor CircleInitOutT()

```
public  
CircleInitOutT()
```

24.37.3 Constructor CircleInitOutT()

```
public  
CircleInitOutT( int _fNumberWeapons )
```

24.38 Class CircleInitOutTHelper

```
mil.dtra.hpac.server.effects  
public abstract CircleInitOutTHelper  
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.effects.CircleInitOutT extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.effects.CircleInitOutT read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

24.38.1 Constructor CircleInitOutTHelper()

```
public  
CircleInitOutTHelper()
```

24.38.2 Method extract()

```
public static mil.dtra.hpac.server.effects.CircleInitOutT  
extract( org.omg.CORBA.Any a )
```

24.38.3 Method id()

```
public static java.lang.String
id()
```

24.38.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.effects.CircleInitOutT that
)
```

24.38.5 Method read()

```
public static mil.dtra.hpac.server.effects.CircleInitOutT
read( org.omg.CORBA.portable.InputStream istream )
```

24.38.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

24.38.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.effects.CircleInitOutT value
)
```

24.39 Class CircleInitOutTHolder

mil.dtra.hpac.server.effects
 public final **CircleInitOutTHolder**
 extends Object
 implements Streamable,

Fields:

```
public mil.dtra.hpac.server.effects.CircleInitOutT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

24.39.1 Field value

```
public mil.dtra.hpac.server.effects.CircleInitOutT value
```

24.39.2 Constructor CircleInitOutTHolder()

```
public
CircleInitOutTHolder()
```

24.39.3 Constructor CircleInitOutTHolder()

```
public
CircleInitOutTHolder( mil.dtra.hpac.server.effects.CircleInitOutT initialValue )
```

24.39.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

24.39.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

24.39.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

24.40 Class FloatArrayHelper

```
mil.dtra.hpac.server.effects
public abstract FloatArrayHelper
extends Object
```

mil/dtra/hpac/server/effects/FloatArrayHelper.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from effects.idl Friday, February 8, 2002 4:37:18 PM EST

Methods:

```
public static float[] extract()
public static java.lang.String id()
public static void insert()
public static float[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

24.40.1 Constructor FloatArrayHelper()

```
public
FloatArrayHelper()
```

24.40.2 Method extract()

```
public static float[]
extract( org.omg.CORBA.Any a )
```

24.40.3 Method id()

```
public static java.lang.String
id()
```

24.40.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    float[] that
)
```

24.40.5 Method read()

```
public static float[]
read( org.omg.CORBA.portable.InputStream istream )
```

24.40.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

24.40.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    float[] value
)
```

24.41 Class FloatArrayHolder

```
mil.dtra.hpac.server.effects
public final FloatArrayHolder
extends Object
implements Streamable,
```

mil/dtra/hpac/server/effects/FloatArrayHolder.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from effects.idl Friday, February 8, 2002 4:37:18 PM EST

Fields:

```
public float[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

24.41.1 Field value

```
public float[] value
```

24.41.2 Constructor FloatArrayHolder()

```
public
FloatArrayHolder()
```

24.41.3 Constructor `FloatArrayHolder()`

```
public  
FloatArrayHolder( float[] initialValue )
```

24.41.4 Method `_read()`

```
public void  
_read( org.omg.CORBA.portable.InputStream i )
```

24.41.5 Method `_type()`

```
public org.omg.CORBA.TypeCode  
_type()
```

24.41.6 Method `_write()`

```
public void  
_write( org.omg.CORBA.portable.OutputStream o )
```

CHAPTER 25

Package mil.dtra.hpac.server.fileutils

Contains utility classes supporting file transfer from the client to the server.

Interfaces:

FileServer
RemoteFile
RemoteRandomAccessFile

Classes:

FileReference
FileReferenceTMgr

25.1 Interface FileServer

mil.dtra.hpac.server.fileutils
public interface **FileServer**
extends Remote,

Definition of the remote object which accepts requests to upload a file to the server.

Fields:

public static final java.lang.String FILE_SERVER_SERVICE_NAME

Methods:

public mil.dtra.hpac.server.fileutils.RemoteFile createFile()
public mil.dtra.hpac.server.fileutils.RemoteRandomAccessFile openRandomAccess-
File()

25.1.1 Field FILE_SERVER_SERVICE_NAME

public static final java.lang.String FILE_SERVER_SERVICE_NAME

Default server object name ("FileServer")

25.1.2 Method createFile()

```
public mil.dtra.hpac.server.fileutils.RemoteFile
createFile(
    java.lang.String user_name,
    java.lang.String project_name,
    java.lang.String filename
)
```

Creates and returns a remote object representing a new file on the server in the current project directory.

Parameters:

- user_name - name of the user on the server
- project_name - name of the current project
- filename - name of the file on the server or null to have one automagically generated

Exceptions:

- RemoteException - on RMI error or IO error on the server

25.1.3 Method openRandomAccessFile()

public mil.dtra.hpac.server.fileutils.RemoteRandomAccessFile

```
openRandomAccessFile(
    java.lang.String server_file_path,
    java.lang.String mode
)
```

Opens or creates a random access file object relative to a path on the server. The mode parameter must be "r" or "rw", as per the `java.io.RandomAccessFile` constructors. If the mode is "rw" and the file does not exist, an attempt will be made to create it.

Parameters:

- server_file_path - path of the file on the server
- mode - "r" for read-only or "rw" for read-write

Exceptions:

- RemoteException - on RMI error or IO error on the server

25.2 Interface RemoteFile

```
mil.dtra.hpac.server.fileutils
public interface RemoteFile
extends Remote,
```

Definition of the remote file living on the server which is populated by the client.

Methods:

```
public void close()
public java.lang.String getPath()
public void write()
```

25.2.1 Method close()

```
public void
close()
```

Closes the file and saves the contents to disk.

25.2.2 Method getPath()

```
public java.lang.String
getPath()
```

Returns the path of the file on the server.

Returns:

full file path on the server

Exceptions:

RemoteException - on RMI error

25.2.3 Method write()

```
public void
write( byte[] data )
```

Appends the specified data to the file.

Parameters:

data - data to append to the file

Exceptions:

RemoteException - on RMI or IO error

25.3 Interface RemoteRandomAccessFile

```
mil.dtra.hpac.server.fileutils
public interface RemoteRandomAccessFile
extends Remote,
```

Definition of the remote file living on the server which is populated by the client.

Methods:

```
public void close()
public long getFilePointer()
public long getLength()
public int read()
public byte[] read()
public boolean readBoolean()
public byte readByte()
public char readChar()
public double readDouble()
public float readFloat()
public byte[] readFully()
public int readInt()
public java.lang.String readLine()
public long readLong()
public short readShort()
public int readUnsignedByte()
public int readUnsignedShort()
public java.lang.String readUTF()
public void seek()
public void setLength()
public int skipBytes()
public void write()
public void write()
public void write()
public void writeBoolean()
public void writeByte()
public void writeBytes()
public void writeChar()
public void writeChars()
public void writeDouble()
public void writeFloat()
```

```
public void writeInt()
public void writeLong()
public void writeShort()
public void writeUTF()
```

25.3.1 Method close()

public void
close()

Closes the file and saves the contents to disk.

Exceptions:

RemoteException - on RMI or I/O error

25.3.2 Method getFilePointer()

public long
getFilePointer()

Returns the current offset in this file.

Returns:

offset from the beginning of the file in bytes at which the next read or write occurs

Exceptions:

RemoteException - on RMI or I/O error

25.3.3 Method getLength()

public long
getLength()

Returns the length or size of the file in bytes.

Returns:

length or size of the file in bytes

Exceptions:

RemoteException - on RMI or I/O error

25.3.4 Method `read()`

```
public int  
read()
```

Reads a byte of data from this file. The byte is returned as an integer in the range 0..255 (0x00..0xff). Blocks if no input is yet available.

Returns:

next byte of data or -1 if EOF has been reached

Exceptions:

RemoteException - on RMI or I/O error

25.3.5 Method `read()`

```
public byte[]  
read( int length )
```

Reads up to `length` bytes from this file, storing the results in the returned `byte[]`. Blocks until at least one byte of data is available.

Parameters:

`length` - maximum number of bytes to read

Returns:

data buffer read

Exceptions:

RemoteException - on RMI or I/O error

25.3.6 Method `readBoolean()`

```
public boolean  
readBoolean()
```

Reads a `boolean` (single byte) value from this file.

Returns:

`boolean` value read

Exceptions:

RemoteException - on RMI or I/O error or EOF

25.3.7 Method `readByte()`

```
public byte
readByte()
```

Reads a byte (single byte) value from this file.

Returns:

single byte value read

Exceptions:

RemoteException - on RMI or I/O error or EOF

25.3.8 Method `readChar()`

```
public char
readChar()
```

Reads a UTF char (two- byte) value from this file.

Returns:

char (two byte) value read

Exceptions:

RemoteException - on RMI or I/O error or EOF

25.3.9 Method `readDouble()`

```
public double
readDouble()
```

Reads a double value from this file.

Returns:

double value read

Exceptions:

RemoteException - on RMI or I/O error or EOF

25.3.10 Method `readFloat()`

```
public float
readFloat()
```

Reads a `float` value from this file.

Returns:

float value read

Exceptions:

`RemoteException` - on RMI or I/O error or EOF

25.3.11 Method `readFully()`

```
public byte[]
readFully( int length )
```

Reads `length` bytes from this file, storing the results in the returned `byte[]`. Blocks until all data are read or an exception occurs.

Parameters:

`length` - maximum number of bytes to read

Returns:

data buffer read

Exceptions:

`RemoteException` - on RMI or I/O error or EOF

25.3.12 Method `readInt()`

```
public int
readInt()
```

Reads a `int` value from this file.

Returns:

int value read

Exceptions:

`RemoteException` - on RMI or I/O error or EOF

25.3.13 Method `readLine()`

```
public java.lang.String  
readLine()
```

Reads a line from this file.

Returns:

line read or null on EOF

Exceptions:

RemoteException - on RMI or I/O error

25.3.14 Method `readLong()`

```
public long  
readLong()
```

Reads a long value from this file.

Returns:

long value read

Exceptions:

RemoteException - on RMI or I/O error or EOF

25.3.15 Method `readShort()`

```
public short  
readShort()
```

Reads a short value from this file.

Returns:

short value read

Exceptions:

RemoteException - on RMI or I/O error or EOF

25.3.16 Method readUnsignedByte()

```
public int
readUnsignedByte()
```

Reads a one-byte value from this file.

Returns:

byte value read ([0..255])

Exceptions:

RemoteException - on RMI or I/O error or EOF

25.3.17 Method readUnsignedShort()

```
public int
readUnsignedShort()
```

Reads a two-byte value from this file.

Returns:

byte value read ([0..65535])

Exceptions:

RemoteException - on RMI or I/O error or EOF

25.3.18 Method readUTF()

```
public java.lang.String
readUTF()
```

Reads a UTF string from this file.

Returns:

string read

Exceptions:

RemoteException - on RMI or I/O error or EOF

25.3.19 Method seek()

```
public void
seek( long position )
```

Sets the file pointer offset, measured in bytes from the beginning of this file, at which the next read or write occurs. Setting the offset beyond the end of the file doesn't change the file length until data are written.

Parameters:

position - byte offset from the beginning of the file

Exceptions:

RemoteException - on RMI or I/O error or if position < 0

25.3.20 Method setLength()

```
public void
setLength( long new_length )
```

Sets the length of this file. If the present length is greater than new_length, the file is truncated, else if the present length is less, the file is extended with the contents of the extended portion undefined.

Parameters:

new_length - desired length or size of the file in bytes

Exceptions:

RemoteException - on RMI or I/O error

25.3.21 Method skipBytes()

```
public int
skipBytes( int count )
```

Attempts to skip over count bytes.

Parameters:

count - number of bytes to skip

Returns:

actual number of bytes skipped

Exceptions:

RemoteException - on RMI or I/O error

25.3.22 Method write()

```
public void
write( byte[] data )
```

Writes a block to this file.

Parameters:

data - block to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.23 Method write()

```
public void
write(
    byte[] data,
    int offset,
    int length
)
```

Writes a block to this file.

Parameters:

data - block to write

offset - byte offset into the buffer at which to write data

length - number of bytes to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.24 Method write()

```
public void  
write( int value )
```

Writes a single byte to this file.

Parameters:

value - byte value to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.25 Method writeBoolean()

```
public void  
writeBoolean( boolean value )
```

Writes a boolean value to this file.

Parameters:

value - boolean value to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.26 Method writeByte()

```
public void  
writeByte( int value )
```

Writes a byte value to this file.

Parameters:

value - byte value to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.27 Method writeBytes()

```
public void
writeBytes( java.lang.String value )
```

Writes a string as a sequence of bytes.

Parameters:

value - string value to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.28 Method writeChar()

```
public void
writeChar( int value )
```

Writes a char (two byte) value to this file.

Parameters:

value - char value to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.29 Method writeChars()

```
public void
writeChars( java.lang.String value )
```

Writes a string as a sequence of chars.

Parameters:

value - string value to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.30 Method writeDouble()

```
public void
writeDouble( double value )
```

Writes a double value to this file.

Parameters:

value - double value to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.31 Method writeFloat()

```
public void
writeFloat( float value )
```

Writes a float value to this file.

Parameters:

value - float value to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.32 Method writeInt()

```
public void
writeInt( int value )
```

Writes a int value to this file.

Parameters:

value - int value to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.33 Method writeLong()

```
public void
writeLong( long value )
```

Writes a long value to this file.

Parameters:

value - long value to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.34 Method writeShort()

```
public void
writeShort( int value )
```

Writes a short value to this file.

Parameters:

value - short (two byte) value to write

Exceptions:

RemoteException - on RMI or I/O error

25.3.35 Method writeUTF()

```
public void
writeUTF( java.lang.String value )
```

Writes a UTF string to this file.

Parameters:

value - UTF string to write

Exceptions:

RemoteException - on RMI or I/O error

25.4 Class FileReference

```
mil.dtra.hpac.server.fileutils
public FileReference
extends Object
implements Cloneable, PropsSerializer,
```

A PropsSerializer wrapper for FileReferenceT objects.

Fields:

```
public mil.dtra.hpac.server.files.FileReferenceT fFileRef
```

Methods:

```
public java.lang.Object clone()
public boolean equals()
public void fromFileReferenceT()
public java.lang.String getClientPath()
public void readProps()
public final mil.dtra.hpac.server.files.FileReferenceT toFileReferenceT()
public java.lang.String toString()
public void valueOf()
public void writeProps()
```

25.4.1 Field fFileRef

```
public mil.dtra.hpac.server.files.FileReferenceT fFileRef
```

25.4.2 Constructor FileReference()

```
public
FileReference()
```

Default, noop constructor.

25.4.3 Constructor FileReference()

```
public
FileReference( mil.dtra.hpac.server.files.FileReferenceT file_ref )
```

Constructs a wrapper for the specified FileReferenceT object.

Parameters:

file_ref - object reference to store

25.4.4 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

25.4.5 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides Object.equals() to compare FileReferenceT property values.

25.4.6 Method fromFileReferenceT()

```
public void
fromFileReferenceT( mil.dtra.hpac.server.files.FileReferenceT file_ref )
```

Assigns the FileReferenceT reference as the wrapped object.

Parameters:

file_ref - object reference to store

25.4.7 Method getClientPath()

```
public java.lang.String
getClientPath()
```

Determines the client path.

Returns:

client path or null to indicate none

25.4.8 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Explicitly deserializes by calling `valueOf()`.

Parameters:

props - object containing property values
 key - property key

25.4.9 Method `toFileReferenceT()`

public final mil.dtra.hpac.server.files.FileReferenceT
`toFileReferenceT()`

Retrieves the wrapped `FileReferenceT` object.

Returns:

object reference

25.4.10 Method `toString()`

public java.lang.String
`toString()`

Converts to a string representation in a format that can be parsed by `valueOf()`. The format is the discriminator followed by the values, all comma-delimited.

Returns:

string representation

25.4.11 Method `valueOf()`

public void
`valueOf(java.lang.String value)`

Parses a string representation into a value for this. The parse assumes the format generated by `toString()`.

Parameters:

value - string representation

25.4.12 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Explicitly serializes by calling `toString()`.

Parameters:

props - object containing property values
key - property key

25.5 Class FileReferenceTMgr

```
mil.dtra.hpac.server.fileutils
public final FileReferenceTMgr
extends Object
```

A manager for `FileReferenceT` objects, this class provides factory creation methods for use by incident model servers and anything on the client. The methods produce `FileReferenceTs`. The life cycle of `FileReferenceT` instances is:

The client creates an instance using one of the factory methods provided here, resulting an initial tag of *client path*, *server path* (for a file originating on the server), or *URL*.

Just before going to the server, the `ScipuffBean` will call `resolveObject()` to convert from a *client path* tag to either *server path* or *contents*, as described in the `FileReferenceT` documentation.

The server will call `getServerFile()` to retrieve the file contents as appropriate.

Fields:

```
public static final int LOG_level
```

Methods:

```
public static mil.dtra.hpac.server.files.FileReferenceT createClientPath()
public static mil.dtra.hpac.server.files.FileReferenceT createDeferred()
public static mil.dtra.hpac.server.files.FileReferenceT createServerPath()
public static mil.dtra.hpac.server.files.FileReferenceT createURL()
public static java.lang.String getServerFile()
public static mil.dtra.hpac.server.files.FileReferenceT resolveForServer()
public static void resolveObject()
public static java.lang.String toString()
public static void valueOf()
```

25.5.1 Field LOG_level

```
public static final int LOG_level
```

25.5.2 Constructor FileReferenceTMgr()

```
public  
FileReferenceTMgr()
```

25.5.3 Method createClientPath()

```
public static mil.dtra.hpac.server.files.FileReferenceT  
createClientPath( java.lang.String file_path )
```

Factory method to create a `FileReferenceT` for a file that lives on the client.

Parameters:

`file_path` - complete path to the file on the client host

Returns:

`new FileReferenceT object`

25.5.4 Method createDeferred()

```
public static mil.dtra.hpac.server.files.FileReferenceT  
createDeferred()
```

Factory method to create a `FileReferenceT` for a file that is yet to be defined.

Returns:

`new FileReferenceT object`

25.5.5 Method createServerPath()

```
public static mil.dtra.hpac.server.files.FileReferenceT  
createServerPath( java.lang.String file_path )
```

Factory method to create a `FileReferenceT` for a file that is known to exist on the server. At least for HPAC 4.0, one can assume that incident model server objects reside on the same host as ScipuffServer and SCIPUFF. Thus, a file created or existing on the server for a model server can be accessed by SCIPUFF with the same path. Use this factory method in that case.

Parameters:

file_path - complete path to the file on the server host

Returns:

new FileReferenceT object

25.5.6 Method createURL()

```
public static mil.dtra.hpac.server.files.FileReferenceT
createURL( java.lang.String url )
```

Factory method to create a FileReferenceT for a file to be accessed as a URL.

Parameters:

url - full URL to the file

Returns:

new FileReferenceT object

25.5.7 Method getServerFile()

```
public static java.lang.String
getServerFile(
    mil.dtra.hpac.server.files.FileReferenceT file_ref,
    java.lang.String dir
)
```

Does whatever is necessary to obtain a server file with the content referenced by the FileReferenceT object. If the discriminator is FR_SERVER_PATH, the path is returned as is. For a FR_CONTENTS discriminator, the contents are saved in a file created in the specified directory or a temporary directory if the *dir* parameter is null. A FR_URL discriminator will result in the content of the URL being fetched into a file in the specified directory. A FR_DEFERRED discriminator will result in return value of null.

Parameters:

file_ref - object containing the file reference
 dir - directory in which to create a file to hold the content, if necessary, or null for the default temporary directory on the server

Returns:

server (local) path to the file containing the original file contents or null for a deferred file reference

Exceptions:

IOException - on I/O error creating a local file

25.5.8 Method resolveForServer()

```
public static mil.dtra.hpac.server.files.FileReferenceT
resolveForServer(
    mil.dtra.hpac.server.files.FileReferenceT file_ref,
    mil.dtra.hpac.server.fileutils.FileServer file_server,
    java.lang.String user_name,
    java.lang.String project_name
)
```

Converts a `FileReferenceT` with a client tag to one with a tag valid for the server. This may involve copying contents or uploading the file to the server.

Parameters:

- `file_ref` - object containing the file reference
- `file_server` - object with which to upload files
- `user_name` - user name (used to identify target directory)
- `project_name` - name of project (used to identify target directory)

Returns:

`file_ref` resolved for the server

Exceptions:

IOException - on I/O or file transfer error

25.5.9 Method resolveObject()

```
public static void
resolveObject(
    java.lang.Object object,
    mil.dtra.hpac.server.fileutils.FileServer file_server,
    java.lang.String user_name,
    java.lang.String project_name
)
```

Recursively reflects upon the object discovering each **publically accessible** `FileReferenceT` or `FileReference` field, performing necessary uploads or content reads for those which are tagged with the `FR_CLIENT_PATH` discriminator.

Parameters:

- `object` - object to check for `FileReferenceT` instances
- `file_server` - object with which to upload files
- `user_name` - user name (used to identify target directory)
- `project_name` - name of project (used to identify target directory)

Exceptions:

- `IOException` - on an error

25.5.10 Method `toString()`

```
public static java.lang.String
toString( mil.dtra.hpac.server.files.FileReferenceT file_ref )
```

Builds a string representation of a `FileReferenceT`. The format is the discriminator followed by the values, all comma-delimited, and is suitable for parsing via `valueOf()`.

Parameters:

- `file_ref` - object to represent

Returns:

- string representation

25.5.11 Method `valueOf()`

```
public static void
valueOf(
    mil.dtra.hpac.server.files.FileReferenceT file_ref,
    java.lang.String value
)
```

Parses a string representation into a `FileReferenceT` value. The parse assumes the format generated by `toString()`.

Parameters:

- `file_ref` - object to populate from parsed format
- `value` - string representation

CHAPTER 26

Package mil.dtra.hpac.server.impl

Contains implementations of HPAC server objects as well as utilities supporting all server object implementations.

Interfaces:

FactoryServer

Classes:

FileServerImpl
IncidentModelServerImpl
RemoteFileImpl
RemoteRandomAccessFileImpl
ServerDef
ServerLauncher
ServerUtils

26.1 Interface FactoryServer

```
mil.dtra.hpac.server.impl  
public interface FactoryServer
```

This interface defines what factory server objects in HPAC must be able to do. For now, we use it to launch servers in a consistent manner.

Fields:

```
public static final java.lang.String PROP_dataDir  
public static final java.lang.String PROP_dataURL  
public static final java.lang.String PROP_Prefix  
public static final java.lang.String PROP_projectRootDir  
public static final java.lang.String PROP_rootURL  
public static final java.lang.String PROP_standalone
```

Methods:

```
public java.lang.String getDefaultName()
public void setContext()
```

26.1.1 Field PROP_dataDir

public static final java.lang.String PROP_dataDir

System property identifying the path to the server data/ directory

26.1.2 Field PROP_dataURL

public static final java.lang.String PROP_dataURL

System property identifying the URL to the server data/ directory

26.1.3 Field PROP_Prefix

public static final java.lang.String PROP_Prefix

26.1.4 Field PROP_projectRootDir

public static final java.lang.String PROP_projectRootDir

System property identifying the full path to the root of the user project directory

26.1.5 Field PROP_rootURL

public static final java.lang.String PROP_rootURL

System property identifying the URL to the root of the server installation

26.1.6 Field PROP_standalone

public static final java.lang.String PROP_standalone

System boolean property indicating standalone (versus remote) mode

26.1.7 Method getDefaultName()

```
public java.lang.String
getDefaultName()
```

Returns the default name for this server object to use in binding in naming contexts.

Returns:

default name

26.1.8 Method `setContext()`

```
public void
setContext( javax.naming.Context context )
```

Sets the naming context reference, which should be save for use in instantiating model servers. This is the hook by which the server manager gives the context to factory server objects.

Parameters:

context - naming context

26.2 Class `FileServerImpl`

```
mil.dtra.hpac.server.impl
public FileServerImpl
extends UnicastRemoteObject
implements FactoryServer, FileServer,
```

Implementation of the `FileServer` interface.

Fields:

```
public static final java.lang.String FILE_SERVER_IMPL
protected java.io.File fProjectRootDir
```

Methods:

```
public synchronized mil.dtra.hpac.server.fileutils.RemoteFile createFile()
public final java.lang.String getDefaultName()
public mil.dtra.hpac.server.fileutils.RemoteRandomAccessFile openRandomAccess-
File()
public final void setContext()
```

26.2.1 Field `FILE_SERVER_IMPL`

```
public static final java.lang.String FILE_SERVER_IMPL
```

26.2.2 Field `fProjectRootDir`

```
protected java.io.File fProjectRootDir
```

26.2.3 Constructor FileServerImpl()

```
public
FileServerImpl()
```

Constructs a file with the given server path.

Parameters:

path - full server file path

Exceptions:

RemoteException - on RMI, IO, or security errors

26.2.4 Method createFile()

```
public synchronized mil.dtra.hpac.server.fileutils.RemoteFile
createFile(
    java.lang.String user_name,
    java.lang.String project_name,
    java.lang.String filename
)
```

Creates a RemoteFile object.

Parameters:

user_name - name of server user
project_name - project name
filename - name of file or null to generate one

Exceptions:

RemoteException - on RMI or IO error

26.2.5 Method getDefaultName()

```
public final java.lang.String
getDefaultName()
```

Returns the value of FILE_SERVER_SERVICE_NAME.

Returns:

"FileServer"

26.2.6 Method openRandomAccessFile()

```
public mil.dtra.hpac.server.fileutils.RemoteRandomAccessFile
openRandomAccessFile(
    java.lang.String server_file_path,
    java.lang.String mode
)
```

Creates a RemoteRandomAccessFile instance constructed with the parameters.

Parameters:

server_file_path - path of the file on the server
mode - "r" for read-only, "rw" for read-write

Exceptions:

RemoteException - on RMI or IO error

26.2.7 Method setContext()

```
public final void
setContext( javax.naming.Context context )
```

Noop satisfaction of FactoryServer.

Parameters:

context - naming context

26.3 Class IncidentModelServerImpl

```
mil.dtra.hpac.server.impl
public abstract IncidentModelServerImpl
extends IncidentModelServer_Tie
```

This is the base class implementation to be extended by all model server implementations.

Methods:

```
public void closeIncident()
public int computeEffect()
public void restoreCustomizedProperties()
public void terminate()
public void updateRelease()
```

26.3.1 Constructor IncidentModelServerImpl()

```
public  
IncidentModelServerImpl()
```

26.3.2 Method closeIncident()

```
public void  
closeIncident( mil.dtra.hpac.server.IncidentT incident_t )
```

Noop default implementation to be overridden by any model that needs to release resources at run termination time. Models that do not need to release resources will simply and silently inherit this noop implementation.

Parameters:

incident - the incident to close

26.3.3 Method computeEffect()

```
public int  
computeEffect(  
    int request,  
    int effect_id,  
    org.omg.CORBA.Any effect_in,  
    org.omg.CORBA.AnyHolder effect_out,  
    mil.dtra.hpac.server.project.TimeT incident_time,  
    float[] incident_location,  
    org.omg.CORBA.AnyHolder model_incident_holder  
)
```

Noop default implementation to be inherited by effect-less models and overridden by effect-able models.

Returns:

NOT_SUPPORTED.value

26.3.4 Method restoreCustomizedProperties()

```
public void  
restoreCustomizedProperties(  
    mil.dtra.hpac.server.release.ReleaseTHolder to_holder,  
    mil.dtra.hpac.server.release.ReleaseT from  
)
```

Restores customized properties as saved in the *from* parameter.

Parameters:

to - release object to update
 from - release object from which to read customized props

26.3.5 Method terminate()

```
public void
terminate()
```

Noop implementation to be overridden by models needing to do some sort of clean-up.

26.3.6 Method updateRelease()

```
public void
updateRelease(
    int mode,
    float currentTime,
    float nextUpdate,
    mil.dtra.hpac.server.EnvironmentT environ,
    mil.dtra.hpac.server.IncidentT incident,
    org.omg.CORBA.AnyHolder model_incident_holder,
    mil.dtra.hpac.server.release.ReleaseTHolder release_holder
)
```

This implementation in most cases should not be overridden by model subclasses. It clones the release, calls `updateReleaseData()`, and restores customizations from the cloned release.

26.4 Class RemoteFileImpl

```
mil.dtra.hpac.server.impl
public RemoteFileImpl
extends UnicastRemoteObject
implements RemoteFile,
```

Implementation of the `RemoteFile` interface.

Fields:

```
protected java.io.File fFile
protected java.io.FileOutputStream fOutput
```

Methods:

```
public void close()
public final java.lang.String getPath()
public synchronized void write()
```

26.4.1 Field fFile

protected java.io.File fFile

26.4.2 Field fOutput

protected java.io.FileOutputStream fOutput

26.4.3 Constructor RemoteFileImpl()

```
public
RemoteFileImpl( java.io.File file )
```

Constructs a file with the given server path.

Parameters:

file - server file to populate

Exceptions:

RemoteException - on RMI, IO, or security errors

26.4.4 Method close()

```
public void
close()
```

Closes the file.

Exceptions:

RemoteException - IO error

26.4.5 Method getPath()

```
public final java.lang.String
getPath()
```

Returns the path of the file on the server.

Returns:

full file path on the server

Exceptions:

RemoteException - on RMI error

26.4.6 Method write()

```
public synchronized void
write( byte[] data )
```

Appends the specified data to the file.

Parameters:

data - data to append to the file

Exceptions:

RemoteException - on RMI or IO error

26.5 Class RemoteRandomAccessFileImpl

```
mil.dtra.hpac.server.impl
public RemoteRandomAccessFileImpl
extends UnicastRemoteObject
implements RemoteRandomAccessFile,
```

Implementation of the RemoteRandomAccessFile interface.

Fields:

```
protected java.io.RandomAccessFile fFile
protected transient byte[] fReadBlock
protected static final int READ_BLOCK_EXP
```

Methods:

```

public void close()
public final long getFilePointer()
public final long getLength()
public int read()
public byte[] read()
public boolean readBoolean()
public byte readByte()
public char readChar()
public double readDouble()
public float readFloat()
public byte[] readFully()
public int readInt()
public java.lang.String readLine()
public long readLong()
public short readShort()
public int readUnsignedByte()
public int readUnsignedShort()
public java.lang.String readUTF()
public void seek()
public void setLength()
public int skipBytes()
public void write()
public void write()
public void write()
public void writeBoolean()
public void writeByte()
public void writeBytes()
public void writeChar()
public void writeChars()
public void writeDouble()
public void writeFloat()
public void writeInt()
public void writeLong()
public void writeShort()
public void writeUTF()

```

26.5.1 Field **fFile**

protected java.io.RandomAccessFile **fFile**

26.5.2 Field **fReadBlock**

protected transient byte[] **fReadBlock**

26.5.3 Field READ_BLOCK_EXP

protected static final int READ_BLOCK_EXP

26.5.4 Constructor RemoteRandomAccessFileImpl()

```
public  
RemoteRandomAccessFileImpl(  
    java.lang.String path,  
    java.lang.String mode  
)
```

Constructs a file with the given server path.

Parameters:

path - server path to the file
mode - access mode, "r" for read-only, "rw" for read-write

Exceptions:

RemoteException - on RMI, IO, or security errors

26.5.5 Method close()

```
public void  
close()
```

Calls close() on fFile.

Exceptions:

RemoteException - on nested IOException

26.5.6 Method getFilePointer()

```
public final long  
getFilePointer()
```

Calls fFile.getFilePointer().

Returns:

current file position as an offset from the file beginning

Exceptions:

RemoteException - on nested IOException

26.5.7 Method getLength()

```
public final long
getLength()
```

Calls `fFile.length()`.

Returns:

length or size of the file in bytes

Exceptions:

RemoteException - on nested IOException

26.5.8 Method read()

```
public int
read()
```

Reads a byte of data by calling `fFile.read()`.

Returns:

next byte of data or -1 on EOF

Exceptions:

RemoteException - on nested IOException

26.5.9 Method read()

```
public byte[]
read( int length )
```

Reads a block of data by calling `fFile.read()`.

Parameters:

`length` - maximum number of bytes to read

Returns:

data buffer read

Exceptions:

RemoteException - on nested IOException

26.5.10 Method readBoolean()

public boolean
readBoolean()

Calls fFile.readBoolean().

Returns:

boolean value read

Exceptions:

RemoteException - on nested IOException

26.5.11 Method readByte()

public byte
readByte()

Calls fFile.readByte().

Returns:

byte value read

Exceptions:

RemoteException - on nested IOException

26.5.12 Method readChar()

public char
readChar()

Calls fFile.readChar().

Returns:

char value read

Exceptions:

RemoteException - on nested IOException

26.5.13 Method readDouble()

```
public double
readDouble()
```

Calls `fFile.readDouble()`.

Returns:

double value read

Exceptions:

`RemoteException` - on nested `IOException`

26.5.14 Method readFloat()

```
public float
readFloat()
```

Calls `fFile.readFloat()`.

Returns:

float value read

Exceptions:

`RemoteException` - on nested `IOException`

26.5.15 Method readFully()

```
public byte[]
readFully( int length )
```

Reads a full block of data by calling `fFile.readFully()`.

Parameters:

`length` - maximum number of bytes to read

Returns:

data buffer read

Exceptions:

`RemoteException` - on nested exception

26.5.16 Method readInt()

```
public int  
readInt()
```

Calls fFile.readInt().

Returns:

int value read

Exceptions:

RemoteException - on nested IOException

26.5.17 Method readLine()

```
public java.lang.String  
readLine()
```

Calls fFile.readLine().

Returns:

line read

Exceptions:

RemoteException - on nested IOException

26.5.18 Method readLong()

```
public long  
readLong()
```

Calls fFile.readLong().

Returns:

long value read

Exceptions:

RemoteException - on nested IOException

26.5.19 Method readShort()

```
public short
readShort()
```

Calls `fFile.readShort()`.

Returns:

short value read

Exceptions:

`RemoteException` - on nested `IOException`

26.5.20 Method readUnsignedByte()

```
public int
readUnsignedByte()
```

Calls `fFile.readUnsignedByte()`.

Returns:

unsigned byte value read ([0..255])

Exceptions:

`RemoteException` - on nested `IOException`

26.5.21 Method readUnsignedShort()

```
public int
readUnsignedShort()
```

Calls `fFile.readUnsignedShort()`.

Returns:

unsigned short value read ([0..65535])

Exceptions:

`RemoteException` - on nested `IOException`

26.5.22 Method readUTF()

```
public java.lang.String
readUTF()
```

Calls `fFile.readUTF()`.

Returns:

UTF string read

Exceptions:

`RemoteException` - on nested `IOException`

26.5.23 Method seek()

```
public void
seek( long position )
```

Calls `fFile.seek()`.

Parameters:

`position` - position as a byte offset from the beginning of the file

Exceptions:

`RemoteException` - on nested `IOException`

26.5.24 Method setLength()

```
public void
setLength( long new_length )
```

Calls `fFile.setLength()`.

Parameters:

`new_length` - desired length or size of the file in bytes

Exceptions:

`RemoteException` - on nested `IOException`

26.5.25 Method skipBytes()

```
public int
skipBytes( int count )
```

Calls `fFile.skipBytes()`.

Parameters:

`count` - max number of bytes to skip

Returns:

actual number of bytes skipped

Exceptions:

`RemoteException` - on nested `IOException`

26.5.26 Method write()

```
public void
write( byte[] data )
```

Writes a block of data by calling `fFile.write()`.

Parameters:

`data` - buffer holding data to write

Exceptions:

`RemoteException` - on nested `IOException`

26.5.27 Method write()

```
public void
write(
    byte[] data,
    int offset,
    int length
)
```

Writes a block of data by calling `fFile.write()`.

Parameters:

data - buffer holding data to write
 offset - byte offset into the buffer at which to write data
 length - number of bytes to write

Exceptions:

RemoteException - on nested IOException

26.5.28 Method write()

public void
write(int value)

Writes a byte by calling `fFile.write().`

Parameters:

value - byte to write

Exceptions:

RemoteException - on nested IOException

26.5.29 Method writeBoolean()

public void
writeBoolean(boolean value)

Calls `fFile.writeBoolean().`

Parameters:

value - boolean value to write

Exceptions:

RemoteException - on nested IOException

26.5.30 Method writeByte()

```
public void
writeByte( int value )
```

Calls `fFile.writeByte()`.

Parameters:

`value` - one-byte value to write

Exceptions:

`RemoteException` - on nested `IOException`

26.5.31 Method writeBytes()

```
public void
writeBytes( java.lang.String value )
```

Calls `fFile.writeBytes()`.

Parameters:

`value` - string to write as bytes

Exceptions:

`RemoteException` - on nested `IOException`

26.5.32 Method writeChar()

```
public void
writeChar( int value )
```

Calls `fFile.writeChar()`.

Parameters:

`value` - two-byte value to write

Exceptions:

`RemoteException` - on nested `IOException`

26.5.33 Method writeChars()

```
public void
writeChars( java.lang.String value )
```

Calls `fFile.writeChars()`.

Parameters:

`value` - string to write as chars

Exceptions:

`RemoteException` - on nested `IOException`

26.5.34 Method writeDouble()

```
public void
writeDouble( double value )
```

Calls `fFile.writeDouble()`.

Parameters:

`value` - double value to write

Exceptions:

`RemoteException` - on nested `IOException`

26.5.35 Method writeFloat()

```
public void
writeFloat( float value )
```

Calls `fFile.writeFloat()`.

Parameters:

`value` - float value to write

Exceptions:

`RemoteException` - on nested `IOException`

26.5.36 Method writeInt()

```
public void
writeInt( int value )
```

Calls `fFile.writeInt()`.

Parameters:

`value` - int value to write

Exceptions:

`RemoteException` - on nested `IOException`

26.5.37 Method writeLong()

```
public void
writeLong( long value )
```

Calls `fFile.writeLong()`.

Parameters:

`value` - long value to write

Exceptions:

`RemoteException` - on nested `IOException`

26.5.38 Method writeShort()

```
public void
writeShort( int value )
```

Calls `fFile.writeShort()`.

Parameters:

`value` - short, two-byte value to write

Exceptions:

`RemoteException` - on nested `IOException`

26.5.39 Method writeUTF()

```
public void
writeUTF( java.lang.String value )
```

Calls fFile.writeUTF().

Parameters:

value - string value to write

Exceptions:

RemoteException - on nested IOException

26.6 Class ServerDef

```
mil.dtra.hpac.server.impl
public ServerDef
extends Object
```

Definition of a server object launched by ServerLauncher. A ServerDef object has two properties, *name* and *className*, specified as a comma-delimited pair in a Properties value.

Fields:

```
protected java.lang.String fClassName
protected java.lang.String fName
public static final java.lang.String SERVER_DEF
```

Methods:

```
public final java.lang.String getClassName()
public final java.lang.String getName()
public static java.util.List readDefs()
public java.lang.String toString()
public void valueOf()
```

26.6.1 Field fClassName

protected java.lang.String **fClassName**

26.6.2 Field fName

protected java.lang.String **fName**

26.6.3 Field SERVER_DEF

public static final java.lang.String SERVER_DEF

26.6.4 Constructor ServerDef()

public
ServerDef()

Default, noop constructor.

26.6.5 Constructor ServerDef()

public
ServerDef(java.lang.String value)

Constructs from the value specification, calling `valueOf()`.

Parameters:

value - Properties entry representation of this

26.6.6 Constructor ServerDef()

public
ServerDef(
 java.lang.String name,
 java.lang.String class_name
)

Constructs from explicit property values.

Parameters:

name - server name as registered with the naming service
class_name - name of the class implementation for the server object

26.6.7 Method `getClassName()`

```
public final java.lang.String
getClassName()
```

Accessor for the *className* property.

Returns:

name of the class implementation for this

26.6.8 Method `getName()`

```
public final java.lang.String
getName()
```

Accessor for the *name* property.

Returns:

name under which the server object is (or will be) registered with the naming service

26.6.9 Method `readDefs()`

```
public static java.util.List
readDefs(
    java.util.Properties props,
    java.lang.String prefix
)
```

Reads `ServerDef` specifications from a `Properties` object and builds a list of them. Property keys are generated starting with *prefix*₀ and incrementing until the property key has no value.

Parameters:

`props` - `Properties` object containing keys or entries
`prefix` - property key prefix (must include a '.' separator)

26.6.10 Method `toString()`

```
public java.lang.String
toString()
```

Generates a `Properties` entry representation of this.

Returns:

this has a comma-delimited pair with the *name* and *className* values

26.6.11 Method valueOf()

```
public void
valueOf( java.lang.String value )
```

Parses this from the specified `Properties` entry.

Parameters:

value - `Properties` entry representation of this

26.7 Class ServerLauncher

```
mil.dtra.hpac.server.impl
public final ServerLauncher
extends Object
```

Master server process entry point which sets up JNDI and launches factory server objects.

Fields:

```
public static final java.lang.String IOR_EXTENSION
protected static org.omg.CORBA.ORB orb_
protected static java.lang.String projectRootDir_
public static final java.lang.String PROP_Prefix
public static final java.lang.String PROP_propsURL
public static final java.lang.String PROP_rmiservers
public static final java.lang.String PROP_servers
public static final java.lang.String SERVER_LAUNCHER
protected static boolean standalone_
```

Methods:

```
public static boolean isStandalone()
public static void launchCORBAServers()
public static void launchRMIServers()
public static void main()
public static void removeIOR()
public static void stringify()
public static org.omg.CORBA.Object unstringify()
```

26.7.1 Field IOR_EXTENSION

```
public static final java.lang.String IOR_EXTENSION
```

Filename extension for stringified object files (".`.ior`")

26.7.2 Field orb_

```
protected static org.omg.CORBA.ORB orb_
```

26.7.3 Field projectRootDir_

```
protected static java.lang.String projectRootDir_
```

26.7.4 Field PROP_Prefix

```
public static final java.lang.String PROP_Prefix
```

26.7.5 Field PROP_propsURL

```
public static final java.lang.String PROP_propsURL
```

System property name identifying server application properties file ("hpacserver.propsURL")

26.7.6 Field PROP_rmiservers

```
public static final java.lang.String PROP_rmiservers
```

Application property name with list of RMI FactoryServer instances to launch ("hpacserver.rmiservers")

26.7.7 Field PROP_servers

```
public static final java.lang.String PROP_servers
```

Application property name with list of FactoryServer instances to launch ("hpacserver.servers")

26.7.8 Field SERVER_LAUNCHER

```
public static final java.lang.String SERVER_LAUNCHER
```

26.7.9 Field standalone_

```
protected static boolean standalone_
```

26.7.10 Constructor ServerLauncher()

```
public  
ServerLauncher()
```

26.7.11 Method isStandalone()

```
public static boolean
isStandalone()
```

26.7.12 Method launchCORBAServers()

```
public static void
launchCORBAServers( javax.naming.Context context )
```

Launches CORBA servers as defined in the properties file.

Parameters:

context - naming context reference with which to bind server objects

Exceptions:

InstantiationException - if one of the defined servers could not be instantiated (message will contain a line for each error found)

26.7.13 Method launchRMIServers()

```
public static void
launchRMIServers( javax.naming.Context context )
```

Launches RMI servers as defined in the properties file.

Parameters:

context - naming context reference with which to bind server objects

Exceptions:

InstantiationException - if one of the defined servers could not be instantiated (message will contain a line for each error found)

26.7.14 Method main()

```
public static void
main( java.lang.String[] argv )
```

Entry point for server process.

26.7.15 Method removeIOR()

```
public static void
removeIOR( java.lang.String name )
```

Deletes the IOR file for the named object.

Parameters:

name - name under which object is bound

Exceptions:

NamingException - if not in standalone mode or an error occurred deleting the IOR file

26.7.16 Method stringify()

```
public static void
stringify(
    java.lang.String name,
    org.omg.CORBA.Object object
)
```

Stores a string representation of the specified object for use in standalone mode. The string representation of the object is stored in a file in the project root directory.

Parameters:

name - name under which object is bound
object - object being bound and stringified

Exceptions:

NamingException - if not in standalone mode or an error occurred stringifying or saving the object

26.7.17 Method unstringify()

```
public static org.omg.CORBA.Object
unstringify( java.lang.String name )
```

Reads the stringified representation of the named object.

Parameters:

name - object name

Exceptions:

NamingException - if not in standalone mode or an error occurred unstringifying or reading the object

26.8 Class ServerUtils

```
mil.dtra.hpac.server.impl
public final ServerUtils
extends Object
```

Utility class to aid incident model server developers and standardize access to directories and anything else that comes up.

Fields:

```
public static final java.lang.String SERVER_UTILS
```

Methods:

```
public static java.io.File getProjectDir()
public static java.io.File getProjectTempDir()
```

26.8.1 Field SERVER_UTILS

```
public static final java.lang.String SERVER_UTILS
```

26.8.2 Constructor ServerUtils()

```
public
ServerUtils()
```

26.8.3 Method getProjectDir()

```
public static java.io.File
getProjectDir(
    java.lang.String user_name,
    java.lang.String project_name
)
```

Returns a `java.io.File` object representing the project directory, creating it if necessary.

Parameters:

`user_name` - user name used to identify the project
`project_name` - project name identifying the project

Returns:

object representing the project directory

Exceptions:

`IOException` - if the project directory does not exist and cannot be created

26.8.4 Method `getProjectTempDir()`

```
public static java.io.File
getProjectTempDir(
    java.lang.String user_name,
    java.lang.String project_name
)
```

Returns a `java.io.File` object representing a temporary directory for the project into which temp files can be written. The temp directory will be removed at the end of a successful run.

Parameters:

`user_name` - user name used to identify the project
`project_name` - project name identifying the project

Returns:

object representing the project temp directory

Exceptions:

`IOException` - if the directory does not exist and cannot be created

CHAPTER 27

Package mil.dtra.hpac.server.plot

Contains classes and interfaces generated from `plot.idl` with `idlj`.

Interfaces:

CLOSE_CONTOUR
HP_AREA
HP_CATTYP
HP_CONC
HP_DEP
HP_DOS
HP_EFFECT
HP_EXPECT
HP_HSLICE
HP_LEFTHAND
HP_MET
HP_METTIME
HP_NOTIME
HP_NUMCAT
HP_OFF
HP_ON
HP_OPEN
HP_PUFFTIME
HP_RADTIME
HP_RIGHTHAND
HP_SPV
HP_SRFTIME
HP_SSlice
HP_SURF
HP_TABLE
HP_VINT
HP_VSLICE
LATLON_OUTPUT
OPEN_CONTOUR
PLOT_LIN
PLOT_LOG

PLOT_NULL
 PLOT_OFF
 PLOT_ON
 PLOT_USER

Classes:

HPACCATEGORYCLASST
 HPACCATEGORYCLASSTHelper
 HPACCATEGORYCLASSTHolder
 HPACCATEGORYCLASSTListHelper
 HPACCATEGORYCLASSTListHolder
 HPACCLASSCHOICET
 HPACCLASSCHOICETHelper
 HPACCLASSCHOICETHolder
 HPACCLASSCHOICETListHelper
 HPACCLASSCHOICETListHolder
 HPACCONTOURELEMENTT
 HPACCONTOURELEMENTTHelper
 HPACCONTOURELEMENTTHolder
 HPACCONTOURELEMENTTListHelper
 HPACCONTOURELEMENTTListHolder
 HPACCONTOURELEMENTHEADERT
 HPACCONTOURELEMENTHEADERTHelper
 HPACCONTOURELEMENTHEADERTHolder
 HPACFIELDCOORDINATET
 HPACFIELDCOORDINATETHelper
 HPACFIELDCOORDINATETHolder
 HPACLINET
 HPACLINETHelper
 HPACLINETHolder
 HPACLINETListHelper
 HPACLINETListHolder
 HPACPLOTFIELDNODET
 HPACPLOTFIELDNODETHelper
 HPACPLOTFIELDNODETHolder
 HPACPLOTFIELDNODETListHelper
 HPACPLOTFIELDNODETListHolder
 HPACPLOTFIELDT
 HPACPLOTFIELDTHelper
 HPACPLOTFIELDTHolder
 HPACPLOTFIELDTRIANGLET
 HPACPLOTFIELDTRIANGLETHelper
 HPACPLOTFIELDTRIANGLETHolder
 HPACPLOTFIELDTRIANGLETListHelper
 HPACPLOTFIELDTRIANGLETListHolder
 HPACPLOTYPET

```

HPACPlotTypeTHelper
HPACPlotTypeTHolder
HPACPointT
HPACPointTHelper
HPACPointTHolder
HPACPointTListHelper
HPACPointTListHolder
HPACSliceT
HPACSliceTHelper
HPACSliceTHolder
HPACTimeT
HPACTimeTHelper
HPACTimeTHolder
HPACTimeTListHelper
HPACTimeTListHolder
ReferenceT
ReferenceTHelper
ReferenceTHolder
TimeTHelper

```

27.1 Interface CLOSE_CONTOUR

```

mil.dtra.hpac.server.plot
public interface CLOSE_CONTOUR
extends IDLEntity,

```

mil/dtra/hpac/server/plot/CLOSE_CONTOUR.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

```
public static final int value
```

27.1.1 Field value

```
public static final int value
```

Close contour id (2**11)

27.2 Interface HP_AREA

```

mil.dtra.hpac.server.plot
public interface HP_AREA
extends IDLEntity,

```

mil/dtra/hpac/server/plot/HP_AREA.java Generated by the IDL-to-Java compiler (portable), version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int value

27.2.1 Field value

public static final int value

Area instead of population calculations

27.3 Interface HP_CATTYPE

mil.dtra.hpac.server.plot
 public interface **HP_CATTYPE**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_CATTYPE.java Generated by the IDL-to-Java compiler (portable), version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int value

27.3.1 Field value

public static final int value

??

27.4 Interface HP_CONC

mil.dtra.hpac.server.plot
 public interface **HP_CONC**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_CONC.java Generated by the IDL-to-Java compiler (portable), version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int value

27.4.1 Field value

public static final int **value**

Concentrations output id

27.5 Interface HP_DEP

mil.dtra.hpac.server.plot
 public interface **HP_DEP**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_DEP.java Generated by the IDL-to-Java compiler (portable), version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.5.1 Field value

public static final int **value**

Deposition output id

27.6 Interface HP_DOS

mil.dtra.hpac.server.plot
 public interface **HP_DOS**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_DOS.java Generated by the IDL-to-Java compiler (portable), version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.6.1 Field value

public static final int **value**

Dose output id

27.7 Interface HP_EFFECT

mil.dtra.hpac.server.plot
 public interface **HP_EFFECT**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_EFFECT.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.7.1 Field value

public static final int **value**

Effect output id

27.8 Interface HP_EXPECT

mil.dtra.hpac.server.plot
 public interface **HP_EXPECT**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_EXPECT.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.8.1 Field value

public static final int **value**

Expected area/population calculations instead of actual

27.9 Interface HP_HSLICE

mil.dtra.hpac.server.plot
 public interface **HP_HSLICE**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_HSLICE.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.9.1 Field value

public static final int **value**

Horizontal Slice (Fortran) index (3)

27.10 Interface HP_LEFTHAND

mil.dtra.hpac.server.plot
 public interface **HP_LEFTHAND**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_LEFTHAND.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.10.1 Field value

public static final int **value**

Left hand contours id

27.11 Interface HP_MET

mil.dtra.hpac.server.plot
 public interface **HP_MET**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_MET.java Generated by the IDL-to-Java compiler (portable), ver-
 sion "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.11.1 Field value

public static final int **value**

Met output id

27.12 Interface HP_METTIME

mil.dtra.hpac.server.plot
 public interface **HP_METTIME**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_METTIME.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.12.1 Field value

public static final int **value**

Met times (Fortran) index (3)

27.13 Interface HP_NOTIME

mil.dtra.hpac.server.plot
 public interface **HP_NOTIME**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_NOTIME.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.13.1 Field value

public static final int **value**

No plot times (Fortran) index (0)

27.14 Interface HP_NUMCAT

mil.dtra.hpac.server.plot
 public interface **HP_NUMCAT**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_NUMCAT.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.14.1 Field value

```
public static final int value
```

Number of plot categories

27.15 Interface HP_OFF

```
mil.dtra.hpac.server.plot
public interface HP_OFF
extends IDLEntity,
```

mil/dtra/hpac/server/plot/HP_OFF.java Generated by the IDL-to-Java compiler (portable), version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

```
public static final int value
```

27.15.1 Field value

```
public static final int value
```

No area/population calculations

27.16 Interface HP_ON

```
mil.dtra.hpac.server.plot
public interface HP_ON
extends IDLEntity,
```

mil/dtra/hpac/server/plot/HP_ON.java Generated by the IDL-to-Java compiler (portable), version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

```
public static final int value
```

27.16.1 Field value

```
public static final int value
```

Perform population calculations

27.17 Interface HP_OPEN

mil.dtra.hpac.server.plot
 public interface **HP_OPEN**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_OPEN.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.17.1 Field value

public static final int **value**

Open contours id

27.18 Interface HP_PUFFTIME

mil.dtra.hpac.server.plot
 public interface **HP_PUFFTIME**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_PUFFTIME.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.18.1 Field value

public static final int **value**

Puff times (Fortran) index (1)

27.19 Interface HP_RADTIME

mil.dtra.hpac.server.plot
 public interface **HP_RADTIME**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_RADTIME.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.19.1 Field value

```
public static final int value
```

Rad times (Fortran) index (4)

27.20 Interface HP_RIGHTHAND

```
mil.dtra.hpac.server.plot
public interface HP_RIGHTHAND
extends IDLEntity,
```

mil/dtra/hpac/server/plot/HP_RIGHTHAND.java Generated by the IDL-to-Java compiler (portable), version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

```
public static final int value
```

27.20.1 Field value

```
public static final int value
```

Right hand contours id

27.21 Interface HP_SPV

```
mil.dtra.hpac.server.plot
public interface HP_SPV
extends IDLEntity,
```

mil/dtra/hpac/server/plot/HP_SPV.java Generated by the IDL-to-Java compiler (portable), version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

```
public static final float value
```

27.21.1 Field value

```
public static final float value
```

???

27.22 Interface HP_SRFTIME

mil.dtra.hpac.server.plot
 public interface **HP_SRFTIME**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_SRFTIME.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.22.1 Field value

public static final int **value**

Surface times (Fortran) index (2)

27.23 Interface HP_SSLICE

mil.dtra.hpac.server.plot
 public interface **HP_SSLICE**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_SSLICE.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.23.1 Field value

public static final int **value**

Surface Slice (Fortran) index (2)

27.24 Interface HP_SURF

mil.dtra.hpac.server.plot
 public interface **HP_SURF**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_SURF.java Generated by the IDL-to-Java compiler (portable), ver-
 sion "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.24.1 Field value

public static final int **value**

Surface (Fortran) index (1)

27.25 Interface HP_TABLE

mil.dtra.hpac.server.plot
 public interface **HP_TABLE**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_TABLE.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.25.1 Field value

public static final int **value**

Tabular Output (Fortran) index (6)

27.26 Interface HP_VINT

mil.dtra.hpac.server.plot
 public interface **HP_VINT**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_VINT.java Generated by the IDL-to-Java compiler (portable), ver-
 sion "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.26.1 Field value

public static final int **value**

Vertically Integrated Slice (Fortran) index (4)

27.27 Interface HP_VSLICE

mil.dtra.hpac.server.plot
 public interface **HP_VSLICE**
 extends IDLEntity,

mil/dtra/hpac/server/plot/HP_VSLICE.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.27.1 Field value

public static final int **value**

Vertical Slice (Fortran) index (5)

27.28 Interface LATLON_OUTPUT

mil.dtra.hpac.server.plot
 public interface **LATLON_OUTPUT**
 extends IDLEntity,

mil/dtra/hpac/server/plot/LATLON_OUTPUT.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.28.1 Field value

public static final int **value**

Lat-lon output id (2**12)

27.29 Interface OPEN_CONTOUR

mil.dtra.hpac.server.plot
 public interface **OPEN_CONTOUR**
 extends IDLEntity,

mil/dtra/hpac/server/plot/OPEN_CONTOUR.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.29.1 Field value

```
public static final int value
```

Open contour id (0)

27.30 Interface PLOT_LIN

```
mil.dtra.hpac.server.plot
public interface PLOT_LIN
extends IDLEntity,
```

mil/dtra/hpac/server/plot/PLOT_LIN.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

```
public static final int value
```

27.30.1 Field value

```
public static final int value
```

27.31 Interface PLOT_LOG

```
mil.dtra.hpac.server.plot
public interface PLOT_LOG
extends IDLEntity,
```

mil/dtra/hpac/server/plot/PLOT_LOG.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

```
public static final int value
```

27.31.1 Field value

```
public static final int value
```

27.32 Interface PLOT_NULL

mil.dtra.hpac.server.plot
 public interface **PLOT_NULL**
 extends IDLEntity,

mil/dtra/hpac/server/plot/PLOT_NULL.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.32.1 Field **value**

public static final int **value**

27.33 Interface PLOT_OFF

mil.dtra.hpac.server.plot
 public interface **PLOT_OFF**
 extends IDLEntity,

mil/dtra/hpac/server/plot/PLOT_OFF.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.33.1 Field **value**

public static final int **value**

27.34 Interface PLOT_ON

mil.dtra.hpac.server.plot
 public interface **PLOT_ON**
 extends IDLEntity,

mil/dtra/hpac/server/plot/PLOT_ON.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

public static final int **value**

27.34.1 Field value

```
public static final int value
```

27.35 Interface PLOT_USER

```
mil.dtra.hpac.server.plot
public interface PLOT_USER
extends IDLEntity,
```

mil/dtra/hpac/server/plot/PLOT_USER.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Fields:

```
public static final int value
```

27.35.1 Field value

```
public static final int value
```

27.36 Class HPACCategoryClassT

```
mil.dtra.hpac.server.plot
public final HPACCategoryClassT
extends Object
implements IDLEntity,
```

Record describing a category-class combination.

Fields:

```
public boolean fIsAvailable
public boolean fIsTypeRequired
```

27.36.1 Field fIsAvailable

```
public boolean fIsAvailable
```

Flags availability of the category-class combination

27.36.2 Field fIsTypeRequired

```
public boolean fIsTypeRequired
```

Flags whether a plot type must be selected

27.36.3 Constructor HPACCACategoryClassT()

```
public
HPACCACategoryClassT()
```

27.36.4 Constructor HPACCACategoryClassT()

```
public
HPACCACategoryClassT(
    boolean _fIsAvailable,
    boolean _fIsTypeRequired
)
```

27.37 Class HPACCACategoryClassTHelper

```
mil.dtra.hpac.server.plot
public abstract HPACCACategoryClassTHelper
extends Object
```

Record describing a category-class combination.

Methods:

```
public static mil.dtra.hpac.server.plot.HPACCACategoryClassT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACCACategoryClassT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.37.1 Constructor HPACCACategoryClassTHelper()

```
public
HPACCACategoryClassTHelper()
```

27.37.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACCACategoryClassT
extract( org.omg.CORBA.Any a )
```

27.37.3 Method id()

```
public static java.lang.String
id()
```

27.37.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACCategoryClassT that
)
```

27.37.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACCategoryClassT
read( org.omg.CORBA.portable.InputStream istream )
```

27.37.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.37.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACCategoryClassT value
)
```

27.38 Class HPACCategoryClassTHolder

mil.dtra.hpac.server.plot
public final HPACCategoryClassTHolder
 extends Object
 implements Streamable,

Record describing a category-class combination.

Fields:

```
public mil.dtra.hpac.server.plot.HPACCategoryClassT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.38.1 Field value

```
public mil.dtra.hpac.server.plot.HPACCCategoryClassT value
```

27.38.2 Constructor HPACCCategoryClassTHolder()

```
public  
HPACCCategoryClassTHolder()
```

27.38.3 Constructor HPACCCategoryClassTHolder()

```
public  
HPACCCategoryClassTHolder( mil.dtra.hpac.server.plot.HPACCCategoryClassT initialValue )
```

27.38.4 Method _read()

```
public void  
_read( org.omg.CORBA.portable.InputStream i )
```

27.38.5 Method _type()

```
public org.omg.CORBA.TypeCode  
_type()
```

27.38.6 Method _write()

```
public void  
_write( org.omg.CORBA.portable.OutputStream o )
```

27.39 Class HPACCCategoryClassTListHelper

```
mil.dtra.hpac.server.plot  
public abstract HPACCCategoryClassTListHelper  
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACCCategoryClassT[] extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.plot.HPACCCategoryClassT[] read()  
public static synchronized org.omg.CORBA.TypeCode type()
```

```
public static void write()
```

27.39.1 Constructor HPACCATEGORYCLASSTListHelper()

```
public
HPACCATEGORYCLASSTListHelper()
```

27.39.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[]
extract( org.omg.CORBA.Any a )
```

27.39.3 Method id()

```
public static java.lang.String
id()
```

27.39.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[] that
)
```

27.39.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[]
read( org.omg.portable.InputStream istream )
```

27.39.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.39.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[] value
)
```

27.40 Class HPACCATEGORYCLASSTListHolder

```
mil.dtra.hpac.server.plot
public final HPACCATEGORYCLASSTListHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.40.1 Field value

```
public mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[] value
```

27.40.2 Constructor HPACCATEGORYCLASSTListHolder()

```
public
HPACCATEGORYCLASSTListHolder()
```

27.40.3 Constructor HPACCATEGORYCLASSTListHolder()

```
public
HPACCATEGORYCLASSTListHolder( mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[] initialValue
)
```

27.40.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.40.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

27.40.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.41 Class HPACClassChoiceT

```
mil.dtra.hpac.server.plot
public final HPACClassChoiceT
extends Object
implements IDLEntity,
```

Record describing a class-choice combination.

Fields:

```
public boolean fIsAvailable
public int fKindIndex
public int fNumberKinds
public boolean fSupportsKindSelection
public boolean fSupportsUserTime
public int fTimeId
```

27.41.1 Field `fIsAvailable`

```
public boolean fIsAvailable
```

Flags availability of the class-choice combination

27.41.2 Field `fKindIndex`

```
public int fKindIndex
```

Index (1-based) into the kind array for kinds applicable to this class-choice combo

27.41.3 Field fNumberKinds

```
public int fNumberKinds
```

Count of kinds applicable to this class-choice combo

27.41.4 Field fSupportsKindSelection

```
public boolean fSupportsKindSelection
```

Flags whether this class-choice combo supports class kind selection

27.41.5 Field fSupportsUserTime

```
public boolean fSupportsUserTime
```

Flags whether this class-choice combo supports user time entry

27.41.6 Field fTimeId

```
public int fTimeId
```

ID of plot times which apply to this class-choice combo

27.41.7 Constructor HPACClassChoiceT()

```
public  
HPACClassChoiceT()
```

27.41.8 Constructor HPACClassChoiceT()

```
public  
HPACClassChoiceT(  
    boolean _fIsAvailable,  
    boolean _fSupportsKindSelection,  
    int _fKindIndex,  
    int _fNumberKinds,  
    int _fTimeId,  
    boolean _fSupportsUserTime  
)
```

27.42 Class HPACClassChoiceTHelper

```
mil.dtra.hpac.server.plot
public abstract HPACClassChoiceTHelper
extends Object
```

Record describing a class-choice combination.

Methods:

```
public static mil.dtra.hpac.server.plot.HPACClassChoiceT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACClassChoiceT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.42.1 Constructor HPACClassChoiceTHelper()

```
public
HPACClassChoiceTHelper()
```

27.42.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACClassChoiceT
extract( org.omg.CORBA.Any a )
```

27.42.3 Method id()

```
public static java.lang.String
id()
```

27.42.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACClassChoiceT that
)
```

27.42.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACClassChoiceT
read( org.omg.CORBA.portable.InputStream istream )
```

27.42.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.42.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACClassChoiceT value
)
```

27.43 Class HPACClassChoiceTHolder

mil.dtra.hpac.server.plot
public final HPACClassChoiceTHolder
 extends Object
 implements Streamable,

Record describing a class-choice combination.

Fields:

```
public mil.dtra.hpac.server.plot.HPACClassChoiceT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.43.1 Field value

```
public mil.dtra.hpac.server.plot.HPACClassChoiceT value
```

27.43.2 Constructor HPACClassChoiceTHolder()

```
public
HPACClassChoiceTHolder()
```

27.43.3 Constructor HPACClassChoiceTHolder()

```
public
HPACClassChoiceTHolder( mil.dtra.hpac.server.plot.HPACClassChoiceT initialValue )
```

27.43.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.43.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

27.43.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.44 Class HPACClassChoiceTListHelper

mil.dtra.hpac.server.plot
 public abstract **HPACClassChoiceTListHelper**
 extends Object

Methods:

```
public static mil.dtra.hpac.server.plot.HPACClassChoiceT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACClassChoiceT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.44.1 Constructor HPACClassChoiceTListHelper()

```
public
HPACClassChoiceTListHelper()
```

27.44.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACClassChoiceT[]
extract( org.omg.CORBA.Any a )
```

27.44.3 Method id()

```
public static java.lang.String
id()
```

27.44.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACClassChoiceT[] that
)
```

27.44.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACClassChoiceT[]
read( org.omg.CORBA.portable.InputStream istream )
```

27.44.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.44.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACClassChoiceT[] value
)
```

27.45 Class HPACClassChoiceTListHolder

```
mil.dtra.hpac.server.plot
public final HPACClassChoiceTListHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.plot.HPACClassChoiceT[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.45.1 Field value

```
public mil.dtra.hpac.server.plot.HPACClassChoiceT[] value
```

27.45.2 Constructor HPACClassChoiceTListHolder()

```
public
HPACClassChoiceTListHolder()
```

27.45.3 Constructor HPACClassChoiceTListHolder()

```
public
HPACClassChoiceTListHolder( mil.dtra.hpac.server.plot.HPACClassChoiceT[] initialValue )
```

27.45.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.45.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

27.45.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.46 Class HPACContourElementT

```
mil.dtra.hpac.server.plot
public final HPACContourElementT
extends Object
implements IDLEntity,
```

Definition of a contour element.

Fields:

```
public float fArea
public float fAssociatedValue
public java.lang.String fContourLabel
public float fContourValue
public float fPopulation
```

27.46.1 Field `fArea`

```
public float fArea
```

27.46.2 Field `fAssociatedValue`

```
public float fAssociatedValue
```

27.46.3 Field `fContourLabel`

```
public java.lang.String fContourLabel
```

27.46.4 Field `fContourValue`

```
public float fContourValue
```

27.46.5 Field `fPopulation`

```
public float fPopulation
```

27.46.6 Constructor HPACContourElementT()

```
public
HPACContourElementT()
```

27.46.7 Constructor HPACContourElementT()

```
public
HPACContourElementT(
    float _fContourValue,
    float _fAssociatedValue,
    java.lang.String _fContourLabel,
    float _fArea,
    float _fPopulation
)
```

27.47 Class HPACContourElementTHelper

```
mil.dtra.hpac.server.plot
public abstract HPACContourElementTHelper
extends Object
```

Definition of a contour element.

Methods:

```
public static mil.dtra.hpac.server.plot.HPACContourElementT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACContourElementT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.47.1 Constructor HPACContourElementTHelper()

```
public
HPACContourElementTHelper()
```

27.47.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACContourElementT
extract( org.omg.CORBA.Any a )
```

27.47.3 Method id()

```
public static java.lang.String
id()
```

27.47.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACContourElementT that
)
```

27.47.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACContourElementT
read( org.omg.CORBA.portable.InputStream istream )
```

27.47.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.47.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACContourElementT value
)
```

27.48 Class HPACContourElementTHolder

```
mil.dtra.hpac.server.plot
public final HPACContourElementTHolder
extends Object
implements Streamable,
```

Definition of a contour element.

Fields:

```
public mil.dtra.hpac.server.plot.HPACContourElementT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.48.1 Field value

```
public mil.dtra.hpac.server.plot.HPACContourElementT value
```

27.48.2 Constructor HPACContourElementTHolder()

```
public
HPACContourElementTHolder()
```

27.48.3 Constructor HPACContourElementTHolder()

```
public
HPACContourElementTHolder( mil.dtra.hpac.server.plot.HPACContourElementT initialValue
)
```

27.48.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.48.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

27.48.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.49 Class HPACContourElementTListHelper

```
mil.dtra.hpac.server.plot
public abstract HPACContourElementTListHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACContourElementT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACContourElementT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.49.1 Constructor HPACContourElementTListHelper()

```
public
HPACContourElementTListHelper()
```

27.49.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACContourElementT[]
extract( org.omg.CORBA.Any a )
```

27.49.3 Method id()

```
public static java.lang.String
id()
```

27.49.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACContourElementT[] that
)
```

27.49.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACContourElementT[]
read( org.omg.CORBA.portable.InputStream istream )
```

27.49.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.49.7 Method write()

```
public static void
write(

    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACContourElementT[] value
)
```

27.50 Class HPACContourElementTListHolder

```
mil.dtra.hpac.server.plot
public final HPACContourElementTListHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.plot.HPACContourElementT[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.50.1 Field value

```
public mil.dtra.hpac.server.plot.HPACContourElementT[] value
```

27.50.2 Constructor HPACContourElementTListHolder()

```
public
HPACContourElementTListHolder()
```

27.50.3 Constructor HPACContourElementTListHolder()

```
public
HPACContourElementTListHolder( mil.dtra.hpac.server.plot.HPACContourElementT[] initialValue )
```

27.50.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.50.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

27.50.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.51 Class HPACContourHeaderT

```
mil.dtra.hpac.server.plot
public final HPACContourHeaderT
extends Object
implements IDLEntity,
```

Definition of a contour header.

Fields:

```
public int fDrawMode
public int fLabelMode
public int fNumber
public float fScaleFactor
public java.lang.String fUnits
```

27.51.1 Field `fDrawMode`

```
public int fDrawMode
```

27.51.2 Field `fLabelMode`

```
public int fLabelMode
```

27.51.3 Field `fNumber`

```
public int fNumber
```

27.51.4 Field fScaleFactor

```
public float fScaleFactor
```

27.51.5 Field fUnits

```
public java.lang.String fUnits
```

27.51.6 Constructor HPACContourHeaderT()

```
public  
HPACContourHeaderT()
```

27.51.7 Constructor HPACContourHeaderT()

```
public  
HPACContourHeaderT(  
    int _fNumber,  
    float _fScaleFactor,  
    int _fLabelMode,  
    int _fDrawMode,  
    java.lang.String _fUnits  
)
```

27.52 Class HPACContourHeaderTHelper

```
mil.dtra.hpac.server.plot  
public abstract HPACContourHeaderTHelper  
extends Object
```

Definition of a contour header.

Methods:

```
public static mil.dtra.hpac.server.plot.HPACContourHeaderT extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.plot.HPACContourHeaderT read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

27.52.1 Constructor HPACContourHeaderTHelper()

```
public
HPACContourHeaderTHelper()
```

27.52.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACContourHeaderT
extract( org.omg.CORBA.Any a )
```

27.52.3 Method id()

```
public static java.lang.String
id()
```

27.52.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACContourHeaderT that
)
```

27.52.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACContourHeaderT
read( org.omg.CORBA.portable.InputStream istream )
```

27.52.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.52.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACContourHeaderT value
)
```

27.53 Class HPACContourHeaderTHolder

```
mil.dtra.hpac.server.plot
public final HPACContourHeaderTHolder
extends Object
implements Streamable,
```

Definition of a contour header.

Fields:

```
public mil.dtra.hpac.server.plot.HPACContourHeaderT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.53.1 Field value

```
public mil.dtra.hpac.server.plot.HPACContourHeaderT value
```

27.53.2 Constructor HPACContourHeaderTHolder()

```
public
HPACContourHeaderTHolder()
```

27.53.3 Constructor HPACContourHeaderTHolder()

```
public
HPACContourHeaderTHolder( mil.dtra.hpac.server.plot.HPACContourHeaderT initialValue
)
```

27.53.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.53.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

27.53.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.54 Class HPACFieldCoordinateT

```
mil.dtra.hpac.server.plot
public final HPACFieldCoordinateT
extends Object
implements IDLEntity,
```

Definition of a coordinate for a field.

Fields:

```
public int fCoordinateMode
public mil.dtra.hpac.server.plot.ReferenceT fLatLonReference
public mil.dtra.hpac.server.plot.HPACSliceT fSliceBaseLine
public int fUTMReferenceZone
```

27.54.1 Field `fCoordinateMode`

`public int fCoordinateMode`

Coordinate mode id (HD_LATLON, HD_CARTESIAN, HD_UTM, HD_METERS)

27.54.2 Field `fLatLonReference`

`public mil.dtra.hpac.server.plot.ReferenceT fLatLonReference`

Reference b/w lat-lon and UTM

27.54.3 Field `fSliceBaseLine`

`public mil.dtra.hpac.server.plot.HPACSliceT fSliceBaseLine`

Slice

27.54.4 Field `fUTMReferenceZone`

`public int fUTMReferenceZone`

UTM zone

27.54.5 Constructor HPACFieldCoordinateT()

```
public
HPACFieldCoordinateT()
```

27.54.6 Constructor HPACFieldCoordinateT()

```
public
HPACFieldCoordinateT(
    int _fCoordinateMode,
    int _fUTMReferenceZone,
    mil.dtra.hpac.server.plot.ReferenceT _fLatLonReference,
    mil.dtra.hpac.server.plot.HPACSliceT _fSliceBaseLine
)
```

27.55 Class HPACFieldCoordinateTHelper

```
mil.dtra.hpac.server.plot
public abstract HPACFieldCoordinateTHelper
extends Object
```

Definition of a coordinate for a field.

Methods:

```
public static mil.dtra.hpac.server.plot.HPACFieldCoordinateT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACFieldCoordinateT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.55.1 Constructor HPACFieldCoordinateTHelper()

```
public
HPACFieldCoordinateTHelper()
```

27.55.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACFieldCoordinateT
extract( org.omg.CORBA.Any a )
```

27.55.3 Method id()

```
public static java.lang.String
id()
```

27.55.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACFieldCoordinateT that
)
```

27.55.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACFieldCoordinateT
read( org.omg.CORBA.portable.InputStream istream )
```

27.55.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.55.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACFieldCoordinateT value
)
```

27.56 Class HPACFieldCoordinateTHolder

```
mil.dtra.hpac.server.plot
public final HPACFieldCoordinateTHolder
extends Object
implements Streamable,
```

Definition of a coordinate for a field.

Fields:

```
public mil.dtra.hpac.server.plot.HPACFieldCoordinateT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.56.1 Field value

```
public mil.dtra.hpac.server.plot.HPACFieldCoordinateT value
```

27.56.2 Constructor HPACFieldCoordinateTHolder()

```
public
HPACFieldCoordinateTHolder()
```

27.56.3 Constructor HPACFieldCoordinateTHolder()

```
public
HPACFieldCoordinateTHolder( mil.dtra.hpac.server.plot.HPACFieldCoordinateT initialValue
)
```

27.56.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.56.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

27.56.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.57 Class HPACLineT

```
mil.dtra.hpac.server.plot
public final HPACLineT
extends Object
implements IDLEntity,
```

Fields:

```
public int fContourIndex
public int fLineSense
public int fNumberLocationPoints
public int fstartIndex
```

27.57.1 Field fContourIndex

```
public int fContourIndex
```

27.57.2 Field fLineSense

```
public int fLineSense
```

27.57.3 Field fNumberLocationPoints

```
public int fNumberLocationPoints
```

27.57.4 Field fstartIndex

```
public int fstartIndex
```

27.57.5 Constructor HPACLineT()

```
public
HPACLineT()
```

27.57.6 Constructor HPACLineT()

```
public
HPACLineT(
    int _fContourIndex,
    int _fstartIndex,
    int _fNumberLocationPoints,
    int _fLineSense
)
```

27.58 Class HPACLineTHelper

```
mil.dtra.hpac.server.plot
public abstract HPACLineTHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACLineT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACLineT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.58.1 Constructor HPACLineTHelper()

```
public
HPACLineTHelper()
```

27.58.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACLineT
extract( org.omg.CORBA.Any a )
```

27.58.3 Method id()

```
public static java.lang.String
id()
```

27.58.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACLineT that
)
```

27.58.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACLineT
read( org.omg.CORBA.portable.InputStream istream )
```

27.58.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.58.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACLineT value
)
```

27.59 Class HPACLineTHolder

```
mil.dtra.hpac.server.plot
public final HPACLineTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.plot.HPACLineT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.59.1 Field value

```
public mil.dtra.hpac.server.plot.HPACLineT value
```

27.59.2 Constructor HPACLineTHolder()

```
public
HPACLineTHolder()
```

27.59.3 Constructor HPACLineTHolder()

```
public
HPACLineTHolder( mil.dtra.hpac.server.plot.HPACLineT initialValue )
```

27.59.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.59.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

27.59.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.60 Class HPACLineTListHelper

```
mil.dtra.hpac.server.plot
public abstract HPACLineTListHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACLineT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACLineT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.60.1 Constructor HPACLineTListHelper()

```
public
HPACLineTListHelper()
```

27.60.2 Method `extract()`

```
public static mil.dtra.hpac.server.plot.HPACLineT[]
extract( org.omg.CORBA.Any a )
```

27.60.3 Method id()

```
public static java.lang.String
id()
```

27.60.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACLineT[] that
)
```

27.60.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACLineT[]
read( org.omg.CORBA.portable.InputStream istream )
```

27.60.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.60.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACLineT[] value
)
```

27.61 Class HPACLineTListHolder

```
mil.dtra.hpac.server.plot
public final HPACLineTListHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.plot.HPACLineT[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.61.1 Field value

```
public mil.dtra.hpac.server.plot.HPACLineT[] value
```

27.61.2 Constructor HPACLineTListHolder()

```
public
HPACLineTListHolder()
```

27.61.3 Constructor HPACLineTListHolder()

```
public
HPACLineTListHolder( mil.dtra.hpac.server.plot.HPACLineT[] initialValue )
```

27.61.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.61.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

27.61.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.62 Class HPACPlotFieldNodeT

```
mil.dtra.hpac.server.plot
public final HPACPlotFieldNodeT
extends Object
implements IDLEntity,
```

Fields:

```
public int fID
public float fValue
public float fX
public float fXRes
public float fY
public float fYRes
public float fZ
```

27.62.1 Field fID

```
public int fID
```

27.62.2 Field fValue

```
public float fValue
```

27.62.3 Field fX

```
public float fX
```

27.62.4 Field fXRes

```
public float fXRes
```

27.62.5 Field fY

```
public float fY
```

27.62.6 Field fYRes

```
public float fYRes
```

27.62.7 Field fZ

```
public float fZ
```

27.62.8 Constructor HPACPlotFieldNodeT()

```
public
HPACPlotFieldNodeT()
```

27.62.9 Constructor HPACPlotFieldNodeT()

```
public
HPACPlotFieldNodeT(
    int _fID,
    float _fX,
    float _fY,
    float _fZ,
    float _fXRes,
    float _fYRes,
    float _fValue
)
```

27.63 Class HPACPlotFieldNodeTHelper

```
mil.dtra.hpac.server.plot
public abstract HPACPlotFieldNodeTHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.63.1 Constructor HPACPlotFieldNodeTHelper()

```
public
HPACPlotFieldNodeTHelper()
```

27.63.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT
extract( org.omg.CORBA.Any a )
```

27.63.3 Method id()

```
public static java.lang.String
id()
```

27.63.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPlotFieldNodeT that
)
```

27.63.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT
read( org.omg.CORBA.portable.InputStream istream )
```

27.63.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.63.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPlotFieldNodeT value
)
```

27.64 Class HPACPlotFieldNodeTHolder

```
mil.dtra.hpac.server.plot
public final HPACPlotFieldNodeTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.plot.HPACPlotFieldNodeT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.64.1 Field value

```
public mil.dtra.hpac.server.plot.HPACPlotFieldNodeT value
```

27.64.2 Constructor HPACPlotFieldNodeTHolder()

```
public  
HPACPlotFieldNodeTHolder()
```

27.64.3 Constructor HPACPlotFieldNodeTHolder()

```
public  
HPACPlotFieldNodeTHolder( mil.dtra.hpac.server.plot.HPACPlotFieldNodeT initialValue )
```

27.64.4 Method _read()

```
public void  
_read( org.omg.CORBA.portable.InputStream i )
```

27.64.5 Method _type()

```
public org.omg.CORBA.TypeCode  
_type()
```

27.64.6 Method _write()

```
public void  
_write( org.omg.CORBA.portable.OutputStream o )
```

27.65 Class HPACPlotFieldNodeTListHelper

```
mil.dtra.hpac.server.plot  
public abstract HPACPlotFieldNodeTListHelper  
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[] extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[] read()  
public static synchronized org.omg.CORBA.TypeCode type()
```

```
public static void write()
```

27.65.1 Constructor HPACPlotFieldNodeTListHelper()

```
public  
HPACPlotFieldNodeTListHelper()
```

27.65.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[]  
extract( org.omg.CORBA.Any a )
```

27.65.3 Method id()

```
public static java.lang.String  
id()
```

27.65.4 Method insert()

```
public static void  
insert(  
    org.omg.CORBA.Any a,  
    mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[] that  
)
```

27.65.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[]  
read( org.omg.portable.InputStream istream )
```

27.65.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode  
type()
```

27.65.7 Method write()

```
public static void
write(

    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[] value
)
```

27.66 Class HPACPlotFieldNodeTListHolder

```
mil.dtra.hpac.server.plot
public final HPACPlotFieldNodeTListHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.66.1 Field value

```
public mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[] value
```

27.66.2 Constructor HPACPlotFieldNodeTListHolder()

```
public
HPACPlotFieldNodeTListHolder()
```

27.66.3 Constructor HPACPlotFieldNodeTListHolder()

```
public
HPACPlotFieldNodeTListHolder( mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[] initialValue
)
```

27.66.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.66.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

27.66.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.67 Class HPACPlotFieldT

```
mil.dtra.hpac.server.plot
public final HPACPlotFieldT
extends Object
implements IDLEntity,
```

Fields:

```
public int fActualRefinementLevels
public mil.dtra.hpac.server.plot.HPACFieldCoordinateT fCoordinates
public int fFieldCategory
public int fFieldChoice
public int fFieldClass
public int fFieldKind
public int fHazard
public int fInterpolationType
public int fMaxCells
public int fMaxRefinementLevels
public java.lang.String fProjectName
public float fResolution
public int fTimeIndex
public java.lang.String fUnits
public float fUserTime
```

27.67.1 Field `fActualRefinementLevels`

```
public int fActualRefinementLevels
```

27.67.2 Field fCoordinates

public mil.dtra.hpac.server.plot.HPACFieldCoordinateT **fCoordinates**

27.67.3 Field fFieldCategory

public int **fFieldCategory**

27.67.4 Field fFieldChoice

public int **fFieldChoice**

27.67.5 Field fFieldClass

public int **fFieldClass**

27.67.6 Field fFieldKind

public int **fFieldKind**

27.67.7 Field fHazard

public int **fHazard**

27.67.8 Field fInterpolationType

public int **fInterpolationType**

27.67.9 Field fMaxCells

public int **fMaxCells**

27.67.10 Field fMaxRefinementLevels

public int **fMaxRefinementLevels**

27.67.11 Field fProjectName

public java.lang.String **fProjectName**

27.67.12 Field fResolution

```
public float fResolution
```

27.67.13 Field fTimeIndex

```
public int fTimeIndex
```

27.67.14 Field fUnits

```
public java.lang.String fUnits
```

27.67.15 Field fUserTime

```
public float fUserTime
```

27.67.16 Constructor HPACPlotFieldT()

```
public  
HPACPlotFieldT()
```

27.67.17 Constructor HPACPlotFieldT()

```
public  
HPACPlotFieldT(  
    int _fFieldCategory,  
    int _fFieldClass,  
    int _fFieldChoice,  
    int _fFieldKind,  
    int _fTimeIndex,  
    float _fUserTime,  
    int _fHazard,  
    int _fMaxCells,  
    int _fMaxRefinementLevels,  
    int _fActualRefinementLevels,  
    float _fResolution,  
    int _fInterpolationType,  
    mil.dtra.hpac.server.plot.HPACFieldCoordinateT _fCoordinates,  
    java.lang.String _fUnits,  
    java.lang.String _fProjectName  
)
```

27.68 Class HPACPlotFieldTHelper

```
mil.dtra.hpac.server.plot
public abstract HPACPlotFieldTHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPlotFieldT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.68.1 Constructor HPACPlotFieldTHelper()

```
public
HPACPlotFieldTHelper()
```

27.68.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldT
extract( org.omg.CORBA.Any a )
```

27.68.3 Method id()

```
public static java.lang.String
id()
```

27.68.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPlotFieldT that
)
```

27.68.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldT
read( org.omg.CORBA.portable.InputStream istream )
```

27.68.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.68.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPlotFieldT value
)
```

27.69 Class HPACPlotFieldTHolder

```
mil.dtra.hpac.server.plot
public final HPACPlotFieldTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.plot.HPACPlotFieldT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.69.1 Field value

```
public mil.dtra.hpac.server.plot.HPACPlotFieldT value
```

27.69.2 Constructor HPACPlotFieldTHolder()

```
public
HPACPlotFieldTHolder()
```

27.69.3 Constructor HPACPlotFieldTHolder()

```
public
HPACPlotFieldTHolder( mil.dtra.hpac.server.plot.HPACPlotFieldT initialValue )
```

27.69.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.69.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

27.69.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.70 Class HPACPlotFieldTriangleT

```
mil.dtra.hpac.server.plot
public final HPACPlotFieldTriangleT
extends Object
implements IDLEntity,
```

Fields:

```
public int fID
public int fNodeIdentA
public int fNodeIdentB
public int fNodeIdentC
```

27.70.1 Field `fID`

```
public int fID
```

27.70.2 Field `fNodeIdentA`

```
public int fNodeIdentA
```

27.70.3 Field `fNodeIdentB`

```
public int fNodeIdentB
```

27.70.4 Field fNodeIdentC

```
public int fNodeIdentC
```

27.70.5 Constructor HPACPlotFieldTriangleT()

```
public  
HPACPlotFieldTriangleT()
```

27.70.6 Constructor HPACPlotFieldTriangleT()

```
public  
HPACPlotFieldTriangleT(  
    int fID,  
    int fNodeIdentA,  
    int fNodeIdentB,  
    int fNodeIdentC  
)
```

27.71 Class HPACPlotFieldTriangleTHelper

```
mil.dtra.hpac.server.plot  
public abstract HPACPlotFieldTriangleTHelper  
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

27.71.1 Constructor HPACPlotFieldTriangleTHelper()

```
public  
HPACPlotFieldTriangleTHelper()
```

27.71.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT
extract( org.omg.CORBA.Any a )
```

27.71.3 Method id()

```
public static java.lang.String
id()
```

27.71.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT that
)
```

27.71.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT
read( org.omg.CORBA.portable.InputStream istream )
```

27.71.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.71.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT value
)
```

27.72 Class HPACPlotFieldTriangleTHolder

```
mil.dtra.hpac.server.plot
public final HPACPlotFieldTriangleTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.72.1 Field value

```
public mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT value
```

27.72.2 Constructor HPACPlotFieldTriangleTHolder()

```
public
HPACPlotFieldTriangleTHolder()
```

27.72.3 Constructor HPACPlotFieldTriangleTHolder()

```
public
HPACPlotFieldTriangleTHolder( mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT initialValue
)
```

27.72.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.72.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

27.72.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.73 Class HPACPlotFieldTriangleTListHelper

```
mil.dtra.hpac.server.plot
public abstract HPACPlotFieldTriangleTListHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.73.1 Constructor HPACPlotFieldTriangleTListHelper()

```
public
HPACPlotFieldTriangleTListHelper()
```

27.73.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[]
extract( org.omg.CORBA.Any a )
```

27.73.3 Method id()

```
public static java.lang.String
id()
```

27.73.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[] that
)
```

27.73.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[]
read( org.omg.CORBA.portable.InputStream istream )
```

27.73.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.73.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[] value
)
```

27.74 Class HPACPlotFieldTriangleTListHolder

```
mil.dtra.hpac.server.plot
public final HPACPlotFieldTriangleTListHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.74.1 Field value

```
public mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[] value
```

27.74.2 Constructor HPACPlotFieldTriangleTListHolder()

```
public
HPACPlotFieldTriangleTListHolder()
```

27.74.3 Constructor HPACPlotFieldTriangleTListHolder()

```
public
HPACPlotFieldTriangleTListHolder( mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[] initialValue )
```

27.74.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.74.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

27.74.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.75 Class HPACPlotTypeT

```
mil.dtra.hpac.server.plot
public final HPACPlotTypeT
extends Object
implements IDLEntity,
```

Fields:

```
public int fAreaMode
public float fData
public int fPlotType
```

27.75.1 Field `fAreaMode`

```
public int fAreaMode
```

27.75.2 Field `fData`

```
public float fData
```

27.75.3 Field `fPlotType`

```
public int fPlotType
```

27.75.4 Constructor HPACPlotTypeT()

```
public
HPACPlotTypeT()
```

27.75.5 Constructor HPACPlotTypeT()

```
public
HPACPlotTypeT(
    int _fPlotType,
    float _fData,
    int _fAreaMode
)
```

27.76 Class HPACPlotTypeTHelper

```
mil.dtra.hpac.server.plot
public abstract HPACPlotTypeTHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPlotTypeT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPlotTypeT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.76.1 Constructor HPACPlotTypeTHelper()

```
public
HPACPlotTypeTHelper()
```

27.76.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPlotTypeT
extract( org.omg.CORBA.Any a )
```

27.76.3 Method id()

```
public static java.lang.String
id()
```

27.76.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPlotTypeT that
)
```

27.76.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPlotTypeT
read( org.omg.CORBA.portable.InputStream istream )
```

27.76.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.76.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPlotTypeT value
)
```

27.77 Class HPACPlotTypeTHolder

```
mil.dtra.hpac.server.plot
public final HPACPlotTypeTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.plot.HPACPlotTypeT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.77.1 Field value

```
public mil.dtra.hpac.server.plot.HPACPlotTypeT value
```

27.77.2 Constructor HPACPlotTypeTHolder()

```
public  
HPACPlotTypeTHolder()
```

27.77.3 Constructor HPACPlotTypeTHolder()

```
public  
HPACPlotTypeTHolder( mil.dtra.hpac.server.plot.HPACPlotTypeT initialValue )
```

27.77.4 Method _read()

```
public void  
_read( org.omg.CORBA.portable.InputStream i )
```

27.77.5 Method _type()

```
public org.omg.CORBA.TypeCode  
_type()
```

27.77.6 Method _write()

```
public void  
_write( org.omg.CORBA.portable.OutputStream o )
```

27.78 Class HPACPointT

```
mil.dtra.hpac.server.plot  
public final HPACPointT  
extends Object  
implements IDLEntity,
```

Point/location definition.

Fields:

```
public float fX  
public float fY
```

27.78.1 Field fX

```
public float fX
```

X coordinate

27.78.2 Field fY

```
public float fY
```

Y coordinate

27.78.3 Constructor HPACPointT()

```
public  
HPACPointT()
```

27.78.4 Constructor HPACPointT()

```
public  
HPACPointT(  
    float _fX,  
    float _fY  
)
```

27.79 Class HPACPointTHelper

```
mil.dtra.hpac.server.plot  
public abstract HPACPointTHelper  
extends Object
```

Point/location defintion.

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPointT extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.plot.HPACPointT read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

27.79.1 Constructor HPACPointTHelper()

```
public
HPACPointTHelper()
```

27.79.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPointT
extract( org.omg.CORBA.Any a )
```

27.79.3 Method id()

```
public static java.lang.String
id()
```

27.79.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPointT that
)
```

27.79.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPointT
read( org.omg.CORBA.portable.InputStream istream )
```

27.79.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.79.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPointT value
)
```

27.80 Class HPACPointTHolder

```
mil.dtra.hpac.server.plot
public final HPACPointTHolder
extends Object
implements Streamable,
```

Point/location definition.

Fields:

```
public mil.dtra.hpac.server.plot.HPACPointT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.80.1 Field value

```
public mil.dtra.hpac.server.plot.HPACPointT value
```

27.80.2 Constructor HPACPointTHolder()

```
public
HPACPointTHolder()
```

27.80.3 Constructor HPACPointTHolder()

```
public
HPACPointTHolder( mil.dtra.hpac.server.plot.HPACPointT initialValue )
```

27.80.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.80.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

27.80.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.81 Class HPACPointTListHelper

```
mil.dtra.hpac.server.plot
public abstract HPACPointTListHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPointT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPointT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.81.1 Constructor `HPACPointTListHelper()`

```
public
HPACPointTListHelper()
```

27.81.2 Method `extract()`

```
public static mil.dtra.hpac.server.plot.HPACPointT[]
extract( org.omg.CORBA.Any a )
```

27.81.3 Method `id()`

```
public static java.lang.String
id()
```

27.81.4 Method `insert()`

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPointT[] that
))
```

27.81.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPointT[]
read( org.omg.CORBA.portable.InputStream istream )
```

27.81.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.81.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPointT[] value
)
```

27.82 Class HPACPointTListHolder

mil.dtra.hpac.server.plot
public final HPACPointTListHolder
extends Object
implements Streamable,

Fields:

```
public mil.dtra.hpac.server.plot.HPACPointT[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.82.1 Field value

```
public mil.dtra.hpac.server.plot.HPACPointT[] value
```

27.82.2 Constructor HPACPointTListHolder()

```
public
HPACPointTListHolder()
```

27.82.3 Constructor HPACPointTListHolder()

```
public
HPACPointTListHolder( mil.dtra.hpac.server.plot.HPACPointT[] initialValue )
```

27.82.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.82.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

27.82.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.83 Class HPACSliceT

mil.dtra.hpac.server.plot
 public final HPACSliceT
 extends Object
 implements IDLEntity,

Definition of a plot slice.

Fields:

```
public mil.dtra.hpac.server.plot.HPACPointT fEndPoint
public int fNumberPointsInLine
public mil.dtra.hpac.server.plot.HPACPointT fStartPoint
```

27.83.1 Field fEndPoint

```
public mil.dtra.hpac.server.plot.HPACPointT fEndPoint
```

27.83.2 Field fNumberPointsInLine

```
public int fNumberPointsInLine
```

27.83.3 Field **fStartPoint**

```
public mil.dtra.hpac.server.plot.HPACPointT fStartPoint
```

27.83.4 Constructor **HPACSliceT0**

```
public  
HPACSliceT()
```

27.83.5 Constructor **HPACSliceT0**

```
public  
HPACSliceT(  
    int _fNumberPointsInLine,  
    mil.dtra.hpac.server.plot.HPACPointT _fStartPoint,  
    mil.dtra.hpac.server.plot.HPACPointT _fEndPoint  
)
```

27.84 Class **HPACSliceTHelper**

```
mil.dtra.hpac.server.plot  
public abstract HPACSliceTHelper  
extends Object
```

Definition of a plot slice.

Methods:

```
public static mil.dtra.hpac.server.plot.HPACSliceT extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.plot.HPACSliceT read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

27.84.1 Constructor **HPACSliceTHelper0**

```
public  
HPACSliceTHelper()
```

27.84.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACSliceT
extract( org.omg.CORBA.Any a )
```

27.84.3 Method id()

```
public static java.lang.String
id()
```

27.84.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACSliceT that
)
```

27.84.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACSliceT
read( org.omg.CORBA.portable.InputStream istream )
```

27.84.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.84.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACSliceT value
)
```

27.85 Class HPACSliceTHolder

mil.dtra.hpac.server.plot
public final HPACSliceTHolder
 extends Object
 implements Streamable,

Definition of a plot slice.

Fields:

```
public mil.dtra.hpac.server.plot.HPACSliceT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.85.1 Field value

```
public mil.dtra.hpac.server.plot.HPACSliceT value
```

27.85.2 Constructor HPACSliceTHolder()

```
public
HPACSliceTHolder()
```

27.85.3 Constructor HPACSliceTHolder()

```
public
HPACSliceTHolder( mil.dtra.hpac.server.plot.HPACSliceT initialValue )
```

27.85.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.85.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

27.85.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.86 Class HPACTimeT

```
mil.dtra.hpac.server.plot
public final HPACTimeT
extends Object
implements IDLEntity,
```

Fields:

```
public int fNumberItems
public mil.dtra.hpac.server.project.TimeT fTime
public java.lang.String fTimeDisplay
```

27.86.1 Field fNumberItems

```
public int fNumberItems
```

27.86.2 Field fTime

```
public mil.dtra.hpac.server.project.TimeT fTime
```

27.86.3 Field fTimeDisplay

```
public java.lang.String fTimeDisplay
```

27.86.4 Constructor HPACTimeT()

```
public
HPACTimeT()
```

27.86.5 Constructor HPACTimeT()

```
public
HPACTimeT(
    mil.dtra.hpac.server.project.TimeT _fTime,
    int _fNumberItems,
    java.lang.String _fTimeDisplay
)
```

27.87 Class HPACTimeTHelper

```
mil.dtra.hpac.server.plot
public abstract HPACTimeTHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACTimeT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACTimeT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.87.1 Constructor HPACTimeTHelper()

```
public
HPACTimeTHelper()
```

27.87.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACTimeT
extract( org.omg.CORBA.Any a )
```

27.87.3 Method id()

```
public static java.lang.String
id()
```

27.87.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACTimeT that
)
```

27.87.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACTimeT
read( org.omg.CORBA.portable.InputStream istream )
```

27.87.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.87.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACTimeT value
)
```

27.88 Class HPACTimeTHolder

```
mil.dtra.hpac.server.plot
public final HPACTimeTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.plot.HPACTimeT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.88.1 Field value

```
public mil.dtra.hpac.server.plot.HPACTimeT value
```

27.88.2 Constructor HPACTimeTHolder()

```
public
HPACTimeTHolder()
```

27.88.3 Constructor HPACTimeTHolder()

```
public
HPACTimeTHolder( mil.dtra.hpac.server.plot.HPACTimeT initialValue )
```

27.88.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.88.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

27.88.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.89 Class HPACTimeTListHelper

```
mil.dtra.hpac.server.plot
public abstract HPACTimeTListHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.plot.HPACTimeT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACTimeT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.89.1 Constructor HPACTimeTListHelper()

```
public
HPACTimeTListHelper()
```

27.89.2 Method `extract()`

```
public static mil.dtra.hpac.server.plot.HPACTimeT[]
extract( org.omg.CORBA.Any a )
```

27.89.3 Method id()

```
public static java.lang.String
id()
```

27.89.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACTimeT[] that
)
```

27.89.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACTimeT[]
read( org.omg.CORBA.portable.InputStream istream )
```

27.89.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.89.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACTimeT[] value
)
```

27.90 Class HPACTimeTListHolder

mil.dtra.hpac.server.plot
public final HPACTimeTListHolder
 extends Object
 implements Streamable,

Fields:

```
public mil.dtra.hpac.server.plot.HPACTimeT[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.90.1 Field value

```
public mil.dtra.hpac.server.plot.HPACTimeT[] value
```

27.90.2 Constructor HPACTimeTListHolder()

```
public
HPACTimeTListHolder()
```

27.90.3 Constructor HPACTimeTListHolder()

```
public
HPACTimeTListHolder( mil.dtra.hpac.server.plot.HPACTimeT[] initialValue )
```

27.90.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.90.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

27.90.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.91 Class ReferenceT

```
mil.dtra.hpac.server.plot
public final ReferenceT
extends Object
implements IDLEntity,
```

Location reference.

Fields:

```
public float fLatitude
public float fLongitude
public float fX
public float fY
```

27.91.1 Field fLatitude

```
public float fLatitude
```

27.91.2 Field fLongitude

```
public float fLongitude
```

27.91.3 Field fX

```
public float fX
```

27.91.4 Field fY

```
public float fY
```

27.91.5 Constructor ReferenceT()

```
public
ReferenceT()
```

27.91.6 Constructor ReferenceT()

```
public
ReferenceT(
    float _fX,
    float _fY,
    float _fLatitude,
    float _fLongitude
)
```

27.92 Class ReferenceTHelper

```
mil.dtra.hpac.server.plot
public abstract ReferenceTHelper
extends Object
```

Location reference.

Methods:

```
public static mil.dtra.hpac.server.plot.ReferenceT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.ReferenceT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.92.1 Constructor ReferenceTHelper()

```
public
ReferenceTHelper()
```

27.92.2 Method extract()

```
public static mil.dtra.hpac.server.plot.ReferenceT
extract( org.omg.CORBA.Any a )
```

27.92.3 Method id()

```
public static java.lang.String
id()
```

27.92.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.ReferenceT that
)
```

27.92.5 Method read()

```
public static mil.dtra.hpac.server.plot.ReferenceT
read( org.omg.CORBA.portable.InputStream istream )
```

27.92.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.92.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.ReferenceT value
)
```

27.93 Class ReferenceTHolder

mil.dtra.hpac.server.plot
public final ReferenceTHolder
extends Object
implements Streamable,

Location reference.

Fields:

```
public mil.dtra.hpac.server.plot.ReferenceT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

27.93.1 Field value

```
public mil.dtra.hpac.server.plot.ReferenceT value
```

27.93.2 Constructor ReferenceTHolder()

```
public
ReferenceTHolder()
```

27.93.3 Constructor ReferenceTHolder()

```
public
ReferenceTHolder( mil.dtra.hpac.server.plot.ReferenceT initialValue )
```

27.93.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

27.93.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

27.93.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

27.94 Class TimeTHelper

mil.dtra.hpac.server.plot
 public abstract **TimeTHelper**
 extends Object

mil/dtra/hpac/server/plot/TimeTHelper.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from plot.idl Friday, February 8, 2002 3:57:33 PM EST

Methods:

```
public static mil.dtra.hpac.server.project.TimeT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.TimeT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

27.94.1 Constructor TimeTHelper()

```
public
TimeTHelper()
```

27.94.2 Method extract()

```
public static mil.dtra.hpac.server.project.TimeT
extract( org.omg.CORBA.Any a )
```

27.94.3 Method id()

```
public static java.lang.String
id()
```

27.94.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.TimeT that
)
```

27.94.5 Method read()

```
public static mil.dtra.hpac.server.project.TimeT
read( org.omg.CORBA.portable.InputStream istream )
```

27.94.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

27.94.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.TimeT value
)
```

CHAPTER 28

Package mil.dtra.hpac.server.project

Contains classes and interfaces generated from `project.idl` with `idlj`.

Interfaces:

- HD_CARTESIAN
- HD_LATLON
- HD_METERS
- HD_UTM
- HF_DENSE
- HF_DUAL
- HF_DYNAMIC
- HF_FAST
- HF_HAZARD
- HF_MULTICOMP
- HF_STATIC
- MAX_LATITUDE
- MIN_LATITUDE

Classes:

- AuditT
- AuditTHelper
- AuditTHolder
- FlagsT
- FlagsTHelper
- FlagsTHolder
- LimitT
- LimitTHelper
- LimitTHolder
- OptionsT
- OptionsTHelper
- OptionsTHolder
- SpatialDomainT
- SpatialDomainTHelper
- SpatialDomainTHolder

TemporalDomainT
 TemporalDomainTHelper
 TemporalDomainTHolder
 TimeT
 TimeTHelper
 TimeTHolder

28.1 Interface HD_CARTESIAN

mil.dtra.hpac.server.project
 public interface **HD_CARTESIAN**
 extends IDLEntity,

mil/dtra/hpac/server/project/HD_CARTESIAN.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

public static final int **value**

28.1.1 Field **value**

public static final int **value**

Cartesian coordinate mode constant

28.2 Interface HD_LATLON

mil.dtra.hpac.server.project
 public interface **HD_LATLON**
 extends IDLEntity,

mil/dtra/hpac/server/project/HD_LATLON.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

public static final int **value**

28.2.1 Field **value**

public static final int **value**

Lat-lon coordinate mode constant

28.3 Interface HD_METERS

mil.dtra.hpac.server.project
 public interface **HD_METERS**
 extends IDLEntity,

mil/dtra/hpac/server/project/HD_METERS.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

public static final int **value**

28.3.1 Field value

public static final int **value**

?? coordinate mode constant

28.4 Interface HD_UTM

mil.dtra.hpac.server.project
 public interface **HD_UTM**
 extends IDLEntity,

mil/dtra/hpac/server/project/HD_UTM.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

public static final int **value**

28.4.1 Field value

public static final int **value**

UTM coordinate mode constant

28.5 Interface HF_DENSE

mil.dtra.hpac.server.project
 public interface **HF_DENSE**
 extends IDLEntity,

mil/dtra/hpac/server/project/HF_DENSE.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

public static final int **value**

28.5.1 Field value

public static final int **value**

SCIPUFF *dense* gas method bit mask

28.6 Interface HF_DUAL

mil.dtra.hpac.server.project
 public interface **HF_DUAL**
 extends IDLEntity,

mil/dtra/hpac/server/project/HF_DUAL.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

public static final int **value**

28.6.1 Field value

public static final int **value**

SCIPUFF *dual* mode bit mask

28.7 Interface HF_DYNAMIC

mil.dtra.hpac.server.project
 public interface **HF_DYNAMIC**
 extends IDLEntity,

mil/dtra/hpac/server/project/HF_DYNAMIC.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

public static final int **value**

28.7.1 Field value

public static final int **value**

SCIPUFF *dynamic* method bit mask

28.8 Interface HF_FAST

mil.dtra.hpac.server.project
 public interface **HF_FAST**
 extends IDLEntity,

mil/dtra/hpac/server/project/HF_FAST.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

public static final int **value**

28.8.1 Field value

public static final int **value**

SCIPUFF *fast* mode bit mask; also passed as a mode value to `IncidentModelServer.updateRelease()`

28.9 Interface HF_HAZARD

mil.dtra.hpac.server.project
 public interface **HF_HAZARD**
 extends IDLEntity,

mil/dtra/hpac/server/project/HF_HAZARD.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

public static final int **value**

28.9.1 Field value

public static final int **value**

SCIPUFF *hazard* mode bit mask

28.10 Interface HF_MULTICOMP

mil.dtra.hpac.server.project
 public interface **HF_MULTICOMP**
 extends IDLEntity,

mil/dtra/hpac/server/project/HF_MULTICOMP.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

```
public static final int value
```

28.10.1 Field value

```
public static final int value
```

SCIPUFF *multicomp* method bit mask

28.11 Interface HF_STATIC

mil.dtra.hpac.server.project
 public interface **HF_STATIC**
 extends IDLEntity,

mil/dtra/hpac/server/project/HF_STATIC.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

```
public static final int value
```

28.11.1 Field value

```
public static final int value
```

SCIPUFF *static* method bit mask

28.12 Interface MAX_LATITUDE

mil.dtra.hpac.server.project
 public interface **MAX_LATITUDE**
 extends IDLEntity,

mil/dtra/hpac/server/project/MAX_LATITUDE.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

```
public static final float value
```

28.12.1 Field value

```
public static final float value
```

Maximum latitude allowed in SCIPUFF

28.13 Interface MIN_LATITUDE

```
mil.dtra.hpac.server.project
public interface MIN_LATITUDE
extends IDLEntity,
```

mil/dtra/hpac/server/project/MIN_LATITUDE.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from project.idl Friday, February 8, 2002 3:57:19 PM EST

Fields:

```
public static final float value
```

28.13.1 Field value

```
public static final float value
```

Minimum latitude allowed in SCIPUFF

28.14 Class AuditT

```
mil.dtra.hpac.server.project
public final AuditT
extends Object
implements IDLEntity,
```

Definition of project audit information.

Fields:

```
public java.lang.String fAnalyst
public java.lang.String fClassification
public java.lang.String fDate
public java.lang.String fHPACVersion
public java.lang.String fProjectTitle
```

28.14.1 Field fAnalyst

```
public java.lang.String fAnalyst
```

28.14.2 Field fClassification

```
public java.lang.String fClassification
```

28.14.3 Field fDate

```
public java.lang.String fDate
```

28.14.4 Field fHPACVersion

```
public java.lang.String fHPACVersion
```

28.14.5 Field fProjectTitle

```
public java.lang.String fProjectTitle
```

28.14.6 Constructor AuditT()

```
public  
AuditT()
```

28.14.7 Constructor AuditT()

```
public  
AuditT(  
    java.lang.String fProjectTitle,  
    java.lang.String fAnalyst,  
    java.lang.String fClassification,  
    java.lang.String fHPACVersion,  
    java.lang.String fDate  
)
```

28.15 Class AuditTHelper

```
mil.dtra.hpac.server.project  
public abstract AuditTHelper  
extends Object
```

Definition of project audit information.

Methods:

```
public static mil.dtra.hpac.server.project.AuditT extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.project.AuditT read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

28.15.1 Constructor AuditTHelper()

```
public
AuditTHelper()
```

28.15.2 Method extract()

```
public static mil.dtra.hpac.server.project.AuditT
extract( org.omg.CORBA.Any a )
```

28.15.3 Method id()

```
public static java.lang.String
id()
```

28.15.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.AuditT that
)
```

28.15.5 Method read()

```
public static mil.dtra.hpac.server.project.AuditT
read( org.omg.CORBA.portable.InputStream istream )
```

28.15.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

28.15.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.AuditT value
)
```

28.16 Class AuditTHolder

```
mil.dtra.hpac.server.project
public final AuditTHolder
extends Object
implements Streamable,
```

Definition of project audit information.

Fields:

```
public mil.dtra.hpac.server.project.AuditT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

28.16.1 Field value

```
public mil.dtra.hpac.server.project.AuditT value
```

28.16.2 Constructor AuditTHolder()

```
public
AuditTHolder()
```

28.16.3 Constructor AuditTHolder()

```
public
AuditTHolder( mil.dtra.hpac.server.project.AuditT initialValue )
```

28.16.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

28.16.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

28.16.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

28.17 Class FlagsT

```
mil.dtra.hpac.server.project
public final FlagsT
extends Object
implements IDLEntity,
```

Flags for the calculation.

Fields:

```
public mil.dtra.hpac.server.project.AuditT fAudit
public boolean fRestart
public int fScipuffMethod
public int fScipuffMode
```

28.17.1 Field `fAudit`

```
public mil.dtra.hpac.server.project.AuditT fAudit
```

Audit info

28.17.2 Field `fRestart`

```
public boolean fRestart
```

Flags restart of previous calculation

28.17.3 Field `fScipuffMethod`

```
public int fScipuffMethod
```

Method id (HF_DYNAMIC, HF_DENSE, HF_STATIC)

28.17.4 Field `fScipuffMode`

```
public int fScipuffMode
```

Mode id (HF_FAST, HF_HAZARD, HF_DUAL)

28.17.5 Constructor FlagsT()

```
public
FlagsT()
```

28.17.6 Constructor FlagsT()

```
public
FlagsT(
    boolean _fRestart,
    int _fScipuffMethod,
    int _fScipuffMode,
    mil.dtra.hpac.server.project.AuditT _fAudit
)
```

28.18 Class FlagsTHelper

```
mil.dtra.hpac.server.project
public abstract FlagsTHelper
extends Object
```

Flags for the calculation.

Methods:

```
public static mil.dtra.hpac.server.project.FlagsT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.FlagsT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

28.18.1 Constructor FlagsTHelper()

```
public
FlagsTHelper()
```

28.18.2 Method extract()

```
public static mil.dtra.hpac.server.project.FlagsT
extract( org.omg.CORBA.Any a )
```

28.18.3 Method id()

```
public static java.lang.String
id()
```

28.18.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.FlagsT that
)
```

28.18.5 Method read()

```
public static mil.dtra.hpac.server.project.FlagsT
read( org.omg.CORBA.portable.InputStream istream )
```

28.18.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

28.18.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.FlagsT value
)
```

28.19 Class FlagsTHolder

mil.dtra.hpac.server.project
public final FlagsTHolder
 extends Object
 implements Streamable,

Flags for the calculation.

Fields:

```
public mil.dtra.hpac.server.project.FlagsT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

28.19.1 Field value

```
public mil.dtra.hpac.server.project.FlagsT value
```

28.19.2 Constructor FlagsTHolder()

```
public
FlagsTHolder()
```

28.19.3 Constructor FlagsTHolder()

```
public
FlagsTHolder( mil.dtra.hpac.server.project.FlagsT initialValue )
```

28.19.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

28.19.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

28.19.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

28.20 Class LimitT

```
mil.dtra.hpac.server.project
public final LimitT
extends Object
implements IDLEntity,
```

Definition of computational limits.

Fields:

```
public int fMaxGridCellsPerSurface
public int fMaxMetHorizSize
public int fMaxPuffs
```

28.20.1 Field **fMaxGridCellsPerSurface**

```
public int fMaxGridCellsPerSurface
```

Max number of grid cells per surface field

28.20.2 Field **fMaxMetHorizSize**

```
public int fMaxMetHorizSize
```

Max size in either direction of horizontal met arrays

28.20.3 Field **fMaxPuffs**

```
public int fMaxPuffs
```

Max number of puffs

28.20.4 Constructor **LimitT()**

```
public
LimitT()
```

28.20.5 Constructor **LimitT()**

```
public
LimitT(
    int _fMaxPuffs,
    int _fMaxGridCellsPerSurface,
    int _fMaxMetHorizSize
)
```

28.21 Class **LimitTHelper**

```
mil.dtra.hpac.server.project
public abstract LimitTHelper
extends Object
```

Definition of computational limits.

Methods:

```
public static mil.dtra.hpac.server.project.LimitT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.LimitT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

28.21.1 Constructor LimitTHelper()

```
public
LimitTHelper()
```

28.21.2 Method extract()

```
public static mil.dtra.hpac.server.project.LimitT
extract( org.omg.CORBA.Any a )
```

28.21.3 Method id()

```
public static java.lang.String
id()
```

28.21.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.LimitT that
)
```

28.21.5 Method read()

```
public static mil.dtra.hpac.server.project.LimitT
read( org.omg.CORBA.portable.InputStream istream )
```

28.21.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

28.21.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.LimitT value
)
```

28.22 Class LimitTHolder

```
mil.dtra.hpac.server.project
public final LimitTHolder
extends Object
implements Streamable,
```

Definition of computational limits.

Fields:

```
public mil.dtra.hpac.server.project.LimitT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

28.22.1 Field value

```
public mil.dtra.hpac.server.project.LimitT value
```

28.22.2 Constructor LimitTHolder()

```
public
LimitTHolder()
```

28.22.3 Constructor LimitTHolder()

```
public
LimitTHolder( mil.dtra.hpac.server.project.LimitT initialValue )
```

28.22.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

28.22.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

28.22.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

28.23 Class OptionsT

mil.dtra.hpac.server.project
 public final **OptionsT**
 extends Object
 implements IDLEntity,

Options for the dispersion calculation.

Fields:

```
public float fCalmScaleLength
public float fCalmTurb
public float fDosageCalcHeight
public int fGridResolution
public float fMinAdaptiveGridSize
public float fMinPuffMass
public java.lang.String fSamplerFile
public float fSamplerOutputInterval
public int fSubstrateIndex
public float fTropAvgDissRate
public float fTropVertScalelength
public float fTropVertVelVariance
public float fTurbDiffAvgTime
public int fVertGridTurbBL
```

28.23.1 Field fCalmScaleLength

public float **fCalmScaleLength**

28.23.2 Field fCalmTurb

public float **fCalmTurb**

28.23.3 Field fDosageCalcHeight

public float **fDosageCalcHeight**

28.23.4 Field fGridResolution

public int **fGridResolution**

28.23.5 Field fMinAdaptiveGridSize

public float **fMinAdaptiveGridSize**

28.23.6 Field fMinPuffMass

public float **fMinPuffMass**

28.23.7 Field fSamplerFile

public java.lang.String **fSamplerFile**

28.23.8 Field fSamplerOutputInterval

public float **fSamplerOutputInterval**

28.23.9 Field fSubstrateIndex

public int **fSubstrateIndex**

28.23.10 Field fTropAvgDissRate

public float **fTropAvgDissRate**

28.23.11 Field fTropVertScalelength

```
public float fTropVertScalelength
```

28.23.12 Field fTropVertVelVariance

```
public float fTropVertVelVariance
```

28.23.13 Field fTurbDiffAvgTime

```
public float fTurbDiffAvgTime
```

28.23.14 Field fVertGridTurbBL

```
public int fVertGridTurbBL
```

28.23.15 Constructor OptionsT()

```
public  
OptionsT()
```

28.23.16 Constructor OptionsT()

```
public  
OptionsT(  
    int _fVertGridTurbBL,  
    int _fGridResolution,  
    int _fSubstrateIndex,  
    float _fTurbDiffAvgTime,  
    float _fMinPuffMass,  
    float _fMinAdaptiveGridSize,  
    float _fTropVertVelVariance,  
    float _fTropAvgDissRate,  
    float _fTropVertScalelength,  
    float _fCalmTurb,  
    float _fCalmScaleLength,  
    float _fDosageCalcHeight,  
    float _fSamplerOutputInterval,  
    java.lang.String _fSamplerFile  
)
```

28.24 Class OptionsTHelper

```
mil.dtra.hpac.server.project
public abstract OptionsTHelper
extends Object
```

Options for the dispersion calculation.

Methods:

```
public static mil.dtra.hpac.server.project.OptionsT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.OptionsT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

28.24.1 Constructor OptionsTHelper()

```
public
OptionsTHelper()
```

28.24.2 Method extract()

```
public static mil.dtra.hpac.server.project.OptionsT
extract( org.omg.CORBA.Any a )
```

28.24.3 Method id()

```
public static java.lang.String
id()
```

28.24.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.OptionsT that
))
```

28.24.5 Method read()

```
public static mil.dtra.hpac.server.project.OptionsT
read( org.omg.CORBA.portable.InputStream istream )
```

28.24.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

28.24.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.OptionsT value
)
```

28.25 Class OptionsTHolder

mil.dtra.hpac.server.project
 public final **OptionsTHolder**
 extends Object
 implements Streamable,

Options for the dispersion calculation.

Fields:

```
public mil.dtra.hpac.server.project.OptionsT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

28.25.1 Field value

```
public mil.dtra.hpac.server.project.OptionsT value
```

28.25.2 Constructor OptionsTHolder()

```
public
OptionsTHolder()
```

28.25.3 Constructor OptionsTHolder()

```
public
OptionsTHolder( mil.dtra.hpac.server.project.OptionsT initialValue )
```

28.25.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

28.25.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

28.25.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

28.26 Class SpatialDomainT

mil.dtra.hpac.server.project
 public final **SpatialDomainT**
 extends Object
 implements IDLEntity,

Client view of a spatial domain. Set fComputeDefault true to tell the server to compute the domain from the releases.

Fields:

```
public boolean fComputeDefault
public float fHorzResolution
public float fMaxHeight
public float fMaxLatitude
public float fMaxLongitude
public float fMinLatitude
public float fMinLongitude
public float fVertResolution
```

28.26.1 Field fComputeDefault

public boolean **fComputeDefault**

28.26.2 Field fHorzResolution

public float **fHorzResolution**

28.26.3 Field fMaxHeight

public float **fMaxHeight**

28.26.4 Field fMaxLatitude

public float **fMaxLatitude**

28.26.5 Field fMaxLongitude

public float **fMaxLongitude**

28.26.6 Field fMinLatitude

public float **fMinLatitude**

28.26.7 Field fMinLongitude

public float **fMinLongitude**

28.26.8 Field fVertResolution

public float **fVertResolution**

28.26.9 Constructor SpatialDomainT()

public
SpatialDomainT()

28.26.10 Constructor SpatialDomainT()

```
public
SpatialDomainT(  
    boolean _fComputeDefault,  
    float _fMaxLatitude,  
    float _fMinLatitude,  
    float _fMaxLongitude,  
    float _fMinLongitude,  
    float _fMaxHeight,  
    float _fHorzResolution,  
    float _fVertResolution  
)
```

28.27 Class SpatialDomainTHelper

```
mil.dtra.hpac.server.project
public abstract SpatialDomainTHelper
extends Object
```

Client view of a spatial domain. Set fComputeDefault true to tell the server to compute the domain from the releases.

Methods:

```
public static mil.dtra.hpac.server.project.SpatialDomainT extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.project.SpatialDomainT read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

28.27.1 Constructor SpatialDomainTHelper()

```
public
SpatialDomainTHelper()
```

28.27.2 Method extract()

```
public static mil.dtra.hpac.server.project.SpatialDomainT
extract( org.omg.CORBA.Any a )
```

28.27.3 Method id()

```
public static java.lang.String
id()
```

28.27.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.SpatialDomainT that
)
```

28.27.5 Method read()

```
public static mil.dtra.hpac.server.project.SpatialDomainT
read( org.omg.CORBA.portable.InputStream istream )
```

28.27.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

28.27.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.SpatialDomainT value
)
```

28.28 Class SpatialDomainTHolder

```
mil.dtra.hpac.server.project
public final SpatialDomainTHolder
extends Object
implements Streamable,
```

Client view of a spatial domain. Set fComputeDefault true to tell the server to compute the domain from the releases.

Fields:

```
public mil.dtra.hpac.server.project.SpatialDomainT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

28.28.1 Field value

```
public mil.dtra.hpac.server.project.SpatialDomainT value
```

28.28.2 Constructor SpatialDomainTHolder()

```
public
SpatialDomainTHolder()
```

28.28.3 Constructor SpatialDomainTHolder()

```
public
SpatialDomainTHolder( mil.dtra.hpac.server.project.SpatialDomainT initialValue )
```

28.28.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

28.28.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

28.28.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

28.29 Class TemporalDomainT

```
mil.dtra.hpac.server.project
public final TemporalDomainT
extends Object
implements IDLEntity,
```

Client view of a temporal domain. Times are absolute. Set fComputeDefault true to tell the server to compute the time domain from the releases.

Fields:

```
public boolean fComputeDefault
public mil.dtra.hpac.server.project.TimeT fEndTime
public mil.dtra.hpac.server.project.TimeT fStartTime
```

28.29.1 Field fComputeDefault

```
public boolean fComputeDefault
```

28.29.2 Field fEndTime

```
public mil.dtra.hpac.server.project.TimeT fEndTime
```

28.29.3 Field fStartTime

```
public mil.dtra.hpac.server.project.TimeT fStartTime
```

28.29.4 Constructor TemporalDomainT()

```
public
TemporalDomainT()
```

28.29.5 Constructor TemporalDomainT()

```
public
TemporalDomainT(
    boolean _fComputeDefault,
    mil.dtra.hpac.server.project.TimeT _fStartTime,
    mil.dtra.hpac.server.project.TimeT _fEndTime
)
```

28.30 Class TemporalDomainTHelper

```
mil.dtra.hpac.server.project
public abstract TemporalDomainTHelper
extends Object
```

Client view of a temporal domain. Times are absolute. Set fComputeDefault true to tell the server to compute the time domain from the releases.

Methods:

```
public static mil.dtra.hpac.server.project.TemporalDomainT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.TemporalDomainT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

28.30.1 Constructor TemporalDomainTHelper()

```
public
TemporalDomainTHelper()
```

28.30.2 Method extract()

```
public static mil.dtra.hpac.server.project.TemporalDomainT
extract( org.omg.CORBA.Any a )
```

28.30.3 Method id()

```
public static java.lang.String
id()
```

28.30.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.TemporalDomainT that
)
```

28.30.5 Method read()

```
public static mil.dtra.hpac.server.project.TemporalDomainT
read( org.omg.CORBA.portable.InputStream istream )
```

28.30.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

28.30.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.TemporalDomainT value
)
```

28.31 Class TemporalDomainTHolder

```
mil.dtra.hpac.server.project
public final TemporalDomainTHolder
extends Object
implements Streamable,
```

Client view of a temporal domain. Times are absolute. Set fComputeDefault true to tell the server to compute the time domain from the releases.

Fields:

```
public mil.dtra.hpac.server.project.TemporalDomainT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

28.31.1 Field value

```
public mil.dtra.hpac.server.project.TemporalDomainT value
```

28.31.2 Constructor TemporalDomainTHolder()

```
public
TemporalDomainTHolder()
```

28.31.3 Constructor TemporalDomainTHolder()

```
public
TemporalDomainTHolder( mil.dtra.hpac.server.project.TemporalDomainT initialValue )
```

28.31.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

28.31.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

28.31.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

28.32 Class TimeT

```
mil.dtra.hpac.server.project
public final TimeT
extends Object
implements IDLEntity,
```

Definition of a UTC time as defined in the HPACTool API.

Fields:

```
public short fDay
public float fHour
public short fMonth
public short fYear
```

28.32.1 Field fDay

```
public short fDay
```

28.32.2 Field fHour

```
public float fHour
```

28.32.3 Field fMonth

```
public short fMonth
```

28.32.4 Field fYear

```
public short fYear
```

28.32.5 Constructor TimeT()

```
public  
TimeT()
```

28.32.6 Constructor TimeT()

```
public  
TimeT(  
    short _fYear,  
    short _fMonth,  
    short _fDay,  
    float _fHour  
)
```

28.33 Class TimeTHelper

```
mil.dtra.hpac.server.project  
public abstract TimeTHelper  
extends Object
```

Definition of a UTC time as defined in the HPACTool API.

Methods:

```
public static mil.dtra.hpac.server.project.TimeT extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.project.TimeT read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

28.33.1 Constructor TimeTHelper()

```
public
TimeTHelper()
```

28.33.2 Method extract()

```
public static mil.dtra.hpac.server.project.TimeT
extract( org.omg.CORBA.Any a )
```

28.33.3 Method id()

```
public static java.lang.String
id()
```

28.33.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.TimeT that
)
```

28.33.5 Method read()

```
public static mil.dtra.hpac.server.project.TimeT
read( org.omg.CORBA.portable.InputStream istream )
```

28.33.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

28.33.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.TimeT value
)
```

28.34 Class TimeTHolder

```
mil.dtra.hpac.server.project
public final TimeTHolder
extends Object
implements Streamable,
```

Definition of a UTC time as defined in the HPACTool API.

Fields:

```
public mil.dtra.hpac.server.project.TimeT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

28.34.1 Field value

```
public mil.dtra.hpac.server.project.TimeT value
```

28.34.2 Constructor TimeTHolder()

```
public
TimeTHolder()
```

28.34.3 Constructor TimeTHolder()

```
public
TimeTHolder( mil.dtra.hpac.server.project.TimeT initialValue )
```

28.34.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

28.34.5 Method _type()

```
public org.omg.CORBA.TypeCode
._type()
```

28.34.6 Method `_write()`

```
public void  
_write( org.omg.CORBA.portable.OutputStream o )
```

CHAPTER 29

Package mil.dtra.hpac.server.radfile

Interfaces:

RAD_FILE_MERGER_SERVICE_NAME
RadFileMerger
RadFileMergerOperations

Classes:

_RadFileMergerImplBase
_RadFileMergerStub
RadFileExceptionHelper
RadFileExceptionHolder
RadFileMergerHelper
RadFileMergerHolder
StringListHelper
StringListHolder

Exceptions:

RadFileNotFoundException

Errors:

RadFileNotFoundException

29.1 Interface RAD_FILE_MERGER_SERVICE_NAME

mil.dtra.hpac.server.radfile
public interface RAD_FILE_MERGER_SERVICE_NAME
extends IDLEntity,

mil/dtra/hpac/server/radfile/RAD_FILE_MERGER_SERVICE_NAME.java Generated by the IDL-to-Java compiler (portable), version "3.0" from radfile.idl Friday, February 8, 2002 4:37:29 PM EST

Fields:

```
public static final java.lang.String value
```

29.1.1 Field value

```
public static final java.lang.String value
```

Default name under which the rad file merger service is bound.

29.2 Interface RadFileMerger

mil.dtra.hpac.server.radfile

public interface **RadFileMerger**

extends IDLEntity, Object, RadFileMergerOperations,

Services merging radfiles into the single rad file for a project.

29.3 Interface RadFileMergerOperations

mil.dtra.hpac.server.radfile

public interface **RadFileMergerOperations**

Services merging radfiles into the single rad file for a project.

Methods:

```
public java.lang.String getRadFileContents()
public java.lang.String getRadFileURL()
public java.lang.String[] merge()
```

29.3.1 Method getRadFileContents()

```
public java.lang.String
getRadFileContents(
    java.lang.String user_name,
    java.lang.String project_name
)
```

Returns the contents of the rad file managed for the project identified by the user_name and project_name. This method is to support ScipuffServer in obtaining the rad file in order to hand it to HPACtool and works if the RadFileMerger object is running on a separate machine.

Parameters:

user_name - user name used to identify the project
 project_name - project name used to identify the project

Returns:

contents of the project rad file

Exceptions:

RadFileNotFoundException - on error accessing the rad file

29.3.2 Method getRadFileURL()

```
public java.lang.String
getRadFileURL(
    java.lang.String user_name,
    java.lang.String project_name
)
```

Builds a URL for accessing the rad file managed for the project identified by the user_name and project_name. This method is to support ScipuffServer in obtaining the rad file. The URL could use a protocol such as HTTP if the RadFileMerger server object is running on a machine with a co-resident Web server, or it could be a "file" URL if it has been established a priori that the RadFileMerger lives on the same machine as the ScipuffServer instance.

Parameters:

user_name - user name used to identify the project
 project_name - project name used to identify the project

Returns:

URL to the project rad file

Exceptions:

RadFileNotFoundException - on error accessing the rad file

29.3.3 Method merge()

```
public java.lang.String[]
merge(
    java.lang.String user_name,
    java.lang.String project_name,
    java.lang.String rad_file_contents,
    java.lang.String model_prefix,
    boolean rename_materials_flag
)
```

Merges the provided rad file into the current project master rad file, which is identified by user_name and project_name. If the project master rad file does not yet exist, it is created with the provided contents. Note that as of this writing, the merger implementation will convert all material names to UPPERCASE! These case conversions will not be reported in the returned array of name changes.

This method is to be called by model servers and clients after creating a rad file.

Parameters:

- user_name - user name used to identify the project
- project_name - project name used to identify the project
- rad_file_contents - contents of the rad file to merge into the project rad file
- model_prefix - the prefix representing the model that created the rad file to be merged. The material names in the rad file must begin with the same prefix. In order to avoid material namespace conflicts, this prefix should be chosen to be unique to the model. For example, for a material named "mat" and model "mod", the model_prefix could be "mod" and the material name used in the rad file would be "mod-mat". An exception will be generated if the material name(s) in the rad file do not begin with model_prefix.
- rename_materials_flag - true if the materials in the rad file are to be renamed, false otherwise

Returns:

an array of material name changes in the sequence old-name, new-name, old-name, new-name, etc. – one pair for each material in the original rad file that had its name changed. If the length of the returned array is zero, then no names were changed.

Exceptions:

RadFileException - on error processing the rad files

29.4 Class _RadFileMergerImplBase

```
mil.dtra.hpac.server.radfile
public abstract _RadFileMergerImplBase
```

extends ObjectImpl
 implements InvokeHandler, RadFileMerger,

Services merging radfiles into the single rad file for a project.

Methods:

```
public java.lang.String[] _ids()
public org.omg.CORBA.portable.OutputStream _invoke()
```

29.4.1 Constructor _RadFileMergerImplBase()

```
public
_RadFileMergerImplBase()
```

29.4.2 Method _ids()

```
public java.lang.String[]
_ids()
```

29.4.3 Method _invoke()

```
public org.omg.CORBA.portable.OutputStream
_invoke(
  java.lang.String method,
  org.omg.CORBA.portable.InputStream in,
  org.omg.CORBA.portable.ResponseHandler rh
)
```

29.5 Class _RadFileMergerStub

mil.dtra.hpac.server.radfile
 public _RadFileMergerStub
 extends ObjectImpl
 implements RadFileMerger,

Services merging radfiles into the single rad file for a project.

Methods:

```
public java.lang.String[] _ids()
public java.lang.String getRadFileContents()
public java.lang.String getRadFileURL()
public java.lang.String[] merge()
```

29.5.1 Constructor _RadFileMergerStub()

```
public
_RadFileMergerStub()
```

29.5.2 Constructor _RadFileMergerStub()

```
public
_RadFileMergerStub( org.omg.CORBA.portable.Delegate delegate )
```

29.5.3 Method _ids()

```
public java.lang.String[]
_ids()
```

29.5.4 Method getRadFileContents()

```
public java.lang.String
getRadFileContents(
    java.lang.String user_name,
    java.lang.String project_name
)
```

Returns the contents of the rad file managed for the project identified by the `user_name` and `project_name`. This method is to support `ScipuffServer` in obtaining the rad file in order to hand it to `HPACTool` and works if the `RadFileMerger` object is running on a separate machine.

Parameters:

- `user_name` - user name used to identify the project
- `project_name` - project name used to identify the project

Returns:

- contents of the project rad file

Exceptions:

- `RadFileNotFoundException` - on error accessing the rad file

29.5.5 Method getRadFileURL()

```
public java.lang.String
getRadFileURL(
    java.lang.String user_name,
    java.lang.String project_name
)
```

Builds a URL for accessing the rad file managed for the project identified by the user_name and project_name. This method is to support ScipuffServer in obtaining the rad file. The URL could use a protocol such as HTTP if the RadFileMerger server object is running on a machine with a co-resident Web server, or it could be a "file" URL if it has been established a priori that the RadFileMerger lives on the same machine as the ScipuffServer instance.

Parameters:

user_name - user name used to identify the project
 project_name - project name used to identify the project

Returns:

URL to the project rad file

Exceptions:

RadFileNotFoundException - on error accessing the rad file

29.5.6 Method merge()

```
public java.lang.String[]
merge(
    java.lang.String user_name,
    java.lang.String project_name,
    java.lang.String rad_file_contents,
    java.lang.String model_prefix,
    boolean rename_materials_flag
)
```

Merges the provided rad file into the current project master rad file, which is identified by user_name and project_name. If the project master rad file does not yet exist, it is created with the provided contents. Note that as of this writing, the merger implementation will convert all material names to UPPERCASE! These case conversions will not be reported in the returned array of name changes.

This method is to be called by model servers and clients after creating a rad file.

Parameters:

user_name - user name used to identify the project
 project_name - project name used to identify the project
 rad_file_contents - contents of the rad file to merge into the project rad file
 model_prefix - the prefix representing the model that created the rad file to be merged.
 The material names in the rad file must begin with the same prefix. In order to avoid
 material namespace conflicts, this prefix should be chosen to be unique to the model.
 For example, for a material named "mat" and model "mod", the model_prefix could
 be "mod" and the material name used in the rad file would be "mod-mat". An ex-
 ception will be generated if the material name(s) in the rad file do not begin with
 model_prefix.
 rename_materials_flag - true if the materials in the rad file are to be renamed, false
 otherwise

Returns:

an array of material name changes in the sequence old-name, new-name, old-name,
 new-name, etc. – one pair for each material in the original rad file that had its name
 changed. If the length of the returned array is zero, then no names were changed.

Exceptions:

RadFileNotFoundException - on error processing the rad files

29.6 Class RadFileNotFoundExceptionHelper

```

mil.dtra.hpac.server.radfile
public abstract RadFileNotFoundExceptionHelper
extends Object
  
```

mil/dtra/hpac/server/radfile/RadFileNotFoundExceptionHelper.java Generated by the IDL-to-Java com-
 piler (portable), version "3.0" from radfile.idl Friday, February 8, 2002 4:37:29 PM EST

Methods:

```

public static mil.dtra.hpac.server.radfile.RadFileNotFoundException extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.radfile.RadFileNotFoundException read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
  
```

29.6.1 Constructor RadFileNotFoundExceptionHelper()

```

public
RadFileNotFoundExceptionHelper()
  
```

29.6.2 Method extract()

```
public static mil.dtra.hpac.server.radfile.RadFileException
extract( org.omg.CORBA.Any a )
```

29.6.3 Method id()

```
public static java.lang.String
id()
```

29.6.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.radfile.RadFileException that
)
```

29.6.5 Method read()

```
public static mil.dtra.hpac.server.radfile.RadFileException
read( org.omg.CORBA.portable.InputStream istream )
```

29.6.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

29.6.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.radfile.RadFileException value
)
```

29.7 Class RadFileNotFoundExceptionHolder

```
mil.dtra.hpac.server.radfile
public final RadFileNotFoundExceptionHolder
extends Object
implements Streamable,
```

mil/dtra/hpac/server/radfile/RadFileNotFoundExceptionHolder.java Generated by the IDL-to-Java compiler (portable), version "3.0" from radfile.idl Friday, February 8, 2002 4:37:29 PM EST

Fields:

```
public mil.dtra.hpac.server.radfile.RadFileNotFoundException value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

29.7.1 Field value

```
public mil.dtra.hpac.server.radfile.RadFileNotFoundException value
```

29.7.2 Constructor RadFileNotFoundExceptionHolder()

```
public
RadFileNotFoundExceptionHolder()
```

29.7.3 Constructor RadFileNotFoundExceptionHolder()

```
public
RadFileNotFoundExceptionHolder( mil.dtra.hpac.server.radfile.RadFileNotFoundException initialValue )
```

29.7.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

29.7.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

29.7.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

29.8 Class RadFileMergerHelper

```
mil.dtra.hpac.server.radfile
public abstract RadFileMergerHelper
extends Object
```

Services merging radfiles into the single rad file for a project.

Methods:

```
public static mil.dtra.hpac.server.radfile.RadFileMerger extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.radfile.RadFileMerger narrow()
public static mil.dtra.hpac.server.radfile.RadFileMerger read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

29.8.1 Constructor RadFileMergerHelper()

```
public
RadFileMergerHelper()
```

29.8.2 Method extract()

```
public static mil.dtra.hpac.server.radfile.RadFileMerger
extract( org.omg.CORBA.Any a )
```

29.8.3 Method id()

```
public static java.lang.String
id()
```

29.8.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.radfile.RadFileMerger that
)
```

29.8.5 Method narrow()

```
public static mil.dtra.hpac.server.radfile.RadFileMerger
narrow( org.omg.CORBA.Object obj )
```

29.8.6 Method read()

```
public static mil.dtra.hpac.server.radfile.RadFileMerger
read( org.omg.CORBA.portable.InputStream istream )
```

29.8.7 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

29.8.8 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.radfile.RadFileMerger value
)
```

29.9 Class RadFileMergerHolder

mil.dtra.hpac.server.radfile
public final RadFileMergerHolder
 extends Object
 implements Streamable,

Services merging radfiles into the single rad file for a project.

Fields:

```
public mil.dtra.hpac.server.radfile.RadFileMerger value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

29.9.1 Field value

```
public mil.dtra.hpac.server.radfile.RadFileMerger value
```

29.9.2 Constructor RadFileMergerHolder()

```
public  
RadFileMergerHolder()
```

29.9.3 Constructor RadFileMergerHolder()

```
public  
RadFileMergerHolder( mil.dtra.hpac.server.radfile.RadFileMerger initialValue )
```

29.9.4 Method _read()

```
public void  
_read( org.omg.CORBA.portable.InputStream i )
```

29.9.5 Method _type()

```
public org.omg.CORBA.TypeCode  
_type()
```

29.9.6 Method _write()

```
public void  
_write( org.omg.CORBA.portable.OutputStream o )
```

29.10 Class StringListHelper

mil.dtra.hpac.server.radfile
public abstract **StringListHelper**
extends Object

mil/dtra/hpac/server/radfile/StringListHelper.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from radfile.idl Friday, February 8, 2002 4:37:29 PM EST

Methods:

```
public static java.lang.String[] extract()
public static java.lang.String id()
public static void insert()
public static java.lang.String[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

29.10.1 Constructor StringListHelper()

```
public
StringListHelper()
```

29.10.2 Method extract()

```
public static java.lang.String[]
extract( org.omg.CORBA.Any a )
```

29.10.3 Method id()

```
public static java.lang.String
id()
```

29.10.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    java.lang.String[] that
)
```

29.10.5 Method read()

```
public static java.lang.String[]
read( org.omg.CORBA.portable.InputStream istream )
```

29.10.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

29.10.7 Method write()

```
public static void
write(  
    org.omg.CORBA.portable.OutputStream ostream,  
    java.lang.String[] value  
)
```

29.11 Class StringListHolder

```
mil.dtra.hpac.server.radfile
public final StringListHolder
extends Object
implements Streamable,
```

mil/dtra/hpac/server/radfile/StringListHolder.java Generated by the IDL-to-Java compiler (portable), version "3.0" from radfile.idl Friday, February 8, 2002 4:37:29 PM EST

Fields:

```
public java.lang.String[] value
```

Methods:

```
public void _read()  
public org.omg.CORBA.TypeCode _type()  
public void _write()
```

29.11.1 Field value

```
public java.lang.String[] value
```

29.11.2 Constructor StringListHolder()

```
public
StringListHolder()
```

29.11.3 Constructor StringListHolder()

```
public
StringListHolder( java.lang.String[] initialValue )
```

29.11.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

29.11.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

29.11.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

29.12 Exception `RadFileException`

```
mil.dtra.hpac.server.radfile
public final RadFileException
extends UserException
implements IDLEntity,
```

mil/dtra/hpac/server/radfile/RadFileException.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from radfile.idl Friday, February 8, 2002 4:37:29 PM EST

Fields:

```
public java.lang.String fMessage
```

29.12.1 Field `fMessage`

```
public java.lang.String fMessage
```

29.12.2 Constructor `RadFileException()`

```
public
RadFileException()
```

29.12.3 Constructor `RadFileException()`

```
public
RadFileException( java.lang.String _fMessage )
```

29.13 Exception RadFileNotFoundException

```
mil.dtra.hpac.server.radfile
public final RadFileNotFoundException
extends UserException
implements IDLEntity,
```

mil/dtra/hpac/server/radfile/RadFileNotFoundException.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from radfile.idl Friday, February 8, 2002 4:37:29 PM EST

Fields:

```
public java.lang.String fMessage
```

29.13.1 Field fMessage

```
public java.lang.String fMessage
```

29.13.2 Constructor RadFileNotFoundException()

```
public
RadFileNotFoundException()
```

29.13.3 Constructor RadFileNotFoundException()

```
public
RadFileNotFoundException( java.lang.String fMessage )
```

CHAPTER 30

Package mil.dtra.hpac.server.release

Contains classes and interfaces generated from `release.idl` with `idlj`.

Interfaces:

HD_LOGNORM
HR_CONTINUOUS
HR_FILE
HR_INSTANTANEOUS
HR_MOVING
HR_POOL
HR_STACK
RELEASE_STATUS_LENGTH
RS_CUSTOM
RS_EMPTY
RS_INVALID
RS_NOT_CUSTOMIZABLE
RS_VALID
RSI_CONT_BUOYANCY
RSI_CONT_DISTRIBUTION
RSI_CONT_DRY_MASS_FRACTION
RSI_CONT_DURATION
RSI_CONT_MASS_RATE
RSI_CONT_MASS_SIGMA
RSI_CONT_MMD
RSI_CONT_MOMENTUM
RSI_CONT_SIGY
RSI_CONT_SIGZ
RSI_CONT_STATUS_COUNT
RSI_FILE_RANDOM_COUNT
RSI_FILE_RANDOM_SEED
RSI_FILE_RANDOM_SPREAD
RSI_FILE_STATUS_COUNT
RSI_HORZ_SIZE
RSI_HORZ_UNCERTAINTY
RSI_INST_BUOYANCY

RSI_INST_DISTRIBUTION
RSI_INST_DRY_MASS_FRACTION
RSI_INST_MASS
RSI_INST_MASS_SIGMA
RSI_INST_MMD
RSI_INST_MOMENTUM
RSI_INST_RANDOM_COUNT
RSI_INST_RANDOM_SEED
RSI_INST_RANDOM_SPREAD
RSI_INST_SIGX
RSI_INST_SIGY
RSI_INST_SIGZ
RSI_INST_STATUS_COUNT
RSI_LOCATION
RSI_MATERIAL
RSI_MOVING_BUOYANCY
RSI_MOVING_DISTRIBUTION
RSI_MOVING_DRY_MASS_FRACTION
RSI_MOVING_DURATION
RSI_MOVING_MASS_RATE
RSI_MOVING_MASS_SIGMA
RSI_MOVING_MMD
RSI_MOVING_MOMENTUM
RSI_MOVING_SIGY
RSI_MOVING_SIGZ
RSI_MOVING_STATUS_COUNT
RSI_MOVING_VELX
RSI_MOVING_VELY
RSI_MOVING_VELZ
RSI_POOL_MASS
RSI_POOL_SIZEX
RSI_POOL_SIZEY
RSI_POOL_STATUS_COUNT
RSI_PUFF_DURATION
RSI_RELEASE_STATUS
RSI_STACK_DIAMETER
RSI_STACK_DISTRIBUTION
RSI_STACK_DURATION
RSI_STACK_EXITTEMP
RSI_STACK_EXITVEL
RSI_STACK_MASS_RATE
RSI_STACK_MASS_SIGMA
RSI_STACK_MMD
RSI_STACK_STATUS_COUNT
RSI_START_TIME
RSI_STATUS_COUNT
RSI_VERT_SIZE

RSI_VERT_UNCERTAINTY

Classes:

ContinuousReleaseT
 ContinuousReleaseTHelper
 ContinuousReleaseTHolder
 FileReferenceTHelper
 FileReleaseT
 FileReleaseTHelper
 FileReleaseTHolder
 InstantaneousReleaseT
 InstantaneousReleaseTHelper
 InstantaneousReleaseTHolder
 MaterialTHelper
 MovingReleaseT
 MovingReleaseTHelper
 MovingReleaseTHolder
 PoolReleaseT
 PoolReleaseTHelper
 PoolReleaseTHolder
 ReleaseDataT
 ReleaseDataTHelper
 ReleaseDataTHolder
 ReleaseListTHelper
 ReleaseListTHolder
 ReleaseT
 ReleaseTHelper
 ReleaseTHolder
 StackReleaseT
 StackReleaseTHelper
 StackReleaseTHolder
 TimeTHelper

30.1 Interface HD_LOGNORM

```

mil.dtra.hpac.server.release
public interface HD_LOGNORM
extends IDLEntity,

```

mil/dtra/hpac/server/release/HD_LOGNORM.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

```
public static final int value
```

30.1.1 Field value

public static final int **value**

Type value for a Release distribution constant

30.2 Interface HR_CONTINUOUS

mil.dtra.hpac.server.release
public interface **HR_CONTINUOUS**
extends IDLEntity,

mil/dtra/hpac/server/release/HR_CONTINUOUS.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.2.1 Field value

public static final int **value**

Type value for a Continuous release

30.3 Interface HR_FILE

mil.dtra.hpac.server.release
public interface **HR_FILE**
extends IDLEntity,

mil/dtra/hpac/server/release/HR_FILE.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.3.1 Field value

public static final int **value**

Type value for a File release

30.4 Interface HR_INSTANTANEOUS

mil.dtra.hpac.server.release
 public interface **HR_INSTANTANEOUS**
 extends IDLEntity,

mil/dtra/hpac/server/release/HR_INSTANTANEOUS.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.4.1 Field value

public static final int **value**

Type value for an Instantaneous release

30.5 Interface HR_MOVING

mil.dtra.hpac.server.release
 public interface **HR_MOVING**
 extends IDLEntity,

mil/dtra/hpac/server/release/HR_MOVING.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.5.1 Field value

public static final int **value**

Type value for a Moving release

30.6 Interface HR_POOL

mil.dtra.hpac.server.release
 public interface **HR_POOL**
 extends IDLEntity,

mil/dtra/hpac/server/release/HR_POOL.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.6.1 Field value

public static final int **value**

Type value for a Pool release

30.7 Interface HR_STACK

mil.dtra.hpac.server.release
public interface **HR_STACK**
extends IDLEntity,

mil/dtra/hpac/server/release/HR_STACK.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.7.1 Field value

public static final int **value**

Type value for a Stack release

30.8 Interface RELEASE_STATUS_LENGTH

mil.dtra.hpac.server.release
public interface **RELEASE_STATUS_LENGTH**
extends IDLEntity,

mil/dtra/hpac/server/release/RELEASE_STATUS_LENGTH.java Generated by the IDL-to-Java
compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.8.1 Field value

public static final int **value**

Maximum size of a status array (not used)

30.9 Interface RS_CUSTOM

mil.dtra.hpac.server.release
 public interface **RS_CUSTOM**
 extends IDLEntity,

mil/dtra/hpac/server/release/RS_CUSTOM.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.9.1 Field value

public static final int **value**

Customized release status bit mask

30.10 Interface RS_EMPTY

mil.dtra.hpac.server.release
 public interface **RS_EMPTY**
 extends IDLEntity,

mil/dtra/hpac/server/release/RS_EMPTY.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.10.1 Field value

public static final int **value**

Empty release status bit mask

30.11 Interface RS_INVALID

mil.dtra.hpac.server.release
 public interface **RS_INVALID**
 extends IDLEntity,

mil/dtra/hpac/server/release/RS_INVALID.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.11.1 Field value

public static final int **value**

Invalid release status value

30.12 Interface RS_NOT_CUSTOMIZABLE

mil.dtra.hpac.server.release

public interface **RS_NOT_CUSTOMIZABLE**

extends IDLEntity,

mil/dtra/hpac/server/release/RS_NOT_CUSTOMIZABLE.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.12.1 Field value

public static final int **value**

Not customizable release status bit mask

30.13 Interface RS_VALID

mil.dtra.hpac.server.release

public interface **RS_VALID**

extends IDLEntity,

mil/dtra/hpac/server/release/RS_VALID.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.13.1 Field value

public static final int **value**

Valid release status bit mask

30.14 Interface RSI_CONT_BUOYANCY

mil.dtra.hpac.server.release
 public interface **RSI_CONT_BUOYANCY**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_CONT_BUOYANCY.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.14.1 Field value

public static final int **value**

buoyancy status array index for a Continuous release

30.15 Interface RSI_CONT_DISTRIBUTION

mil.dtra.hpac.server.release
 public interface **RSI_CONT_DISTRIBUTION**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_CONT_DISTRIBUTION.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.15.1 Field value

public static final int **value**

distribution status array index for a Continuous release

30.16 Interface RSI_CONT_DRY_MASS_FRACTION

mil.dtra.hpac.server.release
 public interface **RSI_CONT_DRY_MASS_FRACTION**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_CONT_DRY_MASS_FRACTION.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.16.1 Field value

public static final int **value**

dryMassFraction status array index for a Continuous release

30.17 Interface RSI_CONT_DURATION

mil.dtra.hpac.server.release
 public interface **RSI_CONT_DURATION**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_CONT_DURATION.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.17.1 Field value

public static final int **value**

duration status array index for a Continuous release

30.18 Interface RSI_CONT_MASS_RATE

mil.dtra.hpac.server.release
 public interface **RSI_CONT_MASS_RATE**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_CONT_MASS_RATE.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.18.1 Field value

public static final int **value**

massRate status array index for a Continuous release

30.19 Interface RSI_CONT_MASS_SIGMA

mil.dtra.hpac.server.release
 public interface **RSI_CONT_MASS_SIGMA**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_CONT_MASS_SIGMA.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.19.1 Field value

public static final int **value**

massSigma status array index for a Continuous release

30.20 Interface RSI_CONT_MMD

mil.dtra.hpac.server.release
 public interface **RSI_CONT_MMD**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_CONT_MMD.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.20.1 Field value

public static final int **value**

MMD status array index for a Continuous release

30.21 Interface RSI_CONT_MOMENTUM

mil.dtra.hpac.server.release
 public interface **RSI_CONT_MOMENTUM**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_CONT_MOMENTUM.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.21.1 Field value

public static final int **value**

momentum status array index for a Continuous release

30.22 Interface RSI_CONT_SIGY

mil.dtra.hpac.server.release
 public interface **RSI_CONT_SIGY**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_CONT_SIGY.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.22.1 Field value

public static final int **value**

sigmaY status array index for a Continuous release

30.23 Interface RSI_CONT_SIGZ

mil.dtra.hpac.server.release
 public interface **RSI_CONT_SIGZ**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_CONT_SIGZ.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.23.1 Field value

public static final int **value**

sigmaZ status array index for a Continuous release

30.24 Interface RSI_CONT_STATUS_COUNT

mil.dtra.hpac.server.release
 public interface **RSI_CONT_STATUS_COUNT**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_CONT_STATUS_COUNT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.24.1 Field value

public static final int **value**

Total number of status array values for a Continuous release

30.25 Interface RSI_FILE_RANDOM_COUNT

mil.dtra.hpac.server.release
 public interface **RSI_FILE_RANDOM_COUNT**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_FILE_RANDOM_COUNT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.25.1 Field value

public static final int **value**

randomCount status array index for a File release

30.26 Interface RSI_FILE_RANDOM_SEED

mil.dtra.hpac.server.release
 public interface **RSI_FILE_RANDOM_SEED**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_FILE_RANDOM_SEED.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.26.1 Field value

public static final int **value**

randomSeed status array index for a File release

30.27 Interface RSI_FILE_RANDOM_SPREAD

mil.dtra.hpac.server.release

public interface **RSI_FILE_RANDOM_SPREAD**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_FILE_RANDOM_SPREAD.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.27.1 Field value

public static final int **value**

randomSpread status array index for a File release

30.28 Interface RSI_FILE_STATUS_COUNT

mil.dtra.hpac.server.release

public interface **RSI_FILE_STATUS_COUNT**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_FILE_STATUS_COUNT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.28.1 Field value

public static final int **value**

Total number of status array values for a File release

30.29 Interface RSI_HORZ_SIZE

mil.dtra.hpac.server.release
 public interface **RSI_HORZ_SIZE**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_HORZ_SIZE.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.29.1 Field value

public static final int **value**

horzSize status array index for any release

30.30 Interface RSI_HORZ_UNCERTAINTY

mil.dtra.hpac.server.release
 public interface **RSI_HORZ_UNCERTAINTY**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_HORZ_UNCERTAINTY.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.30.1 Field value

public static final int **value**

horzUncertainty status array index for any release

30.31 Interface RSI_INST_BUOYANCY

mil.dtra.hpac.server.release
 public interface **RSI_INST_BUOYANCY**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_BUOYANCY.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.31.1 Field value

public static final int **value**

buoyancy status array index for an Instantaneous release

30.32 Interface RSI_INST_DISTRIBUTION

mil.dtra.hpac.server.release

public interface **RSI_INST_DISTRIBUTION**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_DISTRIBUTION.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.32.1 Field value

public static final int **value**

distribution status array index for an Instantaneous release

30.33 Interface RSI_INST_DRY_MASS_FRACTION

mil.dtra.hpac.server.release

public interface **RSI_INST_DRY_MASS_FRACTION**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_DRY_MASS_FRACTION.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.33.1 Field value

public static final int **value**

dryMassFraction status array index for an Instantaneous release

30.34 Interface RSI_INST_MASS

mil.dtra.hpac.server.release
 public interface **RSI_INST_MASS**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_MASS.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.34.1 Field value

public static final int **value**

mass status array index for an Instantaneous release

30.35 Interface RSI_INST_MASS_SIGMA

mil.dtra.hpac.server.release
 public interface **RSI_INST_MASS_SIGMA**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_MASS_SIGMA.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.35.1 Field value

public static final int **value**

massSigma status array index for an Instantaneous release

30.36 Interface RSI_INST_MMD

mil.dtra.hpac.server.release
 public interface **RSI_INST_MMD**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_MMD.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.36.1 Field value

public static final int **value**

MMD status array index for an Instantaneous release

30.37 Interface RSI_INST_MOMENTUM

mil.dtra.hpac.server.release

public interface **RSI_INST_MOMENTUM**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_MOMENTUM.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.37.1 Field value

public static final int **value**

momentum status array index for an Instantaneous release

30.38 Interface RSI_INST_RANDOM_COUNT

mil.dtra.hpac.server.release

public interface **RSI_INST_RANDOM_COUNT**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_RANDOM_COUNT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.38.1 Field value

public static final int **value**

randomCount status array index for an Instantaneous release

30.39 Interface RSI_INST_RANDOM_SEED

mil.dtra.hpac.server.release
 public interface **RSI_INST_RANDOM_SEED**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_RANDOM_SEED.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.39.1 Field value

public static final int **value**

randomSeed status array index for an Instantaneous release

30.40 Interface RSI_INST_RANDOM_SPREAD

mil.dtra.hpac.server.release
 public interface **RSI_INST_RANDOM_SPREAD**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_RANDOM_SPREAD.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.40.1 Field value

public static final int **value**

randomSpread status array index for an Instantaneous release

30.41 Interface RSI_INST_SIGX

mil.dtra.hpac.server.release
 public interface **RSI_INST_SIGX**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_SIGX.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.41.1 Field value

public static final int **value**

sigmaX status array index for an Instantaneous release

30.42 Interface RSI_INST_SIGY

mil.dtra.hpac.server.release

public interface **RSI_INST_SIGY**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_SIGY.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.42.1 Field value

public static final int **value**

sigmaY status array index for an Instantaneous release

30.43 Interface RSI_INST_SIGZ

mil.dtra.hpac.server.release

public interface **RSI_INST_SIGZ**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_INST_SIGZ.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.43.1 Field value

public static final int **value**

sigmaZ status array index for an Instantaneous release

30.44 Interface RSI_INST_STATUS_COUNT

```
mil.dtra.hpac.server.release
public interface RSI_INST_STATUS_COUNT
extends IDLEntity,
```

mil/dtra/hpac/server/release/RSI_INST_STATUS_COUNT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

```
    public static final int value
```

30.44.1 Field value

public static final int value

Total number of status array values for an Instantaneous release

30.45 Interface RSI_LOCATION

```
mil.dtra.hpac.server.release
public interface RSI_LOCATION
extends IDLEntity,
```

mil/dtra/hpac/server/release/RSI_LOCATION.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

```
    public static final int value
```

30.45.1 Field value

public static final int value

location status array index for any release

30.46 Interface RSI_MATERIAL

```
mil.dtra.hpac.server.release
public interface RSI_MATERIAL
extends IDLEntity,
```

mil/dtra/hpac/server/release/RSI_MATERIAL.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

```
    public static final int value
```

30.46.1 Field value

public static final int **value**

material status array index for any release

30.47 Interface RSI_MOVING_BUOYANCY

mil.dtra.hpac.server.release

public interface **RSI_MOVING_BUOYANCY**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_MOVING_BUOYANCY.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.47.1 Field value

public static final int **value**

buoyancy status array index for a Moving release

30.48 Interface RSI_MOVING_DISTRIBUTION

mil.dtra.hpac.server.release

public interface **RSI_MOVING_DISTRIBUTION**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_MOVING_DISTRIBUTION.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.48.1 Field value

public static final int **value**

distribution status array index for a Moving release

30.49 Interface RSI_MOVING_DRY_MASS_FRACTION

mil.dtra.hpac.server.release
 public interface **RSI_MOVING_DRY_MASS_FRACTION**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_MOVING_DRY_MASS_FRACTION.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.49.1 Field value

public static final int **value**

dryMassFraction status array index for a Moving release

30.50 Interface RSI_MOVING_DURATION

mil.dtra.hpac.server.release
 public interface **RSI_MOVING_DURATION**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_MOVING_DURATION.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.50.1 Field value

public static final int **value**

duration status array index for a Moving release

30.51 Interface RSI_MOVING_MASS_RATE

mil.dtra.hpac.server.release
 public interface **RSI_MOVING_MASS_RATE**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_MOVING_MASS_RATE.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.51.1 Field value

public static final int **value**

massRate status array index for a Moving release

30.52 Interface RSI_MOVING_MASS_SIGMA

mil.dtra.hpac.server.release
 public interface **RSI_MOVING_MASS_SIGMA**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_MOVING_MASS_SIGMA.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.52.1 Field value

public static final int **value**

massSigma status array index for a Moving release

30.53 Interface RSI_MOVING_MMD

mil.dtra.hpac.server.release
 public interface **RSI_MOVING_MMD**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_MOVING_MMD.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.53.1 Field value

public static final int **value**

MMD status array index for a Moving release

30.54 Interface RSI_MOVING_MOMENTUM

```
mil.dtra.hpac.server.release
public interface RSI_MOVING_MOMENTUM
extends IDLEntity,
```

mil/dtra/hpac/server/release/RSI_MOVING_MOMENTUM.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

```
    public static final int value
```

30.54.1 Field value

public static final int **value**

momentum status array index for a Moving release

30.55 Interface RSI_MOVING_SIGY

```
mil.dtra.hpac.server.release
public interface RSI_MOVING_SIGY
extends IDLEntity,
```

mil/dtra/hpac/server/release/RSI_MOVING_SIGY.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

```
    public static final int value
```

30.55.1 Field value

public static final int **value**

sigmaY status array index for a Moving release

30.56 Interface RSI_MOVING_SIGZ

```
mil.dtra.hpac.server.release
public interface RSI_MOVING_SIGZ
extends IDLEntity,
```

mil/dtra/hpac/server/release/RSI_MOVING_SIGZ.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

```
    public static final int value
```

30.56.1 Field value

public static final int **value**

sigmaz status array index for a Moving release

30.57 Interface RSI_MOVING_STATUS_COUNT

mil.dtra.hpac.server.release

public interface **RSI_MOVING_STATUS_COUNT**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_MOVING_STATUS_COUNT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.57.1 Field value

public static final int **value**

Total number of status array values for a Moving release

30.58 Interface RSI_MOVING_VELX

mil.dtra.hpac.server.release

public interface **RSI_MOVING_VELX**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_MOVING_VELX.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.58.1 Field value

public static final int **value**

velocityX status array index for a Moving release

30.59 Interface RSI_MOVING_VELY

mil.dtra.hpac.server.release
 public interface **RSI_MOVING_VELY**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_MOVING_VELY.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.59.1 Field value

public static final int **value**

velocityY status array index for a Moving release

30.60 Interface RSI_MOVING_VELZ

mil.dtra.hpac.server.release
 public interface **RSI_MOVING_VELZ**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_MOVING_VELZ.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.60.1 Field value

public static final int **value**

velocityZ status array index for a Moving release

30.61 Interface RSI_POOL_MASS

mil.dtra.hpac.server.release
 public interface **RSI_POOL_MASS**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_POOL_MASS.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.61.1 Field value

public static final int **value**

mass status array index for a Pool release

30.62 Interface RSI_POOL_SIZEX

mil.dtra.hpac.server.release
public interface **RSI_POOL_SIZEX**
extends IDLEntity,

mil/dtra/hpac/server/release/RSI_POOL_SIZEX.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.62.1 Field value

public static final int **value**

sizeX status array index for a Pool release

30.63 Interface RSI_POOL_SIZEY

mil.dtra.hpac.server.release
public interface **RSI_POOL_SIZEY**
extends IDLEntity,

mil/dtra/hpac/server/release/RSI_POOL_SIZEY.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.63.1 Field value

public static final int **value**

sizey status array index for a Pool release

30.64 Interface RSI_POOL_STATUS_COUNT

```
mil.dtra.hpac.server.release
public interface RSI_POOL_STATUS_COUNT
extends IDLEntity,
```

mil/dtra/hpac/server/release/RSI_POOL_STATUS_COUNT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

```
    public static final int value
```

30.64.1 Field value

```
public static final int value
```

Total number of status array values for a Pool release

30.65 Interface RSI_PUFF_DURATION

```
mil.dtra.hpac.server.release
public interface RSI_PUFF_DURATION
extends IDLEntity,
```

mil/dtra/hpac/server/release/RSI_PUFF_DURATION.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

```
    public static final int value
```

30.65.1 Field value

```
public static final int value
```

puffDuration status array index for any release

30.66 Interface RSI_RELEASE_STATUS

```
mil.dtra.hpac.server.release
public interface RSI_RELEASE_STATUS
extends IDLEntity,
```

mil/dtra/hpac/server/release/RSI_RELEASE_STATUS.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

```
    public static final int value
```

30.66.1 Field value

public static final int **value**

release status array index (status of the entire release)

30.67 Interface RSI_STACK_DIAMETER

mil.dtra.hpac.server.release

public interface **RSI_STACK_DIAMETER**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_STACK_DIAMETER.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.67.1 Field value

public static final int **value**

diameter status array index for a Stack release

30.68 Interface RSI_STACK_DISTRIBUTION

mil.dtra.hpac.server.release

public interface **RSI_STACK_DISTRIBUTION**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_STACK_DISTRIBUTION.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.68.1 Field value

public static final int **value**

distribution status array index for a Stack release

30.69 Interface RSI_STACK_DURATION

mil.dtra.hpac.server.release
 public interface **RSI_STACK_DURATION**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_STACK_DURATION.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.69.1 Field value

public static final int **value**

duration status array index for a Stack release

30.70 Interface RSI_STACK_EXITTEMP

mil.dtra.hpac.server.release
 public interface **RSI_STACK_EXITTEMP**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_STACK_EXITTEMP.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.70.1 Field value

public static final int **value**

exitTemperature status array index for a Stack release

30.71 Interface RSI_STACK_EXITVEL

mil.dtra.hpac.server.release
 public interface **RSI_STACK_EXITVEL**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_STACK_EXITVEL.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.71.1 Field value

public static final int **value**

exitVelocity status array index for a Stack release

30.72 Interface RSI_STACK_MASS_RATE

mil.dtra.hpac.server.release

public interface **RSI_STACK_MASS_RATE**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_STACK_MASS_RATE.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.72.1 Field value

public static final int **value**

massRate status array index for a Stack release

30.73 Interface RSI_STACK_MASS_SIGMA

mil.dtra.hpac.server.release

public interface **RSI_STACK_MASS_SIGMA**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_STACK_MASS_SIGMA.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.73.1 Field value

public static final int **value**

massSigma status array index for a Stack release

30.74 Interface RSI_STACK_MMD

mil.dtra.hpac.server.release
 public interface **RSI_STACK_MMD**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_STACK_MMD.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.74.1 Field value

public static final int **value**

MMD status array index for a Stack release

30.75 Interface RSI_STACK_STATUS_COUNT

mil.dtra.hpac.server.release
 public interface **RSI_STACK_STATUS_COUNT**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_STACK_STATUS_COUNT.java Generated by the IDL-to-Java
 compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.75.1 Field value

public static final int **value**

Total number of status array values for a Stack release

30.76 Interface RSI_START_TIME

mil.dtra.hpac.server.release
 public interface **RSI_START_TIME**
 extends IDLEntity,

mil/dtra/hpac/server/release/RSI_START_TIME.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.76.1 Field value

public static final int **value**

startTime status array index for any release

30.77 Interface RSI_STATUS_COUNT

mil.dtra.hpac.server.release

public interface **RSI_STATUS_COUNT**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_STATUS_COUNT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.77.1 Field value

public static final int **value**

Number of status array values common to all release types

30.78 Interface RSI_VERT_SIZE

mil.dtra.hpac.server.release

public interface **RSI_VERT_SIZE**

extends IDLEntity,

mil/dtra/hpac/server/release/RSI_VERT_SIZE.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

public static final int **value**

30.78.1 Field value

public static final int **value**

vertSize status array index for any release

30.79 Interface RSI_VERT_UNCERTAINTY

```
mil.dtra.hpac.server.release
public interface RSI_VERT_UNCERTAINTY
extends IDLEntity,
```

mil/dtra/hpac/server/release/RSI_VERT_UNCERTAINTY.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Fields:

```
public static final int value
```

30.79.1 Field value

```
public static final int value
```

vertUncertainty status array index for any release

30.80 Class ContinuousReleaseT

```
mil.dtra.hpac.server.release
public final ContinuousReleaseT
extends Object
implements IDLEntity,
```

Encapsulation of properties specific to continuous releases

Fields:

```
public float fBuoyancy
public int fDistribution
public float fDryMassFraction
public float fDuration
public float fMassMeanDiameter
public float fMassRate
public float fMassSigma
public float fMomentum
public float fSigmaY
public float fSigmaZ
```

30.80.1 Field fBuoyancy

```
public float fBuoyancy
```

Buoyance value in C-m3/sec

30.80.2 Field fDistribution

public int fDistribution

Distribution of release mass across the available material particle or droplet bin sizes. A value of 0 means all mass is released as the vapor phase and is valid for liquid materials only. A value of HD_LOGNORM selects a lognormal distribution across all bins defined by the massMeanDiameter and massSigma. A value > 0 selects the bin with that index.

30.80.3 Field fDryMassFraction

public float fDryMassFraction

Mass fraction of dry agent in wet particle (slurry) releases.

30.80.4 Field fDuration

public float fDuration

Length of time for the release in hrs

30.80.5 Field fMassMeanDiameter

public float fMassMeanDiameter

Mass mean diameter of the particle or liquid (in m), used if the distribution is HD_LOGNORM

30.80.6 Field fMassRate

public float fMassRate

Mass release rate in mass units/sec, where the mass units are taken from the material

30.80.7 Field fMassSigma

public float fMassSigma

Standard deviation of the particle or liquid droplet distribution, used if the distribution is HD_LOGNORM

30.80.8 Field fMomentum

public float fMomentum

Momentum of the affluent in m⁴/s². Applies only if the release is of a gas material or the vapor phase of a liquid material, and used only if the project flags include HF_DYNAMIC

30.80.9 Field fSigmaY

public float fSigmaY

Lateral Gaussian spread of the release source in m

30.80.10 Field fSigmaZ

```
public float fSigmaZ
```

Vertical Gaussian spread of the release source in m

30.80.11 Constructor ContinuousReleaseT()

```
public  
ContinuousReleaseT()
```

30.80.12 Constructor ContinuousReleaseT()

```
public  
ContinuousReleaseT(  
    float _fBuoyancy,  
    int _fDistribution,  
    float _fDryMassFraction,  
    float _fDuration,  
    float _fMassMeanDiameter,  
    float _fMassRate,  
    float _fMassSigma,  
    float _fMomentum,  
    float _fSigmaY,  
    float _fSigmaZ  
)
```

30.81 Class ContinuousReleaseTHelper

```
mil.dtra.hpac.server.release  
public abstract ContinuousReleaseTHelper  
extends Object
```

Encapsulation of properties specific to continuous releases

Methods:

```
public static mil.dtra.hpac.server.release.ContinuousReleaseT extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.release.ContinuousReleaseT read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

30.81.1 Constructor ContinuousReleaseTHelper()

```
public
ContinuousReleaseTHelper()
```

30.81.2 Method extract()

```
public static mil.dtra.hpac.server.release.ContinuousReleaseT
extract( org.omg.CORBA.Any a )
```

30.81.3 Method id()

```
public static java.lang.String
id()
```

30.81.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.release.ContinuousReleaseT that
)
```

30.81.5 Method read()

```
public static mil.dtra.hpac.server.release.ContinuousReleaseT
read( org.omg.CORBA.portable.InputStream istream )
```

30.81.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

30.81.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.release.ContinuousReleaseT value
)
```

30.82 Class ContinuousReleaseTHolder

```
mil.dtra.hpac.server.release
public final ContinuousReleaseTHolder
extends Object
implements Streamable,
```

Encapsulation of properties specific to continuous releases

Fields:

```
public mil.dtra.hpac.server.release.ContinuousReleaseT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

30.82.1 Field value

```
public mil.dtra.hpac.server.release.ContinuousReleaseT value
```

30.82.2 Constructor ContinuousReleaseTHolder()

```
public
ContinuousReleaseTHolder()
```

30.82.3 Constructor ContinuousReleaseTHolder()

```
public
ContinuousReleaseTHolder( mil.dtra.hpac.server.release.ContinuousReleaseT initialValue )
```

30.82.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

30.82.5 Method _type()

```
public org.omg.CORBA.TypeCode
._type()
```

30.82.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

30.83 Class FileReferenceTHelper

```
mil.dtra.hpac.server.release
public abstract FileReferenceTHelper
extends Object
```

mil/dtra/hpac/server/release/FileReferenceTHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from release.idl Friday, February 8, 2002 4:37:44 PM EST

Methods:

```
public static mil.dtra.hpac.server.files.FileReferenceT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.files.FileReferenceT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

30.83.1 Constructor FileReferenceTHelper()

```
public
FileReferenceTHelper()
```

30.83.2 Method `extract()`

```
public static mil.dtra.hpac.server.files.FileReferenceT
extract( org.omg.CORBA.Any a )
```

30.83.3 Method `id()`

```
public static java.lang.String
id()
```

30.83.4 Method `insert()`

```
public static void
insert()
```

```
org.omg.CORBA.Any a,
mil.dtra.hpac.server.files.FileReferenceT that
)
```

30.83.5 Method **read()**

```
public static mil.dtra.hpac.server.files.FileReferenceT
read( org.omg.CORBA.portable.InputStream istream )
```

30.83.6 Method **type()**

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

30.83.7 Method **write()**

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.files.FileReferenceT value
)
```

30.84 Class **FileReleaseT**

```
mil.dtra.hpac.server.release
public final FileReleaseT
extends Object
implements IDLEntity,
```

Encapsulation of properties specific to file releases

Fields:

```
public mil.dtra.hpac.server.files.FileReferenceT fFile
public int fRandomCount
public int fRandomSeed
public float fRandomSpread
```

30.84.1 Field **fFile**

```
public mil.dtra.hpac.server.files.FileReferenceT fFile
```

30.84.2 Field fRandomCount

```
public int fRandomCount
```

30.84.3 Field fRandomSeed

```
public int fRandomSeed
```

30.84.4 Field fRandomSpread

```
public float fRandomSpread
```

30.84.5 Constructor FileReleaseT()

```
public  
FileReleaseT()
```

30.84.6 Constructor FileReleaseT()

```
public  
FileReleaseT(  
    int _fRandomCount,  
    int _fRandomSeed,  
    float _fRandomSpread,  
    mil.dtra.hpac.server.files.FileReferenceT _fFile  
)
```

30.85 Class FileReleaseTHelper

```
mil.dtra.hpac.server.release  
public abstract FileReleaseTHelper  
extends Object
```

Encapsulation of properties specific to file releases

Methods:

```
public static mil.dtra.hpac.server.release.FileReleaseT extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.release.FileReleaseT read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

30.85.1 Constructor FileReleaseTHelper()

```
public
FileReleaseTHelper()
```

30.85.2 Method extract()

```
public static mil.dtra.hpac.server.release.FileReleaseT
extract( org.omg.CORBA.Any a )
```

30.85.3 Method id()

```
public static java.lang.String
id()
```

30.85.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.release.FileReleaseT that
)
```

30.85.5 Method read()

```
public static mil.dtra.hpac.server.release.FileReleaseT
read( org.omg.CORBA.portable.InputStream istream )
```

30.85.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

30.85.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.release.FileReleaseT value
)
```

30.86 Class FileReleaseTHolder

```
mil.dtra.hpac.server.release
public final FileReleaseTHolder
extends Object
implements Streamable,
```

Encapsulation of properties specific to file releases

Fields:

```
public mil.dtra.hpac.server.release.FileReleaseT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

30.86.1 Field value

```
public mil.dtra.hpac.server.release.FileReleaseT value
```

30.86.2 Constructor FileReleaseTHolder()

```
public
FileReleaseTHolder()
```

30.86.3 Constructor FileReleaseTHolder()

```
public
FileReleaseTHolder( mil.dtra.hpac.server.release.FileReleaseT initialValue )
```

30.86.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

30.86.5 Method _type()

```
public org.omg.CORBA.TypeCode
._type()
```

30.86.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

30.87 Class InstantaneousReleaseT

```
mil.dtra.hpac.server.release
public final InstantaneousReleaseT
extends Object
implements IDLEntity,
```

Encapsulation of properties specific to instantaneous releases

Fields:

```
public float fBuoyancy
public int fDistribution
public float fDryMassFraction
public float fMass
public float fMassMeanDiameter
public float fMassSigma
public float fMomentum
public int fRandomCount
public int fRandomSeed
public float fRandomSpread
public float fSigmaX
public float fSigmaY
public float fSigmaZ
```

30.87.1 Field `fBuoyancy`

```
public float fBuoyancy
```

30.87.2 Field `fDistribution`

```
public int fDistribution
```

30.87.3 Field `fDryMassFraction`

```
public float fDryMassFraction
```

Mass fraction of dry agent in wet particle (slurry) releases.

30.87.4 Field fMass

public float **fMass**

Total mass in mass units as defined in the material

30.87.5 Field fMassMeanDiameter

public float **fMassMeanDiameter**

30.87.6 Field fMassSigma

public float **fMassSigma**

30.87.7 Field fMomentum

public float **fMomentum**

30.87.8 Field fRandomCount

public int **fRandomCount**

Number of release locations to be randomly generated

30.87.9 Field fRandomSeed

public int **fRandomSeed**

Random generator seed (should be a large, positive, odd integer)

30.87.10 Field fRandomSpread

public float **fRandomSpread**

Radius of the circular region (in m) containing the randomly distributed sources

30.87.11 Field fSigmaX

public float **fSigmaX**

Lateral Gaussian spread (in m) of the release source in the horizontal X direction

30.87.12 Field fSigmaY

public float **fSigmaY**

Lateral Gaussian spread (in m) of the release source in the horizontal Y direction

30.87.13 Field fSigmaZ

```
public float fSigmaZ
```

Vertical Gaussian spread of the release source in m

30.87.14 Constructor InstantaneousReleaseT()

```
public
InstantaneousReleaseT()
```

30.87.15 Constructor InstantaneousReleaseT()

```
public
InstantaneousReleaseT(
    float _fBuoyancy,
    int _fDistribution,
    float _fDryMassFraction,
    float _fMass,
    float _fMassMeanDiameter,
    float _fMassSigma,
    float _fMomentum,
    int _fRandomCount,
    int _fRandomSeed,
    float _fRandomSpread,
    float _fSigmaX,
    float _fSigmaY,
    float _fSigmaZ
)
```

30.88 Class InstantaneousReleaseTHelper

```
mil.dtra.hpac.server.release
public abstract InstantaneousReleaseTHelper
extends Object
```

Encapsulation of properties specific to instantaneous releases

Methods:

```
public static mil.dtra.hpac.server.release.InstantaneousReleaseT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.release.InstantaneousReleaseT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

30.88.1 Constructor InstantaneousReleaseTHelper()

```
public
InstantaneousReleaseTHelper()
```

30.88.2 Method extract()

```
public static mil.dtra.hpac.server.release.InstantaneousReleaseT
extract( org.omg.CORBA.Any a )
```

30.88.3 Method id()

```
public static java.lang.String
id()
```

30.88.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.release.InstantaneousReleaseT that
)
```

30.88.5 Method read()

```
public static mil.dtra.hpac.server.release.InstantaneousReleaseT
read( org.omg.CORBA.portable.InputStream istream )
```

30.88.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

30.88.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.release.InstantaneousReleaseT value
)
```

30.89 Class InstantaneousReleaseTHolder

```
mil.dtra.hpac.server.release
public final InstantaneousReleaseTHolder
extends Object
implements Streamable,
```

Encapsulation of properties specific to instantaneous releases

Fields:

```
public mil.dtra.hpac.server.release.InstantaneousReleaseT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

30.89.1 Field value

```
public mil.dtra.hpac.server.release.InstantaneousReleaseT value
```

30.89.2 Constructor InstantaneousReleaseTHolder()

```
public
InstantaneousReleaseTHolder()
```

30.89.3 Constructor InstantaneousReleaseTHolder()

```
public
InstantaneousReleaseTHolder( mil.dtra.hpac.server.release.InstantaneousReleaseT initialValue
)
```

30.89.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

30.89.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

30.89.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

30.90 Class MaterialTHelper

```
mil.dtra.hpac.server.release
public abstract MaterialTHelper
extends Object
```

mil/dtra/hpac/server/release/MaterialTHelper.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from release.idl Friday, February 8, 2002 4:37:44 PM EST

Methods:

```
public static mil.dtra.hpac.material.server.MaterialT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.material.server.MaterialT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

30.90.1 Constructor MaterialTHelper()

```
public
MaterialTHelper()
```

30.90.2 Method `extract()`

```
public static mil.dtra.hpac.material.server.MaterialT
extract( org.omg.CORBA.Any a )
```

30.90.3 Method `id()`

```
public static java.lang.String
id()
```

30.90.4 Method `insert()`

```
public static void
insert()
```

```
org.omg.CORBA.Any a,
mil.dtra.hpac.material.server.MaterialT that
)
```

30.90.5 Method **read()**

```
public static mil.dtra.hpac.material.server.MaterialT
read( org.omg.CORBA.portable.InputStream istream )
```

30.90.6 Method **type()**

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

30.90.7 Method **write()**

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.material.server.MaterialT value
)
```

30.91 Class MovingReleaseT

`mil.dtra.hpac.server.release`
`public final MovingReleaseT`
`extends Object`
`implements IDLEntity,`

Encapsulation of properties specific to moving releases

Fields:

```
public float fBuoyancy
public int fDistribution
public float fDryMassFraction
public float fDuration
public float fMassMeanDiameter
public float fMassRate
public float fMassSigma
public float fMomentum
public float fSigmaY
public float fSigmaZ
public float fVelocityX
public float fVelocityY
```

public float fVelocityZ

30.91.1 Field fBuoyancy

public float fBuoyancy

30.91.2 Field fDistribution

public int fDistribution

30.91.3 Field fDryMassFraction

public float fDryMassFraction

Mass fraction of dry agent in wet particle (slurry) releases.

30.91.4 Field fDuration

public float fDuration

30.91.5 Field fMassMeanDiameter

public float fMassMeanDiameter

30.91.6 Field fMassRate

public float fMassRate

30.91.7 Field fMassSigma

public float fMassSigma

30.91.8 Field fMomentum

public float fMomentum

30.91.9 Field fSigmaY

public float fSigmaY

30.91.10 Field fSigmaZ

```
public float fSigmaZ
```

30.91.11 Field fVelocityX

```
public float fVelocityX
```

Source velocity component in the X direction (m/s)

30.91.12 Field fVelocityY

```
public float fVelocityY
```

Source velocity component in the Y direction (m/s)

30.91.13 Field fVelocityZ

```
public float fVelocityZ
```

Source velocity component in the Z direction (m/s)

30.91.14 Constructor MovingReleaseT()

```
public  
MovingReleaseT()
```

30.91.15 Constructor MovingReleaseT()

```
public  
MovingReleaseT(  
    float _fBuoyancy,  
    int _fDistribution,  
    float _fDryMassFraction,  
    float _fDuration,  
    float _fMassMeanDiameter,  
    float _fMassRate,  
    float _fMassSigma,  
    float _fMomentum,  
    float _fSigmaY,  
    float _fSigmaZ,  
    float _fVelocityX,  
    float _fVelocityY,  
    float _fVelocityZ  
)
```

30.92 Class MovingReleaseTHelper

```
mil.dtra.hpac.server.release
public abstract MovingReleaseTHelper
extends Object
```

Encapsulation of properties specific to moving releases

Methods:

```
public static mil.dtra.hpac.server.release.MovingReleaseT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.release.MovingReleaseT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

30.92.1 Constructor MovingReleaseTHelper()

```
public
MovingReleaseTHelper()
```

30.92.2 Method extract()

```
public static mil.dtra.hpac.server.release.MovingReleaseT
extract( org.omg.CORBA.Any a )
```

30.92.3 Method id()

```
public static java.lang.String
id()
```

30.92.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.release.MovingReleaseT that
))
```

30.92.5 Method read()

```
public static mil.dtra.hpac.server.release.MovingReleaseT
read( org.omg.CORBA.portable.InputStream istream )
```

30.92.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

30.92.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.release.MovingReleaseT value
)
```

30.93 Class MovingReleaseTHolder

mil.dtra.hpac.server.release
public final MovingReleaseTHolder
 extends Object
 implements Streamable,

Encapsulation of properties specific to moving releases

Fields:

```
public mil.dtra.hpac.server.release.MovingReleaseT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

30.93.1 Field value

```
public mil.dtra.hpac.server.release.MovingReleaseT value
```

30.93.2 Constructor MovingReleaseTHolder()

```
public
MovingReleaseTHolder()
```

30.93.3 Constructor MovingReleaseTHolder()

```
public
MovingReleaseTHolder( mil.dtra.hpac.server.release.MovingReleaseT initialValue )
```

30.93.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

30.93.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

30.93.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

30.94 Class PoolReleaseT

```
mil.dtra.hpac.server.release
public final PoolReleaseT
extends Object
implements IDLEntity,
```

Encapsulation of properties specific to pool releases

Fields:

```
public float fMass
public float fSizeX
public float fSizeY
```

30.94.1 Field fMass

```
public float fMass
```

Total mass in mass units as defined in the material

30.94.2 Field fSizeX

```
public float fSizeX
```

Radius of the liquid pool in the horizontal X direction (m)

30.94.3 Field fSizeY

```
public float fSizeY
```

Radius of the liquid pool in the horizontal Y direction (m)

30.94.4 Constructor PoolReleaseT()

```
public  
PoolReleaseT()
```

30.94.5 Constructor PoolReleaseT()

```
public  
PoolReleaseT(  
    float _fMass,  
    float _fSizeX,  
    float _fSizeY  
)
```

30.95 Class PoolReleaseTHelper

```
mil.dtra.hpac.server.release  
public abstract PoolReleaseTHelper  
extends Object
```

Encapsulation of properties specific to pool releases

Methods:

```
public static mil.dtra.hpac.server.release.PoolReleaseT extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.release.PoolReleaseT read()  
public static synchronized org.omg.CORBA.TypeCode type()  
public static void write()
```

30.95.1 Constructor PoolReleaseTHelper()

```
public
PoolReleaseTHelper()
```

30.95.2 Method extract()

```
public static mil.dtra.hpac.server.release.PoolReleaseT
extract( org.omg.CORBA.Any a )
```

30.95.3 Method id()

```
public static java.lang.String
id()
```

30.95.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.release.PoolReleaseT that
)
```

30.95.5 Method read()

```
public static mil.dtra.hpac.server.release.PoolReleaseT
read( org.omg.CORBA.portable.InputStream istream )
```

30.95.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

30.95.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.release.PoolReleaseT value
)
```

30.96 Class PoolReleaseTHolder

```
mil.dtra.hpac.server.release
public final PoolReleaseTHolder
extends Object
implements Streamable,
```

Encapsulation of properties specific to pool releases

Fields:

```
public mil.dtra.hpac.server.release.PoolReleaseT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

30.96.1 Field value

```
public mil.dtra.hpac.server.release.PoolReleaseT value
```

30.96.2 Constructor PoolReleaseTHolder()

```
public
PoolReleaseTHolder()
```

30.96.3 Constructor PoolReleaseTHolder()

```
public
PoolReleaseTHolder( mil.dtra.hpac.server.release.PoolReleaseT initialValue )
```

30.96.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

30.96.5 Method _type()

```
public org.omg.CORBA.TypeCode
._type()
```

30.96.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

30.97 Class ReleaseDataT

```
mil.dtra.hpac.server.release
public final ReleaseDataT
extends Object
implements IDLEntity,
```

mil/dtra/hpac/server/release/ReleaseDataT.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Methods:

```
public void _default()
public int discriminator()
public mil.dtra.hpac.server.release.ContinuousReleaseT fContinuous()
public void fContinuous()
public mil.dtra.hpac.server.release.FileReleaseT fFile()
public void fFile()
public mil.dtra.hpac.server.release.InstantaneousReleaseT fInstantaneous()
public void fInstantaneous()
public mil.dtra.hpac.server.release.MovingReleaseT fMoving()
public void fMoving()
public mil.dtra.hpac.server.release.PoolReleaseT fPool()
public void fPool()
public mil.dtra.hpac.server.release.StackReleaseT fStack()
public void fStack()
```

30.97.1 Constructor `ReleaseDataT()`

```
public
ReleaseDataT()
```

30.97.2 Method `_default()`

```
public void
_default()
```

30.97.3 Method **discriminator()**

```
public int  
discriminator()
```

30.97.4 Method **fContinuous()**

```
public mil.dtra.hpac.server.release.ContinuousReleaseT  
fContinuous()
```

30.97.5 Method **fContinuous()**

```
public void  
fContinuous( mil.dtra.hpac.server.release.ContinuousReleaseT value )
```

30.97.6 Method **fFile()**

```
public mil.dtra.hpac.server.release.FileReleaseT  
fFile()
```

30.97.7 Method **fFile()**

```
public void  
fFile( mil.dtra.hpac.server.release.FileReleaseT value )
```

30.97.8 Method **fInstantaneous()**

```
public mil.dtra.hpac.server.release.InstantaneousReleaseT  
fInstantaneous()
```

30.97.9 Method **fInstantaneous()**

```
public void  
fInstantaneous( mil.dtra.hpac.server.release.InstantaneousReleaseT value )
```

30.97.10 Method **fMoving()**

```
public mil.dtra.hpac.server.release.MovingReleaseT  
fMoving()
```

30.97.11 Method fMoving()

```
public void
fMoving( mil.dtra.hpac.server.release.MovingReleaseT value )
```

30.97.12 Method fPool()

```
public mil.dtra.hpac.server.release.PoolReleaseT
fPool()
```

30.97.13 Method fPool()

```
public void
fPool( mil.dtra.hpac.server.release.PoolReleaseT value )
```

30.97.14 Method fStack()

```
public mil.dtra.hpac.server.release.StackReleaseT
fStack()
```

30.97.15 Method fStack()

```
public void
fStack( mil.dtra.hpac.server.release.StackReleaseT value )
```

30.98 Class ReleaseDataTHelper

```
mil.dtra.hpac.server.release
public abstract ReleaseDataTHelper
extends Object
```

Defined union for all release subtypes.

Methods:

```
public static mil.dtra.hpac.server.release.ReleaseDataT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.release.ReleaseDataT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

30.98.1 Constructor ReleaseDataTHelper()

```
public
ReleaseDataTHelper()
```

30.98.2 Method extract()

```
public static mil.dtra.hpac.server.release.ReleaseDataT
extract( org.omg.CORBA.Any a )
```

30.98.3 Method id()

```
public static java.lang.String
id()
```

30.98.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.release.ReleaseDataT that
)
```

30.98.5 Method read()

```
public static mil.dtra.hpac.server.release.ReleaseDataT
read( org.omg.CORBA.portable.InputStream istream )
```

30.98.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

30.98.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.release.ReleaseDataT value
)
```

30.99 Class ReleaseDataTHolder

```
mil.dtra.hpac.server.release
public final ReleaseDataTHolder
extends Object
implements Streamable,
```

Defined union for all release subtypes.

Fields:

```
public mil.dtra.hpac.server.release.ReleaseDataT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

30.99.1 Field value

```
public mil.dtra.hpac.server.release.ReleaseDataT value
```

30.99.2 Constructor ReleaseDataTHolder()

```
public
ReleaseDataTHolder()
```

30.99.3 Constructor ReleaseDataTHolder()

```
public
ReleaseDataTHolder( mil.dtra.hpac.server.release.ReleaseDataT initialValue )
```

30.99.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

30.99.5 Method _type()

```
public org.omg.CORBA.TypeCode
._type()
```

30.99.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

30.100 Class `ReleaseListTHelper`

```
mil.dtra.hpac.server.release
public abstract ReleaseListTHelper
extends Object
```

Definition of a sequence or array of `ReleaseT` objects.

Methods:

```
public static mil.dtra.hpac.server.release.ReleaseT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.release.ReleaseT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

30.100.1 Constructor `ReleaseListTHelper()`

```
public
ReleaseListTHelper()
```

30.100.2 Method `extract()`

```
public static mil.dtra.hpac.server.release.ReleaseT[]
extract( org.omg.CORBA.Any a )
```

30.100.3 Method `id()`

```
public static java.lang.String
id()
```

30.100.4 Method `insert()`

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.release.ReleaseT[] that
)
```

30.100.5 Method **read()**

```
public static mil.dtra.hpac.server.release.ReleaseT[]
read( org.omg.CORBA.portable.InputStream istream )
```

30.100.6 Method **type()**

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

30.100.7 Method **write()**

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.release.ReleaseT[] value
)
```

30.101 Class **ReleaseListTHolder**

```
mil.dtra.hpac.server.release
public final ReleaseListTHolder
extends Object
implements Streamable,
```

Definition of a sequence or array of ReleaseT objects.

Fields:

```
public mil.dtra.hpac.server.release.ReleaseT[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

30.101.1 Field **value**

```
public mil.dtra.hpac.server.release.ReleaseT[] value
```

30.101.2 Constructor ReleaseListTHolder()

```
public
ReleaseListTHolder()
```

30.101.3 Constructor ReleaseListTHolder()

```
public
ReleaseListTHolder( mil.dtra.hpac.server.release.ReleaseT[] initialValue )
```

30.101.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

30.101.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

30.101.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

30.102 Class ReleaseT

mil.dtra.hpac.server.release
 public final **ReleaseT**
 extends Object
 implements IDLEntity,

HPAC Tool or Server view of a release. Note that the type of the release is indicated by the *fReleaseData* property.

Fields:

```
public float fHorzSize
public float fHorzUncertainty
public java.lang.String fID
public java.lang.String fIncidentID
public float[] fLLALocation
public int fLocationGroup
public mil.dtra.hpac.material.server.MaterialT fMaterial
public boolean fMaterialCustomized
```

```
public float fPuffDuration
public mil.dtra.hpac.server.release.ReleaseDataT fReleaseData
public mil.dtra.hpac.server.project.TimeT fStartTime
public int[] fStatus
public float fVertSize
public float fVertUncertainty
```

30.102.1 Field fHorzSize

public float **fHorzSize**

Spatial reach of this release on the earth's surface in km

30.102.2 Field fHorzUncertainty

public float **fHorzUncertainty**

Uncertainty in m

30.102.3 Field fID

public java.lang.String **fID**

Unique release ID. `ReleaseUtils.createID()` will create a unique ID.

30.102.4 Field fIncidentID

public java.lang.String **fIncidentID**

ID of the notional incident to which this release belongs

30.102.5 Field fLLALocation

public float[] **fLLALocation**

At this level, only lat-lon-alt values are stored. The coordinate system chosen by the user is represented in the location object property of the corresponding `Release` object

30.102.6 Field fLocationGroup

public int **fLocationGroup**

Co-located releases should be tagged with the same value for this property. Releases which need not be co-located must have different values for this property. Values should start with 0 and increment by 1, but this is not required.

30.102.7 Field fMaterial

```
public mil.dtra.hpac.material.server.MaterialT fMaterial
```

The material object for this release

30.102.8 Field fMaterialCustomized

```
public boolean fMaterialCustomized
```

Flag indicating whether this is a standard or customized material

30.102.9 Field fPuffDuration

```
public float fPuffDuration
```

Estimated duration of the puffs related to this release, in hrs

30.102.10 Field fReleaseData

```
public mil.dtra.hpac.server.release.ReleaseDataT fReleaseData
```

Union for descriptions of the different kinds of releases

30.102.11 Field fStartTime

```
public mil.dtra.hpac.server.project.TimeT fStartTime
```

This is the absolute start time for this release in UTC. The incident time will also be stored in UTC.

30.102.12 Field fStatus

```
public int[] fStatus
```

Status flags for various fields, including those defined for this structure (common to all release types) and the ones defined for the type of release data

30.102.13 Field fVertSize

```
public float fVertSize
```

Vertical spatial reach of this release in m

30.102.14 Field fVertUncertainty

```
public float fVertUncertainty
```

Vertical uncertainty in m

30.102.15 Constructor ReleaseT()

```
public
ReleaseT()
```

30.102.16 Constructor ReleaseT()

```
public
ReleaseT(
    float _fHorzSize,
    float _fHorzUncertainty,
    java.lang.String _fID,
    java.lang.String _fIncidentID,
    float[] _fLLALocation,
    int _fLocationGroup,
    mil.dtra.hpac.material.server.MaterialT _fMaterial,
    boolean _fMaterialCustomized,
    float _fPuffDuration,
    mil.dtra.hpac.server.release.ReleaseDataT _fReleaseData,
    mil.dtra.hpac.server.project.TimeT _fStartTime,
    int[] _fStatus,
    float _fVertSize,
    float _fVertUncertainty
)
```

30.103 Class ReleaseTHelper

```
mil.dtra.hpac.server.release
public abstract ReleaseTHelper
extends Object
```

HPAC Tool or Server view of a release. Note that the type of the release is indicated by the *fReleaseData* property.

Methods:

```
public static mil.dtra.hpac.server.release.ReleaseT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.release.ReleaseT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

30.103.1 Constructor ReleaseTHelper()

```
public
ReleaseTHelper()
```

30.103.2 Method extract()

```
public static mil.dtra.hpac.server.release.ReleaseT
extract( org.omg.CORBA.Any a )
```

30.103.3 Method id()

```
public static java.lang.String
id()
```

30.103.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.release.ReleaseT that
)
```

30.103.5 Method read()

```
public static mil.dtra.hpac.server.release.ReleaseT
read( org.omg.CORBA.portable.InputStream istream )
```

30.103.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

30.103.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.release.ReleaseT value
)
```

30.104 Class ReleaseTHolder

```
mil.dtra.hpac.server.release
public final ReleaseTHolder
extends Object
implements Streamable,
```

HPAC Tool or Server view of a release. Note that the type of the release is indicated by the *fReleaseData* property.

Fields:

```
public mil.dtra.hpac.server.release.ReleaseT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

30.104.1 Field value

```
public mil.dtra.hpac.server.release.ReleaseT value
```

30.104.2 Constructor ReleaseTHolder()

```
public
ReleaseTHolder()
```

30.104.3 Constructor ReleaseTHolder()

```
public
ReleaseTHolder( mil.dtra.hpac.server.release.ReleaseT initialValue )
```

30.104.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

30.104.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

30.104.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

30.105 Class StackReleaseT

```
mil.dtra.hpac.server.release
public final StackReleaseT
extends Object
implements IDLEntity,
```

Encapsulation of properties specific to stack releases

Fields:

```
public float fDiameter
public int fDistribution
public float fDuration
public float fExitTemp
public float fExitVelocity
public float fMassMeanDiameter
public float fMassRate
public float fMassSigma
```

30.105.1 Field `fDiameter`

```
public float fDiameter
```

Diameter of the stack in m

30.105.2 Field `fDistribution`

```
public int fDistribution
```

30.105.3 Field `fDuration`

```
public float fDuration
```

30.105.4 Field `fExitTemp`

```
public float fExitTemp
```

Excess exit temperature of the effluent in C. Applies only if the release is of a gas material or the vapor phase of a liquid material. Used only if the project flags include HF_DYNAMIC.

30.105.5 Field fExitVelocity

```
public float fExitVelocity
```

Exit velocity of the effluent in m/s. Applies only if the release is of a gas material or the vapor phase of a liquid material. Used only if the project flags include HF_DYNAMIC.

30.105.6 Field fMassMeanDiameter

```
public float fMassMeanDiameter
```

30.105.7 Field fMassRate

```
public float fMassRate
```

30.105.8 Field fMassSigma

```
public float fMassSigma
```

30.105.9 Constructor StackReleaseT()

```
public  
StackReleaseT()
```

30.105.10 Constructor StackReleaseT()

```
public  
StackReleaseT(  
    float _fDiameter,  
    int _fDistribution,  
    float _fDuration,  
    float _fExitTemp,  
    float _fExitVelocity,  
    float _fMassMeanDiameter,  
    float _fMassRate,  
    float _fMassSigma  
)
```

30.106 Class StackReleaseTHelper

```
mil.dtra.hpac.server.release  
public abstract StackReleaseTHelper  
extends Object
```

Encapsulation of properties specific to stack releases

Methods:

```
public static mil.dtra.hpac.server.release.StackReleaseT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.release.StackReleaseT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

30.106.1 Constructor StackReleaseTHelper()

```
public
StackReleaseTHelper()
```

30.106.2 Method extract()

```
public static mil.dtra.hpac.server.release.StackReleaseT
extract( org.omg.CORBA.Any a )
```

30.106.3 Method id()

```
public static java.lang.String
id()
```

30.106.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.release.StackReleaseT that
)
```

30.106.5 Method read()

```
public static mil.dtra.hpac.server.release.StackReleaseT
read( org.omg.CORBA.portable.InputStream istream )
```

30.106.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

30.106.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.release.StackReleaseT value
)
```

30.107 Class StackReleaseTHolder

```
mil.dtra.hpac.server.release
public final StackReleaseTHolder
extends Object
implements Streamable,
```

Encapsulation of properties specific to stack releases

Fields:

```
public mil.dtra.hpac.server.release.StackReleaseT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

30.107.1 Field value

```
public mil.dtra.hpac.server.release.StackReleaseT value
```

30.107.2 Constructor StackReleaseTHolder()

```
public
StackReleaseTHolder()
```

30.107.3 Constructor StackReleaseTHolder()

```
public
StackReleaseTHolder( mil.dtra.hpac.server.release.StackReleaseT initialValue )
```

30.107.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

30.107.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

30.107.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

30.108 Class TimeTHelper

mil.dtra.hpac.server.release
 public abstract **TimeTHelper**
 extends Object

mil/dtra/hpac/server/release/TimeTHelper.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from release.idl Friday, February 8, 2002 4:37:45 PM EST

Methods:

```
public static mil.dtra.hpac.server.project.TimeT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.TimeT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

30.108.1 Constructor TimeTHelper()

```
public
TimeTHelper()
```

30.108.2 Method extract()

```
public static mil.dtra.hpac.server.project.TimeT  
extract( org.omg.CORBA.Any a )
```

30.108.3 Method id()

```
public static java.lang.String  
id()
```

30.108.4 Method insert()

```
public static void  
insert(  
    org.omg.CORBA.Any a,  
    mil.dtra.hpac.server.project.TimeT that  
)
```

30.108.5 Method read()

```
public static mil.dtra.hpac.server.project.TimeT  
read( org.omg.CORBA.portable.InputStream istream )
```

30.108.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode  
type()
```

30.108.7 Method write()

```
public static void  
write(  
    org.omg.CORBA.portable.OutputStream ostream,  
    mil.dtra.hpac.server.project.TimeT value  
)
```

CHAPTER 31

Package mil.dtra.hpac.server.scipuff

Contains classes and interfaces generated from `scipuff.idl`, which defines the operations of `ScipuffServer`.

Interfaces:

DispersionCalculator
DispersionCalculatorOperations
HC_LEFT_BUTTON
HC_MIDDLE_BUTTON
HC_NO_BUTTON
HC_RIGHT_BUTTON
HM_BUTTONSTATE
HM_BUTTONTAG
HM_CHECK
HM_DISPERSION_END
HM_EMPTY_MESSAGE
HM_ERROR
HM_INFO
HM_NO_NEW_MESSAGE
HM_PROGRESSBAR
HM_PROGRESSMSG
HM_RELEASE
HM_RELEASEWAIT
HM_REPLY
HM_SETCLOCK
HM_SETWAIT
HM_START
HM_STEPCLOCK
HM_STOP
HM_STOPCLOCK
HM_SYNC
HPAC_AFFIRMATIVE_REPLY
HPAC_FAILURE
HPAC_NEGATIVE_REPLY
HPAC_SUCCESS

PlotGenerator
 PlotGeneratorOperations
 SCIPUFF_FACTORY_SERVICE_NAME
 ScipuffAll
 ScipuffAllOperations
 ScipuffServer
 ScipuffServerFactory
 ScipuffServerFactoryOperations
 ScipuffServerOperations

Classes:

_DispersionCalculatorImplBase
 _DispersionCalculatorStub
 _PlotGeneratorImplBase
 _PlotGeneratorStub
 _ScipuffAllImplBase
 _ScipuffAllStub
 _ScipuffServerFactoryImplBase
 _ScipuffServerFactoryStub
 _ScipuffServerImplBase
 _ScipuffServerStub
 AnyListHelper
 AnyListHolder
 AuditTHelper
 ByteArrayHelper
 ByteArrayHolder
 CategoryClass2DHelper
 CategoryClass2DHolder
 CircleEffectExceptionHelper
 CircleEffectExceptionHolder
 CircleEffectInputT
 CircleEffectInputTHelper
 CircleEffectInputTHolder
 CircleEffectOutputT
 CircleEffectOutputTHelper
 CircleEffectOutputTHolder
 ClassChoice2DHelper
 ClassChoice2DHolder
 DispersionCalculatorHelper
 DispersionCalculatorHolder
 EnviroBLTHelper
 FlagsTHelper
 FloatArrayHelper
 HPACCATEGORYCLASSTListHelper
 HPACCLASSCHOICETListHelper
 HPACCONTOURELEMENTTHelper

HPACContourElementTListHelper
HPACContourHeaderTHelper
HPACFieldCoordinateTHelper
HPACLineTListHelper
HPACPlotFieldNodeTHelper
HPACPlotFieldNodeTListHelper
HPACPlotFieldTHelper
HPACPlotFieldTriangleTHelper
HPACPlotFieldTriangleTListHelper
HPACPlotTypeTHelper
HPACPointTHelper
HPACPointTListHelper
HPACTimeTListHelper
I2DHelper
I2DHolder
I3DHelper
I3DHolder
IncidentTHelper
IncidentTListHelper
IncidentTListHolder
IntArrayHelper
IntArrayHolder
LimitTHelper
MessageT
MessageTHelper
MessageTHolder
MessageTListHelper
MessageTListHolder
OptionsTHelper
PlotExceptionHelper
PlotExceptionHolder
PlotGeneratorHelper
PlotGeneratorHolder
ScipuffAllHelper
ScipuffAllHolder
ScipuffExceptionHelper
ScipuffExceptionHolder
ScipuffServerFactoryHelper
ScipuffServerFactoryHolder
ScipuffServerHelper
ScipuffServerHolder
SpatialDomainTHelper
StringListHelper
StringListHolder
TemporalDomainTHelper
TimeTHelper
WeatherTHelper

Exceptions:

CircleEffectException
 PlotException
 ScipuffException

Errors:

CircleEffectException
 PlotException
 ScipuffException

31.1 Interface DispersionCalculator

```
mil.dtra.hpac.server.scipuff
public interface DispersionCalculator
extends DispersionCalculatorOperations, IDLEntity, Object,
```

31.2 Interface DispersionCalculatorOperations

```
mil.dtra.hpac.server.scipuff
public interface DispersionCalculatorOperations
```

Methods:

```
public void addIncident()
public boolean calculate()
public boolean calculate2()
public boolean calculateWithUrban()
public float currentTerrain()
public void currentWeather()
public java.lang.String[] getSubstrates()
public void processButtonClick()
public boolean restartFromPrevious()
public boolean restartFromPreviousWithUrban()
public boolean resumeCalculation()
public void terminateDispersionCalculator()
```

31.2.1 Method addIncident()

```
public void
addIncident(
    mil.dtra.hpac.server.IncidentTHolder incident,
    org.omg.CORBA.AnyHolder model_incident,
    mil.dtra.hpac.server.project.FlagsT flags
)
```

Adds incidents and their model incident data to the project. Should be called once for each `IncidentT` in the project. The `incident` and `model_incident` parameters are IDL inouts, making them appear as `Holder` objects in Java. These objects will not be changed directly by `addIncident` but they will be passed on to the model server's `updateIncident` method which may change them. After all incidents are added to the project, the client should call `calculate`.

Parameters:

- `incident` - (the holder for) the `IncidentT` struct to be added
- `model_incident` - (the holder for) the model-specific data (aka "private block") for this incident
- `flags` - parameters used by the tool engine to define a project's type of dispersion calculation. Must be the same for each incident added and the same as passed to `calculate`. Or else. No check is made.

Exceptions:

- `ScipuffException` - if already calculating or if any internal error occurs

31.2.2 Method calculate()

```
public boolean
calculate(
    mil.dtra.weather.shared.data.weatherT.WeatherT weather,
    mil.dtra.hpac.server.project.LimitT limits,
    mil.dtra.hpac.server.project.OptionsT options,
    mil.dtra.hpac.server.project.FlagsT flags,
    mil.dtra.hpac.server.project.TemporalDomainTHolder temporal_domain,
    mil.dtra.hpac.server.project.SpatialDomainTHolder spatial_domain,
    float max_time_step,
    float output_interval
)
```

Initializes the HPAC Tool Engine, calls each model's `updateIncident()` with the "last chance" flag set, and starts the HPAC Tool Engine running. This will asynchronously return after the tool engine is successfully started. Future interaction with the tool engine must occur via the `poll` method.

Parameters:

weather - the weather (duh)
 limits - array size limits, etc. for the tool engine
 options - more parameters used by the tool engine
 flags - even more such parameters
 temporal_domain - specification of project start and end times
 spatial_domain - specification of project spatial domain
 max_time_step - maximum time step in seconds allowed for SCIPUFF
 output_interval - time interval in seconds for SCIPUFF output

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if already calculating, if any errors occurred during the update incident threads started by addIncident(), if HPAC Tool Engine cannot be initialized, if a lat/lon-to-UTM coordinate conversion error occurs, or if any internal error occurs

31.2.3 Method calculate2()

```

public boolean
calculate2(
  mil.dtra.hpac.server.IncidentT[] incidents,
  org.omg.CORBA.Any[] model_incidents,
  mil.dtra.weather.shared.data.weatherT.WeatherT weather,
  mil.dtra.hpac.server.project.LimitT limits,
  mil.dtra.hpac.server.project.OptionsT options,
  mil.dtra.hpac.server.project.FlagsT flags,
  mil.dtra.hpac.server.project.TemporalDomainTHolder temporal_domain,
  mil.dtra.hpac.server.project.SpatialDomainTHolder spatial_domain,
  float max_time_step,
  float output_interval
)
  
```

Performs a dispersion calculation using HPACtool. The following steps are performed: calls updateIncident() with the "last chance" flag set for each IncidentT provided, builds the input needed by HPACtool from the paramters provided, converts the project to UTM coordinates if required, initializes HPACtool, calls the HPACtool function HPACNewProject to create HPACtool project files, and, assuming HPACNewProject was successful, calls the HPACtool function HPACRunProject to start SCIPUFF running. Will return asynchronously after the tool engine is successfully started. Future interaction with the tool engine must occur via the poll method.

Parameters:

incidents - array of the IncidentT objects for this project
 model_incidents - array of the model-specific data (aka "private blocks") corresponding to the IncidentT's of the project. Must be provided as an array of CORBA "any" objects, each element of which is an "any" containing the model-specific data.
 weather - the weather (duh)
 limits - array size limits, etc. for the tool engine
 options - more parameters used by the tool engine
 flags - even more such parameters
 temporal_domain - specification of project start and end times
 spatial_domain - specification of project spatial domain
 max_time_step - maximum time step in seconds allowed for SCIPUFF
 output_interval - time interval in seconds for SCIPUFF output

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if already calculating, if any errors occurred during the update incident threads started by addIncident(), if HPAC Tool Engine cannot be initialized, if a lat/lon-to-UTM coordinate conversion error occurs, or if any internal error occurs

31.2.4 Method calculateWithUrban()

```

public boolean
calculateWithUrban(
  mil.dtra.hpac.server.IncidentT[] incidents,
  org.omg.CORBA.Any[] model_incidents,
  mil.dtra.weather.shared.data.weatherT.WeatherT weather,
  mil.dtra.hpac.server.project.LimitT limits,
  mil.dtra.hpac.server.project.OptionsT options,
  mil.dtra.hpac.server.project.FlagsT flags,
  mil.dtra.hpac.server.project.TemporalDomainTHolder temporal_domain,
  mil.dtra.hpac.server.project.SpatialDomainTHolder spatial_domain,
  float max_time_step,
  float output_interval,
  java.lang.String udm_params,
  java.lang.String uwm_params
)
  
```

31.2.5 Method currentTerrain()

```

public float
currentTerrain( mil.dtra.hpac.server.plot.HPACPointT location )
  
```

31.2.6 Method currentWeather()

```
public void
currentWeather(
    mil.dtra.hpac.server.plot.HPACPointT location,
    mil.dtra.hpac.server.EnvironmentTHolder environment,
    mil.dtra.hpac.server.EnviroBLTHolder boundary_layer
)
```

31.2.7 Method getSubstrates()

```
public java.lang.String[]
getSubstrates()
```

Retrieves the list of available substrates for the secondary evaporation model.

Returns:

a String array of the substrate list. If no substrates are available, returns a zero-length array.

Exceptions:

ScipuffException - if the native call to HPACGetSubstrates fails

31.2.8 Method processButtonClick()

```
public void
processButtonClick( int click )
```

Notifies the server that a button (left, middle, or right) was clicked on the user interface.

31.2.9 Method restartFromPrevious()

```
public boolean
restartFromPrevious(
    java.lang.String previous_username,
    java.lang.String previous_projectname,
    float time_to_restart_from,
    mil.dtra.hpac.server.IncidentT[] previous_incident_ts,
    org.omg.CORBA.Any[] previous_model_incidents,
    int previous_scipuff_mode,
    mil.dtra.hpac.server.project.AuditT new_audit_t,
    mil.dtra.weather.shared.data.weatherT.WeatherT new_weather_t,
```

```

mil.dtra.hpac.server.project.LimitT new_limit_t,
mil.dtra.hpac.server.project.OptionsT new_options_t,
mil.dtra.hpac.server.project.TemporalDomainTHolder new_tm_domain,
mil.dtra.hpac.server.project.SpatialDomainTHolder new_sp_domain,
float new_max_time_step,
float new_output_interval
)

```

Creates a new project from an existing one and runs the new project. All of the parameters must be provided because ScipuffServer maintains no state from the previous run. However, each parameter labeled MUST NOT CHANGE must contain values identical to the corresponding parameters in the previous run. No check is performed, but attempting to restart with changed parameters is not supported and may produce difficult-to-understand errors.

Parameters:

- previous_username - username of the previous project from which to restart
- previous_projectname - name of the previous project from which to restart
- time_to_restart_from - output time of the previous project from which to restart
- previous_incident_ts - array of the IncidentT structs from the previous project. MUST NOT CHANGE.
- previous_model_incidents - array of the model-specific data (aka "private blocks") corresponding to the IncidentT's of the previous project. These must be provided as an array of CORBA "any" objects, each element of which is an "any" containing a model-specific data. MUST NOT CHANGE.
- previous_scipuff_mode - scipuff calculation mode flag – either HF_FAST(1), HF_HAZARD(2), or HF_DUAL(4) – used in previous project. MUST NOT CHANGE.
- new_weather_t - the weather (duh). May change.
- new_limit_t - array size limits, etc. for the tool engine. May change but values should only be increased.
- new_options_t - more parameters used by the tool engine. May change.
- new_tm_domain - specified temporal domain of the project. Only the fEndTime field may change.
- new_sp_domain - specified spatial domain of the project. May change.
- new_max_time_step - max time step for SCIPUFF. May change.
- new_output_interval - time interval in seconds for SCIPUFF output. May change.
- audit - AuditT structure specifying analyst, etc.

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if any error occurs.

31.2.10 Method restartFromPreviousWithUrban()

```
public boolean
restartFromPreviousWithUrban(
    java.lang.String previous_username,
    java.lang.String previous_projectname,
    float time_to_restart_from,
    mil.dtra.hpac.server.IncidentT[] previous_incident_ts,
    org.omg.CORBA.Any[] previous_model_incidents,
    int previous_scipuff_mode,
    mil.dtra.hpac.server.project.AuditT new_audit_t,
    mil.dtra.weather.shared.data.weatherT.WeatherT new_weather_t,
    mil.dtra.hpac.server.project.LimitT new_limit_t,
    mil.dtra.hpac.server.project.OptionsT new_options_t,
    mil.dtra.hpac.server.project.TemporalDomainTHolder new_tm_domain,
    mil.dtra.hpac.server.project.SpatialDomainTHolder new_sp_domain,
    float new_max_time_step,
    float new_output_interval,
    java.lang.String udm_params,
    java.lang.String uwm_params
)
```

31.2.11 Method resumeCalculation()

```
public boolean
resumeCalculation(
    mil.dtra.hpac.server.IncidentT[] incidents,
    org.omg.CORBA.Any[] model_incidents,
    mil.dtra.weather.shared.data.weatherT.WeatherT weather,
    mil.dtra.hpac.server.project.LimitT limits,
    mil.dtra.hpac.server.project.TemporalDomainTHolder temporal_domain,
    mil.dtra.hpac.server.project.SpatialDomainTHolder spatial_domain,
    float max_time_step,
    float output_interval
)
```

Resumes calculation of a previously "Stopped" or "Halted" run. This will re-initialize the HPAC Tool Engine and call HPACRunProject to resume the previous run where it had stopped. Like calculate(), this will asynchronously return after the tool engine is successfully started. Future interaction with the tool engine must occur via the poll method. All of the parameters labeled MUST NOT CHANGE must contain values identical to the corresponding parameters in the previously stopped or halted run. No check is performed, but attempting to resume with changed parameters is unsupported and may produce difficult-to-understand errors.

Parameters:

incidents - array of IncidentT objects used in the run to be resumed. MUST NOT CHANGE.

model_incidents - array of CORBA any objects containing the model-specific data for each IncidentT in the incidents array. MUST NOT CHANGE.

weather - the weather (duh). MUST NOT CHANGE.

limits - array size limits, etc. for the tool engine. May change but values should only be increased.

temporal_domain - specification of project start and end times. Only the fEndTime field may change.

spatial_domain - specification of project spatial domain. MUST NOT CHANGE.

max_time_step - maximum time step in seconds allowed for SCIPUFF. May change.

output_interval - time interval in seconds for SCIPUFF output. May change.

audit - AuditT structure specifying analyst, etc.

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if already calculating, if HPAC Tool Engine cannot be initialized, if a lat/lon-to-UTM coordinate conversion error occurs, or if any internal error occurs

31.2.12 Method terminateDispersionCalculator()

```
public void
terminateDispersionCalculator()
```

Should be called by the client when finished with the server. This is a hook for the server to clean up memory allocations, unload shared objects, etc. This must be called before the server process can be re-used by another client or by the same client for plot generation.

31.3 Interface HC_LEFT_BUTTON

```
mil.dtra.hpac.server.scipuff
public interface HC_LEFT_BUTTON
extends IDLEntity,
```

mil/dtra/hpac/server/scipuff/HC_LEFT_BUTTON.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.3.1 Field value

```
public static final int value
```

31.4 Interface HC_MIDDLE_BUTTON

mil.dtra.hpac.server.scipuff
 public interface **HC_MIDDLE_BUTTON**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HC_MIDDLE_BUTTON.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.4.1 Field value

```
public static final int value
```

31.5 Interface HC_NO_BUTTON

mil.dtra.hpac.server.scipuff
 public interface **HC_NO_BUTTON**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HC_NO_BUTTON.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.5.1 Field value

```
public static final int value
```

31.6 Interface HC_RIGHT_BUTTON

```
mil.dtra.hpac.server.scipuff
public interface HC_RIGHT_BUTTON
extends IDLEntity,
```

mil/dtra/hpac/server/scipuff/HC_RIGHT_BUTTON.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.6.1 Field value

```
public static final int value
```

31.7 Interface HM_BUTTONSTATE

```
mil.dtra.hpac.server.scipuff
public interface HM_BUTTONSTATE
extends IDLEntity,
```

mil/dtra/hpac/server/scipuff/HM_BUTTONSTATE.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.7.1 Field value

```
public static final int value
```

31.8 Interface HM_BUTTONTAG

```
mil.dtra.hpac.server.scipuff
public interface HM_BUTTONTAG
extends IDLEntity,
```

mil/dtra/hpac/server/scipuff/HM_BUTTONTAG.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.8.1 Field value

```
public static final int value
```

31.9 Interface HM_CHECK

mil.dtra.hpac.server.scipuff
 public interface **HM_CHECK**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_CHECK.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.9.1 Field value

```
public static final int value
```

31.10 Interface HM_DISPERSION_END

mil.dtra.hpac.server.scipuff
 public interface **HM_DISPERSION_END**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_DISPERSION_END.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.10.1 Field value

```
public static final int value
```

31.11 Interface HM_EMPTY_MESSAGE

```
mil.dtra.hpac.server.scipuff
public interface HM_EMPTY_MESSAGE
extends IDLEntity,
```

mil/dtra/hpac/server/scipuff/HM_EMPTY_MESSAGE.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
    public static final int value
```

31.11.1 Field **value**

```
public static final int value
```

31.12 Interface HM_ERROR

```
mil.dtra.hpac.server.scipuff
public interface HM_ERROR
extends IDLEntity,
```

mil/dtra/hpac/server/scipuff/HM_ERROR.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
    public static final int value
```

31.12.1 Field **value**

```
public static final int value
```

31.13 Interface HM_INFO

```
mil.dtra.hpac.server.scipuff
public interface HM_INFO
extends IDLEntity,
```

mil/dtra/hpac/server/scipuff/HM_INFO.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
    public static final int value
```

31.13.1 Field value

```
public static final int value
```

31.14 Interface HM_NO_NEW_MESSAGE

mil.dtra.hpac.server.scipuff
 public interface **HM_NO_NEW_MESSAGE**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_NO_NEW_MESSAGE.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.14.1 Field value

```
public static final int value
```

31.15 Interface HM_PROGRESSBAR

mil.dtra.hpac.server.scipuff
 public interface **HM_PROGRESSBAR**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_PROGRESSBAR.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.15.1 Field value

```
public static final int value
```

31.16 Interface HM_PROGRESSMSG

mil.dtra.hpac.server.scipuff
 public interface **HM_PROGRESSMSG**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_PROGRESSMSG.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

public static final int **value**

31.16.1 Field **value**

public static final int **value**

31.17 Interface HM_RELEASE

mil.dtra.hpac.server.scipuff
 public interface **HM_RELEASE**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_RELEASE.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

public static final int **value**

31.17.1 Field **value**

public static final int **value**

31.18 Interface HM_RELEASEWAIT

mil.dtra.hpac.server.scipuff
 public interface **HM_RELEASEWAIT**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_RELEASEWAIT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

public static final int **value**

31.18.1 Field value

```
public static final int value
```

31.19 Interface HM_REPLY

mil.dtra.hpac.server.scipuff
 public interface **HM_REPLY**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_REPLY.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.19.1 Field value

```
public static final int value
```

31.20 Interface HM_SETCLOCK

mil.dtra.hpac.server.scipuff
 public interface **HM_SETCLOCK**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_SETCLOCK.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.20.1 Field value

```
public static final int value
```

31.21 Interface HM_SETWAIT

mil.dtra.hpac.server.scipuff
 public interface **HM_SETWAIT**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_SETWAIT.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

public static final int **value**

31.21.1 Field **value**

public static final int **value**

31.22 Interface HM_START

mil.dtra.hpac.server.scipuff
 public interface **HM_START**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_START.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

public static final int **value**

31.22.1 Field **value**

public static final int **value**

31.23 Interface HM_STEPCLOCK

mil.dtra.hpac.server.scipuff
 public interface **HM_STEPCLOCK**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_STEPCLOCK.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

public static final int **value**

31.23.1 Field value

```
public static final int value
```

31.24 Interface HM_STOP

mil.dtra.hpac.server.scipuff
 public interface **HM_STOP**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_STOP.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.24.1 Field value

```
public static final int value
```

31.25 Interface HM_STOPCLOCK

mil.dtra.hpac.server.scipuff
 public interface **HM_STOPCLOCK**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_STOPCLOCK.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.25.1 Field value

```
public static final int value
```

31.26 Interface HM_SYNC

mil.dtra.hpac.server.scipuff
 public interface **HM_SYNC**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HM_SYNC.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

public static final int **value**

31.26.1 Field value

public static final int **value**

31.27 Interface HPAC_AFFIRMATIVE_REPLY

mil.dtra.hpac.server.scipuff
 public interface **HPAC_AFFIRMATIVE_REPLY**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HPAC_AFFIRMATIVE_REPLY.java Generated by the IDL-to-Java
 compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

public static final int **value**

31.27.1 Field value

public static final int **value**

31.28 Interface HPAC_FAILURE

mil.dtra.hpac.server.scipuff
 public interface **HPAC_FAILURE**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HPAC_FAILURE.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

public static final int **value**

31.28.1 Field value

```
public static final int value
```

31.29 Interface HPAC_NEGATIVE_REPLY

mil.dtra.hpac.server.scipuff
 public interface **HPAC_NEGATIVE_REPLY**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HPAC_NEGATIVE_REPLY.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.29.1 Field value

```
public static final int value
```

31.30 Interface HPAC_SUCCESS

mil.dtra.hpac.server.scipuff
 public interface **HPAC_SUCCESS**
 extends IDLEntity,

mil/dtra/hpac/server/scipuff/HPAC_SUCCESS.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public static final int value
```

31.30.1 Field value

```
public static final int value
```

31.31 Interface PlotGenerator

mil.dtra.hpac.server.scipuff
 public interface **PlotGenerator**
 extends IDLEntity, Object, PlotGeneratorOperations,

31.32 Interface PlotGeneratorOperations

```
mil.dtra.hpac.server.scipuff
public interface PlotGeneratorOperations
```

Methods:

```
public void computeCircleEffects()
public void contourCount()
public void contourField()
public int createField()
public void deleteField()
public void exitCircleEffects()
public void getField()
public void getFieldDomain()
public void getFieldMinMax()
public void getFieldSize()
public void getFieldTable()
public void getFieldTableSize()
public void getFieldValue()
public void getFieldValues()
public void getPlotClasses()
public void getPlotTimes()
public int initCircleEffects()
public void numPlotClasses()
public void numPlotTimes()
public void popAreaField()
public boolean queryCircleEffects()
public void terminatePlotGenerator()
```

31.32.1 Method computeCircleEffects()

```
public void
computeCircleEffects(
    int incident_index,
    int effect_id,
    int request,
    mil.dtra.hpac.server.scipuff.CircleEffectInputT ceit,
    mil.dtra.hpac.server.scipuff.CircleEffectOutputTHolder ceot
)
```

31.32.2 Method contourCount()

```
public void
contourCount()
```

```

int sag_field_id,
mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
mil.dtra.hpac.server.plot.HPACContourHeaderT contour_header,
mil.dtra.hpac.server.plot.HPACContourElementT[] contour_list,
int mode,
org.omg.CORBA.IntHolder num_lines,
org.omg.CORBA.IntHolder num_points
)

```

Counts the number of contour lines and contour points to be created by `contourField`.

Parameters:

`sag_field_id` - the SAG field identifier
`plot_field` - describes the field used to generate the 8 SAG field specified by `sage_field_id`
`plot_type` - describes the type of plot to be generated from the field data
`contour_header` - describes the array of contour elements in `contour_list`
`contour_list` - array of contour elements
`mode` - contour generation mode. One of `OPEN_CONTOUR`, `CLOSE_CONTOUR`, or `LATLON_OUTPUT`
`num_lines` - upon return contains the number of lines to be generated
`num_points` - upon return contains the number of points generated

Exceptions:

`PlotException` - if any error occurs

31.32.3 Method `contourField()`

```

public void
contourField(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    mil.dtra.hpac.server.plot.HPACContourHeaderT contour_header,
    mil.dtra.hpac.server.plot.HPACContourElementTListHolder contour_list,
    int mode,
    mil.dtra.hpac.server.plot.HPACLineTListHolder lines,
    mil.dtra.hpac.server.plot.HPACPPointTListHolder points
)

```

Exceptions:

`PlotException` - if any error occurs

31.32.4 Method createField()

```
public int
createField(
    mil.dtra.hpac.server.plot.HPACPlotFieldTHolder plot_field,
    float[] class_data
)
```

Creates an HPAC plot field.

Parameters:

plot_field - describes the plot field to be created
 class_data - additional plot field class data as required by the fFieldCategory and fFieldClass elements of the field

Returns:

the SAG grid identifier

Exceptions:

PlotException - if any error occurs

31.32.5 Method deleteField()

```
public void
deleteField( int sag_field_id )
```

Exceptions:

PlotException - if any error occurs

31.32.6 Method exitCircleEffects()

```
public void
exitCircleEffects()
```

31.32.7 Method getField()

```
public void
getField(
```

```

int sag_field_id,
mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
mil.dtra.hpac.server.plot.HPACPlotFieldNodeTListHolder plot_nodes,
mil.dtra.hpac.server.plot.HPACPlotFieldTriangleTListHolder plot_triangles
)

```

Exceptions:

PlotException - if any error occurs

31.32.8 Method getFieldDomain()

```

public void
getFieldDomain(
    int sag_field_id,
    org.omg.CORBA.IntHolder nx,
    org.omg.CORBA.IntHolder ny,
    org.omg.CORBA.FloatHolder xMin,
    org.omg.CORBA.FloatHolder yMin,
    org.omg.CORBA.FloatHolder dx,
    org.omg.CORBA.FloatHolder dy
)

```

Exceptions:

PlotException - if any error occurs

31.32.9 Method getFieldMinMax()

```

public void
getFieldMinMax(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    org.omg.CORBA.FloatHolder mean_min,
    org.omg.CORBA.FloatHolder mean_max,
    org.omg.CORBA.FloatHolder var_min,
    org.omg.CORBA.FloatHolder var_max,
    org.omg.CORBA.FloatHolder plot_min,
    org.omg.CORBA.FloatHolder plot_max
)

```

Exceptions:

PlotException - if any error occurs

31.32.10 Method getFieldSize()

```
public void
getFieldSize(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    org.omg.CORBA.IntHolder number_nodes,
    org.omg.CORBA.IntHolder number_triangles
)
```

Exceptions:

PlotException - if any error occurs

31.32.11 Method getFieldTable()

```
public void
getFieldTable(
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    float[] class_data,
    mil.dtra.hpac.server.scipuff.StringListHolder titles,
    mil.dtra.hpac.server.scipuff.StringListHolder columns,
    mil.dtra.hpac.server.scipuff.StringListHolder rows,
    mil.dtra.hpac.server.scipuff.I3DHolder table_3d
)
```

Exceptions:

PlotException - if any error occurs

31.32.12 Method getFieldTableSize()

```
public void
getFieldTableSize(
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    float[] class_data,
    org.omg.CORBA.IntHolder ntables,
    org.omg.CORBA.IntHolder ncolumns,
    org.omg.CORBA.IntHolder nrows
)
```

Exceptions:

PlotException - if any error occurs

31.32.13 Method getFieldValue()

```
public void
getFieldValue(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    float x_point,
    float y_point,
    org.omg.CORBA.FloatHolder v_point
)
```

Exceptions:

PlotException - if any error occurs

31.32.14 Method getFieldValues()

```
public void
getFieldValues(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    int n_points,
    float[] x_points,
    float[] y_points,
    mil.dtra.hpac.server.effects.FloatArrayHolder v_points
)
```

Exceptions:

PlotException - if any error occurs

31.32.15 Method getPlotClasses()

```
public void
getPlotClasses(
    mil.dtra.hpac.server.scipuff.StringListHolder classes,
    mil.dtra.hpac.server.scipuff.StringListHolder choices,
    mil.dtra.hpac.server.scipuff.StringListHolder kinds,
    mil.dtra.hpac.server.scipuff.CategoryClass2DHolder category_classes,
    mil.dtra.hpac.server.scipuff.ClassChoice2DHolder class_choices,
    mil.dtra.hpac.server.plot.HPACFieldCoordinateTHolder project_coordinates
)
```

Exceptions:

PlotException - if any error occurs

31.32.16 Method getPlotTimes()

```
public void
getPlotTimes(
    mil.dtra.hpac.server.plot.HPACTimeTListHolder puff_times,
    mil.dtra.hpac.server.plot.HPACTimeTListHolder surf_times,
    mil.dtra.hpac.server.plot.HPACTimeTListHolder met_times,
    org.omg.CORBA.IntHolder neff_times
)
```

Exceptions:

PlotException - if any error occurs

31.32.17 Method initCircleEffects()

```
public int
initCircleEffects()
```

31.32.18 Method numPlotClasses()

```
public void
numPlotClasses(
    org.omg.CORBA.IntHolder nclasses,
    org.omg.CORBA.IntHolder nchoices,
    org.omg.CORBA.IntHolder nkinds
)
```

Exceptions:

PlotException - if any error occurs

31.32.19 Method numPlotTimes()

```
public void
numPlotTimes(
    org.omg.CORBA.IntHolder npuff_times,
    org.omg.CORBA.IntHolder nsurf_times,
    org.omg.CORBA.IntHolder nmet_times,
    org.omg.CORBA.IntHolder neff_times
)
```

Exceptions:

PlotException - if any error occurs

31.32.20 Method popAreaField()

```
public void
popAreaField(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    mil.dtra.hpac.server.plot.HPACContourHeaderT contour_header,
    mil.dtra.hpac.server.plot.HPACContourElementTListHolder contour_list
)
```

Exceptions:

PlotException - if any error occurs

31.32.21 Method queryCircleEffects()

```
public boolean
queryCircleEffects(
    int incident_index,
    int effect_id
)
```

31.32.22 Method terminatePlotGenerator()

```
public void
terminatePlotGenerator()
```

Should be called by the client when finished with the server. This is a hook for the server to clean up memory allocations, unload shared objects, etc. This must be called before the server process can be re-used by another client or by the same client for plot generation.

31.33 Interface SCIPUFF_FACTORY_SERVICE_NAME

```
mil.dtra.hpac.server.scipuff
public interface SCIPUFF_FACTORY_SERVICE_NAME
extends IDLEntity,
```

mil/dtra/hpac/server/scipuff/SCIPUFF_FACTORY_SERVICE_NAME.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
    public static final java.lang.String value
```

31.33.1 Field value

```
public static final java.lang.String value
```

31.34 Interface ScipuffAll

```
mil.dtra.hpac.server.scipuff
public interface ScipuffAll
extends DispersionCalculator, PlotGenerator, ScipuffAllOperations, ScipuffServer,
```

31.35 Interface ScipuffAllOperations

```
mil.dtra.hpac.server.scipuff
public interface ScipuffAllOperations
extends DispersionCalculatorOperations, PlotGeneratorOperations, ScipuffServerOperations,
```

Methods:

```
public void activate()
public boolean isAvailable()
```

31.35.1 Method activate()

```
public void
activate(
    java.lang.String user,
    java.lang.String project
)
```

Activates and initializes an inactive server. Not intended to be called by a remote client. For use by the server factory only. If CORBA had access modifiers, this would be private.

31.35.2 Method isAvailable()

```
public boolean
isAvailable()
```

Returns whether or not the server is available for activation. Not intended to be called by a remote client. For use by the server factory only. If CORBA had access modifiers, this would be private.

Returns:

true if the server is available, false if not

31.36 Interface ScipuffServer

```
mil.dtra.hpac.server.scipuff
public interface ScipuffServer
extends IDLEntity, Object, ScipuffServerOperations,
```

31.37 Interface ScipuffServerFactory

```
mil.dtra.hpac.server.scipuff
public interface ScipuffServerFactory
extends IDLEntity, Object, ScipuffServerFactoryOperations,
```

31.38 Interface ScipuffServerFactoryOperations

```
mil.dtra.hpac.server.scipuff
public interface ScipuffServerFactoryOperations
```

Methods:

```
public void deactivated()
public void deleteProject()
public byte[] exportProject()
public mil.dtra.hpac.server.scipuff.ScipuffServer getInstance()
public java.lang.String[] getSubstrates()
public void importProject()
public void shutdown()
```

31.38.1 Method deactivated()

```
public void
deactivated(
    mil.dtra.hpac.server.scipuff.ScipuffAll server,
    java.lang.String server_name
)
```

Used to notify ScipuffServerFactory that ScipuffServer is being deactivated. Not intended to be called by any remote client. For internal use only. If CORBA had access modifiers, this would be private.

31.38.2 Method deleteProject()

```
public void
deleteProject(
    java.lang.String username,
    java.lang.String projectname
)
```

31.38.3 Method exportProject()

```
public byte[]
exportProject(
    java.lang.String username,
    java.lang.String projectname
)
```

31.38.4 Method getInstance()

```
public mil.dtra.hpac.server.scipuff.ScipuffServer
getInstance(
    java.lang.String user_name,
    java.lang.String project_name
)
```

Returns an instance of ScipuffServer

31.38.5 Method getSubstrates()

```
public java.lang.String[]
getSubstrates()
```

Retrieves the list of available substrates for the secondary evaporation model. This list is read directly from the land use data file instead of asking HPACtool for the list. There is a similar `getSubstrates` method in the `DispersionCalculator` interface, but it requires that HPACtool be already initialized. This method provides the list of substrates without requiring initialization of HPACtool. The location of the land use data file is obtained from the `scipuff-server.LandUseDataFile` property in the `hpacserver.propsURL` properties file.

Returns:

a `String` array of the substrate list. If no substrates are available, returns a zero-length array.

Exceptions:

ScipuffException - if hpacserver.propsURL is not specified or cannot be read, if scipuffserver.LandUseDataFile is not specified or cannot be read, if the land use data file contains no substrate data, or if the data is improperly formatted.

31.38.6 Method importProject()

```
public void
importProject(
    java.lang.String username,
    java.lang.String projectname,
    byte[] zipfile
)
```

31.38.7 Method shutdown()

```
public void
shutdown()
```

Shuts down all per-client ScipuffServer objects in the inactive server pool.

31.39 Interface ScipuffServerOperations

```
mil.dtra.hpac.server.scipuff
public interface ScipuffServerOperations
```

Methods:

```
public void deleteProjectFiles()
public mil.dtra.hpac.server.scipuff.DispersionCalculator getDispersionCalculator()
public mil.dtra.hpac.server.scipuff.PlotGenerator getPlotGenerator()
public mil.dtra.hpac.server.scipuff.MessageT[] poll()
public void reply()
public void shutdown()
public void terminate()
```

31.39.1 Method deleteProjectFiles()

```
public void
deleteProjectFiles()
```

```
java.lang.String username,
java.lang.String projectname,
int request
)
```

31.39.2 Method getDispersionCalculator()

```
public mil.dtra.hpac.server.scipuff.DispersionCalculator
getDispersionCalculator()
```

Gets and activates a CORBA dispersion calculation interface, which is required for making any DispersionCalculator method calls.

Exceptions:

ScipuffException - if any problem occurs during activation

31.39.3 Method getPlotGenerator()

```
public mil.dtra.hpac.server.scipuff.PlotGenerator
getPlotGenerator(
    int max_grid_cells_per_surface,
    mil.dtra.hpac.server.IncidentT[] incidents,
    org.omg.CORBA.Any[] model_incidents
)
```

Gets and activates a PlotGenerator CORBA interface, which is required for making any PlotGenerator method calls.

Parameters:

max_grid_cells_per_surface - the maximum number of grid cells per surface field. Used for creating horizontal/vertical slices. May be 0 in which case a default value will be assigned by the HPAC Tool Engine.

incidents - list of IncidentT's that can do prompt effects. Must include at least all the incidents that can do prompt effects, but may optionally include other incidents that do not support prompt effects.

model_incidents - array of CORBA any objects containing the model-specific data for each IncidentT in the incidents array.

Exceptions:

PlotException - if any problem occurs during activation for plot generation

31.39.4 Method poll()

```
public mil.dtra.hpac.server.scipuff.MessageT[]
poll()
```

Obtains current status information from the running tool engine.

31.39.5 Method reply()

```
public void
reply( int reply )
```

Provides a reply to the server when a poll message indicated that a reply was required.

Parameters:

reply - one of HPAC_AFFIRMATIVE_REPLY or HPAC_NEGATIVE_REPLY. Other values will be ignored.

31.39.6 Method shutdown()

```
public void
shutdown( boolean immediate )
```

Used by ScipuffServerFactory to shut down a per-client ScipuffServer JVM process. Not intended to be called by any remote client. For internal use only. If CORBA had access modifiers, this would be private. See the shutdown() method on ScipuffServerFactory for clients to request shutdown of inactive servers.

Parameters:

immediate - if true, the shutdown will be fast; if false, the shutdown will wait scipuff-server.JVMkilldelay seconds before shutting down, allowing time for the user to read the final messages, if any, directed to the server's window, if showing. The property scipuffserver.JVMkilldelay is read from hpacserver.properties.

Exceptions:

ScipuffException - if any problem occurs during shutdown

31.39.7 Method `terminate()`

```
public void
terminate()
```

Terminates and cleans up a ScipuffServer instance. Should be called by the client when finished with the server. This is a hook for the server to clean up memory allocations, unload shared objects, etc.

Exceptions:

`ScipuffException` - if any problem occurs. Can probably be ignored.

31.40 Class `_DispersionCalculatorImplBase`

```
mil.dtra.hpac.server.scipuff
public abstract _DispersionCalculatorImplBase
extends ObjectImpl
implements DispersionCalculator, InvokeHandler,
```

Methods:

```
public java.lang.String[] _ids()
public org.omg.CORBA.portable.OutputStream _invoke()
```

31.40.1 Constructor `_DispersionCalculatorImplBase()`

```
public
_DispersionCalculatorImplBase()
```

31.40.2 Method `_ids()`

```
public java.lang.String[]
_ids()
```

31.40.3 Method `_invoke()`

```
public org.omg.CORBA.portable.OutputStream
_invoke(
    java.lang.String method,
    org.omg.CORBA.portable.InputStream in,
    org.omg.CORBA.portable.ResponseHandler rh
)
```

31.41 Class `_DispersionCalculatorStub`

```
mil.dtra.hpac.server.scipuff
public _DispersionCalculatorStub
extends ObjectImpl
implements DispersionCalculator,
```

Methods:

```
public java.lang.String[] _ids()
public void addIncident()
public boolean calculate()
public boolean calculate2()
public boolean calculateWithUrban()
public float currentTerrain()
public void currentWeather()
public java.lang.String[] getSubstrates()
public void processButtonClick()
public boolean restartFromPrevious()
public boolean restartFromPreviousWithUrban()
public boolean resumeCalculation()
public void terminateDispersionCalculator()
```

31.41.1 Constructor `_DispersionCalculatorStub()`

```
public
_DispersionCalculatorStub()
```

31.41.2 Constructor `_DispersionCalculatorStub()`

```
public
_DispersionCalculatorStub( org.omg.CORBA.portable.Delegate delegate )
```

31.41.3 Method `_ids()`

```
public java.lang.String[]
_ids()
```

31.41.4 Method `addIncident()`

```
public void
addIncident()
```

```

mil.dtra.hpac.server.IncidentTHolder incident,
org.omg.CORBA.AnyHolder model_incident,
mil.dtra.hpac.server.project.FlagsT flags
)

```

Adds incidents and their model incident data to the project. Should be called once for each `IncidentT` in the project. The `incident` and `model_incident` parameters are IDL inouts, making them appear as `Holder` objects in Java. These objects will not be changed directly by `addIncident` but they will be passed on to the model server's `updateIncident` method which may change them. After all incidents are added to the project, the client should call `calculate`.

Parameters:

- `incident` - (the holder for) the `IncidentT` struct to be added
- `model_incident` - (the holder for) the model-specific data (aka "private block") for this incident
- `flags` - parameters used by the tool engine to define a project's type of dispersion calculation. Must be the same for each incident added and the same as passed to `calculate`. Or else. No check is made.

Exceptions:

`ScipuffException` - if already calculating or if any internal error occurs

31.41.5 Method `calculate()`

```

public boolean
calculate(
    mil.dtra.weather.shared.data.weatherT.WeatherT weather,
    mil.dtra.hpac.server.project.LimitT limits,
    mil.dtra.hpac.server.project.OptionsT options,
    mil.dtra.hpac.server.project.FlagsT flags,
    mil.dtra.hpac.server.project.TemporalDomainTHolder temporal_domain,
    mil.dtra.hpac.server.project.SpatialDomainTHolder spatial_domain,
    float max_time_step,
    float output_interval
)

```

Initializes the HPAC Tool Engine, calls each model's `updateIncident()` with the "last chance" flag set, and starts the HPAC Tool Engine running. This will asynchronously return after the tool engine is successfully started. Future interaction with the tool engine must occur via the `poll` method.

Parameters:

weather - the weather (duh)
 limits - array size limits, etc. for the tool engine
 options - more parameters used by the tool engine
 flags - even more such parameters
 temporal_domain - specification of project start and end times
 spatial_domain - specification of project spatial domain
 max_time_step - maximum time step in seconds allowed for SCIPUFF
 output_interval - time interval in seconds for SCIPUFF output

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if already calculating, if any errors occurred during the update incident threads started by addIncident(), if HPAC Tool Engine cannot be initialized, if a lat/lon-to-UTM coordinate conversion error occurs, or if any internal error occurs

31.41.6 Method calculate2()

```

public boolean
calculate2(
  mil.dtra.hpac.server.IncidentT[] incidents,
  org.omg.CORBA.Any[] model_incidents,
  mil.dtra.weather.shared.data.weatherT.WeatherT weather,
  mil.dtra.hpac.server.project.LimitT limits,
  mil.dtra.hpac.server.project.OptionsT options,
  mil.dtra.hpac.server.project.FlagsT flags,
  mil.dtra.hpac.server.project.TemporalDomainTHolder temporal_domain,
  mil.dtra.hpac.server.project.SpatialDomainTHolder spatial_domain,
  float max_time_step,
  float output_interval
)
  
```

Performs a dispersion calculation using HPACtool. The following steps are performed: calls updateIncident() with the "last chance" flag set for each IncidentT provided, builds the input needed by HPACtool from the parameters provided, converts the project to UTM coordinates if required, initializes HPACtool, calls the HPACtool function HPACNewProject to create HPACtool project files, and, assuming HPACNewProject was successful, calls the HPACtool function HPACRunProject to start SCIPUFF running. Will return asynchronously after the tool engine is successfully started. Future interaction with the tool engine must occur via the poll method.

Parameters:

incidents - array of the IncidentT objects for this project
 model_incidents - array of the model-specific data (aka "private blocks") corresponding to the IncidentT's of the project. Must be provided as an array of CORBA "any" objects, each element of which is an "any" containing the model-specific data.
 weather - the weather (duh)
 limits - array size limits, etc. for the tool engine
 options - more parameters used by the tool engine
 flags - even more such parameters
 temporal_domain - specification of project start and end times
 spatial_domain - specification of project spatial domain
 max_time_step - maximum time step in seconds allowed for SCIPUFF
 output_interval - time interval in seconds for SCIPUFF output

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if already calculating, if any errors occurred during the update incident threads started by addIncident(), if HPAC Tool Engine cannot be initialized, if a lat/lon-to-UTM coordinate conversion error occurs, or if any internal error occurs

31.41.7 Method calculateWithUrban()

```

public boolean
calculateWithUrban(
  mil.dtra.hpac.server.IncidentT[] incidents,
  org.omg.CORBA.Any[] model_incidents,
  mil.dtra.weather.shared.data.weatherT.WeatherT weather,
  mil.dtra.hpac.server.project.LimitT limits,
  mil.dtra.hpac.server.project.OptionsT options,
  mil.dtra.hpac.server.project.FlagsT flags,
  mil.dtra.hpac.server.project.TemporalDomainTHolder temporal_domain,
  mil.dtra.hpac.server.project.SpatialDomainTHolder spatial_domain,
  float max_time_step,
  float output_interval,
  java.lang.String udm_params,
  java.lang.String uwm_params
)
  
```

31.41.8 Method currentTerrain()

```

public float
currentTerrain( mil.dtra.hpac.server.plot.HPACPointT location )
  
```

31.41.9 Method currentWeather()

```
public void
currentWeather(
    mil.dtra.hpac.server.plot.HPACPointT location,
    mil.dtra.hpac.server.EnvironmentTHolder environment,
    mil.dtra.hpac.server.EnviroBLTHolder boundary_layer
)
```

31.41.10 Method getSubstrates()

```
public java.lang.String[]
getSubstrates()
```

Retrieves the list of available substrates for the secondary evaporation model.

Returns:

a String array of the substrate list. If no substrates are available, returns a zero-length array.

Exceptions:

ScipuffException - if the native call to HPACGetSubstrates fails

31.41.11 Method processButtonClick()

```
public void
processButtonClick( int click )
```

Notifies the server that a button (left, middle, or right) was clicked on the user interface.

31.41.12 Method restartFromPrevious()

```
public boolean
restartFromPrevious(
    java.lang.String previous_username,
    java.lang.String previous_projectname,
    float time_to_restart_from,
    mil.dtra.hpac.server.IncidentT[] previous_incident_ts,
    org.omg.CORBA.Any[] previous_model_incidents,
    int previous_scipuff_mode,
    mil.dtra.hpac.server.project.AuditT new_audit_t,
    mil.dtra.weather.shared.data.weatherT.WeatherT new_weather_t,
```

```

mil.dtra.hpac.server.project.LimitT new_limit_t,
mil.dtra.hpac.server.project.OptionsT new_options_t,
mil.dtra.hpac.server.project.TemporalDomainTHolder new_tm_domain,
mil.dtra.hpac.server.project.SpatialDomainTHolder new_sp_domain,
float new_max_time_step,
float new_output_interval
)

```

Creates a new project from an existing one and runs the new project. All of the parameters must be provided because ScipuffServer maintains no state from the previous run. However, each parameter labeled MUST NOT CHANGE must contain values identical to the corresponding parameters in the previous run. No check is performed, but attempting to restart with changed parameters is not supported and may produce difficult-to-understand errors.

Parameters:

- previous_username - username of the previous project from which to restart
- previous_projectname - name of the previous project from which to restart
- time_to_restart_from - output time of the previous project from which to restart
- previous_incident_ts - array of the IncidentT structs from the previous project. MUST NOT CHANGE.
- previous_model_incidents - array of the model-specific data (aka "private blocks") corresponding to the IncidentT's of the previous project. These must be provided as an array of CORBA "any" objects, each element of which is an "any" containing a model-specific data. MUST NOT CHANGE.
- previous_scipuff_mode - scipuff calculation mode flag – either HF_FAST(1), HF_HAZARD(2), or HF_DUAL(4) – used in previous project. MUST NOT CHANGE.
- new_weather_t - the weather (duh). May change.
- new_limit_t - array size limits, etc. for the tool engine. May change but values should only be increased.
- new_options_t - more parameters used by the tool engine. May change.
- new_tm_domain - specified temporal domain of the project. Only the fEndTime field may change.
- new_sp_domain - specified spatial domain of the project. May change.
- new_max_time_step - max time step for SCIPUFF. May change.
- new_output_interval - time interval in seconds for SCIPUFF output. May change.
- audit - AuditT structure specifying analyst, etc.

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if any error occurs.

31.41.13 Method restartFromPreviousWithUrban()

```
public boolean
restartFromPreviousWithUrban(
    java.lang.String previous_username,
    java.lang.String previous_projectname,
    float time_to_restart_from,
    mil.dtra.hpac.server.IncidentT[] previous_incident_ts,
    org.omg.CORBA.Any[] previous_model_incidents,
    int previous_scipuff_mode,
    mil.dtra.hpac.server.project.AuditT new_audit_t,
    mil.dtra.weather.shared.data.weatherT.WeatherT new_weather_t,
    mil.dtra.hpac.server.project.LimitT new_limit_t,
    mil.dtra.hpac.server.project.OptionsT new_options_t,
    mil.dtra.hpac.server.project.TemporalDomainTHolder new_tm_domain,
    mil.dtra.hpac.server.project.SpatialDomainTHolder new_sp_domain,
    float new_max_time_step,
    float new_output_interval,
    java.lang.String udm_params,
    java.lang.String uwm_params
)
```

31.41.14 Method resumeCalculation()

```
public boolean
resumeCalculation(
    mil.dtra.hpac.server.IncidentT[] incidents,
    org.omg.CORBA.Any[] model_incidents,
    mil.dtra.weather.shared.data.weatherT.WeatherT weather,
    mil.dtra.hpac.server.project.LimitT limits,
    mil.dtra.hpac.server.project.TemporalDomainTHolder temporal_domain,
    mil.dtra.hpac.server.project.SpatialDomainTHolder spatial_domain,
    float max_time_step,
    float output_interval
)
```

Resumes calculation of a previously "Stopped" or "Halted" run. This will re-initialize the HPAC Tool Engine and call HPACRunProject to resume the previous run where it had stopped. Like calculate(), this will asynchronously return after the tool engine is successfully started. Future interaction with the tool engine must occur via the poll method. All of the parameters labeled MUST NOT CHANGE must contain values identical to the corresponding parameters in the previously stopped or halted run. No check is performed, but attempting to resume with changed parameters is unsupported and may produce difficult-to-understand errors.

Parameters:

incidents - array of IncidentT objects used in the run to be resumed. MUST NOT CHANGE.

model_incidents - array of CORBA any objects containing the model-specific data for each IncidentT in the incidents array. MUST NOT CHANGE.

weather - the weather (duh). MUST NOT CHANGE.

limits - array size limits, etc. for the tool engine. May change but values should only be increased.

temporal_domain - specification of project start and end times. Only the fEndTime field may change.

spatial_domain - specification of project spatial domain. MUST NOT CHANGE.

max_time_step - maximum time step in seconds allowed for SCIPUFF. May change.

output_interval - time interval in seconds for SCIPUFF output. May change.

audit - AuditT structure specifying analyst, etc.

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if already calculating, if HPAC Tool Engine cannot be initialized, if a lat/lon-to-UTM coordinate conversion error occurs, or if any internal error occurs

31.41.15 Method terminateDispersionCalculator()

```
public void
terminateDispersionCalculator()
```

Should be called by the client when finished with the server. This is a hook for the server to clean up memory allocations, unload shared objects, etc. This must be called before the server process can be re-used by another client or by the same client for plot generation.

31.42 Class _PlotGeneratorImplBase

```
mil.dtra.hpac.server.scipuff
public abstract _PlotGeneratorImplBase
extends ObjectImpl
implements InvokeHandler, PlotGenerator,
```

Methods:

```
public java.lang.String[] _ids()
public org.omg.CORBA.portable.OutputStream _invoke()
```

31.42.1 Constructor _PlotGeneratorImplBase()

```
public
_PlotGeneratorImplBase()
```

31.42.2 Method _ids()

```
public java.lang.String[]
_ids()
```

31.42.3 Method _invoke()

```
public org.omg.CORBA.portable.OutputStream
_invoke(
    java.lang.String method,
    org.omg.CORBA.portable.InputStream in,
    org.omg.CORBA.portable.ResponseHandler rh
)
```

31.43 Class _PlotGeneratorStub

```
mil.dtra.hpac.server.scipuff
public _PlotGeneratorStub
extends ObjectImpl
implements PlotGenerator,
```

Methods:

```
public java.lang.String[] _ids()
public void computeCircleEffects()
public void contourCount()
public void contourField()
public int createField()
public void deleteField()
public void exitCircleEffects()
public void getField()
public void getFieldDomain()
public void getFieldMinMax()
public void getFieldSize()
public void getFieldTable()
public void getFieldTableSize()
public void getFieldValue()
public void getFieldValues()
public void getPlotClasses()
public void getPlotTimes()
```

```
public int initCircleEffects()
public void numPlotClasses()
public void numPlotTimes()
public void popAreaField()
public boolean queryCircleEffects()
public void terminatePlotGenerator()
```

31.43.1 Constructor _PlotGeneratorStub()

```
public
_PlotGeneratorStub()
```

31.43.2 Constructor _PlotGeneratorStub()

```
public
_PlotGeneratorStub( org.omg.CORBA.portable.Delegate delegate )
```

31.43.3 Method _ids()

```
public java.lang.String[]
_ids()
```

31.43.4 Method computeCircleEffects()

```
public void
computeCircleEffects(
    int incident_index,
    int effect_id,
    int request,
    mil.dtra.hpac.server.scipuff.CircleEffectInputT ceit,
    mil.dtra.hpac.server.scipuff.CircleEffectOutputTHolder ceot
)
```

31.43.5 Method contourCount()

```
public void
contourCount(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
```

```

mil.dtra.hpac.server.plot.HPACContourHeaderT contour_header,
mil.dtra.hpac.server.plot.HPACContourElementT[] contour_list,
int mode,
org.omg.CORBA.IntHolder num_lines,
org.omg.CORBA.IntHolder num_points
)

```

Counts the number of contour lines and contour points to be created by `contourField`.

Parameters:

`sag_field_id` - the SAG field identifier
`plot_field` - describes the field used to generate the 8 SAG field specified by `sage_field_id`
`plot_type` - describes the type of plot to be generated from the field data
`contour_header` - describes the array of contour elements in `contour_list`
`contour_list` - array of contour elements
`mode` - contour generation mode. One of `OPEN_CONTOUR`, `CLOSE_CONTOUR`, or `LATLON_OUTPUT`
`num_lines` - upon return contains the number of lines to be generated
`num_points` - upon return contains the number of points generated

Exceptions:

`PlotException` - if any error occurs

31.43.6 Method `contourField()`

```

public void
contourField(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    mil.dtra.hpac.server.plot.HPACContourHeaderT contour_header,
    mil.dtra.hpac.server.plot.HPACContourElementTListHolder contour_list,
    int mode,
    mil.dtra.hpac.server.plot.HPACLineTListHolder lines,
    mil.dtra.hpac.server.plot.HPACPointTListHolder points
)

```

Exceptions:

`PlotException` - if any error occurs

31.43.7 Method createField()

```
public int
createField(
    mil.dtra.hpac.server.plot.HPACPlotFieldTHolder plot_field,
    float[] class_data
)
```

Creates an HPAC plot field.

Parameters:

plot_field - describes the plot field to be created
 class_data - additional plot field class data as required by the fFieldCategory and fFieldClass elements of the field

Returns:

the SAG grid identifier

Exceptions:

PlotException - if any error occurs

31.43.8 Method deleteField()

```
public void
deleteField( int sag_field_id )
```

Exceptions:

PlotException - if any error occurs

31.43.9 Method exitCircleEffects()

```
public void
exitCircleEffects()
```

31.43.10 Method getField()

```
public void
getField(
```

```

int sag_field_id,
mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
mil.dtra.hpac.server.plot.HPACPlotFieldNodeTListHolder plot_nodes,
mil.dtra.hpac.server.plot.HPACPlotFieldTriangleTListHolder plot_triangles
)

```

Exceptions:

PlotException - if any error occurs

31.43.11 Method getFieldDomain()

```

public void
getFieldDomain(
    int sag_field_id,
    org.omg.CORBA.IntHolder nx,
    org.omg.CORBA.IntHolder ny,
    org.omg.CORBA.FloatHolder xMin,
    org.omg.CORBA.FloatHolder yMin,
    org.omg.CORBA.FloatHolder dx,
    org.omg.CORBA.FloatHolder dy
)

```

Exceptions:

PlotException - if any error occurs

31.43.12 Method getFieldMinMax()

```

public void
getFieldMinMax(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    org.omg.CORBA.FloatHolder mean_min,
    org.omg.CORBA.FloatHolder mean_max,
    org.omg.CORBA.FloatHolder var_min,
    org.omg.CORBA.FloatHolder var_max,
    org.omg.CORBA.FloatHolder plot_min,
    org.omg.CORBA.FloatHolder plot_max
)

```

Exceptions:

PlotException - if any error occurs

31.43.13 Method getFieldSize()

```
public void
getFieldSize(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    org.omg.CORBA.IntHolder number_nodes,
    org.omg.CORBA.IntHolder number_triangles
)
```

Exceptions:

PlotException - if any error occurs

31.43.14 Method getFieldTable()

```
public void
getFieldTable(
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    float[] class_data,
    mil.dtra.hpac.server.scipuff.StringListHolder titles,
    mil.dtra.hpac.server.scipuff.StringListHolder columns,
    mil.dtra.hpac.server.scipuff.StringListHolder rows,
    mil.dtra.hpac.server.scipuff.I3DHolder table_3d
)
```

Exceptions:

PlotException - if any error occurs

31.43.15 Method getFieldTableSize()

```
public void
getFieldTableSize(
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    float[] class_data,
    org.omg.CORBA.IntHolder ntables,
    org.omg.CORBA.IntHolder ncolumns,
    org.omg.CORBA.IntHolder nrows
)
```

Exceptions:

PlotException - if any error occurs

31.43.16 Method getFieldValue()

```
public void
getFieldValue(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    float x_point,
    float y_point,
    org.omg.CORBA.FloatHolder v_point
)
```

Exceptions:

PlotException - if any error occurs

31.43.17 Method getFieldValues()

```
public void
getFieldValues(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    int n_points,
    float[] x_points,
    float[] y_points,
    mil.dtra.hpac.server.effects.FloatArrayHolder v_points
)
```

Exceptions:

PlotException - if any error occurs

31.43.18 Method getPlotClasses()

```
public void
getPlotClasses(
    mil.dtra.hpac.server.scipuff.StringListHolder classes,
    mil.dtra.hpac.server.scipuff.StringListHolder choices,
    mil.dtra.hpac.server.scipuff.StringListHolder kinds,
    mil.dtra.hpac.server.scipuff.CategoryClass2DHolder category_classes,
    mil.dtra.hpac.server.scipuff.ClassChoice2DHolder class_choices,
    mil.dtra.hpac.server.plot.HPACFieldCoordinateTHolder project_coordinates
)
```

Exceptions:

PlotException - if any error occurs

31.43.19 Method getPlotTimes()

```
public void
getPlotTimes(  
    mil.dtra.hpac.server.plot.HPACTimeTListHolder  puff_times,  
    mil.dtra.hpac.server.plot.HPACTimeTListHolder  surf_times,  
    mil.dtra.hpac.server.plot.HPACTimeTListHolder  met_times,  
    org.omg.CORBA.IntHolder  neff_times  
)
```

Exceptions:

PlotException - if any error occurs

31.43.20 Method initCircleEffects()

```
public int
initCircleEffects()
```

31.43.21 Method numPlotClasses()

```
public void
numPlotClasses(  
    org.omg.CORBA.IntHolder  nclasses,  
    org.omg.CORBA.IntHolder  nchoices,  
    org.omg.CORBA.IntHolder  nkinds  
)
```

Exceptions:

PlotException - if any error occurs

31.43.22 Method numPlotTimes()

```
public void
numPlotTimes(  
    org.omg.CORBA.IntHolder  npuff_times,  
    org.omg.CORBA.IntHolder  nsurf_times,  
    org.omg.CORBA.IntHolder  nmet_times,  
    org.omg.CORBA.IntHolder  neff_times  
)
```

Exceptions:

PlotException - if any error occurs

31.43.23 Method **popAreaField()**

```
public void
popAreaField(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    mil.dtra.hpac.server.plot.HPACContourHeaderT contour_header,
    mil.dtra.hpac.server.plot.HPACContourElementTListHolder contour_list
)
```

Exceptions:

PlotException - if any error occurs

31.43.24 Method **queryCircleEffects()**

```
public boolean
queryCircleEffects(
    int incident_index,
    int effect_id
)
```

31.43.25 Method **terminatePlotGenerator()**

```
public void
terminatePlotGenerator()
```

Should be called by the client when finished with the server. This is a hook for the server to clean up memory allocations, unload shared objects, etc. This must be called before the server process can be re-used by another client or by the same client for plot generation.

31.44 Class **_ScipuffAllImplBase**

```
mil.dtra.hpac.server.scipuff
public abstract _ScipuffAllImplBase
extends ObjectImpl
implements InvokeHandler, ScipuffAll,
```

Methods:

```
    public java.lang.String[] _ids()
    public org.omg.CORBA.portable.OutputStream _invoke()
```

31.44.1 Constructor _ScipuffAllImplBase()

```
public
_ScipuffAllImplBase()
```

31.44.2 Method _ids()

```
public java.lang.String[]
_ids()
```

31.44.3 Method _invoke()

```
public org.omg.CORBA.portable.OutputStream
_invoke(
    java.lang.String method,
    org.omg.CORBA.portable.InputStream in,
    org.omg.CORBA.portable.ResponseHandler rh
)
```

31.45 Class _ScipuffAllStub

```
mil.dtra.hpac.server.scipuff
public _ScipuffAllStub
extends ObjectImpl
implements ScipuffAll,
```

Methods:

```
public java.lang.String[] _ids()
public void activate()
public void addIncident()
public boolean calculate()
public boolean calculate2()
public boolean calculateWithUrban()
public void computeCircleEffects()
public void contourCount()
public void contourField()
public int createField()
public float currentTerrain()
public void currentWeather()
public void deleteField()
public void deleteProjectFiles()
public void exitCircleEffects()
public mil.dtra.hpac.server.scipuff.DispersionCalculator getDispersionCalculator()
public void getField()
```

```

public void getFieldDomain()
public void getFieldMinMax()
public void getFieldSize()
public void getFieldTable()
public void getFieldTableSize()
public void getFieldValue()
public void getFieldValues()
public void getPlotClasses()
public mil.dtra.hpac.server.scipuff.PlotGenerator getPlotGenerator()
public void getPlotTimes()
public java.lang.String[] getSubstrates()
public int initCircleEffects()
public boolean isAvailable()
public void numPlotClasses()
public void numPlotTimes()
public mil.dtra.hpac.server.scipuff.MessageT[] poll()
public void popAreaField()
public void processButtonClick()
public boolean queryCircleEffects()
public void reply()
public boolean restartFromPrevious()
public boolean restartFromPreviousWithUrban()
public boolean resumeCalculation()
public void shutdown()
public void terminate()
public void terminateDispersionCalculator()
public void terminatePlotGenerator()

```

31.45.1 Constructor ScipuffAllStub()

```

public
ScipuffAllStub()

```

31.45.2 Constructor ScipuffAllStub()

```

public
ScipuffAllStub( org.omg.CORBA.portable.Delegate delegate )

```

31.45.3 Method ids()

```

public java.lang.String[]
ids()

```

31.45.4 Method activate()

```
public void
activate(
    java.lang.String user,
    java.lang.String project
)
```

Activates and initializes an inactive server. Not intended to be called by a remote client. For use by the server factory only. If CORBA had access modifiers, this would be private.

31.45.5 Method addIncident()

```
public void
addIncident(
    mil.dtra.hpac.server.IncidentTHolder incident,
    org.omg.CORBA.AnyHolder model_incident,
    mil.dtra.hpac.server.project.FlagsT flags
)
```

Adds incidents and their model incident data to the project. Should be called once for each IncidentT in the project. The incident and model_incident parameters are IDL inouts, making them appear as Holder objects in Java. These objects will not be changed directly by addIncident but they will be passed on to the model server's updateIncident method which may change them. After all incidents are added to the project, the client should call calculate.

Parameters:

- incident - (the holder for) the IncidentT struct to be added
- model_incident - (the holder for) the model-specific data (aka "private block") for this incident
- flags - parameters used by the tool engine to define a project's type of dispersion calculation. Must be the same for each incident added and the same as passed to calculate. Or else. No check is made.

Exceptions:

- ScipuffException - if already calculating or if any internal error occurs

31.45.6 Method calculate()

```
public boolean
calculate(
    mil.dtra.weather.shared.data.weatherT.WeatherT weather,
    mil.dtra.hpac.server.project.LimitT limits,
    mil.dtra.hpac.server.project.OptionsT options,
    mil.dtra.hpac.server.project.FlagsT flags,
    mil.dtra.hpac.server.project.TemporalDomainTHolder temporal_domain,
    mil.dtra.hpac.server.project.SpatialDomainTHolder spatial_domain,
    float max_time_step,
    float output_interval
)
```

Initializes the HPAC Tool Engine, calls each model's updateIncident() with the "last chance" flag set, and starts the HPAC Tool Engine running. This will asynchronously return after the tool engine is successfully started. Future interaction with the tool engine must occur via the poll method.

Parameters:

- weather - the weather (duh)
- limits - array size limits, etc. for the tool engine
- options - more parameters used by the tool engine
- flags - even more such parameters
- temporal_domain - specification of project start and end times
- spatial_domain - specification of project spatial domain
- max_time_step - maximum time step in seconds allowed for SCIPUFF
- output_interval - time interval in seconds for SCIPUFF output

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if already calculating, if any errors occurred during the update incident threads started by addIncident(), if HPAC Tool Engine cannot be initialized, if a lat/lon-to-UTM coordinate conversion error occurs, or if any internal error occurs

31.45.7 Method calculate2()

```
public boolean
calculate2(
```

```

mil.dtra.hpac.server.IncidentT[] incidents,
org.omg.CORBA.Any[] model_incidents,
mil.dtra.weather.shared.data.weatherT.WeatherT weather,
mil.dtra.hpac.server.project.LimitT limits,
mil.dtra.hpac.server.project.OptionsT options,
mil.dtra.hpac.server.project.FlagsT flags,
mil.dtra.hpac.server.project.TemporalDomainTHolder temporal_domain,
mil.dtra.hpac.server.project.SpatialDomainTHolder spatial_domain,
float max_time_step,
float output_interval
)

```

Performs a dispersion calculation using HPACtool. The following steps are performed: calls updateIncident() with the "last chance" flag set for each IncidentT provided, builds the input needed by HPACtool from the parameters provided, converts the project to UTM coordinates if required, initializes HPACtool, calls the HPACtool function HPACNewProject to create HPACtool project files, and, assuming HPACNewProject was successful, calls the HPACtool function HPACRunProject to start SCIPUFF running. Will return asynchronously after the tool engine is successfully started. Future interaction with the tool engine must occur via the poll method.

Parameters:

- incidents - array of the IncidentT objects for this project
- model_incidents - array of the model-specific data (aka "private blocks") corresponding to the IncidentT's of the project. Must be provided as an array of CORBA "any" objects, each element of which is an "any" containing the model-specific data.
- weather - the weather (duh)
- limits - array size limits, etc. for the tool engine
- options - more parameters used by the tool engine
- flags - even more such parameters
- temporal_domain - specification of project start and end times
- spatial_domain - specification of project spatial domain
- max_time_step - maximum time step in seconds allowed for SCIPUFF
- output_interval - time interval in seconds for SCIPUFF output

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if already calculating, if any errors occurred during the update incident threads started by addIncident(), if HPAC Tool Engine cannot be initialized, if a lat/lon-to-UTM coordinate conversion error occurs, or if any internal error occurs

31.45.8 Method calculateWithUrban()

```
public boolean
calculateWithUrban(
    mil.dtra.hpac.server.IncidentT[] incidents,
    org.omg.CORBA.Any[] model_incidents,
    mil.dtra.weather.shared.data.weatherT.WeatherT weather,
    mil.dtra.hpac.server.project.LimitT limits,
    mil.dtra.hpac.server.project.OptionsT options,
    mil.dtra.hpac.server.project.FlagsT flags,
    mil.dtra.hpac.server.project.TemporalDomainTHolder temporal_domain,
    mil.dtra.hpac.server.project.SpatialDomainTHolder spatial_domain,
    float max_time_step,
    float output_interval,
    java.lang.String udm_params,
    java.lang.String uwm_params
)
```

31.45.9 Method computeCircleEffects()

```
public void
computeCircleEffects(
    int incident_index,
    int effect_id,
    int request,
    mil.dtra.hpac.server.scipuff.CircleEffectInputT ceit,
    mil.dtra.hpac.server.scipuff.CircleEffectOutputTHolder ceot
)
```

31.45.10 Method contourCount()

```
public void
contourCount(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    mil.dtra.hpac.server.plot.HPACContourHeaderT contour_header,
    mil.dtra.hpac.server.plot.HPACContourElementT[] contour_list,
    int mode,
    org.omg.CORBA.IntHolder num_lines,
    org.omg.CORBA.IntHolder num_points
)
```

Counts the number of contour lines and contour points to be created by `contourField`.

Parameters:

sag_field_id - the SAG field identifier
plot_field - describes the field used to generate the 8 SAG field specified by **sage_field_id**
plot_type - describes the type of plot to be generated from the field data
contour_header - describes the array of contour elements in **contour_list**
contour_list - array of contour elements
mode - contour generation mode. One of **OPEN_CONTOUR**, **CLOSE_CONTOUR**, or **LATLON_OUTPUT**
num_lines - upon return contains the number of lines to be generated
num_points - upon return contains the number of points generated

Exceptions:

PlotException - if any error occurs

31.45.11 Method contourField()

```

public void
contourField(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    mil.dtra.hpac.server.plot.HPACContourHeaderT contour_header,
    mil.dtra.hpac.server.plot.HPACContourElementTListHolder contour_list,
    int mode,
    mil.dtra.hpac.server.plot.HPACLineTListHolder lines,
    mil.dtra.hpac.server.plot.HPACPPointTListHolder points
)
  
```

Exceptions:

PlotException - if any error occurs

31.45.12 Method createField()

```

public int
createField(
    mil.dtra.hpac.server.plot.HPACPlotFieldTHolder plot_field,
    float[] class_data
)
  
```

Creates an HPAC plot field.

Parameters:

`plot_field` - describes the plot field to be created
`class_data` - additional plot field class data as required by the `fFieldCategory` and `fFieldClass` elements of the `field`

Returns:

the SAG grid identifier

Exceptions:

`PlotException` - if any error occurs

31.45.13 Method currentTerrain()

```
public float
currentTerrain( mil.dtra.hpac.server.plot.HPACPointT location )
```

31.45.14 Method currentWeather()

```
public void
currentWeather(
    mil.dtra.hpac.server.plot.HPACPointT location,
    mil.dtra.hpac.server.EnvironmentTHolder environment,
    mil.dtra.hpac.server.EnviroBLTHolder boundary_layer
)
```

31.45.15 Method deleteField()

```
public void
deleteField( int sag_field_id )
```

Exceptions:

`PlotException` - if any error occurs

31.45.16 Method deleteProjectFiles()

```
public void
deleteProjectFiles(
    java.lang.String username,
    java.lang.String projectname,
    int request
)
```

31.45.17 Method exitCircleEffects()

```
public void
exitCircleEffects()
```

31.45.18 Method getDispersionCalculator()

```
public mil.dtra.hpac.server.scipuff.DispersionCalculator
getDispersionCalculator()
```

Gets and activates a CORBA dispersion calculation interface, which is required for making any DispersionCalculator method calls.

Exceptions:

ScipuffException - if any problem occurs during activation

31.45.19 Method getField()

```
public void
getField(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    mil.dtra.hpac.server.plot.HPACPlotFieldNodeTListHolder plot_nodes,
    mil.dtra.hpac.server.plot.HPACPlotFieldTriangleTListHolder plot_triangles
)
```

Exceptions:

PlotException - if any error occurs

31.45.20 Method getFieldDomain()

```
public void
getFieldDomain(
    int sag_field_id,
    org.omg.CORBA.IntHolder nx,
    org.omg.CORBA.IntHolder ny,
    org.omg.CORBA.FloatHolder xMin,
    org.omg.CORBA.FloatHolder yMin,
    org.omg.CORBA.FloatHolder dx,
    org.omg.CORBA.FloatHolder dy
)
```

Exceptions:

PlotException - if any error occurs

31.45.21 Method getFieldMinMax()

```
public void
getFieldMinMax(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    org.omg.CORBA.FloatHolder mean_min,
    org.omg.CORBA.FloatHolder mean_max,
    org.omg.CORBA.FloatHolder var_min,
    org.omg.CORBA.FloatHolder var_max,
    org.omg.CORBA.FloatHolder plot_min,
    org.omg.CORBA.FloatHolder plot_max
)
```

Exceptions:

PlotException - if any error occurs

31.45.22 Method getFieldSize()

```
public void
getFieldSize(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    org.omg.CORBA.IntHolder number_nodes,
    org.omg.CORBA.IntHolder number_triangles
)
```

Exceptions:

PlotException - if any error occurs

31.45.23 Method getFieldTable()

```
public void
getFieldTable(
```

```

mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
float[] class_data,
mil.dtra.hpac.server.scipuff.StringListHolder titles,
mil.dtra.hpac.server.scipuff.StringListHolder columns,
mil.dtra.hpac.server.scipuff.StringListHolder rows,
mil.dtra.hpac.server.scipuff.I3DHolder table_3d
)

```

Exceptions:

PlotException - if any error occurs

31.45.24 Method getFieldTableSize()

```

public void
getFieldTableSize(
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    float[] class_data,
    org.omg.CORBA.IntHolder ntables,
    org.omg.CORBA.IntHolder ncolumns,
    org.omg.CORBA.IntHolder nrows
)

```

Exceptions:

PlotException - if any error occurs

31.45.25 Method getFieldValue()

```

public void
getFieldValue(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    float x_point,
    float y_point,
    org.omg.CORBA.FloatHolder v_point
)

```

Exceptions:

PlotException - if any error occurs

31.45.26 Method getFieldValues()

```
public void
getFieldValues(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    int n_points,
    float[] x_points,
    float[] y_points,
    mil.dtra.hpac.server.effects.FloatArrayHolder v_points
)
```

Exceptions:

PlotException - if any error occurs

31.45.27 Method getPlotClasses()

```
public void
getPlotClasses(
    mil.dtra.hpac.server.scipuff.StringListHolder classes,
    mil.dtra.hpac.server.scipuff.StringListHolder choices,
    mil.dtra.hpac.server.scipuff.StringListHolder kinds,
    mil.dtra.hpac.server.scipuff.CategoryClass2DHolder category_classes,
    mil.dtra.hpac.server.scipuff.ClassChoice2DHolder class_choices,
    mil.dtra.hpac.server.plot.HPACFieldCoordinateTHolder project_coordinates
)
```

Exceptions:

PlotException - if any error occurs

31.45.28 Method getPlotGenerator()

```
public mil.dtra.hpac.server.scipuff.PlotGenerator
getPlotGenerator(
    int max_grid_cells_per_surface,
    mil.dtra.hpac.server.IncidentT[] incidents,
    org.omg.CORBA.Any[] model_incidents
)
```

Gets and activates a PlotGenerator CORBA interface, which is required for making any PlotGenerator method calls.

Parameters:

`max_grid_cells_per_surface` - the maximum number of grid cells per surface field. Used for creating horizontal/vertical slices. May be 0 in which case a default value will be assigned by the HPAC Tool Engine.

`incidents` - list of `IncidentT`'s that can do prompt effects. Must include at least all the incidents that can do prompt effects, but may optionally include other incidents that do not support prompt effects.

`model_incidents` - array of CORBA any objects containing the model-specific data for each `IncidentT` in the `incidents` array.

Exceptions:

`PlotException` - if any problem occurs during activation for plot generation

31.45.29 Method `getPlotTimes()`

```
public void
getPlotTimes(
    mil.dtra.hpac.server.plot.HPACTimeTListHolder puff_times,
    mil.dtra.hpac.server.plot.HPACTimeTListHolder surf_times,
    mil.dtra.hpac.server.plot.HPACTimeTListHolder met_times,
    org.omg.CORBA.IntHolder neff_times
)
```

Exceptions:

`PlotException` - if any error occurs

31.45.30 Method `getSubstrates()`

```
public java.lang.String[]
getSubstrates()
```

Retrieves the list of available substrates for the secondary evaporation model.

Returns:

a `String` array of the substrate list. If no substrates are available, returns a zero-length array.

Exceptions:

`ScipuffException` - if the native call to `HPACGetSubstrates` fails

31.45.31 Method initCircleEffects()

```
public int
initCircleEffects()
```

31.45.32 Method isAvailable()

```
public boolean
isAvailable()
```

Returns whether or not the server is available for activation. Not intended to be called by a remote client. For use by the server factory only. If CORBA had access modifiers, this would be private.

Returns:

true if the server is available, false if not

31.45.33 Method numPlotClasses()

```
public void
numPlotClasses(
    org.omg.CORBA.IntHolder nclasses,
    org.omg.CORBA.IntHolder nchoices,
    org.omg.CORBA.IntHolder nkinds
)
```

Exceptions:

PlotException - if any error occurs

31.45.34 Method numPlotTimes()

```
public void
numPlotTimes(
    org.omg.CORBA.IntHolder npuff_times,
    org.omg.CORBA.IntHolder nsurf_times,
    org.omg.CORBA.IntHolder nmet_times,
    org.omg.CORBA.IntHolder neff_times
)
```

Exceptions:

PlotException - if any error occurs

31.45.35 Method poll()

```
public mil.dtra.hpac.server.scipuff.MessageT[]
poll()
```

Obtains current status information from the running tool engine.

31.45.36 Method popAreaField()

```
public void
popAreaField(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type,
    mil.dtra.hpac.server.plot.HPACContourHeaderT contour_header,
    mil.dtra.hpac.server.plot.HPACContourElementTListHolder contour_list
)
```

Exceptions:

PlotException - if any error occurs

31.45.37 Method processButtonClick()

```
public void
processButtonClick( int click )
```

Notifies the server that a button (left, middle, or right) was clicked on the user interface.

31.45.38 Method queryCircleEffects()

```
public boolean
queryCircleEffects(
    int incident_index,
    int effect_id
)
```

31.45.39 Method reply()

```
public void
reply( int reply )
```

Provides a reply to the server when a poll message indicated that a reply was required.

Parameters:

reply - one of HPAC_AFFIRMATIVE_REPLY or HPAC_NEGATIVE_REPLY. Other values will be ignored.

31.45.40 Method restartFromPrevious()

```
public boolean
restartFromPrevious(
    java.lang.String previous_username,
    java.lang.String previous_projectname,
    float time_to_restart_from,
    mil.dtra.hpac.server.IncidentT[] previous_incident_ts,
    org.omg.CORBA.Any[] previous_model_incidents,
    int previous_scipuff_mode,
    mil.dtra.hpac.server.project.AuditT new_audit_t,
    mil.dtra.weather.shared.data.weatherT.WeatherT new_weather_t,
    mil.dtra.hpac.server.project.LimitT new_limit_t,
    mil.dtra.hpac.server.project.OptionsT new_options_t,
    mil.dtra.hpac.server.project.TemporalDomainTHolder new_tm_domain,
    mil.dtra.hpac.server.project.SpatialDomainTHolder new_sp_domain,
    float new_max_time_step,
    float new_output_interval
)
```

Creates a new project from an existing one and runs the new project. All of the parameters must be provided because ScipuffServer maintains no state from the previous run. However, each parameter labeled MUST NOT CHANGE must contain values identical to the corresponding parameters in the previous run. No check is performed, but attempting to restart with changed parameters is not supported and may produce difficult-to-understand errors.

Parameters:

previous_username - username of the previous project from which to restart
 previous_projectname - name of the previous project from which to restart
 time_to_restart_from - output time of the previous project from which to restart
 previous_incident_ts - array of the IncidentT structs from the previous project.
 MUST NOT CHANGE.
 previous_model_incidents - array of the model-specific data (aka "private blocks")
 corresponding to the IncidentT's of the previous project. These must be provided

as an array of CORBA "any" objects, each element of which is an "any" containing a model-specific data. MUST NOT CHANGE.

previous_scipuff_mode - scipuff calculation mode flag – either HF_FAST (1), HF_HAZARD(2), or HF_DUAL(4) – used in previous project. MUST NOT CHANGE.

new_weather_t - the weather (duh). May change.

new_limit_t - array size limits, etc. for the tool engine. May change but values should only be increased.

new_options_t - more parameters used by the tool engine. May change.

new_tm_domain - specified temporal domain of the project. Only the fEndTime field may change.

new_sp_domain - specified spatial domain of the project. May change.

new_max_time_step - max time step for SCIPUFF. May change.

new_output_interval - time interval in seconds for SCIPUFF output. May change.

audit - AuditT structure specifying analyst, etc.

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if any error occurs.

31.45.41 Method restartFromPreviousWithUrban()

```
public boolean
restartFromPreviousWithUrban(
    java.lang.String previous_username,
    java.lang.String previous_projectname,
    float time_to_restart_from,
    mil.dtra.hpac.server.IncidentT[] previous_incident_ts,
    org.omg.CORBA.Any[] previous_model_incidents,
    int previous_scipuff_mode,
    mil.dtra.hpac.server.project.AuditT new_audit_t,
    mil.dtra.weather.shared.data.weatherT.WeatherT new_weather_t,
    mil.dtra.hpac.server.project.LimitT new_limit_t,
    mil.dtra.hpac.server.project.OptionsT new_options_t,
    mil.dtra.hpac.server.project.TemporalDomainTHolder new_tm_domain,
    mil.dtra.hpac.server.project.SpatialDomainTHolder new_sp_domain,
    float new_max_time_step,
    float new_output_interval,
    java.lang.String udm_params,
    java.lang.String uwm_params
)
```

31.45.42 Method resumeCalculation()

```
public boolean
resumeCalculation(
    mil.dtra.hpac.server.IncidentT[] incidents,
    org.omg.CORBA.Any[] model_incidents,
    mil.dtra.weather.shared.data.weatherT.WeatherT weather,
    mil.dtra.hpac.server.project.LimitT limits,
    mil.dtra.hpac.server.project.TemporalDomainTHolder temporal_domain,
    mil.dtra.hpac.server.project.SpatialDomainTHolder spatial_domain,
    float max_time_step,
    float output_interval
)
```

Resumes calculation of a previously "Stopped" or "Halted" run. This will re-initialize the HPAC Tool Engine and call HPACRunProject to resume the previous run where it had stopped. Like calculate(), this will asynchronously return after the tool engine is successfully started. Future interaction with the tool engine must occur via the poll method. All of the parameters labeled MUST NOT CHANGE must contain values identical to the corresponding parameters in the previously stopped or halted run. No check is performed, but attempting to resume with changed parameters is unsupported and may produce difficult-to-understand errors.

Parameters:

- incidents - array of IncidentT objects used in the run to be resumed. MUST NOT CHANGE.
- model_incidents - array of CORBA any objects containing the model-specific data for each IncidentT in the incidents array. MUST NOT CHANGE.
- weather - the weather (duh). MUST NOT CHANGE.
- limits - array size limits, etc. for the tool engine. May change but values should only be increased.
- temporal_domain - specification of project start and end times. Only the fEndTime field may change.
- spatial_domain - specification of project spatial domain. MUST NOT CHANGE.
- max_time_step - maximum time step in seconds allowed for SCIPUFF. May change.
- output_interval - time interval in seconds for SCIPUFF output. May change.
- audit - AuditT structure specifying analyst, etc.

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if already calculating, if HPAC Tool Engine cannot be initialized, if a lat/lon-to-UTM coordinate conversion error occurs, or if any internal error occurs

31.45.43 Method shutdown()

```
public void
shutdown( boolean immediate )
```

Used by ScipuffServerFactory to shut down a per-client ScipuffServer JVM process. Not intended to be called by any remote client. For internal use only. If CORBA had access modifiers, this would be private. See the shutdown() method on ScipuffServerFactory for clients to request shutdown of inactive servers.

Parameters:

immediate - if true, the shutdown will be fast; if false, the shutdown will wait scipuff-server.JVMkilldelay seconds before shutting down, allowing time for the user to read the final messages, if any, directed to the server's window, if showing. The property scipuffserver.JVMkilldelay is read from hpacserver.properties.

Exceptions:

ScipuffException - if any problem occurs during shutdown

31.45.44 Method terminate()

```
public void
terminate()
```

Terminates and cleans up a ScipuffServer instance. Should be called by the client when finished with the server. This is a hook for the server to clean up memory allocations, unload shared objects, etc.

Exceptions:

ScipuffException - if any problem occurs. Can probably be ignored.

31.45.45 Method terminateDispersionCalculator()

```
public void
terminateDispersionCalculator()
```

Should be called by the client when finished with the server. This is a hook for the server to clean up memory allocations, unload shared objects, etc. This must be called before the server process can be re-used by another client or by the same client for plot generation.

31.45.46 Method `terminatePlotGenerator()`

```
public void
terminatePlotGenerator()
```

Should be called by the client when finished with the server. This is a hook for the server to clean up memory allocations, unload shared objects, etc. This must be called before the server process can be re-used by another client or by the same client for plot generation.

31.46 Class `_ScipuffServerFactoryImplBase`

```
mil.dtra.hpac.server.scipuff
public abstract _ScipuffServerFactoryImplBase
extends ObjectImpl
implements InvokeHandler, ScipuffServerFactory,
```

Methods:

```
public java.lang.String[] _ids()
public org.omg.CORBA.portable.OutputStream _invoke()
```

31.46.1 Constructor `_ScipuffServerFactoryImplBase()`

```
public
_ScipuffServerFactoryImplBase()
```

31.46.2 Method `_ids()`

```
public java.lang.String[]
_ids()
```

31.46.3 Method `_invoke()`

```
public org.omg.CORBA.portable.OutputStream
_invoke(
    java.lang.String method,
    org.omg.CORBA.portable.InputStream in,
    org.omg.CORBA.portable.ResponseHandler rh
)
```

31.47 Class `_ScipuffServerFactoryStub`

```
mil.dtra.hpac.server.scipuff
public _ScipuffServerFactoryStub
extends ObjectImpl
implements ScipuffServerFactory,
```

Methods:

```
public java.lang.String[] _ids()
public void deactivated()
public void deleteProject()
public byte[] exportProject()
public mil.dtra.hpac.server.scipuff.ScipuffServer getInstance()
public java.lang.String[] getSubstrates()
public void importProject()
public void shutdown()
```

31.47.1 Constructor `_ScipuffServerFactoryStub()`

```
public
_ScipuffServerFactoryStub()
```

31.47.2 Constructor `_ScipuffServerFactoryStub()`

```
public
_ScipuffServerFactoryStub( org.omg.CORBA.portable.Delegate delegate )
```

31.47.3 Method `_ids()`

```
public java.lang.String[]
_ids()
```

31.47.4 Method `deactivated()`

```
public void
deactivated(
    mil.dtra.hpac.server.scipuff.ScipuffAll server,
    java.lang.String server_name
)
```

Used to notify ScipuffServerFactory that ScipuffServer is being deactivated. Not intended to be called by any remote client. For internal use only. If CORBA had access modifiers, this would be private.

31.47.5 Method deleteProject()

```
public void
deleteProject(
    java.lang.String username,
    java.lang.String projectname
)
```

31.47.6 Method exportProject()

```
public byte[]
exportProject(
    java.lang.String username,
    java.lang.String projectname
)
```

31.47.7 Method getInstance()

```
public mil.dtra.hpac.server.scipuff.ScipuffServer
getInstance(
    java.lang.String user_name,
    java.lang.String project_name
)
```

Returns an instance of ScipuffServer

31.47.8 Method getSubstrates()

```
public java.lang.String[]
getSubstrates()
```

Retrieves the list of available substrates for the secondary evaporation model. This list is read directly from the land use data file instead of asking HPACtool for the list. There is a similar `getSubstrates` method in the `DispersionCalculator` interface, but it requires that HPACtool be already initialized. This method provides the list of substrates without requiring initialization of HPACtool. The location of the land use data file is obtained from the `scipuff-server.LandUseDataFile` property in the `hpacserver.propsURL` properties file.

Returns:

a String array of the substrate list. If no substrates are available, returns a zero-length array.

Exceptions:

ScipuffException - if hpacserver.propsURL is not specified or cannot be read, if scipuffserver.LandUseDataFile is not specified or cannot be read, if the land use data file contains no substrate data, or if the data is improperly formatted.

31.47.9 Method importProject()

```
public void
importProject(
    java.lang.String username,
    java.lang.String projectname,
    byte[] zipfile
)
```

31.47.10 Method shutdown()

```
public void
shutdown()
```

Shuts down all per-client ScipuffServer objects in the inactive server pool.

31.48 Class _ScipuffServerImplBase

```
mil.dtra.hpac.server.scipuff
public abstract _ScipuffServerImplBase
extends ObjectImpl
implements InvokeHandler, ScipuffServer,
```

Methods:

```
public java.lang.String[] _ids()
public org.omg.CORBA.portable.OutputStream _invoke()
```

31.48.1 Constructor _ScipuffServerImplBase()

```
public
_ScipuffServerImplBase()
```

31.48.2 Method _ids()

```
public java.lang.String[]
_ids()
```

31.48.3 Method _invoke()

```
public org.omg.CORBA.portable.OutputStream
_invoke(
    java.lang.String method,
    org.omg.CORBA.portable.InputStream in,
    org.omg.CORBA.portable.ResponseHandler rh
)
```

31.49 Class _ScipuffServerStub

```
mil.dtra.hpac.server.scipuff
public _ScipuffServerStub
extends ObjectImpl
implements ScipuffServer,
```

Methods:

```
public java.lang.String[] _ids()
public void deleteProjectFiles()
public mil.dtra.hpac.server.scipuff.DispersionCalculator getDispersionCalculator()
public mil.dtra.hpac.server.scipuff.PlotGenerator getPlotGenerator()
public mil.dtra.hpac.server.scipuff.MessageT[] poll()
public void reply()
public void shutdown()
public void terminate()
```

31.49.1 Constructor _ScipuffServerStub()

```
public
_ScipuffServerStub()
```

31.49.2 Constructor _ScipuffServerStub()

```
public
_ScipuffServerStub( org.omg.CORBA.portable.Delegate delegate )
```

31.49.3 Method `_ids()`

```
public java.lang.String[]
_ids()
```

31.49.4 Method `deleteProjectFiles()`

```
public void
deleteProjectFiles(
    java.lang.String username,
    java.lang.String projectname,
    int request
)
```

31.49.5 Method `getDispersionCalculator()`

```
public mil.dtra.hpac.server.scipuff.DispersionCalculator
getDispersionCalculator()
```

Gets and activates a CORBA dispersion calculation interface, which is required for making any DispersionCalculator method calls.

Exceptions:

`ScipuffException` - if any problem occurs during activation

31.49.6 Method `getPlotGenerator()`

```
public mil.dtra.hpac.server.scipuff.PlotGenerator
getPlotGenerator(
    int max_grid_cells_per_surface,
    mil.dtra.hpac.server.IncidentT[] incidents,
    org.omg.CORBA.Any[] model_incidents
)
```

Gets and activates a PlotGenerator CORBA interface, which is required for making any PlotGenerator method calls.

Parameters:

`max_grid_cells_per_surface` - the maximum number of grid cells per surface field. Used for creating horizontal/vertical slices. May be 0 in which case a default value will be assigned by the HPAC Tool Engine.
`incidents` - list of `IncidentT`'s that can do prompt effects. Must include at least all

the incidents that can do prompt effects, but may optionally include other incidents that do not support prompt effects.

`model_incidents` - array of CORBA any objects containing the model-specific data for each `IncidentT` in the `incidents` array.

Exceptions:

`PlotException` - if any problem occurs during activation for plot generation

31.49.7 Method poll()

```
public mil.dtra.hpac.server.scipuff.MessageT[]
poll()
```

Obtains current status information from the running tool engine.

31.49.8 Method reply()

```
public void
reply( int reply )
```

Provides a reply to the server when a poll message indicated that a reply was required.

Parameters:

`reply` - one of `HPAC_AFFIRMATIVE_REPLY` or `HPAC_NEGATIVE_REPLY`. Other values will be ignored.

31.49.9 Method shutdown()

```
public void
shutdown( boolean immediate )
```

Used by ScipuffServerFactory to shut down a per-client ScipuffServer JVM process. Not intended to be called by any remote client. For internal use only. If CORBA had access modifiers, this would be private. See the `shutdown()` method on ScipuffServerFactory for clients to request shutdown of inactive servers.

Parameters:

`immediate` - if true, the shutdown will be fast; if false, the shutdown will wait `scipuff-server.JVMkilldelay` seconds before shutting down, allowing time for the use to read the final messages, if any, directed to the server's window, if showing. The property `scipuffserver.JVMkilldelay` is read from `hpacserver.properties`.

Exceptions:

ScipuffException - if any problem occurs during shutdown

31.49.10 Method terminate()

```
public void
terminate()
```

Terminates and cleans up a ScipuffServer instance. Should be called by the client when finished with the server. This is a hook for the server to clean up memory allocations, unload shared objects, etc.

Exceptions:

ScipuffException - if any problem occurs. Can probably be ignored.

31.50 Class AnyListHelper

```
mil.dtra.hpac.server.scipuff
public abstract AnyListHelper
extends Object
```

mil/dtra/hpac/server/scipuff/AnyListHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static org.omg.CORBA.Any[] extract()
public static java.lang.String id()
public static void insert()
public static org.omg.CORBA.Any[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.50.1 Constructor AnyListHelper()

```
public
AnyListHelper()
```

31.50.2 Method extract()

```
public static org.omg.CORBA.Any[]
extract( org.omg.CORBA.Any a )
```

31.50.3 Method id()

```
public static java.lang.String
id()
```

31.50.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    org.omg.CORBA.Any[] that
)
```

31.50.5 Method read()

```
public static org.omg.CORBA.Any[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.50.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.50.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    org.omg.CORBA.Any[] value
)
```

31.51 Class AnyListHolder

```
mil.dtra.hpac.server.scipuff
public final AnyListHolder
extends Object
implements Streamable,
```

mil/dtra/hpac/server/scipuff/AnyListHolder.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public org.omg.CORBA.Any[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.51.1 Field value

```
public org.omg.CORBA.Any[] value
```

31.51.2 Constructor AnyListHolder()

```
public
AnyListHolder()
```

31.51.3 Constructor AnyListHolder()

```
public
AnyListHolder( org.omg.CORBA.Any[] initialValue )
```

31.51.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.51.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.51.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.52 Class AuditTHelper

```
mil.dtra.hpac.server.scipuff
public abstract AuditTHelper
extends Object
```

mil/dtra/hpac/server/scipuff/AuditTHelper.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.project.AuditT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.AuditT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.52.1 Constructor AuditTHelper()

```
public
AuditTHelper()
```

31.52.2 Method extract()

```
public static mil.dtra.hpac.server.project.AuditT
extract( org.omg.CORBA.Any a )
```

31.52.3 Method id()

```
public static java.lang.String
id()
```

31.52.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.AuditT that
)
```

31.52.5 Method read()

```
public static mil.dtra.hpac.server.project.AuditT
read( org.omg.CORBA.portable.InputStream istream )
```

31.52.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.52.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.AuditT value
)
```

31.53 Class ByteArrayHelper

mil.dtra.hpac.server.scipuff
 public abstract **ByteArrayHelper**
 extends Object

mil/dtra/hpac/server/scipuff/ByteArrayHelper.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static byte[] extract()
public static java.lang.String id()
public static void insert()
public static byte[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.53.1 Constructor ByteArrayHelper()

```
public
ByteArrayHelper()
```

31.53.2 Method extract()

```
public static byte[]
extract( org.omg.CORBA.Any a )
```

31.53.3 Method id()

```
public static java.lang.String
id()
```

31.53.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    byte[] that
)
```

31.53.5 Method read()

```
public static byte[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.53.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.53.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    byte[] value
)
```

31.54 Class ByteArrayHolder

```
mil.dtra.hpac.server.scipuff
public final ByteArrayHolder
extends Object
implements Streamable,
```

mil/dtra/hpac/server/scipuff/ByteArrayHolder.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public byte[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.54.1 Field value

```
public byte[] value
```

31.54.2 Constructor ByteArrayHolder()

```
public
ByteArrayHolder()
```

31.54.3 Constructor ByteArrayHolder()

```
public
ByteArrayHolder( byte[] initialValue )
```

31.54.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.54.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.54.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.55 Class CategoryClass2DHelper

```
mil.dtra.hpac.server.scipuff
public abstract CategoryClass2DHelper
extends Object
```

mil/dtra/hpac/server/scipuff/CategoryClass2DHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[][] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[][] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.55.1 Constructor CategoryClass2DHelper()

```
public
CategoryClass2DHelper()
```

31.55.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[][] extract(
org.omg.CORBA.Any a )
```

31.55.3 Method id()

```
public static java.lang.String
id()
```

31.55.4 Method insert()

```
public static void
insert(
org.omg.CORBA.Any a,
mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[][] that
)
```

31.55.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACCCategoryClassT[][]  
read( org.omg.CORBA.portable.InputStream istream )
```

31.55.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode  
type()
```

31.55.7 Method write()

```
public static void  
write(  
    org.omg.CORBA.portable.OutputStream ostream,  
    mil.dtra.hpac.server.plot.HPACCCategoryClassT[][] value  
)
```

31.56 Class CategoryClass2DHolder

mil.dtra.hpac.server.scipuff
public final CategoryClass2DHolder
 extends Object
 implements Streamable,

mil/dtra/hpac/server/scipuff/CategoryClass2DHolder.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public mil.dtra.hpac.server.plot.HPACCCategoryClassT[][] value
```

Methods:

```
public void _read()  
public org.omg.CORBA.TypeCode _type()  
public void _write()
```

31.56.1 Field value

```
public mil.dtra.hpac.server.plot.HPACCCategoryClassT[][] value
```

31.56.2 Constructor CategoryClass2DHolder()

```
public
CategoryClass2DHolder()
```

31.56.3 Constructor CategoryClass2DHolder()

```
public
CategoryClass2DHolder( mil.dtra.hpac.server.plot.HPACCCategoryClassT[][] initialValue )
```

31.56.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.56.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.56.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.57 Class CircleEffectExceptionHelper

mil.dtra.hpac.server.scipuff
 public abstract **CircleEffectExceptionHelper**
 extends Object

mil/dtra/hpac/server/scipuff/CircleEffectExceptionHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.scipuff.CircleEffectException extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.scipuff.CircleEffectException read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.57.1 Constructor CircleEffectExceptionHelper()

```
public
CircleEffectExceptionHelper()
```

31.57.2 Method extract()

```
public static mil.dtra.hpac.server.scipuff.CircleEffectException
extract( org.omg.CORBA.Any a )
```

31.57.3 Method id()

```
public static java.lang.String
id()
```

31.57.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.scipuff.CircleEffectException that
)
```

31.57.5 Method read()

```
public static mil.dtra.hpac.server.scipuff.CircleEffectException
read( org.omg.CORBA.portable.InputStream istream )
```

31.57.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.57.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.scipuff.CircleEffectException value
)
```

31.58 Class CircleEffectExceptionHolder

```
mil.dtra.hpac.server.scipuff
public final CircleEffectExceptionHolder
extends Object
implements Streamable,
```

mil/dtra/hpac/server/scipuff/CircleEffectExceptionHolder.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public mil.dtra.hpac.server.scipuff.CircleEffectException value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.58.1 Field value

```
public mil.dtra.hpac.server.scipuff.CircleEffectException value
```

31.58.2 Constructor CircleEffectExceptionHolder()

```
public
CircleEffectExceptionHolder()
```

31.58.3 Constructor CircleEffectExceptionHolder()

```
public
CircleEffectExceptionHolder( mil.dtra.hpac.server.scipuff.CircleEffectException initialValue )
```

31.58.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.58.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.58.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.59 Class CircleEffectInputT

```
mil.dtra.hpac.server.scipuff
public final CircleEffectInputT
extends Object
implements IDLEntity,
```

mil/dtra/hpac/server/scipuff/CircleEffectInputT.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public void _default()
public int discriminator()
public mil.dtra.hpac.server.effects.CircleCompInT fCircleCompIn()
public void fCircleCompIn()
public int fCircleExitIn()
public void fCircleExitIn()
public int fCircleInitIn()
public void fCircleInitIn()
```

31.59.1 Constructor CircleEffectInputT()

```
public
CircleEffectInputT()
```

31.59.2 Method `_default()`

```
public void
_default()
```

31.59.3 Method `discriminator()`

```
public int
discriminator()
```

31.59.4 Method fCircleCompIn()

```
public mil.dtra.hpac.server.effects.CircleCompInT
fCircleCompIn()
```

31.59.5 Method fCircleCompIn()

```
public void
fCircleCompIn( mil.dtra.hpac.server.effects.CircleCompInT value )
```

31.59.6 Method fCircleExitIn()

```
public int
fCircleExitIn()
```

31.59.7 Method fCircleExitIn()

```
public void
fCircleExitIn( int value )
```

31.59.8 Method fCircleInitIn()

```
public int
fCircleInitIn()
```

31.59.9 Method fCircleInitIn()

```
public void
fCircleInitIn( int value )
```

31.60 Class CircleEffectInputTHelper

`mil.dtra.hpac.server.scipuff`
`public abstract CircleEffectInputTHelper`
`extends Object`

Methods:

```
public static mil.dtra.hpac.server.scipuff.CircleEffectInputT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.scipuff.CircleEffectInputT read()
public static synchronized org.omg.CORBA.TypeCode type()
```

```
public static void write()
```

31.60.1 Constructor CircleEffectInputTHelper()

```
public  
CircleEffectInputTHelper()
```

31.60.2 Method extract()

```
public static mil.dtra.hpac.server.scipuff.CircleEffectInputT  
extract( org.omg.CORBA.Any a )
```

31.60.3 Method id()

```
public static java.lang.String  
id()
```

31.60.4 Method insert()

```
public static void  
insert(  
    org.omg.CORBA.Any a,  
    mil.dtra.hpac.server.scipuff.CircleEffectInputT that  
)
```

31.60.5 Method read()

```
public static mil.dtra.hpac.server.scipuff.CircleEffectInputT  
read( org.omg.portable.InputStream istream )
```

31.60.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode  
type()
```

31.60.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.scipuff.CircleEffectInputT value
)
```

31.61 Class CircleEffectInputTHolder

```
mil.dtra.hpac.server.scipuff
public final CircleEffectInputTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.scipuff.CircleEffectInputT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.61.1 Field value

```
public mil.dtra.hpac.server.scipuff.CircleEffectInputT value
```

31.61.2 Constructor CircleEffectInputTHolder()

```
public
CircleEffectInputTHolder()
```

31.61.3 Constructor CircleEffectInputTHolder()

```
public
CircleEffectInputTHolder( mil.dtra.hpac.server.scipuff.CircleEffectInputT initialValue )
```

31.61.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.61.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

31.61.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.62 Class CircleEffectOutputT

```
mil.dtra.hpac.server.scipuff
public final CircleEffectOutputT
extends Object
implements IDLEntity,
```

mil/dtra/hpac/server/scipuff/CircleEffectOutputT.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public void _default()
public int discriminator()
public mil.dtra.hpac.server.effects.CircleCompOutT[] fCircleCompOut()
public void fCircleCompOut()
public int fCircleExitOut()
public void fCircleExitOut()
public mil.dtra.hpac.server.effects.CircleInitOutT fCircleInitOut()
public void fCircleInitOut()
```

31.62.1 Constructor CircleEffectOutputT()

```
public
CircleEffectOutputT()
```

31.62.2 Method `_default()`

```
public void
_default()
```

31.62.3 Method discriminator()

```
public int
discriminator()
```

31.62.4 Method fCircleCompOut()

```
public mil.dtra.hpac.server.effects.CircleCompOutT[]
fCircleCompOut()
```

31.62.5 Method fCircleCompOut()

```
public void
fCircleCompOut( mil.dtra.hpac.server.effects.CircleCompOutT[] value )
```

31.62.6 Method fCircleExitOut()

```
public int
fCircleExitOut()
```

31.62.7 Method fCircleExitOut()

```
public void
fCircleExitOut( int value )
```

31.62.8 Method fCircleInitOut()

```
public mil.dtra.hpac.server.effects.CircleInitOutT
fCircleInitOut()
```

31.62.9 Method fCircleInitOut()

```
public void
fCircleInitOut( mil.dtra.hpac.server.effects.CircleInitOutT value )
```

31.63 Class CircleEffectOutputTHelper

```
mil.dtra.hpac.server.scipuff
public abstract CircleEffectOutputTHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.scipuff.CircleEffectOutputT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.scipuff.CircleEffectOutputT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.63.1 Constructor CircleEffectOutputTHelper()

```
public
CircleEffectOutputTHelper()
```

31.63.2 Method extract()

```
public static mil.dtra.hpac.server.scipuff.CircleEffectOutputT
extract( org.omg.CORBA.Any a )
```

31.63.3 Method id()

```
public static java.lang.String
id()
```

31.63.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.scipuff.CircleEffectOutputT that
)
```

31.63.5 Method read()

```
public static mil.dtra.hpac.server.scipuff.CircleEffectOutputT
read( org.omg.CORBA.portable.InputStream istream )
```

31.63.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.63.7 Method `write()`

```
public static void
write(  
    org.omg.CORBA.portable.OutputStream ostream,  
    mil.dtra.hpac.server.scipuff.CircleEffectOutputT value  
)
```

31.64 Class `CircleEffectOutputTHolder`

```
mil.dtra.hpac.server.scipuff
public final CircleEffectOutputTHolder
extends Object
implements Streamable,
```

Fields:

```
    public mil.dtra.hpac.server.scipuff.CircleEffectOutputT value
```

Methods:

```
    public void _read()  
    public org.omg.CORBA.TypeCode _type()  
    public void _write()
```

31.64.1 Field `value`

```
public mil.dtra.hpac.server.scipuff.CircleEffectOutputT value
```

31.64.2 Constructor `CircleEffectOutputTHolder()`

```
public  
CircleEffectOutputTHolder()
```

31.64.3 Constructor `CircleEffectOutputTHolder()`

```
public  
CircleEffectOutputTHolder( mil.dtra.hpac.server.scipuff.CircleEffectOutputT initialValue )
```

31.64.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.64.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

31.64.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.65 Class `ClassChoice2DHelper`

mil.dtra.hpac.server.scipuff
 public abstract **ClassChoice2DHelper**
 extends Object

mil/dtra/hpac/server/scipuff/ClassChoice2DHelper.java Generated by the IDL-to-Java compiler
 (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACClassChoiceT[][] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACClassChoiceT[][] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.65.1 Constructor `ClassChoice2DHelper()`

```
public
ClassChoice2DHelper()
```

31.65.2 Method `extract()`

```
public static mil.dtra.hpac.server.plot.HPACClassChoiceT[][]
extract( org.omg.CORBA.Any a )
```

31.65.3 Method `id()`

```
public static java.lang.String
id()
```

31.65.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACClassChoiceT[][] that
)
```

31.65.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACClassChoiceT[][]
read( org.omg.CORBA.portable.InputStream istream )
```

31.65.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.65.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACClassChoiceT[][] value
)
```

31.66 Class ClassChoice2DHolder

mil.dtra.hpac.server.scipuff
public final ClassChoice2DHolder
 extends Object
 implements Streamable,

mil/dtra/hpac/server/scipuff/ClassChoice2DHolder.java Generated by the IDL-to-Java compiler
 (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public mil.dtra.hpac.server.plot.HPACClassChoiceT[][] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.66.1 Field value

```
public mil.dtra.hpac.server.plot.HPACClassChoiceT[][] value
```

31.66.2 Constructor ClassChoice2DHolder()

```
public  
ClassChoice2DHolder()
```

31.66.3 Constructor ClassChoice2DHolder()

```
public  
ClassChoice2DHolder( mil.dtra.hpac.server.plot.HPACClassChoiceT[][] initialValue )
```

31.66.4 Method _read()

```
public void  
_read( org.omg.CORBA.portable.InputStream i )
```

31.66.5 Method _type()

```
public org.omg.CORBA.TypeCode  
_type()
```

31.66.6 Method _write()

```
public void  
_write( org.omg.CORBA.portable.OutputStream o )
```

31.67 Class DispersionCalculatorHelper

```
mil.dtra.hpac.server.scipuff  
public abstract DispersionCalculatorHelper  
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.scipuff.DispersionCalculator extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.scipuff.DispersionCalculator narrow()  
public static mil.dtra.hpac.server.scipuff.DispersionCalculator read()
```

```
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.67.1 Constructor DispersionCalculatorHelper()

```
public
DispersionCalculatorHelper()
```

31.67.2 Method extract()

```
public static mil.dtra.hpac.server.scipuff.DispersionCalculator
extract( org.omg.CORBA.Any a )
```

31.67.3 Method id()

```
public static java.lang.String
id()
```

31.67.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.scipuff.DispersionCalculator that
)
```

31.67.5 Method narrow()

```
public static mil.dtra.hpac.server.scipuff.DispersionCalculator
narrow( org.omg.CORBA.Object obj )
```

31.67.6 Method read()

```
public static mil.dtra.hpac.server.scipuff.DispersionCalculator
read( org.omg.CORBA.portable.InputStream istream )
```

31.67.7 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.67.8 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.scipuff.DispersionCalculator value
)
```

31.68 Class DispersionCalculatorHolder

```
mil.dtra.hpac.server.scipuff
public final DispersionCalculatorHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.scipuff.DispersionCalculator value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.68.1 Field value

```
public mil.dtra.hpac.server.scipuff.DispersionCalculator value
```

31.68.2 Constructor DispersionCalculatorHolder()

```
public
DispersionCalculatorHolder()
```

31.68.3 Constructor DispersionCalculatorHolder()

```
public
DispersionCalculatorHolder( mil.dtra.hpac.server.scipuff.DispersionCalculator initialValue )
```

31.68.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.68.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

31.68.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.69 Class EnviroBLTHelper

mil.dtra.hpac.server.scipuff
 public abstract **EnviroBLTHelper**
 extends Object

mil/dtra/hpac/server/scipuff/EnviroBLTHelper.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.EnviroBLT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.EnviroBLT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.69.1 Constructor EnviroBLTHelper()

```
public
EnviroBLTHelper()
```

31.69.2 Method `extract()`

```
public static mil.dtra.hpac.server.EnviroBLT
extract( org.omg.CORBA.Any a )
```

31.69.3 Method id()

```
public static java.lang.String
id()
```

31.69.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.EnviroBLT that
)
```

31.69.5 Method read()

```
public static mil.dtra.hpac.server.EnviroBLT
read( org.omg.CORBA.portable.InputStream istream )
```

31.69.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.69.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.EnviroBLT value
)
```

31.70 Class FlagsTHelper

mil.dtra.hpac.server.scipuff
 public abstract **FlagsTHelper**
 extends Object

mil/dtra/hpac/server/scipuff/FlagsTHelper.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.project.FlagsT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.FlagsT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.70.1 Constructor FlagsTHelper()

```
public
FlagsTHelper()
```

31.70.2 Method extract()

```
public static mil.dtra.hpac.server.project.FlagsT
extract( org.omg.CORBA.Any a )
```

31.70.3 Method id()

```
public static java.lang.String
id()
```

31.70.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.FlagsT that
)
```

31.70.5 Method read()

```
public static mil.dtra.hpac.server.project.FlagsT
read( org.omg.CORBA.portable.InputStream istream )
```

31.70.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.70.7 Method write()

```
public static void
write(

    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.FlagsT value
)
```

31.71 Class FloatArrayHelper

mil.dtra.hpac.server.scipuff
 public abstract **FloatArrayHelper**
 extends Object

mil/dtra/hpac/server/scipuff/FloatArrayHelper.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static float[] extract()
public static java.lang.String id()
public static void insert()
public static float[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.71.1 Constructor FloatArrayHelper()

```
public
FloatArrayHelper()
```

31.71.2 Method extract()

```
public static float[]
extract( org.omg.CORBA.Any a )
```

31.71.3 Method id()

```
public static java.lang.String
id()
```

31.71.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    float[] that
)
```

31.71.5 Method read()

```
public static float[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.71.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.71.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    float[] value
)
```

31.72 Class HPACCategoryClassTListHelper

mil.dtra.hpac.server.scipuff
public abstract HPACCategoryClassTListHelper
 extends Object

mil/dtra/hpac/server/scipuff/HPACCategoryClassTListHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACCategoryClassT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACCategoryClassT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.72.1 Constructor HPACCATEGORYCLASSTListHelper()

```
public
HPACCATEGORYCLASSTListHelper()
```

31.72.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[]
extract( org.omg.CORBA.Any a )
```

31.72.3 Method id()

```
public static java.lang.String
id()
```

31.72.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[] that
)
```

31.72.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.72.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.72.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACCATEGORYCLASST[] value
)
```

31.73 Class HPACClassChoiceTListHelper

```
mil.dtra.hpac.server.scipuff
public abstract HPACClassChoiceTListHelper
extends Object
```

mil/dtra/hpac/server/scipuff/HPACClassChoiceTListHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACClassChoiceT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACClassChoiceT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.73.1 Constructor HPACClassChoiceTListHelper()

```
public
HPACClassChoiceTListHelper()
```

31.73.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACClassChoiceT[]
extract( org.omg.CORBA.Any a )
```

31.73.3 Method id()

```
public static java.lang.String
id()
```

31.73.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACClassChoiceT[] that
)
```

31.73.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACClassChoiceT[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.73.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.73.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACClassChoiceT[] value
)
```

31.74 Class HPACContourElementTHelper

mil.dtra.hpac.server.scipuff
public abstract HPACContourElementTHelper
 extends Object

mil/dtra/hpac/server/scipuff/HPACContourElementTHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACContourElementT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACContourElementT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.74.1 Constructor HPACContourElementTHelper()

```
public
HPACContourElementTHelper()
```

31.74.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACContourElementT
extract( org.omg.CORBA.Any a )
```

31.74.3 Method id()

```
public static java.lang.String
id()
```

31.74.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACContourElementT that
)
```

31.74.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACContourElementT
read( org.omg.CORBA.portable.InputStream istream )
```

31.74.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.74.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACContourElementT value
)
```

31.75 Class HPACContourElementTListHelper

```
mil.dtra.hpac.server.scipuff
public abstract HPACContourElementTListHelper
extends Object
```

mil/dtra/hpac/server/scipuff/HPACContourElementTListHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACContourElementT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACContourElementT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.75.1 Constructor HPACContourElementTListHelper()

```
public
HPACContourElementTListHelper()
```

31.75.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACContourElementT[]
extract( org.omg.CORBA.Any a )
```

31.75.3 Method id()

```
public static java.lang.String
id()
```

31.75.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACContourElementT[] that
)
```

31.75.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACContourElementT[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.75.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.75.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACContourElementT[] value
)
```

31.76 Class HPACContourHeaderTHelper

```
mil.dtra.hpac.server.scipuff
public abstract HPACContourHeaderTHelper
extends Object
```

mil/dtra/hpac/server/scipuff/HPACContourHeaderTHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACContourHeaderT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACContourHeaderT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.76.1 Constructor HPACContourHeaderTHelper()

```
public
HPACContourHeaderTHelper()
```

31.76.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACContourHeaderT
extract( org.omg.CORBA.Any a )
```

31.76.3 Method id()

```
public static java.lang.String
id()
```

31.76.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACContourHeaderT that
)
```

31.76.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACContourHeaderT
read( org.omg.CORBA.portable.InputStream istream )
```

31.76.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.76.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACContourHeaderT value
)
```

31.77 Class HPACFieldCoordinateTHelper

mil.dtra.hpac.server.scipuff
public abstract HPACFieldCoordinateTHelper
extends Object

mil/dtra/hpac/server/scipuff/HPACFieldCoordinateTHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACFieldCoordinateT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACFieldCoordinateT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.77.1 Constructor HPACFieldCoordinateTHelper()

```
public
HPACFieldCoordinateTHelper()
```

31.77.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACFieldCoordinateT
extract( org.omg.CORBA.Any a )
```

31.77.3 Method id()

```
public static java.lang.String
id()
```

31.77.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACFieldCoordinateT that
)
```

31.77.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACFieldCoordinateT
read( org.omg.CORBA.portable.InputStream istream )
```

31.77.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.77.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACFieldCoordinateT value
)
```

31.78 Class HPACLineTListHelper

```
mil.dtra.hpac.server.scipuff
public abstract HPACLineTListHelper
extends Object
```

mil/dtra/hpac/server/scipuff/HPACLineTListHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACLineT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACLineT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.78.1 Constructor HPACLineTListHelper()

```
public
HPACLineTListHelper()
```

31.78.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACLineT[]
extract( org.omg.CORBA.Any a )
```

31.78.3 Method id()

```
public static java.lang.String
id()
```

31.78.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACLineT[] that
)
```

31.78.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACLineT[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.78.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.78.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACLineT[] value
)
```

31.79 Class HPACPlotFieldNodeTHelper

mil.dtra.hpac.server.scipuff
public abstract HPACPlotFieldNodeTHelper
 extends Object

mil/dtra/hpac/server/scipuff/HPACPlotFieldNodeTHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.79.1 Constructor HPACPlotFieldNodeTHelper()

```
public
HPACPlotFieldNodeTHelper()
```

31.79.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT
extract( org.omg.CORBA.Any a )
```

31.79.3 Method id()

```
public static java.lang.String
id()
```

31.79.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPlotFieldNodeT that
)
```

31.79.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT
read( org.omg.CORBA.portable.InputStream istream )
```

31.79.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.79.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPlotFieldNodeT value
)
```

31.80 Class HPACPlotFieldNodeTListHelper

```
mil.dtra.hpac.server.scipuff
public abstract HPACPlotFieldNodeTListHelper
extends Object
```

mil/dtra/hpac/server/scipuff/HPACPlotFieldNodeTListHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.80.1 Constructor HPACPlotFieldNodeTListHelper()

```
public
HPACPlotFieldNodeTListHelper()
```

31.80.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[]
extract( org.omg.CORBA.Any a )
```

31.80.3 Method id()

```
public static java.lang.String
id()
```

31.80.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[] that
)
```

31.80.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.80.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.80.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPlotFieldNodeT[] value
)
```

31.81 Class HPACPlotFieldTHelper

mil.dtra.hpac.server.scipuff
public abstract HPACPlotFieldTHelper
 extends Object

mil/dtra/hpac/server/scipuff/HPACPlotFieldTHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPlotFieldT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.81.1 Constructor HPACPlotFieldTHelper()

```
public
HPACPlotFieldTHelper()
```

31.81.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldT
extract( org.omg.CORBA.Any a )
```

31.81.3 Method id()

```
public static java.lang.String
id()
```

31.81.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPlotFieldT that
)
```

31.81.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldT
read( org.omg.CORBA.portable.InputStream istream )
```

31.81.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.81.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPlotFieldT value
)
```

31.82 Class HPACPlotFieldTriangleTHelper

```
mil.dtra.hpac.server.scipuff
public abstract HPACPlotFieldTriangleTHelper
extends Object
```

mil/dtra/hpac/server/scipuff/HPACPlotFieldTriangleTHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.82.1 Constructor HPACPlotFieldTriangleTHelper()

```
public
HPACPlotFieldTriangleTHelper()
```

31.82.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT
extract( org.omg.CORBA.Any a )
```

31.82.3 Method id()

```
public static java.lang.String
id()
```

31.82.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT that
)
```

31.82.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT
read( org.omg.CORBA.portable.InputStream istream )
```

31.82.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.82.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT value
)
```

31.83 Class HPACPlotFieldTriangleTListHelper

```
mil.dtra.hpac.server.scipuff
public abstract HPACPlotFieldTriangleTListHelper
extends Object
```

mil/dtra/hpac/server/scipuff/HPACPlotFieldTriangleTListHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.83.1 Constructor HPACPlotFieldTriangleTListHelper()

```
public
HPACPlotFieldTriangleTListHelper()
```

31.83.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[]
extract( org.omg.CORBA.Any a )
```

31.83.3 Method id()

```
public static java.lang.String
id()
```

31.83.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[] that
)
```

31.83.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.83.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.83.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPlotFieldTriangleT[] value
)
```

31.84 Class HPACPlotTypeTHelper

```
mil.dtra.hpac.server.scipuff
public abstract HPACPlotTypeTHelper
extends Object
```

mil/dtra/hpac/server/scipuff/HPACPlotTypeTHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPlotTypeT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPlotTypeT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.84.1 Constructor HPACPlotTypeTHelper()

```
public
HPACPlotTypeTHelper()
```

31.84.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPlotTypeT
extract( org.omg.CORBA.Any a )
```

31.84.3 Method id()

```
public static java.lang.String
id()
```

31.84.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPlotTypeT that
)
```

31.84.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPlotTypeT
read( org.omg.CORBA.portable.InputStream istream )
```

31.84.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.84.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPlotTypeT value
)
```

31.85 Class HPACPointTHelper

mil.dtra.hpac.server.scipuff
 public abstract **HPACPointTHelper**
 extends Object

mil/dtra/hpac/server/scipuff/HPACPointTHelper.java Generated by the IDL-to-Java compiler
 (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPointT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPointT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.85.1 Constructor HPACPointTHelper()

```
public
HPACPointTHelper()
```

31.85.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPointT
extract( org.omg.CORBA.Any a )
```

31.85.3 Method id()

```
public static java.lang.String
id()
```

31.85.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPointT that
)
```

31.85.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPointT
read( org.omg.CORBA.portable.InputStream istream )
```

31.85.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.85.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPointT value
)
```

31.86 Class HPACPointTListHelper

mil.dtra.hpac.server.scipuff
 public abstract **HPACPointTListHelper**
 extends Object

mil/dtra/hpac/server/scipuff/HPACPointTListHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACPointT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACPointT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.86.1 Constructor HPACPointTListHelper()

```
public
HPACPointTListHelper()
```

31.86.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACPointT[]
extract( org.omg.CORBA.Any a )
```

31.86.3 Method id()

```
public static java.lang.String
id()
```

31.86.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACPointT[] that
)
```

31.86.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACPointT[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.86.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.86.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACPointT[] value
)
```

31.87 Class HPACTimeTListHelper

```
mil.dtra.hpac.server.scipuff
public abstract HPACTimeTListHelper
extends Object
```

mil/dtra/hpac/server/scipuff/HPACTimeTListHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.plot.HPACTimeT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.plot.HPACTimeT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.87.1 Constructor HPACTimeTListHelper()

```
public
HPACTimeTListHelper()
```

31.87.2 Method extract()

```
public static mil.dtra.hpac.server.plot.HPACTimeT[]
extract( org.omg.CORBA.Any a )
```

31.87.3 Method id()

```
public static java.lang.String
id()
```

31.87.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.plot.HPACTimeT[] that
)
```

31.87.5 Method read()

```
public static mil.dtra.hpac.server.plot.HPACTimeT[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.87.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.87.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.plot.HPACTimeT[] value
)
```

31.88 Class I2DHelper

mil.dtra.hpac.server.scipuff
 public abstract **I2DHelper**
 extends Object

mil/dtra/hpac/server/scipuff/I2DHelper.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static int[][] extract()
public static java.lang.String id()
public static void insert()
public static int[][] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.88.1 Constructor I2DHelper()

```
public
I2DHelper()
```

31.88.2 Method extract()

```
public static int[][]  
extract( org.omg.CORBA.Any a )
```

31.88.3 Method id()

```
public static java.lang.String  
id()
```

31.88.4 Method insert()

```
public static void  
insert(  
    org.omg.CORBA.Any a,  
    int[][] that  
)
```

31.88.5 Method read()

```
public static int[][]  
read( org.omg.CORBA.portable.InputStream istream )
```

31.88.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode  
type()
```

31.88.7 Method write()

```
public static void  
write(  
    org.omg.CORBA.portable.OutputStream ostream,  
    int[][] value  
)
```

31.89 Class I2DHolder

```
mil.dtra.hpac.server.scipuff  
public final I2DHolder  
extends Object  
implements Streamable,
```

mil/dtra/hpac/server/scipuff/I2DHolder.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public int[][] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.89.1 Field value

```
public int[][] value
```

31.89.2 Constructor I2DHolder()

```
public
I2DHolder()
```

31.89.3 Constructor I2DHolder()

```
public
I2DHolder( int[][] initialValue )
```

31.89.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.89.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.89.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.90 Class I3DHelper

```
mil.dtra.hpac.server.scipuff
public abstract I3DHelper
extends Object
```

mil/dtra/hpac/server/scipuff/I3DHelper.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static int[][][] extract()
public static java.lang.String id()
public static void insert()
public static int[][][] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.90.1 Constructor I3DHelper()

```
public
I3DHelper()
```

31.90.2 Method extract()

```
public static int[][][]
extract( org.omg.CORBA.Any a )
```

31.90.3 Method id()

```
public static java.lang.String
id()
```

31.90.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    int[][][] that
)
```

31.90.5 Method read()

```
public static int[][][]
read( org.omg.CORBA.portable.InputStream istream )
```

31.90.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.90.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    int[][][] value
)
```

31.91 Class I3DHolder

mil.dtra.hpac.server.scipuff
public final I3DHolder
 extends Object
 implements Streamable,

mil/dtra/hpac/server/scipuff/I3DHolder.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public int[][][] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.91.1 Field value

```
public int[][][] value
```

31.91.2 Constructor I3DHolder()

```
public
I3DHolder()
```

31.91.3 Constructor I3DHolder()

```
public
I3DHolder( int[][][] initialValue )
```

31.91.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.91.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.91.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.92 Class IncidentTHelper

mil.dtra.hpac.server.scipuff
 public abstract **IncidentTHelper**
 extends Object

mil/dtra/hpac/server/scipuff/IncidentTHelper.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.IncidentT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.IncidentT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.92.1 Constructor IncidentTHelper()

```
public
IncidentTHelper()
```

31.92.2 Method extract()

```
public static mil.dtra.hpac.server.IncidentT
extract( org.omg.CORBA.Any a )
```

31.92.3 Method id()

```
public static java.lang.String
id()
```

31.92.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.IncidentT that
)
```

31.92.5 Method read()

```
public static mil.dtra.hpac.server.IncidentT
read( org.omg.CORBA.portable.InputStream istream )
```

31.92.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.92.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.IncidentT value
)
```

31.93 Class IncidentTListHelper

```
mil.dtra.hpac.server.scipuff
public abstract IncidentTListHelper
extends Object
```

mil/dtra/hpac/server/scipuff/IncidentTListHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.IncidentT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.IncidentT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.93.1 Constructor IncidentTListHelper()

```
public
IncidentTListHelper()
```

31.93.2 Method extract()

```
public static mil.dtra.hpac.server.IncidentT[]
extract( org.omg.CORBA.Any a )
```

31.93.3 Method id()

```
public static java.lang.String
id()
```

31.93.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.IncidentT[] that
)
```

31.93.5 Method read()

```
public static mil.dtra.hpac.server.IncidentT[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.93.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.93.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.IncidentT[] value
)
```

31.94 Class IncidentTListHolder

mil.dtra.hpac.server.scipuff
public final IncidentTListHolder
 extends Object
 implements Streamable,

mil/dtra/hpac/server/scipuff/IncidentTListHolder.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public mil.dtra.hpac.server.IncidentT[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.94.1 Field value

```
public mil.dtra.hpac.server.IncidentT[] value
```

31.94.2 Constructor IncidentTListHolder()

```
public
IncidentTListHolder()
```

31.94.3 Constructor IncidentTListHolder()

```
public
IncidentTListHolder( mil.dtra.hpac.server.IncidentT[] initialValue )
```

31.94.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.94.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.94.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.95 Class IntArrayHelper

```
mil.dtra.hpac.server.scipuff
public abstract IntArrayHelper
extends Object
```

mil/dtra/hpac/server/scipuff/IntArrayHelper.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static int[] extract()
public static java.lang.String id()
public static void insert()
public static int[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.95.1 Constructor IntArrayHelper()

```
public
IntArrayHelper()
```

31.95.2 Method extract()

```
public static int[]
extract( org.omg.CORBA.Any a )
```

31.95.3 Method id()

```
public static java.lang.String
id()
```

31.95.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    int[] that
)
```

31.95.5 Method read()

```
public static int[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.95.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.95.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    int[] value
)
```

31.96 Class IntArrayHolder

```
mil.dtra.hpac.server.scipuff
public final IntArrayHolder
extends Object
implements Streamable,
```

mil/dtra/hpac/server/scipuff/IntArrayHolder.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public int[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.96.1 Field value

```
public int[] value
```

31.96.2 Constructor IntArrayHolder()

```
public
IntArrayHolder()
```

31.96.3 Constructor IntArrayHolder()

```
public
IntArrayHolder( int[] initialValue )
```

31.96.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.96.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.96.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.97 Class LimitTHelper

```
mil.dtra.hpac.server.scipuff
public abstract LimitTHelper
extends Object
```

mil/dtra/hpac/server/scipuff/LimitTHelper.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.project.LimitT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.LimitT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.97.1 Constructor LimitTHelper()

```
public
LimitTHelper()
```

31.97.2 Method `extract()`

```
public static mil.dtra.hpac.server.project.LimitT
extract( org.omg.CORBA.Any a )
```

31.97.3 Method `id()`

```
public static java.lang.String
id()
```

31.97.4 Method `insert()`

```
public static void
insert(
```

```
org.omg.CORBA.Any a,
mil.dtra.hpac.server.project.LimitT that
)
```

31.97.5 Method read()

```
public static mil.dtra.hpac.server.project.LimitT
read( org.omg.CORBA.portable.InputStream istream )
```

31.97.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.97.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.LimitT value
)
```

31.98 Class MessageT

```
mil.dtra.hpac.server.scipuff
public final MessageT
extends Object
implements IDLEntity,
```

Fields:

```
public int fMessageParameter
public java.lang.String fMessageString1
public java.lang.String fMessageString2
public java.lang.String fMessageString3
public int fMessageType
public int fMessageValue
public java.lang.String fOriginator
```

31.98.1 Field fMessageParameter

```
public int fMessageParameter
```

31.98.2 Field fMessageString1

```
public java.lang.String fMessageString1
```

31.98.3 Field fMessageString2

```
public java.lang.String fMessageString2
```

31.98.4 Field fMessageString3

```
public java.lang.String fMessageString3
```

31.98.5 Field fMessageType

```
public int fMessageType
```

31.98.6 Field fMessageValue

```
public int fMessageValue
```

31.98.7 Field fOriginator

```
public java.lang.String fOriginator
```

31.98.8 Constructor MessageT()

```
public  
MessageT()
```

31.98.9 Constructor MessageT()

```
public  
MessageT(  
    int _fMessageType,  
    int _fMessageValue,  
    int _fMessageParameter,  
    java.lang.String _fMessageString1,  
    java.lang.String _fMessageString2,  
    java.lang.String _fMessageString3,  
    java.lang.String _fOriginator  
)
```

31.99 Class MessageTHelper

```
mil.dtra.hpac.server.scipuff
public abstract MessageTHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.scipuff.MessageT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.scipuff.MessageT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.99.1 Constructor MessageTHelper()

```
public
MessageTHelper()
```

31.99.2 Method extract()

```
public static mil.dtra.hpac.server.scipuff.MessageT
extract( org.omg.CORBA.Any a )
```

31.99.3 Method id()

```
public static java.lang.String
id()
```

31.99.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.scipuff.MessageT that
)
```

31.99.5 Method read()

```
public static mil.dtra.hpac.server.scipuff.MessageT
read( org.omg.CORBA.portable.InputStream istream )
```

31.99.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.99.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.scipuff.MessageT value
)
```

31.100 Class MessageTHolder

```
mil.dtra.hpac.server.scipuff
public final MessageTHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.scipuff.MessageT value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.100.1 Field value

```
public mil.dtra.hpac.server.scipuff.MessageT value
```

31.100.2 Constructor MessageTHolder()

```
public
MessageTHolder()
```

31.100.3 Constructor MessageTHolder()

```
public
MessageTHolder( mil.dtra.hpac.server.scipuff.MessageT initialValue )
```

31.100.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.100.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

31.100.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.101 Class MessageTListHelper

mil.dtra.hpac.server.scipuff
 public abstract **MessageTListHelper**
 extends Object

mil/dtra/hpac/server/scipuff/MessageTListHelper.java Generated by the IDL-to-Java compiler
 (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.scipuff.MessageT[] extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.scipuff.MessageT[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.101.1 Constructor `MessageTListHelper()`

```
public
MessageTListHelper()
```

31.101.2 Method `extract()`

```
public static mil.dtra.hpac.server.scipuff.MessageT[]
extract( org.omg.CORBA.Any a )
```

31.101.3 Method id()

```
public static java.lang.String
id()
```

31.101.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.scipuff.MessageT[] that
)
```

31.101.5 Method read()

```
public static mil.dtra.hpac.server.scipuff.MessageT[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.101.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.101.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.scipuff.MessageT[] value
)
```

31.102 Class MessageTListHolder

```
mil.dtra.hpac.server.scipuff
public final MessageTListHolder
extends Object
implements Streamable,
```

mil/dtra/hpac/server/scipuff/MessageTListHolder.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public mil.dtra.hpac.server.scipuff.MessageT[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.102.1 Field value

```
public mil.dtra.hpac.server.scipuff.MessageT[] value
```

31.102.2 Constructor MessageTListHolder()

```
public
MessageTListHolder()
```

31.102.3 Constructor MessageTListHolder()

```
public
MessageTListHolder( mil.dtra.hpac.server.scipuff.MessageT[] initialValue )
```

31.102.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.102.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.102.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.103 Class OptionsTHelper

```
mil.dtra.hpac.server.scipuff
public abstract OptionsTHelper
extends Object
```

mil/dtra/hpac/server/scipuff/OptionsTHelper.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.project.OptionsT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.OptionsT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.103.1 Constructor OptionsTHelper()

```
public
OptionsTHelper()
```

31.103.2 Method extract()

```
public static mil.dtra.hpac.server.project.OptionsT
extract( org.omg.CORBA.Any a )
```

31.103.3 Method id()

```
public static java.lang.String
id()
```

31.103.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.OptionsT that
)
```

31.103.5 Method read()

```
public static mil.dtra.hpac.server.project.OptionsT
read( org.omg.CORBA.portable.InputStream istream )
```

31.103.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.103.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.OptionsT value
)
```

31.104 Class PlotExceptionHelper

mil.dtra.hpac.server.scipuff
public abstract PlotExceptionHelper
 extends Object

mil/dtra/hpac/server/scipuff/PlotExceptionHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.scipuff.PlotException extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.scipuff.PlotException read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.104.1 Constructor PlotExceptionHelper()

```
public
PlotExceptionHelper()
```

31.104.2 Method extract()

```
public static mil.dtra.hpac.server.scipuff.PlotException
extract( org.omg.CORBA.Any a )
```

31.104.3 Method id()

```
public static java.lang.String
id()
```

31.104.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.scipuff.PlotException that
)
```

31.104.5 Method read()

```
public static mil.dtra.hpac.server.scipuff.PlotException
read( org.omg.CORBA.portable.InputStream istream )
```

31.104.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.104.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.scipuff.PlotException value
)
```

31.105 Class PlotExceptionHolder

mil.dtra.hpac.server.scipuff
public final PlotExceptionHolder
 extends Object
 implements Streamable,

mil/dtra/hpac/server/scipuff/PlotExceptionHolder.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public mil.dtra.hpac.server.scipuff.PlotException value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.105.1 Field value

```
public mil.dtra.hpac.server.scipuff.PlotException value
```

31.105.2 Constructor PlotExceptionHolder()

```
public
PlotExceptionHolder()
```

31.105.3 Constructor PlotExceptionHolder()

```
public
PlotExceptionHolder( mil.dtra.hpac.server.scipuff.PlotException initialValue )
```

31.105.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.105.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.105.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.106 Class PlotGeneratorHelper

```
mil.dtra.hpac.server.scipuff
public abstract PlotGeneratorHelper
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.scipuff.PlotGenerator extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.scipuff.PlotGenerator narrow()
public static mil.dtra.hpac.server.scipuff.PlotGenerator read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.106.1 Constructor PlotGeneratorHelper()

```
public
PlotGeneratorHelper()
```

31.106.2 Method extract()

```
public static mil.dtra.hpac.server.scipuff.PlotGenerator
extract( org.omg.CORBA.Any a )
```

31.106.3 Method id()

```
public static java.lang.String
id()
```

31.106.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.scipuff.PlotGenerator that
))
```

31.106.5 Method narrow()

```
public static mil.dtra.hpac.server.scipuff.PlotGenerator
narrow( org.omg.CORBA.Object obj )
```

31.106.6 Method read()

```
public static mil.dtra.hpac.server.scipuff.PlotGenerator
read( org.omg.CORBA.portable.InputStream istream )
```

31.106.7 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.106.8 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.scipuff.PlotGenerator value
)
```

31.107 Class PlotGeneratorHolder

```
mil.dtra.hpac.server.scipuff
public final PlotGeneratorHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.scipuff.PlotGenerator value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.107.1 Field value

```
public mil.dtra.hpac.server.scipuff.PlotGenerator value
```

31.107.2 Constructor PlotGeneratorHolder()

```
public
PlotGeneratorHolder()
```

31.107.3 Constructor PlotGeneratorHolder()

```
public
PlotGeneratorHolder( mil.dtra.hpac.server.scipuff.PlotGenerator initialValue )
```

31.107.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.107.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.107.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.108 Class ScipuffAllHelper

mil.dtra.hpac.server.scipuff
 public abstract **ScipuffAllHelper**
 extends Object

Methods:

```
public static mil.dtra.hpac.server.scipuff.ScipuffAll extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.scipuff.ScipuffAll narrow()
public static mil.dtra.hpac.server.scipuff.ScipuffAll read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.108.1 Constructor ScipuffAllHelper()

```
public
ScipuffAllHelper()
```

31.108.2 Method extract()

```
public static mil.dtra.hpac.server.scipuff.ScipuffAll
extract( org.omg.CORBA.Any a )
```

31.108.3 Method id()

```
public static java.lang.String
id()
```

31.108.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.scipuff.ScipuffAll that
)
```

31.108.5 Method narrow()

```
public static mil.dtra.hpac.server.scipuff.ScipuffAll
narrow( org.omg.CORBA.Object obj )
```

31.108.6 Method read()

```
public static mil.dtra.hpac.server.scipuff.ScipuffAll
read( org.omg.CORBA.portable.InputStream istream )
```

31.108.7 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.108.8 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.scipuff.ScipuffAll value
)
```

31.109 Class ScipuffAllHolder

```
mil.dtra.hpac.server.scipuff
public final ScipuffAllHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.scipuff.ScipuffAll value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.109.1 Field value

```
public mil.dtra.hpac.server.scipuff.ScipuffAll value
```

31.109.2 Constructor ScipuffAllHolder()

```
public
ScipuffAllHolder()
```

31.109.3 Constructor ScipuffAllHolder()

```
public
ScipuffAllHolder( mil.dtra.hpac.server.scipuff.ScipuffAll initialValue )
```

31.109.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.109.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

31.109.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.110 Class ScipuffExceptionHelper

```
mil.dtra.hpac.server.scipuff
public abstract ScipuffExceptionHelper
extends Object
```

mil/dtra/hpac/server/scipuff/ScipuffExceptionHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.scipuff.ScipuffException extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.scipuff.ScipuffException read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.110.1 Constructor ScipuffExceptionHelper()

```
public
ScipuffExceptionHelper()
```

31.110.2 Method `extract()`

```
public static mil.dtra.hpac.server.scipuff.ScipuffException
extract( org.omg.CORBA.Any a )
```

31.110.3 Method `id()`

```
public static java.lang.String
id()
```

31.110.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.scipuff.ScipuffException that
)
```

31.110.5 Method read()

```
public static mil.dtra.hpac.server.scipuff.ScipuffException
read( org.omg.CORBA.portable.InputStream istream )
```

31.110.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.110.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.scipuff.ScipuffException value
)
```

31.111 Class ScipuffExceptionHolder

mil.dtra.hpac.server.scipuff
public final ScipuffExceptionHolder
 extends Object
 implements Streamable,

mil/dtra/hpac/server/scipuff/ScipuffExceptionHolder.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public mil.dtra.hpac.server.scipuff.ScipuffException value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.111.1 Field value

```
public mil.dtra.hpac.server.scipuff.ScipuffException value
```

31.111.2 Constructor ScipuffExceptionHolder()

```
public  
ScipuffExceptionHolder()
```

31.111.3 Constructor ScipuffExceptionHolder()

```
public  
ScipuffExceptionHolder( mil.dtra.hpac.server.scipuff.ScipuffException initialValue )
```

31.111.4 Method _read()

```
public void  
_read( org.omg.CORBA.portable.InputStream i )
```

31.111.5 Method _type()

```
public org.omg.CORBA.TypeCode  
_type()
```

31.111.6 Method _write()

```
public void  
_write( org.omg.CORBA.portable.OutputStream o )
```

31.112 Class ScipuffServerFactoryHelper

```
mil.dtra.hpac.server.scipuff  
public abstract ScipuffServerFactoryHelper  
extends Object
```

Methods:

```
public static mil.dtra.hpac.server.scipuff.ScipuffServerFactory extract()  
public static java.lang.String id()  
public static void insert()  
public static mil.dtra.hpac.server.scipuff.ScipuffServerFactory narrow()  
public static mil.dtra.hpac.server.scipuff.ScipuffServerFactory read()
```

```
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.112.1 Constructor ScipuffServerFactoryHelper()

```
public
ScipuffServerFactoryHelper()
```

31.112.2 Method extract()

```
public static mil.dtra.hpac.server.scipuff.ScipuffServerFactory
extract( org.omg.CORBA.Any a )
```

31.112.3 Method id()

```
public static java.lang.String
id()
```

31.112.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.scipuff.ScipuffServerFactory that
)
```

31.112.5 Method narrow()

```
public static mil.dtra.hpac.server.scipuff.ScipuffServerFactory
narrow( org.omg.CORBA.Object obj )
```

31.112.6 Method read()

```
public static mil.dtra.hpac.server.scipuff.ScipuffServerFactory
read( org.omg.CORBA.portable.InputStream istream )
```

31.112.7 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.112.8 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.scipuff.ScipuffServerFactory value
)
```

31.113 Class ScipuffServerFactoryHolder

```
mil.dtra.hpac.server.scipuff
public final ScipuffServerFactoryHolder
extends Object
implements Streamable,
```

Fields:

```
public mil.dtra.hpac.server.scipuff.ScipuffServerFactory value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.113.1 Field value

```
public mil.dtra.hpac.server.scipuff.ScipuffServerFactory value
```

31.113.2 Constructor ScipuffServerFactoryHolder()

```
public
ScipuffServerFactoryHolder()
```

31.113.3 Constructor ScipuffServerFactoryHolder()

```
public
ScipuffServerFactoryHolder( mil.dtra.hpac.server.scipuff.ScipuffServerFactory initialValue )
```

31.113.4 Method `_read()`

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.113.5 Method `_type()`

```
public org.omg.CORBA.TypeCode
_type()
```

31.113.6 Method `_write()`

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.114 Class ScipuffServerHelper

mil.dtra.hpac.server.scipuff
 public abstract **ScipuffServerHelper**
 extends Object

Methods:

```
public static mil.dtra.hpac.server.scipuff.ScipuffServer extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.scipuff.ScipuffServer narrow()
public static mil.dtra.hpac.server.scipuff.ScipuffServer read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.114.1 Constructor ScipuffServerHelper()

```
public
ScipuffServerHelper()
```

31.114.2 Method `extract()`

```
public static mil.dtra.hpac.server.scipuff.ScipuffServer
extract( org.omg.CORBA.Any a )
```

31.114.3 Method id()

```
public static java.lang.String
id()
```

31.114.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.scipuff.ScipuffServer that
)
```

31.114.5 Method narrow()

```
public static mil.dtra.hpac.server.scipuff.ScipuffServer
narrow( org.omg.CORBA.Object obj )
```

31.114.6 Method read()

```
public static mil.dtra.hpac.server.scipuff.ScipuffServer
read( org.omg.CORBA.portable.InputStream istream )
```

31.114.7 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.114.8 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.scipuff.ScipuffServer value
)
```

31.115 Class ScipuffServerHolder

mil.dtra.hpac.server.scipuff
public final ScipuffServerHolder
 extends Object
 implements Streamable,

Fields:

```
public mil.dtra.hpac.server.scipuff.ScipuffServer value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.115.1 Field value

```
public mil.dtra.hpac.server.scipuff.ScipuffServer value
```

31.115.2 Constructor ScipuffServerHolder()

```
public
ScipuffServerHolder()
```

31.115.3 Constructor ScipuffServerHolder()

```
public
ScipuffServerHolder( mil.dtra.hpac.server.scipuff.ScipuffServer initialValue )
```

31.115.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.115.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.115.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.116 Class SpatialDomainTHelper

```
mil.dtra.hpac.server.scipuff
public abstract SpatialDomainTHelper
extends Object
```

mil/dtra/hpac/server/scipuff/SpatialDomainTHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.project.SpatialDomainT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.SpatialDomainT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.116.1 Constructor SpatialDomainTHelper()

```
public
SpatialDomainTHelper()
```

31.116.2 Method extract()

```
public static mil.dtra.hpac.server.project.SpatialDomainT
extract( org.omg.CORBA.Any a )
```

31.116.3 Method id()

```
public static java.lang.String
id()
```

31.116.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.SpatialDomainT that
)
```

31.116.5 Method read()

```
public static mil.dtra.hpac.server.project.SpatialDomainT
read( org.omg.CORBA.portable.InputStream istream )
```

31.116.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.116.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.SpatialDomainT value
)
```

31.117 Class StringListHelper

mil.dtra.hpac.server.scipuff
 public abstract **StringListHelper**
 extends Object

mil/dtra/hpac/server/scipuff/StringListHelper.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static java.lang.String[] extract()
public static java.lang.String id()
public static void insert()
public static java.lang.String[] read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.117.1 Constructor StringListHelper()

```
public
StringListHelper()
```

31.117.2 Method extract()

```
public static java.lang.String[]
extract( org.omg.CORBA.Any a )
```

31.117.3 Method id()

```
public static java.lang.String
id()
```

31.117.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    java.lang.String[] that
)
```

31.117.5 Method read()

```
public static java.lang.String[]
read( org.omg.CORBA.portable.InputStream istream )
```

31.117.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.117.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    java.lang.String[] value
)
```

31.118 Class StringListHolder

mil.dtra.hpac.server.scipuff
 public final **StringListHolder**
 extends Object
 implements Streamable,

mil/dtra/hpac/server/scipuff/StringListHolder.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public java.lang.String[] value
```

Methods:

```
public void _read()
public org.omg.CORBA.TypeCode _type()
public void _write()
```

31.118.1 Field value

```
public java.lang.String[] value
```

31.118.2 Constructor StringListHolder()

```
public
StringListHolder()
```

31.118.3 Constructor StringListHolder()

```
public
StringListHolder( java.lang.String[] initialValue )
```

31.118.4 Method _read()

```
public void
_read( org.omg.CORBA.portable.InputStream i )
```

31.118.5 Method _type()

```
public org.omg.CORBA.TypeCode
_type()
```

31.118.6 Method _write()

```
public void
_write( org.omg.CORBA.portable.OutputStream o )
```

31.119 Class TemporalDomainTHelper

```
mil.dtra.hpac.server.scipuff
public abstract TemporalDomainTHelper
extends Object
```

mil/dtra/hpac/server/scipuff/TemporalDomainTHelper.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.project.TemporalDomainT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.TemporalDomainT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.119.1 Constructor TemporalDomainTHelper()

```
public
TemporalDomainTHelper()
```

31.119.2 Method extract()

```
public static mil.dtra.hpac.server.project.TemporalDomainT
extract( org.omg.CORBA.Any a )
```

31.119.3 Method id()

```
public static java.lang.String
id()
```

31.119.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.TemporalDomainT that
)
```

31.119.5 Method read()

```
public static mil.dtra.hpac.server.project.TemporalDomainT
read( org.omg.CORBA.portable.InputStream istream )
```

31.119.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.119.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.TemporalDomainT value
)
```

31.120 Class TimeTHelper

mil.dtra.hpac.server.scipuff
 public abstract **TimeTHelper**
 extends Object

mil/dtra/hpac/server/scipuff/TimeTHelper.java Generated by the IDL-to-Java compiler (portable),
 version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.hpac.server.project.TimeT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.hpac.server.project.TimeT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.120.1 Constructor TimeTHelper()

```
public
TimeTHelper()
```

31.120.2 Method extract()

```
public static mil.dtra.hpac.server.project.TimeT
extract( org.omg.CORBA.Any a )
```

31.120.3 Method id()

```
public static java.lang.String
id()
```

31.120.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.hpac.server.project.TimeT that
)
```

31.120.5 Method read()

```
public static mil.dtra.hpac.server.project.TimeT
read( org.omg.CORBA.portable.InputStream istream )
```

31.120.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.120.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.hpac.server.project.TimeT value
)
```

31.121 Class WeatherTHelper

```
mil.dtra.hpac.server.scipuff
public abstract WeatherTHelper
extends Object
```

mil/dtra/hpac/server/scipuff/WeatherTHelper.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Methods:

```
public static mil.dtra.weather.shared.data.weatherT.WeatherT extract()
public static java.lang.String id()
public static void insert()
public static mil.dtra.weather.shared.data.weatherT.WeatherT read()
public static synchronized org.omg.CORBA.TypeCode type()
public static void write()
```

31.121.1 Constructor WeatherTHelper()

```
public
WeatherTHelper()
```

31.121.2 Method extract()

```
public static mil.dtra.weather.shared.data.weatherT.WeatherT
extract( org.omg.CORBA.Any a )
```

31.121.3 Method id()

```
public static java.lang.String
id()
```

31.121.4 Method insert()

```
public static void
insert(
    org.omg.CORBA.Any a,
    mil.dtra.weather.shared.data.weatherT.WeatherT that
)
```

31.121.5 Method read()

```
public static mil.dtra.weather.shared.data.weatherT.WeatherT
read( org.omg.CORBA.portable.InputStream istream )
```

31.121.6 Method type()

```
public static synchronized org.omg.CORBA.TypeCode
type()
```

31.121.7 Method write()

```
public static void
write(
    org.omg.CORBA.portable.OutputStream ostream,
    mil.dtra.weather.shared.data.weatherT.WeatherT value
)
```

31.122 Exception CircleEffectException

```
mil.dtra.hpac.server.scipuff
public final CircleEffectException
extends UserException
implements IDLEntity,
```

mil/dtra/hpac/server/scipuff/CircleEffectException.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public java.lang.String fMessage
```

31.122.1 Field fMessage

```
public java.lang.String fMessage
```

31.122.2 Constructor CircleEffectException()

```
public
CircleEffectException()
```

31.122.3 Constructor CircleEffectException()

```
public
CircleEffectException( java.lang.String _fMessage )
```

31.123 Exception PlotException

```
mil.dtra.hpac.server.scipuff
public final PlotException
extends UserException
implements IDLEntity,
```

mil/dtra/hpac/server/scipuff/PlotException.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public java.lang.String fMessage
public mil.dtra.hpac.server.scipuff.MessageT fOptionalMessageT
```

31.123.1 Field fMessage

```
public java.lang.String fMessage
```

31.123.2 Field fOptionalMessageT

```
public mil.dtra.hpac.server.scipuff.MessageT fOptionalMessageT
```

31.123.3 Constructor PlotException()

```
public
PlotException()
```

31.123.4 Constructor PlotException()

```
public
PlotException(
    java.lang.String _fMessage,
    mil.dtra.hpac.server.scipuff.MessageT _fOptionalMessageT
)
```

31.124 Exception ScipuffException

```
mil.dtra.hpac.server.scipuff
public final ScipuffException
extends UserException
implements IDLEntity,
```

mil/dtra/hpac/server/scipuff/ScipuffException.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public java.lang.String fMessage
public mil.dtra.hpac.server.scipuff.MessageT fOptionalMessageT
```

31.124.1 Field fMessage

```
public java.lang.String fMessage
```

31.124.2 Field fOptionalMessageT

```
public mil.dtra.hpac.server.scipuff.MessageT fOptionalMessageT
```

31.124.3 Constructor ScipuffException()

```
public
ScipuffException()
```

31.124.4 Constructor ScipuffException()

```
public
ScipuffException(
    java.lang.String _fMessage,
    mil.dtra.hpac.server.scipuff.MessageT _fOptionalMessageT
)
```

31.125 Exception CircleEffectException

```
mil.dtra.hpac.server.scipuff
public final CircleEffectException
extends UserException
implements IDLEntity,
```

mil/dtra/hpac/server/scipuff/CircleEffectException.java Generated by the IDL-to-Java compiler (portable), version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public java.lang.String fMessage
```

31.125.1 Field fMessage

```
public java.lang.String fMessage
```

31.125.2 Constructor CircleEffectException()

```
public
CircleEffectException()
```

31.125.3 Constructor CircleEffectException()

```
public
CircleEffectException( java.lang.String _fMessage )
```

31.126 Exception PlotException

```
mil.dtra.hpac.server.scipuff
public final PlotException
extends UserException
implements IDLEntity,
```

mil/dtra/hpac/server/scipuff/PlotException.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public java.lang.String fMessage
public mil.dtra.hpac.server.scipuff.MessageT fOptionalMessageT
```

31.126.1 Field fMessage

```
public java.lang.String fMessage
```

31.126.2 Field fOptionalMessageT

```
public mil.dtra.hpac.server.scipuff.MessageT fOptionalMessageT
```

31.126.3 Constructor PlotException()

```
public
PlotException()
```

31.126.4 Constructor PlotException()

```
public
PlotException(
    java.lang.String _fMessage,
    mil.dtra.hpac.server.scipuff.MessageT _fOptionalMessageT
)
```

31.127 Exception ScipuffException

```
mil.dtra.hpac.server.scipuff
public final ScipuffException
extends UserException
implements IDLEntity,
```

mil/dtra/hpac/server/scipuff/ScipuffException.java Generated by the IDL-to-Java compiler (portable),
version "3.0" from scipuff.idl Friday, February 8, 2002 4:00:25 PM EST

Fields:

```
public java.lang.String fMessage
public mil.dtra.hpac.server.scipuff.MessageT fOptionalMessageT
```

31.127.1 Field fMessage

```
public java.lang.String fMessage
```

31.127.2 Field fOptionalMessageT

```
public mil.dtra.hpac.server.scipuff.MessageT fOptionalMessageT
```

31.127.3 Constructor ScipuffException()

```
public
ScipuffException()
```

31.127.4 Constructor ScipuffException()

```
public
ScipuffException(
    java.lang.String _fMessage,
    mil.dtra.hpac.server.scipuff.MessageT _fOptionalMessageT
)
```

CHAPTER 32

Package mil.dtra.hpac.server.scipuff.impl

The implementation package for the ScipuffServer.

Interfaces:

HpacConstants

Classes:

Hpac
PerClientLauncher
ScipuffAllImpl
ScipuffServerFactoryImpl
Utils

Exceptions:

EffectException
HPACtoolCoredumpException
ReleaseConversionException
UpdateException
UTMConversionException

Errors:

EffectException
HPACtoolCoredumpException
ReleaseConversionException
UpdateException
UTMConversionException

32.1 Interface HpacConstants

mil.dtra.hpac.server.scipuff.impl
public interface **HpacConstants**

Defines constants used for internal communication between ScipuffServer and the backend HPACTool. Also defines some constant names whose values are already defined in scipuff.idl. This keeps from having to type CONSTANT_NAME.value all the time.

Fields:

public static final int	_HC_LEFT_BUTTON
public static final int	_HC_MIDDLE_BUTTON
public static final int	_HC_NO_BUTTON
public static final int	_HC_RIGHT_BUTTON
public static final int	_HF_RESTART
public static final int	_HI_FX
public static final int	_HI_RIPDLIPI
public static final int	_HI_SWIFT
public static final int	_HI_TRIPOP
public static final int	_HI_UTM
public static final int	_HM_BUTTONSTATE
public static final int	_HM_BUTTONTAG
public static final int	_HM_CHECK
public static final int	_HM_COMPUTEFF
public static final int	_HM_DISPERSION_END
public static final int	_HM_EMPTY_MESSAGE
public static final int	_HM_ERROR
public static final int	_HM_EXITEFF
public static final int	_HM_HASEFF
public static final int	_HM_INFO
public static final int	_HM_INITEFF
public static final int	_HM_NO_NEW_MESSAGE
public static final int	_HM_PROGRESSBAR
public static final int	_HM_PROGRESSMSG
public static final int	_HM_RELEASE
public static final int	_HM_RELEASEWAIT
public static final int	_HM_REPLY
public static final int	_HM_SETCLOCK
public static final int	_HM_SETWAIT
public static final int	_HM_START
public static final int	_HM_STEPCLOCK
public static final int	_HM_STOP
public static final int	_HM_STOPCLOCK
public static final int	_HM_SYNC
public static final int	_HM_UPDATEREL
public static final int	_HPAC_AFFIRMATIVE_REPLY
public static final int	_HPAC_FAILURE
public static final int	_HPAC_FALSE
public static final int	_HPAC_NEGATIVE_REPLY
public static final int	_HPAC_OFF
public static final int	_HPAC_ON
public static final int	_HPAC_SUCCESS

public static final int _HPAC_TRUE
public static final int _HT_UTC

32.1.1 Field _HC_LEFT_BUTTON

public static final int _HC_LEFT_BUTTON

32.1.2 Field _HC_MIDDLE_BUTTON

public static final int _HC_MIDDLE_BUTTON

32.1.3 Field _HC_NO_BUTTON

public static final int _HC_NO_BUTTON

32.1.4 Field _HC_RIGHT_BUTTON

public static final int _HC_RIGHT_BUTTON

32.1.5 Field _HF_RESTART

public static final int _HF_RESTART

32.1.6 Field _HI_FX

public static final int _HI_FX

32.1.7 Field _HI_RIPDLIPI

public static final int _HI_RIPDLIPI

32.1.8 Field _HI_SWIFT

public static final int _HI_SWIFT

32.1.9 Field _HI_TRIPOP

public static final int _HI_TRIPOP

32.1.10 Field `_HI_UTM`

public static final int `_HI_UTM`

32.1.11 Field `_HM_BUTTONSTATE`

public static final int `_HM_BUTTONSTATE`

32.1.12 Field `_HM_BUTTONTAG`

public static final int `_HM_BUTTONTAG`

32.1.13 Field `_HM_CHECK`

public static final int `_HM_CHECK`

32.1.14 Field `_HM_COMPUTEFF`

public static final int `_HM_COMPUTEFF`

32.1.15 Field `_HM_DISPERSION_END`

public static final int `_HM_DISPERSION_END`

32.1.16 Field `_HM_EMPTY_MESSAGE`

public static final int `_HM_EMPTY_MESSAGE`

32.1.17 Field `_HM_ERROR`

public static final int `_HM_ERROR`

32.1.18 Field `_HM_EXITEFF`

public static final int `_HM_EXITEFF`

32.1.19 Field `_HM_HASEFF`

public static final int `_HM_HASEFF`

32.1.20 Field `_HM_INFO`

public static final int `_HM_INFO`

32.1.21 Field `_HM_INITEFF`

public static final int `_HM_INITEFF`

32.1.22 Field `_HM_NO_NEW_MESSAGE`

public static final int `_HM_NO_NEW_MESSAGE`

32.1.23 Field `_HM_PROGRESSBAR`

public static final int `_HM_PROGRESSBAR`

32.1.24 Field `_HM_PROGRESSMSG`

public static final int `_HM_PROGRESSMSG`

32.1.25 Field `_HM_RELEASE`

public static final int `_HM_RELEASE`

32.1.26 Field `_HM_RELEASEWAIT`

public static final int `_HM_RELEASEWAIT`

32.1.27 Field `_HM_REPLY`

public static final int `_HM_REPLY`

32.1.28 Field `_HM_SETCLOCK`

public static final int `_HM_SETCLOCK`

32.1.29 Field `_HM_SETWAIT`

public static final int `_HM_SETWAIT`

32.1.30 Field `_HM_START`

public static final int `_HM_START`

32.1.31 Field `_HM_STEPCLOCK`

public static final int `_HM_STEPCLOCK`

32.1.32 Field `_HM_STOP`

public static final int `_HM_STOP`

32.1.33 Field `_HM_STOPCLOCK`

public static final int `_HM_STOPCLOCK`

32.1.34 Field `_HM_SYNC`

public static final int `_HM_SYNC`

32.1.35 Field `_HM_UPDATEREL`

public static final int `_HM_UPDATEREL`

32.1.36 Field `_HPAC_AFFIRMATIVE_REPLY`

public static final int `_HPAC_AFFIRMATIVE_REPLY`

32.1.37 Field `_HPAC_FAILURE`

public static final int `_HPAC_FAILURE`

32.1.38 Field `_HPAC_FALSE`

public static final int `_HPAC_FALSE`

32.1.39 Field `_HPAC_NEGATIVE_REPLY`

public static final int `_HPAC_NEGATIVE_REPLY`

32.1.40 Field _HPAC_OFF

```
public static final int _HPAC_OFF
```

32.1.41 Field _HPAC_ON

```
public static final int _HPAC_ON
```

32.1.42 Field _HPAC_SUCCESS

```
public static final int _HPAC_SUCCESS
```

32.1.43 Field _HPAC_TRUE

```
public static final int _HPAC_TRUE
```

32.1.44 Field _HT_UTC

```
public static final int _HT_UTC
```

32.2 Class Hpac

```
mil.dtra.hpac.server.scipuff.impl
```

```
public Hpac
```

```
extends Object
```

```
implements HpacConstants,
```

A class of static methods that make calls to or get called by C++ native code on the way to or from Fortran routines in the HPAC Tool Engine.

32.3 Class PerClientLauncher

```
mil.dtra.hpac.server.scipuff.impl
```

```
public PerClientLauncher
```

```
extends Object
```

This is the class loaded and run by the per-client JVM invoked by JVMProcessInvoker. This launches ScipuffAllImpl in the new JVM.

Methods:

```
public static void main()
```

32.3.1 Constructor PerClientLauncher()

```
public
PerClientLauncher()
```

32.3.2 Method main()

```
public static void
main( java.lang.String[] args )
```

Reads command line arguments and launches ScipuffAllImpl.

32.4 Class ScipuffAllImpl

```
mil.dtra.hpac.server.scipuff.impl
public ScipuffAllImpl
extends ScipuffAllImplBase
implements HpacConstants,
```

The implementation of the ScipuffServer interface defined in Scipuff.idl

Methods:

```
public void activate()
public void addIncident()
public synchronized boolean calculate()
public synchronized boolean calculate2()
public synchronized boolean calculateWithUrban()
public void computeCircleEffects()
public void contourCount()
public void contourField()
public int createField()
public float currentTerrain()
public void currentWeather()
public void deleteField()
public void deleteProjectFiles()
public void exitCircleEffects()
protected java.lang.String get_rad_file_path()
public mil.dtra.hpac.server.scipuff.DispersionCalculator getDispersionCalculator()
public void getField()
public void getFieldDomain()
public void getFieldMinMax()
public void getFieldSize()
public void getFieldTable()
public void getFieldTableSize()
public void getFieldValue()
public void getFieldValues()
```

```

public void getPlotClasses()
public mil.dtra.hpac.server.scipuff.PlotGenerator getPlotGenerator()
public void getPlotTimes()
public java.lang.String[] getSubstrates()
public int initCircleEffects()
public synchronized boolean isAvailable()
public void numPlotClasses()
public void numPlotTimes()
public mil.dtra.hpac.server.scipuff.MessageT[] poll()
public void popAreaField()
public void processButtonClick()
public boolean queryCircleEffects()
public void reply()
public synchronized boolean restartFromPrevious()
public synchronized boolean restartFromPreviousWithUrban()
public synchronized boolean resumeCalculation()
public void shutdown()
public void terminate()
public void terminateDispersionCalculator()
public void terminatePlotGenerator()

```

32.4.1 Constructor ScipuffAllImpl()

```

public
ScipuffAllImpl(
    mil.dtra.hpac.server.scipuff.ScipuffServerFactory factory,
    javax.naming.Context context,
    java.lang.String server_name,
    int server_counter
)

```

Constructs a new ScipuffAllImpl

Parameters:

- factory - the ScipuffServerFactory that is calling this constructor
- context - naming context for server lookups
- server_name - the name under which this server will be bound

Exceptions:

- ScipuffException - if any error occurs reading the projectRootDir system property or creating the canonical path to the project directory

32.4.2 Method activate()

```
public void
activate(
    java.lang.String user_name,
    java.lang.String project_name
)
```

Activates and initializes an inactive ScipuffAllImpl. Should be called by ScipuffServerFactoryImpl only.

Parameters:

- user_name - the user name
- project_name - the project name

Exceptions:

- ScipuffException - if already active or if the project directory cannot be located,

32.4.3 Method addIncident()

```
public void
addIncident(
    mil.dtra.hpac.server.IncidentTHolder incident_t_holder,
    org.omg.CORBA.AnyHolder model_incident_holder,
    mil.dtra.hpac.server.project.FlagsT flags_t
)
```

Adds an incident to the project, along with its model incident data (aka "private block"). Should be called once for each incident to be added. This will start a thread to asynchronously call updateIncident with the "last chance" flag set and then return. Any errors from updateIncident will be accumulated and provided to the caller when calculate is called. Though they are never directly modified within this method, the parameters are defined in IDL as "inout" parameters, meaning they are implemented in Java as IDL holder objects, so that they can be passed on as holders to a model's updateIncident method where they may be modified.

Parameters:

- incident_t_holder - (the holder for) the IncidentT struct to be added
- model_incident_holder - (the holder for) the model-specific data (aka "private block") for this incident // for RSN versioning changes
- scipuff_mode - Scipuff calculation mode flag – either HF_FAST (1), HF_HAZARD(2), or HF_DUAL(4) // replaces:
- flags - parameters used by the tool engine to define a project's type of dispersion calculation. Had better be the same for each incident added and the same as passed

to calculate, or else. No check is made. Used here to obtain the Scipuff mode (fast, hazard, or dual) to give to models during updateIncident(). // end RSN versioning changes

Exceptions:

ScipuffException - if called after calling calculate

32.4.4 Method calculate()

```
public synchronized boolean
calculate(
    mil.dtra.weather.shared.data.weatherT.WeatherT weather_t,
    mil.dtra.hpac.server.project.LimitT limit_t,
    mil.dtra.hpac.server.project.OptionsT options_t,
    mil.dtra.hpac.server.project.FlagsT flags_t,
    mil.dtra.hpac.server.project.TemporalDomainTHolder tm_domain_holder,
    mil.dtra.hpac.server.project.SpatialDomainTHolder sp_domain_holder,
    float max_time_step,
    float output_interval
)
```

Starts the project running. Returns asynchronously after successfully starting the HPAC Tool Engine. Further interaction with the tool engine will occur via the poll method.

Parameters:

- weather_t - the weather (duh)
- limit_t - array size limits, etc. for the tool engine
- options_t - more parameters used by the tool engine
- flags_t - even more such parameters
- tm_domain_holder - specified temporal domain of the project
- sp_domain_holder - specified spatial domain of the project
- max_time_step - max time step for SCIPUFF
- output_interval - time interval in seconds for SCIPUFF output

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if errors from a previous calls to addIncident are detected or if an error from HPACInitTool, HPACCreateProject, or HPACRunProject occurs.

32.4.5 Method calculate2()

```
public synchronized boolean
calculate2(
    mil.dtra.hpac.server.IncidentT[] incidents,
    org.omg.CORBA.Any[] model_incidents,
    mil.dtra.weather.shared.data.weatherT.WeatherT weather_t,
    mil.dtra.hpac.server.project.LimitT limit_t,
    mil.dtra.hpac.server.project.OptionsT options_t,
    mil.dtra.hpac.server.project.FlagsT flags_t,
    mil.dtra.hpac.server.project.TemporalDomainTHolder tm_domain_holder,
    mil.dtra.hpac.server.project.SpatialDomainTHolder sp_domain_holder,
    float max_time_step,
    float output_interval
)
```

Starts the project running. Returns asynchronously after successfully starting the HPAC Tool Engine. Further interaction with the tool engine will occur via the poll method.

Parameters:

- weather_t - the weather (duh)
- limit_t - array size limits, etc. for the tool engine
- options_t - more parameters used by the tool engine
- flags_t - even more such parameters
- tm_domain_holder - specified temporal domain of the project
- sp_domain_holder - specified spatial domain of the project
- max_time_step - max time step for SCIPUFF
- output_interval - time interval in seconds for SCIPUFF output

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if errors from a previous calls to addIncident are detected or if an error from HPACInitTool, HPACCCreateProject, or HPACRunProject occurs.

32.4.6 Method calculateWithUrban()

```
public synchronized boolean
calculateWithUrban(
    mil.dtra.hpac.server.IncidentT[] incidents,
    org.omg.CORBA.Any[] model_incidents,
    mil.dtra.weather.shared.data.weatherT.WeatherT weather_t,
```

```

mil.dtra.hpac.server.project.LimitT limit_t,
mil.dtra.hpac.server.project.OptionsT options_t,
mil.dtra.hpac.server.project.FlagsT flags_t,
mil.dtra.hpac.server.project.TemporalDomainTHolder tm_domain_holder,
mil.dtra.hpac.server.project.SpatialDomainTHolder sp_domain_holder,
float max_time_step,
float output_interval,
java.lang.String udm_params,
java.lang.String uwm_params
)

```

Starts the project running. Returns asynchronously after successfully starting the HPAC Tool Engine. Further interaction with the tool engine will occur via the `poll` method.

Parameters:

- weather_t - the weather (duh)
- limit_t - array size limits, etc. for the tool engine
- options_t - more parameters used by the tool engine
- flags_t - even more such parameters
- tm_domain_holder - specified temporal domain of the project
- sp_domain_holder - specified spatial domain of the project
- max_time_step - max time step for SCIPUFF
- output_interval - time interval in seconds for SCIPUFF output
- udm_params - UDM parameters to write to a .urb file
- uwm_params - UWM parameters to write to a .uwm file

Returns:

true if project was converted to UTM, false if not

Exceptions:

`ScipuffException` - if errors from a previous calls to `addIncident` are detected or if an error from `HPACInitTool`, `HPACCCreateProject`, or `HPACRunProject` occurs.

32.4.7 Method `computeCircleEffects()`

```

public void
computeCircleEffects(
    int incident_index,
    int effect_id,
    int request,
    mil.dtra.hpac.server.scipuff.CircleEffectInputT ceit,
    mil.dtra.hpac.server.scipuff.CircleEffectOutputTHolder ceot_holder
)

```

32.4.8 Method contourCount()

```
public void
contourCount(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field_t,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type_t,
    mil.dtra.hpac.server.plot.HPACContourHeaderT contour_header_t,
    mil.dtra.hpac.server.plot.HPACContourElementT[] contour_list_t,
    int mode,
    org.omg.CORBA.IntHolder num_lines_holder,
    org.omg.CORBA.IntHolder num_points_holder
)
```

Counts the number of contour lines and contour points to be created by contourField.

Parameters:

- sag_field_id - the SAG field identifier
- plot_field_t - describes the field used to generate the SAG field specified by sag_field_id
- plot_type_t - describes the type of plot to be generated from the field data
- contour_header_t - describes the array of contour elements in contour_list_t
- contour_list_t - array of contour elements
- mode - contour generation mode. One of OPEN_CONTOUR , CLOSE_CONTOUR, or LATLON_OUTPUT
- num_lines_holder - upon return contains the number of lines to be generated
- num_points_holder - upon return contains the number of points generated

Exceptions:

- PlotException - if any error occurs

32.4.9 Method contourField()

```
public void
contourField(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field_t,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type_t,
    mil.dtra.hpac.server.plot.HPACContourHeaderT contour_header_t,
    mil.dtra.hpac.server.plot.HPACContourElementTListHolder contour_list_holder,
    int mode,
    mil.dtra.hpac.server.plot.HPACLineTListHolder lines_holder,
    mil.dtra.hpac.server.plot.HPACPointTListHolder points_holder
)
```

Creates contours for a given HPAC plot field and list of contour levels. Optionally, the population or area associated with the contours can be computed.

Parameters:

- sag_field_id - the SAG field identifier
- plot_field_t - describes the HPAC plot field
- plot_type_t - describes the type of plot to be generated from the field data
- contour_header_t - describes the array of contours to be created
- contour_list_holder - list of contour elements
- mode - contour generation mode. One of OPEN_CONTOUR , CLOSE_CONTOUR, or LATLON_OUTPUT
- lines_holder - list of contour lines to be created
- points_holder - list of points describing the contours to be created

Exceptions:

- PlotException - if any error occurs

32.4.10 Method createField()

```
public int
createField(
    mil.dtra.hpac.server.plot.HPACPlotFieldTHolder plot_field_holder,
    float[] class_data
)
```

Creates an HPAC plot field.

Parameters:

- plot_field_holder - describes the field to be created
- class_data - additional plot field class data as required by the fFieldCategory and fFieldClass elements of the plot_field_holder

Returns:

- the SAG grid identifier

Exceptions:

- PlotException - if any error occurs

32.4.11 Method currentTerrain()

```
public float
currentTerrain( mil.dtra.hpac.server.plot.HPACPointT location )
```

Returns terrain elevation at the specified location.

32.4.12 Method currentWeather()

```
public void
currentWeather(
    mil.dtra.hpac.server.plot.HPACPointT location,
    mil.dtra.hpac.server.EnvironmentTHolder environment_holder,
    mil.dtra.hpac.server.EnviroBLTHolder enviroBLT_holder
)
```

Returns met at specified location.

32.4.13 Method deleteField()

```
public void
deleteField( int sag_field_id )
```

Allows the tool engine to release memory allocated during the creation of the SAG grid.

Parameters:

sag_field_id - the SAG field identifier to be deleted

Exceptions:

PlotException -

32.4.14 Method deleteProjectFiles()

```
public void
deleteProjectFiles(
    java.lang.String username,
    java.lang.String projectname,
    int request
)
```

Deletes specified server-side HPAC files associated with a project.

32.4.15 Method exitCircleEffects()

```
public void
exitCircleEffects()
```

32.4.16 Method get_rad_file_path()

```
protected java.lang.String
get_rad_file_path()
```

Obtains the full path to the directory in which the rad file lives so it can be added to the INI file.
(HPACtool requires that the rad file be named .rad.)

Returns:

the full path to the directory in which the rad file lives

Exceptions:

ScipuffException - if the RadFileMerger server returns a bad rad file URL or throws
an Exception of any kind

32.4.17 Method getDispersionCalculator()

```
public mil.dtra.hpac.server.scipuff.DispersionCalculator
getDispersionCalculator()
```

Gets and activates a DispersionCalculator CORBA interface, which is required for making any
DispersionCalculator method calls.

Exceptions:

ScipuffException - if any problem occurs during activation

32.4.18 Method getField()

```
public void
getField(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field_t,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type_t,
    mil.dtra.hpac.server.plot.HPACPlotFieldNodeTListHolder node_list_holder,
    mil.dtra.hpac.server.plot.HPACPlotFieldTriangleTListHolder triangle_list_holder
)
```

Exceptions:

PlotException -

32.4.19 Method getFieldDomain()

```
public void
getFieldDomain(
    int sag_field_id,
    org.omg.CORBA.IntHolder nx_holder,
    org.omg.CORBA.IntHolder ny_holder,
    org.omg.CORBA.FloatHolder xmin_holder,
    org.omg.CORBA.FloatHolder ymin_holder,
    org.omg.CORBA.FloatHolder dx_holder,
    org.omg.CORBA.FloatHolder dy_holder
)
```

Obtains the domain associated with an HPAC plot field.

Parameters:

sag_field_id - the SAG field identifier
 nx_holder - number of base cells in the X-coordinate direction
 ny_holder - number of base cells in the Y-coordinate direction
 xmin_holder -
 ymin_holder -
 dx_holder -
 dy_holder -

Exceptions:

PlotException -

32.4.20 Method getFieldMinMax()

```
public void
getFieldMinMax(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type_t,
    org.omg.CORBA.FloatHolder mean_min_holder,
    org.omg.CORBA.FloatHolder mean_max_holder,
    org.omg.CORBA.FloatHolder var_min_holder,
    org.omg.CORBA.FloatHolder var_max_holder,
    org.omg.CORBA.FloatHolder plot_min_holder,
    org.omg.CORBA.FloatHolder plot_max_holder
)
```

Exceptions:

PlotException -

32.4.21 Method getFieldSize()

```
public void
getFieldSize(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field_t,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type_t,
    org.omg.CORBA.IntHolder num_nodes_holder,
    org.omg.CORBA.IntHolder num_triangles_holder
)
```

Exceptions:

PlotException -

32.4.22 Method getFieldTable()

```
public void
getFieldTable(
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field_t,
    float[] class_data,
    mil.dtra.hpac.server.scipuff.StringListHolder titles_holder,
    mil.dtra.hpac.server.scipuff.StringListHolder columns_holder,
    mil.dtra.hpac.server.scipuff.StringListHolder rows_holder,
    mil.dtra.hpac.server.scipuff.I3DHolder table3D_holder
)
```

Exceptions:

PlotException -

32.4.23 Method getFieldTableSize()

```
public void
getFieldTableSize(
```

```

mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field_t,
float[] class_data,
org.omg.CORBA.IntHolder ntable_holder,
org.omg.CORBA.IntHolder ncolumn_holder,
org.omg.CORBA.IntHolder nrow_holder
)

```

Exceptions:

PlotException -

32.4.24 Method getFieldValue()

```

public void
getFieldValue(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type_t,
    float x_point,
    float y_point,
    org.omg.CORBA.FloatHolder v_point_holder
)

```

Exceptions:

PlotException -

32.4.25 Method getFieldValues()

```

public void
getFieldValues(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type_t,
    int n_points,
    float[] x_points,
    float[] y_points,
    mil.dtra.hpac.server.effects.FloatArrayHolder v_points_holder
)

```

Exceptions:

PlotException -

32.4.26 Method getPlotClasses()

```
public void
getPlotClasses(
    mil.dtra.hpac.server.scipuff.StringListHolder classes_holder,
    mil.dtra.hpac.server.scipuff.StringListHolder choices_holder,
    mil.dtra.hpac.server.scipuff.StringListHolder kinds_holder,
    mil.dtra.hpac.server.scipuff.CategoryClass2DHolder category_classes_holder,
    mil.dtra.hpac.server.scipuff.ClassChoice2DHolder class_choices_holder,
    mil.dtra.hpac.server.plot.HPACFieldCoordinateTHolder project_coords_holder
)
```

Exceptions:

PlotException -

32.4.27 Method getPlotGenerator()

```
public mil.dtra.hpac.server.scipuff.PlotGenerator
getPlotGenerator(
    int max_grid_cells_per_surface,
    mil.dtra.hpac.server.IncidentT[] incidents,
    org.omg.CORBA.Any[] model_incidents
)
```

Gets and activates a PlotGenerator CORBA interface, which is required for making any PlotGenerator method calls.

Parameters:

max_grid_cells_per_surface - the maximum number of grid cells per surface field. Used for creating horizontal/vertical slices. May be 0 in which case a default value will be assigned by the HPAC Tool Engine.
 incidents - array of IncidentT's that can do prompt effects calculations. This list must include at least all the incidents that can do prompt effects, but may include other incidents that do not support prompt effects.
 model_incidents - array of the model-specific data (aka "private block") for each incident. This must be an array of CORBA "any" objects, each element of which is an "any" containing model-specific data for the corresponding incidents element.

Exceptions:

PlotException - if any problem occurs during activation for plot generation

32.4.28 Method getPlotTimes()

```
public void
getPlotTimes(
    mil.dtra.hpac.server.plot.HPACTimeTListHolder puff_times_holder,
    mil.dtra.hpac.server.plot.HPACTimeTListHolder surf_times_holder,
    mil.dtra.hpac.server.plot.HPACTimeTListHolder met_times_holder,
    org.omg.CORBA.IntHolder neff_times_holder
)
```

Exceptions:

PlotException -

32.4.29 Method getSubstrates()

```
public java.lang.String[]
getSubstrates()
```

Retrieves the list of available substrates for the secondary evaporation model.

Returns:

a String array of the substrate list. If no substrates are available, returns a zero-length array.

Exceptions:

ScipuffException - if the native call to HPACGetSubstrates fails

32.4.30 Method initCircleEffects()

```
public int
initCircleEffects()
```

32.4.31 Method isAvailable()

```
public synchronized boolean
isAvailable()
```

Returns whether or not this server is available. If already active, then this server is not available. This also serves as a simple test to see if the server is actually reachable via CORBA.

Returns:

true if the server is available, false if not

32.4.32 Method numPlotClasses()

```
public void
numPlotClasses(
    org.omg.CORBA.IntHolder nclasses_holder,
    org.omg.CORBA.IntHolder nchoices_holder,
    org.omg.CORBA.IntHolder nkinds_holder
)
```

Exceptions:

PlotException -

32.4.33 Method numPlotTimes()

```
public void
numPlotTimes(
    org.omg.CORBA.IntHolder npuff_times_holder,
    org.omg.CORBA.IntHolder nsurf_times_holder,
    org.omg.CORBA.IntHolder nmet_times_holder,
    org.omg.CORBA.IntHolder neff_times_holder
)
```

Exceptions:

PlotException -

32.4.34 Method poll()

```
public mil.dtra.hpac.server.scipuff.MessageT[]
poll()
```

Checks for any messages from the tool engine. This must be called repeatedly and often (just like voting in Chicago :-) by the client in order to receive feedback from the tool engine.

Returns:

the latest message from the tool engine, if any; null if no new message has been set since the last poll.

32.4.35 Method popAreaField()

```
public void
popAreaField(
    int sag_field_id,
    mil.dtra.hpac.server.plot.HPACPlotFieldT plot_field_t,
    mil.dtra.hpac.server.plot.HPACPlotTypeT plot_type_t,
    mil.dtra.hpac.server.plot.HPACContourHeaderT contour_header_t,
    mil.dtra.hpac.server.plot.HPACContourElementTListHolder contour_list_holder
)
```

Exceptions:

PlotException -

32.4.36 Method processButtonClick()

```
public void
processButtonClick( int button )
```

Processes a button click on the user interface progress dialog by setting a flag that will be sent to the tool engine the next time the tool engine requests status.

Parameters:

button - the button that was clicked. Should be one of HC_LEFT_BUTTON, HC_MIDDLE_BUTTON, or HC_RIGHT_BUTTON. Other values are ignored.

32.4.37 Method queryCircleEffects()

```
public boolean
queryCircleEffects(
    int incident_index,
    int effect_id
)
```

32.4.38 Method reply()

```
public void
reply( int reply )
```

Provides the required reply to the tool engine when a poll message included a MessageT with a message ID that indicated a reply was required. In that case, the server will block until an acceptable reply is received by this `reply` routine.

Parameters:

reply - one of HPAC_AFFIRMATIVE_REPLY or HPAC_NEGATIVE_REPLY. Other values are ignored.

32.4.39 Method restartFromPrevious()

```
public synchronized boolean
restartFromPrevious(
    java.lang.String previous_username,
    java.lang.String previous_projectname,
    float time_to_restart_from,
    mil.dtra.hpac.server.IncidentT[] previous_incident_ts,
    org.omg.CORBA.Any[] previous_model_incidents,
    int previous_scipuff_mode,
    mil.dtra.hpac.server.project.AuditT new_audit_t,
    mil.dtra.weather.shared.data.weatherT.WeatherT new_weather_t,
    mil.dtra.hpac.server.project.LimitT new_limit_t,
    mil.dtra.hpac.server.project.OptionsT new_options_t,
    mil.dtra.hpac.server.project.TemporalDomainTHolder new_tm_domain_holder,
    mil.dtra.hpac.server.project.SpatialDomainTHolder new_sp_domain_holder,
    float new_max_time_step,
    float new_output_interval
)
```

Creates a new project from an existing one and runs the new project. All of the parameters must be provided because ScipuffServer maintains no state from the previous run. However, each parameter labeled MUST NOT CHANGE must contain values identical to the corresponding parameters in the previous run. No check is performed, but attempting to restart with changed parameters is not supported and may produce difficult-to-understand errors.

Parameters:

- previous_username - username of the previous project from which to restart
- previous_projectname - name of the previous project from which to restart
- time_to_restart_from - output time of the previous project from which to restart
- previous_incident_ts - array of the IncidentT structs from the previous project. **MUST NOT CHANGE.**
- previous_model_incidents - array of the model-specific data (aka "private blocks") corresponding to the IncidentT's of the previous project. These must be provided as an array of CORBA "any" objects, each element of which is an "any" containing a model-specific data. **MUST NOT CHANGE.**
- previous_scipuff_mode - scipuff calculation mode flag – either HF_FAST(1), HF_HAZARD(2), or HF_DUAL(4) – used in previous project. **MUST NOT CHANGE.**
- new_audit_t - the AuditT for the new project. May change.
- new_weather_t - the weather (duh). May change.
- new_limit_t - array size limits, etc. for the tool engine. May change but values should

only be increased.

`new_options_t` - more parameters used by the tool engine. May change.

`new_tm_domain_holder` - specified temporal domain of the project. Only the `fEnd-Time` field may change.

`new_sp_domain_holder` - specified spatial domain of the project. May change.

`new_max_time_step` - max time step for SCIPUFF. May change.

`new_output_interval` - time interval in seconds for SCIPUFF output. May change.

Returns:

true if project was converted to UTM, false if not

Exceptions:

`ScipuffException` - if any error occurs.

32.4.40 Method `restartFromPreviousWithUrban()`

```
public synchronized boolean
restartFromPreviousWithUrban(
    java.lang.String previous_username,
    java.lang.String previous_projectname,
    float time_to_restart_from,
    mil.dtra.hpac.server.IncidentT[] previous_incident_ts,
    org.omg.CORBA.Any[] previous_model_incidents,
    int previous_scipuff_mode,
    mil.dtra.hpac.server.project.AuditT new_audit_t,
    mil.dtra.weather.shared.data.weatherT.WeatherT new_weather_t,
    mil.dtra.hpac.server.project.LimitT new_limit_t,
    mil.dtra.hpac.server.project.OptionsT new_options_t,
    mil.dtra.hpac.server.project.TemporalDomainTHolder new_tm_domain_holder,
    mil.dtra.hpac.server.project.SpatialDomainTHolder new_sp_domain_holder,
    float new_max_time_step,
    float new_output_interval,
    java.lang.String udm_params,
    java.lang.String uwm_params
)
```

Creates a new project from an existing one and runs the new project. All of the parameters must be provided because ScipuffServer maintains no state from the previous run. However, each parameter labeled MUST NOT CHANGE must contain values identical to the corresponding parameters in the previous run. No check is performed, but attempting to restart with changed parameters is not supported and may produce difficult-to-understand errors.

Parameters:

previous_username - username of the previous project from which to restart
 previous_projectname - name of the previous project from which to restart
 time_to_restart_from - output time of the previous project from which to restart
 previous_incident_ts - array of the IncidentT structs from the previous project.
 MUST NOT CHANGE.
 previous_model_incidents - array of the model-specific data (aka "private blocks")
 corresponding to the IncidentT's of the previous project. These must be provided
 as an array of CORBA "any" objects, each element of which is an "any" containing a
 model-specific data. MUST NOT CHANGE.
 previous_scipuff_mode - scipuff calculation mode flag – either HF_FAST (1), HF_HAZARD(2),
 or HF_DUAL(4) – used in previous project. MUST NOT CHANGE.
 new_audit_t - the AuditT for the new project. May change.
 new_weather_t - the weather (duh). May change.
 new_limit_t - array size limits, etc. for the tool engine. May change but values should
 only be increased.
 new_options_t - more parameters used by the tool engine. May change.
 new_tm_domain_holder - specified temporal domain of the project. Only the fEnd-
 Time field may change.
 new_sp_domain_holder - specified spatial domain of the project. May change.
 new_max_time_step - max time step for SCIPUFF. May change.
 new_output_interval - time interval in seconds for SCIPUFF output. May change.
 udm_params - UDM parameters to write to a .urb file
 uwm_params - UWM parameters to write to a .urb file

Returns:

true if project was converted to UTM, false if not

Exceptions:

ScipuffException - if any error occurs.

32.4.41 Method resumeCalculation()

```

public synchronized boolean
resumeCalculation(
  mil.dtra.hpac.server.IncidentT[] incident_ts,
  org.omg.CORBA.Any[] model_incidents,
  mil.dtra.weather.shared.data.weatherT.WeatherT weather_t,
  mil.dtra.hpac.server.project.LimitT limit_t,
  mil.dtra.hpac.server.project.TemporalDomainTHolder tm_domain_holder,
  mil.dtra.hpac.server.project.SpatialDomainTHolder sp_domain_holder,
  float max_time_step,
  float output_interval
)
  
```

Resumes running a project that was previously paused with the Stop or Halt button in the Gui. All of the parameters must be supplied because ScipuffServer maintains no state from the previous run. However, each parameter labeled MUST NOT CHANGE must contain values identical to the corresponding parameters in the previously stopped or halted run. No check is performed, but attempting to resume with changed parameters is not supported and may produce difficult-to-understand errors.

Parameters:

- incident_ts - array of the `IncidentT` structs to be added. MUST NOT CHANGE.
- model_incidents - array of the model-specific data (aka "private block") for each incident. This must be an array of CORBA "any" objects, each element of which is an "any" containing model-specific data for the corresponding `incident_ts` element. NOT CHANGE.
- weather_t - the weather (duh). MUST NOT CHANGE.
- limit_t - array size limits, etc. for the tool engine. May change but values should only be increased.
- tm_domain_holder - specified temporal domain of the project. Only the `fEndTime` field may change.
- sp_domain_holder - specified spatial domain of the project. MUST NOT CHANGE.
- max_time_step - max time step for SCIPUFF. May change.
- output_interval - time interval in seconds for SCIPUFF output. May change.

Returns:

true if project was converted to UTM, false if not

Exceptions:

`ScipuffException` - if any error occurs.

32.4.42 Method `shutdown()`

```
public void
shutdown( boolean immediate )
```

Terminates the per-client JVM containing the ScipuffServer CORBA server. Should be called by `ScipuffServerFactory` only. Not intended to be called by any remote client. For internal use only. If CORBA had access modifiers, this would be private. Clients should use the `shutdown()` method in the `ScipuffServerFactory` interface for a public method to request shutdown of inactive servers.

Parameters:

- immediate - if true, the shutdown will be fast; if false, the shutdown will wait `scipuff-server.JVMkilldelay` seconds before shutting down, allowing time to read the final messages, if any, output to the server's window. Property `scipuffserver.JVMkilldelay` is read from `hpacserver.properties`.

Exceptions:

ScipuffException - if any problem occurs during shutdown

32.4.43 Method terminate()

```
public void
terminate()
```

Terminates and cleans up a ScipuffServer instance. Should be called by the client when finished with the server. This is a hook for the server to clean up memory allocations, unload shared objects, etc.

Exceptions:

ScipuffException -

32.4.44 Method terminateDispersionCalculator()

```
public void
terminateDispersionCalculator()
```

32.4.45 Method terminatePlotGenerator()

```
public void
terminatePlotGenerator()
```

32.5 Class ScipuffServerFactoryImpl

```
mil.dtra.hpac.server.scipuff.impl
public ScipuffServerFactoryImpl
extends _ScipuffServerFactoryImplBase
implements FactoryServer,
```

This is the implementation of the Scipuff factory server interface defined in Scipuff.idl. Its only purpose is to create and return a Scipuff server. Because the HPAC Tool Engine backend Fortran code will never be reentrant (i.e., multithread safe), we create a new process and launch a new JVM in that process to support each new client.

Methods:

```

public void deactivated()
public void deleteProject()
public byte[] exportProject()
public final java.lang.String getDefaultName()
public mil.dtra.hpac.server.scipuff.ScipuffServer getInstance()
public java.lang.String[] getSubstrates()
public void importProject()
public final void setContext()
public void shutdown()

```

32.5.1 Constructor ScipuffServerFactoryImpl()

```

public
ScipuffServerFactoryImpl()

```

Creates a new ScipuffServerFactory during which a single ScipuffAll server is created and loaded into the server pool.

32.5.2 Method deactivated()

```

public void
deactivated(
    mil.dtra.hpac.server.scipuff.ScipuffAll server,
    java.lang.String server_name
)

```

Called by a ScipuffAll when that server is deactivating.

32.5.3 Method deleteProject()

```

public void
deleteProject(
    java.lang.String user_name,
    java.lang.String project_name
)

```

32.5.4 Method `exportProject()`

```
public byte[]
exportProject(
    java.lang.String user_name,
    java.lang.String project_name
)
```

32.5.5 Method `getDefaultValue()`

```
public final java.lang.String
getDefaultValue()
```

32.5.6 Method `getInstance()`

```
public mil.dtra.hpac.server.scipuff.ScipuffServer
getInstance(
    java.lang.String user_name,
    java.lang.String project_name
)
```

Returns an instance of the ScipuffServer. Internally, this obtains a ScipuffAll server from the inactive server pool and casts it into a ScipuffServer. If the pool is empty, a new ScipuffAll process is created to populate the pool.

Parameters:

- user_name - the user name (duh)
- project_name - the project name

Returns:

a CORBA server object reference to a per-client instance of `ScipuffServer`

Exceptions:

`ScipuffException` - if the system property `projectRootdir` cannot be read or if the project root directory or user directory or project directory do not exist and cannot be created or if some error occurs invoking the per-client server launcher

32.5.7 Method `getSubstrates()`

```
public java.lang.String[]
getSubstrates()
```

Returns array of substrate names available for the secondary evaporation model.

32.5.8 Method importProject()

```
public void
importProject(
    java.lang.String user_name,
    java.lang.String project_name,
    byte[] zipbytes
)
```

32.5.9 Method setContext()

```
public final void
setContext( javax.naming.Context context )
```

32.5.10 Method shutdown()

```
public void
shutdown()
```

Shuts down all inactive per-client JVM processes. Intended for standalone use when the client is shutting down and wants the server to shutdown too. Since there should be no active servers when a standalone client is shutting down, only inactive servers are shutdown. In client/server mode, shutting down the server is NOT under the control of the client, though evil clients could still attempt to make this call, in which case it's a no-op (ha ha!).

32.6 Class Utils

```
mil.dtra.hpac.server.scipuff.impl
public Utils
extends Object
```

Collection of some utility methods useful to `ScipuffAllImpl` and `Hpac` classes.

Methods:

```
public synchronized mil.dtra.hpac.server.IncidentModelServer getModelServer()
public static java.lang.String getReleaseKey()
public static java.lang.String ident_nameonly()
public static java.lang.String ident()
public static java.lang.String ident()
public static void initident()
public static void setReleaseKeyLength()
public void terminateModelServers()
```

32.6.1 Constructor Utils()

```
public
Utils(
    java.lang.String user,
    java.lang.String project,
    javax.naming.Context context
)
```

32.6.2 Method getModelServer()

```
public synchronized mil.dtra.hpac.server.IncidentModelServer
getModelServer( mil.dtra.hpac.server.IncidentT incident_t )
```

Returns:

the IncidentModelServer for the specified IncidentT

32.6.3 Method getReleaseKey()

```
public static java.lang.String
getReleaseKey( java.lang.String id )
```

Returns a release key String suitable for use as a hashmap key that is truncated if necessary to fit within the key space available in the HPAC Tool's ReleaseF.relName field. Truncation occurs from the left since the rightmost characters contain the millisecond time that the ReleaseT object was created on the client machine. Unless two releases could be made the same millisecond, this value will always be unique among releases. Note that 12 character positions account for millisecond clock times until about mid-August 2001. Thirteen character positions allow times until about year 2287. The ReleaseF.relname field permits 32 characters in a9 and higher so the truncation should never be a problem.

Returns:

the String release key, truncated if necessary

32.6.4 Method ident_nameonly()

```
public static java.lang.String
ident_nameonly( int backlevel )
```

Determines the method name of the calling method or the caller of the calling method, or the caller before that, or before that, etc., depending on the value of backlevel.

Parameters:

backlevel - specifies how many caller levels back to find the name for

Returns:

a String containing the desired method name

32.6.5 Method ident()

public static java.lang.String
ident()

Determines the method name and current thread name of the calling method.

Returns:

a String containing the current thread name and the method name in the format "(thread-name) pkg-end.method:" where pkg-end is the last element of the package name of the calling method (or blank if the default package).

32.6.6 Method ident()

public static java.lang.String
ident(int backlevel)

Determines the method name and current thread name of the calling method, or the caller of the calling method, or the caller before that, or before that, etc., depending on the value of backlevel.

Parameters:

backlevel - specifies how many caller levels back to find the name for

Returns:

a String containing the current thread name and the method name in the format "(thread-name) pkg-end.method:" where pkg-end is the last element of the package name of the calling method (or blank if the default package).

32.6.7 Method initident()

public static void
initident()

32.6.8 Method setReleaseKeyLength()

```
public static void
setReleaseKeyLength( int len )
```

This static method must be called before calling getReleaseKey().

32.6.9 Method terminateModelServers()

```
public void
terminateModelServers()
```

Terminates all model servers.

32.7 Exception EffectException

```
mil.dtra.hpac.server.scipuff.impl
public EffectException
extends Exception
```

32.7.1 Constructor EffectException()

```
public
EffectException()
```

32.7.2 Constructor EffectException()

```
public
EffectException( java.lang.String s )
```

32.8 Exception HPACtoolCoredumpException

```
mil.dtra.hpac.server.scipuff.impl
public HPACtoolCoredumpException
extends Exception
```

32.8.1 Constructor HPACtoolCoredumpException()

```
public
HPACtoolCoredumpException()
```

32.8.2 Constructor HPACtoolCoredumpException()

```
public
HPACtoolCoredumpException( java.lang.String s )
```

32.9 Exception ReleaseConversionException

```
mil.dtra.hpac.server.scipuff.impl
public ReleaseConversionException
extends Exception
```

32.9.1 Constructor ReleaseConversionException()

```
public
ReleaseConversionException()
```

32.9.2 Constructor ReleaseConversionException()

```
public
ReleaseConversionException( java.lang.String s )
```

32.10 Exception UpdateException

```
mil.dtra.hpac.server.scipuff.impl
public UpdateException
extends Exception
```

32.10.1 Constructor UpdateException()

```
public
UpdateException()
```

32.10.2 Constructor UpdateException()

```
public
UpdateException( java.lang.String s )
```

32.11 Exception UTMConversionException

```
mil.dtra.hpac.server.scipuff.impl
public UTMConversionException
extends Exception
```

32.11.1 Constructor UTMConversionException()

```
public
UTMConversionException()
```

32.11.2 Constructor UTMConversionException()

```
public
UTMConversionException( java.lang.String s )
```

32.12 Exception EffectException

```
mil.dtra.hpac.server.scipuff.impl
public EffectException
extends Exception
```

32.12.1 Constructor EffectException()

```
public
EffectException()
```

32.12.2 Constructor EffectException()

```
public
EffectException( java.lang.String s )
```

32.13 Exception HPACtoolCoredumpException

```
mil.dtra.hpac.server.scipuff.impl
public HPACtoolCoredumpException
extends Exception
```

32.13.1 Constructor HPACtoolCoredumpException()

```
public  
HPACtoolCoredumpException()
```

32.13.2 Constructor HPACtoolCoredumpException()

```
public  
HPACtoolCoredumpException( java.lang.String s )
```

32.14 Exception ReleaseConversionException

```
mil.dtra.hpac.server.scipuff.impl  
public ReleaseConversionException  
extends Exception
```

32.14.1 Constructor ReleaseConversionException()

```
public  
ReleaseConversionException()
```

32.14.2 Constructor ReleaseConversionException()

```
public  
ReleaseConversionException( java.lang.String s )
```

32.15 Exception UpdateException

```
mil.dtra.hpac.server.scipuff.impl  
public UpdateException  
extends Exception
```

32.15.1 Constructor UpdateException()

```
public  
UpdateException()
```

32.15.2 Constructor UpdateException()

```
public  
UpdateException( java.lang.String s )
```

32.16 Exception UTMConversionException

```
mil.dtra.hpac.server.scipuff.impl  
public UTMConversionException  
extends Exception
```

32.16.1 Constructor UTMConversionException()

```
public  
UTMConversionException()
```

32.16.2 Constructor UTMConversionException()

```
public  
UTMConversionException( java.lang.String s )
```

CHAPTER 33

Package mil.dtra.hpac.units

Contains HPAC-specific customizations of the units classes. In particular, it handles the special values `DEFAULT_FLOAT`, `LONG` and `DEFERRED_FLOAT`, `LONG` to the satisfaction of legacy HPAC user functionality.

Classes:

`HPACNoUnitsValue`
`HPACUnitsValue`

33.1 Class `HPACNoUnitsValue`

`mil.dtra.hpac.units`
public **HPACNoUnitsValue**
extends `HPACUnitsValue`

Extends `HPACUnitsValue` for no units.

33.1.1 Constructor `HPACNoUnitsValue()`

public
HPACNoUnitsValue(double value)

Constructs assuming the standard invisible unit, allowed blanks, a real value type, and no bounds.
Calls the four-parameter constructor.

Parameters:

`value` - current value in the current unit

33.1.2 Constructor HPACNoUnitsValue()

```
public
HPACNoUnitsValue(
    double value,
    java.lang.String unit
)
```

Constructs assuming allowed blanks, a real value type, and no value bounds. Calls the four-parameter constructor.

Parameters:

- value - current value in the current unit
- unit - unit name

33.1.3 Constructor HPACNoUnitsValue()

```
public
HPACNoUnitsValue(
    double value,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs assuming the standard invisible unit and no value bounds.

Parameters:

- value - current value in the current unit
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

33.1.4 Constructor HPACNoUnitsValue()

```
public
HPACNoUnitsValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the specified single, visible, unit name and assumptions of no value bounds.

Parameters:

- value - current value in the current unit
- unit - unit name
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

33.1.5 Constructor HPACNoUnitsValue()

```
public
HPACNoUnitsValue(
    double value,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

Constructs assuming NoUnit.NO_UNIT_NAME (the standard invisible unit) as the only, invisible unit.

Parameters:

- value - current value in the current unit
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - either of EX, INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - either of EX, INCLUSIVE_LIMIT

33.1.6 Constructor HPACNoUnitsValue()

```
public
HPACNoUnitsValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
```

```
int lower_limit_mode,
double upper_limit,
int upper_limit_mode
)
```

General constructor in which all properties are specified, including the single unit for this value. The first parameter specifies a single visible unit to be given a factor of 1.0.

Parameters:

- value - current value in the current unit
- unit - unit name
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - either of EX, INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - either of EX, INCLUSIVE_LIMIT

33.2 Class HPACUnitsValue

```
mil.dtra.hpac.units
public HPACUnitsValue
extends UnitsValue
```

Extends mil.dtra.units.UnitsValue to provide specific processing for DEFAULT_FLOAT, LONG and DEFERRED_FLOAT, LONG as special values and EMPTY_FLOAT, LONG as the blank value. DEFAULT_FLOAT, LONG will be represented with the string "default", and DEFERRED_FLOAT, LONG will be represented with the string "deferred". Only constructors are added here.

Fields:

```
protected static mil.dtra.units.UnitsValue.SpecialValue[] floatSpecialValues__
protected static mil.dtra.units.UnitsValue.SpecialValue[] longSpecialValues__
```

33.2.1 Field floatSpecialValues__

```
protected static mil.dtra.units.UnitsValue.SpecialValue[] floatSpecialValues__
```

33.2.2 Field longSpecialValues__

```
protected static mil.dtra.units.UnitsValue.SpecialValue[] longSpecialValues__
```

33.2.3 Constructor HPACUnitsValue()

```
public
HPACUnitsValue()
```

Construct with no bounds, real (not only integer) values, and allowed blanks. `setUnitsConverter` must be called and an initial value must be set. This constructor calls `setBlankValue()` and `setSpecialValues()`.

33.2.4 Constructor HPACUnitsValue()

```
public
HPACUnitsValue( mil.dtra.units.Units units_converter )
```

Construct assuming no bounds, a real value, allowed blanks, a default initial unit, and a blank initial value. Calls the eight-parameter constructor.

Parameters:

`units_converter` - reference to the unit converter object

Exceptions:

`UnitException` - if there is no unit with a factor of 1.0

33.2.5 Constructor HPACUnitsValue()

```
public
HPACUnitsValue(
    mil.dtra.units.Units units_converter,
    double value,
    java.lang.String unit
)
```

Construct assuming no bounds, a real value, allowed blanks. Calls the eight-parameter constructor.

Parameters:

`units_converter` - reference to the unit converter object
`value` - current value in the current unit
`unit` - current unit or null to take default from units converter

Exceptions:

`UnitException` - if the default unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

33.2.6 Constructor HPACUnitsValue()

```
public
HPACUnitsValue(
    mil.dtra.units.Units units_converter,
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Construct assuming no bounds. Calls the eight-parameter constructor.

Parameters:

- units_converter - reference to the unit converter object
- value - current value in the current unit
- unit - current unit or null to take default from units converter
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

- UnitException - if the default unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

33.2.7 Constructor HPACUnitsValue()

```
public
HPACUnitsValue(
    mil.dtra.units.Units units_converter,
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

Most generalized, mondo constructor in which all properties are specified.

Parameters:

units_converter - reference to the unit converter object
value - current value in the current unit
unit - current unit or null to take default from units converter
blank_allowed - true if blanks are to be allowed, false otherwise
integer_type - true if the values are to be integer
lower_limit - value of the lower limit in default units
lower_limit_mode - either of EX, INCLUSIVE_LIMIT
upper_limit - value of the upper limit in default units
upper_limit_mode - either of EX, INCLUSIVE_LIMIT

Exceptions:

UnitException - if the default unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

CHAPTER 34

Package mil.dtra.map

Contains the definition, framework, and reusable components for map-based display.

Interfaces:

- MapComponent
- MapDisplay
- MapProjection
- MapUserModes

Classes:

- AbstractMapDisplay
- AbstractProjection
- MapDisplayDef
- MapPoint2D
- MapRectangle2D
- RectangularProjection
- ZoomBoxAdapter
- ZoomBoxAdapter.ZoomMouseAdapter
- ZoomBoxAdapter.ZoomMouseMotionAdapter

34.1 Interface MapComponent

```
mil.dtra.map  
public interface MapComponent
```

Serves to tag component objects to be displayed on a `MapDisplay`. Also, specifies the requirement of such components to be able to set their physical device coordinate (PDC), or location property, given a `MapProjection` object. Thus, it is assumed that implementing objects keep a world coordinate location as a property.

Methods:

```
public void updateMapProjection()
```

34.1.1 Method updateMapProjection()

```
public void
updateMapProjection( mil.dtra.map.MapProjection proj )
```

Sets a new map projection for the component. When this is called, the component should update its PDC location property.

Parameters:

proj - map projection with which to compute location

34.2 Interface MapDisplay

```
mil.dtra.map
public interface MapDisplay
```

Defines requirements for a map display object residing in a layered pane. Of course, objects implementing this must be a Component (really JComponent) with an override of JComponent.paintComponent() to render the map.

Fields:

```
public static final java.lang.String PROP_mapProjection
```

Methods:

```
public void addPropertyChangeListener()
public void define()
public void edit()
public mil.dtra.map.MapProjection getMapProjection()
public void recenter()
public void removePropertyChangeListener()
public void setMapProjection()
public java.awt.geom.Point2D unprojectDisplayPoint()
public void zoomFull()
public void zoomIn()
public void zoomIn()
public void zoomOut()
```

34.2.1 Field PROP_mapProjection

```
public static final java.lang.String PROP_mapProjection
```

34.2.2 Method addPropertyChangeListener()

```
public void
addPropertyChangeListener( java.beans.PropertyChangeListener listener )
```

Adds a listener for property change events.

Parameters:

listener - listener to add

34.2.3 Method define()

```
public void
define(
    java.lang.String url,
    java.util.Properties props,
    javax.naming.Context context
)
```

Defines the map display instance from the properties, the contents of which are dependent upon the implementing class.

Parameters:

url - URL to properties file containing map definition
 props - application level properties which might be used to specify map display properties; can be null
 context - naming context from which server references may be obtained; can be null

34.2.4 Method edit()

```
public void
edit()
```

Brings up a dialog for editing properties of the map. This method should only be called from the event dispatching thread.

34.2.5 Method getMapProjection()

```
public mil.dtra.map.MapProjection
getMapProjection()
```

Accessor for the *mapProjection* property.

Returns:

copy of the current map projection instance

34.2.6 Method recenter()

```
public void
recenter( java.awt.Point center )
```

In effects, pans to make the specified device coordinate the center of the map. The device coordinate must be inverse projected to world (lat,lon) coordinates internally. This method should only be called from the event dispatching thread.

Parameters:

center - device coordinate of location on current map which is to be the center of the new world window

34.2.7 Method removePropertyChangeListener()

```
public void
removePropertyChangeListener( java.beans.PropertyChangeListener listener )
```

Removes a listener for property change events.

Parameters:

listener - listener to remove

34.2.8 Method setMapProjection()

```
public void
setMapProjection( mil.dtra.map.MapProjection proj )
```

Accessor for the *mapProjection* property.

Parameters:

proj - new map projection

34.2.9 Method unprojectDisplayPoint()

```
public java.awt.geom.Point2D  
unprojectDisplayPoint( java.awt.Point display_pt )
```

Convenience method to convert the DC coordinate to a WC coordinate using the current map projection.

Parameters:

display_pt - DC display point

Returns:

projected WC point or null if the projection has not been defined

34.2.10 Method zoomFull()

```
public void  
zoomFull()
```

Perform a full zoom to the extent of the map.

34.2.11 Method zoomIn()

```
public void  
zoomIn( java.awt.Point center )
```

Perform a centered, scaled zoom with the specified device coordinate point as the center. The device coordinate must be inverse projected to world (lat,lon) coordinates internally. This method should only be called from the event dispatching thread.

Parameters:

center - device coordinate of location on current map which is to be the center of the new world window

34.2.12 Method zoomIn()

```
public void  
zoomIn( java.awt.Rectangle zoom_box )
```

Perform a zoom to the map the world (lat,lon) window corresponding to the device coordinate (pixel) locations specified. The device coordinates must be inverse projected to world (lat,lon) coordinates internally. This method should only be called from the event dispatching thread.

Parameters:

`zoom_box` - device coordinate box location on current map which defines the new world window

34.2.13 Method `zoomOut()`

```
public void
zoomOut( java.awt.Point center )
```

Perform a centered, scaled dezoom with the specified world coordinate point. This method should only be called from the event dispatching thread.

Parameters:

`center` - device coordinate of location on current map which is to be the center of the new world window

34.3 Interface MapProjection

```
mil.dtra.map
public interface MapProjection
extends Cloneable,
```

This defines the map view transformation pipeline from world coordinates (WC) to physical device coordinates (PDC). WC points are longitude (x) and latitude (y) in decimal degrees. The WC window is specified as a `Rectangle2D` instance specifying the west (x) and south (y) boundaries and the width and height in decimal degrees. The PDC viewport places the x and y at the left and top, respectively.

Methods:

```
public java.lang.Object clone()
public java.awt.Rectangle getViewPort()
public java.awt.geom.Rectangle2D getWindow()
public java.awt.Point projectWorldPoint()
public void setViewPort()
public void setWindow()
public java.awt.geom.Point2D unprojectDisplayPoint()
```

34.3.1 Method `clone()`

```
public java.lang.Object
clone()
```

Overrides `Cloneable`.

34.3.2 Method `getViewPort()`

```
public java.awt.Rectangle
getViewport()
```

Accessor for the *viewPort* property.

Returns:

copy of the viewport in PDC

34.3.3 Method `getWindow()`

```
public java.awt.geom.Rectangle2D
getWindow()
```

Accessor for the *window* property.

Returns:

copy of the WC window

34.3.4 Method `projectWorldPoint()`

```
public java.awt.Point
projectWorldPoint( java.awt.geom.Point2D pt )
```

Projects the WC point onto the PDC space.

Parameters:

pt - WC point to project

Returns:

PDC projected point

34.3.5 Method `setViewPort()`

```
public void
setViewport( java.awt.Rectangle viewport )
```

Accessor for the *viewPort* property.

Parameters:

viewport - PDC viewport

34.3.6 Method **setWindow()**

```
public void
setWindow( java.awt.geom.Rectangle2D window )
```

Accessor for the *Window* property.

Parameters:

window - WC window

34.3.7 Method **unprojectDisplayPoint()**

```
public java.awt.geom.Point2D
unprojectDisplayPoint( java.awt.Point pt )
```

Unprojects the PDC point onto WC space.

Parameters:

pt - PDC point to unproject

Returns:

WC projected point

34.4 Interface **MapUserModes**

```
mil.dtra.map
public interface MapUserModes
```

Defines user modes available for a map display.

Fields:

```
public static final int FIRST_MODE
public static final int LAST_MODE
public static final int RECENTER
public static final int SELECT
public static final int ZOOM_BOX
public static final int ZOOM_IN
public static final int ZOOM_OUT
```

34.4.1 Field **FIRST_MODE**

```
public static final int FIRST_MODE
```

Identifier for the lowest mode index

34.4.2 Field LAST_MODE

```
public static final int LAST_MODE
```

Identifier for the highest mode index

34.4.3 Field RECENTER

```
public static final int RECENTER
```

Identifier for mode when user selects a new center point

34.4.4 Field SELECT

```
public static final int SELECT
```

Identifier for normal, non-transient mode

34.4.5 Field ZOOM_BOX

```
public static final int ZOOM_BOX
```

Identifier for mode when user selects the bounding box for a zoom

34.4.6 Field ZOOM_IN

```
public static final int ZOOM_IN
```

Identifier for mode when user selects the center point for a zoom in

34.4.7 Field ZOOM_OUT

```
public static final int ZOOM_OUT
```

Identifier for mode when user selects the center point for a zoom out

34.5 Class AbstractMapDisplay

```
mil.dtra.map
public abstract AbstractMapDisplay
extends JComponent
implements MapDisplay,
```

Provides a basic MapDisplay implementation as an extension of JComponent. Extenders must override JComponent.paintComponent() to render.

Fields:

```
public static final java.lang.String ABSTRACT_MAP_DISPLAY
protected mil.dtra.map.MapProjection fMapProjection
public static final java.awt.Dimension MIN_SIZE
public static final double ZOOM_FACTOR
```

Methods:

```
protected void changeMapWindow()
public abstract void define()
public abstract void edit()
public mil.dtra.map.MapProjection getMapProjection()
public java.awt.Dimension getMinimumSize()
protected void handleResize()
protected void normalizeProjection()
protected void processComponentEvent()
public void recenter()
public void setMapProjection()
public java.awt.geom.Point2D unprojectDisplayPoint()
public void zoomIn()
public void zoomIn()
public void zoomOut()
```

34.5.1 Field ABSTRACT_MAP_DISPLAY

public static final java.lang.String ABSTRACT_MAP_DISPLAY

34.5.2 Field fMapProjection

protected mil.dtra.map.MapProjection fMapProjection

34.5.3 Field MIN_SIZE

public static final java.awt.Dimension MIN_SIZE

34.5.4 Field ZOOM_FACTOR

public static final double ZOOM_FACTOR

Default zoom in/out scale factor

34.5.5 Constructor AbstractMapDisplay()

```
public  
AbstractMapDisplay()
```

Default constructor. Enables ComponentEvents to catch resizes and change the viewport.

34.5.6 Method changeMapWindow()

```
protected void  
changeMapWindow(  
    java.awt.Point center,  
    double zoom_factor  
)
```

Implement a pan, zoom, or unzoom to the specified DC center point (based on current map projection) and with the specified map window factor. Extenders may override this method to change the functionality of `recenter()`, `zoomIn()`, and `zoomOut()`.

This method calls `normalizeProjection()` and fires a property change event for the `mapProjection` property. If the map projection has not been set, this method does nothing.

Parameters:

- center - device coordinate of location on current map which is to be the center of the new world window
 - zoom_factor - window factor where values < 1.0 are in-zooms, values > 1.0 are out-zooms, and values of 1.0 are pans
-

34.5.7 Method define()

```
public abstract void  
define(  
    java.lang.String url,  
    java.util.Properties props,  
    javax.naming.Context context  
)
```

Defines the map display instance from the properties, the contents of which are dependent upon the implementing class.

Parameters:

- url - URL to properties file containing map definition
 - props - application level properties which might be used to specify map display properties; can be null
 - context - naming context from which server references may be obtained; can be null
-

34.5.8 Method edit()

```
public abstract void
edit()
```

Brings up a dialog for editing properties of the map.

34.5.9 Method getMapProjection()

```
public mil.dtra.map.MapProjection
getMapProjection()
```

Accessor for the *mapProjection* property.

Returns:

copy of the current map projection instance or null if a projection has not been defined

34.5.10 Method getMinimumSize()

```
public java.awt.Dimension
getMinimumSize()
```

Overrides `JComponent.getMinimumSize()`.

Returns:

minimum size

34.5.11 Method handleResize()

```
protected void
handleResize()
```

Called from `processComponentEvent()` on a resize. This implementation clones the current map project, calls `setViewPort()` on it, and then calls `setMapProjection()` to establish the new map projection.

34.5.12 Method normalizeProjection()

```
protected void
normalizeProjection( mil.dtra.map.MapProjection projection )
```

Hook for extensions to modify the projection. An example would be to limit the bounds. This implementation is a noop.

Parameters:

projection - projection object to normalize

34.5.13 Method processComponentEvent()

```
protected void
processComponentEvent( java.awt.event.ComponentEvent event )
```

Override of `JComponent.processComponentEvent()` which calls `handleResize()` on resize events. Calls `super.processComponentEvent()`.

34.5.14 Method recenter()

```
public void
recenter( java.awt.Point center )
```

In effect, pans to make the specified device coordinate the center of the map. The device coordinate must be inverse projected to world (lat,lon) coordinates internally. Does nothing if a projection has yet to be defined. Calls `changeMapWindow()`.

Parameters:

proj - new map projection

34.5.15 Method setMapProjection()

```
public void
setMapProjection( mil.dtra.map.MapProjection projection )
```

Accessor for the `mapProjection` property. If the specified projection is different from the current property, calls `normalizeProjection()` and `repaint()`. Then notifies property listeners.

Parameters:

projection - projection object to copy

34.5.16 Method unprojectDisplayPoint()

```
public java.awt.geom.Point2D
unprojectDisplayPoint( java.awt.Point display_pt )
```

Convenience method to convert the DC coordinate to a WC coordinate using the current map projection.

Parameters:

display_pt - DC display point

Returns:

projected WC point or null if the projection has not been defined

34.5.17 Method zoomIn()

```
public void
zoomIn( java.awt.Point center )
```

Perform a centered, scaled zoom with the specified device coordinate point as the center. The device coordinate must be inverse projected to world (lat,lon) coordinates internally. Calls changeMapWindow().

Parameters:

center - device coordinate of location on current map which is to be the center of the new world window

34.5.18 Method zoomIn()

```
public void
zoomIn( java.awt.Rectangle zoom_box )
```

Perform a zoom to the map the world (lat,lon) window corresponding to the device coordinate (pixel) locations specified. The device coordinates must be inverse projected to world (lat,lon) coordinates internally. Calls changeMapWindow().

Parameters:

zoom_box - device coordinate box location on current map which defines the new world window

34.5.19 Method **zoomOut()**

```
public void
zoomOut( java.awt.Point center )
```

Perform a centered, scaled dezoom with the specified world coordinate point. Calls `changeMapWindow()`.

Parameters:

center - device coordinate of location on current map which is to be the center of the new world window

34.6 Class **AbstractProjection**

```
mil.dtra.map
public abstract AbstractProjection
extends Object
implements MapProjection, Serializable,
```

The basics of the projection pipeline are implemented here. Concrete classes implementing `MapProjection` should extend this class.

Whereas the caller sees the `MapProjection` exposed interface, providing methods for projection from WC to PDC and vice versa, this level provides intermediate projections from WC to extension coordinates (EC), and from EC to PDC. Thus, this is a generalization of common pieces of the view transformation pipeline, and implementing classes need only provide projections from WC to EC and vice versa.

Fields:

```
protected mil.dtra.map.MapPoint2D fExtCenter
protected mil.dtra.map.MapPoint2D fExtPoint
protected mil.dtra.map.MapPoint2D fExtSize
protected mil.dtra.map.MapPoint2D fExtToPdcScale
protected boolean fLonShiftFlag
protected java.awt.Rectangle fViewPort
protected java.awt.Point fViewPortCenter
protected mil.dtra.map.MapRectangle2D fWindow
```

Methods:

```
public java.lang.Object clone()
protected void computeExtToPdcScale()
public boolean equals()
public final java.awt.Rectangle getViewPort()
public final java.awt.geom.Rectangle2D getWindow()
protected void projectExtToPdc()
protected abstract void projectExtToWorld()
```

```

protected void projectPdcToExt()
public java.awt.Point projectWorldPoint()
protected abstract void projectWorldToExt()
public final void setViewPort()
public final void setWindow()
public java.lang.String toString()
public java.awt.geom.Point2D unprojectDisplayPoint()

```

34.6.1 Field fExtCenter

protected mil.dtra.map.MapPoint2D **fExtCenter**

34.6.2 Field fExtPoint

protected mil.dtra.map.MapPoint2D **fExtPoint**

34.6.3 Field fExtSize

protected mil.dtra.map.MapPoint2D **fExtSize**

34.6.4 Field fExtToPdcScale

protected mil.dtra.map.MapPoint2D **fExtToPdcScale**

34.6.5 Field fLonShiftFlag

protected boolean **fLonShiftFlag**

34.6.6 Field fViewPort

protected java.awt.Rectangle **fViewPort**

34.6.7 Field fViewPortCenter

protected java.awt.Point **fViewPortCenter**

34.6.8 Field fWindow

protected mil.dtra.map.MapRectangle2D **fWindow**

34.6.9 Constructor AbstractProjection()

```
public
AbstractProjection()
```

Default constructor.

34.6.10 Constructor AbstractProjection()

```
public
AbstractProjection(
    java.awt.geom.Rectangle2D window,
    java.awt.Rectangle viewport
)
```

Constructs with initial *window* and *viewPort* property values.

Parameters:

window - world coordinate (WC) window
 viewport - device coordinate (DC) viewport

34.6.11 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

34.6.12 Method computeExtToPdcScale()

```
protected void
computeExtToPdcScale()
```

The EC to PDC transformation is a simple scale operation, the parameters of which are computed here. This method should be called whenever the PDC viewport or WC window changes. The scale is kept as part of the internal state.

34.6.13 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides `Object.equals()` to compare each attribute.

Returns:

true if `obj` equals this, false otherwise

34.6.14 Method getViewPort()

```
public final java.awt.Rectangle
getViewPort()
```

Accessor for the *viewPort* property.

Returns:

copy of `viewport` value in PDC

34.6.15 Method getWindow()

```
public final java.awt.geom.Rectangle2D
getWindow()
```

Accessor for the *window* property.

Returns:

copy of the WC window value

34.6.16 Method projectExtToPdc()

```
protected void
projectExtToPdc(
    java.awt.geom.Point2D ext_pt,
    java.awt.Point pdc_pt
))
```

Projects from EC to PDC, saving the result in the `pdc_pt` parameter.

Parameters:

`ext_pt` - EC point to project
`pdc_pt` - PDC point holding projection result

34.6.17 Method projectExtToWorld()

```
protected abstract void
projectExtToWorld(
    java.awt.geom.Point2D ext_pt,
    java.awt.geom.Point2D world_pt
)
```

Projects (inversely) from EC to WC. This must be implemented by derived classes.

Parameters:

ext_pt - EC point to unproject
 pdc_pt - WC point holding projection result

34.6.18 Method projectPdcToExt()

```
protected void
projectPdcToExt(
    java.awt.Point pdc_pt,
    java.awt.geom.Point2D ext_pt
)
```

Projects (inversely) from PDC to EC.

Parameters:

pdc_pt - WC point to project
 ext_pt - EC point holding projection result.

34.6.19 Method projectWorldPoint()

```
public java.awt.Point
projectWorldPoint( java.awt.geom.Point2D world_pt )
```

Required MapProjection method implemented by projecting in succession from WC to EC and from EC to PDC.

Parameters:

world_pt - WC point to project

Returns:

projected PDC point

34.6.20 Method projectWorldToExt()

```
protected abstract void
projectWorldToExt(
    java.awt.geom.Point2D map_pt,
    java.awt.geom.Point2D ext_pt
)
```

Projects from WC to EC. This must be implemented by derived classes.

Parameters:

map_pt - WC point to project
 ext_pt - EC point holding projection result

34.6.21 Method setViewPort()

```
public final void
setViewPort( java.awt.Rectangle viewport )
```

Accessor for the *viewPort* property. Calls `computeExtToPdcScale()`.

Parameters:

viewport - PDC viewport value to copy

34.6.22 Method setWindow()

```
public final void
setWindow( java.awt.geom.Rectangle2D window )
```

Accessor for the *window* property. Updates the internal EC state. Calls `computeExtToPdcScale()`.

Parameters:

window - WC window value to copy

34.6.23 Method toString()

```
public java.lang.String
toString()
```

34.6.24 Method unprojectDisplayPoint()

```
public java.awt.geom.Point2D  
unprojectDisplayPoint( java.awt.Point display_pt )
```

Required MapProjection method implemented by unprojecting in succession from PDC to EC and from EC to WC.

Parameters:

display_pt - PDC point to project

Returns:

projected PDC point in WC

34.7 Class MapDisplayDef

```
mil.dtra.map  
public MapDisplayDef  
extends Object  
implements Cloneable,
```

Definition of a map display as specified in the hpac properties file. This consists of three properties:

className specifies the MapDisplay implementation class *name* specifies the text identifying the map display in menus *URL* specifies a relative or full URL to the per-instance properties file

Fields:

```
protected java.lang.String fClassName  
protected java.lang.String fName  
protected java.lang.String fURL  
public static final java.lang.String KEY_class  
public static final java.lang.String KEY_URL  
public static final int LOG_level  
public static final java.lang.String SEPARATOR  
public static final mil.dtra.map.MapDisplayDef SEPARATOR_DEF
```

Methods:

```
public static java.lang.String buildURL()  
public java.lang.Object clone()  
public boolean equals()  
public final java.lang.String getClassName()  
public final java.lang.String getName()  
public final java.lang.String getURL()  
public static java.util.List readDefs()  
public final void setClassName()
```

```
public final void setName()
public final void setURL()
public java.lang.String toString()
public void valueOf()
```

34.7.1 Field **fClassName**

protected java.lang.String **fClassName**

34.7.2 Field **fName**

protected java.lang.String **fName**

34.7.3 Field **fURL**

protected java.lang.String **fURL**

34.7.4 Field **KEY_class**

public static final java.lang.String **KEY_class**

34.7.5 Field **KEY_URL**

public static final java.lang.String **KEY_URL**

34.7.6 Field **LOG_level**

public static final int **LOG_level**

34.7.7 Field **SEPARATOR**

public static final java.lang.String **SEPARATOR**

34.7.8 Field **SEPARATOR_DEF**

public static final mil.dtra.map.MapDisplayDef **SEPARATOR_DEF**

34.7.9 Constructor MapDisplayDef()

```
public
MapDisplayDef()
```

Default, noop constructor.

34.7.10 Constructor MapDisplayDef()

```
public
MapDisplayDef(
    java.lang.String root_url,
    java.lang.String line
)
```

Constructs from a string representation, calling `valueOf()`.

Parameters:

- `root_url` - root URL for relative URL values
- `line` - string representation of the definition

Exceptions:

- `IllegalArgumentException` - on format error

34.7.11 Constructor MapDisplayDef()

```
public
MapDisplayDef(
    java.lang.String root_url,
    java.lang.String name,
    java.lang.String class_name,
    java.lang.String url
)
```

Constructs from explicit property values.

Parameters:

- `root_url` - root URL for relative URL values
- `name` - name
- `class_name` - full path of the `MapDisplay`
- `url` - relative or full URL for the display definition

34.7.12 Method buildURL()

```
public static java.lang.String
buildURL(
    java.lang.String root_url,
    java.lang.String url
)
```

Makes a full path URL from the URL if it is relative.

Parameters:

root_url - root URL for relative URL values
url - URL from which to build the URL

Returns:

full path URL

34.7.13 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

34.7.14 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides Object.equals().

34.7.15 Method getClassName()

```
public final java.lang.String
getClassName()
```

Accessor for the *className* property.

Returns:

full path to the MapDisplay class

34.7.16 Method getName()

```
public final java.lang.String
getName()
```

Accessor for the *name* property.

Returns:

name or label assigned to this definition

34.7.17 Method getURL()

```
public final java.lang.String
getURL()
```

Accessor for the *URL* property.

Returns:

full URL for the display definition

34.7.18 Method readDefs()

```
public static java.util.List
readDefs(
    java.lang.String root_url,
    java.util.Properties props,
    java.lang.String prefix
)
```

Reads MapDisplayDef specifications from a properties object and builds a list (ordered collection) of them. Property keys are generated starting with *prefix.0* and iterating to *prefix.n*.

Parameters:

- root_url* - root URL for relative URL values
- props* - properties object
- prefix* - property key prefix

Returns:

collection of MapDisplayDef objects as read from the properties

34.7.19 Method **setClassName()**

```
public final void  
setClassName( java.lang.String class_name )
```

Accessor for the *className* property.

Parameters:

class_name - full path of the class

34.7.20 Method **setName()**

```
public final void  
setName( java.lang.String name )
```

Accessor for the *name* property.

Parameters:

name - name or label assigned to this definition

34.7.21 Method **setURL()**

```
public final void  
setURL( java.lang.String url )
```

Accessor for the *URL* property.

Parameters:

url - full URL for the display definition

34.7.22 Method **toString()**

```
public java.lang.String  
toString()
```

Returns:

string representation of this object

34.7.23 Method valueOf()

```
public void
valueOf
    java.lang.String root_url,
    java.lang.String line
)
```

Assigns property values from the string representation. The format is: name, class-name, url

Parameters:

root_url - root URL for relative URL values
 line - string representation of the definition

Exceptions:

IllegalArgumentException - on format error

34.8 Class MapPoint2D

```
mil.dtra.map
public MapPoint2D
extends Point2D.Double
implements Serializable,
```

Extends java.awt.geom.Point2D.Double to support serialization.

34.8.1 Constructor MapPoint2D()

```
public
MapPoint2D()
```

Default constructor.

34.8.2 Constructor MapPoint2D()

```
public
MapPoint2D(
    double x,
    double y
)
```

Constructs from the specified values.

34.9 Class MapRectangle2D

```
mil.dtra.map
public MapRectangle2D
extends Rectangle2D.Double
implements Serializable,
```

Extends `java.awt.geom.Rectangle2D.Double` to support serialization.

34.9.1 Constructor MapRectangle2D()

```
public
MapRectangle2D()
```

Default constructor.

34.9.2 Constructor MapRectangle2D()

```
public
MapRectangle2D( java.awt.geom.Rectangle2D rect )
```

Constructs from the specified value.

34.9.3 Constructor MapRectangle2D()

```
public
MapRectangle2D(
    double x,
    double y,
    double w,
    double h
)
```

Constructs from the specified values.

34.10 Class RectangularProjection

```
mil.dtra.map
public RectangularProjection
extends AbstractProjection
```

Implements a flat, rectangular projection.

Methods:

```
protected void projectExtToWorld()
protected void projectWorldToExt()
```

34.10.1 Constructor RectangularProjection()

```
public
RectangularProjection()
```

34.10.2 Constructor RectangularProjection()

```
public
RectangularProjection(
    java.awt.geom.Rectangle2D window,
    java.awt.Rectangle viewport
)
```

Constructs with the specified window and viewport.

34.10.3 Method projectExtToWorld()

```
protected void
projectExtToWorld(
    java.awt.geom.Point2D ext_pt,
    java.awt.geom.Point2D world_pt
)
```

Projects (inversely) from EC to WC.

Parameters:

ext_pt - EC point to unproject
 pdc_pt - WC point holding projection result

34.10.4 Method projectWorldToExt()

```
protected void
projectWorldToExt(
    java.awt.geom.Point2D map_pt,
    java.awt.geom.Point2D ext_pt
)
```

Projects from WC to EC

Parameters:

map_pt - WC point to project
 ext_pt - EC point holding projection result

34.11 Class ZoomBoxAdapter

```
mil.dtra.map
public abstract ZoomBoxAdapter
extends Object
```

Handles drag box zooming operations for a Component. This class must be extended with an implementation of the zoom() method, which is called when the user completes a zoom operation.

Fields:

```
protected transient java.awt.Rectangle fDragRect
protected transient java.awt.Rectangle fDrawRect
protected transient boolean fIsDragging
protected transient java.awt.event.MouseListener fMouseListener
protected transient java.awt.event.MouseMotionListener fMouseMotionListener
```

Methods:

```
public void addListeners()
protected void drawDragBox()
protected void normalizeRect()
public void removeListeners()
protected void updateDragRect()
protected abstract void zoom()
```

Inner Classes:

```
ZoomBoxAdapter.ZoomMouseAdapter
ZoomBoxAdapter.ZoomMouseMotionAdapter
```

34.11.1 Field fDragRect

```
protected transient java.awt.Rectangle fDragRect
```

34.11.2 Field fDrawRect

```
protected transient java.awt.Rectangle fDrawRect
```

34.11.3 Field fIsDragging

protected transient boolean **fIsDragging**

34.11.4 Field fMouseListener

protected transient java.awt.event.MouseListener **fMouseListener**

34.11.5 Field fMouseMotionListener

protected transient java.awt.event.MouseMotionListener **fMouseMotionListener**

34.11.6 Constructor ZoomBoxAdapter()

protected
ZoomBoxAdapter()

Default constructor.

34.11.7 Method addListeners()

public void
addListeners(java.awt.Component component)

Adds the adapters in this object as listeners for the corresponding events in the specified object.

Parameters:

component - component on which to listen for events

34.11.8 Method drawDragBox()

protected void
drawDragBox(
 java.awt.Component component,
 java.awt.Rectangle box
)

Renders the rubber band box in xor mode on the specified component.

Parameters:

component - component in which to draw the box
box - box to draw

34.11.9 Method normalizeRect()

```
protected void
normalizeRect( java.awt.Rectangle rect )
```

Aligns the rect to positive width and height.

Parameters:

rect - rect to normalize

34.11.10 Method removeListeners()

```
public void
removeListeners( java.awt.Component component )
```

Removes the adapters in this object as listeners for the corresponding events in the specified object.

Parameters:

component - component on which to stop listening for events

34.11.11 Method updateDragRect()

```
protected void
updateDragRect(
    java.awt.Rectangle rect,
    int x,
    int y
)
```

Updates the specified drag rectangle to account for the coordinates given. It allows the rectangle to grow in either direction.

Parameters:

rect - rectangle to update
x - x coordinate
y - y coordinate

34.11.12 Method zoom()

```
protected abstract void
zoom( java.awt.Rectangle box )
```

Called when the user completes a zoom operation. Extensions must provide an implementation of this method to do something for a zoom.

Parameters:

box - device coordinate box defined by the user for a zoom.

34.12 Class ZoomBoxAdapter.ZoomMouseAdapter

```
mil.dtra.map
protected ZoomBoxAdapter.ZoomMouseAdapter
extends MouseAdapter
```

Mouse event adapter for zoom operations.

Methods:

```
public void mousePressed()
public void mouseReleased()
```

34.12.1 Constructor ZoomBoxAdapter.ZoomMouseAdapter()

```
protected
ZoomBoxAdapter.ZoomMouseAdapter( mil.dtra.map.ZoomBoxAdapter this$0 )
```

34.12.2 Method mousePressed()

```
public void
mousePressed( java.awt.event.MouseEvent event )
```

34.12.3 Method mouseReleased()

```
public void
mouseReleased( java.awt.event.MouseEvent event )
```

34.13 Class ZoomBoxAdapter.ZoomMouseMotionAdapter

```
mil.dtra.map
protected ZoomBoxAdapter.ZoomMouseMotionAdapter
extends MouseMotionAdapter
```

Mouse motion event adapter for zoom operations.

Methods:

```
public void mouseDragged()
```

34.13.1 Constructor ZoomBoxAdapter.ZoomMouseMotionAdapter()

```
protected
ZoomBoxAdapter.ZoomMouseMotionAdapter( mil.dtra.map.ZoomBoxAdapter this$0 )
```

34.13.2 Method mouseDragged()

```
public void
mouseDragged( java.awt.event.MouseEvent event )
```

34.14 Class ZoomBoxAdapter.ZoomMouseAdapter

```
mil.dtra.map
protected ZoomBoxAdapter.ZoomMouseAdapter
extends MouseAdapter
```

Mouse event adapter for zoom operations.

Methods:

```
public void mousePressed()
public void mouseReleased()
```

34.14.1 Constructor ZoomBoxAdapter.ZoomMouseAdapter()

```
protected
ZoomBoxAdapter.ZoomMouseAdapter( mil.dtra.map.ZoomBoxAdapter this$0 )
```

34.14.2 Method mousePressed()

```
public void
mousePressed( java.awt.event.MouseEvent event )
```

34.14.3 Method mouseReleased()

```
public void
mouseReleased( java.awt.event.MouseEvent event )
```

34.15 Class ZoomBoxAdapter.ZoomMouseMotionAdapter

```
mil.dtra.map
protected ZoomBoxAdapter.ZoomMouseMotionAdapter
extends MouseMotionAdapter
```

Mouse motion event adapter for zoom operations.

Methods:

```
public void mouseDragged()
```

34.15.1 Constructor ZoomBoxAdapter.ZoomMouseMotionAdapter()

```
protected
ZoomBoxAdapter.ZoomMouseMotionAdapter( mil.dtra.map.ZoomBoxAdapter this$0 )
```

34.15.2 Method mouseDragged()

```
public void
mouseDragged( java.awt.event.MouseEvent event )
```

CHAPTER 35

Package mil.dtra.map.openmap

Interfaces:

HpacLayer
SavableLayer

Classes:

AbstractLocationLayer
AbstractRasterLayer
AbstractShapeLayer
AptLayer
ColorIcon
ContrastLayer
CSVLocationHandler2
DataLocator
DTEDLayer
ImageMapLayer
LandcoverLayer
LocationFileDialog
LocationFileDialog.FileFilter
LocationLayer2
MapImageDialog
MapImageDialog.MapImageFilter
NucLayer
OmMapDisplay
OmMapEditor
OmMapEditor.MapProjectFileFilter
OmMapProjection
OMRasterScaled
PoLayer
PopulationLayer
PpLayer
PptLayer
ProtectionLayer

RdLayer
 RrLayer
 ShapeFileDialog
 ShapeFileDialog.ShapeFileFilter
 ShapeLayer2
 Util
 WtLayer

35.1 Interface HpacLayer

mil.dtra.map.openmap
 public interface **HpacLayer**

HPAC map layer: . Tiled . Usually from a CD-ROM or a copy of the CD on spinning disk

Methods:

```
public boolean containsPath()
public java.lang.String getExtension()
public java.lang.String getFileName()
public java.lang.String getLabel()
public void read()
public void setExtension()
public void setLabel()
```

35.1.1 Method containsPath()

public boolean
containsPath(java.lang.String path)

Does this layer contain the path?

Parameters:

path - java.lang.String

Returns:

boolean

35.1.2 Method `getExtension()`

```
public java.lang.String
getExtension()
```

Get the default filename extension.

Returns:

`java.lang.String`

35.1.3 Method `getFileName()`

```
public java.lang.String
getFileName(
    float lat,
    float lon
)
```

Get the filename that contains the lat/lon. Includes the extension. The user should be able to examine the filename without the expense of reading the data. Usually, the filename is a function of the tile size.

Some HPAC layers may have multiple tiles in the layer.

Returns:

`java.lang.String`

35.1.4 Method `getLabel()`

```
public java.lang.String
getLabel()
```

Get the layer's label, a short string that identifies the layer type.

Returns:

`java.lang.String`

35.1.5 Method `read()`

```
public void
read(
    java.lang.String pathname,
    com.bbn.openmap.proj.Projection proj
)
```

Given the pathname and projection, add the tile's data to the layer.

Parameters:

pathName - String
 proj - com.bbn.openmap.proj.Projection

Exceptions:

java.io.IOException - The exception description.

35.1.6 Method **setExtension()**

public void
setExtension(java.lang.String newExtension)

Set the default filename extension.

Parameters:

newExtension - java.lang.String

35.1.7 Method **setLabel()**

public void
setLabel(java.lang.String newLabel)

Set the layer's label, a short string that identifies the layer (e.g., rd).

Parameters:

newLabel - java.lang.String

35.2 Interface **SavableLayer**

mil.dtra.map.openmap
 public interface **SavableLayer**

A layer that is saveable by providing its properties.

Methods:

public void **getProperties()**

35.2.1 Method `getProperties()`

```
public void
getProperties( java.util.Properties props )
```

Put the properties of this layer into props. Allows one to recreate this layer.

Parameters:

props - java.util.Properties

35.3 Class `AbstractLocationLayer`

```
mil.dtra.map.openmap
public abstract AbstractLocationLayer
extends LocationLayer
implements HpacLayerSavableLayer
```

An abstract extension of OM LocationLayer for HPAC location data. Supports tiles. Uses CSVLocationHandler2. Override setProperties to identify and report errors.

Field names: location - symbol drawn at the location name - a label drawn to the right of the location symbol

Fields:

```
protected java.lang.String extension
protected java.lang.String handlerClassName
protected java.lang.String label
protected java.lang.String locationColorString
protected java.lang.String nameColorString
protected static final int TILE_SIZE
```

Methods:

```
public boolean containsPath()
public void getDefaultHandlerProperties()
public java.lang.String getExtension()
public java.lang.String getFileName()
public java.lang.String getHandlerClassName()
public java.lang.String getLabel()
public java.lang.String getLocationColorString()
public java.lang.String getNameColorString()
public static java.lang.String getPrefix()
public void getProperties()
public static final int getTileSize()
public void read()
public void setExtension()
public void setLabel()
```

```
public void setLocationColorString()
public void setNameColorString()
public void setProperties()
```

35.3.1 Field extension

`protected java.lang.String extension`

Default filename extension.

35.3.2 Field handlerClassName

`protected java.lang.String handlerClassName`

The class name of the layer's data handler.

35.3.3 Field label

`protected java.lang.String label`

A short ID string.

35.3.4 Field locationColorString

`protected java.lang.String locationColorString`

The color of the location.

35.3.5 Field nameColorString

`protected java.lang.String nameColorString`

The color of the name.

35.3.6 Field TILE_SIZE

`protected static final int TILE_SIZE`

Tile size in degrees.

35.3.7 Constructor AbstractLocationLayer()

```
public
AbstractLocationLayer()
```

Constructor.

35.3.8 Method containsPath()

```
public boolean
containsPath( java.lang.String path )
```

Returns true if this layer location pathname equals path.

Parameters:

path - java.lang.String

Returns:

boolean

35.3.9 Method getDefaultHandlerProperties()

```
public void
getDefaultHandlerProperties(
    java.lang.String prefix,
    java.util.Properties props
)
```

Set the default properties for the layer handler.

Parameters:

prefix - java.lang.String, usually the tile name
 props - java.util.Properties

35.3.10 Method getExtension()

```
public java.lang.String
getExtension()
```

Get the default filename extension.

Returns:

java.lang.String

35.3.11 Method `getFileName()`

```
public java.lang.String
getFileName(
    float lat,
    float lon
)
```

Get the name of tile that contains the lat/lon. Includes the filename extension.

Parameters:

lat - float
lon - float

Returns:

String The name of the file, including extension.

35.3.12 Method `getHandlerClassName()`

```
public java.lang.String
getHandlerClassName()
```

Get the name of the handler class.

Returns:

java.lang.String

35.3.13 Method `getLabel()`

```
public java.lang.String
getLabel()
```

Get the layer's label, a short string that identifies the layer type (e.g., apt).

35.3.14 Method `getLocationColorString()`

```
public java.lang.String
getLocationColorString()
```

Get the location color.

Returns:

java.lang.String

35.3.15 Method getNameColorString()

```
public java.lang.String  
getNameColorString()
```

Get the color of the location name.

Returns:

```
java.lang.String
```

35.3.16 Method getPrefix()

```
public static java.lang.String  
getPrefix()
```

Folks who extend this layer should provide the layer prefix. This allows one to look for a layer without creating a layer.

Returns:

```
java.lang.String
```

35.3.17 Method getProperties()

```
public void  
getProperties( java.util.Properties props )
```

Add the properties of this layer to props.

Not supported: useDeclutter declutterMatrix allowPartials

35.3.18 Method getTileSize()

```
public static final int  
getTileSize()
```

Get the tile size (degrees).

Returns:

```
int
```

35.3.19 Method `read()`

```
public void
read(

    java.lang.String  pathName,
    com.bbn.openmap.proj.Projection  proj
)
```

Given the data pathname, create this layer's data by creating OM-style properties and calling `setProperties(props)`.

Parameters:

 pathName - String
 proj - com.bbn.openmap.proj.Projection

Exceptions:

 java.io.IOException -

35.3.20 Method `setExtension()`

```
public void
setExtension( java.lang.String  newExtension )
```

Set the default filename extension.

Parameters:

 newExtension - java.lang.String

35.3.21 Method `setLabel()`

```
public void
setLabel( java.lang.String  newLabel )
```

Set the layer's label, a short id String.

Parameters:

 newLabel - java.lang.String

35.3.22 Method setLocationColorString()

```
public void
setLocationColorString( java.lang.String newLocationColorString )
```

Set the location color.

Parameters:

newLocationColorString - java.lang.String

35.3.23 Method setNameColorString()

```
public void
setNameColorString( java.lang.String newNameColorString )
```

Set the color of location name.

Parameters:

newNameColorString - java.lang.String

35.3.24 Method setProperties()

```
public void
setProperties(
    java.lang.String prefix,
    java.util.Properties props
)
```

Set the layer's properties. Do some error checking on the settings.

Parameters:

props - java.util.Properties

Exceptions:

`java.lang.RuntimeException` - The exception description.

35.4 Class AbstractRasterLayer

```
mil.dtra.map.openmap
public abstract AbstractRasterLayer
extends ImageMapLayer
implements HpacLayerSavableLayer
```

An abstract implementation of the an HPAC Layer for 5-degree raster tiles.

Fields:

```
protected java.lang.String extension
protected java.lang.String label
protected javax.swing.JLabel palette
protected static final int TILE_SIZE
```

Methods:

```
public java.lang.String getExtension()
public java.lang.String getFileName()
public java.awt.Component getGUI()
public java.lang.String getLabel()
public static final int getTileSize()
public void imageCorners()
public abstract mil.dtra.map.openmap.OMRasterScaled read()
public void read()
public void setExtension()
public void setLabel()
```

35.4.1 Field extension

protected java.lang.String extension

Default filename extension.

35.4.2 Field label

protected java.lang.String label

A short ID string for the layer.

35.4.3 Field palette

protected javax.swing.JLabel palette

The legend for this layer; returned by getGUI().

35.4.4 Field TILE_SIZE

protected static final int **TILE_SIZE**

The layer's tile size (degrees).

35.4.5 Constructor AbstractRasterLayer()

public
AbstractRasterLayer()

AbstractHPACLayer constructor.

35.4.6 Method getExtension()

public java.lang.String
getExtension()

Get the default filename extension.

Returns:

java.lang.String

35.4.7 Method getFileName()

public java.lang.String
getFileName(
 float lat,
 float lon
)

Return file filename of the tile that contains the given lat/lon.

Parameters:

lat - float
lon - float

Returns:

java.lang.String

35.4.8 Method getGUI()

```
public java.awt.Component
getGUI()
```

See `com.bbn.openmap.Layer.getGUI` provides the layer's palette. Typically we show a legend with the name Legend.gif.

Returns:

java.awt.Component

35.4.9 Method getLabel()

```
public java.lang.String
getLabel()
```

Get the layer's label, a short string that identifies the layer type.

35.4.10 Method getTileSize()

```
public static final int
getTileSize()
```

Get the tile size (degrees).

Returns:

int

35.4.11 Method imageCorners()

```
public void
imageCorners(
    java.lang.String  pathname,
    com.bbn.openmap.LatLonPoint  llnw,
    com.bbn.openmap.LatLonPoint  llse
)
```

Given a HPAC GIS pathname and two lat/lon points, set the lat/lon points to the nw and se corners. Filename has the pattern [n|s]ddd[ew]ddd.??z.

Parameters:

packageName - String
 llnw - com.bbn.openmap.LatLonPoint
 llse - com.bbn.openmap.LatLonPoint

35.4.12 Method read()

```
public abstract mil.dtra.map.openmap.OMRasterScaled
read( java.lang.String fileName )
```

Read the tile given the file name. Each implementation is different.

35.4.13 Method read()

```
public void
read(
    java.lang.String pathName,
    com.bbn.openmap.proj.Projection proj
)
```

Given the pathname, read the tile and add it to the layer.

35.4.14 Method setExtension()

```
public void
setExtension( java.lang.String newExtension )
```

Set the default filename extension.

Parameters:

newExtension - java.lang.String

35.4.15 Method setLabel()

```
public void
setLabel( java.lang.String newLabel )
```

Set the layer's label, a short id String.

Parameters:

newLabel - java.lang.String

35.5 Class AbstractShapeLayer

```
mil.dtra.map.openmap
public abstract AbstractShapeLayer
extends ShapeLayer2
implements HpacLayerSavableLayer
```

OpenMap ShapeLayer for HPAC-format data.

Fields:

```
protected java.lang.String extension
protected java.lang.String label
protected static final int TILE_SIZE
```

Methods:

```
public boolean containsPath()
public java.lang.String getExtension()
public java.lang.String getFileName()
public static java.lang.String getIndexPathNameForShape()
public java.lang.String getLabel()
public static final int getTileSize()
public static void indexShapes()
public static void main()
public void read()
public void setExtension()
public void setLabel()
```

35.5.1 Field extension

protected java.lang.String extension

Default filename extension.

35.5.2 Field label

protected java.lang.String label

A short ID string for this layer.

35.5.3 Field TILE_SIZE

protected static final int TILE_SIZE

The layer's tile size (degrees).

35.5.4 Constructor AbstractShapeLayer()

```
public
AbstractShapeLayer()
```

ShapeLayer constructor comment.

35.5.5 Method containsPath()

```
public boolean
containsPath( java.lang.String path )
```

Return true if this layer's shapePathName equals path.

Parameters:

path - java.lang.String

Returns:

boolean

35.5.6 Method getExtension()

```
public java.lang.String
getExtension()
```

Get the default filename extension.

Returns:

java.lang.String

35.5.7 Method getFileName()

```
public java.lang.String
getFileName(
    float lat,
    float lon
)
```

Get the shape file name.

35.5.8 Method `getIndexPathNameForShape()`

```
public static java.lang.String
getIndexPathNameForShape( java.lang.String shapePathName )
```

Given a shape file pathname, return a pathname for the OM index file.

Parameters:

shapePathName - java.lang.String

Returns:

java.lang.String

35.5.9 Method `getLabel()`

```
public java.lang.String
getLabel()
```

Get the layer's label, a short string that identifies the layer type.

Returns:

java.lang.String

35.5.10 Method `getTileSize()`

```
public static final int
getTileSize()
```

Get the tile size (degrees).

Returns:

int

35.5.11 Method `indexShapes()`

```
public static void
indexShapes( java.io.File file )
```

OpenMap requires that shape files have an OpenMap-format index file. These are usually named *.sxx (but OpenMap doesn't require that naming convention).

If the *.shp doesn't have a *.sxx, create it.

Handles *.shp and *.SHP.

This utility will index entire directories and subdirectories.

Parameters:

file - java.io.File

Exceptions:

java.io.IOException -

35.5.12 Method main()

```
public static void
main( java.lang.String[] args )
```

Index a directory of shape files.

Parameters:

args - java.lang.String[]

35.5.13 Method read()

```
public void
read(
    java.lang.String pathName,
    com.bbn.openmap.proj.Projection proj
)
```

Given the pathname, create this layer's data by creating OM-style properties and calling setProperties(props).

35.5.14 Method setExtension()

```
public void
setExtension( java.lang.String newExtension )
```

Set the default filename extension.

Parameters:

newExtension - java.lang.String

35.5.15 Method **setLabel()**

```
public void
setLabel( java.lang.String newLabel )
```

Set the layer's label, a short string that identifies the layer type.

Parameters:

newLabel - java.lang.String

35.6 Class **AptLayer**

```
mil.dtra.map.openmap
public AptLayer
extends AbstractLocationLayer
```

Layer for airport locations.

Methods:

```
public static java.lang.String getPrefix()
```

35.6.1 Constructor **AptLayer()**

```
public
AptLayer()
```

AptLayer constructor.

35.6.2 Method **getPrefix()**

```
public static java.lang.String
getPrefix()
```

Get the layer's prefix (markerName). Id the layer without creating one.

Returns:

java.lang.String

35.7 Class ColorIcon

```
mil.dtra.map.openmap
public ColorIcon
extends Object
implements Icon
```

A color icon, used for color buttons.

Fields:

```
protected java.awt.Color fillColor
protected int iconHeight
protected int iconWidth
```

Methods:

```
public java.awt.Color getFillColor()
public int getIconHeight()
public int getIconWidth()
public void paintIcon()
public void setFillColor()
public void setIconHeight()
public void setIconWidth()
```

35.7.1 Field fillColor

protected java.awt.Color fillColor

The icon color

35.7.2 Field iconHeight

protected int iconHeight

The icon height (pixels).

35.7.3 Field iconWidth

protected int iconWidth

The icon width (pixels).

35.7.4 Constructor ColorIcon()

```
public
ColorIcon()
```

ColorIcon constructor comment.

35.7.5 Constructor ColorIcon()

```
public
ColorIcon( java.awt.Color color )
```

Constructor indicating the fill color.

Parameters:

fillColor - java.awt.Color

35.7.6 Constructor ColorIcon()

```
public
ColorIcon(
    java.awt.Color color,
    int width,
    int height
)
```

Constructor with color and size.

Parameters:

fillColor - java.awt.Color
iconWidth - int
iconHeight - int

35.7.7 Method getFillColor()

```
public java.awt.Color
getFillColor()
```

Get the fill color.

Returns:

java.awt.Color

35.7.8 Method getIconHeight()

```
public int
getIconHeight()
```

Get the icon height in pixels.

Returns:

int

35.7.9 Method **getIconWidth()**

```
public int
getIconWidth()
```

Get the icon width in pixels.

Returns:

int

35.7.10 Method **paintIcon()**

```
public void
paintIcon(
    java.awt.Component c,
    java.awt.Graphics g,
    int x,
    int y
)
```

Paint the icon.

35.7.11 Method **setFillColor()**

```
public void
setFillColor( java.awt.Color newFillColor )
```

Set the fill color.

Parameters:

newFillColor - java.awt.Color

35.7.12 Method **setIconHeight()**

```
public void
setIconHeight( int newIconHeight )
```

Set the icon height.

Parameters:

newIconHeight - int

35.7.13 Method setIconWidth()

```
public void
setIconWidth( int newIconWidth )
```

Set the icon width.

Parameters:

newIconWidth - int

35.8 Class ContrastLayer

```
mil.dtra.map.openmap
public ContrastLayer
extends Layer
```

Layer to subdue the OpenMap display to improve the visibility of HPAC overlays.

The openmap.properties file can control the layer with the following settings: # Set the mask color (ARGB). contrastLayer.color=a8fffff

Fields:

```
protected java.awt.Color color
public static final java.lang.String colorProperty
protected mil.dtra.map.openmap.ContrastLayer.ContrastLayerPalette palette
```

Methods:

```
public java.awt.Color getColor()
public java.awt.Component getGUI()
public void paint()
public void projectionChanged()
public void setColor()
public void setProperties()
```

35.8.1 Field color

protected java.awt.Color **color**

The current mask color.

35.8.2 Field colorProperty

public static final java.lang.String **colorProperty**

The property used in map files to set the mask color.

35.8.3 Field palette

`protected mil.dtra.map.openmap.ContrastLayer.ContrastLayerPalette palette`

The layer's palette; used by getGUI().

35.8.4 Constructor ContrastLayer()

`public
ContrastLayer()`

35.8.5 Method getColor()

`public java.awt.Color
getColor()`

Get the contrast color.

Returns:

`java.awt.Color`

35.8.6 Method getGUI()

`public java.awt.Component
getGUI()`

Create a palette. See Layer.getGUI().

Returns:

`java.awt.Component`

35.8.7 Method paint()

`public void
paint(java.awt.Graphics g)`

Set the color of g and fill the rectangle of my width and height.

35.8.8 Method projectionChanged()

`public void
projectionChanged(com.bbn.openmap.event.ProjectionEvent e)`

The projection has changed, note the new size.

35.8.9 Method **setColor()**

```
public void
setColor( java.awt.Color newColor )
```

Set the contrast color.

Parameters:

newColor - java.awt.Color

35.8.10 Method **setProperties()**

```
public void
setProperties(
    java.lang.String prefix,
    java.util.Properties props
)
```

Initializes this layer from the given properties.

Parameters:

prefix - the property prefix
 props - the Properties holding settings for this layer

35.9 Class **CSVLocationHandler2**

```
mil.dtra.map.openmap
public CSVLocationHandler2
extends CSVLocationHandler
```

An extension of OM CSVLocationHandler.

Originally created to support HPAC point data. Provides access to the location file pathname so we can do some error checking.

Modified to support File/Add Layer/Point Layer. OM CSVLocatoinHandler does not provide access to attributes. We need access to support getProperties(), which is used to save a layer.

Review this code during upgrade to OpenMap 4.0.

Methods:

```
public int getLatIndex()
public java.lang.String getLocationFile()
public int getLonIndex()
public int getNameIndex()
```

35.9.1 Constructor CSVLocationHandler2()

```
public  
CSVLocationHandler2()
```

CSVLocationHandler2 constructor.

35.9.2 Method getLatIndex()

```
public int  
getLatIndex()
```

Provide access to a protected attribute of OpenMap.

Returns:
int

35.9.3 Method getLocationFile()

```
public java.lang.String  
getLocationFile()
```

Provide access to a protected attribute of OpenMap.

Returns:
java.lang.String

35.9.4 Method getLonIndex()

```
public int  
getLonIndex()
```

Provide access to a protected attribute of OpenMap.

Returns:
int

35.9.5 Method getNameIndex()

```
public int  
getNameIndex()
```

Provide access to a protected attribute of OpenMap.

Returns:
int

35.10 Class DataLocator

```
mil.dtra.map.openmap
public DataLocator
extends Object
```

Support for flexible scheme for data management, primarily multiple locations including CD-ROM and hard disk.

Fields:

```
protected java.util.Properties appProperties
```

Methods:

```
public java.util.Properties getAppProperties()
public java.lang.String getPathName()
public static void main()
public boolean pathNameExists()
protected java.lang.String searchPaths()
public void setAppProperties()
```

35.10.1 Field appProperties

```
protected java.util.Properties appProperties
```

Application properties, which may provide some clues on data location

35.10.2 Constructor DataLocator()

```
public
DataLocator()
```

DataLocator constructor.

35.10.3 Constructor DataLocator()

```
public
DataLocator( java.util.Properties newAppProperties )
```

Constructor that provides the app properties.

Parameters:

```
newAppProperties - java.util.Properties
```

35.10.4 Method getAppProperties()

```
public java.util.Properties
getAppProperties()
```

Get the app properties.

Returns:

java.util.Properties

35.10.5 Method getPathName()

```
public java.lang.String
getPathName(
    java.lang.String dataType,
    java.lang.String fileName
)
```

Given the data type and filename, try to find a pathname to the data. May return "". The installer may spread the data around in various locations. The locations will be in the app properties. Sometimes there are subdirectories, which are a function of the data type.

Parameters:

dataType - java.lang.String String used to identify layer types
 fileName - java.lang.String Usually created by a layer object

Returns:

java.lang.String

35.10.6 Method main()

```
public static void
main( java.lang.String[] args )
```

Test.

Parameters:

args - java.lang.String[]

35.10.7 Method **pathNameExists()**

```
public boolean
pathNameExists( java.lang.String pathName )
```

Can the given pathname be read?

Parameters:

pathName - java.lang.String

Returns:

boolean

35.10.8 Method **searchPaths()**

```
protected java.lang.String
searchPaths(
    java.lang.String fileName,
    java.lang.String pathList,
    java.lang.String optionalDir
)
```

Search the list of paths for filename. Check the optional subdirectory too. May return "";

Parameters:

pathList - java.lang.String
optionalDir - java.lang.String

Returns:

java.lang.String

35.10.9 Method **setAppProperties()**

```
public void
setAppProperties( java.util.Properties newAppProperties )
```

Set the app properties.

Parameters:

newAppProperties - java.util.Properties

35.11 Class DTEDLayer

```
mil.dtra.map.openmap
public DTEDLayer
extends AbstractRasterLayer
```

OpenMap layer containing HPAC DTED data.

Fields:

```
protected static java.awt.Color[] colorTable
protected static int[] eleTable
```

Methods:

```
public java.awt.Color getColorTableColor()
public static java.lang.String getPrefix()
public static void main()
public mil.dtra.map.openmap.OMRasterScaled read()
```

35.11.1 Field colorTable

```
protected static java.awt.Color[] colorTable
```

The colors of the color table.

35.11.2 Field eleTable

```
protected static int[] eleTable
```

The elevations of the color table.

35.11.3 Constructor DTEDLayer()

```
public
DTEDLayer()
```

DTEDLayer constructor.

35.11.4 Method getColorTableColor()

```
public java.awt.Color
getColorTableColor( short elevation )
```

Given the elevation (meters), return the colorTable color.

Parameters:

elevation - int in meters

Returns:

java.awt.Color

35.11.5 Method `getPrefix()`

```
public static java.lang.String
getPrefix()
```

Get the layer's prefix (markerName). Id the layer without creating one.

Returns:

java.lang.String

35.11.6 Method `main()`

```
public static void
main( java.lang.String[] args )
```

Some testing for `read()`.

Parameters:

args - java.lang.String[]

35.11.7 Method `read()`

```
public mil.dtra.map.openmap.OMRasterScaled
read( java.lang.String fileName )
```

Read one HPAC DTED file.

Not all HPAC DTED tiles are the same size. Usually, they are 600x600 cells. As you move north or south, the number of columns decreases as follows:

Columns North South

300 50 55 200 70 75 150 75 80 100 80 85

Rather than try to use the filename to determine the image size, we read the zipped stream twice, once to get the size, again to create the image.

Parameters:

fileName - java.lang.String

35.12 Class ImageMapLayer

```
mil.dtra.map.openmap
public ImageMapLayer
extends Layer
implements SavableLayer
```

ImageMapLayer extends OpenMap's Layer and provides a shell for our OmRasterScaled.
Properties: class prettyName path path1, path2, ..., pathn

Fields:

```
protected com.bbn.openmap.omGraphics.OMGraphicList graphics
protected java.util.Vector paths
```

Methods:

```
public void addImage()
public void addPath()
public boolean containsPath()
public java.util.Vector getPaths()
public com.bbn.openmap.proj.Projection getProjection()
public void getProperties()
public void paint()
public void projectionChanged()
public mil.dtra.map.openmap.OMRasterScaled read()
public void setProjection()
public void setProperties()
```

35.12.1 Field graphics

protected com.bbn.openmap.omGraphics.OMGraphicList **graphics**

The list of graphics for this layer.

35.12.2 Field paths

protected java.util.Vector **paths**

The list of image paths. It is tempting to tie addPath() to addImage() but all images may not come from paths.

35.12.3 Constructor ImageMapLayer()

```
public
ImageMapLayer()
```

Construct the layer.

35.12.4 Method addImage()

```
public void  
addImage( mil.dtra.map.openmap.OMRasterScaled image )
```

Add an image map to the layer.

Parameters:

image - mil.dtra.map.openmap.OMRasterScaled

35.12.5 Method addPath()

```
public void  
addPath( java.lang.String path )
```

Add a path to paths.

Parameters:

path - java.lang.String

35.12.6 Method containsPath()

```
public boolean  
containsPath( java.lang.String path )
```

Does the layer contain path?

Parameters:

path - java.lang.String

Returns:

boolean

35.12.7 Method getPaths()

```
public java.util.Vector  
getPaths()
```

Get the vector of paths.

Returns:

java.util.Vector

35.12.8 Method `getProjection()`

```
public com.bbn.openmap.proj.Projection
getProjection()
```

Get the projection.

Returns:

com.bbn.openmap.proj.Projection

35.12.9 Method `getProperties()`

```
public void
getProperties( java.util.Properties props )
```

Add to props this layer's properties: . class . prettyName . path1, path2, ...

Parameters:

props - java.util.Properties

35.12.10 Method `paint()`

```
public void
paint( java.awt.Graphics g )
```

Paints the layer.

Parameters:

g - the Graphics context for painting

35.12.11 Method `projectionChanged()`

```
public void
projectionChanged( com.bbn.openmap.event.ProjectionEvent e )
```

Invoked when the projection has changed or this Layer has been added to the MapBean.

Parameters:

e - ProjectionEvent

35.12.12 Method read()

```
public mil.dtra.map.openmap.OMRasterScaled
read( java.lang.String pathName )
```

Read the image data from a path, the image file, name.ext, will also have a world file named name.extw, which contains lat/lon data.

Parameters:

url - java.lang.String

Exceptions:

java.io.IOException -

35.12.13 Method setProjection()

```
public void
setProjection( com.bbn.openmap.proj.Projection newProjection )
```

Set the projection.

Parameters:

newProjection - com.bbn.openmap.proj.Projection

35.12.14 Method setProperties()

```
public void
setProperties(
    java.lang.String prefix,
    java.util.Properties props
)
```

Sets the properties for the Layer.

Note that OpenMap does not throw exceptions in setProperties(). We throw a RuntimeException on error.

Parameters:

prefix - the token to prefix the property names
 props - the Properties object

35.13 Class LandcoverLayer

```
mil.dtra.map.openmap
public LandcoverLayer
extends AbstractRasterLayer
```

OpenMap layer containing HPAC landcover data.

Fields:

```
protected static java.awt.Color[] colorTable
```

Methods:

```
public java.awt.Color getColorTableColor()
public static java.lang.String getPrefix()
public mil.dtra.map.openmap.OMRasterScaled read()
```

35.13.1 Field colorTable

```
protected static java.awt.Color[] colorTable
```

The color table colors. From Phil Coleman. To index 28; they start at 1, skips 4, 26, and 27.

35.13.2 Constructor LandcoverLayer()

```
public
LandcoverLayer()
```

Landcover layer constructor.

35.13.3 Method getColorTableColor()

```
public java.awt.Color
getColorTableColor( int index )
```

Get the colorTable color at index.

Parameters:

```
index - int
```

Returns:

```
java.awt.Color
```

35.13.4 Method `getPrefix()`

```
public static java.lang.String
getPrefix()
```

Get the layer's prefix (markerName). Id the layer without creating one.

Returns:

java.lang.String

35.13.5 Method `read()`

```
public mil.dtra.map.openmap.OMRasterScaled
read( java.lang.String fileName )
```

Read one HPAC landcover file.

Parameters:

fileName - java.lang.String

Returns:

OMRasterScaled

35.14 Class LocationFileDialog

```
mil.dtra.map.openmap
public LocationFileDialog
extends JDialog
```

A dialog to get the description of a point file.

Fields:

```
protected java.awt.Color pointColor
protected int returnValue
```

Methods:

```
public void browseButtonActionPerformed()
public void cancelButtonActionPerformed()
public void colorButtonActionPerformed()
public void fileDialog.WindowClosing()
public java.lang.String getDescription()
public java.lang.String getLabelIndex()
public java.lang.String getLatIndex()
public java.lang.String getLonIndex()
```

```

public java.lang.String getPathName()
public java.awt.Color getPointColor()
public int getReturnValue()
public static void main()
public void okButtonActionPerformed()
public void setPointColor()
protected void setReturnValue()
public void shapeFileDialog.WindowClosing()

```

Inner Classes:

LocationFileDialog.FileFilter

35.14.1 Field pointColor

protected java.awt.Color pointColor

35.14.2 Field returnValue

protected int returnValue

35.14.3 Constructor LocationFileDialog()

**public
LocationFileDialog()**

Constructor

35.14.4 Constructor LocationFileDialog()

**public
LocationFileDialog(java.awt.Frame frame)**

Use this constructor.

35.14.5 Method browseButtonActionPerformed()

**public void
browseButtonActionPerformed()**

Browse for the file name.

35.14.6 Method cancelButtonActionPerformed()

```
public void
cancelButtonActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Handle a cancel.

35.14.7 Method colorButtonActionPerformed()

```
public void
colorButtonActionPerformed()
```

Get the point color from the user.

35.14.8 Method fileDialogWindowClosing()

```
public void
fileDialogWindowClosing( java.awt.event.WindowEvent windowEvent )
```

User closed this dialog.

35.14.9 Method getDescription()

```
public java.lang.String
getDescription()
```

Get the shape layer's description.

Returns:

`java.lang.String`

35.14.10 Method getLabelIndex()

```
public java.lang.String
getLabelIndex()
```

Public access to the dialog's labelIndex.

Returns:

`java.lang.String`

35.14.11 Method `getLatIndex()`

```
public java.lang.String  
getLatIndex()
```

Public access to the dialog's latIndex.

Returns:

```
java.lang.String
```

35.14.12 Method `getLonIndex()`

```
public java.lang.String  
getLonIndex()
```

Public access to the lonIndex.

Returns:

```
java.lang.String
```

35.14.13 Method `getPathName()`

```
public java.lang.String  
getPathName()
```

Public access to the dialog's data file pathname.

Returns:

```
java.lang.String
```

35.14.14 Method `getPointColor()`

```
public java.awt.Color  
getPointColor()
```

Get the point color.

Returns:

```
java.awt.Color
```

35.14.15 Method **getReturnValue()**

```
public int  
getReturnValue()
```

Get the dialog's return value OK or CANCEL.

Returns:

int

35.14.16 Method **main()**

```
public static void  
main( java.lang.String[] args )
```

main entrypoint - starts the part when it is run as an application

Parameters:

args - java.lang.String[]

35.14.17 Method **okButtonActionPerformed()**

```
public void  
okButtonActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Handle the OK button.

35.14.18 Method **setPointColor()**

```
public void  
setPointColor( java.awt.Color newPointColor )
```

Set the point color.

Parameters:

newPointColor - java.awt.Color

35.14.19 Method setReturnValue()

```
protected void
setReturnValue( int newReturnValue )
```

Set the return value.

Parameters:

newReturnValue - int

35.14.20 Method shapeFileDialog.WindowClosing()

```
public void
shapeFileDialog_WindowClosing( java.awt.event.WindowEvent windowEvent )
```

Dialog window is closing.

35.15 Class LocationFileDialog.FileFilter

```
mil.dtra.map.openmap
public LocationFileDialog.FileFilter
extends FileFilter
```

File dialog filter.

Methods:

```
public boolean accept()
public java.lang.String getDescription()
```

35.15.1 Constructor LocationFileDialog.FileFilter()

```
public
LocationFileDialog.FileFilter()
```

35.15.2 Method accept()

```
public boolean
accept( java.io.File file )
```

35.15.3 Method `getDescription()`

```
public java.lang.String
getDescription()
```

35.16 Class `LocationFileDialog.FileFilter`

`mil.dtra.map.openmap`
`public LocationFileDialog.FileFilter`
`extends FileFilter`

File dialog filter.

Methods:

```
public boolean accept()
public java.lang.String getDescription()
```

35.16.1 Constructor `LocationFileDialog.FileFilter()`

```
public
LocationFileDialog.FileFilter()
```

35.16.2 Method `accept()`

```
public boolean
accept( java.io.File file )
```

35.16.3 Method `getDescription()`

```
public java.lang.String
getDescription()
```

35.17 Class `LocationLayer2`

`mil.dtra.map.openmap`
`public LocationLayer2`
`extends LocationLayer`
`implements SavableLayer`

Extend OM LocationLayer to support saving layer properties in Map Project files.

Methods:

```
public void getProperties()
```

35.17.1 Constructor LocationLayer2()

```
public
LocationLayer2()
```

LocationLayer2 constructor.

35.17.2 Method getProperties()

```
public void
getProperties( java.util.Properties props )
```

Add this layer's properties to props. Many shortcuts taken here; we expect this to change for OM 4.0.

Parameters:

props - java.util.Properties

35.18 Class MapImageDialog

```
mil.dtra.map.openmap
public MapImageDialog
extends JDialog
```

A dialog to get the properties of a MapImage Layer.

Fields:

protected int returnValue

Methods:

```
public void browseImageButtonActionPerformed()
public void cancelButtonActionPerformed()
public java.lang.String getDescription()
public java.lang.String getMapImagePathName()
public int getReturnValue()
public static void main()
public void mapImageDialogWindowClosing()
public void okButtonActionPerformed()
protected void setReturnValue()
```

Inner Classes:

MapImageDialog.MapImageFilter

35.18.1 Field returnValue

```
protected int returnValue
```

35.18.2 Constructor MapImageDialog()

```
public  
MapImageDialog()
```

MapImageDialog constructor comment.

35.18.3 Method browseImageButtonActionPerformed()

```
public void  
browseImageButtonActionPerformed()
```

Browse for the image file name.

35.18.4 Method cancelButtonActionPerformed()

```
public void  
cancelButtonActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Handle a cancel.

35.18.5 Method getDescription()

```
public java.lang.String  
getDescription()
```

Get the layer's description.

Returns:

java.lang.String

35.18.6 Method getMapImagePathName()

```
public java.lang.String  
getMapImagePathName()
```

Get the pathname.

Returns:

java.lang.String

35.18.7 Method `getReturnValue()`

```
public int
getReturnValue()
```

Get the dialog's return value OK or CANCEL.

Returns:

int

35.18.8 Method `main()`

```
public static void
main( java.lang.String[] args )
```

main entrypoint - starts the part when it is run as an application

Parameters:

args - `java.lang.String[]`

35.18.9 Method `mapImageDialog_WindowClosing()`

```
public void
mapImageDialog_WindowClosing( java.awt.event.WindowEvent windowEvent )
```

When the window is closed, set visible to false.

35.18.10 Method `okButtonActionPerformed()`

```
public void
okButtonActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Handle the OK button.

35.18.11 Method `setReturnValue()`

```
protected void
setReturnValue( int newReturnValue )
```

Set the return value.

Parameters:

newReturnValue - int

35.19 Class MapImageDialog.MapImageFilter

```
mil.dtra.map.openmap
public MapImageDialog.MapImageFilter
extends FileFilter
```

Methods:

```
public boolean accept()
public java.lang.String getDescription()
```

35.19.1 Constructor MapImageDialog.MapImageFilter()

```
public
MapImageDialog.MapImageFilter()
```

35.19.2 Method accept()

```
public boolean
accept( java.io.File file )
```

35.19.3 Method getDescription()

```
public java.lang.String
getDescription()
```

35.20 Class MapImageDialog.MapImageFilter

```
mil.dtra.map.openmap
public MapImageDialog.MapImageFilter
extends FileFilter
```

Methods:

```
public boolean accept()
public java.lang.String getDescription()
```

35.20.1 Constructor MapImageDialog.MapImageFilter()

```
public
MapImageDialog.MapImageFilter()
```

35.20.2 Method accept()

```
public boolean
accept( java.io.File file )
```

35.20.3 Method getDescription()

```
public java.lang.String
getDescription()
```

35.21 Class NucLayer

```
mil.dtra.map.openmap
public NucLayer
extends AbstractLocationLayer
```

Layer for nuclear facility locations.

Methods:

```
public static java.lang.String getPrefix()
```

35.21.1 Constructor NucLayer()

```
public
NucLayer()
```

NucLayer constructor.

35.21.2 Method getPrefix()

```
public static java.lang.String
getPrefix()
```

Get the layer's prefix (markerName). Id the layer without creating one.

Returns:

```
java.lang.String
```

35.22 Class OmMapDisplay

```
mil.dtra.map.openmap
public OmMapDisplay
extends BufferedMapBean
implements MapDisplay
```

OpenMap map display for HPAC Client layer zero.

Export and deliver as hpacmap.jar. Jar should put resources in map/. HPAC client should refer to data/mapdefault.properties.

A lot of what we do is maintain the projection(s). When more than one parameter is changing, get a reference, make the changes, then set the projection. This is much more efficient; see OM docs.
hpacmap-4.0.4.jar = 1.46.18.

Fields:

```
protected java.util.Properties appProperties
protected mil.dtra.map.openmap.DataLocator dataLocator
protected java.util.Properties mapProperties
protected mil.dtra.map.openmap.OmMapEditor omMapEditor
protected mil.dtra.map.openmap.OmMapProjection omMapProjection
```

Methods:

```
public void define()
public void edit()
protected void fireProjectionChanged()
public java.util.Properties getAppProperties()
public mil.dtra.map.openmap.DataLocator getDataLocator()
protected com.bbn.openmap.Layer[] getLayers()
public mil.dtra.map.MapProjection getMapProjection()
public java.util.Properties getMapProperties()
public mil.dtra.map.openmap.OmMapEditor getOmMapEditor()
public static void main()
protected java.util.Vector parseStartUp()
public void recenter()
public void removeNotify()
public void setLayers()
public void setMapProjection()
public java.awt.geom.Point2D unprojectDisplayPoint()
public void zoomFull()
public void zoomIn()
public void zoomIn()
public void zoomOut()
```

35.22.1 Field appProperties

```
protected java.util.Properties appProperties
```

Application properties that are set with `define()`.

35.22.2 Field `dataLocator`

`protected mil.dtra.map.openmap.DataLocator dataLocator`

A DataLocator can translate an interest in a data type and location into a pathname.

35.22.3 Field `mapProperties`

`protected java.util.Properties mapProperties`

The map properties. Note that these are the map properties that were set when the layer was defined.

35.22.4 Field `omMapEditor`

`protected mil.dtra.map.openmap.OmMapEditor omMapEditor`

The Map Editor. Recreated for each map project.

35.22.5 Field `omMapProjection`

`protected mil.dtra.map.openmap.OmMapProjection omMapProjection`

The OpenMap Projection.

35.22.6 Constructor `OmMapDisplay()`

`public
OmMapDisplay()`

OmMapDisplay constructor.

35.22.7 Method `define()`

```
public void
define(
    java.lang.String urlString,
    java.util.Properties appProperties,
    javax.naming.Context context
)
```

Defines the map display instance from an OM properties file pointed to by the url. Implements MapDisplay.

This code should be moved to MapEditor along with app/map properties, etc.

Parameters:

url - URL to properties file containing map definition

35.22.8 Method edit()

```
public void
edit()
```

Brings up a dialog for editing properties of the map. Implements MapDisplay.

35.22.9 Method fireProjectionChanged()

```
protected void
fireProjectionChanged()
```

Overrides MapBean.fireProjectionChanged(). Provide hook from MapBean projection change to MapDisplay, which uses a bound property. WARNING! We are not really tracking changes to OmMapProjection.

35.22.10 Method getAppProperties()

```
public java.util.Properties
getAppProperties()
```

Get the application properties.

Returns:

java.util.Properties

35.22.11 Method getDataLocator()

```
public mil.dtra.map.openmap.DataLocator
getDataLocator()
```

Get the data locator.

Returns:

mil.dtra.map.openmap.DataLocator

35.22.12 Method getLayers()

```
protected com.bbn.openmap.Layer[]
getLayers( java.util.Properties props )
```

Create map layers specified in the properties.

Parameters:

url - java.net.URL

Returns:

com.bbn.openmap.Layer[]

Exceptions:

java.io.IOException - The exception description.

35.22.13 Method getMapProjection()

```
public mil.dtra.map.MapProjection
getMapProjection()
```

Get the HPAC-type mapProjection. Implements MapDisplay.

35.22.14 Method getMapProperties()

```
public java.util.Properties
getMapProperties()
```

The map properties that were set by define().

Returns:

Properties

35.22.15 Method getOmMapEditor()

```
public mil.dtra.map.openmap.OmMapEditor
getOmMapEditor()
```

Get the map editor.

Returns:

mil.dtra.map.openmap.OmMapEditor

35.22.16 Method main()

```
public static void
main( java.lang.String[] args )
```

Exercise the OmMapDisplay.

Parameters:

args - java.lang.String[]

35.22.17 Method parseStartUp()

```
protected java.util.Vector
parseStartUp( java.lang.String active )
```

Parse the list of layers from the property containing the layers that should be displayed upon map startup. Directly ripped from OM.

Parameters:

active - a string containing a comma delimited list of startup layers

Returns:

Vector startup layers

35.22.18 Method recenter()

```
public void
recenter( java.awt.Point center )
```

Pan to make the specified device coordinate the center of the map. Implements MapDisplay.

35.22.19 Method removeNotify()

```
public void
removeNotify()
```

Override JComponent removeNotify (i.e., we no longer have a parent) so we can perform appropriate cleanup.

35.22.20 Method setLayers()

```
public void
setLayers( com.bbn.openmap.event.LayerEvent evt )
```

This is a hack for OM 3.6.2. Replace with LayerHandler.addLayerListener().

Parameters:

layers - com.bbn.openmap.Layer[]

35.22.21 Method setMapProjection()

```
public void
setMapProjection( mil.dtra.map.MapProjection mapProjection )
```

Set the HPAC-type map projection. Implements MapDisplay.

Parameters:

mapProjection - mil.dtra.map.MapProjection

35.22.22 Method unprojectDisplayPoint()

```
public java.awt.geom.Point2D
unprojectDisplayPoint( java.awt.Point display_pt )
```

Convenience method to convert the DC coordinate to a WC coordinate using the current map projection. Implements MapDisplay.

Parameters:

display_pt - DC display point

Returns:

projected WC point or null if the projection has not been defined

35.22.23 Method zoomFull()

```
public void
zoomFull()
```

Zoom to the full extent of the map.

35.22.24 Method zoomIn()

```
public void
zoomIn( java.awt.Point center )
```

Zoom in. Implements MapDisplay.

Parameters:

center - java.awt.Point

35.22.25 Method zoomIn()

```
public void
zoomIn( java.awt.Rectangle window )
```

Zoom to box. Implements MapDisplay.

Parameters:

window - java.awt.Rectangle

35.22.26 Method zoomOut()

```
public void
zoomOut( java.awt.Point center )
```

Zoom out. Implements MapDisplay.

Parameters:

center - java.awt.Point

35.23 Class OmMapEditor

```
mil.dtra.map.openmap
public OmMapEditor
extends JFrame
```

Map editor.

Fields:

```

protected boolean hasChanged
protected mil.dtra.hpac.help.HelpButtonBean helpBean
protected mil.dtra.map.openmap.LocationFileDialog locationFileDialog
protected mil.dtra.map.openmap.MapImageDialog mapImageDialog
protected java.lang.String mapProjectUrlString
protected mil.dtra.map.openmap.OmMapEditor.RemoveLayerHandler removeLayerHandler
protected mil.dtra.map.openmap.ShapeFileDialog shapeFileDialog

```

Methods:

```

public void addImageMenuItemActionPerformed()
public void addPointsMenuItemActionPerformed()
public void addShapeMenuItemActionPerformed()
public void addTileButtonActionPerformed()
public void generateMapMenuItemActionPerformed()
public boolean getHasChanged()
public com.bbn.openmap.gui.LayerHandler getLayerHandler()
public com.bbn.openmap.Layer getLayerHandlerLayer()
public mil.dtra.map.openmap.LocationFileDialog getLocationFileDialog()
public mil.dtra.map.openmap.MapImageDialog getMapImageDialog()
public java.lang.String getMapProjectUrlString()
public mil.dtra.map.openmap.ShapeFileDialog getShapeFileDialog()
protected void handleException()
public void helpContentsMenuItemActionPerformed()
public void insertMenuItemActionPerformed()
public static void main()
public void openMenuItemActionPerformed()
public void removeLayer()
public void removeLayerMenuItemActionPerformed()
public void saveMenuItemActionPerformed()
public void setDefaultMenuItemActionPerformed()
public void setHasChanged()
public void setLayerHandler()
public void setLayers()
public void setMapProjectUrlString()
public void useCurrentCenterButtonActionPerformed()

```

Inner Classes:

OmMapEditor.MapProjectFileFilter

35.23.1 Field hasChanged

protected boolean hasChanged

True if this map project has been changed by the user. Set to true by Add Tile, Add Layer, and Insert Map Project. Set to false by Save Map Project

35.23.2 Field helpBean

protected mil.dtra.hpac.help.HelpButtonBean **helpBean**

35.23.3 Field locationFileDialog

protected mil.dtra.map.openmap.LocationFileDialog **locationFileDialog**

35.23.4 Field mapImageDialog

protected mil.dtra.map.openmap.MapImageDialog **mapImageDialog**

35.23.5 Field mapProjectUrlString

protected java.lang.String **mapProjectUrlString**

The current map project URL. Should be set by OmMapDisplay.define() and save.

35.23.6 Field removeLayerHandler

protected mil.dtra.map.openmap.OmMapEditor.RemoveLayerHandler **removeLayerHandler**

35.23.7 Field shapeFileDialog

protected mil.dtra.map.openmap.ShapeFileDialog **shapeFileDialog**

35.23.8 Constructor OmMapEditor()

public
OmMapEditor()

OmMapEditor constructor.

35.23.9 Constructor OmMapEditor()

public
OmMapEditor(
 mil.dtra.map.openmap.OmMapDisplay **mapDisplay**,
 com.bbn.openmap.Layer[] **layers**,
 mil.dtra.map.openmap.OmMapEditor **defaultEditor**
)

Map editor GUI. Contains: . an OM LayerHandler . GUI to load HPAC-format tiles . file menu to load map project files.

Parameters:

defaultEditor - OmMapEditor - no longer used

The only thing we got from the old editor was the last path used. This has been updated to use the Util functions. defaultEditor should be dropped.

35.23.10 Method addImageMenuItemActionPerformed()

```
public void
addImageMenuItemActionPerformed()
```

Add a map image layer.

35.23.11 Method addPointsMenuItemActionPerformed()

```
public void
addPointsMenuItemActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Present dialog to allow the user to add a points layer to the mao.

35.23.12 Method addShapeMenuItemActionPerformed()

```
public void
addShapeMenuItemActionPerformed( java.awt.event.ActionEvent actionEvent )
```

User can add any ESRI shape file to the project.

35.23.13 Method addTileButtonActionPerformed()

```
public void
addTileButtonActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Add the requested tile.

35.23.14 Method generateMapMenuItemActionPerformed()

```
public void
generateMapMenuItemActionPerformed()
```

Image map server example.

35.23.15 Method getHasChanged()

```
public boolean
getHasChanged()
```

Get the hasChanged flag.

Returns:

boolean

35.23.16 Method getLayerHandler()

```
public com.bbn.openmap.gui.LayerHandler
getLayerHandler()
```

Return the LayerHandler property value.

Returns:

com.bbn.openmap.gui.LayerHandler

35.23.17 Method getLayerHandlerLayer()

```
public com.bbn.openmap.Layer
getLayerHandlerLayer( java.lang.String prefix )
```

Look in the layerHandler for a specified layer.

Parameters:

theClass - java.lang.Class

Returns:

com.bbn.openmap.Layer

35.23.18 Method getLocationFileDialog()

```
public mil.dtra.map.openmap.LocationFileDialog
getLocationFileDialog()
```

Get the File/Add Point Layer dialog.

Returns:

mil.dtra.map.openmap.LocationFileDialog

35.23.19 Method getMapImageDialog()

```
public mil.dtra.map.openmap.MapImageDialog
getMapImageDialog()
```

Get a handle on the dialog that helps the user add map image layers.

Returns:

mil.dtra.map.openmap.MapImageDialog

35.23.20 Method getMapProjectUrlString()

```
public java.lang.String
getMapProjectUrlString()
```

Get the project's URL.

Returns:

java.lang.String

35.23.21 Method getShapeFileDialog()

```
public mil.dtra.map.openmap.ShapeFileDialog
getShapeFileDialog()
```

Get the File/Add shape file dialog.

Returns:

mil.dtra.map.openmap.ShapeDialog

35.23.22 Method handleException()

```
protected void
handleException( java.lang.String msg )
```

Report problems to the user via a dialog.

Parameters:

msg - java.lang.String

35.23.23 Method helpContentsMenuActionPerformed()

```
public void
helpContentsMenuActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Show help.

35.23.24 Method insertMenuItemActionPerformed()

```
public void
insertMenuItemActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Insert a map project into the existing map project. Ignore map settings and just add the layer information.

35.23.25 Method main()

```
public static void
main( java.lang.String[] args )
```

main entrypoint - starts the part when it is run as an application

Parameters:

args - java.lang.String[]

35.23.26 Method openMenuItemActionPerformed()

```
public void
openMenuItemActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Load an OM properties file. This will load a new map definition.

35.23.27 Method removeLayer()

```
public void
removeLayer( com.bbn.openmap.Layer layer )
```

Remove the layer from the mapBean.

Parameters:

layer - com.bbn.openmap.Layer

35.23.28 Method removeLayerMenuActionPerformed()

```
public void
removeLayerMenuActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Remove the selected layer.

35.23.29 Method saveMenuItemActionPerformed()

```
public void
saveMenuItemActionPerformed()
```

Save the current map properties in a local file.

35.23.30 Method setDefaultMenuItemActionPerformed()

```
public void
setDefaultMenuItemActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Set the current map as the user's default map.

35.23.31 Method setHasChanged()

```
public void
setHasChanged( boolean newHasChanged )
```

This map has changed.

Parameters:

newHasChanged - boolean

35.23.32 Method setLayerHandler()

```
public void
setLayerHandler( com.bbn.openmap.gui.LayerHandler newValue )
```

Set the LayerHandler to a new value.

Parameters:

newValue - com.bbn.openmap.gui.LayerHandler

35.23.33 Method setLayers()

```
public void
setLayers( com.bbn.openmap.event.LayerEvent evt )
```

Hack for OM 3.6.2. See OmMapDisplay.setLayers().

Parameters:

evt - com.bbn.openmap.event.LayerEvent

35.23.34 Method setMapProjectUrlString()

```
public void
setMapProjectUrlString( java.lang.String newMapProjectUrlString )
```

Set the project's URL.

Parameters:

newMapProjectUrlString - java.lang.String

35.23.35 Method useCurrentCenterButtonActionPerformed()

```
public void
useCurrentCenterButtonActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Set the lat/lon text fields to the lat/lon of the current map center.

35.24 Class OmMapEditor.MapProjectFileFilter

```
mil.dtra.map.openmap
public OmMapEditor.MapProjectFileFilter
extends FileFilter
```

Map Project file filter.

Methods:

```
public boolean accept()
public java.lang.String getDescription()
```

35.24.1 Constructor OmMapEditor.MapProjectFileFilter()

```
public
OmMapEditor.MapProjectFileFilter()
```

35.24.2 Method accept()

```
public boolean
accept( java.io.File file )
```

35.24.3 Method getDescription()

```
public java.lang.String
getDescription()
```

35.25 Class OmMapEditor.MapProjectFileFilter

mil.dtra.map.openmap
public OmMapEditor.MapProjectFileFilter
 extends FileFilter

Map Project file filter.

Methods:

```
public boolean accept()
public java.lang.String getDescription()
```

35.25.1 Constructor OmMapEditor.MapProjectFileFilter()

```
public
OmMapEditor.MapProjectFileFilter()
```

35.25.2 Method accept()

```
public boolean
accept( java.io.File file )
```

35.25.3 Method getDescription()

```
public java.lang.String
getDescription()
```

35.26 Class OmMapProjection

```
mil.dtra.map.openmap
public OmMapProjection
extends Object
implements MapProjectionSerializable
```

An implementation of HPAC MapProjection using an OpenMap projection.

Methods:

```
public java.lang.Object clone()
public com.bbn.openmap.MapBean getMapBean()
public java.awt.Rectangle getViewPort()
public java.awt.geom.Rectangle2D getWindow()
public java.awt.Point projectWorldPoint()
public void setMapBean()
public void setViewPort()
public void setWindow()
public java.awt.geom.Point2D unprojectDisplayPoint()
```

35.26.1 Constructor OmMapProjection()

```
public
OmMapProjection()
```

OmMapProjection constructor.

35.26.2 Constructor OmMapProjection()

```
public
OmMapProjection( com.bbn.openmap.MapBean mapBean )
```

Constructor that sets the mapBean.

Parameters:

mapBean - com.bbn.openmap.MapBean

35.26.3 Method clone()

```
public java.lang.Object  
clone()
```

Overrides Cloneable.

Returns:

java.lang.Object

35.26.4 Method getMapBean()

```
public com.bbn.openmap.MapBean  
getMapBean()
```

Get the OM MapBean.

Returns:

com.bbn.openmap.proj.Proj

35.26.5 Method getViewPort()

```
public java.awt.Rectangle  
getViewPort()
```

Get the viewPort.

Returns:

java.awt.Rectangle a copy of the viewport in PDC.

35.26.6 Method getWindow()

```
public java.awt.geom.Rectangle2D  
getWindow()
```

Accessor for the *window* property.

Returns:

java.awt.geom.Rectangle2D WC window

35.26.7 Method **projectWorldPoint()**

```
public java.awt.Point
projectWorldPoint( java.awt.geom.Point2D pt )
```

Projects the WC point onto the PDC space.

Parameters:

pt - WC point to project

Returns:

java.awt.Point PDC projected point

35.26.8 Method **setMapBean()**

```
public void
setMapBean( com.bbn.openmap.MapBean newMapBean )
```

Set the OM mapBean.

Parameters:

newMapBeanProjection - com.bbn.openmap.proj.Proj

35.26.9 Method **setViewPort()**

```
public void
setViewPort( java.awt.Rectangle viewport )
```

Set the *viewport* property.

Parameters:

viewport - PDC viewport

35.26.10 Method **setWindow()**

```
public void
setWindow( java.awt.geom.Rectangle2D window )
```

This defines the map view transformation pipeline from world coordinates (WC) to physical device coordinates (PDC). WC points are longitude (x) and latitude (y) in decimal degrees. The WC window is specified as a Rectangle2D instance specifying the west (x) and south (y) boundaries

and the width and height in decimal degrees. The PDC viewport places the x and y at the left and top, respectively.

Parameters:

window - java.awt.geom.Rectangle2D

35.26.11 Method unprojectDisplayPoint()

```
public java.awt.geom.Point2D
unprojectDisplayPoint( java.awt.Point pt )
```

Unprojects the PDC point onto WC space.

Parameters:

pt - PDC point to unproject

Returns:

WC projected point

35.27 Class OMRAsterScaled

```
mil.dtra.map.openmap
public OMRAsterScaled
extends OMRAster
implements Serializable
```

OMRAsterScaled extends OMRAster by adding a second lat/lion point (lower right) and a scaled rendering.

Methods:

```
public boolean generate()
public float getLat2()
public float getLon2()
public void render()
public void setLat2()
public void setLon2()
```

35.27.1 Constructor OMRasterScaled()

```
public
OMRasterScaled(
    float lat1,
    float lon1,
    float lat2,
    float lon2,
    int width,
    int height,
    int[] pix
)
```

Constructor using an array of int.

Parameters:

- lat1 - float
- lon1 - float
- lat2 - float
- lon2 - float
- width - int
- height - int
- pix - int[]

35.27.2 Constructor OMRasterScaled()

```
public
OMRasterScaled(
    float lat1,
    float lon1,
    float lat2,
    float lon2,
    java.awt.Image image
)
```

Constructor with the nw and se corners and the image.

Parameters:

- lat1 - float
- lon1 - float
- lat2 - float
- lon2 - float
- image - sun.awt.Image

35.27.3 Constructor OMRasterScaled()

```
public
OMRasterScaled(
    float lat1,
    float lon1,
    float lat2,
    float lon2,
    javax.swing.ImageIcon imageIcon
)
```

Constructor with the nw and se corners and the image.

Parameters:

- lat1 - float
- lon1 - float
- lat2 - float
- lon2 - float
- imageIcon - javax.swing.ImageIcon

35.27.4 Method generate()

```
public boolean
generate( com.bbn.openmap.proj.Projection projection )
```

Prepare the graphics for rendering. For all image types, it positions the image relative to the projection.

Parameters:

- projection - com.bbn.openmap.proj.Projection

Returns:

- boolean

35.27.5 Method getLat2()

```
public float
getLat2()
```

Get lat2.

Returns:

- float

35.27.6 Method getLon2()

```
public float
getLon2()
```

Get lon2.

Returns:

float

35.27.7 Method render()

```
public void
render( java.awt.Graphics g )
```

Render the scaled raster on the java.awt.Graphics.

Parameters:

g - java.awt.Graphics to draw the image on.

35.27.8 Method setLat2()

```
public void
setLat2( float newLat2 )
```

Set the lat for the se corner.

Parameters:

newLat2 - float

35.27.9 Method setLon2()

```
public void
setLon2( float newLon2 )
```

Set the lon for the se corner.

Parameters:

newLon2 - float

35.28 Class PoLayer

```
mil.dtra.map.openmap
public PoLayer
extends AbstractShapeLayer
```

HPAC layer for tiles of vectors showing political boundaries.

Methods:

```
public java.awt.Color getFillColor()
```

35.28.1 Constructor PoLayer()

```
public
PoLayer()
```

RdLayer constructor.

35.28.2 Method getFillColor()

```
public java.awt.Color
getFillColor()
```

This layer has no fill.

Returns:

```
java.awt.Color
```

35.29 Class PopulationLayer

```
mil.dtra.map.openmap
public PopulationLayer
extends AbstractRasterLayer
```

OpenMap layer containing HPAC population data.

Fields:

```
protected static java.awt.Color[] colorTable
protected static int[] popTable
```

Methods:

```
public java.awt.Color getColorTableColor()
public static java.lang.String getPrefix()
public mil.dtra.map.openmap.OMRasterScaled read()
```

35.29.1 Field colorTable

```
protected static java.awt.Color[] colorTable
```

The colors of the color table.

35.29.2 Field popTable

```
protected static int[] popTable
```

The populations of the color table.

35.29.3 Constructor PopulationLayer()

```
public  
PopulationLayer()
```

HPAC-format population layer constructor.

35.29.4 Method getColorTableColor()

```
public java.awt.Color  
getColorTableColor( int pop )
```

Get the colorTable color for pop.

Parameters:

pop - int

Returns:

java.awt.Color

35.29.5 Method getPrefix()

```
public static java.lang.String  
getPrefix()
```

Get the layer's prefix (markerName). Id the layer without creating one.

Returns:

java.lang.String

35.29.6 Method **read()**

```
public mil.dtra.map.openmap.OMRasterScaled
read( java.lang.String fileName )
```

Read one HPAC pop file.

Parameters:

fileName - java.lang.String

Returns:

OMRasterScaled

35.30 Class **PpLayer**

```
mil.dtra.map.openmap
public PpLayer
extends AbstractShapeLayer
```

HPAC layer for tiles of vectors showing population centers.

Methods:

public java.awt.Color **getFillColor()**

35.30.1 Constructor **PpLayer()**

```
public
PpLayer()
```

RdLayer constructor.

35.30.2 Method **getFillColor()**

```
public java.awt.Color
getFillColor()
```

This layer has no fill.

Returns:

java.awt.Color

35.31 Class PptLayer

```
mil.dtra.map.openmap
public PptLayer
extends AbstractLocationLayer
```

Layer for map locations (sometimes called map symbols).

Methods:

```
public static java.lang.String getPrefix()
```

35.31.1 Constructor PptLayer()

```
public
PptLayer()
```

PptLayer constructor.

35.31.2 Method getPrefix()

```
public static java.lang.String
getPrefix()
```

Get the layer's prefix (markerName). Id the layer without creating one.

Returns:

```
java.lang.String
```

35.32 Class ProtectionLayer

```
mil.dtra.map.openmap
public ProtectionLayer
extends AbstractRasterLayer
```

OpenMap layer containing HPAC protection data.

Fields:

```
protected static java.awt.Color[] colorTable
protected static byte[] protTable
```

Methods:

```
public java.awt.Color getColorTableColor()
public static java.lang.String getPrefix()
public mil.dtra.map.openmap.OMRasterScaled read()
```

35.32.1 Field colorTable

```
protected static java.awt.Color[] colorTable
```

The colors of the color table.

35.32.2 Field protTable

```
protected static byte[] protTable
```

The protections of the color table

35.32.3 Constructor ProtectionLayer()

```
public  
ProtectionLayer()
```

HPAC-format protection layer constructor.

35.32.4 Method getColorTableColor()

```
public java.awt.Color  
getColorTableColor( byte prot )
```

Get the colorTable color for prot.

Parameters:

prot - int

Returns:

java.awt.Color

35.32.5 Method getPrefix()

```
public static java.lang.String  
getPrefix()
```

Get the layer's prefix (markerName). Id the layer without creating one.

Returns:

java.lang.String

35.32.6 Method **read()**

```
public mil.dtra.map.openmap.OMRasterScaled
read( java.lang.String fileName )
```

Read one HPAC protection file.

Parameters:

fileName - java.lang.String

Returns:

OMRasterScaled

35.33 Class **RdLayer**

```
mil.dtra.map.openmap
public RdLayer
extends AbstractShapeLayer
```

HPAC layer for tiles of road vectors.

Methods:

public java.awt.Color **getFillColor()**

35.33.1 Constructor **RdLayer()**

```
public
RdLayer()
```

RdLayer constructor.

35.33.2 Method **getFillColor()**

```
public java.awt.Color
getFillColor()
```

This layer has no fill.

Returns:

java.awt.Color

35.34 Class RrLayer

```
mil.dtra.map.openmap
public RrLayer
extends AbstractShapeLayer
```

HPAC layer for tiles of railroad vectors.

Methods:

```
public java.awt.Color getFillColor()
```

35.34.1 Constructor RrLayer()

```
public
RrLayer()
```

RdLayer constructor.

35.34.2 Method getFillColor()

```
public java.awt.Color
getFillColor()
```

This layer has no fill.

Returns:

```
java.awt.Color
```

35.35 Class ShapeFileDialog

```
mil.dtra.map.openmap
public ShapeFileDialog
extends JDialog
```

A dialog to get the description of a shape file.

Fields:

```
protected java.awt.Color fillColor
protected java.awt.Color lineColor
protected int returnValue
```

Methods:

```

public void browseShapeButton_ActionPerformed()
public void cancelButton_ActionPerformed()
public void fillColorButton_ActionPerformed()
public java.lang.String getDescription()
public java.awt.Color getFillColor()
public java.awt.Color getLineColor()
public int getReturnValue()
public java.lang.String getShapePathName()
public void lineColorButton_ActionPerformed()
public void okButton_ActionPerformed()
public void setFillColor()
public void setLineColor()
protected void setReturnValue()
public void shapeFileDialog_WindowClosing()

```

Inner Classes:

ShapeFileDialog.ShapeFileDialog

35.35.1 Field fillColor

protected java.awt.Color fillColor

35.35.2 Field lineColor

protected java.awt.Color lineColor

35.35.3 Field returnValue

protected int returnValue

35.35.4 Constructor ShapeFileDialog()

public
ShapeFileDialog(java.awt.Frame frame)

Constructor.

35.35.5 Method browseShapeButtonActionPerformed()

```
public void  
browseShapeButtonActionPerformed()
```

Browse for the file name.

35.35.6 Method cancelButtonActionPerformed()

```
public void  
cancelButtonActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Handle a cancel.

35.35.7 Method fillColorButtonActionPerformed()

```
public void  
fillColorButtonActionPerformed()
```

Get the fill color from the user.

35.35.8 Method getDescription()

```
public java.lang.String  
getDescription()
```

Get the shape layer's description.

Returns:

java.lang.String

35.35.9 Method getFillColor()

```
public java.awt.Color  
getFillColor()
```

Get the fill color.

Returns:

java.awt.Color

35.35.10 Method getLineColor()

```
public java.awt.Color
getLineColor()
```

Get the line color.

Returns:

```
java.awt.Color
```

35.35.11 Method getReturnValue()

```
public int
getReturnValue()
```

Get the dialog's return value OK or CANCEL.

Returns:

```
int
```

35.35.12 Method getShapePathName()

```
public java.lang.String
getShapePathName()
```

Get the shape file pathname.

Returns:

```
java.lang.String
```

35.35.13 Method lineColorButtonActionPerformed()

```
public void
lineColorButtonActionPerformed()
```

Get the line color from the user.

35.35.14 Method okButtonActionPerformed()

```
public void
okButtonActionPerformed( java.awt.event.ActionEvent actionEvent )
```

Handle the OK button.

35.35.15 Method **setFillColor()**

```
public void  
setFillColor( java.awt.Color newFillColor )
```

Set the fill color.

Parameters:

newFillColor - java.awt.Color

35.35.16 Method **setLineColor()**

```
public void  
setLineColor( java.awt.Color newLineColor )
```

Set the line color.

Parameters:

newLineColor - java.awt.Color

35.35.17 Method **setReturnValue()**

```
protected void  
setReturnValue( int newReturnValue )
```

Set the return value.

Parameters:

newReturnValue - int

35.35.18 Method **shapeFileDialog_WindowClosing()**

```
public void  
shapeFileDialog_WindowClosing( java.awt.event.WindowEvent windowEvent )
```

Dialog window closing.

35.36 Class ShapeFileDialog.ShapeFileFilter

```
mil.dtra.map.openmap
public ShapeFileDialog.ShapeFileFilter
extends FileFilter
```

Methods:

```
public boolean accept()
public java.lang.String getDescription()
```

35.36.1 Constructor ShapeFileDialog.ShapeFileFilter()

```
public
ShapeFileDialog.ShapeFileFilter()
```

35.36.2 Method accept()

```
public boolean
accept( java.io.File file )
```

35.36.3 Method getDescription()

```
public java.lang.String
getDescription()
```

35.37 Class ShapeFileDialog.ShapeFileFilter

```
mil.dtra.map.openmap
public ShapeFileDialog.ShapeFileFilter
extends FileFilter
```

Methods:

```
public boolean accept()
public java.lang.String getDescription()
```

35.37.1 Constructor ShapeFileDialog.ShapeFileFilter()

```
public
ShapeFileDialog.ShapeFileFilter()
```

35.37.2 Method accept()

```
public boolean
accept( java.io.File file )
```

35.37.3 Method getDescription()

```
public java.lang.String
getDescription()
```

35.38 Class ShapeLayer2

```
mil.dtra.map.openmap
public ShapeLayer2
extends ShapeLayer
implements SavableLayer
```

An extension of OM ShapeLayer: . setProperties throws exception . getProperties(props)

Fields:

```
protected java.lang.String indexPathName
protected mil.dtra.map.openmap.ShapeLayer2.ShapeLayerPalette palette
protected java.lang.String shapePathName
```

Methods:

```
public java.awt.Color getFillColor()
public java.awt.Component getGUI()
public java.lang.String getIndexPathName()
public java.awt.Color getLineColor()
public mil.dtra.map.openmap.ShapeLayer2.ShapeLayerPalette getPalette()
public void getProperties()
public java.lang.String getShapePathName()
protected void setFillColor()
protected void setIndexPathName()
protected void setLineColor()
public void setProperties()
protected void setShapePathName()
```

35.38.1 Field indexPathName

protected java.lang.String indexPathName

The pathname of the layer's index file.

35.38.2 Field palette

```
protected mil.dtra.map.openmap.ShapeLayer2.ShapeLayerPalette palette
```

The layer's palette; used by getGUI().

35.38.3 Field shapePathName

```
protected java.lang.String shapePathName
```

The pathname of the layer's shape file.

35.38.4 Constructor ShapeLayer2()

```
public  
ShapeLayer2()
```

ShapeLayer2 constructor.

35.38.5 Method getFillColor()

```
public java.awt.Color  
getFillColor()
```

Get the property value of the fill color.

Returns:

```
java.lang.String
```

35.38.6 Method getGUI()

```
public java.awt.Component  
getGUI()
```

Create a palette.

Returns:

```
java.awt.Component
```

35.38.7 Method getIndexPathName()

```
public java.lang.String
getIndexPathName()
```

Get the index file pathname.

Returns:

java.lang.String

35.38.8 Method getLineColor()

```
public java.awt.Color
getLineColor()
```

Get the property value of the line color.

Returns:

java.lang.String

35.38.9 Method getPalette()

```
public mil.dtra.map.openmap.ShapeLayer2.ShapeLayerPalette
getPalette()
```

Get the layer's palette.

Returns:

mil.dtra.map.openmap.ShapeLayerPalette

35.38.10 Method getProperties()

```
public void
getProperties( java.util.Properties props )
```

Add the properties of this layer to props.

Not implemented: pointImageURL shadowX shadowY

Parameters:

props - java.util.Properties

35.38.11 Method **getShapePathName()**

```
public java.lang.String  
getShapePathName()
```

Get the pathname of the shape file.

Returns:

java.lang.String

35.38.12 Method **setFillColor()**

```
protected void  
setFillColor( java.awt.Color newFillColor )
```

Set the property value of the fill color.

Parameters:

newFillColor - java.awt.Color

35.38.13 Method **setIndexPathName()**

```
protected void  
setIndexPathName( java.lang.String newIndexPathName )
```

Set the index file pathname.

Parameters:

newIndexPathName - java.lang.String

35.38.14 Method **setLineColor()**

```
protected void  
setLineColor( java.awt.Color newLineColor )
```

Set the property value for the line color.

Parameters:

newLineColor - java.awt.Color

35.38.15 Method setProperties()

```
public void
setProperties(
    java.lang.String prefix,
    java.util.Properties props
)
```

Override OM setProperties to report exceptions. Maintenance due to OpenMap upgrades should have a close look at this function. Note that OpenMap Layer.setProperties does not throw an exception.

Parameters:

props - java.util.Properties

Exceptions:

java.lang.RuntimeException - The exception description.

35.38.16 Method setShapePathName()

```
protected void
setShapePathName( java.lang.String newShapePathName )
```

Set the pathname of the shape file.

Parameters:

newShapePathName - java.lang.String

35.39 Class Util

```
mil.dtra.map.openmap
public Util
extends Object
```

Utilities. In this instance, cooperate with HPAC.

Methods:

```
public static java.lang.String getLastCurrentDir()
public static void setLastCurrentDir()
```

35.39.1 Constructor Util()

```
public
Util()
```

35.39.2 Method getLastCurrentDir()

```
public static java.lang.String
getLastCurrentDir()
```

35.39.3 Method setLastCurrentDir()

```
public static void
setLastCurrentDir( java.io.File f )
```

35.40 Class WtLayer

```
mil.dtra.map.openmap
public WtLayer
extends AbstractShapeLayer
```

HPAC layer for tiles of water vectors (mostly rivers).

Methods:

```
public java.awt.Color getFillColor()
```

35.40.1 Constructor WtLayer()

```
public
WtLayer()
```

WtLayer constructor.

35.40.2 Method getFillColor()

```
public java.awt.Color
getFillColor()
```

This layer has no fill.

Returns:

```
java.awt.Color
```

CHAPTER 36

Package mil.dtra.map.imagemap

Extends the map framework with an implementation based on images.

Classes:

ImageMap
ImageMapDisplay

Exceptions:

ImageMapException

Errors:

ImageMapException

36.1 Class ImageMap

```
mil.dtra.map.imagemap
public ImageMap
extends Object
```

This class encapsulates a rectangularly projected map image with the bounds (WC window) necessary to accurately display map locations on the image. Map image definitions are specified in a properties file identifying the image file (which should be in the same URL directory as the properties file) and the map bounds.

Example contents of the properties file are:

image=conus2.gif mapWindow=-130,20,70,40

The *mapWindow* is the WC window, as described in `mil.dtra.map.MapProjection`.

Fields:

```
protected java.awt.Image fImage
protected mil.dtra.map.RectangularProjection fMapProjection
protected java.awt.geom.Rectangle2D fOriginalWindow
```

```
public static final java.lang.String IMAGE_MAP
public static final java.lang.String PROP_image
public static final java.lang.String PROP_mapWindow
```

Methods:

```
public final java.awt.Image getImage()
public final mil.dtra.map.MapProjection getMapProjection()
public final java.awt.geom.Rectangle2D getMapWindow()
public java.awt.geom.Rectangle2D getOriginalWindow()
protected void handleException()
public void init()
```

36.1.1 Field fImage

protected java.awt.Image **fImage**

36.1.2 Field fMapProjection

protected mil.dtra.map.RectangularProjection **fMapProjection**

36.1.3 Field fOriginalWindow

protected java.awt.geom.Rectangle2D **fOriginalWindow**

36.1.4 Field IMAGE_MAP

public static final java.lang.String **IMAGE_MAP**

36.1.5 Field PROP_image

public static final java.lang.String **PROP_image**

36.1.6 Field PROP_mapWindow

public static final java.lang.String **PROP_mapWindow**

36.1.7 Constructor ImageMap()

```
public
ImageMap()
```

Default constructor. Must call `init()`.

36.1.8 Constructor ImageMap()

```
public
ImageMap( java.lang.String props_url )
```

Constructs from the per-instance properties. Calls `init()`.

Exceptions:

`ImageMapException` - if the image could not be processed

36.1.9 Method getImage()

```
public final java.awt.Image
getImage()
```

Returns the image.

Returns:

reference to the image object

36.1.10 Method getMapProjection()

```
public final mil.dtra.map.MapProjection
getMapProjection()
```

Returns:

copy of the map projection or null if it has not been defined

36.1.11 Method getMapWindow()

```
public final java.awt.geom.Rectangle2D
getMapWindow()
```

Convenience method to return the window from the projection.

Returns:

copy of the map projection WC window or null if the projection has not been defined

36.1.12 Method `getOriginalWindow()`

```
public java.awt.geom.Rectangle2D
getOriginalWindow()
```

Returns:

reference to original window

36.1.13 Method `handleException()`

```
protected void
handleException( java.lang.String message )
```

Dumps the exception message to the stderr log before propagating it.

36.1.14 Method `init()`

```
public void
init( java.lang.String props_url )
```

Initializes this object from the per-instance properties at the specified URL.

Exceptions:

`ImageMapException` - if the image could not be processed

36.2 Class `ImageMapDisplay`

```
mil.dtra.map.imagemap
public ImageMapDisplay
extends AbstractMapDisplay
```

Extension of `AbstractMapDisplay` built around `ImageMap`.

Fields:

```
protected java.awt.Image fDisplayImage
protected mil.dtra.map.imagemap.ImageMap fImageMap
public static final java.lang.String IMAGE_MAP_DISPLAY
public static final java.lang.String IMAGE_MAP_DISPLAY_TITLE
public static final double MAX_ZOOM_OUT_SCALE
public static final java.lang.String PROP_imageMap
```

Methods:

```

protected java.awt.Image createDisplayImage()
public void define()
public void edit()
public final mil.dtra.map.imagemap.ImageMap getImageMap()
public java.awt.Dimension getPreferredSize()
protected void loadCursor()
protected void normalizeProjection()
public void paintComponent()
public void setImageMap()
public void setMapProjection()
public void zoomFull()

```

36.2.1 Field `fDisplayImage`

`protected java.awt.Image fDisplayImage`

36.2.2 Field `fImageMap`

`protected mil.dtra.map.imagemap.ImageMap fImageMap`

36.2.3 Field `IMAGE_MAP_DISPLAY`

`public static final java.lang.String IMAGE_MAP_DISPLAY`

36.2.4 Field `IMAGE_MAP_DISPLAY_TITLE`

`public static final java.lang.String IMAGE_MAP_DISPLAY_TITLE`

36.2.5 Field `MAX_ZOOM_OUT_SCALE`

`public static final double MAX_ZOOM_OUT_SCALE`

Maximum over-zoom-out allowed to avoid memory overflow problems in the JVM

36.2.6 Field `PROP_imageMap`

`public static final java.lang.String PROP_imageMap`

36.2.7 Constructor ImageMapDisplay()

```
public
ImageMapDisplay()
```

Default constructor.

36.2.8 Constructor ImageMapDisplay()

```
public
ImageMapDisplay( mil.dtra.map.imagemap.ImageMap image_map )
```

Constructs with the specified `ImageMap` object. Calls `setImageMap()`.

36.2.9 Method createDisplayImage()

```
protected java.awt.Image
createDisplayImage()
```

Builds the image for the current map projection and view transformation. Uses a `CropImageFilter` in a `FilteredImageSource` to build the image from the source image.

Returns:

image for this map projection and view transformation

36.2.10 Method define()

```
public void
define(
    java.lang.String url,
    java.util.Properties props,
    javax.naming.Context context
)
```

Defines the map display instance from the properties, the contents of which are dependent upon the derived class.

Parameters:

- url - URL to properties file containing map definition
- props - application level properties which might be used to specify map display properties; can be null
- context - naming context from which server references may be obtained; can be null

36.2.11 Method edit()

```
public void
edit()
```

Noop implementation.

36.2.12 Method getImageMap()

```
public final mil.dtra.map.imagemap.ImageMap
getImageMap()
```

Accessor for the *imageMap* property.

Returns:

reference to the map image object.

36.2.13 Method getPreferredSize()

```
public java.awt.Dimension
getPreferredSize()
```

Overrides *MapDisplay.getPreferredSize()* to return the size of the image.

Returns:

preferred size

36.2.14 Method loadCursor()

```
protected void
loadCursor( boolean wait_flag )
```

Sets a wait or default cursor in the window containing this.

Parameters:

wait_flag - if true set the wait cursor, otherwise set the default cursor

36.2.15 Method normalizeProjection()

```
protected void
normalizeProjection( mil.dtra.map.MapProjection projection )
```

Disallow unzooms past the MAX_ZOOM_OUT_SCALE based on the source image.

Parameters:

projection - projection object to normalize

36.2.16 Method paintComponent()

```
public void
paintComponent( java.awt.Graphics gfx )
```

Overrides JComponent.paintComponent() to render the image, creating via createDisplayImage() if necessary.

36.2.17 Method setImageMap()

```
public void
setImageMap( mil.dtra.map.imagemap.ImageMap image_map )
```

Accessor for the *imageMap* property. Stores a copy of the object reference. Updates the map projection.

Parameters:

image_map - map image object reference to store

36.2.18 Method setMapProjection()

```
public void
setMapProjection( mil.dtra.map.MapProjection projection )
```

Overrides AbstractMapDisplay.setMapProjection() to first clear the displayed image and then call super.setMapProjection().

Parameters:

projection - projection object to copy

36.2.19 Method zoomFull()

```
public void
zoomFull()
```

36.3 Exception ImageMapException

```
mil.dtra.map.imagemap
public ImageMapException
extends IOException
```

36.3.1 Constructor ImageMapException()

```
public
ImageMapException()
```

36.3.2 Constructor ImageMapException()

```
public
ImageMapException( java.lang.String message )
```

36.4 Exception ImageMapException

```
mil.dtra.map.imagemap
public ImageMapException
extends IOException
```

36.4.1 Constructor ImageMapException()

```
public
ImageMapException()
```

36.4.2 Constructor ImageMapException()

```
public
ImageMapException( java.lang.String message )
```

CHAPTER 37

Package mil.dtra.units

Provides a standardized mechanism for conversion of values among sets of units, implementations of common unit sets, and facilities for managing values associated with a unit.

Interfaces:

- StandardUnits
- Units

Classes:

- AbstractUnits
- AltitudeUnits
- AltitudeValue
- AreaUnits
- AreaValue
- DensityUnits
- DensityValue
- DistanceUnits
- DistanceValue
- HeadingUnits
- HeadingValue
- HeatFluxUnits
- HeatFluxValue
- HumidityUnits
- HumidityValue
- IsotopicReleaseRateUnits
- IsotopicReleaseRateValue
- MassRateUnits
- MassRateValue
- MassUnits
- MassValue
- NoUnits
- NoUnitsIntValue
- NoUnitsValue
- PowerUnits

PowerValue
 PressureUnits
 PressureValue
 RadiationDoseUnits
 RadiationDoseValue
 RadioActivityUnits
 RadioActivityValue
 ShieldUnits
 ShieldValue
 SmassUnits
 SmassValue
 SpeedUnits
 SpeedValue
 StoredValue
 TemperatureUnits
 TemperatureValue
 TimeUnits
 TimeValue
 Units.UnitDef
 UnitsValue
 UnitsValue.SpecialValue
 VolumeUnits
 VolumeValue
 YieldUnits
 YieldValue

Exceptions:

UnitException

Errors:

UnitException

37.1 Interface StandardUnits

mil.dtra.units
 public interface **StandardUnits**

Standard singleton unit conversion objects.

Fields:

```

public static final mil.dtra.units.Units ALTITUDE_UNITS
public static final mil.dtra.units.Units AREA_UNITS
public static final mil.dtra.units.Units DENSITY_UNITS

```

```

public static final mil.dtra.units.Units DISTANCE_UNITS
public static final mil.dtra.units.Units HEADING_UNITS
public static final mil.dtra.units.Units HEAT_FLUX_UNITS
public static final mil.dtra.units.Units HUMIDITY_UNITS
public static final mil.dtra.units.Units ISOTOPIC_RELEASE_RATE_UNITS
public static final mil.dtra.units.Units MASS_RATE_UNITS
public static final mil.dtra.units.Units MASS_UNITS
public static final mil.dtra.units.Units NO_UNITS
public static final mil.dtra.units.Units POWER_UNITS
public static final mil.dtra.units.Units PRESSURE_UNITS
public static final mil.dtra.units.Units RADIATION_DOSE_UNITS
public static final mil.dtra.units.Units RADIO_ACTIVITY_UNITS
public static final mil.dtra.units.Units SHIELD_UNITS
public static final mil.dtra.units.Units SMASS_UNITS
public static final mil.dtra.units.Units SPEED_UNITS
public static final mil.dtra.units.Units TEMPERATURE_UNITS
public static final mil.dtra.units.Units TIME_UNITS
public static final mil.dtra.units.Units VOLUME_UNITS
public static final mil.dtra.units.Units YIELD_UNITS

```

37.1.1 Field ALTITUDE_UNITS

public static final mil.dtra.units.Units **ALTITUDE_UNITS**

Altitude units converter

37.1.2 Field AREA_UNITS

public static final mil.dtra.units.Units **AREA_UNITS**

Area units converter

37.1.3 Field DENSITY_UNITS

public static final mil.dtra.units.Units **DENSITY_UNITS**

Density units converter

37.1.4 Field DISTANCE_UNITS

public static final mil.dtra.units.Units **DISTANCE_UNITS**

Distance units converter

37.1.5 Field HEADING_UNITS

public static final mil.dtra.units.Units **HEADING_UNITS**

Heading units converter

37.1.6 Field HEAT_FLUX_UNITS

public static final mil.dtra.units.Units **HEAT_FLUX_UNITS**

Heat flux units converter

37.1.7 Field HUMIDITY_UNITS

public static final mil.dtra.units.Units **HUMIDITY_UNITS**

Humidity units converter

37.1.8 Field ISOTOPIC_RELEASE_RATE_UNITS

public static final mil.dtra.units.Units **ISOTOPIC_RELEASE_RATE_UNITS**

Isotopic release rate units converter

37.1.9 Field MASS_RATE_UNITS

public static final mil.dtra.units.Units **MASS_RATE_UNITS**

Mass rate units converter

37.1.10 Field MASS_UNITS

public static final mil.dtra.units.Units **MASS_UNITS**

Mass units converter

37.1.11 Field NO_UNITS

public static final mil.dtra.units.Units **NO_UNITS**

Null or nop units converter

37.1.12 Field POWER_UNITS

public static final mil.dtra.units.Units **POWER_UNITS**

Power units converter

37.1.13 Field PRESSURE_UNITS

public static final mil.dtra.units.Units **PRESSURE_UNITS**

Pressure units converter

37.1.14 Field RADIATION_DOSE_UNITS

public static final mil.dtra.units.Units **RADIATION_DOSE_UNITS**

Radiation dose units converter

37.1.15 Field RADIO_ACTIVITY_UNITS

public static final mil.dtra.units.Units **RADIO_ACTIVITY_UNITS**

Radioactivity units converter

37.1.16 Field SHIELD_UNITS

public static final mil.dtra.units.Units **SHIELD_UNITS**

Shield units converter

37.1.17 Field SMASS_UNITS

public static final mil.dtra.units.Units **SMASS_UNITS**

Smass units converter

37.1.18 Field SPEED_UNITS

public static final mil.dtra.units.Units **SPEED_UNITS**

Speed units converter

37.1.19 Field TEMPERATURE_UNITS

public static final mil.dtra.units.Units **TEMPERATURE_UNITS**

Temperature units converter

37.1.20 Field TIME_UNITS

public static final mil.dtra.units.Units **TIME_UNITS**

Time units converter

37.1.21 Field VOLUME_UNITS

public static final mil.dtra.units.Units **VOLUME_UNITS**

Volume units converter

37.1.22 Field YIELD_UNITS

public static final mil.dtra.units.Units **YIELD_UNITS**

Yield units converter

37.2 Interface Units

mil.dtra.units

public interface **Units**

Definition of the contract for unit conversion classes.

Methods:

```
public void convert()
public void convert()
public double convert()
public java.lang.String findDefaultUnit()
public java.util.Collection getUnitDefs()
public boolean hasUnit()
```

Inner Classes:

Units.UnitDef

37.2.1 Method convert()

```
public void
convert(
    double value,
    java.lang.String input_unit,
    mil.dtra.units.StoredValue stored_value
)
```

Converts a stored value from its unit to another using the maximum number of significant digits and assuming a real value.

Parameters:

value - value to convert

input_unit - unit for the input value

stored_value - object containing output unit and into which the converted value is stored

Exceptions:

UnitException - if either of the units is invalid or the value is "blank" (Double.NaN) and blanks are not allowed

37.2.2 Method convert()

```
public void
convert(
    double value,
    java.lang.String input_unit,
    mil.dtra.units.StoredValue stored_value,
    int significant_digits,
    boolean integer_flag
)
```

Converts a value from one unit to another.

Parameters:

value - value to convert
 input_unit - unit for the input value
 stored_value - object containing output unit and into which the converted value is stored
 significant_digits - number of significant digits
 integer_flag - true if the result is to be integer

Exceptions:

UnitException - if either of the units is invalid or the value is "blank" (Double.NaN) and blanks are not allowed

37.2.3 Method convert()

```
public double
convert(
    double value,
    java.lang.String input_unit,
    java.lang.String output_unit
)
```

Converts a value from one unit to another using the maximum number of significant digits and assuming a real value.

Parameters:

value - value specified in the input unit

input_unit - input unit

output_unit - output unit

Returns:

value in output unit

Exceptions:

UnitException - if either of the units is invalid or the value is "blank" (Double.NaN) and blanks are not allowed

37.2.4 Method convert()

```
public double
convert(
    double value,
    java.lang.String input_unit,
    java.lang.String output_unit,
    int significant_digits,
    boolean integer_flag
)
```

Converts a value from one unit to another.

Parameters:

value - value specified in the input unit

input_unit - input unit

output_unit - output unit

significant_digits - number of significant digits

integer_flag - true if the result is to be integer

Returns:

value in output unit

Exceptions:

UnitException - if either of the units is invalid or the value is "blank" (Double.NaN) and blanks are not allowed

37.2.5 Method convert()

```
public double
convert(
    mil.dtra.units.StoredValue stored_value,
    java.lang.String output_unit
)
```

Converts a stored value from its unit to another using the maximum number of significant digits and assuming a real value.

Parameters:

- stored_value - input value and unit
- output_unit - output unit

Returns:

- value in output unit

Exceptions:

- UnitException - if either of the units is invalid or the value is "blank" (Double.NaN) and blanks are not allowed

37.2.6 Method convert()

```
public double
convert(
    mil.dtra.units.StoredValue stored_value,
    java.lang.String output_unit,
    int significant_digits,
    boolean integer_flag
)
```

Converts a value from one unit to another.

Parameters:

- stored_value - input value and unit
- output_unit - output unit
- significant_digits - number of significant digits
- integer_flag - true if the result is to be integer

Returns:

- value in output units

Exceptions:

UnitException - if either of the units is invalid or the value is "blank" (Double.NaN) and blanks are not allowed

37.2.7 Method findDefaultUnit()

```
public java.lang.String
findDefaultUnit()
```

Searches for a unit definition with a factor of 1.0.

Returns:

unit name if found, null otherwise

37.2.8 Method getUnitDefs()

```
public java.util.Collection
getUnitDefs()
```

Returns a collection of the unit definitions.

Returns:

collection of UnitDef objects

37.2.9 Method hasUnit()

```
public boolean
hasUnit( java.lang.String unit )
```

Determines if the specified unit is valid for this object.

Returns:

true if the unit is valid, false otherwise

37.3 Class Units.UnitDef

```
mil.dtra.units
public static final Units.UnitDef
extends Object
```

Methods:

```
public final double getFactor()
public final java.lang.String getLongName()
public final java.lang.String getShortName()
```

37.3.1 Constructor Units.UnitDef()

```
public
Units.UnitDef(
    java.lang.String short_name,
    java.lang.String long_name,
    double factor
)
```

37.3.2 Method getFactor()

```
public final double
getFactor()
```

37.3.3 Method getLongName()

```
public final java.lang.String
getLongName()
```

37.3.4 Method getShortName()

```
public final java.lang.String
getShortName()
```

37.4 Class AbstractUnits

```
mil.dtra.units
public abstract AbstractUnits
extends Object
implements Units,
```

This abstract class provides much of the functionality for derived unit type classes as defined by the `Units` interface.

Methods:

```

public void convert()
public void convert()
public double convert()
public double convert()
public double convert()
public double convert()
protected double convertValue()
public java.lang.String findDefaultUnit()
protected mil.dtra.units.Units.UnitDef getUnitDef()
public java.util.Collection getUnitDefs()
public boolean hasUnit()

```

37.4.1 Constructor AbstractUnits()

protected
AbstractUnits(mil.dtra.units.Units.UnitDef[] unit_defs)

General constructor in which the unit definitions and all properties are specified. The default unit is the one with the factor of 1.0.

Parameters:

- unit_defs - array of unit definitions
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- upper_limit - value of the upper limit in default units

37.4.2 Method convert()

public void
convert(

- double value,
- java.lang.String input_unit,
- mil.dtra.units.StoredValue stored_value
-)

Sets a `StoredValue` value after converting from the `input_unit` to the `StoredValue`'s current unit using the maximum number of significant digits and assuming a real value. This is useful when assigning a `StoredValue` from a value with fixed units.

Parameters:

value - value to convert

input_unit - unit for the input value

stored_value - object containing output unit and into which the converted value is stored

Exceptions:

UnitException - if unit is invalid

37.4.3 Method convert()

```
public void
convert(
    double value,
    java.lang.String input_unit,
    mil.dtra.units.StoredValue stored_value,
    int significant_digits,
    boolean integer_flag
)
```

Sets a `StoredValue` value after converting from the `input_unit` to the `StoredValue`'s current unit.

Parameters:

value - value to convert

input_unit - unit for the input value

stored_value - object containing output unit and into which the converted value is stored

significant_digits - number of significant digits

integer_flag - true if the result is to be integer

Exceptions:

UnitException - if unit is invalid

37.4.4 Method convert()

```
public double
convert(
    double value,
    java.lang.String input_unit,
    java.lang.String output_unit
)
```

Converts a value from one unit to another using the maximum number of significant digits and assuming a real value.

Parameters:

- value - value specified in the input unit
- input_unit - input unit
- output_unit - output unit

Returns:

value in output units or Double.NaN for NaN values

Exceptions:

UnitException - if either of the units is invalid

37.4.5 Method convert()

```
public double
convert(
    double value,
    java.lang.String input_unit,
    java.lang.String output_unit,
    int significant_digits,
    boolean integer_flag
)
```

Converts a value from one unit to another. Calls DataUtils.toMaxSigDigits() on the result of convertValue(). Subclasses should override convertValue().

Parameters:

- value - value specified in the input unit
- input_unit - input unit
- output_unit - output unit
- significant_digits - number of significant digits
- integer_flag - true if the result is to be integer

Returns:

value in output units or Double.NaN for NaN values

Exceptions:

UnitException - if either of the units is invalid

37.4.6 Method convert()

```
public double
convert(
    mil.dtra.units.StoredValue stored_value,
    java.lang.String output_unit
)
```

Converts a stored value from its unit to another using the maximum number of significant digits and assuming a real value. This is useful when assigning a value with fixed units from a StoredValue.

Parameters:

- stored_value - input value and unit
- output_unit - output unit

Returns:

value in output units or Double.NaN for NaN values

Exceptions:

- UnitException - if the unit is invalid

37.4.7 Method convert()

```
public double
convert(
    mil.dtra.units.StoredValue stored_value,
    java.lang.String output_unit,
    int significant_digits,
    boolean integer_flag
)
```

Converts a value from one unit to another.

Parameters:

- stored_value - input value and unit
- output_unit - output unit
- significant_digits - number of significant digits
- integer_flag - true if the result is to be integer

Returns:

value in output units or Double.NaN for NaN values

Exceptions:

- UnitException - if unit is invalid

37.4.8 Method convertValue()

```
protected double
convertValue(
    double value,
    java.lang.String input_unit,
    java.lang.String output_unit
)
```

Overridable by subclasses wishing to do something special.

Parameters:

- value - value specified in the input units
- input_units - input units
- output_units - output units

Returns:

value in output units or Double.NaN for NaN values

Exceptions:

- UnitException - if either of the units is invalid

37.4.9 Method findDefaultUnit()

```
public java.lang.String
findDefaultUnit()
```

Searches for a unit definition with a factor of 1.0.

Returns:

- unit name if found, null otherwise

37.4.10 Method getUnitDef()

```
protected mil.dtra.units.Units.UnitDef
getUnitDef( java.lang.String unit )
```

Retrieves the UnitDef object for the specified unit.

Parameters:

- unit - name of the unit

Returns:

unit definition object

Exceptions:

IllegalArgumentException - if the parameter is null

UnitException - if the unit is not specified for this object or the unit factor is zero

37.4.11 Method getUnitDefs()

```
public java.util.Collection  
getUnitDefs()
```

Returns a collection of the unit definitions.

Returns:

collection of UnitDef objects

37.4.12 Method hasUnit()

```
public boolean  
hasUnit( java.lang.String unit )
```

Determines if the specified unit is valid for this object.

Returns:

true if the unit is valid, false otherwise

37.5 Class AltitudeUnits

```
mil.dtra.units  
public AltitudeUnits  
extends AbstractUnits
```

Extension of AbstractUnits for altitude units.

Fields:

```
public static final java.lang.String FT  
public static final java.lang.String KFT  
public static final java.lang.String KM  
public static final java.lang.String KYD  
public static final java.lang.String M  
public static final java.lang.String MI  
public static final java.lang.String NMI  
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS  
public static final java.lang.String YD
```

37.5.1 Field FT

public static final java.lang.String FT

37.5.2 Field KFT

public static final java.lang.String KFT

37.5.3 Field KM

public static final java.lang.String KM

37.5.4 Field KYD

public static final java.lang.String KYD

37.5.5 Field M

public static final java.lang.String M

37.5.6 Field MI

public static final java.lang.String MI

37.5.7 Field NMI

public static final java.lang.String NMI

37.5.8 Field UNIT_DEFS

public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS

37.5.9 Field YD

public static final java.lang.String YD

37.5.10 Constructor AltitudeUnits()

public
AltitudeUnits()

37.6 Class AltitudeValue

```
mil.dtra.units
public AltitudeValue
extends UnitsValue
```

Extension of UnitsValue using AltitudeUnits.

37.6.1 Constructor AltitudeValue()

```
public
AltitudeValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.6.2 Constructor AltitudeValue()

```
public
AltitudeValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.6.3 Constructor AltitudeValue()

```
public
AltitudeValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.6.4 Constructor AltitudeValue()

```
public
AltitudeValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.6.5 Constructor AltitudeValue()

```
public
AltitudeValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.7 Class AreaUnits

```
mil.dtra.units
public AreaUnits
extends AbstractUnits
```

Extension of AbstractUnits for area units.

Fields:

```
public static final java.lang.String CM2
public static final java.lang.String FT2
public static final java.lang.String IN2
public static final java.lang.String KFT2
public static final java.lang.String KM2
```

```
public static final java.lang.String KYD2
public static final java.lang.String M2
public static final java.lang.String MI2
public static final java.lang.String NMI2
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
public static final java.lang.String YD2
```

37.7.1 Field CM2

```
public static final java.lang.String CM2
```

37.7.2 Field FT2

```
public static final java.lang.String FT2
```

37.7.3 Field IN2

```
public static final java.lang.String IN2
```

37.7.4 Field KFT2

```
public static final java.lang.String KFT2
```

37.7.5 Field KM2

```
public static final java.lang.String KM2
```

37.7.6 Field KYD2

```
public static final java.lang.String KYD2
```

37.7.7 Field M2

```
public static final java.lang.String M2
```

37.7.8 Field MI2

```
public static final java.lang.String MI2
```

37.7.9 Field NMI2

```
public static final java.lang.String NMI2
```

37.7.10 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.7.11 Field YD2

```
public static final java.lang.String YD2
```

37.7.12 Constructor AreaUnits()

```
public  
AreaUnits()
```

37.8 Class AreaValue

```
mil.dtra.units  
public AreaValue  
extends UnitsValue
```

Extension of UnitsValue using AreaUnits.

37.8.1 Constructor AreaValue()

```
public  
AreaValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is a problem with the UnitsConverter

37.8.2 Constructor AreaValue()

```
public
AreaValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.8.3 Constructor AreaValue()

```
public
AreaValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.8.4 Constructor AreaValue()

```
public
AreaValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.8.5 Constructor AreaValue()

```
public
AreaValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

lower_limit - value of the lower limit in default units
 lower_limit_mode - one of EX,INCLUSIVE_LIMIT
 upper_limit - value of the upper limit in default units
 upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.9 Class DensityUnits

```

mil.dtra.units
public DensityUnits
extends AbstractUnits
  
```

Extension of `AbstractUnits` for density units.

Fields:

```

public static final java.lang.String G_PER_CM3
public static final java.lang.String KG_PER_M3
public static final java.lang.String LB_PER_FT3
public static final java.lang.String LB_PER_IN3
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
  
```

37.9.1 Field G_PER_CM3

```
public static final java.lang.String G_PER_CM3
```

37.9.2 Field KG_PER_M3

```
public static final java.lang.String KG_PER_M3
```

37.9.3 Field LB_PER_FT3

```
public static final java.lang.String LB_PER_FT3
```

37.9.4 Field LB_PER_IN3

```
public static final java.lang.String LB_PER_IN3
```

37.9.5 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.9.6 Constructor DensityUnits()

```
public  
DensityUnits()
```

37.10 Class DensityValue

```
mil.dtra.units  
public DensityValue  
extends UnitsValue
```

Extension of UnitsValue using DensityUnits.

37.10.1 Constructor DensityValue()

```
public  
DensityValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.10.2 Constructor DensityValue()

```
public  
DensityValue(  
    double value,  
    java.lang.String unit  
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.10.3 Constructor DensityValue()

```
public
DensityValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.10.4 Constructor DensityValue()

```
public
DensityValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise
 integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.10.5 Constructor DensityValue()

```
public
DensityValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.11 Class DistanceUnits

```
mil.dtra.units
public DistanceUnits
extends AbstractUnits
```

Extension of AbstractUnits for distance units.

Fields:

```

public static final java.lang.String CM
public static final java.lang.String FT
public static final java.lang.String IN
public static final java.lang.String KFT
public static final java.lang.String KM
public static final java.lang.String KYD
public static final java.lang.String M
public static final java.lang.String MI
public static final java.lang.String MM
public static final java.lang.String NMI
public static final java.lang.String UM
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
public static final java.lang.String YD

```

37.11.1 Field CM

public static final java.lang.String **CM**

37.11.2 Field FT

public static final java.lang.String **FT**

37.11.3 Field IN

public static final java.lang.String **IN**

37.11.4 Field KFT

public static final java.lang.String **KFT**

37.11.5 Field KM

public static final java.lang.String **KM**

37.11.6 Field KYD

public static final java.lang.String **KYD**

37.11.7 Field M

public static final java.lang.String **M**

37.11.8 Field MI

```
public static final java.lang.String MI
```

37.11.9 Field MM

```
public static final java.lang.String MM
```

37.11.10 Field NMI

```
public static final java.lang.String NMI
```

37.11.11 Field UM

```
public static final java.lang.String UM
```

37.11.12 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.11.13 Field YD

```
public static final java.lang.String YD
```

37.11.14 Constructor DistanceUnits()

```
public  
DistanceUnits()
```

37.12 Class DistanceValue

```
mil.dtra.units  
public DistanceValue  
extends UnitsValue
```

Extension of UnitsValue using DistanceUnits.

37.12.1 Constructor DistanceValue()

```
public
DistanceValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.12.2 Constructor DistanceValue()

```
public
DistanceValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.12.3 Constructor DistanceValue()

```
public
DistanceValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.12.4 Constructor DistanceValue()

```
public
DistanceValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise
 integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.12.5 Constructor DistanceValue()

```
public
DistanceValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
```

```
int lower_limit_mode,
double upper_limit,
int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.13 Class HeadingUnits

```
mil.dtra.units
public HeadingUnits
extends AbstractUnits
```

Extension of `AbstractUnits` for heading units.

Fields:

```
public static final java.lang.String DEG
public static final java.lang.String RAD
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.13.1 Field DEG

```
public static final java.lang.String DEG
```

37.13.2 Field RAD

```
public static final java.lang.String RAD
```

37.13.3 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.13.4 Constructor HeadingUnits()

```
public  
HeadingUnits()
```

37.14 Class HeadingValue

```
mil.dtra.units  
public HeadingValue  
extends UnitsValue
```

Extension of UnitsValue using HeadingUnits.

37.14.1 Constructor HeadingValue()

```
public  
HeadingValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.14.2 Constructor HeadingValue()

```
public  
HeadingValue(  
    double value,  
    java.lang.String unit  
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.14.3 Constructor HeadingValue()

```
public
HeadingValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.14.4 Constructor HeadingValue()

```
public
HeadingValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise
 integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.14.5 Constructor HeadingValue()

```
public
HeadingValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.15 Class HeatFluxUnits

```
mil.dtra.units
public HeatFluxUnits
extends AbstractUnits
```

Extension of AbstractUnits for heat flux units.

Fields:

```
public static final java.lang.String C_M_PER_SEC
public static final java.lang.String K_M_PER_SEC
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
public static final java.lang.String W_PER_M_PER_M
public static final java.lang.String W_PER_M2
```

37.15.1 Field C_M_PER_SEC

```
public static final java.lang.String C_M_PER_SEC
```

37.15.2 Field K_M_PER_SEC

```
public static final java.lang.String K_M_PER_SEC
```

37.15.3 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.15.4 Field W_PER_M_PER_M

```
public static final java.lang.String W_PER_M_PER_M
```

37.15.5 Field W_PER_M2

```
public static final java.lang.String W_PER_M2
```

37.15.6 Constructor HeatFluxUnits()

```
public
HeatFluxUnits()
```

37.16 Class HeatFluxValue

```
mil.dtra.units
public HeatFluxValue
extends UnitsValue
```

Extension of UnitsValue using HeatFluxUnits.

37.16.1 Constructor HeatFluxValue()

```
public
HeatFluxValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.16.2 Constructor HeatFluxValue()

```
public
HeatFluxValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.16.3 Constructor HeatFluxValue()

```
public
HeatFluxValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.16.4 Constructor HeatFluxValue()

```
public
HeatFluxValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise
 integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.16.5 Constructor HeatFluxValue()

```
public
HeatFluxValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
```

```
int lower_limit_mode,
double upper_limit,
int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.17 Class HumidityUnits

```
mil.dtra.units
public HumidityUnits
extends AbstractUnits
```

Extension of `AbstractUnits` for humidity units.

Fields:

```
public static final java.lang.String G_PER_G
public static final java.lang.String G_PER_KG
public static final java.lang.String GM_PER_GM
public static final java.lang.String GM_PER_KG
public static final java.lang.String PERCENT
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.17.1 Field G_PER_G

```
public static final java.lang.String G_PER_G
```

37.17.2 Field G_PER_KG

```
public static final java.lang.String G_PER_KG
```

37.17.3 Field GM_PER_GM

```
public static final java.lang.String GM_PER_GM
```

37.17.4 Field GM_PER_KG

```
public static final java.lang.String GM_PER_KG
```

37.17.5 Field PERCENT

```
public static final java.lang.String PERCENT
```

37.17.6 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.17.7 Constructor HumidityUnits()

```
public  
HumidityUnits()
```

37.18 Class HumidityValue

```
mil.dtra.units  
public HumidityValue  
extends UnitsValue
```

Extension of UnitsValue using HumidityUnits.

37.18.1 Constructor HumidityValue()

```
public  
HumidityValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.18.2 Constructor HumidityValue()

```
public
HumidityValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.18.3 Constructor HumidityValue()

```
public
HumidityValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.18.4 Constructor HumidityValue()

```
public
HumidityValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

- UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.18.5 Constructor HumidityValue()

```
public
HumidityValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

lower_limit - value of the lower limit in default units
 lower_limit_mode - one of EX,INCLUSIVE_LIMIT
 upper_limit - value of the upper limit in default units
 upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.19 Class IsotopicReleaseRateUnits

```

mil.dtra.units
public IsotopicReleaseRateUnits
extends AbstractUnits

```

Extension of AbstractUnits for isotopic release rate units.

Fields:

```

public static final java.lang.String BQ_PER_HR
public static final java.lang.String BQ_PER_MIN
public static final java.lang.String BQ_PER_SEC
public static final java.lang.String CI_PER_HR
public static final java.lang.String CI_PER_MIN
public static final java.lang.String CI_PER_SEC
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS

```

37.19.1 Field BQ_PER_HR

```
public static final java.lang.String BQ_PER_HR
```

37.19.2 Field BQ_PER_MIN

```
public static final java.lang.String BQ_PER_MIN
```

37.19.3 Field BQ_PER_SEC

```
public static final java.lang.String BQ_PER_SEC
```

37.19.4 Field CI_PER_HR

```
public static final java.lang.String CI_PER_HR
```

37.19.5 Field CI_PER_MIN

```
public static final java.lang.String CI_PER_MIN
```

37.19.6 Field CI_PER_SEC

```
public static final java.lang.String CI_PER_SEC
```

37.19.7 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.19.8 Constructor IsotopicReleaseRateUnits()

```
public  
IsotopicReleaseRateUnits()
```

37.20 Class IsotopicReleaseRateValue

```
mil.dtra.units  
public IsotopicReleaseRateValue  
extends UnitsValue
```

Extension of UnitsValue using IsotopicReleaseRateUnits.

37.20.1 Constructor IsotopicReleaseRateValue()

```
public  
IsotopicReleaseRateValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.20.2 Constructor IsotopicReleaseRateValue()

```
public
IsotopicReleaseRateValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.20.3 Constructor IsotopicReleaseRateValue()

```
public
IsotopicReleaseRateValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.20.4 Constructor IsotopicReleaseRateValue()

```
public
IsotopicReleaseRateValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

- UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.20.5 Constructor IsotopicReleaseRateValue()

```
public
IsotopicReleaseRateValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

lower_limit - value of the lower limit in default units
 lower_limit_mode - one of EX,INCLUSIVE_LIMIT
 upper_limit - value of the upper limit in default units
 upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.21 Class MassRateUnits

```

mil.dtra.units
public MassRateUnits
extends AbstractUnits
  
```

Extension of `AbstractUnits` for mass rate units.

Fields:

```

public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
public static final java.lang.String UNITS_PER_HR
public static final java.lang.String UNITS_PER_MIN
public static final java.lang.String UNITS_PER_SEC
  
```

37.21.1 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.21.2 Field UNITS_PER_HR

```
public static final java.lang.String UNITS_PER_HR
```

37.21.3 Field UNITS_PER_MIN

```
public static final java.lang.String UNITS_PER_MIN
```

37.21.4 Field UNITS_PER_SEC

```
public static final java.lang.String UNITS_PER_SEC
```

37.21.5 Constructor MassRateUnits()

```
public
MassRateUnits()
```

37.22 Class MassRateValue

mil.dtra.units
public MassRateValue
 extends UnitsValue

Extension of UnitsValue using MassRateUnits.

37.22.1 Constructor MassRateValue()

```
public
MassRateValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.22.2 Constructor MassRateValue()

```
public
MassRateValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.22.3 Constructor MassRateValue()

```
public
MassRateValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.22.4 Constructor MassRateValue()

```
public
MassRateValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.22.5 Constructor MassRateValue()

```
public
MassRateValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

- UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.23 Class MassUnits

```
mil.dtra.units
public MassUnits
extends AbstractUnits
```

Extension of AbstractUnits for mass units.

Fields:

```
public static final java.lang.String G
public static final java.lang.String KG
public static final java.lang.String LB
public static final java.lang.String MG
public static final java.lang.String OZ
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.23.1 Field G

```
public static final java.lang.String G
```

37.23.2 Field KG

```
public static final java.lang.String KG
```

37.23.3 Field LB

```
public static final java.lang.String LB
```

37.23.4 Field MG

```
public static final java.lang.String MG
```

37.23.5 Field OZ

```
public static final java.lang.String OZ
```

37.23.6 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.23.7 Constructor MassUnits()

```
public  
MassUnits()
```

37.24 Class MassValue

```
mil.dtra.units  
public MassValue  
extends UnitsValue
```

Extension of UnitsValue using MassUnits.

37.24.1 Constructor MassValue()

```
public
MassValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.24.2 Constructor MassValue()

```
public
MassValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.24.3 Constructor MassValue()

```
public
MassValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.24.4 Constructor MassValue()

```
public
MassValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise
 integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.24.5 Constructor MassValue()

```
public
MassValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
```

```
int lower_limit_mode,
double upper_limit,
int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.25 Class NoUnits

```
mil.dtra.units
public NoUnits
extends AbstractUnits
```

Extension of `AbstractUnits` for use with no unit conversions.

Fields:

```
public static final java.lang.String NO_UNIT_NAME
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.25.1 Field NO_UNIT_NAME

```
public static final java.lang.String NO_UNIT_NAME
```

37.25.2 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.25.3 Constructor NoUnits()

```
public
NoUnits()
```

37.25.4 Constructor NoUnits()

```
public
NoUnits(
    java.lang.String units_name,
    double factor
)
```

Constructs with a single unit definition as defined in the parameters.

37.26 Class NoUnitsIntValue

```
mil.dtra.units
public NoUnitsIntValue
extends NoUnitsValue
```

Extension of UnitsValue using NoUnits with integer values.

37.26.1 Constructor NoUnitsIntValue()

```
public
NoUnitsIntValue()
```

Constructs assuming standard units, no value bounds, and blanks are allowed.

37.26.2 Constructor NoUnitsIntValue()

```
public
NoUnitsIntValue(
    double value,
    java.lang.String unit
)
```

Constructs with the specified single unit name and assumptions of no value bounds.

Parameters:

value - current value in the current unit
 unit - unit name
 blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.26.3 Constructor NoUnitsIntValue()

```
public
NoUnitsIntValue(
    double value,
    boolean blank_allowed
)
```

Constructs assuming standard units, an integer value type, no value bounds, and the maximum number of significant digits.

Parameters:

value - current value in the current unit
 blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.26.4 Constructor NoUnitsIntValue()

```
public
NoUnitsIntValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the specified single unit name and assumptions of no value bounds.

Parameters:

value - current value in the current unit
 unit - unit name
 blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.26.5 Constructor NoUnitsIntValue()

```
public
NoUnitsIntValue(
    double value,
    boolean blank_allowed,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

Constructor with property parameters and assuming StandardUnits.NO_UNITS as the Units object. No unit is visible.

Parameters:

value - current value in the current unit
 blank_allowed - true if blanks are to be allowed, false otherwise
 lower_limit - value of the lower limit in default units
 lower_limit_mode - one of EX,INCLUSIVE_LIMIT
 upper_limit - value of the upper limit in default units
 upper_limit_mode - one of EX,INCLUSIVE_LIMIT

37.26.6 Constructor NoUnitsIntValue()

```
public
NoUnitsIntValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified, including the single unit for this value. The first parameter specifies a single visible unit to be given a factor of 1.0.

Parameters:

- value - current value in the current unit
- unit - unit name
- blank_allowed - true if blanks are to be allowed, false otherwise
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

37.27 Class NoUnitsValue

```
mil.dtra.units
public NoUnitsValue
extends UnitsValue
```

Extension of UnitsValue using NoUnits and floating point values.

37.27.1 Constructor NoUnitsValue()

```
public
NoUnitsValue()
```

Constructs assuming standard units, a real value type, no value bounds and blanks allowed.

37.27.2 Constructor NoUnitsValue()

```
public
NoUnitsValue( double value )
```

Constructs assuming the standard units, no value bounds, a real value, and blanks allowed.

Parameters:

- value - current value in the current unit
- unit - unit name

37.27.3 Constructor NoUnitsValue()

```
public
NoUnitsValue(
    double value,
    java.lang.String unit
)
```

Constructs assuming blanks allowed, a real value type, no value bounds.

Parameters:

value - current value in the current unit
 unit - unit name

37.27.4 Constructor NoUnitsValue()

```
public
NoUnitsValue(
    double value,
    boolean blank_allowed
)
```

Constructs assuming the standard units, a real value type and no value bounds.

Parameters:

value - current value in the current unit
 blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.27.5 Constructor NoUnitsValue()

```
public
NoUnitsValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the specified single unit name and assumptions of a real value type and no value bounds.

Parameters:

- value - current value in the current unit
- unit - unit name
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

- UnitException - if there is no unit with a factor of 1.0

37.27.6 Constructor NoUnitsValue()

```
public
NoUnitsValue(
    double value,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs assuming the standard units and no value bounds.

Parameters:

- value - current value in the current unit
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

- UnitException - if there is no unit with a factor of 1.0

37.27.7 Constructor NoUnitsValue()

```
public
NoUnitsValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the specified single unit name and assumptions of no value bounds.

Parameters:

- value - current value in the current unit
- unit - unit name
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

- UnitException - if there is no unit with a factor of 1.0

37.27.8 Constructor NoUnitsValue()

```
public
NoUnitsValue(
    double value,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

Constructor with property parameters and assuming StandardUnits.NO_UNITS as the Units object. No unit is visible.

Parameters:

- value - current value in the current unit
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

37.27.9 Constructor NoUnitsValue()

```
public
NoUnitsValue(
```

```

double value,
java.lang.String unit,
boolean blank_allowed,
boolean integer_type,
double lower_limit,
int lower_limit_mode,
double upper_limit,
int upper_limit_mode
)

```

General constructor in which all properties are specified, including the single unit for this value. The first parameter specifies a single visible unit to be given a factor of 1.0.

Parameters:

- value - current value in the current unit
- unit - unit name
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

37.28 Class PowerUnits

```

mil.dtra.units
public PowerUnits
extends AbstractUnits

```

Extension of AbstractUnits for power units.

Fields:

```

public static final java.lang.String HP
public static final java.lang.String KW
public static final java.lang.String MW
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
public static final java.lang.String W

```

37.28.1 Field HP

```
public static final java.lang.String HP
```

37.28.2 Field KW

```
public static final java.lang.String KW
```

37.28.3 Field MW

```
public static final java.lang.String MW
```

37.28.4 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.28.5 Field W

```
public static final java.lang.String W
```

37.28.6 Constructor PowerUnits()

```
public  
PowerUnits()
```

37.29 Class PowerValue

```
mil.dtra.units  
public PowerValue  
extends UnitsValue
```

Extension of UnitsValue using PowerUnits.

37.29.1 Constructor PowerValue()

```
public  
PowerValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.29.2 Constructor PowerValue()

```
public
PowerValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.29.3 Constructor PowerValue()

```
public
PowerValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.29.4 Constructor PowerValue()

```
public
PowerValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

- UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.29.5 Constructor PowerValue()

```
public
PowerValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

lower_limit - value of the lower limit in default units
 lower_limit_mode - one of EX,INCLUSIVE_LIMIT
 upper_limit - value of the upper limit in default units
 upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.30 Class PressureUnits

```

mil.dtra.units
public PressureUnits
extends AbstractUnits
  
```

Extension of `AbstractUnits` for pressure units.

Fields:

```

public static final java.lang.String BAR
public static final java.lang.String DYNES_PER_CM2
public static final java.lang.String KBAR
public static final java.lang.String KPA
public static final java.lang.String KSI
public static final java.lang.String MB
public static final java.lang.String MPA
public static final java.lang.String N_PER_M2
public static final java.lang.String PA
public static final java.lang.String PSI
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
  
```

37.30.1 Field BAR

```
public static final java.lang.String BAR
```

37.30.2 Field DYNES_PER_CM2

```
public static final java.lang.String DYNES_PER_CM2
```

37.30.3 Field KBAR

```
public static final java.lang.String KBAR
```

37.30.4 Field KPA

public static final java.lang.String **KPA**

37.30.5 Field KSI

public static final java.lang.String **KSI**

37.30.6 Field MB

public static final java.lang.String **MB**

37.30.7 Field MPA

public static final java.lang.String **MPA**

37.30.8 Field N_PER_M2

public static final java.lang.String **N_PER_M2**

37.30.9 Field PA

public static final java.lang.String **PA**

37.30.10 Field PSI

public static final java.lang.String **PSI**

37.30.11 Field UNIT_DEFS

public static final mil.dtra.units.Units.UnitDef[] **UNIT_DEFS**

37.30.12 Constructor PressureUnits()

public
PressureUnits()

37.31 Class PressureValue

```
mil.dtra.units
public PressureValue
extends UnitsValue
```

Extension of UnitsValue using PressureUnits.

37.31.1 Constructor PressureValue()

```
public
PressureValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.31.2 Constructor PressureValue()

```
public
PressureValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.31.3 Constructor PressureValue()

```
public
PressureValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.31.4 Constructor PressureValue()

```
public
PressureValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.31.5 Constructor PressureValue()

```
public
PressureValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

- UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.32 Class RadiationDoseUnits

```
mil.dtra.units
public RadiationDoseUnits
extends AbstractUnits
```

Extension of **AbstractUnits** for radiation dose units.

Fields:

```
public static final java.lang.String CGY
public static final java.lang.String GY
public static final java.lang.String R
public static final java.lang.String RAD
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.32.1 Field CGY

```
public static final java.lang.String CGY
```

37.32.2 Field GY

```
public static final java.lang.String GY
```

37.32.3 Field R

```
public static final java.lang.String R
```

37.32.4 Field RAD

```
public static final java.lang.String RAD
```

37.32.5 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.32.6 Constructor RadiationDoseUnits()

```
public  
RadiationDoseUnits()
```

37.33 Class RadiationDoseValue

```
mil.dtra.units  
public RadiationDoseValue  
extends UnitsValue
```

Extension of UnitsValue using RadiationDoseUnits.

37.33.1 Constructor RadiationDoseValue()

```
public  
RadiationDoseValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.33.2 Constructor RadiationDoseValue()

```
public  
RadiationDoseValue(  
    double value,  
    java.lang.String unit  
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.33.3 Constructor RadiationDoseValue()

```
public  
RadiationDoseValue(  
    double value,  
    java.lang.String unit,  
    boolean blank_allowed  
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

value - current value in the current unit
unit - initial unit for this value or null to use the default
blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.33.4 Constructor RadiationDoseValue()

```
public
RadiationDoseValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

- UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.33.5 Constructor RadiationDoseValue()

```
public
RadiationDoseValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

lower_limit - value of the lower limit in default units
 lower_limit_mode - one of EX,INCLUSIVE_LIMIT
 upper_limit - value of the upper limit in default units
 upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.34 Class RadioActivityUnits

```

mil.dtra.units
public RadioActivityUnits
extends AbstractUnits

```

Extension of AbstractUnits for radioactivity units.

Fields:

```

public static final java.lang.String BQ
public static final java.lang.String CI
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS

```

37.34.1 Field BQ

```
public static final java.lang.String BQ
```

37.34.2 Field CI

```
public static final java.lang.String CI
```

37.34.3 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.34.4 Constructor RadioActivityUnits()

```

public
RadioActivityUnits()

```

37.35 Class RadioActivityValue

```
mil.dtra.units
public RadioActivityValue
extends UnitsValue
```

Extension of UnitsValue using RadioActivityUnits.

37.35.1 Constructor RadioActivityValue()

```
public
RadioActivityValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.35.2 Constructor RadioActivityValue()

```
public
RadioActivityValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.35.3 Constructor RadioActivityValue()

```
public
RadioActivityValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.35.4 Constructor RadioActivityValue()

```
public
RadioActivityValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.35.5 Constructor RadioActivityValue()

```
public
RadioActivityValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.36 Class ShieldUnits

```
mil.dtra.units
public ShieldUnits
extends AbstractUnits
```

Extension of AbstractUnits for shield units.

Fields:

```
public static final java.lang.String KGM2
public static final java.lang.String LBMFT2
public static final java.lang.String LBMIN2
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.36.1 Field KGM2

```
public static final java.lang.String KGM2
```

37.36.2 Field LBMFT2

```
public static final java.lang.String LBMFT2
```

37.36.3 Field LBMIN2

```
public static final java.lang.String LBMIN2
```

37.36.4 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.36.5 Constructor ShieldUnits()

```
public  
ShieldUnits()
```

37.37 Class ShieldValue

```
mil.dtra.units  
public ShieldValue  
extends UnitsValue
```

Extension of UnitsValue using ShieldUnits.

37.37.1 Constructor ShieldValue()

```
public  
ShieldValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.37.2 Constructor ShieldValue()

```
public
ShieldValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.37.3 Constructor ShieldValue()

```
public
ShieldValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.37.4 Constructor ShieldValue()

```
public
ShieldValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

- UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.37.5 Constructor ShieldValue()

```
public
ShieldValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

lower_limit - value of the lower limit in default units
 lower_limit_mode - one of EX,INCLUSIVE_LIMIT
 upper_limit - value of the upper limit in default units
 upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.38 Class SmassUnits

```

mil.dtra.units
public SmassUnits
extends AbstractUnits
  
```

Extension of AbstractUnits for smass units.

Fields:

```

public static final java.lang.String KG
public static final java.lang.String LB
public static final java.lang.String TON
public static final java.lang.String TONNE
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
  
```

37.38.1 Field KG

public static final java.lang.String **KG**

37.38.2 Field LB

public static final java.lang.String **LB**

37.38.3 Field TON

public static final java.lang.String **TON**

37.38.4 Field TONNE

public static final java.lang.String **TONNE**

37.38.5 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.38.6 Constructor SmassUnits()

```
public
SmassUnits()
```

37.39 Class SmassValue

```
mil.dtra.units
public SmassValue
extends UnitsValue
```

Extension of UnitsValue using SmassUnits.

37.39.1 Constructor SmassValue()

```
public
SmassValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.39.2 Constructor SmassValue()

```
public
SmassValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.39.3 Constructor SmassValue()

```
public
SmassValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.39.4 Constructor SmassValue()

```
public
SmassValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise
 integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.39.5 Constructor SmassValue()

```
public
SmassValue(  
    double value,  
    java.lang.String unit,  
    boolean blank_allowed,  
    boolean integer_type,  
    double lower_limit,  
    int lower_limit_mode,  
    double upper_limit,  
    int upper_limit_mode  
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.40 Class SpeedUnits

```
mil.dtra.units
public SpeedUnits
extends AbstractUnits
```

Extension of AbstractUnits for speed units.

Fields:

```
public static final java.lang.String CM_PER_SEC
public static final java.lang.String FT_PER_SEC
public static final java.lang.String KPH
public static final java.lang.String KTS
public static final java.lang.String M_PER_SEC
public static final java.lang.String MPH
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.40.1 Field CM_PER_SEC

```
public static final java.lang.String CM_PER_SEC
```

37.40.2 Field FT_PER_SEC

```
public static final java.lang.String FT_PER_SEC
```

37.40.3 Field KPH

```
public static final java.lang.String KPH
```

37.40.4 Field KTS

```
public static final java.lang.String KTS
```

37.40.5 Field M_PER_SEC

```
public static final java.lang.String M_PER_SEC
```

37.40.6 Field MPH

```
public static final java.lang.String MPH
```

37.40.7 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.40.8 Constructor SpeedUnits()

```
public
SpeedUnits()
```

37.41 Class SpeedValue

```
mil.dtra.units
public SpeedValue
extends UnitsValue
```

Extension of UnitsValue using SpeedUnits.

37.41.1 Constructor SpeedValue()

```
public
SpeedValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.41.2 Constructor SpeedValue()

```
public
SpeedValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.41.3 Constructor SpeedValue()

```
public
SpeedValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.41.4 Constructor SpeedValue()

```
public
SpeedValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.41.5 Constructor SpeedValue()

```
public
SpeedValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.42 Class StoredValue

```
mil.dtra.units
public StoredValue
extends Object
implements Cloneable,
```

Represents a value stored in a particular unit. It exists to support the saving of values as properties in data classes and (de)serialization of the value and unit in which it is represented. A special parser, `StoredValueParser` has been added to `ValueProperties` to facilitate serialization of instances of this class.

Methods:

```

public final void assign()
public final void assign()
public java.lang.Object clone()
public boolean equals()
public final java.lang.String getUnit()
public final double getValue()
public void readProps()
public final void setUnit()
public final void setValue()
public java.lang.String toString()
public void valueOf()
public void writeProps()

```

37.42.1 Constructor StoredValue()

public
StoredValue()

Default constructor.

37.42.2 Constructor StoredValue()

public
StoredValue(java.lang.String value)

Constructs with a string representation

Parameters:

value - string value

Exceptions:

NumberFormatException - if the value is not a proper number

37.42.3 Constructor StoredValue()

public
StoredValue(
 double value,
 java.lang.String unit
)

Constructs with explicit property values.

Parameters:

value - numeric value
 unit - unit in which the value is represented

37.42.4 Method assign()

```
public final void
assign(
    double value,
    java.lang.String unit
)
```

Copies the specified value.

Parameters:

value - new value
 unit - new unit

37.42.5 Method assign()

```
public final void
assign( mil.dtra.units.StoredValue from )
```

Copies the specified value.

Parameters:

from - value to copy

37.42.6 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

37.42.7 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides `Object.equals()` to compare the *value* and *unit*.

37.42.8 Method getUnit()

```
public final java.lang.String
getUnit()
```

Accessor for the *unit* property. Retrieves the unit in which the current value is stored.

Returns:

unit

37.42.9 Method getValue()

```
public final double
getValue()
```

Accessor for the *value* property.

Returns:

value in the current unit

37.42.10 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Deserializes this object from the properties with the specified key. Calls `valueOf()` on the property value.

Parameters:

props - properties object
key - key for this object

37.42.11 Method setUnit()

```
public final void
setUnit( java.lang.String unit )
```

Accessor for the *unit* property.

37.42.12 Method setValue()

```
public final void
setValue( double value )
```

Accessor for the *value* property.

37.42.13 Method toString()

```
public java.lang.String
toString()
```

Returns a string representation of this object as the value and unit separated by a comma. If the unit is null or blank, is not indicated in the result.

Returns:

string representation of this object

37.42.14 Method valueOf()

```
public void
valueOf( java.lang.String value )
```

Parses a string for the value and unit separated by a comma. If the unit is not specified, blank is assigned.

Parameters:

value - string representation

Exceptions:

NumberFormatException - if the value is not a proper number

37.42.15 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String key
)
```

Serializes this object to the properties with the specified key. Calls `toString()` to produce the property string value.

Parameters:

props - properties object
key - key for this object

37.43 Class TemperatureUnits

```
mil.dtra.units
public TemperatureUnits
extends AbstractUnits
```

Extension of `AbstractUnits` for temperature units.

Fields:

```
public static final java.lang.String C
public static final java.lang.String F
public static final java.lang.String K
public static final java.lang.String R
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

Methods:

```
protected double convertValue()
```

37.43.1 Field C

```
public static final java.lang.String C
```

37.43.2 Field F

```
public static final java.lang.String F
```

37.43.3 Field K

```
public static final java.lang.String K
```

37.43.4 Field R

```
public static final java.lang.String R
```

37.43.5 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.43.6 Constructor TemperatureUnits()

```
public  
TemperatureUnits()
```

37.43.7 Method convertValue()

```
protected double  
convertValue(  
    double value,  
    java.lang.String input_unit,  
    java.lang.String output_unit  
)
```

Overrides AbstractUnitsValue.convertValue().

Parameters:

- value - value specified in the input units
- input_units - input units
- output_units - output units
- significant_digits - number of significant digits

Returns:

value in output units or Double.NaN for NaN values and invalid units

37.44 Class TemperatureValue

```
mil.dtra.units  
public TemperatureValue  
extends UnitsValue
```

Extension of UnitsValue using TemperatureUnits.

37.44.1 Constructor TemperatureValue()

```
public
TemperatureValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.44.2 Constructor TemperatureValue()

```
public
TemperatureValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.44.3 Constructor TemperatureValue()

```
public
TemperatureValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.44.4 Constructor TemperatureValue()

```
public
TemperatureValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise
 integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.44.5 Constructor TemperatureValue()

```
public
TemperatureValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
```

```
int lower_limit_mode,
double upper_limit,
int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.45 Class TimeUnits

```
mil.dtra.units
public TimeUnits
extends AbstractUnits
```

Extension of `AbstractUnits` for time units.

Fields:

```
public static final java.lang.String DAY
public static final java.lang.String DAYS
public static final java.lang.String HOURS
public static final java.lang.String HR
public static final java.lang.String MILLISECONDS
public static final java.lang.String MIN
public static final java.lang.String MINUTES
public static final java.lang.String MS
public static final java.lang.String SEC
public static final java.lang.String SECONDS
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.45.1 Field DAY

public static final java.lang.String **DAY**

37.45.2 Field DAYS

public static final java.lang.String **DAYS**

37.45.3 Field HOURS

public static final java.lang.String **HOURS**

37.45.4 Field HR

public static final java.lang.String **HR**

37.45.5 Field MILLISECONDS

public static final java.lang.String **MILLISECONDS**

37.45.6 Field MIN

public static final java.lang.String **MIN**

37.45.7 Field MINUTES

public static final java.lang.String **MINUTES**

37.45.8 Field MS

public static final java.lang.String **MS**

37.45.9 Field SEC

public static final java.lang.String **SEC**

37.45.10 Field SECONDS

public static final java.lang.String **SECONDS**

37.45.11 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.45.12 Constructor TimeUnits()

```
public
TimeUnits()
```

37.46 Class TimeValue

```
mil.dtra.units
public TimeValue
extends UnitsValue
```

Extension of UnitsValue using TimeUnits.

37.46.1 Constructor TimeValue()

```
public
TimeValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.46.2 Constructor TimeValue()

```
public
TimeValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.46.3 Constructor TimeValue()

```
public
TimeValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.46.4 Constructor TimeValue()

```
public
TimeValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default
 blank_allowed - true if blanks are to be allowed, false otherwise
 integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.46.5 Constructor TimeValue()

```
public
TimeValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.47 Class Units.UnitDef

```
mil.dtra.units
public static final Units.UnitDef
extends Object
```

Methods:

```
public final double getFactor()
public final java.lang.String getLongName()
public final java.lang.String getShortName()
```

37.47.1 Constructor Units.UnitDef()

```
public
Units.UnitDef(
    java.lang.String short_name,
    java.lang.String long_name,
    double factor
)
```

37.47.2 Method getFactor()

```
public final double
getFactor()
```

37.47.3 Method getLongName()

```
public final java.lang.String
getLongName()
```

37.47.4 Method getShortName()

```
public final java.lang.String
getShortName()
```

37.48 Class UnitsValue

```
mil.dtra.units
public UnitsValue
extends Object
implements Cloneable,
```

Facility for managing and providing access to a value stored in a particular unit chosen from a set of available units, and a mapping of units from the set which are "visible". Provides all necessary conversions b/w specified units on unit retrieval and storage. Also has properties for setting the value associated with a blank or empty string (if blanks are allowed) and a map of strings to be displayed for special values.

Fields:

```
public static final int EXCLUSIVE_LIMIT
public static final int INCLUSIVE_LIMIT
public static final int SIG_DIGITS
```

Methods:

```
public synchronized void addSpecialValue()
protected void checkValueRange()
public java.lang.Object clone()
public java.lang.String createValueString()
public java.lang.String createValueString()
public boolean equals()
public boolean equals()
public final boolean equals()
public java.lang.String findVisibleUnit()
public final double getBlankValue()
public final double getLowerLimit()
public double getLowerLimit()
public final int getLowerLimitMode()
public java.lang.String getSpecialValue()
public double getSpecialValue()
public final java.util.Collection getSpecialValues()
public final mil.dtra.units.StoredValue getStoredValue()
public final java.lang.String getUnit()
public final mil.dtra.units.Units getUnitsConverter()
public final double getUpperLimit()
public double getUpperLimit()
public final int getUpperLimitMode()
public final double getValue()
public double getValue()
public java.lang.String[] getVisibleUnits()
public final void hideUnit()
public final boolean isBlank()
public boolean isBlank()
public final boolean isBlankAllowed()
public final boolean isInteger()
public boolean isUnitVisible()
public void put()
public void put()
public void put()
public void put()
public void putBlank()
public void removeLowerLimit()
public synchronized void removeSpecialValue()
public void removeUpperLimit()
protected void resetValue()
public final void setBlankAllowed()
```

```

public final void setBlankValue()
public final void setInteger()
public void setLimits()
public final void setLowerLimit()
public void setLowerLimit()
public final void setLowerLimitMode()
public final void setSpecialValues()
public void setStoredValue()
public final void setStoredValue()
public void setUnit()
public final void setUnitsConverter()
public void setUnitVisible()
public final void setUpperLimit()
public void setUpperLimit()
public final void setUpperLimitMode()
public final void setValue()
public final void showUnit()
public java.lang.String toString()
public void valueOf()

```

Inner Classes:

UnitsValue.SpecialValue

37.48.1 Field EXCLUSIVE_LIMIT

public static final int EXCLUSIVE_LIMIT

Used for 'mode' argument in the setUpperLimit and setLowerLimit methods.

37.48.2 Field INCLUSIVE_LIMIT

public static final int INCLUSIVE_LIMIT

Used for 'mode' argument in the setUpperLimit and setLowerLimit methods.

37.48.3 Field SIG_DIGITS

public static final int SIG_DIGITS

Number of significant digits passed to DataUtils.toMaxSigDigits() in internal calls

37.48.4 Constructor UnitsValue()

```
public
UnitsValue()
```

Default constructor setting all default values but no units converter. `setUnitsConverter()` must be called.

37.48.5 Constructor UnitsValue()

```
public
UnitsValue( mil.dtra.units.Units units_converter )
```

Construct assuming a blank value of `Double.NaN`, no bounds, a real value, allowed blanks, the default initial unit and a "blank" value.

Parameters:

`units_converter` - reference to the unit converter object

Exceptions:

`UnitException` - if there is no unit with a factor of 1.0

37.48.6 Constructor UnitsValue()

```
public
UnitsValue(
    mil.dtra.units.Units units_converter,
    double value,
    java.lang.String unit
)
```

Construct assuming a blank value of `Double.NaN`, no bounds, a real value, and allowed blanks.

Parameters:

`units_converter` - reference to the unit converter object
`value` - current value in the current unit
`unit` - current unit or null to take default from units converter

Exceptions:

`UnitException` - if there is no unit with a factor of 1.0

37.48.7 Constructor UnitsValue()

```
public
UnitsValue(
    mil.dtra.units.Units units_converter,
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Construct assuming a blank value of Double.NaN and no bounds.

Parameters:

- units_converter - reference to the unit converter object
- value - current value in the current unit
- unit - current unit or null to take default from units converter
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

- UnitException - if there is no unit with a factor of 1.0

37.48.8 Constructor UnitsValue()

```
public
UnitsValue(
    mil.dtra.units.Units units_converter,
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

Construct assuming only Double.NaN for a blank value. This constructor is preserved solely to not break existing code which relies on it.

Parameters:

units_converter - reference to the unit converter object
 value - current value in the current unit
 unit - current unit or null to take default from units converter
 blank_allowed - true if blanks are to be allowed, false otherwise
 integer_type - true if the values are to be integer
 lower_limit - value of the lower limit in default units
 lower_limit_mode - either of EX, INCLUSIVE_LIMIT
 upper_limit - value of the upper limit in default units
 upper_limit_mode - either of EX, INCLUSIVE_LIMIT

Exceptions:

UnitException - if the default unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.48.9 Method addSpecialValue()

```
public synchronized void
addSpecialValue(
  double value,
  java.lang.String name
)
```

Adds the specified key and value to the special value map.

Parameters:

value - value associated with the name
 name - name associated with the value

37.48.10 Method checkValueRange()

```
protected void
checkValueRange( double value )
```

Checks the value, which is assumed to be in the current unit, against the limits, throwing a UnitException if the value is outside the allowable range. It is assumed that this method will not be called with a value of *blankValue* or Double.NaN.

Parameters:

value - value in default units

Exceptions:

UnitException - if the value is out of range

37.48.11 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable. Note that the *unitsConverter* property (fUnits field) reference is copied, so *unitsConverter* is not cloned.

37.48.12 Method createValueString()

```
public java.lang.String
createValueString( int significant_digits )
```

Builds a string representation of the current value in the current unit "rounded" to the specified number of significant digits.

Parameters:

significant_digits - significant digits for display

Returns:

string representation of the value

Exceptions:

UnitException - if the unit is invalid

37.48.13 Method createValueString()

```
public java.lang.String
createValueString(
    java.lang.String unit,
    int significant_digits
)
```

Builds a string representation of the current value in the specified unit "rounded" to the specified number of significant digits.

Parameters:

unit - unit in which the value is to be retrieved
 significant_digits - significant digits for display

Returns:

string representation of the value

Exceptions:

UnitException - if the unit is invalid

37.48.14 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

37.48.15 Method equals()

```
public boolean
equals(
    mil.dtra.units.StoredValue one,
    double value,
    java.lang.String unit
)
```

Compares the specified `StoredValue` with the specified value and unit.

37.48.16 Method equals()

```
public final boolean
equals(
    mil.dtra.units.StoredValue one,
    mil.dtra.units.StoredValue two
)
```

Compares two `StoredValue` objects.

37.48.17 Method findVisibleUnit()

```
public java.lang.String
findVisibleUnit( java.lang.String unit_name )
```

Finds the matching visible unit name ignoring case.

Returns:

unit name if matched or null

37.48.18 Method getBlankValue()

```
public final double
getBlankValue()
```

Accessor for the *blankValue* property.

Returns:

value associated with a blank or empty string

37.48.19 Method getLowerLimit()

```
public final double
getLowerLimit()
```

Accessor for the *lowerLimit* property, which is returned in default units.

Returns:

limit value in the default units

37.48.20 Method getLowerLimit()

```
public double
getLowerLimit( java.lang.String unit )
```

Retrieves the lower limit in the specified units.

Parameters:

unit - unit in which the value is to be retrieved

Returns:

limit value in the specified units

Exceptions:

UnitException - if the unit is invalid

37.48.21 Method getLowerLimitMode()

```
public final int
getLowerLimitMode()
```

Accessor for the *lowerLimitMode* property.

Returns:

either of EX, INCLUSIVE_LIMIT

37.48.22 Method getSpecialValue()

```
public java.lang.String
getSpecialValue( double value )
```

Searches the special values to find a match by value.

Returns:

display string for the special value if found, null if the value is not found

37.48.23 Method getSpecialValue()

```
public double
getSpecialValue( java.lang.String name )
```

Searches the special values to find a match by name.

Returns:

special value if found, Double.NaN if not found

37.48.24 Method getSpecialValues()

```
public final java.util.Collection
getSpecialValues()
```

Accessor for the *specialValues* property.

Returns:

reference to the collection object

37.48.25 Method **getStoredValue()**

```
public final mil.dtra.units.StoredValue  
getStoredValue()
```

Accessor for the *storedValue* property.

Returns:

copy of the stored value object

37.48.26 Method **getUnit()**

```
public final java.lang.String  
getUnit()
```

Convenience method to access the *unit* property of this object's *storedValue* property.

Returns:

unit

37.48.27 Method **getUnitsConverter()**

```
public final mil.dtra.units.Units  
getUnitsConverter()
```

Retrieves the *unitsConverter* property.

Returns:

units object reference

37.48.28 Method **getUpperLimit()**

```
public final double  
getUpperLimit()
```

Accessor for the *upperLimit* property, which is returned in default units.

Returns:

limit value in the default units

37.48.29 Method `getUpperLimit()`

```
public double
getUpperLimit( java.lang.String unit )
```

Retrieves the upper limit in the specified units.

Parameters:

unit - unit in which the value is to be retrieved

Returns:

limit value in the specified units

Exceptions:

`UnitException` - if the unit is invalid

37.48.30 Method `getUpperLimitMode()`

```
public final int
getUpperLimitMode()
```

Accessor for the *upperLimitMode* property.

Returns:

either of `EX`, `INCLUSIVE_LIMIT`

37.48.31 Method `getValue()`

```
public final double
getValue()
```

Accessor for the *value* property.

Returns:

value in the current unit

Exceptions:

`UnitException` - if the unit is invalid

37.48.32 Method `getValue()`

```
public double
getValue( java.lang.String unit )
```

Retrieves the current stored value in the specified unit. If the value is blank or one of the special values, no unit conversion is performed.

Returns:

unit - unit in which the value is to be retrieved

Returns:

value as a real number

Exceptions:

`UnitException` - if the unit is invalid

37.48.33 Method `getVisibleUnits()`

```
public java.lang.String[]
getVisibleUnits()
```

Retrieves the names of the visible units.

Returns:

array of unit names

37.48.34 Method `hideUnit()`

```
public final void
hideUnit( java.lang.String unit )
```

Hides the specified unit.

Exceptions:

`UnitException` - if the unit is invalid

37.48.35 Method **isBlank()**

```
public final boolean
isBlank()
```

Compares the current *storedValue* against the defined blank value by calling `isBlank(double)`.

Returns:

true if the current *storedValue* matches the defined blank value or `Double.NaN`, false otherwise

37.48.36 Method **isBlank()**

```
public boolean
isBlank( double value )
```

Compares the value against the defined *blankValue* for this. The comparison is made using `DataUtils.nearlyEquals()` to account for precision issues when values are specified as `float` versus `double`. Further, this method still checks the value against `Double.NaN` if there is no match with *blankValue*. This is probably wrong, but it feels good.

Returns:

true if the value matches the defined blank value or `Double.NaN`, false otherwise

37.48.37 Method **isBlankAllowed()**

```
public final boolean
isBlankAllowed()
```

Accessor for the *blankAllowed* property.

Returns:

true if this object can accept a blank value, false otherwise

37.48.38 Method **isInteger()**

```
public final boolean
isInteger()
```

Returns:

true if this object is an integer type, false if it is real (`double`)

37.48.39 Method isUnitVisible()

```
public boolean
isUnitVisible( java.lang.String unit )
```

Returns the visibility of the specified unit.

Returns:

true if the unit is visible, false otherwise

Exceptions:

UnitException - if the unit is invalid

37.48.40 Method put()

```
public void
put( double value )
```

Stores the value in the current unit. Calls put(double, String).

Parameters:

value - value in the current units

Exceptions:

UnitException - if the value is out of range

37.48.41 Method put()

```
public void
put(
    double value,
    java.lang.String unit
)
```

Generic store method with a specified numeric value and unit. Note that the value is stored in the current unit, which may not be the same as the specified unit, and the value is converted if necessary.

Parameters:

value - value in the specified unit

unit - unit for the value

Exceptions:

UnitException - if the unit is invalid, the value is out of range, or the value is equal to *blankValue* and blanks are not allowed

37.48.42 Method put()

```
public void
put( java.lang.String value )
```

Calls put(String, String) with the current unit.

Parameters:

value - value in the current unit in string format

Exceptions:

NumberFormatException - if the value is not a valid number

UnitException - if the units are invalid, the value is out of range, or a blank value was specified and blanks are not allowed

37.48.43 Method put()

```
public void
put(
    java.lang.String value,
    java.lang.String unit
)
```

Store method with a specified string value and unit. The string value may contain a unit specification, which must be separated from the value with white space and may not contain white space itself. If a unit specification is provided in the value string, it overrides the unit passed as a parameter.

Example inputs include:

22.5 ft/s 1.384e-2 feet/second

Calls put(double, String).

Parameters:

value - value in the specified units in string format

unit - units

Exceptions:

NumberFormatException - if the value is not a valid number
 UnitException - if the units are invalid, the value is out of range, or a blank value was specified and blanks are not allowed

37.48.44 Method putBlank()

```
public void
putBlank()
```

Equivalent to `put(blankValue)` without a check against `blankAllowed`.

37.48.45 Method removeLowerLimit()

```
public void
removeLowerLimit()
```

Equivalent to `setLowerLimit(Double.NaN)`.

37.48.46 Method removeSpecialValue()

```
public synchronized void
removeSpecialValue( double value )
```

Removes the specified key from the special value map.

Parameters:

value - value to remove

37.48.47 Method removeUpperLimit()

```
public void
removeUpperLimit()
```

Equivalent to `setUpperLimit(Double.NaN)`.

37.48.48 Method **resetValue()**

```
protected void
resetValue()
```

Attempts to set the *storedValue.value* property to something reasonable given the limits and whether or not blanks are allowed.

37.48.49 Method **setBlankAllowed()**

```
public final void
setBlankAllowed( boolean blank_allowed )
```

Accessor for the *blankAllowed* property, which indicates whether or not this object can accept a blank value in a call to `put()`. Note that `putBlank()` ignores this flag and always succeeds.

37.48.50 Method **setBlankValue()**

```
public final void
setBlankValue( double blank_value )
```

Accessor for the *blankValue* property, which is the value associated with a blank or empty string.

37.48.51 Method **setInteger()**

```
public final void
setInteger( boolean flag )
```

37.48.52 Method **setLimits()**

```
public void
setLimits(
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

Convenience method to set the limit properties using the current unit set for the stored value.

Parameters:

lower_limit - lower limit value
 lower_limit_mode - lower limit mode
 upper_limit - upper limit value
 upper_limit_mode - upper limit mode

37.48.53 Method **setLowerLimit()**

```
public final void
setLowerLimit( double limit )
```

Set the *lowerLimit* property in the units currently set for the *storedValue*.

Parameters:

limit - limit value in the specified units

Exceptions:

UnitException - if the units are messed up

37.48.54 Method **setLowerLimit()**

```
public void
setLowerLimit(
  double limit,
  java.lang.String unit
)
```

Set the *lowerLimit* property in the specified units. The limit is stored internally in default units.

Parameters:

limit - limit value in the specified units
 unit - unit

Exceptions:

UnitException - if the unit is invalid

37.48.55 Method setLowerLimitMode()

```
public final void
setLowerLimitMode( int mode )
```

Set the *lowerLimitMode* property.

Parameters:

mode - either of EX, INCLUSIVE_LIMIT

Exceptions:

UnitException - if the mode is invalid

37.48.56 Method setSpecialValues()

```
public final void
setSpecialValues( java.util.Collection collection )
```

Accessor for the *specialValues* property.

Parameters:

map - object reference to save as the property value

37.48.57 Method setStoredValue()

```
public void
setStoredValue(
    double value,
    java.lang.String unit
)
```

Accessor for the *storedValue* property in which the *StoredValue* properties are passed individually. Note that unlike the *put()* methods, no value conversion occurs, for the unit is set as specified, and the value is assumed to be in the unit.

Parameters:

value - value in the specified unit

unit - unit name

Exceptions:

UnitException - if the unit is invalid

37.48.58 Method setStoredValue()

```
public final void
setStoredValue( mil.dtra.units.StoredValue stored_value )
```

Accessor for the *storedValue* property. Calls `setStoredValue(double, String)`.

Returns:

copy of the stored value object

37.48.59 Method setUnit()

```
public void
setUnit( java.lang.String unit )
```

Accessor for the *unit* property. Sets the unit for the stored value, converting the value if necessary.

Parameters:

unit - unit to which to convert the stored value; if null set to the default for the units converter

Exceptions:

`UnitException` - if the units have not been set or the specified unit is invalid

37.48.60 Method setUnitsConverter()

```
public final void
setUnitsConverter( mil.dtra.units.Units units )
```

Sets the *unitsConverter* property. Note that this method also initializes the *unit* property to the default unit for the `Units` object.

Parameters:

units - units object

default_unit - default unit for this value or null to take the default from the `units` object

Exceptions:

`UnitException` - if the default unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.48.61 Method setUnitVisible()

```
public void
setUnitVisible(
    java.lang.String unit,
    boolean visible
)
```

Sets the visibility of the specified unit.

Parameters:

visible - true if the unit is to be shown, false if it is to be hidden

Exceptions:

UnitException - if the unit is invalid

37.48.62 Method setUpperLimit()

```
public final void
setUpperLimit( double limit )
```

Set the *upperLimit* property in the units currently set for the *storedValue*.

Parameters:

limit - limit value in the specified units

Exceptions:

UnitException - if the units are messed up

37.48.63 Method setUpperLimit()

```
public void
setUpperLimit(
    double limit,
    java.lang.String unit
)
```

Set the *upperLimit* property in the specified units. The limit is stored internally in default units.

Parameters:

limit - limit value in the specified units
 unit - unit

Exceptions:

UnitException - if the unit or mode is invalid

37.48.64 Method setUpperLimitMode()

public final void
setUpperLimitMode(int mode)

Set the *upperLimitMode* property.

Parameters:

mode - either of EX, INCLUSIVE_LIMIT

Exceptions:

UnitException - if the mode is invalid

37.48.65 Method setValue()

public final void
setValue(double value)

Accessor for the *value* property. The specified value is assumed to be in the current unit. One of the *put()* methods may be used to assign the value in a given unit, or a call to *setUnit()* may precede a call to this method to change the unit.

Parameters:

value - value in the current unit

Exceptions:

UnitException - if the value is out of range

37.48.66 Method showUnit()

```
public final void
showUnit( java.lang.String unit )
```

Shows the specified unit.

Exceptions:

UnitException - if the unit is invalid

37.48.67 Method toString()

```
public java.lang.String
toString()
```

The format of the result is a comma-separated tuple as follows:

value,unit,blankAllowed,integer,lowerLimit,lowerLimitMode, upperLimit,upperLimitMode
Note that the visible units map is not represented.

Returns:

string representation of this object as a comma-separated tuple

37.48.68 Method valueOf()

```
public void
valueOf( java.lang.String line )
```

Reads values from the specified string which is assumed to be in the format produced by `toString()`.

Parameters:

line - input line

Exceptions:

IOException - on parse error
UnitException - if the unit or some other property is invalid

37.49 Class UnitsValue.SpecialValue

```
mil.dtra.units
public static UnitsValue.SpecialValue
extends Object
```

Methods:

```
public final java.lang.String getName()
public final double getValue()
public boolean matches()
```

37.49.1 Constructor UnitsValue.SpecialValue()

```
public
UnitsValue.SpecialValue(
    double value,
    java.lang.String name
)
```

37.49.2 Method getName()

```
public final java.lang.String
getName()
```

37.49.3 Method getValue()

```
public final double
getValue()
```

37.49.4 Method matches()

```
public boolean
matches( double value )
```

Due to significant round-off errors in FP representations, we can't just compare values. These scaled factor approach is an attempt to deal with HPAC values DEFAULT,DEFERRED_FLOAT. A better approach is needed.

37.50 Class UnitsValue.SpecialValue

```
mil.dtra.units
public static UnitsValue.SpecialValue
extends Object
```

Methods:

```
public final java.lang.String getName()
public final double getValue()
public boolean matches()
```

37.50.1 Constructor UnitsValue.SpecialValue()

```
public
UnitsValue.SpecialValue(
    double value,
    java.lang.String name
)
```

37.50.2 Method getName()

```
public final java.lang.String
getName()
```

37.50.3 Method getValue()

```
public final double
getValue()
```

37.50.4 Method matches()

```
public boolean
matches( double value )
```

Due to significant round-off errors in FP representations, we can't just compare values. These scaled factor approach is an attempt to deal with HPAC values DEFAULT,DEFERRED_FLOAT. A better approach is needed.

37.51 Class VolumeUnits

```
mil.dtra.units
public VolumeUnits
extends AbstractUnits
```

Extension of `AbstractUnits` for volume units.

Fields:

```
public static final java.lang.String CM3
public static final java.lang.String FT3
public static final java.lang.String GALLONS
public static final java.lang.String IN3
public static final java.lang.String KFT3
public static final java.lang.String KM3
public static final java.lang.String KYD3
public static final java.lang.String LITERS
public static final java.lang.String M3
public static final java.lang.String MI3
public static final java.lang.String NMI3
public static final java.lang.String QUARTS
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
public static final java.lang.String YD3
```

37.51.1 Field CM3

```
public static final java.lang.String CM3
```

37.51.2 Field FT3

```
public static final java.lang.String FT3
```

37.51.3 Field GALLONS

```
public static final java.lang.String GALLONS
```

37.51.4 Field IN3

```
public static final java.lang.String IN3
```

37.51.5 Field KFT3

```
public static final java.lang.String KFT3
```

37.51.6 Field KM3

public static final java.lang.String **KM3**

37.51.7 Field KYD3

public static final java.lang.String **KYD3**

37.51.8 Field LITERS

public static final java.lang.String **LITERS**

37.51.9 Field M3

public static final java.lang.String **M3**

37.51.10 Field MI3

public static final java.lang.String **MI3**

37.51.11 Field NMI3

public static final java.lang.String **NMI3**

37.51.12 Field QUARTS

public static final java.lang.String **QUARTS**

37.51.13 Field UNIT_DEFS

public static final mil.dtra.units.Units.UnitDef[] **UNIT_DEFS**

37.51.14 Field YD3

public static final java.lang.String **YD3**

37.51.15 Constructor VolumeUnits()

public
VolumeUnits()

37.52 Class VolumeValue

```
mil.dtra.units
public VolumeValue
extends UnitsValue
```

Extension of UnitsValue using VolumeUnits.

37.52.1 Constructor VolumeValue()

```
public
VolumeValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.52.2 Constructor VolumeValue()

```
public
VolumeValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

value - current value in the current unit
 unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.52.3 Constructor VolumeValue()

```
public
VolumeValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.52.4 Constructor VolumeValue()

```
public
VolumeValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.52.5 Constructor VolumeValue()

```
public
VolumeValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer
- lower_limit - value of the lower limit in default units
- lower_limit_mode - one of EX,INCLUSIVE_LIMIT
- upper_limit - value of the upper limit in default units
- upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

- UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.53 Class YieldUnits

```
mil.dtra.units
public YieldUnits
extends AbstractUnits
```

Extension of AbstractUnits for yield units.

Fields:

```
public static final java.lang.String KT
public static final java.lang.String LB
public static final java.lang.String MT
public static final java.lang.String TON
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.53.1 Field KT

```
public static final java.lang.String KT
```

37.53.2 Field LB

```
public static final java.lang.String LB
```

37.53.3 Field MT

```
public static final java.lang.String MT
```

37.53.4 Field TON

```
public static final java.lang.String TON
```

37.53.5 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

37.53.6 Constructor YieldUnits()

```
public  
YieldUnits()
```

37.54 Class YieldValue

```
mil.dtra.units  
public YieldValue  
extends UnitsValue
```

Extension of UnitsValue using YieldUnits.

37.54.1 Constructor YieldValue()

```
public  
YieldValue()
```

Constructs with the assumption of no value bounds, a real value, allowed blanks, and the default initial unit.

Exceptions:

UnitException - if there is no unit with a factor of 1.0

37.54.2 Constructor YieldValue()

```
public
YieldValue(
    double value,
    java.lang.String unit
)
```

Constructs with the assumption of no value bounds, a real value, and allowed blanks.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.54.3 Constructor YieldValue()

```
public
YieldValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed
)
```

Constructs with the assumption of no value bounds and a real value.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.54.4 Constructor YieldValue()

```
public
YieldValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type
)
```

Constructs with the assumption of no value bounds.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

Exceptions:

- UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.54.5 Constructor YieldValue()

```
public
YieldValue(
    double value,
    java.lang.String unit,
    boolean blank_allowed,
    boolean integer_type,
    double lower_limit,
    int lower_limit_mode,
    double upper_limit,
    int upper_limit_mode
)
```

General constructor in which all properties are specified.

Parameters:

- value - current value in the current unit
- unit - initial unit for this value or null to use the default
- blank_allowed - true if blanks are to be allowed, false otherwise
- integer_type - true if the values are to be integer

lower_limit - value of the lower limit in default units
 lower_limit_mode - one of EX,INCLUSIVE_LIMIT
 upper_limit - value of the upper limit in default units
 upper_limit_mode - one of EX,INCLUSIVE_LIMIT

Exceptions:

UnitException - if the unit is not specified and cannot be determined as the unit with a factor of 1.0, or is not a valid unit

37.55 Exception UnitException

```

mil.dtra.units
public UnitException
extends RuntimeException
  
```

Extension of RuntimeException for problems related to unit conversions.

37.55.1 Constructor UnitException()

```

public
UnitException()
  
```

37.55.2 Constructor UnitException()

```

public
UnitException( java.lang.String message )
  
```

37.56 Exception UnitException

```

mil.dtra.units
public UnitException
extends RuntimeException
  
```

Extension of RuntimeException for problems related to unit conversions.

37.56.1 Constructor UnitException()

```

public
UnitException()
  
```

37.56.2 Constructor UnitException()

```
public  
UnitException( java.lang.String message )
```

CHAPTER 38

Package mil.dtra.swing

Extends JFC/Swing capabilities with reusable, extendable, and convenience components and facilities to set all bean properties dynamically.

The property setting capability has been disabled due to concerns among the HPAC development team regarding the performance hits in traversing the introspected property list upon construction of each component. Although commented out, this capability could be reinstated if a future need for it arises.

Classes:

- ActionCheckMenuItemSpec
- ActionMenuItemSpec
- ActionMenuSpec
- ActionRadioMenuItemSpec
- ActionSupport
- CheckMenuItemSpec
- DropTargetHandler
- GradientAttrs
- GradientPanel
- JAnimatedLabel
- JMultiLineLabel
- MenuAction
- MenuItemSpec
- MenuSpec
- MessageLabel
- NewMetalTheme
- PAuthBean
- PButton
- PButtonPanel
- PCardBox
- PCheckBox
- PComboBox
- PComponent
- PDialogPanel
- PLabel
- PList

PNumberTextField
 PProgressBar
 PRadioButton
 PRenderedLabel
 PScrollBar
 PSlider
 PTabbedPane
 PTextArea
 PTextField
 PTitledBorder
 PToggleButton
 PValueLabel
 RadioMenuItemSpec
 SwingWorker

38.1 Class ActionCheckMenuItemSpec

```
mil.dtra.swing
public ActionCheckMenuItemSpec
extends ActionMenuItemSpec
```

Extends ActionMenuItemSpec to provide a constructor for JCheckBoxMenuItem.

38.1.1 Constructor ActionCheckMenuItemSpec()

```
public
ActionCheckMenuItemSpec(
    javax.swing.Action action,
    boolean state
)
```

Constructs for a JCheckBoxMenuItem with no mnemonic or accelerator.

Parameters:

- action - action object, null signifying a separator
- state - check state

38.1.2 Constructor ActionCheckMenuItemSpec()

```
public
ActionCheckMenuItemSpec(
```

```
javax.swing.Action action,
int mnemonic,
int accelerator,
boolean state
)
```

Constructs for a JCheckBoxMenuItem.

Parameters:

- action - action object, null signifying a separator
- mnemonic - mnemonic key stroke for this item once the menu is posted
- accelerator - accelerator shortcut for this item (not requiring a post of the menu)
- state - check state

38.2 Class ActionMenuItemSpec

```
mil.dtra.swing
public ActionMenuItemSpec
extends Object
```

This class provides a single facility for specifying a JMenuItem, JCheckBoxMenuItem, or a JRadioButtonMenuItem for an action. Accelerators are activated using the Event.CTRL_MASK modifier by default.

After construction, `createItem()` must be called to actually build the item.

Fields:

```
public static final java.lang.String ACTION
public static final javax.swing.Icon BLANK_ICON
public static final int CHECK
protected javax.swing.KeyStroke fAccelerator
protected javax.swing.Action fAction
protected boolean fCheckState
protected int fCheckType
protected int fMnemonic
public static final int NONE
public static final int RADIO
public static final java.lang.String RES_blankIcon
public static final mil.dtra.swing.ActionMenuItemSpec SEPARATOR
```

Methods:

```
public javax.swing.JMenuItem createItem()
```

38.2.1 Field ACTION

public static final java.lang.String ACTION

38.2.2 Field BLANK_ICON

public static final javax.swing.Icon BLANK_ICON

Blank 24x24 action icon

38.2.3 Field CHECK

public static final int CHECK

Check type for a JCheckBoxMenuItem

38.2.4 Field fAccelerator

protected javax.swing.KeyStroke fAccelerator

38.2.5 Field fAction

protected javax.swing.Action fAction

38.2.6 Field fCheckState

protected boolean fCheckState

38.2.7 Field fCheckType

protected int fCheckType

38.2.8 Field fMnemonic

protected int fMnemonic

38.2.9 Field NONE

public static final int NONE

Check type for a JMenuItem

38.2.10 Field RADIO

```
public static final int RADIO
```

Check type for a JRadioButtonMenuItem

38.2.11 Field RES_blankIcon

```
public static final java.lang.String RES_blankIcon
```

38.2.12 Field SEPARATOR

```
public static final mil.dtra.swing.ActionMenuItemSpec SEPARATOR
```

Constant representing a separator menu item

38.2.13 Constructor ActionMenuItemSpec()

```
public  
ActionMenuItemSpec( javax.swing.Action action )
```

Constructs for a JMenuItem with no mnemonic or accelerator.

Parameters:

action - action object, null signifying a separator

38.2.14 Constructor ActionMenuItemSpec()

```
public  
ActionMenuItemSpec(  
    javax.swing.Action action,  
    int mnemonic,  
    int accelerator  
)
```

Constructs for a JMenuItem.

Parameters:

action - action object, null signifying a separator

mnemonic - mnemonic key stroke for this item once the menu is posted

accelerator - accelerator Ctrl key code

38.2.15 Constructor ActionMenuItemSpec()

```
public
ActionMenuItemSpec(
    javax.swing.Action action,
    int mnemonic,
    javax.swing.KeyStroke accelerator
)
```

Constructs for a JMenuItem.

Parameters:

- action - action object, null signifying a separator
- mnemonic - mnemonic key stroke for this item once the menu is posted
- accelerator - accelerator key stroke

38.2.16 Constructor ActionMenuItemSpec()

```
public
ActionMenuItemSpec(
    javax.swing.Action action,
    int mnemonic,
    int accelerator,
    int check_type,
    boolean state
)
```

Complete constructor. The item text is taken from the short description of the action, and the icon comes from the action as well.

Parameters:

- action - action object, null signifying a separator
- mnemonic - mnemonic key stroke for this item once the menu is posted
- accelerator - accelerator key code
- check_type - either CHECK, RADIO, or NONE
- state - check state

38.2.17 Constructor ActionMenuItemSpec()

```
public
ActionMenuItemSpec(
    javax.swing.Action action,
    int mnemonic,
    javax.swing.KeyStroke accelerator,
    int check_type,
    boolean state
)
```

Complete constructor. The item text is taken from the short description of the action, and the icon comes from the action as well.

Parameters:

- action - action object, null signifying a separator
- action_name - name of action object, null signifying a separator
- mnemonic - mnemonic key stroke for this item once the menu is posted
- accelerator - accelerator KeyStroke
- check_type - either CHECK, RADIO, or NONE
- state - check state

38.2.18 Method createItem()

```
public javax.swing.JMenuItem
createItem()
```

Builds the corresponding menu item object from the definition determined by the constructor.

Returns:

JMenuItem (or subclass) object, or null if the action was not specified

38.3 Class ActionMenuSpec

```
mil.dtra.swing
public ActionMenuSpec
extends ActionMenuItemSpec
```

This class provides a facility for specifying a JMenu and using that specification to create a JMenu as a JMenuItem, a JPopupMenu, or a JMenuBar.

Fields:

```
protected boolean fBlankIconFlag
protected mil.dtra.swing.ActionMenuItemSpec[] fItemSpecs
protected boolean fTearOffFlag
protected java.lang.String fText
```

Methods:

```
public static void buildMenuBar()
public static void buildMenuBar()
public javax.swing.JMenuItem createItem()
public final javax.swing.JMenu createMenu()
public javax.swing.JMenu createMenu()
public static javax.swing.JMenuBar createMenuBar()
public static javax.swing.JMenuBar createMenuBar()
public javax.swing.JPopupMenu createPopup()
public static javax.swing.JMenu findMenu()
public static javax.swing.JMenuItem findMenuItem()
public static javax.swing.JMenuItem findMenuItem()
```

38.3.1 Field fBlankIconFlag

protected boolean **fBlankIconFlag**

38.3.2 Field fItemSpecs

protected mil.dtra.swing.ActionMenuItemSpec[] **fItemSpecs**

38.3.3 Field fTearOffFlag

protected boolean **fTearOffFlag**

38.3.4 Field fText

protected java.lang.String **fText**

38.3.5 Constructor ActionMenuItemSpec()

```
public
ActionMenuItemSpec( java.lang.String text )
```

Constructs with no mnemonic, or items and assuming no tearoff or blank icon.

Parameters:

text - menu label text

38.3.6 Constructor ActionMenuSpec()

```
public
ActionMenuSpec(
    java.lang.String  text,
    int  mnemonic
)
```

Constructs with no items and assuming no tearoff or blank icon.

Parameters:

text - menu label text
mnemonic - mnemonic key stroke for this menu on a menu bar

38.3.7 Constructor ActionMenuSpec()

```
public
ActionMenuSpec(
    java.lang.String  text,
    mil.dtra.swing.ActionMenuItemSpec[]  specs
)
```

Constructs with no mnemonic and assuming no tearoff or blank icon.

Parameters:

text - menu label text
item_specs - array of item definitions

38.3.8 Constructor ActionMenuSpec()

```
public
ActionMenuSpec(
    java.lang.String  text,
    int  mnemonic,
    boolean  blank_icon_flag
)
```

Constructs with no items and assuming no tearoff.

Parameters:

- text - menu label text
- mnemonic - mnemonic key stroke for this menu on a menu bar
- blank_icon_flag - specifies whether or not a blank icon should be set for the *icon* property

38.3.9 Constructor ActionMenuSpec()

```
public
ActionMenuSpec(
    java.lang.String text,
    int mnemonic,
    mil.dtra.swing.ActionMenuItemSpec[] item_specs,
    boolean tearoff_flag,
    boolean blank_icon_flag
)
```

Complete constructor.

Parameters:

- text - menu label text
- mnemonic - mnemonic key stroke for this menu on a menu bar
- item_specs - array of item definitions
- tearoff_flag - true if the menu can be *torn off*, false otherwise
- blank_icon_flag - specifies whether or not a blank icon should be set for the *icon* property

38.3.10 Method buildMenuBar()

```
public static void
buildMenuBar(
    javax.swing.JMenuBar menu_bar,
    mil.dtra.swing.ActionMenuSpec[] menu_specs
)
```

Assigns menu items defined by the menu specifications to the menu bar using the default font.

Parameters:

- menu_bar - menu bar to which to add menus
- menu_specs - array of menu definitions

38.3.11 Method buildMenuBar()

```
public static void
buildMenuBar(
    javax.swing.JMenuBar menu_bar,
    mil.dtra.swing.ActionMenuSpec[] menu_specs,
    java.awt.Font font
)
```

Assigns menu items defined by the menu specifications to the menu bar.

Parameters:

- menu_bar - menu bar to which to add menus
- menu_specs - array of menu definitions
- font - default font for menu items

38.3.12 Method createItem()

```
public javax.swing.JMenuItem
createItem()
```

Overrides `ActionMenuItemSpec.createItem()` to return the result of `createMenu()` (since `JMenu` extends `JMenuItem`).

Returns:

- new menu object cast as a menu item

38.3.13 Method createMenu()

```
public final javax.swing.JMenu
createMenu()
```

Creates a `JMenu` object according to the definition of the constructor and assuming the default font.

Returns:

- new menu object

38.3.14 Method createMenu()

```
public javax.swing.JMenu
createMenu( java.awt.Font font )
```

Creates a JMenu object according to the definition of the constructor and using the specified font.

Parameters:

font - default font for menu items

Returns:

new menu object

38.3.15 Method createMenuBar()

```
public static javax.swing.JMenuBar
createMenuBar( mil.dtra.swing.ActionMenuSpec[] menu_specs )
```

Creates a JMenuBar as defined by the menu specifications provided assuming the default font.

Parameters:

menu_specs - array of menu definitions

Returns:

new menu bar object

38.3.16 Method createMenuBar()

```
public static javax.swing.JMenuBar
createMenuBar(
    mil.dtra.swing.ActionMenuSpec[] menu_specs,
    java.awt.Font font
)
```

Creates a JMenuBar as defined by the menu specifications provided and using the specified font.

Parameters:

menu_specs - array of menu definitions
font - font for menu items

Returns:

new menu bar object

38.3.17 Method `createPopupMenu()`

```
public javax.swing.JPopupMenu
createPopupMenu()
```

Creates a JPopupMenu object according to the definition of the constructor.

Returns:

new popup menu object

38.3.18 Method `findMenu()`

```
public static javax.swing.JMenu
findMenu(
    javax.swing.JMenuBar menu_bar,
    java.lang.String menu_title
)
```

Locates a menu in a menu bar.

Parameters:

menu_bar - menu bar on which to search for a menu
 menu_title - title of menu to find

Returns:

matching JMenu object or null if not found

38.3.19 Method `findMenuItem()`

```
public static javax.swing.JMenuItem
findMenuItem(
    javax.swing.JMenu menu,
    javax.swing.Action action
)
```

Locates a menu item in a menu by its action. Note the action comparison is for the same object reference.

Parameters:

menu - menu on which to search for an item
 action - action to find on item

Returns:

matching JMenuItem or null if not found

38.3.20 Method `findMenuItem()`

```
public static javax.swing.JMenuItem
findMenuItem(
    javax.swing.JMenu menu,
    java.lang.String item_text
)
```

Locates a menu item in a menu by the item text.

Parameters:

menu - menu on which to search for an item
item_text - text of item to find

Returns:

matching JMenuItem or null if not found

38.4 Class ActionRadioButtonMenuItemSpec

```
mil.dtra.swing
public ActionRadioButtonMenuItemSpec
extends ActionMenuItemSpec
```

Extends ActionMenuItemSpec to provide a constructor for JRadioButtonMenuItem.

38.4.1 Constructor `ActionRadioButtonMenuItemSpec()`

```
public
ActionRadioButtonMenuItemSpec(
    javax.swing.Action action,
    boolean state
)
```

Constructs for a JRadioButtonMenuItem with no mnemonic or accelerator.

Parameters:

action - action object, null signifying a separator
state - check state

38.4.2 Constructor ActionRadioMenuItemSpec()

```
public
ActionRadioMenuItemSpec(
    javax.swing.Action action,
    int mnemonic,
    int accelerator,
    boolean state
)
```

Constructs for a JRadioButtonMenuItem.

Parameters:

- action - action object, null signifying a separator
- mnemonic - mnemonic key stroke for this item once the menu is posted
- accelerator - accelerator shortcut for this item (not requiring a post of the menu)
- state - check state

38.5 Class ActionSupport

```
mil.dtra.swing
public ActionSupport
extends Object
```

Analogous to PropertyChangeSupport, provides facilities for managing action listeners and firing action events.

This capability should be part of the java.awt.event package.

Fields:

```
protected javax.swing.event.EventListenerList fListenerList
```

Methods:

```
public void addActionListener()
public void fireAction()
public void removeActionListener()
```

38.5.1 Field fListenerList

```
protected javax.swing.event.EventListenerList fListenerList
```

38.5.2 Constructor ActionSupport()

```
public
ActionSupport()
```

Defalut and only constructor.

38.5.3 Method addActionListener()

```
public void
addActionListener( java.awt.event.ActionListener listener )
```

Adds an action listener.

Parameters:

listener - listener to be added

38.5.4 Method fireAction()

```
public void
fireAction(
    java.lang.Object source,
    java.lang.String command
)
```

Fires an ActionEvent to all registered listeners.

Parameters:

source - action event source
command - action event command

38.5.5 Method removeActionListener()

```
public void
removeActionListener( java.awt.event.ActionListener listener )
```

Removes an action listener.

Parameters:

listener - listener to be removed

38.6 Class CheckMenuItemSpec

```
mil.dtra.swing
public CheckMenuItemSpec
extends MenuItemSpec
```

This class provides a single facility for specifying a JCheckBoxMenuItem. After construction, `createItem()` must be called to actually build the item.

38.6.1 Constructor CheckMenuItemSpec()

```
public
CheckMenuItemSpec(
    java.lang.String label,
    boolean state
)
```

Just a label with the same action command and no icon, mnemonic, or accelerator.

Parameters:

- label - text for this item's label
- state - check state

38.6.2 Constructor CheckMenuItemSpec()

```
public
CheckMenuItemSpec(
    java.lang.String label,
    javax.swing.Icon icon,
    int mnemonic,
    java.lang.String action_command,
    javax.swing.KeyStroke accelerator,
    boolean state
)
```

Constructs with all property values specified.

Parameters:

- label - text for this item's label
- icon - icon for this item
- mnemonic - mnemonic key stroke for this item once the menu is posted
- action_command - null if the label is the action command, a command string otherwise
- accelerator - accelerator shortcut for this item (not requiring a post of the menu)
- state - check state

38.7 Class DropTargetHandler

```
mil.dtra.swing
public abstract DropTargetHandler
extends Object
implements DropTargetListener,
```

Implements DropTargetListener to provide common functionality for all drop targets. Isolates handling of the data, the real processing, in the handleDrop() method which extensions must implement.

Fields:

```
public static final java.lang.String DROP_TARGET_HANDLER
protected int fAcceptAction
protected java.util.List fFlavorList
```

Methods:

```
public void dragEnter()
public void dragExit()
public void dragOver()
public void drop()
public void dropActionChanged()
public final int getAcceptAction()
public final java.util.List getFlavorList()
public abstract boolean handleDrop()
public boolean isDragOK()
public final void setAcceptAction()
public final void setFlavorList()
```

38.7.1 Field DROP_TARGET_HANDLER

```
public static final java.lang.String DROP_TARGET_HANDLER
```

38.7.2 Field fAcceptAction

```
protected int fAcceptAction
```

38.7.3 Field fFlavorList

```
protected java.util.List fFlavorList
```

38.7.4 Constructor DropTargetHandler()

```
public
DropTargetHandler( java.util.List flavor_list )
```

Constructs assuming ACTION_COPY_OR_MOVE as the action to accept.

Parameters:

flavor_list - list (ordered collection) of flavors to accept

38.7.5 Constructor DropTargetHandler()

```
public
DropTargetHandler(
    int action,
    java.util.List flavor_list
)
```

Constructs with the action to accept and the list (ordered collection) of flavors to accept.

Parameters:

action - action to accept
flavor_list - list (ordered collection) of flavors to accept

38.7.6 Method dragEnter()

```
public void
dragEnter( java.awt.dnd.DropTargetDragEvent event )
```

In order to provide visual feedback, subclasses need to override this method. First test with `is-DragOK(event)` to see if the drag should be accepted. If so, call `event.acceptDrag()` and provide the feedback. Else, call `event.rejectDrag()`.

38.7.7 Method dragExit()

```
public void
dragExit( java.awt.dnd.DropTargetEvent event )
```

If a subclass is providing visual feedback, and thus overriding `dragEnter()`, this method must be overridden to restore the visual state of the target component.

38.7.8 Method dragOver()

```
public void
dragOver( java.awt.dnd.DropTargetDragEvent event )
```

This method mimics dragEnter().

38.7.9 Method drop()

```
public void
drop( java.awt.dnd.DropTargetDropEvent event )
```

Checks the event, and if the event is okay (i.e., has an acceptable flavor), accepts the drop and calls handleDrop() to determine dropComplete() status. Otherwise, it rejects the drop.

38.7.10 Method dropActionChanged()

```
public void
dropActionChanged( java.awt.dnd.DropTargetDragEvent event )
```

This method mimics dragEnter().

38.7.11 Method getAcceptAction()

```
public final int
getAcceptAction()
```

Accessor for the *acceptAction* property.

Returns:

accept action mask

38.7.12 Method getFlavorList()

```
public final java.util.List
getFlavorList()
```

Accessor for the *flavorList* property.

Returns:

reference to the flavor list object

38.7.13 Method handleDrop()

```
public abstract boolean
handleDrop(
    java.awt.dnd.DropTargetDropEvent event,
    java.awt.datatransfer.DataFlavor flavor
)
```

Process the drop event and determines the success or failure of the drop operation. Extension must implement this method.

Returns:

true if the drop is successful, false otherwise

38.7.14 Method isDragOK()

```
public boolean
isDragOK( java.awt.dnd.DropTargetDragEvent event )
```

Determines whether or not the drag event should be accepted. It first checks that one of the accepted flavors is supported by the drag source and then checks that the source action intersects with the actions accepted by this handler.

38.7.15 Method setAcceptAction()

```
public final void
setAcceptAction( int action )
```

Accessor for the *acceptAction* property.

Parameters:

action - accept action mask

38.7.16 Method setFlavorList()

```
public final void
setFlavorList( java.util.List flavor_list )
```

Accessor for the *flavorList* property.

Parameters:

flavor_list - list object whose reference is stored

38.8 Class GradientAttrs

```
mil.dtra.swing
public GradientAttrs
extends AbstractPropsSerializer
```

Provides facilities for painting backgrounds with a `GradientPaint`. Encapsulates the properties describing a `GradientPaint`. Default property values are:

Fields:

```
protected java.lang.String fOrientation
protected java.awt.Color fStartColor
protected java.awt.Color fStopColor
protected boolean fUseGradient
public static final java.lang.String HORIZONTAL
public static final java.lang.String VERTICAL
```

Methods:

```
public boolean fillRect()
public final java.lang.String getOrientation()
public final java.awt.Color getStartColor()
public final java.awt.Color getStopColor()
public final boolean getUseGradient()
public final void setOrientation()
public final void setStartColor()
public final void setStopColor()
public final void setUseGradient()
```

38.8.1 Field fOrientation

protected java.lang.String **fOrientation**

38.8.2 Field fStartColor

protected java.awt.Color **fStartColor**

38.8.3 Field fStopColor

protected java.awt.Color **fStopColor**

38.8.4 Field fUseGradient

protected boolean **fUseGradient**

38.8.5 Field HORIZONTAL

public static final java.lang.String **HORIZONTAL**

Orientation constant

38.8.6 Field VERTICAL

public static final java.lang.String **VERTICAL**

Orientation constant

38.8.7 Constructor GradientAttrs()

public
GradientAttrs()

Default constructor.

38.8.8 Constructor GradientAttrs()

public
GradientAttrs(
 mil.dtra.util.ValueProperties props,
 java.lang.String key
)

Deserializes by calling `readProps()`.

Parameters:

props - object with properties for this
key - property key, where null implies blank

38.8.9 Method fillRect()

public boolean
fillRect(
 java.awt.Graphics graphics,
 int width,
 int height
)

Attempts to file from the origin of the graphics context to the specified extents using the defined gradient. The *useGradient* property must be true, and the graphics must be a Graphics2D indicating Java2D is available.

Returns:

true if the fill was accomplished, false if not due to unavailability of Java2D or *useGradient* being false

38.8.10 Method `getOrientation()`

```
public final java.lang.String
getOrientation()
```

Accessor for the *orientation* property.

Returns:

one of HORIZONTAL, VERTICAL.

38.8.11 Method `getStartColor()`

```
public final java.awt.Color
getStartColor()
```

Accessor for the *startColor* property.

38.8.12 Method `getStopColor()`

```
public final java.awt.Color
getStopColor()
```

Accessor for the *stopColor* property.

38.8.13 Method `getUseGradient()`

```
public final boolean
getUseGradient()
```

Accessor for the *useGradient* property.

38.8.14 Method **setOrientation()**

```
public final void
setOrientation( java.lang.String orientation )
```

Accessor for the *orientation* property.

Parameters:

orientation - one of HORIZONTAL, VERTICAL.

38.8.15 Method **setStartColor()**

```
public final void
setStartColor( java.awt.Color color )
```

Accessor for the *startColor* property.

38.8.16 Method **setStopColor()**

```
public final void
setStopColor( java.awt.Color color )
```

Accessor for the *stopColor* property.

38.8.17 Method **setUseGradient()**

```
public final void
setUseGradient( boolean flag )
```

Accessor for the *useGradient* property.

38.9 Class **GradientPanel**

```
mil.dtra.swing
public GradientPanel
extends JPanel
```

JPanel() extension using a GradientAttrs instance for background painting.

Fields:

protected mil.dtra.swing.GradientAttrs fGradientAttrs

Methods:

```
public final mil.dtra.swing.GradientAttrs getGradientAttrs()
protected void paintComponent()
public void repack()
public final void setGradientAttrs()
```

38.9.1 Field fGradientAttrs

protected mil.dtra.swing.GradientAttrs **fGradientAttrs**

38.9.2 Constructor GradientPanel()

public
GradientPanel()

38.9.3 Constructor GradientPanel()

public
GradientPanel(java.awt.LayoutManager layout)

38.9.4 Method getGradientAttrs()

public final mil.dtra.swing.GradientAttrs
getGradientAttrs()

Returns:
object reference

38.9.5 Method paintComponent()

protected void
paintComponent(java.awt.Graphics graphics)

Overrides JPanel.paintComponent() to do gradient fills if Java2D is available the *useGradient* property of *gradientAttrs* is true.

38.9.6 Method repack()

public void
repack()

Attempts to repack the parent window, if it exists.

38.9.7 Method **setGradientAttrs()**

```
public final void
setGradientAttrs( mil.dtra.swing.GradientAttrs attrs )
```

Parameters:

attrs - object reference to store

38.10 Class **JAnimatedLabel**

```
mil.dtra.swing
public JAnimatedLabel
extends JLabel
implements ActionListener,
```

Extension of `JLabel` to provide a label with a rotating set of icons for animation. It differs from using using an animated image in that you can you `start()` and `stop()` the animation and control the speed.

Properties:

Fields:

```
protected javax.swing.Icon[] fIcons
protected int fIndex
protected javax.swing.Timer fTimer
```

Methods:

```
public void actionPerformed()
public final int getDelay()
public final javax.swing.Icon[] getIcons()
public void loadIcons()
public void setDelay()
public void setIcons()
public void start()
public void stop()
```

38.10.1 Field **fIcons**

protected javax.swing.Icon[] **fIcons**

38.10.2 Field **fIndex**

protected int **fIndex**

38.10.3 Field **fTimer**

`protected javax.swing.Timer fTimer`

38.10.4 Constructor **JAnimatedLabel()**

```
public
JAnimatedLabel()
```

Default constructor. If not used for deserialization, must call `setDelay()` and `setIcons()`.

38.10.5 Constructor **JAnimatedLabel()**

```
public
JAnimatedLabel(
    javax.swing.Icon[] icons,
    int delay
)
```

Constructs with the explicit property values.

Parameters:

- icons - array of icons for the animation sequence
- delay - timer delay in milliseconds

38.10.6 Constructor **JAnimatedLabel()**

```
public
JAnimatedLabel(
    java.lang.Class res_class,
    java.lang.String[] icon_names,
    int delay
)
```

Constructs from the parameters calling `loadIcons()` and `setDelay()`.

Parameters:

- res_class - class used to retrieve resources
- icon_names - array of names of icon resources relative to the specified class
- delay - timer delay in milliseconds

38.10.7 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

Responds to action events.

38.10.8 Method getDelay()

```
public final int
getDelay()
```

Accessor for the *delay* property.

Returns:

timer delay in milliseconds or -1 if the timer has not been created

38.10.9 Method getIcons()

```
public final javax.swing.Icon[]
getIcons()
```

Accessor for the *delay* property.

Returns:

reference to the array of icons defining the animation

38.10.10 Method loadIcons()

```
public void
loadIcons(
    java.lang.Class res_class,
    java.lang.String[] icon_names
)
```

Convenience method to build icons from the resource names relative to the specified class. The class is used to retrieve the resources in a `getResource()` call.

Parameters:

`res_class` - class used to retrieve resources

`icon_names` - array of names of icon resources relative to the specified class

38.10.11 Method `setDelay()`

```
public void
setDelay( int delay )
```

Accessor for the *delay* property. If the timer has yet to be created, a timer instance is created.

Parameters:

delay - timer delay in milliseconds

38.10.12 Method `setIcons()`

```
public void
setIcons( javax.swing.Icon[] icons )
```

Accessor for the *icons* property.

Parameters:

icons - array of icons for the animation sequence

38.10.13 Method `start()`

```
public void
start()
```

Starts the animation sequence. Does nothing if the timer has not been created.

38.10.14 Method `stop()`

```
public void
stop()
```

Stops the animation sequence. Does nothing if the timer has not been created.

38.11 Class `JMultiLineLabel`

```
mil.dtra.swing
public JMultiLineLabel
extends JComponent
implements SwingConstants,
```

Extension of `JComponent` to support multi-line labels.

Properties:

Fields:

```
public static final java.lang.String DEFAULT_DELIMITER
protected int fAlignment
protected java.lang.String fDelimiter
protected boolean fShadowedTextFlag
protected java.lang.String[] fStrings
protected java.lang.String fText
public static final java.lang.String PROP_alignment
public static final java.lang.String PROP_delimiter
public static final java.lang.String PROP_shadowedTextFlag
public static final java.lang.String PROP_text
```

Methods:

```
protected java.lang.String[] buildStrings()
public final int getAlignment()
public final java.lang.String getDelimiter()
public java.awt.Dimension getMinimumSize()
public java.awt.Dimension getPreferredSize()
public final boolean getShadowedTextFlag()
public final java.lang.String getText()
public void paintComponent()
public final void setAlignment()
public final void setDelimiter()
public void setShadowedTextFlag()
public void setText()
```

38.11.1 Field **DEFAULT_DELIMITER**

public static final java.lang.String **DEFAULT_DELIMITER**

Default delimiter, _'n'_

38.11.2 Field **fAlignment**

protected int **fAlignment**

38.11.3 Field **fDelimiter**

protected java.lang.String **fDelimiter**

38.11.4 Field **fShadowedTextFlag**

protected boolean **fShadowedTextFlag**

38.11.5 Field fStrings

```
protected java.lang.String[] fStrings
```

38.11.6 Field fText

```
protected java.lang.String fText
```

38.11.7 Field PROP_alignment

```
public static final java.lang.String PROP_alignment
```

38.11.8 Field PROP_delimiter

```
public static final java.lang.String PROP_delimiter
```

38.11.9 Field PROP_shadowedTextFlag

```
public static final java.lang.String PROP_shadowedTextFlag
```

38.11.10 Field PROP_text

```
public static final java.lang.String PROP_text
```

38.11.11 Constructor JMultiLineLabel()

```
public  
JMultiLineLabel()
```

Constructs assuming newline as a delimiter, center alignment, no shadowing, and null text.

38.11.12 Constructor JMultiLineLabel()

```
public  
JMultiLineLabel( java.lang.String text )
```

Constructs assuming newline as a delimiter, center alignment, and no shadowing.

Parameters:

text - text for the label

38.11.13 Constructor JMultiLineLabel()

```
public
JMultiLineLabel(
    java.lang.String text,
    java.lang.String delimiter
)
```

Constructs assuming center alignment and no shadowing.

Parameters:

- text - text for the label
- delimiter - text line delimiter

38.11.14 Constructor JMultiLineLabel()

```
public
JMultiLineLabel(
    java.lang.String text,
    java.lang.String delimiter,
    int alignment,
    boolean shadowed_text_flag
)
```

Constructs with explicit property values.

Parameters:

- text - text for the label
- delimiter - text line delimiter
- int - text alignment for each line
- shadowed_text_flag - true if text is to be shadowed

38.11.15 Method buildStrings()

```
protected java.lang.String[]
buildStrings(
    java.lang.String text,
    java.lang.String delimiter
)
```

Given a text string, parses it into an array of lines based on the specified delimiter.

Parameters:

text - text to parse
delimiter - line delimiter

Returns:

array of lines

38.11.16 Method `getAlignment()`

public final int
getAlignment()

Accessor for the *alignment* property.

Returns:

alignment value, one of LEFT, CENTER, RIGHT.

38.11.17 Method `getDelimiter()`

public final java.lang.String
getDelimiter()

Accessor for the *delimiter* property.

Returns:

line delimiter string

38.11.18 Method `getMinimumSize()`

public java.awt.Dimension
getMinimumSize()

Overrides JComponent.getMinimumSize() to compute the size based on the current strings and font.

Returns:

size

38.11.19 Method `getPreferredSize()`

```
public java.awt.Dimension
getPreferredSize()
```

Overrides `JComponent .getPreferredSize()` to compute the size based on the current strings and font.

Returns:

size

38.11.20 Method `getShadowedTextFlag()`

```
public final boolean
getShadowedTextFlag()
```

Accessor for the *shadowedTextFlag* property.

Returns:

true if the text is to be shadowed, false otherwise

38.11.21 Method `getText()`

```
public final java.lang.String
getText()
```

Accessor for the *text* property.

Returns:

text displayed

38.11.22 Method `paintComponent()`

```
public void
paintComponent( java.awt.Graphics gfx )
```

Overrides `JComponent .paintComponent()` to render each line of the text.

38.11.23 Method setAlignment()

```
public final void
setAlignment( int alignment )
```

Accessor for the *alignment* property.

Parameters:

alignment - one of LEFT, CENTER, RIGHT.

38.11.24 Method setDelimiter()

```
public final void
setDelimiter( java.lang.String delim )
```

Accessor for the *delimiter* property.

Parameters:

delim - line delimiter string

38.11.25 Method setShadowedTextFlag()

```
public void
setShadowedTextFlag( boolean flag )
```

Accessor for the *shadowedTextFlag* property.

Parameters:

flag - true if the text is to be shadowed, false otherwise

38.11.26 Method setText()

```
public void
setText( java.lang.String text )
```

Accessor for the *text* property.

Parameters:

text - text to display

38.12 Class MenuAction

```
mil.dtra.swing
public abstract MenuAction
extends AbstractAction
```

Extension of `AbstractAction` to create actions for use in a menu as well as a tool bar. In order to allow menu definitions to be separate from the object(s) which handle actions on the menu, a delegator mechanism in which the real `ActionListener` object is passed to the menu creator is necessary.

Fields:

```
public static final java.lang.String ACCELERATOR
public static final java.lang.String MNEMONIC
```

Methods:

```
public final javax.swing.KeyStroke getAccelerator()
public final javax.swing.Icon getIcon()
public final java.lang.String getLongDescription()
public final int getMnemonic()
public final java.lang.String getName()
public final java.lang.String getShortDescription()
```

38.12.1 Field ACCELERATOR

```
public static final java.lang.String ACCELERATOR
```

38.12.2 Field MNEMONIC

```
public static final java.lang.String MNEMONIC
```

38.12.3 Constructor MenuAction()

```
public
MenuAction( java.lang.String name )
```

Constructs assuming no icon, short description, long description, mnemonic or accelerator.

Parameters:

name - action name

38.12.4 Constructor MenuAction()

```
public
MenuAction(
    java.lang.String name,
    javax.swing.Icon icon,
    java.lang.String short_descr
)
```

Constructs assuming no long description, mnemonic or accelerator.

Parameters:

- name - action name
- icon - action icon
- short_descr - short description

38.12.5 Constructor MenuAction()

```
public
MenuAction(
    java.lang.String name,
    javax.swing.Icon icon,
    java.lang.String short_descr,
    java.lang.String long_descr
)
```

Constructs assuming no mnemonic or accelerator.

Parameters:

- name - action name
- icon - action icon
- short_descr - short description
- long_descr - long description

38.12.6 Constructor MenuAction()

```
public
MenuAction(
```

```
java.lang.String name,
javax.swing.Icon icon,
java.lang.String short_descr,
java.lang.String long_descr,
int mnemonic,
javax.swing.KeyStroke accelerator
)
```

Constructs with all properties specified.

Parameters:

- name - action name
- icon - action icon
- short_descr - short description
- long_descr - long description
- mnemonic - mnemonic for the action item
- accelerator - accelerator keystroke

38.12.7 Method getAccelerator()

```
public final javax.swing.KeyStroke
getAccelerator()
```

Accessor for the *accelerator* property.

Returns:

- accelerator key stroke

38.12.8 Method getIcon()

```
public final javax.swing.Icon
getIcon()
```

Accessor for the *icon* property.

Returns:

- icon

38.12.9 Method `getLongDescription()`

```
public final java.lang.String  
getLongDescription()
```

Accessor for the *longDescription* property.

Returns:

action long description

38.12.10 Method `getMnemonic()`

```
public final int  
getMnemonic()
```

Accessor for the *mnemonic* property.

Returns:

menomonic key

38.12.11 Method `getName()`

```
public final java.lang.String  
getName()
```

Accessor for the *name* property.

Returns:

action name

38.12.12 Method `getShortDescription()`

```
public final java.lang.String  
getShortDescription()
```

Accessor for the *shortDescription* property.

Returns:

action short description

38.13 Class MenuItemSpec

```
mil.dtra.swing
public MenuItemSpec
extends Object
```

This class provides a single facility for specifying either a `JMenuItem` or a `JCheckBoxMenuItem`. After construction, `createItem()` must be called to actually build the item.

Fields:

```
public static final int CHECK
public javax.swing.KeyStroke fAccelerator
public java.lang.String fActionCommand
public boolean fCheckState
public int fCheckType
public javax.swing.Icon fIcon
public java.lang.String fLabel
public int fMnemonic
public static final int NO_MNEMONIC
public static final int NONE
public static final int RADIO
public static final mil.dtra.swing.MenuItemSpec SEPARATOR
```

Methods:

```
public javax.swing.JMenuItem createItem()
```

38.13.1 Field CHECK

public static final int **CHECK**

Check type for a `JCheckBoxMenuItem`

38.13.2 Field fAccelerator

public javax.swing.KeyStroke **fAccelerator**

Accelerator for this item

38.13.3 Field fActionCommand

public java.lang.String **fActionCommand**

Action command

38.13.4 Field fCheckState

public boolean **fCheckState**

Checkbox state

38.13.5 Field fCheckType

public int **fCheckType**

Value indicating whether or not this is a checkbox or radiobutton item

38.13.6 Field fIcon

public javax.swing.Icon **fIcon**

Icon for this item

38.13.7 Field fLabel

public java.lang.String **fLabel**

Label text for this item

38.13.8 Field fMnemonic

public int **fMnemonic**

Mnemonic for this item (0 if none)

38.13.9 Field NO_MNEMONIC

public static final int **NO_MNEMONIC**

Constant indicating no mnemonic key

38.13.10 Field NONE

public static final int **NONE**

Check type for a JMenuItem

38.13.11 Field RADIO

public static final int **RADIO**

Check type for a JRadioButtonMenuItem

38.13.12 Field SEPARATOR

```
public static final mil.dtra.swing.MenuItemSpec SEPARATOR
```

Constant representing a separator menu item

38.13.13 Constructor MenuItemSpec()

```
public  
MenuItemSpec( java.lang.String label )
```

Simplest JMenuItem constructor. The label is the action command with icon, mnemonic, or accelerator.

Parameters:

label - text for this item's label

38.13.14 Constructor MenuItemSpec()

```
public  
MenuItemSpec(  
    java.lang.String label,  
    int mnemonic  
)
```

Constructs a JMenuItem with a mnemonic.

Parameters:

label - text for this item's label
mnemonic - mnemonic key stroke for this item once the menu is posted

38.13.15 Constructor MenuItemSpec()

```
public  
MenuItemSpec(  
    java.lang.String label,  
    javax.swing.Icon icon,  
    int mnemonic,  
    java.lang.String action_command,  
    javax.swing.KeyStroke accelerator  
)
```

Constructs for a `JMenuItem`.

Parameters:

- label - text for this item's label
 - icon - icon for this item
 - mnemonic - mnemonic key stroke for this item once the menu is posted
 - action_command - null if the label is the action command, a command string otherwise
 - accelerator - accelerator shortcut for this item (not requiring a post of the menu)
-

38.13.16 Constructor `MenuItemSpec()`

```
public
MenuItemSpec(
    java.lang.String label,
    javax.swing.Icon icon,
    int mnemonic,
    java.lang.String action_command,
    javax.swing.KeyStroke accelerator,
    int check_type,
    boolean state
)
```

Complete constructor.

Parameters:

- label - text for this item's label
 - icon - icon for this item
 - mnemonic - mnemonic key stroke for this item once the menu is posted
 - action_command - null if the label is the action command, a command string otherwise
 - accelerator - accelerator shortcut for this item (not requiring a post of the menu)
 - check_type - either CHECK, RADIO, or NONE false if just a `JMenuItem`
 - state - check state
-

38.13.17 Method `createItem()`

```
public javax.swing.JMenuItem
createItem( java.awt.event.ActionListener listener )
```

Builds the corresponding menu item object from the definition determined by the constructor.

Parameters:

listener - reference to the listener to register for this item's action events

Returns:

new JMenuItem (or subclass) object

38.14 Class MenuSpec

```
mil.dtra.swing
public MenuSpec
extends MenuItemSpec
```

This class provides a facility for specifying a JMenu and using that specification to create a JMenu as a JMenuItem, a JPopupMenu, or a JMenuBar.

Fields:

```
public mil.dtra.swing.MenuItemSpec[] fItemSpecs
public boolean fTearOffFlag
```

Methods:

```
public static void buildMenuBar()
public static void buildMenuBar()
public javax.swing.JMenuItem createItem()
public javax.swing.JMenu createMenu()
public javax.swing.JMenu createMenu()
public static javax.swing.JMenuBar createMenuBar()
public static javax.swing.JMenuBar createMenuBar()
public javax.swing.JPopupMenu createPopup()
public static javax.swing.JMenu findMenu()
public static javax.swing.JMenuItem findMenuItem()
```

38.14.1 Field fItemSpecs

public mil.dtra.swing.MenuItemSpec[] fItemSpecs

Array of item specifications for this menu

38.14.2 Field fTearOffFlag

public boolean fTearOffFlag

Flags whether or not this menu can be *torn off*

38.14.3 Constructor MenuSpec()

```
public  
MenuSpec( java.lang.String label )
```

Constructs with no icon, mnemonic, or items and assuming no tearoff.

Parameters:

label - text for this menu's label/title

38.14.4 Constructor MenuSpec()

```
public  
MenuSpec(  
    java.lang.String label,  
    mil.dtra.swing.MenuItemSpec[] specs  
)
```

Constructs with no icon or mnemonic and assuming no tearoff.

Parameters:

label - text for this menu's label/title

38.14.5 Constructor MenuSpec()

```
public  
MenuSpec(  
    java.lang.String label,  
    javax.swing.Icon icon,  
    int mnemonic,  
    boolean tearoff_flag  
)
```

Constructs with no item definitions for the initial creation of the corresponding Menu object.

Parameters:

label - text for this menu's label/title

38.14.6 Constructor MenuSpec()

```
public
MenuSpec(
    java.lang.String label,
    javax.swing.Icon icon,
    int mnemonic,
    mil.dtra.swing.MenuItemSpec[] item_specs,
    boolean tearoff_flag
)
```

Complete constructor.

Parameters:

- label - text for this menu's label/title
- icon - icon for this item
- mnemonic - mnemonic key stroke for this menu on a menu bar
- item_specs - array of item definitions
- tearoff_flag - true if the menu can be *torn off*, false otherwise

38.14.7 Method buildMenuBar()

```
public static void
buildMenuBar(
    javax.swing.JMenuBar menu_bar,
    mil.dtra.swing.MenuSpec[] menu_specs,
    java.awt.event.ActionListener listener
)
```

Assigns menu items defined by the menu specifications to the menu bar.

Parameters:

- menu_bar - menu bar to which to add menus
- menu_specs - array of menu definitions
- listener - reference to listener object to register for action events on the items in the menus on the menu bar

Returns:

new menu bar object

38.14.8 Method buildMenuBar()

```
public static void
buildMenuBar(
    javax.swing.JMenuBar menu_bar,
    mil.dtra.swing.MenuSpec[] menu_specs,
    java.awt.event.ActionListener listener,
    java.awt.Font font
)
```

Assigns menu items defined by the menu specifications to the menu bar.

Parameters:

- menu_bar - menu bar to which to add menus
- menu_specs - array of menu definitions
- listener - reference to listener object to register for action events on the items in the menus on the menu bar
- font - default font for menu items

Returns:

new menu bar object

38.14.9 Method createItem()

```
public javax.swing.JMenuItem
createItem( java.awt.event.ActionListener listener )
```

Overrides MenuItemSpec.createItem() to return the result of createMenu() (since JMenu extends JMenuItem).

Parameters:

- listener - reference to listener object to register for action events on the items in this menu

Returns:

new menu object cast as a menu item

38.14.10 Method createMenu()

```
public javax.swing.JMenu
createMenu( java.awt.event.ActionListener listener )
```

Creates a JMenu object according to the definition of the constructor.

Parameters:

listener - reference to listener object to register for action events on the items in this menu

Returns:

new menu object

38.14.11 Method createMenu()

```
public javax.swing.JMenu
createMenu(
    java.awt.event.ActionListener listener,
    java.awt.Font font
)
```

Creates a JMenu object according to the definition of the constructor.

Parameters:

listener - reference to listener object to register for action events on the items in this menu
font - default font for menu items

Returns:

new menu object

38.14.12 Method createMenuBar()

```
public static javax.swing.JMenuBar
createMenuBar(
    mil.dtra.swing.MenuSpec[] menu_specs,
    java.awt.event.ActionListener listener
)
```

Creates a JMenuBar as defined by the menu specifications provided.

Parameters:

menu_specs - array of menu definitions
 listener - reference to listener object to register for action events on the items in the menus on the menu bar

Returns:

new menu bar object

38.14.13 Method createMenuBar()

```
public static javax.swing.JMenuBar
createMenuBar(
    mil.dtra.swing.MenuSpec[] menu_specs,
    java.awt.event.ActionListener listener,
    java.awt.Font font
)
```

Creates a JMenuBar as defined by the menu specifications provided.

Parameters:

menu_specs - array of menu definitions
 listener - reference to listener object to register for action events on the items in the menus on the menu bar
 font - default font for menu items

Returns:

new menu bar object

38.14.14 Method createPopup()

```
public javax.swing.JPopupMenu
createPopup( java.awt.event.ActionListener listener )
```

Creates a JPopupMenu object according to the definition of the constructor.

Parameters:

listener - reference to listener object to register for action events on the items in this menu

Returns:

new popup menu object

38.14.15 Method findMenu()

```
public static javax.swing.JMenu
findMenu(
    javax.swing.JMenuBar menu_bar,
    java.lang.String menu_title
)
```

Locates a menu in a menu bar.

38.14.16 Method findMenuItem()

```
public static javax.swing.JMenuItem
findMenuItem(
    javax.swing.JMenu menu,
    java.lang.String item_text
)
```

Locates a menu item in a menu.

38.15 Class MessageLabel

```
mil.dtra.swing
public MessageLabel
extends JLabel
```

Extension of `JLabel` specifically for a message in a transient, non-modal dialog.

38.15.1 Constructor MessageLabel()

```
public
MessageLabel( java.lang.String message )
```

Constructs assuming no properties override.

Parameters:

message - message for the label

38.15.2 Constructor MessageLabel()

```
public
MessageLabel(
    mil.dtra.util.ValueProperties props,
    java.lang.String message
)
```

Constructs with properties and a message.

Parameters:

props - object with properties for this
 message - message for the label

38.16 Class NewMetalTheme

```
mil.dtra.swing
public NewMetalTheme
extends MetalTheme
```

This is a concrete subclass of the abstract MetalTheme class. It is identical to the DefaultMetalTheme class except it has methods to allow the setting of the default colors and fonts.

Methods:

```
public javax.swing.plaf.FontUIResource getControlTextFont()
public javax.swing.plaf.FontUIResource getMenuTextFont()
public java.lang.String getName()
protected javax.swing.plaf.ColorUIResource getPrimary1()
protected javax.swing.plaf.ColorUIResource getPrimary2()
protected javax.swing.plaf.ColorUIResource getPrimary3()
protected javax.swing.plaf.ColorUIResource getSecondary1()
protected javax.swing.plaf.ColorUIResource getSecondary2()
protected javax.swing.plaf.ColorUIResource getSecondary3()
public javax.swing.plaf.FontUIResource getSubTextFont()
public javax.swing.plaf.FontUIResource getSystemTextFont()
public javax.swing.plaf.FontUIResource getUserTextFont()
public javax.swing.plaf.FontUIResource getWindowTitleFont()
public void setControlFont()
public void setPrimary1()
public void setPrimary2()
public void setPrimary3()
public void setSecondary1()
public void setSecondary2()
public void setSecondary3()
public void setSmallFont()
public void setSystemFont()
```

```
public void setUserFont()
```

38.16.1 Constructor NewMetalTheme()

```
public  
NewMetalTheme()
```

38.16.2 Method getControlTextFont()

```
public javax.swing.plaf.FontUIResource  
getControlTextFont()
```

38.16.3 Method getMenuTextFont()

```
public javax.swing.plaf.FontUIResource  
getMenuTextFont()
```

38.16.4 Method getName()

```
public java.lang.String  
getName()
```

38.16.5 Method getPrimary1()

```
protected javax.swing.plaf.ColorUIResource  
getPrimary1()
```

38.16.6 Method getPrimary2()

```
protected javax.swing.plaf.ColorUIResource  
getPrimary2()
```

38.16.7 Method getPrimary3()

```
protected javax.swing.plaf.ColorUIResource  
getPrimary3()
```

38.16.8 Method **getSecondary1()**

```
protected javax.swing.plaf.ColorUIResource  
getSecondary1()
```

38.16.9 Method **getSecondary2()**

```
protected javax.swing.plaf.ColorUIResource  
getSecondary2()
```

38.16.10 Method **getSecondary3()**

```
protected javax.swing.plaf.ColorUIResource  
getSecondary3()
```

38.16.11 Method **getSubTextFont()**

```
public javax.swing.plaf.FontUIResource  
getSubTextFont()
```

38.16.12 Method **getSystemTextFont()**

```
public javax.swing.plaf.FontUIResource  
getSystemTextFont()
```

38.16.13 Method **getUserTextFont()**

```
public javax.swing.plaf.FontUIResource  
getUserTextFont()
```

38.16.14 Method **getWindowTitleFont()**

```
public javax.swing.plaf.FontUIResource  
getWindowTitleFont()
```

38.16.15 Method **setControlFont()**

```
public void  
setControlFont( java.awt.Font f )
```

38.16.16 Method setPrimary1()

```
public void  
setPrimary1( java.awt.Color c )
```

38.16.17 Method setPrimary2()

```
public void  
setPrimary2( java.awt.Color c )
```

38.16.18 Method setPrimary3()

```
public void  
setPrimary3( java.awt.Color c )
```

38.16.19 Method setSecondary1()

```
public void  
setSecondary1( java.awt.Color c )
```

38.16.20 Method setSecondary2()

```
public void  
setSecondary2( java.awt.Color c )
```

38.16.21 Method setSecondary3()

```
public void  
setSecondary3( java.awt.Color c )
```

38.16.22 Method setSmallFont()

```
public void  
setSmallFont( java.awt.Font f )
```

38.16.23 Method setSystemFont()

```
public void  
setSystemFont( java.awt.Font f )
```

38.16.24 Method **setUserFont()**

```
public void
setUserFont( java.awt.Font f )
```

38.17 Class **PAuthBean**

```
mil.dtra.swing
public PAuthBean
extends PDialogPanel
```

Simple bean for obtaining username-password authentication information.

Fields:

```
protected javax.swing.JTextField fAuthField
protected javax.swing.JLabel fAuthLabel
protected javax.swing.JTextField fUserField
protected javax.swing.JLabel fUserLabel
```

Methods:

```
public final javax.swing.JTextField getAuthField()
public final javax.swing.JLabel getAuthLabel()
public java.lang.String getAuthValue()
public final javax.swing.JTextField getUserField()
public final javax.swing.JLabel getUserLabel()
public java.lang.String getUserValue()
```

38.17.1 Field **fAuthField**

```
protected javax.swing.JTextField fAuthField
```

38.17.2 Field **fAuthLabel**

```
protected javax.swing.JLabel fAuthLabel
```

38.17.3 Field **fUserField**

```
protected javax.swing.JTextField fUserField
```

38.17.4 Field **fUserLabel**

```
protected javax.swing.JLabel fUserLabel
```

38.17.5 Constructor PAuthBean()

```
public
PAuthBean()
```

Default constructor.

38.17.6 Constructor PAuthBean()

```
public
PAuthBean( mil.dtra.util.ValueProperties props )
```

Constructs assuming the default field labels.

Parameters:

props - object from which to load property values

38.17.7 Constructor PAuthBean()

```
public
PAuthBean(
    java.lang.String user_label,
    java.lang.String auth_label
)
```

Constructs with no property object.

Parameters:

user_label - label for the user name field; if null defaults to "User Name;"
 auth_label - label for the authentication information field; if null defaults to "Password;"

38.17.8 Constructor PAuthBean()

```
public
PAuthBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String user_label,
    java.lang.String auth_label
)
```

Constructs setting the specified labels for the fields.

Parameters:

props - object from which to load property values
 user_label - label for the user name field; if null defaults to "User Name:"
 auth_label - label for the authentication information field; if null defaults to "Password:"

38.17.9 Method **getAuthField()**

```
public final javax.swing.JTextField
getAuthField()
```

Returns:

reference to the auth field component

38.17.10 Method **getAuthLabel()**

```
public final javax.swing.JLabel
getAuthLabel()
```

Returns:

reference to the auth label component

38.17.11 Method **getAuthValue()**

```
public java.lang.String
getAuthValue()
```

Returns:

string value entered in auth field

38.17.12 Method **getUserField()**

```
public final javax.swing.JTextField
getUserField()
```

Returns:

reference to the user field component

38.17.13 Method `getUserLabel()`

```
public final javax.swing.JLabel
getUserLabel()
```

Returns:

reference to the user label component

38.17.14 Method `getUserValue()`

```
public java.lang.String
getUserValue()
```

Returns:

string value entered in user field

38.18 Class PButton

```
mil.dtra.swing
public PButton
extends JButton
```

Extension of JButton to provide bean properties setting. *Property setting is currently disabled.*

38.18.1 Constructor `PButton()`

```
public
PButton()
```

38.18.2 Constructor `PButton()`

```
public
PButton( java.lang.String text )
```

38.18.3 Constructor `PButton()`

```
public
PButton(
    java.lang.String text,
    int mnemonic
)
```

38.18.4 Constructor PButton()

```
public  
PButton(  
    java.lang.String text,  
    javax.swing.Icon icon  
)
```

38.18.5 Constructor PButton()

```
public  
PButton(  
    java.lang.String text,  
    javax.swing.Icon icon,  
    int mnemonic  
)
```

38.18.6 Constructor PButton()

```
public  
PButton( mil.dtra.util.ValueProperties props )
```

38.18.7 Constructor PButton()

```
public  
PButton(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String text  
)
```

38.18.8 Constructor PButton()

```
public  
PButton(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String text,  
    javax.swing.Icon icon  
)
```

38.18.9 Constructor PButton()

```
public
PButton(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    int mnemonic
)
```

38.18.10 Constructor PButton()

```
public
PButton(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    javax.swing.Icon icon,
    int mnemonic
)
```

38.19 Class PButtonPanel

`mil.dtra.swing`
`public PButtonPanel`
`extends PDialogPanel`

Extension of `PDialogPanel` to provide a hook for specifying properties (e.g., *background*, *font*) unique for panels containing buttons. *Property setting is currently disabled.*

Methods:

`protected void init()`

38.19.1 Constructor PButtonPanel()

```
public
PButtonPanel()
```

38.19.2 Constructor PButtonPanel()

```
public
PButtonPanel( mil.dtra.util.ValueProperties props )
```

38.19.3 Constructor PButtonPanel()

```
public
PButtonPanel( java.awt.LayoutManager layout )
```

38.19.4 Constructor PButtonPanel()

```
public
PButtonPanel(
    mil.dtra.util.ValueProperties props,
    java.awt.LayoutManager layout
)
```

38.19.5 Method init()

```
protected void
init( mil.dtra.util.ValueProperties props )
```

38.20 Class PCardBox

```
mil.dtra.swing
public PCardBox
extends Box
```

Vertical box for use in CardLayouts to avoid the resizing of card components (panels especially) to the maximum card size. This will fit around its single component. *Property setting is currently disabled.*

Methods:

```
protected void addImpl()
public java.awt.Component getComponent()
```

38.20.1 Constructor PCardBox()

```
public
PCardBox()
```

38.20.2 Constructor PCardBox()

```
public
PCardBox( java.awt.Component component )
```

38.20.3 Constructor PCardBox()

```
public  
PCardBox( mil.dtra.util.ValueProperties props )
```

38.20.4 Constructor PCardBox()

```
public  
PCardBox(  
    mil.dtra.util.ValueProperties props,  
    java.awt.Component component  
)
```

38.20.5 Method addImpl()

```
protected void  
addImpl(  
    java.awt.Component component,  
    java.lang.Object constraint,  
    int index  
)
```

Exceptions:

IllegalStateException - if a component has already been added

38.20.6 Method getComponent()

```
public java.awt.Component  
getComponent()
```

Returns:

null if the component hasn't been added, the component otherwise

38.21 Class PCheckBox

```
mil.dtra.swing  
public PCheckBox  
extends JCheckBox
```

Extension of JCheckBox to provide bean properties setting. *Property setting is currently disabled.*

38.21.1 Constructor PCheckBox()

```
public  
PCheckBox()
```

38.21.2 Constructor PCheckBox()

```
public  
PCheckBox( mil.dtra.util.ValueProperties props )
```

38.21.3 Constructor PCheckBox()

```
public  
PCheckBox(  
    java.lang.String text,  
    javax.swing.Icon icon,  
    boolean selected,  
    int mnemonic  
)
```

38.21.4 Constructor PCheckBox()

```
public  
PCheckBox(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String text,  
    boolean selected  
)
```

38.21.5 Constructor PCheckBox()

```
public  
PCheckBox(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String text,  
    javax.swing.Icon icon,  
    boolean selected,  
    int mnemonic  
)
```

38.22 Class PComboBox

```
mil.dtra.swing
public PComboBox
extends JComboBox
```

Extension of JComboBox to provide bean properties setting. *Property setting is currently disabled.*

Methods:

```
protected void init()
```

38.22.1 Constructor PComboBox()

```
public
PComboBox()
```

38.22.2 Constructor PComboBox()

```
public
PComboBox( mil.dtra.util.ValueProperties props )
```

38.22.3 Constructor PComboBox()

```
public
PComboBox( javax.swing.ComboBoxModel items )
```

38.22.4 Constructor PComboBox()

```
public
PComboBox(
    mil.dtra.util.ValueProperties props,
    javax.swing.ComboBoxModel items
)
```

38.22.5 Constructor PComboBox()

```
public
PComboBox( java.lang.Object[] items )
```

38.22.6 Constructor PComboBox()

```
public
PComboBox(  
    mil.dtra.util.ValueProperties props,  
    java.lang.Object[] items  
)
```

38.22.7 Constructor PComboBox()

```
public
PComboBox( java.util.Vector items )
```

38.22.8 Constructor PComboBox()

```
public
PComboBox(  
    mil.dtra.util.ValueProperties props,  
    java.util.Vector items  
)
```

38.22.9 Method init()

```
protected void
init( mil.dtra.util.ValueProperties props )
```

38.23 Class PComponent

```
mil.dtra.swing
public final PComponent
extends Object
```

Facility for associating bean property values in a `ValueProperties` object with objects by class name. *Property setting is currently disabled.*

Fields:

```
protected static mil.dtra.util.ValueProperties props--
```

Methods:

```
public static mil.dtra.util.ValueProperties getProps()
public static void init()
public static void init()
```

38.23.1 Field props--

```
protected static mil.dtra.util.ValueProperties props--
```

38.23.2 Constructor PComponent()

```
public  
PComponent()
```

38.23.3 Method getProps()

```
public static mil.dtra.util.ValueProperties  
getProps()
```

Retrieve the properties object containing bean property values by class.

Returns:

properties object reference

38.23.4 Method init()

```
public static void  
init( java.lang.Object object )
```

Initializes the object from property values assuming no property value prefix.

Parameters:

object - bean whose properties are to be set

38.23.5 Method init()

```
public static void  
init(  
    java.lang.Object object,  
    java.lang.String prefix  
)
```

Initializes the object from property values.

Parameters:

object - bean whose properties are to be set
prefix - property prefix

38.24 Class PDIALOGPanel

```
mil.dtra.swing
public PDIALOGPanel
extends JPanel
```

Overrides JPanel.getMaximumSize() to return the value of getPreferredSize(). It is intended for use in dialogs with BoxLayout where the panel should never increase size. *Property setting is currently disabled.*

Methods:

```
public java.awt.Dimension getMaximumSize()
public java.awt.Dimension getMinimumSize()
protected void init()
public void repack()
```

38.24.1 Constructor PDIALOGPanel()

```
public
PDIALOGPanel()
```

38.24.2 Constructor PDIALOGPanel()

```
public
PDIALOGPanel( mil.dtra.util.ValueProperties props )
```

38.24.3 Constructor PDIALOGPanel()

```
public
PDIALOGPanel( java.awt.LayoutManager layout )
```

38.24.4 Constructor PDIALOGPanel()

```
public
PDIALOGPanel(
    mil.dtra.util.ValueProperties props,
    java.awt.LayoutManager layout
)
```

38.24.5 Method `getMaximumSize()`

```
public java.awt.Dimension
getMaximumSize()
```

Overrides `JComponent.getMaximumSize()`

38.24.6 Method `getMinimumSize()`

```
public java.awt.Dimension
getMinimumSize()
```

Overrides `JComponent.getMinimumSize()`

38.24.7 Method `init()`

```
protected void
init( mil.dtra.util.ValueProperties props )
```

38.24.8 Method `repack()`

```
public void
repack()
```

Attempts to repack the parent window, if it exists.

38.25 Class `PLabel`

```
mil.dtra.swing
public PLabel
extends JLabel
```

Extension of `JLabel` to provide bean properties setting. *Property setting is currently disabled.*

38.25.1 Constructor `PLabel()`

```
public
PLabel()
```

38.25.2 Constructor PLabel()

```
public  
PLabel( mil.dtra.util.ValueProperties props )
```

38.25.3 Constructor PLabel()

```
public  
PLabel( java.lang.String text )
```

38.25.4 Constructor PLabel()

```
public  
PLabel(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String text  
)
```

38.25.5 Constructor PLabel()

```
public  
PLabel(  
    java.lang.String text,  
    int alignment  
)
```

38.25.6 Constructor PLabel()

```
public  
PLabel(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String text,  
    int alignment  
)
```

38.25.7 Constructor PLabel()

```
public  
PLabel(
```

```
java.lang.String text,
javax.swing.Icon icon,
int alignment,
int mnemonic
)
```

38.25.8 Constructor PLabel()

```
public
PLabel(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    javax.swing.Icon icon,
    int alignment,
    int mnemonic
)
```

38.26 Class PList

```
mil.dtra.swing
public PList
extends JList
```

Extension of `JList` to provide bean properties setting. *Property setting is currently disabled.*

Methods:

```
    public void init()
```

38.26.1 Constructor PList()

```
public
PList()
```

38.26.2 Constructor PList()

```
public
PList( mil.dtra.util.ValueProperties props )
```

38.26.3 Constructor PList()

```
public
PList( javax.swing.ListModel model )
```

38.26.4 Constructor PList()

```
public
PList( java.lang.Object[] data )
```

38.26.5 Constructor PList()

```
public
PList(
    mil.dtra.util.ValueProperties props,
    javax.swing.ListModel model
)
```

38.26.6 Constructor PList()

```
public
PList(
    mil.dtra.util.ValueProperties props,
    java.lang.Object[] data
)
```

38.26.7 Method init()

```
public void
init( mil.dtra.util.ValueProperties props )
```

38.27 Class PNumberTextField

```
mil.dtra.swing
public PNumberTextField
extends PTextField
```

Extension of PTextField to provide bean properties setting specifically for JTextFields displaying numeric values. *Property setting is currently disabled.*

Since we have disabled the property setting features, the font can no longer be read from the PComponent.properties resource. Thus, we explicitly change the font to *monospaced* in the init() method.

Methods:

```
protected void init()
```

38.27.1 Constructor PNumberTextField()

```
public
PNumberTextField()
```

38.27.2 Constructor PNumberTextField()

```
public
PNumberTextField( mil.dtra.util.ValueProperties props )
```

38.27.3 Constructor PNumberTextField()

```
public
PNumberTextField(
    java.lang.String text,
    int columns
)
```

38.27.4 Constructor PNumberTextField()

```
public
PNumberTextField(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    int columns
)
```

38.27.5 Method init()

```
protected void
init()
```

38.28 Class PProgressBar

```
mil.dtra.swing
public PProgressBar
extends JProgressBar
```

Extension of `JProgressBar` to provide bean properties setting. *Property setting is currently disabled.*

38.28.1 Constructor PProgressBar()

```
public
PProgressBar()
```

38.28.2 Constructor PProgressBar()

```
public
PProgressBar( mil.dtra.util.ValueProperties props )
```

Constructs with a default range of 0..100 and a horizontal orientation.

38.28.3 Constructor PProgressBar()

```
public
PProgressBar(
    mil.dtra.util.ValueProperties props,
    int min,
    int max
)
```

Constructs assuming a horizontal orientation.

38.28.4 Constructor PProgressBar()

```
public
PProgressBar(
    mil.dtra.util.ValueProperties props,
    int orient,
    int min,
    int max
)
```

38.29 Class PRadioButton

```
mil.dtra.swing
public PRadioButton
extends JRadioButton
```

Extension of JRadioButton to provide bean properties setting. *Property setting is currently disabled.*

38.29.1 Constructor PRadioButton()

```
public  
PRadioButton()
```

38.29.2 Constructor PRadioButton()

```
public  
PRadioButton( mil.dtra.util.ValueProperties props )
```

38.29.3 Constructor PRadioButton()

```
public  
PRadioButton(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String text,  
    boolean selected  
)
```

38.29.4 Constructor PRadioButton()

```
public  
PRadioButton(  
    java.lang.String text,  
    javax.swing.Icon icon,  
    boolean selected,  
    int mnemonic  
)
```

38.29.5 Constructor PRadioButton()

```
public  
PRadioButton(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String text,  
    javax.swing.Icon icon,  
    boolean selected  
)
```

38.29.6 Constructor PRadioButton()

```
public
PRadioButton(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    javax.swing.Icon icon,
    boolean selected,
    int mnemonic
)
```

38.30 Class PRenderedLabel

```
mil.dtra.swing
public PRenderedLabel
extends JLabel
```

Extension of `JLabel` to provide bean properties setting and sizing to support antialiasing and quality rendering.

Fields:

```
protected static final java.awt.Dimension MIN_SIZE
```

Methods:

```
public void addNotify()
protected void configureMinimumSize()
public java.awt.Dimension getPreferredSize()
public void paintComponent()
public void setText()
```

38.30.1 Field MIN_SIZE

```
protected static final java.awt.Dimension MIN_SIZE
```

38.30.2 Constructor PRenderedLabel()

```
public
PRenderedLabel()
```

38.30.3 Constructor PRenderedLabel()

```
public
PRenderedLabel( mil.dtra.util.ValueProperties props )
```

38.30.4 Constructor PRenderedLabel()

```
public  
PRenderedLabel( java.lang.String text )
```

38.30.5 Constructor PRenderedLabel()

```
public  
PRenderedLabel(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String text  
)
```

38.30.6 Constructor PRenderedLabel()

```
public  
PRenderedLabel(  
    java.lang.String text,  
    int alignment  
)
```

38.30.7 Constructor PRenderedLabel()

```
public  
PRenderedLabel(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String text,  
    int alignment  
)
```

38.30.8 Constructor PRenderedLabel()

```
public  
PRenderedLabel(  
    java.lang.String text,  
    javax.swing.Icon icon,  
    int alignment,  
    int mnemonic  
)
```

38.30.9 Constructor PRenderedLabel()

```
public
PRenderedLabel(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    javax.swing.Icon icon,
    int alignment,
    int mnemonic
)
```

38.30.10 Method addNotify()

```
public void
addNotify()
```

Override to add fudge for antialiased fonts.

38.30.11 Method configureMinimumSize()

```
protected void
configureMinimumSize()
```

38.30.12 Method getPreferredSize()

```
public java.awt.Dimension
getPreferredSize()
```

Override to add fudge for antialiased fonts.

38.30.13 Method paintComponent()

```
public void
paintComponent( java.awt.Graphics gfx )
```

38.30.14 Method setText()

```
public void
setText( java.lang.String text )
```

38.31 Class PScrollBar

```
mil.dtra.swing
public PScrollBar
extends JScrollBar
```

Extension of JScrollBar to provide bean properties setting. *Property setting is currently disabled.*

Methods:

```
protected void init()
```

38.31.1 Constructor PScrollBar()

```
public
PScrollBar()
```

38.31.2 Constructor PScrollBar()

```
public
PScrollBar( mil.dtra.util.ValueProperties props )
```

38.31.3 Constructor PScrollBar()

```
public
PScrollBar(
    int orientation,
    int value,
    int extent,
    int min,
    int max
)
```

38.31.4 Constructor PScrollBar()

```
public
PScrollBar(
    mil.dtra.util.ValueProperties props,
    int orientation,
    int value,
    int extent,
    int min,
    int max
)
```

38.31.5 Method init()

```
protected void  
init( mil.dtra.util.ValueProperties props )
```

38.32 Class PSlider

```
mil.dtra.swing  
public PSlider  
extends JSlider
```

Extension of `JSlider` to provide bean properties setting. *Property setting is currently disabled.*

Methods:

```
protected void init()
```

38.32.1 Constructor PSlider()

```
public  
PSlider()
```

38.32.2 Constructor PSlider()

```
public  
PSlider( mil.dtra.util.ValueProperties props )
```

38.32.3 Constructor PSlider()

```
public  
PSlider(  
    int orientation,  
    int min,  
    int max,  
    int value  
)
```

38.32.4 Constructor PSlider()

```
public
PSlider(
    mil.dtra.util.ValueProperties props,
    int orientation,
    int min,
    int max,
    int value
)
```

38.32.5 Method init()

```
protected void
init( mil.dtra.util.ValueProperties props )
```

38.33 Class PTabbedPane

```
mil.dtra.swing
public PTabbedPane
extends JTabbedPane
```

Extension of JTabbedPane to provide bean properties setting. *Property setting is currently disabled.*

Methods:

```
protected void init()
public void repack()
```

38.33.1 Constructor PTabbedPane()

```
public
PTabbedPane()
```

38.33.2 Constructor PTabbedPane()

```
public
PTabbedPane( mil.dtra.util.ValueProperties props )
```

38.33.3 Constructor PTabbedPane()

```
public
PTabbedPane( int placement )
```

38.33.4 Constructor PTabbedPane()

```
public
PTabbedPane(
    mil.dtra.util.ValueProperties props,
    int placement
)
```

38.33.5 Method init()

```
protected void
init( mil.dtra.util.ValueProperties props )
```

38.33.6 Method repack()

```
public void
repack()
```

Attempts to repack the parent window, if it exists.

38.34 Class PTextArea

```
mil.dtra.swing
public PTextArea
extends JTextArea
implements Printable,
```

Extension of JTextArea to provide bean properties setting. *Property setting is currently disabled.* Since we have disabled the property setting features, properties can no longer be read from the PComponent.properties resource. Thus, we added the init() method to explicitly set *lineWrap* to true, *wrapStyleWord* to true, and the *font* to monospaced. The *tabSize* was set to 8 in PComponent.properties, but that is the documented default for JTextArea.

Methods:

```
protected void init()
public int print()
```

38.34.1 Constructor PTextArea()

```
public
PTextArea()
```

38.34.2 Constructor PTextArea()

```
public
PTextArea( mil.dtra.util.ValueProperties props )
```

38.34.3 Constructor PTextArea()

```
public
PTextArea(
    java.lang.String text,
    int rows,
    int columns
)
```

38.34.4 Constructor PTextArea()

```
public
PTextArea(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    int rows,
    int columns
)
```

38.34.5 Method init()

```
protected void
init( mil.dtra.util.ValueProperties props )
```

38.34.6 Method print()

```
public int
print(
    java.awt.Graphics graphics,
    java.awt.print.PageFormat pageFormat,
    int pageIndex
)
```

Print the text area; implements the Printable interface.

Parameters:

graphics - the context into which the page is drawn
 pageFormat - the size and orientation of the page being drawn
 pageIndex - the zero based index of the page to be drawn

Returns:

PAGE_EXISTS if the page is rendered successfully or NO_SUCH_PAGE if pageIndex specifies a non-existent page

Exceptions:

PrinterException -

38.35 Class PTextField

```
mil.dtra.swing
public PTextField
extends JTextField
```

Extension of JTextField to provide bean properties setting. Also removes the key stroke binding for the Enter key. *Property setting is currently disabled.*

Methods:

public void init()

38.35.1 Constructor PTextField()

```
public
PTextField()
```

38.35.2 Constructor PTextField()

```
public
PTextField( mil.dtra.util.ValueProperties props )
```

38.35.3 Constructor PTextField()

```
public
PTextField(
    java.lang.String text,
    int columns
)
```

38.35.4 Constructor PTextField()

```
public
PTextField(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    int columns
)
```

38.35.5 Method init()

```
public void
init( mil.dtra.util.ValueProperties props )
```

Removes

38.36 Class PTitledBorder

```
mil.dtra.swing
public PTitledBorder
extends TitledBorder
```

Extension of JButton to provide bean properties setting. *Property setting is currently disabled.* Since we have disabled the property setting features, properties can no longer be read from the PCOMPONENT.properties resource. Thus, we added the init() method to explicitly set the titleColor so that it applies in all LAFs.

Methods:

```
protected void init()
```

38.36.1 Constructor PTitledBorder()

```
public
PTitledBorder( java.lang.String title )
```

38.36.2 Constructor PTitledBorder()

```
public
PTitledBorder(
    javax.swing.border.Border border,
    java.lang.String title
)
```

38.36.3 Constructor PTitledBorder()

```
public
PTitledBorder(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

38.36.4 Constructor PTitledBorder()

```
public
PTitledBorder(
    mil.dtra.util.ValueProperties props,
    javax.swing.border.Border border,
    java.lang.String title
)
```

38.36.5 Method init()

```
protected void
init( mil.dtra.util.ValueProperties props )
```

38.37 Class PToggleButton

```
mil.dtra.swing
public PToggleButton
extends JToggleButton
```

Extension of JToggleButton to provide bean properties setting. *Property setting is currently disabled.*

Methods:

```
protected void init()
```

38.37.1 Constructor PToggleButton()

```
public  
PToggleButton()
```

38.37.2 Constructor PToggleButton()

```
public  
PToggleButton( mil.dtra.util.ValueProperties props )
```

38.37.3 Constructor PToggleButton()

```
public  
PToggleButton(  
    java.lang.String text,  
    javax.swing.Icon icon,  
    boolean selected  
)
```

38.37.4 Constructor PToggleButton()

```
public  
PToggleButton(  
    java.lang.String text,  
    javax.swing.Icon icon,  
    boolean selected,  
    int mnemonic  
)
```

38.37.5 Constructor PToggleButton()

```
public  
PToggleButton(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String text,  
    javax.swing.Icon icon,  
    boolean selected  
)
```

38.37.6 Constructor PToggleButton()

```
public
PToggleButton(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    javax.swing.Icon icon,
    boolean selected,
    int mnemonic
)
```

38.37.7 Method init()

```
protected void
init( mil.dtra.util.ValueProperties props )
```

38.38 Class PValueLabel

```
mil.dtra.swing
public PValueLabel
extends JLabel
```

Extension of PTextField to provide bean properties setting specifically for JLabels displaying values. *Property setting is currently disabled.*

Since we have disabled the property setting features, the foreground can no longer be read from the PComponent.properties resource. Thus, we explicitly set it here during construction.

38.38.1 Constructor PValueLabel()

```
public
PValueLabel()
```

38.38.2 Constructor PValueLabel()

```
public
PValueLabel( mil.dtra.util.ValueProperties props )
```

38.38.3 Constructor PValueLabel()

```
public
PValueLabel( java.lang.String text )
```

38.38.4 Constructor PValueLabel()

```
public
PValueLabel(
    mil.dtra.util.ValueProperties props,
    java.lang.String text
)
```

38.38.5 Constructor PValueLabel()

```
public
PValueLabel(
    java.lang.String text,
    int alignment
)
```

38.38.6 Constructor PValueLabel()

```
public
PValueLabel(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    int alignment
)
```

38.38.7 Constructor PValueLabel()

```
public
PValueLabel(
    java.lang.String text,
    javax.swing.Icon icon,
    int alignment
)
```

38.38.8 Constructor PValueLabel()

```
public
PValueLabel(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    javax.swing.Icon icon,
    int alignment
)
```

38.39 Class RadioMenuItemSpec

```
mil.dtra.swing
public RadioMenuItemSpec
extends MenuItemSpec
```

This class provides a single facility for specifying a JRadioButtonMenuItem. After construction, `createItem()` must be called to actually build the item.

38.39.1 Constructor RadioMenuItemSpec()

```
public
RadioMenuItemSpec(
    java.lang.String label,
    boolean state
)
```

Just a label with the same action command and no icon, mnemonic, or accelerator.

Parameters:

- label - text for this item's label
- state - check state

38.39.2 Constructor RadioMenuItemSpec()

```
public
RadioMenuItemSpec(
    java.lang.String label,
    javax.swing.Icon icon,
    int mnemonic,
    java.lang.String action_command,
    javax.swing.KeyStroke accelerator,
    boolean state
)
```

Parameters:

- label - text for this item's label
- icon - icon for this item
- mnemonic - mnemonic key stroke for this item once the menu is posted
- action_command - null if the label is the action command, a command string otherwise
- accelerator - accelerator shortcut for this item (not requiring a post of the menu)
- state - check state

38.40 Class SwingWorker

```
mil.dtra.swing
public abstract SwingWorker
extends Object
```

An abstract class that you subclass to perform GUI-related work in a dedicated thread. For instructions on using this class, see
<http://java.sun.com/products/jfc/tsc/articles/threads/threads2.html>.

Methods:

```
public abstract java.lang.Object construct()
public void finished()
public java.lang.Object get()
protected synchronized java.lang.Object getValue()
public void interrupt()
protected synchronized void setValue()
public void start()
```

38.40.1 Constructor SwingWorker()

```
public
SwingWorker()
```

Creates the worker and event-dispatch-cleanup threads. A call to `start()` starts the worker thread, which calls `construct()`. Upon completion, `finished()` is called in the event dispatch thread.

38.40.2 Method construct()

```
public abstract java.lang.Object
construct()
```

Computes the value to be returned by the `get()` method. This is the method to be performed in the worker (not the event dispatch) thread.

38.40.3 Method finished()

```
public void
finished()
```

Called on the event dispatching thread (not the worker thread) after `construct()` has returned.

38.40.4 Method `get()`

```
public java.lang.Object
get()
```

Returns the value created by the `construct()` method or null if either the constructing thread or the current thread was interrupted before a value was produced.

leerw@ornl.gov: Multiple exit points are evil, a bad habit that helps destroy software modularity. Thus, the original Sun code has been "improved" to a single exit point.

38.40.5 Method `getValue()`

```
protected synchronized java.lang.Object
getValue()
```

Gets the value produced by the worker thread, or null if it hasn't been constructed yet.

38.40.6 Method `interrupt()`

```
public void
interrupt()
```

Interrupts the worker thread. Call this method to force the worker to abort what it's doing.

38.40.7 Method `setValue()`

```
protected synchronized void
setValue( java.lang.Object value )
```

Sets the value produced by the worker thread.

38.40.8 Method `start()`

```
public void
start()
```

Start the worker thread.

CHAPTER 39

Package mil.dtra.util

Extends the basic capabilities of `java.util` to support I/O and other often needed functionality. Facilities for I/O to/from properties objects and serialization via properties I/O are provided.

Interfaces:

`PropsSerializer`

Classes:

`AbstractPropsSerializer`
`DataUtils`
`HashNamingContext`
`HashNamingContext.Enumerator`
`HashNamingContext.Parser`
`HashNamingContextFactory`
`HTMLViewer`
`RMIUtils`
`ValueProperties`

39.1 Interface `PropsSerializer`

```
mil.dtra.util  
public interface PropsSerializer
```

Defines methods for classes which allow object instances to be (*de*)serialized from/to a `Properties` object

Methods:

```
public void readProps()  
public void writeProps()
```

39.1.1 Method `readProps()`

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Reads object property values from the specified properties object. An implicit deserialization can be accomplished via `ValueProperties.setObjectProperties()`.

Parameters:

props - object containing property values
prefix - property key prefix where null implies a blank prefix (note this is a different assumption than the one made in `ValueProperties.setObjectProperties`)

39.1.2 Method `writeProps()`

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Writes object property values to the specified properties object. An implicit serialization can be accomplished via `ValueProperties.putObjectProperties()`.

Parameters:

props - object to contain property values
prefix - property key prefix where null implies a blank prefix (note this is a different assumption than the one made in `ValueProperties.setObjectProperties`)

39.2 Class `AbstractPropsSerializer`

```
mil.dtra.util
public abstract AbstractPropsSerializer
extends Object
implements PropsSerializer,
```

Reflection-based properties serializer which can be extended by simple classes for convenience.

Methods:

```
    public void readProps()
    public void writeProps()
```

39.2.1 Constructor AbstractPropsSerializer()

```
public  
AbstractPropsSerializer()
```

39.2.2 Method readProps()

```
public void  
readProps(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Calls `ValueProperties.setObjectProperties()`, which uses bean introspection to set appropriate properties (and thus works for subclasses).

Parameters:

- props - object containing property values
- key - property key, where null implies blank

39.2.3 Method writeProps()

```
public void  
writeProps(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String key  
)
```

Calls `ValueProperties.putObjectProperties()`, which uses bean introspection to read appropriate properties (and thus works for subclasses).

Parameters:

- props - object in which to put property values
- key - property key, where null implies blank

39.3 Class DataUtils

```
mil.dtra.util  
public final DataUtils  
extends Object
```

Collection of static methods to support processing of strings and data. It's an eclectic collection of methods to fill in gaps in the Java core packages.

Fields:

```
public static final java.lang.String BLANK
public static final java.lang.String COLON
public static final java.lang.String COMMA
public static final java.lang.String DASH
protected static java.text.DecimalFormat decimalFormat_
public static final double EPSILON
public static final int MAX_DOUBLE_SIG_DIGITS
```

Methods:

```
public static java.lang.String convertBlank()
public static java.lang.String convertDash()
public static java.lang.String convertFilePathToURL()
public static java.lang.String convertURLToFilePath()
public static boolean equals()
public static java.lang.String formatDouble()
public static int linearSearch()
public static java.lang.Class loadClass()
public static java.lang.Class loadClass()
public static boolean nearlyEquals()
public static byte parseByte()
public static byte parseByte()
public static double parseDouble()
public static double parseDouble()
public static float parseFloat()
public static float parseFloat()
public static int parseInt()
public static int parseInt()
public static long parseLong()
public static long parseLong()
public static short parseShort()
public static short parseShort()
public static java.lang.String[] parseURL()
public static boolean readBooleanValue()
public static char readCharValue()
public static double readDoubleValue()
public static double readDoubleValue()
public static byte[] readFileBytes()
public static java.awt.geom.Point2D.Float readFloatPoint2DValue()
public static float readFloatValue()
public static float readFloatValue()
public static int readIntValue()
```

```

public static int readIntValue()
public static java.awt.Point readPointValue()
public static byte[] readStreamBytes()
public static java.lang.String readStringValue()
public static java.lang.String substitute()
public static java.lang.String substituteProperties()
public static java.lang.String substituteProperties()
public static double toMaxSigDigits()
public static double toMaxSigDigits()
public static java.lang.String toString()
public static java.lang.String toString()
public static java.lang.String toString()
public static java.lang.String toString()
public static java.lang.String valueOf()
public static java.lang.String wrapString()

```

39.3.1 Field BLANK

public static final java.lang.String **BLANK**

Blank string

39.3.2 Field COLON

public static final java.lang.String **COLON**

String consisting of a single colon

39.3.3 Field COMMA

public static final java.lang.String **COMMA**

String consisting of a single comma

39.3.4 Field DASH

public static final java.lang.String **DASH**

String consisting of a single dash

39.3.5 Field decimalFormat__

protected static java.text.DecimalFormat **decimalFormat__**

39.3.6 Field EPSILON

public static final double **EPSILON**

Constant correction value for `Math.log()` computations

39.3.7 Field MAX_DOUBLE_SIG_DIGITS

public static final int **MAX_DOUBLE_SIG_DIGITS**

Default number of significant digits

39.3.8 Constructor DataUtils()

public
DataUtils()

39.3.9 Method convertBlank()

public static java.lang.String
convertBlank(java.lang.String data)

Converts a string with the value of BLANK to DASH. This supports the writing of delimited data where the dash is necessary to distinguish delimited tokens.

Parameters:

data - input string

Returns:

string with BLANK converted to DASH

39.3.10 Method convertDash()

public static java.lang.String
convertDash(java.lang.String data)

Converts a string with the value of DASH to BLANK. This supports the reading of delimited data where the dash is necessary to distinguish delimited tokens.

Parameters:

data - input string

Returns:

string with DASH converted to BLANK

39.3.11 Method convertFilePathToURL()

```
public static java.lang.String
convertFilePathToURL( java.lang.String path )
```

Converts a file path to a `file:` URL.

Parameters:

`path` - file path

Returns:

`file:` URL string or null if the conversion failed

39.3.12 Method convertURLToFilePath()

```
public static java.lang.String
convertURLToFilePath( java.lang.String url )
```

Converts a URL string to a file path using the platform file separator. Only URLs beginning with `file:` can be processed.

Parameters:

`url` - URL string

Returns:

file path for `file:` URLs, null otherwise

39.3.13 Method equals()

```
public static boolean
equals(
    double[][] one,
    double[][] two
)
```

Tests equality of two-dimensional array of doubles.

39.3.14 Method equals()

```
public static boolean
equals(
    double one,
    double two
)
```

Tests equality of two double values assuming two NaN values to be equal.

39.3.15 Method equals()

```
public static boolean
equals(
    float[][] one,
    float[][] two
)
```

Tests equality of two-dimensional array of floats.

39.3.16 Method equals()

```
public static boolean
equals(
    float one,
    float two
)
```

Tests equality of two float values assuming two NaN values to be equal.

39.3.17 Method equals()

```
public static boolean
equals(
    java.lang.Object one,
    java.lang.Object two
)
```

Tests equality of two objects, either of which may be null.

39.3.18 Method equals()

```
public static boolean
equals(
    java.lang.String one,
    java.lang.String two
)
```

Tests equality of two Strings, either of which may be null.

39.3.19 Method formatDouble()

```
public static java.lang.String
formatDouble(
    double value,
    int sig_digits
)
```

Attempts to normalize real values into a low length string form, using exponential notation if necessary.

Note that the value added here over Double.toString() is "rounding" to a number of significant digits and converting to exponential notation for $|exponent| > 3$. Double.toString() does no significant digit processing and converts to exponential notation for exponents outside the range [-3..6].

Parameters:

- value - value to be represented
- sig_digits - significant digits, or -1 to use the max

Returns:

- string representation of the value

39.3.20 Method linearSearch()

```
public static int
linearSearch(
    java.lang.Object[] array,
    java.lang.Object key
)
```

This method should have been included in `java.util.Arrays`. It linearly searches the array of objects for the specified object using `equals`. The index of the matched key is returned.

Parameters:

array - array of objects to search
 key - object to match

Returns:

index of key in array if found, -1 otherwise

39.3.21 Method loadClass()

```
public static java.lang.Class
loadClass(
    java.lang.Class loader_class,
    java.lang.String class_name
)
```

Uses the thread context class loader first to retrieve the class. if this fails, drops back to `Class.forName()`.

Parameters:

`loader_class` - class to use for loading if the thread context class loader fails
`class_name` - name of class to load

Returns:

class object reference

Exceptions:

`ClassNotFoundException` - if the class cannot be loaded

39.3.22 Method loadClass()

```
public static java.lang.Class
loadClass( java.lang.String class_name )
```

Uses the thread context class loader first to retrieve the class. if this fails, drops back to `Class.forName()`.

Parameters:

`class_name` - name of class to load

Returns:

class object reference

Exceptions:

`ClassNotFoundException` - if the class cannot be loaded

39.3.23 Method `nearlyEquals()`

```
public static boolean
nearlyEquals(
    double one,
    double two
)
```

This is an attempt to handle comparison of double values which are somehow rounded in the parsing process.

Parameters:

one - first value
two - second value

Returns:

true if the values are within a scale of 1.0e-6 of each other

39.3.24 Method `parseByte()`

```
public static byte
parseByte( java.lang.String value )
```

Extends `Byte.parseByte()` to treat blank or null strings as a value of 0.

Parameters:

value - string to parse

Returns:

parsed byte value or 0 on a null or blank string

Exceptions:

`NumberFormatException` - on bad byte format

39.3.25 Method `parseByte()`

```
public static byte
parseByte(
    java.lang.String str,
    byte default_value
)
```

Extends `Byte.parseByte()` to treat blank or null strings as the specified default value.

Parameters:

str - string to parse
default_value - default value for null and blank string values

Returns:

parsed byte value or default value on a null or blank string

Exceptions:

`NumberFormatException` - on bad byte format

39.3.26 Method `parseDouble()`

```
public static double
parseDouble( java.lang.String str )
```

Extends `Double.parseDouble()` to treat blank or null strings as a value of NaN.

Parameters:

str - string to parse

Returns:

parsed double value or NaN on a null or blank string

Exceptions:

`NumberFormatException` - on bad double format

39.3.27 Method `parseDouble()`

```
public static double
parseDouble(
    java.lang.String str,
    double default_value
)
```

Extends `Double.parseDouble()` to treat blank or null strings as the specified default value.

Parameters:

str - string to parse
 default_value - default value for null and blank string values

Returns:

parsed double value or default value on a null or blank string

Exceptions:

NumberFormatException - on bad double format

39.3.28 Method parseFloat()

public static float
parseFloat(java.lang.String str)

Extends `Float.parseFloat()` to treat blank or null strings as a value of NaN.

Parameters:

str - string to parse

Returns:

parsed double value or NaN on a null or blank string

Exceptions:

NumberFormatException - on bad double format

39.3.29 Method parseFloat()

public static float
parseFloat(
 `java.lang.String str,`
 `float default_value`
 `)`

Extends `Float.parseFloat()` to treat blank or null strings as the specified default value.

Parameters:

str - string to parse
 default_value - default value for null and blank string values

Returns:

parsed double value or default value on a null or blank string

Exceptions:

NumberFormatException - on bad double format

39.3.30 Method parseInt()

```
public static int  
parseInt( java.lang.String value )
```

Extends Integer.parseInt() to treat blank or null strings as a value of 0.

Parameters:

value - string to parse

Returns:

parsed integer value or 0 on a null or blank string

Exceptions:

NumberFormatException - on bad integer format

39.3.31 Method parseInt()

```
public static int  
parseInt(  
    java.lang.String str,  
    int default_value  
)
```

Extends Integer.parseInt() to treat blank or null strings as the specified default value.

Parameters:

str - string to parse

default_value - default value for null and blank string values

Returns:

parsed integer value or default value on a null or blank string

Exceptions:

NumberFormatException - on bad integer format

39.3.32 Method parseLong()

```
public static long
parseLong( java.lang.String value )
```

Extends Long.parseLong() to treat blank or null strings as a value of 0.

Parameters:

value - string to parse

Returns:

parsed long value or 0 on a null or blank string

Exceptions:

NumberFormatException - on bad long format

39.3.33 Method parseLong()

```
public static long
parseLong(
    java.lang.String str,
    long default_value
)
```

Extends Long.parseLong() to treat blank or null strings as the specified default value.

Parameters:

str - string to parse

default_value - default value for null and blank string values

Returns:

parsed long value or default value on a null or blank string

Exceptions:

NumberFormatException - on bad long format

39.3.34 Method parseShort()

```
public static short
parseShort( java.lang.String value )
```

Extends Short .parseShort() to treat blank or null strings as a value of 0.

Parameters:

value - string to parse

Returns:

parsed short value or 0 on a null or blank string

Exceptions:

NumberFormatException - on bad short format

39.3.35 Method parseShort()

```
public static short
parseShort(
    java.lang.String str,
    short default_value
)
```

Extends Short .parseShort() to treat blank or null strings as the specified default value.

Parameters:

str - string to parse

default_value - default value for null and blank string values

Returns:

parsed short value or default value on a null or blank string

Exceptions:

NumberFormatException - on bad short format

39.3.36 Method parseURL()

```
public static java.lang.String[]
parseURL( java.lang.String url )
```

Extracts the various components of a URL.

Note: We can't use `java.net.URL` for this because it barfs on URL protocols it doesn't want to process.

Parameters:

url - URL string to parse

Returns:

array of strings containing, in order, the protocol, host, port, and file; missing values are returned as empty strings

Exceptions:

`NumberFormatException` - on bad short format

39.3.37 Method readBooleanValue()

```
public static boolean
readBooleanValue( java.util.StringTokenizer st )
```

Parses a boolean value from an attribute definition line.
'T' and 't' represent true, '-' or blank represents false.

Parameters:

st - reference to string tokenizer parsing the definition line

Returns:

boolean attribute value

39.3.38 Method readCharValue()

```
public static char
readCharValue( java.util.StringTokenizer st )
```

Parses a char value from delimited value line.

Parameters:

st - reference to string tokenizer parsing the definition line

Returns:

char attribute value

39.3.39 Method readDoubleValue()

```
public static double
readDoubleValue( java.util.StringTokenizer st )
```

Parses a double value from delimited value line with a default of Double.NaN.

Parameters:

st - reference to string tokenizer parsing the definition line

Returns:

double attribute value

39.3.40 Method readDoubleValue()

```
public static double
readDoubleValue(
    java.util.StringTokenizer st,
    double default_value
)
```

Parses a double value from delimited value line.

Parameters:

st - reference to string tokenizer parsing the definition line
 default_value - value to supply on no more tokens or format error

Returns:

double attribute value

39.3.41 Method readFileBytes()

```
public static byte[]
readFileBytes( java.io.File file )
```

Reads bytes from a file until EOF is reached. Returns the data in a single byte array.

Parameters:

file - file from which to read

Returns:

data byte array

Exceptions:

IOException - on I/O error

39.3.42 Method `readFloatPoint2DValue()`

```
public static java.awt.geom.Point2D.Float
readFloatPoint2DValue( java.util.StringTokenizer st )
```

Parses a point value from successive delimited values in the line.

Parameters:

st - reference to string tokenizer parsing the definition line

Returns:

point object

39.3.43 Method `readFloatValue()`

```
public static float
readFloatValue( java.util.StringTokenizer st )
```

Parses a double value from delimited value line with a default of `Float.NaN`.

Parameters:

st - reference to string tokenizer parsing the definition line

Returns:

double attribute value

39.3.44 Method `readFloatValue()`

```
public static float
readFloatValue(
    java.util.StringTokenizer st,
    float default_value
)
```

Parses a double value from delimited value line.

Parameters:

st - reference to string tokenizer parsing the definition line
 default_value - value to supply on no more tokens or format error

Returns:

double attribute value

39.3.45 Method **readIntValue()**

```
public static int
readIntValue( java.util.StringTokenizer st )
```

Parses an integer value from delimited value line with a default of -1.

Parameters:

st - reference to string tokenizer parsing the definition line

Returns:

int attribute value

39.3.46 Method **readIntValue()**

```
public static int
readIntValue(
    java.util.StringTokenizer st,
    int default_value
)
```

Parses an integer value from delimited value line.

Parameters:

st - reference to string tokenizer parsing the definition line
 default_value - value to supply on no more tokens or format error

Returns:

int attribute value

39.3.47 Method **readPointValue()**

```
public static java.awt.Point
readPointValue( java.util.StringTokenizer st )
```

Parses a point value from successive delimited values in the line.

Parameters:

st - reference to string tokenizer parsing the definition line

Returns:

point object

39.3.48 Method readStreamBytes()

```
public static byte[]
readStreamBytes( java.io.InputStream input )
```

Reads bytes from an `InputStream` until the stream end is reached. Returns the data in a single byte array.

Parameters:

`input` - input stream from which to read

Returns:

data byte array # @exception `IOException` on I/O error

39.3.49 Method readStringValue()

```
public static java.lang.String
readStringValue( java.util.StringTokenizer st )
```

Parses a string value from delimited value line.

Parameters:

`st` - reference to string tokenizer parsing the definition line

Returns:

string attribute value

39.3.50 Method substitute()

```
public static java.lang.String
substitute(
    java.lang.String source,
    java.lang.String replace,
    java.lang.String with
    )
```

Replaces each occurrence of a target substring with a new substring in a source string.

Parameters:

`source` - string in which to make replacements

`replace` - substring to replace

`with` - substring to substitute for replacement substring

Returns:

new string with substitutions applied

39.3.51 Method `substituteProperties()`

```
public static java.lang.String
substituteProperties( java.lang.String source )
```

Replaces occurrences of \${propertynname} in the string with the value of the system property, or the blank string if not defined. Refer to the other `substituteProperties()` method.

Parameters:

source - string in which to make replacements

Returns:

new string with substitutions applied

39.3.52 Method `substituteProperties()`

```
public static java.lang.String
substituteProperties(
    java.lang.String source,
    java.util.Properties props
)
```

Replaces occurrences of \${propertynname} in the string with the value from the specified `Properties` object, or blank if the propertynname key is not defined in the props or system properties. There are a couple of special property names that are handled before any other checks:

Parameters:

source - string in which to make replacements
props - properties object

Returns:

new string with substitutions applied

39.3.53 Method `toMaxSigDigits()`

```
public static double
toMaxSigDigits(
    double value,
    int sig_digits
)
```

Converts a real number to a specified number of significant digits.

Parameters:

value - value to convert
 sig_digits - number of significant digits, not to exceed MAX_DOUBLE_SIG_DIGITS or be less than 1

39.3.54 Method toMaxSigDigits()

```
public static double
toMaxSigDigits(
    double value,
    int sig_digits,
    boolean is_int
)
```

Converts a real number to a specified number of significant digits, optionally rounding the number to an integer.

Parameters:

value - value to convert
 sig_digits - number of significant digits, not to exceed MAX_DOUBLE_SIG_DIGITS or be less than 1
 is_int - true if the value is to be rounded to integer

39.3.55 Method toString()

```
public static java.lang.String
toString( boolean value )
```

Makes the string representation of a boolean value for a delimited value line.
 True is 't', false is DASH

Parameters:

value - boolean value

Returns:

string representation

39.3.56 Method `toString()`

```
public static java.lang.String  
toString( java.awt.Point pt )
```

39.3.57 Method `toString()`

```
public static java.lang.String  
toString( java.awt.geom.Point2D.Float pt )
```

39.3.58 Method `toString()`

```
public static java.lang.String  
toString( java.lang.String value )
```

Calls `convertBlank()`.

Parameters:

value - string input value

Returns:

string output value

39.3.59 Method `valueOf()`

```
public static java.lang.String  
valueOf( java.lang.String value )
```

Calls `convertDash()`.

Parameters:

value - string output value

Returns:

string input value

39.3.60 Method wrapString()

```
public static java.lang.String
wrapString(
    java.lang.String str,
    int line_length
)
```

Inserts newlines (_'n'_) into the string to produce lines of the specified length.

Parameters:

str - string to wrap
line_length - maximum line length desired

Returns:

string with line separators inserted

39.4 Class HashNamingContext

```
mil.dtra.util
public HashNamingContext
extends Object
implements Cloneable, Context,
```

Implementation of the javax.naming.Context interface for use in a local environment with locally-accessible objects.

Fields:

```
protected java.util.Hashtable fBindings
protected java.util.Hashtable fEnvironment
protected transient javax.naming.NameParser fNameParser
protected static java.util.Properties parseSyntax_
```

Methods:

```
public java.lang.Object addToEnvironment()
public void bind()
public void bind()
public java.lang.Object clone()
public void close()
public javax.naming.Name composeName()
public java.lang.String composeName()
protected java.lang.String convertNameToString()
public javax.naming.Context createSubcontext()
public javax.naming.Context createSubcontext()
```

```

public void destroySubcontext()
public void destroySubcontext()
public final java.util.Hashtable getEnvironment()
public java.lang.String getNameInNamespace()
public javax.naming.NameParser getNameParser()
public javax.naming.NameParser getNameParser()
public javax.naming.NamingEnumeration list()
public javax.naming.NamingEnumeration list()
public javax.naming.NamingEnumeration listBindings()
public javax.naming.NamingEnumeration listBindings()
public java.lang.Object lookup()
public java.lang.Object lookup()
public java.lang.Object lookupLink()
public java.lang.Object lookupLink()
public void rebind()
public void rebind()
public java.lang.Object removeFromEnvironment()
public void rename()
public void rename()
public void unbind()
public void unbind()

```

Inner Classes:

HashNamingContext.Enumerator
 HashNamingContext.Parser

39.4.1 Field fBindings

protected java.util.Hashtable **fBindings**

39.4.2 Field fEnvironment

protected java.util.Hashtable **fEnvironment**

39.4.3 Field fNameParser

protected transient javax.naming.NameParser **fNameParser**

39.4.4 Field parseSyntax__

protected static java.util.Properties **parseSyntax__**

39.4.5 Constructor HashNamingContext()

```
public
HashNamingContext()
```

Default constructor for an empty environment.

39.4.6 Constructor HashNamingContext()

```
public
HashNamingContext( java.util.Hashtable env )
```

Default constructor for an empty environment.

39.4.7 Method addToEnvironment()

```
public java.lang.Object
addToEnvironment(
    java.lang.String name,
    java.lang.Object value
)
```

Adds to the environment of this context.

Parameters:

- name - property name; may not be null
- value - property value; may not be null

Returns:

previous value or null for no previous value

Exceptions:

- NullPointerException - if key or value is null

39.4.8 Method bind()

```
public void
bind(
    javax.naming.Name name,
    java.lang.Object value
)
```

Binds a name to an object.

Parameters:

name - property name; may not be empty
 value - property value; possibly null

Exceptions:

NameAlreadyBoundException - if name is already bound

39.4.9 Method bind()

```
public void
bind(
    java.lang.String name,
    java.lang.Object value
)
```

Binds a name to an object.

Parameters:

name - property name; may not be empty
 value - property value; possibly null

Exceptions:

NameAlreadyBoundException - if name is already bound

39.4.10 Method clone()

```
public java.lang.Object
clone()
```

39.4.11 Method close()

```
public void
close()
```

Binds a name to an object.

Parameters:

name - property name; may not be empty
 value - property value; possibly null

Exceptions:

NameAlreadyBoundException - if name is already bound

39.4.12 Method composeName()

```
public javax.naming.Name
composeName(
    javax.naming.Name name,
    javax.naming.Name prefix
)
```

39.4.13 Method composeName()

```
public java.lang.String
composeName(
    java.lang.String name,
    java.lang.String prefix
)
```

39.4.14 Method convertNameToString()

```
protected java.lang.String
convertNameToString( javax.naming.Name name )
```

Builds a string from the name with dot ('.') delimiters b/w name components.

Parameters:

name - property name; may not be empty

Returns:

compound name string

Exceptions:

InvalidAttributesException - if name is empty

39.4.15 Method createSubcontext()

```
public javax.naming.Context  
createSubcontext( javax.naming.Name name )
```

39.4.16 Method createSubcontext()

```
public javax.naming.Context  
createSubcontext( java.lang.String name )
```

39.4.17 Method destroySubcontext()

```
public void  
destroySubcontext( javax.naming.Name name )
```

39.4.18 Method destroySubcontext()

```
public void  
destroySubcontext( java.lang.String name )
```

39.4.19 Method getEnvironment()

```
public final java.util.Hashtable  
getEnvironment()
```

Returns:

environment reference

39.4.20 Method getNameInNamespace()

```
public java.lang.String  
getNameInNamespace()
```

Returns:

""

39.4.21 Method getNameParser()

```
public javax.naming.NameParser  
getNameParser( javax.naming.Name name )
```

39.4.22 Method getNameParser()

```
public javax.naming.NameParser  
getNameParser( java.lang.String name )
```

39.4.23 Method list()

```
public javax.naming.NamingEnumeration  
list( javax.naming.Name name )
```

39.4.24 Method list()

```
public javax.naming.NamingEnumeration  
list( java.lang.String name )
```

39.4.25 Method listBindings()

```
public javax.naming.NamingEnumeration  
listBindings( javax.naming.Name name )
```

39.4.26 Method listBindings()

```
public javax.naming.NamingEnumeration  
listBindings( java.lang.String name )
```

39.4.27 Method lookup()

```
public java.lang.Object  
lookup( javax.naming.Name name )
```

39.4.28 Method lookup()

```
public java.lang.Object  
lookup( java.lang.String name )
```

39.4.29 Method lookupLink()

```
public java.lang.Object  
lookupLink( javax.naming.Name name )
```

39.4.30 Method lookupLink()

```
public java.lang.Object
lookupLink( java.lang.String name )
```

39.4.31 Method rebind()

```
public void
rebind(
    javax.naming.Name name,
    java.lang.Object value
)
```

39.4.32 Method rebind()

```
public void
rebind(
    java.lang.String name,
    java.lang.Object value
)
```

39.4.33 Method removeFromEnvironment()

```
public java.lang.Object
removeFromEnvironment( java.lang.String name )
```

Removes from the environment of this context.

Parameters:

name - property name; may not be null

Returns:

previous value or null for no previous value

Exceptions:

NullPointerException - if key or value is null

39.4.34 Method rename()

```
public void
rename(
    javax.naming.Name old_name,
    javax.naming.Name new_name
)
```

39.4.35 Method rename()

```
public void
rename(
    java.lang.String old_name,
    java.lang.String new_name
)
```

39.4.36 Method unbind()

```
public void
unbind( javax.naming.Name name )
```

39.4.37 Method unbind()

```
public void
unbind( java.lang.String name )
```

39.5 Class HashNamingContext.Enumerator

```
mil.dtra.util
protected HashNamingContext.Enumerator
extends Object
implements NamingEnumeration,
```

Fields:

```
protected boolean fBindingFlag
protected java.util.Enumeration fNameS
```

Methods:

```
public void close()
public boolean hasMore()
public boolean hasMoreElements()
public java.lang.Object next()
public java.lang.Object nextElement()
```

39.5.1 Field fBindingFlag

```
protected boolean fBindingFlag
```

39.5.2 Field fName

```
protected java.util.Enumeration fName
```

39.5.3 Constructor HashNamingContext.Enumerator()

```
protected  
HashNamingContext.Enumerator(  
    mil.dtra.util.HashNamingContext this$0,  
    java.util.Enumeration names,  
    boolean binding_flag  
)
```

Parameters:

names - enumeration of names or keys
 binding_flag - true if this is to return Binding instances, false to return NameClassPair instances.

39.5.4 Method close()

```
public void  
close()
```

39.5.5 Method hasMore()

```
public boolean  
hasMore()
```

39.5.6 Method hasMoreElements()

```
public boolean  
hasMoreElements()
```

39.5.7 Method next()

```
public java.lang.Object  
next()
```

39.5.8 Method nextElement()

```
public java.lang.Object
nextElement()
```

39.6 Class HashNamingContext.Parser

```
mil.dtra.util
protected HashNamingContext.Parser
extends Object
implements NameParser,
```

Methods:

```
public javax.naming.Name parse()
```

39.6.1 Constructor HashNamingContext.Parser()

```
protected
HashNamingContext.Parser( mil.dtra.util.HashNamingContext this$0 )
```

39.6.2 Method parse()

```
public javax.naming.Name
parse( java.lang.String name )
```

39.7 Class HashNamingContext.Enumerator

```
mil.dtra.util
protected HashNamingContext.Enumerator
extends Object
implements NamingEnumeration,
```

Fields:

```
protected boolean fBindingFlag
protected java.util.Enumeration fNameS
```

Methods:

```
public void close()
public boolean hasMore()
public boolean hasMoreElements()
public java.lang.Object next()
public java.lang.Object nextElement()
```

39.7.1 Field **fBindingFlag**

protected boolean **fBindingFlag**

39.7.2 Field **fNames**

protected java.util.Enumeration **fNames**

39.7.3 Constructor HashNamingContext.Enumerator()

protected
HashNamingContext.Enumerator(
 mil.dtra.util.HashNamingContext this\$0,
 java.util.Enumeration names,
 boolean binding_flag
)

Parameters:

names - enumeration of names or keys
binding_flag - true if this is to return Binding instances, false to return NameClassPair instances.

39.7.4 Method **close()**

public void
close()

39.7.5 Method **hasMore()**

public boolean
hasMore()

39.7.6 Method **hasMoreElements()**

public boolean
hasMoreElements()

39.7.7 Method **next()**

public java.lang.Object
next()

39.7.8 Method nextElement()

```
public java.lang.Object
nextElement()
```

39.8 Class HashNamingContext.Parser

```
mil.dtra.util
protected HashNamingContext.Parser
extends Object
implements NameParser,
```

Methods:

```
public javax.naming.Name parse()
```

39.8.1 Constructor HashNamingContext.Parser()

```
protected
HashNamingContext.Parser( mil.dtra.util.HashNamingContext this$0 )
```

39.8.2 Method parse()

```
public javax.naming.Name
parse( java.lang.String name )
```

39.9 Class HashNamingContextFactory

```
mil.dtra.util
public HashNamingContextFactory
extends Object
implements InitialContextFactory,
```

Implementation of the javax.naming.spi.InitialContextFactory interface for HashNamingContext.

Fields:

```
protected static java.util.Hashtable contextTable_
```

Methods:

```
public javax.naming.Context getInitialContext()
```

39.9.1 Field `contextTable`

```
protected static java.util.Hashtable contextTable
```

39.9.2 Constructor `HashNamingContextFactory()`

```
public  
HashNamingContextFactory()
```

39.9.3 Method `getInitialContext()`

```
public javax.naming.Context  
getInitialContext( java.util.Hashtable env )
```

39.10 Class `HTMLViewer`

```
mil.dtra.util  
public HTMLViewer  
extends Object
```

This class may be obviated by the `javax.jnlp.BasicService` capabilities in the Java WebStart environment. If we know we'll always run under WebStart, this class will be deprecated.

Encapsulates the showing of HTML content, hiding whether or not an applet context exists (in which case the browser is used to display the content) or whether an O/S command is used to invoke a browser.

By default under Windows and Unix, commands are built for launching a browser to view the page. Other O/Ses are not inherently supported, yet. However in all cases, the `HTMLViewer.viewCommand` system property can be used to override this default behavior. If specified, the command can use `%s` to represent the URL to be viewed.

Default commands by operating system are:

In addition, `file` URLs under Windows NT are replaced with a filesystem path.

URLs which don't contain a prototype specifier (e.g., `http:`, `file:`) are assumed to be relative to the installation or root directory, and a URL is generated accordingly.

Fields:

```
public static final java.lang.String BLANK_TARGET  
protected java.applet.AppletContext fAppletContext  
protected java.lang.String fURLString  
protected java.lang.String fViewCommand  
protected java.lang.Object fWebStartBasicService  
public static final java.lang.String HTML_VIEWER  
public static final java.lang.String PROP_command  
public static final java.lang.String TITLE
```

Methods:

```
public static java.lang.Object loadWebStartBasicService()
public void show()
```

39.10.1 Field BLANK_TARGET

```
public static final java.lang.String BLANK_TARGET
```

39.10.2 Field fAppletContext

```
protected java.applet.AppletContext fAppletContext
```

39.10.3 Field fURLString

```
protected java.lang.String fURLString
```

39.10.4 Field fViewCommand

```
protected java.lang.String fViewCommand
```

39.10.5 Field fWebStartBasicService

```
protected java.lang.Object fWebStartBasicService
```

39.10.6 Field HTML_VIEWER

```
public static final java.lang.String HTML_VIEWER
```

39.10.7 Field PROP_command

```
public static final java.lang.String PROP_command
```

39.10.8 Field TITLE

```
public static final java.lang.String TITLE
```

39.10.9 Constructor HTMLViewer()

```
public
HTMLViewer(
    java.applet.AppletContext context,
    java.lang.String root_url,
    java.lang.String url_string
)
```

Constructs for the specified environment.

Parameters:

- context - applet context or null if there is none
- root_url - root URL for relative URLs
- url_string - URL to load

39.10.10 Method loadWebStartBasicService()

```
public static java.lang.Object
loadWebStartBasicService()
```

Try to access the BasicService.

Returns:

- basic service object reference

39.10.11 Method show()

```
public void
show()
```

Attempts to load the URL in the Web browser.

39.11 Class RMIUtils

```
mil.dtra.util
public final RMIUtils
extends Object
```

Collection of static methods to support RMI processing.

Methods:

- public static javax.naming.Context createRMIContext()
- public static java.rmi.registry.Registry createRMIServer()

39.11.1 Constructor RMIUtils()

```
public
RMIUtils()
```

39.11.2 Method createRMIContext()

```
public static javax.naming.Context
createRMIContext( javax.naming.Context base_context )
```

Creates a naming context for RMI objects by deriving the port number from the specified context. The port is incremented by 1. This method assumes the passed context is a JNDI context with a provider URL specifying a port number.

Parameters:

base_context - naming context from which a context for RMI servers is derived

Returns:

naming context for RMI servers

Exceptions:

NamingException - on naming error or error creating the RMI url

39.11.3 Method createRMIREgistry()

```
public static java.rmi.registry.Registry
createRMIREgistry( javax.naming.Context base_context )
```

Creates an RMI registry to support a JNDI context. Derives the port number from the specified naming context, which is assumed to have a provider URL specifying a port number.

Parameters:

context - naming context reference with which CORBA servers are bound
base_context - naming context used to derive the port number for this registry

Returns:

registry object

Exceptions:

RemoteException - on error creating the registry

39.12 Class ValueProperties

```
mil.dtra.util
public ValueProperties
extends Properties
```

This class extends `Properties` to provide facilities for parsing to and from string representations of various classes primarily for the purpose of serialization/deserialization to/from `Properties` objects. String representations of objects are extended from single property keys with a string value to a hierarchical notation representing properties of the object itself. The notation uses dot ('.') separators as property name components, so the property key `project.auditInfo.name` refers to the *name* property of the `auditInfo` property of the `project` property of the top level object. Also, note that `project.auditInfo` refers to the `auditInfo` property object itself, and `project` refers to the `project` property object.

Introspection

We rely on `java.beans.Introspector` to obtain a `BeanInfo` when *implicitly* determining the properties of an object to (de)serialize. It will in turn reference any `BeanInfo` classes available for the object or use reflection to determine properties based on accessor (getter/setter) method names. In the above example, the top level object would have `getProject()` and `setProject()` methods to support both serialization (get) and deserialization (set) of the `project` property. Of course, properties can be made read-only or write-only by not implementing a getter or setter, respectively, or by specifying this via a `BeanInfo` `PropertyDescriptor`.

Parsers

Often it is desirable to use a single property key (i.e., not the hierarchical notation described above) and represent a complex object with a single string. This is supported in `ValueProperties` through `Parser` mechanisms. It is extensible in that `Parsers` for various class types may be added and removed. Initial `Parsers` are provided for the following classes:

`java.awt.Color`, `java.awt.Cursor`, `java.util.Date`, `java.awt.Dimension`, `java.awt.Font`, `java.awt.Image`, `javax.swing.Icon`, `java.awt.Insets`, `javax.swing.KeyStroke`, `java.awt.Point`, `java.awt.geom.Point2D`, `java.awt.Rectangle`, `java.awt.geom.Rectangle2D`, `mil.dtra.units.StoredValue`, `java.net.URL`

In addition, parsing for a few primitive types is built in.

Primitive Types

Parsing for `boolean`, `double`, `float`, and `int` values is implemented internally. Other integer types can be cast from `int`. There are `getxxxx()` methods for each with default values specified and with built-in defaults. Some `putxxxx()()` methods are provided, although they merely use the corresponding `TypeClass.toString()` or `String.valueOf()` method to generate a string equivalent.

Array Types

There are two forms of array processing, delimited arrays and indexed arrays. For the former, element values are delimited by a specified string, which can be defaulted to a comma. Note that some object representations use delimiters between values as well, so delimited arrays must be used carefully. Also bear in mind that a `java.util.StringTokenizer` instance is used to parse delimited arrays. Thus, *blank values* cannot be used since successive delimiter characters are treated as a single delimiter during the parse.

There are two `getDelimitedArray()` and `putDelimitedArray()` methods, one specifying the delimiter, and the other defaulting to comma.

The indexed array methods, `getArray()` and `putArray()` use a `length` property to determine the number of objects in the array and zero-based index values for the individual objects. For

example, a `Color[]` property named `colors` with 4 elements would appear as follows if `colors` were a property of the top level object:

```
colors.length=4
colors.0=255,0,0
colors.1=0,255,0
colors.2=0,0,255
colors.3=255,255,255
```

Note that the `getObject()` and `putObject()` methods use `getDelimitedArray()` and `putDelimitedArray()`, respectively, when implicitly processing an array property value. There are string size limitations when storing `Properties` objects to files, so classes with large arrays must explicitly (de)serialize array properties using the indexed methods `putArray()` and `getArray()`.

Generic Object Handling

Any object can be retrieved and/or stored in a `ValueProperties` instance via the `getObject()` and `putObject()` methods, respectively. Two `getObject()` methods are provided, one in which a default value object may be passed and one in which the default value is null. Refer to the documentation on these methods for a description of how they work. They check for `PropsSerializer` instances and will look for an appropriate parser registered to handle the object class.

(De)Serialization

Serialization via properties is the whole point of `ValueProperties` and the `PropsSerializer` interface. The methods `getObjectInstance()` and `putObjectInstance` deserialize and serialize, respectively, a `PropsSerializer` instance. They add a `class` property specifying the path of the class to instantiate upon deserialization and respectively call the `readProps()` and `writeProps()` methods of the `PropsSerializer` instance.

There are two modes of serialization, implicit and explicit.

Implicit (De)Serialization

Implicit (de)serialization uses the bean `Introspector` to determine the properties of an object and find appropriate getter and setter methods. Each such property is processed with a corresponding key in the properties object.

Note that for implicit (de)serialization, a class implementer must be careful in the definition of getter and setter methods. Each will indicate a property value to the `Introspector`.

Explicit (De)Serialization

A `PropsSerializer` implementation may choose to explicitly set property values in their `readProps()` method and get property values in their `writeProps()` method. Often this is necessary to avoid processing of each property that the `Introspector` will identify. Whereas with Java binary serialization an attribute or field may be tagged `transient`, selective property (de)serialization requires an explicit implementation of `readProps()` and `writeProps()`.

Fields:

```
protected static final mil.dtra.util.parsers.Parser[] DEFAULT_PARSERS
protected java.util.Map fParserMap
protected boolean fSubstituteFlag
public static final java.lang.String PROP_class
public static final java.lang.String VALUE_PROPERTIES
```

Methods:

```

public void addParser()
public void addParsers()
public void addParsers()
public void assign()
public java.lang.String createSubkeyPrefix()
public static void deserializeObject()
protected mil.dtra.util.parsers.Parser findParser()
public java.lang.Object getArray()
public final boolean getBoolean()
public boolean getBoolean()
public java.lang.Object getDelimitedArray()
public java.lang.Object getDelimitedArray()
public final double getDouble()
public double getDouble()
public final float getFloat()
public float getFloat()
public final int getInt()
public int getInt()
public java.lang.Object getObject()
public java.lang.Object getObject()
public mil.dtra.util.PropsSerializer getObjectInstance()
public java.lang.String getProperty()
public final boolean getSubstituteFlag()
public static double[] parseDoubleArray()
public static float[] parseFloatArray()
public boolean putArray()
public final boolean putBoolean()
public boolean putDelimitedArray()
public boolean putDelimitedArray()
public final boolean putDouble()
public final boolean putFloat()
public final boolean putInt()
public boolean putObject()
public void putObjectInstance()
public final void putObjectProperties()
public void putObjectProperties()
public void removeParser()
public void removeParser()
public final void setObjectProperties()
public void setObjectProperties()
public final void setSubstituteFlag()
public void update()

```

39.12.1 Field DEFAULT_PARSERS

protected static final mil.dtra.util.parsers.Parser[] **DEFAULT_PARSERS**

39.12.2 Field fParserMap

```
protected java.util.Map fParserMap
```

39.12.3 Field fSubstituteFlag

```
protected boolean fSubstituteFlag
```

39.12.4 Field PROP_class

```
public static final java.lang.String PROP_class
```

39.12.5 Field VALUE_PROPERTIES

```
public static final java.lang.String VALUE_PROPERTIES
```

39.12.6 Constructor ValueProperties()

```
public  
ValueProperties()
```

Constructs with the default set of parsers and an empty hash table.

39.12.7 Constructor ValueProperties()

```
public  
ValueProperties( java.util.Properties defaults )
```

Constructs with the default set of parsers and the specified default property values.

39.12.8 Constructor ValueProperties()

```
public  
ValueProperties( java.lang.String url )
```

Constructs and loads from the specified URL.

Parameters:

url - URL of the file containing the properties

Exceptions:

IOException - on I/O error

39.12.9 Constructor ValueProperties()

```
public
ValueProperties( java.net.URL url )
```

Constructs and loads from the specified URL.

Parameters:

url - URL object containing properties

Exceptions:

IOException - on I/O error

39.12.10 Method addParser()

```
public void
addParser( mil.dtra.util.parsers.Parser parser )
```

Adds the parser replacing any previously added parser for the parser's object class.

Parameters:

parser - parser to add

39.12.11 Method addParsers()

```
public void
addParsers( java.util.Collection parsers )
```

Collection based equivalent of the addParser() method accepting an array. Only Parser objects in the collection are processed.

Parameters:

parsers - collection of parser objects

39.12.12 Method addParsers()

```
public void
addParsers( mil.dtra.util.parsers.Parser[] parser )
```

Adds the array of parsers, replacing any previously installed parsers for the object class of the parsers in the array.

Parameters:

parser - array of parser

39.12.13 Method assign()

```
public void
assign( java.util.Properties from )
```

Copies property values, allowing spaces in property names represented with a '+'. Unlike update(), new key value are entered into this object.

Parameters:

from - source of properties to copy

39.12.14 Method createSubkeyPrefix()

```
public java.lang.String
createSubkeyPrefix( java.lang.String key )
```

Given the specified key, creates a key suitable to be a prefix for subkeys. A null key is converted to blank (""), and a blank key is left unaltered. All other keys have a dot ('.') appended.

Parameters:

key - key for outer or containing object

Returns:

subkey prefix for contained properties; blank if the key is null or blank, the key followed by a dot '.' if the key has length > 0

39.12.15 Method deserializeObject()

```
public static void
deserializeObject(
    mil.dtra.util.PropsSerializer object,
    java.lang.String url,
    java.lang.String prefix
)
```

Deserializes the specified object from the URL.

Parameters:

object - PropsSerializer object to deserialize
 url - URL of file containing object properties
 prefix - property prefix

Exceptions:

IOException - on I/O error

39.12.16 Method findParser()

```
protected mil.dtra.util.parsers.Parser
findParser( java.lang.Class type )
```

Retrieves a parser for the specified type, checking for exact matches first. If none is found, a linear search is made for assignability.

Parameters:

type - class type for which to find a parser

Returns:

found parser or null if none found

39.12.17 Method getArray()

```
public java.lang.Object
getArray(
    java.lang.String key,
    java.lang.Class type
)
```

Creates an array object from values stored with the specified key, which is a prefix to an ordered enumeration with key suffix `.n`, where *n* starts at 0. This method should retrieve an object stored via the `putArray()` method. Only heterogeneous (all elements of same type) are supported. This method calls `getObject()` to retrieve each element value.

Parameters:

key - property key
type - object (array) type

Returns:

array object or null if not defined or if the specified class type is not an array

39.12.18 Method `getBoolean()`

```
public final boolean
getBoolean( java.lang.String key )
```

Gets a boolean property value.

Parameters:

key - name of the property

Returns:

false if the property doesn't exist, boolean value for the string otherwise

39.12.19 Method `getBoolean()`

```
public boolean
getBoolean(
    java.lang.String key,
    boolean default_value
)
```

Gets a boolean property value with a specified default.

Parameters:

key - name of the property
default_value - value to use if the property doesn't exist

Returns:

the default value if the property doesn't exist, otherwise, a boolean value represented by the string

39.12.20 Method getDelimitedArray()

```
public java.lang.Object
getDelimitedArray(
    java.lang.String key,
    java.lang.Class type
)
```

Parses array object values from a string representation assuming a delimiter of ",".

Parameters:

key - name of the property
 type - object (array) type

Returns:

array object represented by the string

39.12.21 Method getDelimitedArray()

```
public java.lang.Object
getDelimitedArray(
    java.lang.String key,
    java.lang.Class type,
    java.lang.String delimiter
)
```

Parses array object values from a string representation. Here we deal only with homogeneous arrays (all elements have same type), and we have no scheme to handle nested arrays with different delimiters.

Parameters:

key - name of the property
 type - object (array) type
 delimiter - delimiter between values

Returns:

array object represented by the string or null on error

39.12.22 Method getDouble()

```
public final double
getDouble( java.lang.String key )
```

Gets a double property value.

Parameters:

key - name of the property

Returns:

-1 if the property doesn't exist, double value represented by the string otherwise

39.12.23 Method getDouble()

```
public double
getDouble(
    java.lang.String key,
    double default_value
)
```

Gets a double property value with a specified default.

Parameters:

key - name of the property

default_value - value to use if the property doesn't exist

Returns:

the default value if the property doesn't exist, otherwise, a double value represented by the string

39.12.24 Method getFloat()

```
public final float
getFloat( java.lang.String key )
```

Gets a float property value.

Parameters:

key - name of the property

Returns:

-1 if the property doesn't exist, float value represented by the string otherwise

39.12.25 Method getFloat()

```
public float
getFloat(
    java.lang.String key,
    float default_value
)
```

Gets a float property value with a specified default.

Parameters:

key - name of the property
 default_value - value to use if the property doesn't exist

Returns:

the default value if the property doesn't exist, otherwise, a float value represented by the string

39.12.26 Method getInt()

```
public final int
getInt( java.lang.String key )
```

Gets an int property value.

Parameters:

key - name of the property

Returns:

-1 if the property doesn't exist, integer object represented by the string otherwise

39.12.27 Method getInt()

```
public int
getInt(
    java.lang.String key,
    int default_value
)
```

Gets an integer property value with a specified default.

Parameters:

key - name of the property

default_value - value to use if the property doesn't exist

Returns:

the default value if the property doesn't exist, otherwise, an integer value represented by the string

39.12.28 Method getObject()

```
public java.lang.Object
getObject(
    java.lang.String key,
    java.lang.Class type
)
```

Retrieves the object value from the properties with the specified property name. Note that for classes implementing `PropsSerializer`, `getObjectInstance()` is called.

Parameters:

key - name of the property

type - class for the object to retrieve

Returns:

retrieved, parsed, and constructed object or null on error

39.12.29 Method getObject()

```
public java.lang.Object
getObject(
    java.lang.String key,
    java.lang.Class type,
    java.lang.Object default_value
)
```

Retrieves the object value from the properties with the specified property name. If the resulting value is null, the specified default value is returned.

Parameters:

key - name of the property

type - class for the object to retrieve

default_value - value to return if the property doesn't exist

Returns:

retrieved, parsed, and constructed object or the specified default value

39.12.30 Method getObjectInstance()

```
public mil.dtra.util.PropsSerializer
getObjectInstance(
    java.lang.String key,
    java.lang.Class instance_class
)
```

Creates a `PropsSerializer` instance from properties stored in a this object. The special property `class` identifies the complete path of the class to be instantiated. The created object is checked to be an instance of a specified class.

Note that a prefix value of null implies a blank prefix, which is different than the assumption made for `setObjectProperties()` and `putObjectProperties`.

Parameters:

`key` - property key, where null implies blank
`instance_class` - class of which the created object should be an instance

Returns:

object created

Exceptions:

`IOException` - on I/O error

39.12.31 Method getProperty()

```
public java.lang.String
getProperty( java.lang.String key )
```

Override of `Properties.getProperty()` to perform property value substitutions on values using `DataUtils.substituteProperties()`.

Parameters:

`key` - property key

Returns:

the value in this property list with the specified key, which property reference substitutions from this or System properties

39.12.32 Method getSubstituteFlag()

```
public final boolean
getSubstituteFlag()
```

Accessor for the *substituteFlag* property which indicates whether or not property substitutions are performed in `getProperty()`.

Returns:

true if substitutions are performed, false otherwise

39.12.33 Method parseDoubleArray()

```
public static double[]
parseDoubleArray( java.lang.String value )
```

Creates an array of doubles from the string containing comma-separated values. The return has all values up to the end of the value string.

Parameters:

`value` - string value to parse

Returns:

array of doubles (possibly zero-length) or null on error

39.12.34 Method parseFloatArray()

```
public static float[]
parseFloatArray( java.lang.String value )
```

Creates an array of doubles from the string containing comma-separated values. The return has all values up to the end of the value string.

Parameters:

`value` - string value to parse

Returns:

array of doubles (possibly zero-length) or null on error

39.12.35 Method putArray()

```
public boolean
putArray(
    java.lang.String key,
    java.lang.Object object
)
```

Stores the array object in an ordered enumeration with key suffixes $.n$, where n starts at 0. Objects stored with this method can be retrieved via `getArray()` if the array is heterogeneous (all elements of the same type). If the object is null or not an array, nothing is stored.

Parameters:

key - property key
object - array object to store

Returns:

true if the object was stored, false otherwise

39.12.36 Method putBoolean()

```
public final boolean
putBoolean(
    java.lang.String key,
    boolean value
)
```

Stores a boolean value.

Returns:

true

39.12.37 Method putDelimitedArray()

```
public boolean
putDelimitedArray(
    java.lang.String key,
    java.lang.Object object
)
```

Stores a string representation of the array object assuming a comma (",") delimiter.

Parameters:

key - property key
 object - array object

Returns:

true if the object was stored, false otherwise

39.12.38 Method putDelimitedArray()

```
public boolean
putDelimitedArray(
    java.lang.String key,
    java.lang.Object object,
    java.lang.String delimiter
)
```

Stores a string representation of the array object in a single property value. If the object is null or not an array, the key is removed from this.

Parameters:

key - property key
 object - array object
 delimiter - delimiter

Returns:

true if the object was stored, false otherwise

39.12.39 Method putDouble()

```
public final boolean
putDouble(
    java.lang.String key,
    double value
)
```

Stores a double value.

Returns:

true

39.12.40 Method putFloat()

```
public final boolean
putFloat(
    java.lang.String key,
    float value
)
```

Stores a float value.

Returns:

true

39.12.41 Method putInt()

```
public final boolean
putInt(
    java.lang.String key,
    int value
)
```

Stores a int value.

Returns:

true

39.12.42 Method putObject()

```
public boolean
putObject(
    java.lang.String key,
    java.lang.Object obj
)
```

Stores a string representation of the object if one can be constructed. Otherwise, the property value is removed. Note that for objects implementing `PropsSerializer`, `putObjectInstance()` is called.

Parameters:

key - key for storing the object
obj - object value for which to build a string representation

Returns:

true if the object was stored, false otherwise

39.12.43 Method putObjectInstance()

```
public void
putObjectInstance(
    java.lang.String key,
    mil.dtra.util.PropsSerializer object
)
```

Stores the PropsSerializer instance in this properties object. If the object is null, nothing happens. Note that a prefix value of null implies a blank prefix, which is different than the assumption made for setObjectProperties() and putObjectProperties.

Parameters:

- key - property key, where null implies blank
- object - object from which to get properties

39.12.44 Method putObjectProperties()

```
public final void
putObjectProperties( java.lang.Object object )
```

Assumes the prefix is the object's class name (not class pathname).

Parameters:

- object - object from which to get properties; cannot be null

39.12.45 Method putObjectProperties()

```
public void
putObjectProperties(
    java.lang.Object object,
    java.lang.String prefix
)
```

Given an object, uses the bean Introspector to determine its properties with getters. For each such property, a call to putObject() stores the property value in this properties object with a key having the specified key with a dot and the property name appended. The getter method is used to retrieve the property value.

Parameters:

- object - object from which to get properties; cannot be null
- prefix - property key prefix, which if null means to use the object class name (not class path) as the prefix

39.12.46 Method removeParser()

```
public void
removeParser( java.lang.Class type )
```

Removes the parser.

Parameters:

type - class for which any parser is to be removed

39.12.47 Method removeParser()

```
public void
removeParser( mil.dtra.util.parsers.Parser parser )
```

Removes the parser.

Parameters:

parser - parser to remove

39.12.48 Method setObjectProperties()

```
public final void
setObjectProperties( java.lang.Object object )
```

Assumes the prefix is the object's class name (not class pathname).

Parameters:

object - object for which to set properties; cannot be null

39.12.49 Method setObjectProperties()

```
public void
setObjectProperties(
    java.lang.Object object,
    java.lang.String prefix
)
```

Given an object, uses the bean Introspector to determine its properties with setters. For each such property, a check is made for a value stored in this properties object. If the specified property prefix is null, one is built from the object's class name with the package path omitted. A call to `getObject()` retrieves the object from this properties object, and the retrieved object is passed to the property setter for the specified object.

Parameters:

`object` - object for which to set properties; cannot be null
`prefix` - property key prefix, which if null means to use the object class name (not class path) as the prefix

39.12.50 Method `setSubstituteFlag()`

```
public final void
setSubstituteFlag( boolean flag )
```

Accessor for the `substituteFlag` property which indicates whether or not property substitutions are performed in `getProperty()`.

Parameters:

`flag` - true to turn on substitutions, false to turn them off

39.12.51 Method `update()`

```
public void
update( java.util.Properties from )
```

Updates existing property values, allowing spaces in property names represented with a '+'. New keys are ignored.

Parameters:

`from` - source of properties with update values

CHAPTER 40

Package mil.dtra.util.parsers

Contains Parser classes for properties serialization via ValueProperties.

Interfaces:

Parser

Classes:

- AbstractParser
- ColorParser
- CursorParser
- DateParser
- DimensionParser
- FontParser
- IconParser
- ImageParser
- InsetsParser
- KeyStrokeParser
- Point2DParser
- PointParser
- Rectangle2DParser
- RectangleParser
- StoredValueParser
- URLParser

40.1 Interface Parser

mil.dtra.util.parsers
public interface **Parser**

Defines methods for converting an object value to/from String format for storage in a Properties object.

Methods:

```
public java.lang.Class getObjectClass()
public java.lang.Object read()
public boolean write()
```

40.1.1 Method getObjectClass()

```
public java.lang.Class
getObjectClass()
```

Returns the class which this converter processes.

Returns:

class object

40.1.2 Method read()

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

props - Properties object in which value is stored
key - property key for the object

Returns:

equivalent object or null on format error

40.1.3 Method write()

```
public boolean
write(
    java.util.Properties props,
    java.lang.String key,
    java.lang.Object object
)
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

- props - Properties object in which to store value
- key - property key for the object
- object - object to store

Returns:

true if the object was stored, false otherwise

40.2 Class AbstractParser

```
mil.dtra.util.parsers
public abstract AbstractParser
extends Object
implements Parser,
```

Base class for Parser implementation. Provides field for storing the object class.

Fields:

```
protected java.lang.Class fObjectClass
```

Methods:

```
public final java.lang.Class getObjectClass()
```

40.2.1 Field fObjectClass

```
protected java.lang.Class fObjectClass
```

40.2.2 Constructor AbstractParser()

```
public
AbstractParser( java.lang.Class object_class )
```

Constructs.

Parameters:

object_class - class for objects processed by this converter.

40.2.3 Method `getObjectClass()`

```
public final java.lang.Class
getObjectClass()
```

Returns the class which this converter processes.

Returns:

class object

40.3 Class ColorParser

mil.dtra.util.parsers

public **ColorParser**

extends AbstractParser

Parser for Color objects. Colors are represented by the red, green, and blue values separated by a comma (e.g., 255, 200, 175).

Methods:

```
public java.lang.Object read()
public static java.lang.String toString()
public static java.awt.Color valueOf()
public boolean write()
```

40.3.1 Constructor `ColorParser()`

```
public
ColorParser()
```

40.3.2 Method `read()`

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

props - Properties object in which value is stored
key - property key for the object

Returns:

equivalent object or null on format error

40.3.3 Method `toString()`

```
public static java.lang.String
toString( java.awt.Color color )
```

Converts the object value to String format.

Parameters:

object - object to convert

Returns:

String version of the value

40.3.4 Method `valueOf()`

```
public static java.awt.Color
valueOf( java.lang.String value )
```

Converts the String value to an object

Parameters:

value - String value representation

Returns:

equivalent object or null on format error

40.3.5 Method `write()`

```
public boolean
write(
    java.util.Properties props,
    java.lang.String key,
    java.lang.Object object
)
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

props - Properties object in which to store value
 key - property key for the object
 object - object to store

Returns:

true if the object was stored, false otherwise

40.4 Class CursorParser

```
mil.dtra.util.parsers
public CursorParser
extends AbstractParser
```

Parser for Cursor object values. Cursors are represented by lower case string names of the cursor constants for the Cursor class without the trailing _cursor.

Fields:

```
public static final java.lang.String CROSSHAIR
public static final java.lang.String DEFAULT
public static final java.lang.String E_RESIZE
public static final java.lang.String HAND
public static final java.lang.String MOVE
public static final java.lang.String N_RESIZE
public static final java.lang.String NE_RESIZE
public static final java.lang.String NW_RESIZE
public static final java.lang.String S_RESIZE
public static final java.lang.String SE_RESIZE
public static final java.lang.String SW_RESIZE
public static final java.lang.String TEXT
public static final java.lang.String W_RESIZE
public static final java.lang.String WAIT
```

Methods:

```
public java.lang.Object read()
public static java.lang.String toString()
public static java.awt.Cursor valueOf()
public boolean write()
```

40.4.1 Field CROSSHAIR

```
public static final java.lang.String CROSSHAIR
"crosshair"
```

40.4.2 Field DEFAULT

```
public static final java.lang.String DEFAULT
"default"
```

40.4.3 Field E_RESIZE

```
public static final java.lang.String E_RESIZE
"e_resize"
```

40.4.4 Field HAND

```
public static final java.lang.String HAND
"hand"
```

40.4.5 Field MOVE

```
public static final java.lang.String MOVE
"move"
```

40.4.6 Field N_RESIZE

```
public static final java.lang.String N_RESIZE
"n_resize"
```

40.4.7 Field NE_RESIZE

```
public static final java.lang.String NE_RESIZE
"ne_resize"
```

40.4.8 Field NW_RESIZE

```
public static final java.lang.String NW_RESIZE
"nw_resize"
```

40.4.9 Field S_RESIZE

```
public static final java.lang.String S_RESIZE
"s_resize"
```

40.4.10 Field SE_RESIZE

```
public static final java.lang.String SE_RESIZE
"se_resize"
```

40.4.11 Field SW_RESIZE

```
public static final java.lang.String SW_RESIZE
"sw_resize"
```

40.4.12 Field TEXT

```
public static final java.lang.String TEXT
"text"
```

40.4.13 Field W_RESIZE

```
public static final java.lang.String W_RESIZE
"w_resize"
```

40.4.14 Field WAIT

```
public static final java.lang.String WAIT
"wait"
```

40.4.15 Constructor CursorParser()

```
public
CursorParser()
```

40.4.16 Method read()

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

props - Properties object in which value is stored
 key - property key for the object

Returns:

equivalent object or null on format error

40.4.17 Method `toString()`

```
public static java.lang.String
toString( java.awt.Cursor cursor )
```

Converts the object value to String format.

Parameters:

object - object to convert

Returns:

String version of the value or null on error

40.4.18 Method `valueOf()`

```
public static java.awt.Cursor
valueOf( java.lang.String value )
```

Converts the String value to an object

Parameters:

value - String value representation

Returns:

equivalent object or null on format error

40.4.19 Method `write()`

```
public boolean
write(
  java.util.Properties props,
  java.lang.String key,
  java.lang.Object object
)
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

- props - Properties object in which to store value
- key - property key for the object
- object - object to store

Returns:

true if the object was stored, false otherwise

40.5 Class DateParser

mil.dtra.util.parsers

public **DateParser**

extends AbstractParser

Parser for Date objects. Dates are represented by their milliseconds-since-the-epoch time.

Methods:

- public java.lang.Object read()
- public static java.lang.String toString()
- public static java.util.Date valueOf()
- public boolean write()

40.5.1 Constructor DateParser()

public
DateParser()

40.5.2 Method read()

public java.lang.Object
read(

- java.util.Properties props,
- java.lang.String key
-)

Reads and parses the value from the properties object.

Parameters:

props - Properties object in which value is stored
 key - property key for the object

Returns:

equivalent object or null on format error

40.5.3 Method `toString()`

```
public static java.lang.String
toString( java.util.Date date )
```

Converts the object value to String format.

Parameters:

object - object to convert

Returns:

String version of the value or null on error

40.5.4 Method `valueOf()`

```
public static java.util.Date
valueOf( java.lang.String value )
```

Converts the String value to an object

Parameters:

value - String value representation

Returns:

equivalent object or null on format error

40.5.5 Method `write()`

```
public boolean
write(
  java.util.Properties props,
  java.lang.String key,
  java.lang.Object object
)}
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

- props - Properties object in which to store value
- key - property key for the object
- object - object to store

40.6 Class DimensionParser

```
mil.dtra.util.parsers
public DimensionParser
extends AbstractParser
```

Parser for Dimension objects. A dimension is represented in a string by the width and height values separated by a comma (e.g., 640, 480).

Methods:

```
public java.lang.Object read()
public static java.lang.String toString()
public static java.awt.Dimension valueOf()
public boolean write()
```

40.6.1 Constructor DimensionParser()

```
public
DimensionParser()
```

40.6.2 Method read()

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

- props - Properties object in which value is stored
- key - property key for the object

Returns:

equivalent object or null on format error

40.6.3 Method `toString()`

```
public static java.lang.String
toString( java.awt.Dimension dim )
```

40.6.4 Method `valueOf()`

```
public static java.awt.Dimension
valueOf( java.lang.String value )
```

Creates a Dimension object from a string.

A dimension is represented in a string by the width and height values separated by a comma (e.g., 640, 480).

Parameters:

`value` - string value to parse

Returns:

dimension object or null if format invalid

40.6.5 Method `write()`

```
public boolean
write(
    java.util.Properties props,
    java.lang.String key,
    java.lang.Object object
)
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

`props` - `Properties` object in which to store value
`key` - property key for the object
`object` - object to store

Returns:

true if the object was stored, false otherwise

40.7 Class FontParser

```
mil.dtra.util.parsers
public FontParser
extends AbstractParser
```

Parser for Font objects. Fonts are represented in a string by the family name, style, and size separated by a comma. Family names include `Serif`, `SansSerif`, `Monospaced`, `Dialog`, and `DialogBold`. Style names are `plain`, `bold`, `italic`, and `bolditalic` (e.g., `monospaced,plain,14`).

Methods:

```
public java.lang.Object read()
public static java.lang.String toString()
public static java.awt.Font valueOf()
public boolean write()
```

40.7.1 Constructor FontParser()

```
public
FontParser()
```

40.7.2 Method read()

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

`props` - Properties object in which value is stored
`key` - property key for the object

Returns:

equivalent object or null on format error

40.7.3 Method `toString()`

```
public static java.lang.String
toString( java.awt.Font font )
```

Converts the object value to String format.

Parameters:

object - object to convert

Returns:

String version of the value or null on error

40.7.4 Method `valueOf()`

```
public static java.awt.Font
valueOf( java.lang.String value )
```

Converts the String value to an object

Parameters:

value - String value representation

Returns:

equivalent object or null on format error

40.7.5 Method `write()`

```
public boolean
write(
    java.util.Properties props,
    java.lang.String key,
    java.lang.Object object
)
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

props - Properties object in which to store value
key - property key for the object
object - object to store

40.8 Class IconParser

```
mil.dtra.util.parsers
public IconParser
extends AbstractParser
```

Parser for **Icon** objects. Icons are represented by a resource name for an associated image. Resources are relative to this class, so full paths should be used (e.g., /mil/dtra/hpac/client/BlueDot.gif).

Methods:

```
public java.lang.Object read()
public static javax.swing.Icon valueOf()
public boolean write()
```

40.8.1 Constructor IconParser()

```
public
IconParser()
```

40.8.2 Method read()

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

props - Properties object in which value is stored
key - property key for the object

Returns:

equivalent object or null on format error

40.8.3 Method valueOf()

```
public static javax.swing.Icon
valueOf( java.lang.String value )
```

Converts the String value to an object

Parameters:

value - String value representation

Returns:

equivalent object or null on format error

40.8.4 Method write()

```
public boolean
write(
    java.util.Properties props,
    java.lang.String key,
    java.lang.Object object
)
```

Since there's no information with an Icon object that tells how it was produced, this method does nothing. Icon references should be stored in properties as resource names.

40.9 Class ImageParser

```
mil.dtra.util.parsers
public ImageParser
extends AbstractParser
```

Parser for Image objects. Images are represented by a resource name. Resources are relative to this class, so full paths should be used (e.g., /mil/dtra/hpac/client/BlueDot.gif).

Methods:

```
public java.lang.Object read()
public static java.awt.Image valueOf()
public boolean write()
```

40.9.1 Constructor ImageParser()

```
public
ImageParser()
```

40.9.2 Method read()

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

props - Properties object in which value is stored
key - property key for the object

Returns:

equivalent object or null on format error

40.9.3 Method valueOf()

```
public static java.awt.Image
valueOf( java.lang.String value )
```

Converts the String value to an object

Parameters:

value - String value representation

Returns:

equivalent object or null on format error

40.9.4 Method write()

```
public boolean
write(
    java.util.Properties props,
    java.lang.String key,
    java.lang.Object object
)
```

Since there's no information with an `Image` object that tells how it was produced, this method does nothing. `Image` references should be stored in properties as resource names.

40.10 Class InsetsParser

```
mil.dtra.util.parsers
public InsetsParser
extends AbstractParser
```

Parser for `Insets` objects. `Insets` are represented by the top, left, bottom, and right values separated by a comma (e.g., `5, 2, 5, 2`).

Methods:

```
public java.lang.Object read()
public static java.lang.String toString()
public static java.awt.Insets valueOf()
public boolean write()
```

40.10.1 Constructor InsetsParser()

```
public
InsetsParser()
```

40.10.2 Method read()

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

props - Properties object in which value is stored
 key - property key for the object

Returns:

equivalent object or null on format error

40.10.3 Method `toString()`

public static java.lang.String
toString(java.awt.Insets insets)

Converts the object value to String format.

Parameters:

object - object to convert

Returns:

String version of the value or null on error

40.10.4 Method `valueOf()`

public static java.awt.Insets
valueOf(java.lang.String value)

Converts the String value to an object

Parameters:

value - String value representation

Returns:

equivalent object or null on format error

40.10.5 Method `write()`

public boolean
write(
 java.util.Properties props,
 java.lang.String key,
 java.lang.Object object
)

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

- props - Properties object in which to store value
- key - property key for the object
- object - object to store

40.11 Class KeyStrokeParser

```
mil.dtra.util.parsers
public KeyStrokeParser
extends AbstractParser
```

Parser for KeyStroke objects. Key strokes are represented by the '+'-delimited modifiers alt, shift, ctrl, and meta, key names enter, tab, and space, and a single key stroke representing other characters (e.g., alt+a).

This should probably be extended to cover all the specials keys, like function keys, with a VK_ constant in KeyEvent.

Methods:

```
public java.lang.Object read()
public static java.lang.String toString()
public static javax.swing.KeyStroke valueOf()
public boolean write()
```

40.11.1 Constructor KeyStrokeParser()

```
public
KeyStrokeParser()
```

40.11.2 Method read()

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

props - Properties object in which value is stored
 key - property key for the object

Returns:

equivalent object or null on format error

40.11.3 Method `toString()`

```
public static java.lang.String
toString( javax.swing.KeyStroke keystroke )
```

Converts the object value to String format.

Parameters:

object - object to convert

Returns:

String version of the value or null on error

40.11.4 Method `valueOf()`

```
public static javax.swing.KeyStroke
valueOf( java.lang.String value )
```

Converts the String value to an object

Parameters:

value - String value representation

Returns:

equivalent object or null on format error

40.11.5 Method `write()`

```
public boolean
write(
  java.util.Properties props,
  java.lang.String key,
  java.lang.Object object
)
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

- props - Properties object in which to store value
- key - property key for the object
- object - object to store

40.12 Class Point2DParser

```
mil.dtra.util.parsers
public Point2DParser
extends AbstractParser
```

Parser for Point2D objects. A 2D point is represented in a string by the x and y values separated by a comma (e.g., 100.5,150.789).

Methods:

```
public java.lang.Object read()
public static java.lang.String toString()
public static java.awt.geom.Point2D valueOf()
public boolean write()
```

40.12.1 Constructor Point2DParser()

```
public
Point2DParser()
```

40.12.2 Method read()

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

- props - Properties object in which value is stored
- key - property key for the object

Returns:

equivalent object or null on format error

40.12.3 Method `toString()`

```
public static java.lang.String
toString( java.awt.geom.Point2D pt )
```

40.12.4 Method `valueOf()`

```
public static java.awt.geom.Point2D
valueOf( java.lang.String value )
```

Creates a Point object from a string.

A dimension is represented in a string by the width and height values separated by a comma (e.g., 640, 480).

Parameters:

`value` - string value to parse

Returns:

dimension object or null if format invalid

40.12.5 Method `write()`

```
public boolean
write(
    java.util.Properties props,
    java.lang.String key,
    java.lang.Object object
)
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

`props` - Properties object in which to store value
`key` - property key for the object
`object` - object to store

40.13 Class PointParser

```
mil.dtra.util.parsers
public PointParser
extends AbstractParser
```

Parser for Point objects. A point is represented in a string by the x and y values separated by a comma (e.g., 100,150).

Methods:

```
public java.lang.Object read()
public static java.lang.String toString()
public static java.awt.Point valueOf()
public boolean write()
```

40.13.1 Constructor PointParser()

```
public
PointParser()
```

40.13.2 Method read()

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

props - Properties object in which value is stored
key - property key for the object

Returns:

equivalent object or null on format error

40.13.3 Method toString()

```
public static java.lang.String
toString( java.awt.Point pt )
```

40.13.4 Method valueOf()

```
public static java.awt.Point  
valueOf( java.lang.String value )
```

Creates a Point object from a string.

A dimension is represented in a string by the width and height values separated by a comma (e.g., 640, 480).

Parameters:

value - string value to parse

Returns:

dimension object or null if format invalid

40.13.5 Method write()

```
public boolean  
write(  
    java.util.Properties props,  
    java.lang.String key,  
    java.lang.Object object  
)
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

props - Properties object in which to store value
key - property key for the object
object - object to store

40.14 Class Rectangle2DParser

```
mil.dtra.util.parsers  
public Rectangle2DParser  
extends AbstractParser
```

Parser for Rectangle2D objects. A 2D rectangle is represented in a string by the x, y, width, and height values separated by a comma (e.g., 7.5, 22.15, 100.5, 150.789).

Methods:

```
public java.lang.Object read()
public static java.lang.String toString()
public static java.awt.geom.Rectangle2D valueOf()
public boolean write()
```

40.14.1 Constructor Rectangle2DParser()

```
public
Rectangle2DParser()
```

40.14.2 Method read()

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

props - Properties object in which value is stored
key - property key for the object

Returns:

equivalent object or null on format error

40.14.3 Method toString()

```
public static java.lang.String
toString( java.awt.geom.Rectangle2D pt )
```

40.14.4 Method valueOf()

```
public static java.awt.geom.Rectangle2D
valueOf( java.lang.String value )
```

Creates a Point object from a string.

A dimension is represented in a string by the width and height values separated by a comma (e.g., 640, 480).

Parameters:

value - string value to parse

Returns:

dimension object or null if format invalid

40.14.5 Method write()

```
public boolean
write(
    java.util.Properties props,
    java.lang.String key,
    java.lang.Object object
)
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

- props - Properties object in which to store value
- key - property key for the object
- object - object to store

40.15 Class RectangleParser

```
mil.dtra.util.parsers
public RectangleParser
extends AbstractParser
```

Parser for Rectangle objects. A rectangle is represented in a string by the x, y, width, and height values separated by a comma (e.g., 10, 20, 640, 480).

Methods:

```
public java.lang.Object read()
public static java.lang.String toString()
public static java.awt.Rectangle valueOf()
public boolean write()
```

40.15.1 Constructor RectangleParser()

```
public
RectangleParser()
```

40.15.2 Method `read()`

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

props - `Properties` object in which value is stored
key - property key for the object

Returns:

equivalent object or null on format error

40.15.3 Method `toString()`

```
public static java.lang.String
toString( java.awt.Rectangle rect )
```

40.15.4 Method `valueOf()`

```
public static java.awt.Rectangle
valueOf( java.lang.String value )
```

Creates a `Rectangle` object from a string.

A dimension is represented in a string by the width and height values separated by a comma (e.g., 640, 480).

Parameters:

value - string value to parse

Returns:

dimension object or null if format invalid

40.15.5 Method write()

```
public boolean
write(
    java.util.Properties props,
    java.lang.String key,
    java.lang.Object object
)
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

- props - Properties object in which to store value
- key - property key for the object
- object - object to store

40.16 Class StoredValueParser

```
mil.dtra.util.parsers
public StoredValueParser
extends AbstractParser
```

Parser for `StoredValue` objects.

Methods:

- public java.lang.Object `read()`
- public boolean `write()`

40.16.1 Constructor StoredValueParser()

```
public
StoredValueParser()
```

40.16.2 Method read()

```
public java.lang.Object
read(
    java.util.Properties props,
    java.lang.String key
)
```

Reads and parses the value from the properties object.

Parameters:

props - Properties object in which value is stored
 key - property key for the object

Returns:

equivalent object or null on format error

40.16.3 Method write()

```
public boolean
write(
    java.util.Properties props,
    java.lang.String key,
    java.lang.Object object
)
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

props - Properties object in which to store value
 key - property key for the object
 object - object to store

40.17 Class URLParser

```
mil.dtra.util.parsers
public URLParser
extends AbstractParser
```

Parser for URL object values.

Methods:

```
public java.lang.Object read()
public static java.lang.String toString()
public static java.net.URL valueOf()
public boolean write()
```

40.17.1 Constructor URLParser()

```
public  
URLParser()
```

40.17.2 Method read()

```
public java.lang.Object  
read(  
    java.util.Properties props,  
    java.lang.String key  
)
```

Reads and parses the value from the properties object.

Parameters:

props - Properties object in which value is stored
key - property key for the object

Returns:

equivalent object or null on format error

40.17.3 Method toString()

```
public static java.lang.String  
toString( java.net.URL url )
```

Converts the object value to String format.

Parameters:

object - object to convert

Returns:

String version of the value or null on error

40.17.4 Method valueOf()

```
public static java.net.URL  
valueOf( java.lang.String value )
```

Converts the String value to an object

Parameters:

value - String value representation

Returns:

equivalent object or null on format error

40.17.5 Method write()

```
public boolean  
write(  
    java.util.Properties props,  
    java.lang.String key,  
    java.lang.Object object  
)
```

Stores the object into the properties. If the object cannot be converted to string representation (e.g., wrong class, the property key is removed).

Parameters:

props - Properties object in which to store value
key - property key for the object
object - object to store

PART II

Missile Intercept Source Model Components

CHAPTER 41

Package mil.dtra.hpac.models.mint.client

Classes:

MissileIntercept
MissileIntercept.MultiIconListener
MissileInterceptBeanInfo
MissileInterceptDefinition
MissileInterceptPanel

41.1 Class MissileIntercept

```
mil.dtra.hpac.models.mint.client
public MissileIntercept
extends IncidentModel
implements PropertyNames
```

Fields:

```
public static final mil.dtra.hpac.data.ModelIncident DEFAULT_MODEL INCIDENT
protected transient java.beans.PropertyChangeListener fMultiIconListener
public static final java.lang.String HELP_CONTEXT
public static final java.lang.String MISSILE_INTERCEPT
```

Methods:

```
protected java.lang.Object[] createIncidentObjects()
protected java.util.Collection createMapIcons()
```

Inner Classes:

MissileIntercept.MultiIconListener

41.1.1 Field DEFAULT_MODEL INCIDENT

```
public static final mil.dtra.hpac.data.ModelIncident DEFAULT_MODEL INCIDENT
```

41.1.2 Field fMultiIconListener

```
protected transient java.beans.PropertyChangeListener fMultiIconListener
```

41.1.3 Field HELP_CONTEXT

```
public static final java.lang.String HELP_CONTEXT
```

41.1.4 Field MISSILE_INTERCEPT

```
public static final java.lang.String MISSILE_INTERCEPT
```

41.1.5 Constructor MissileIntercept()

```
public  
MissileIntercept()
```

Constructs with a new MissileIntercept model.

41.1.6 Constructor MissileIntercept()

```
public  
MissileIntercept(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String prefix  
)
```

Reads property values from the specified properties object assuming the property key prefix.

Parameters:

- props - object containing property values
- prefix - prefix for property keys, where null implies blank

Exceptions:

- IOException - on I/O error

41.1.7 Method `createIncidentObjects()`

```
protected java.lang.Object[]
createIncidentObjects(
    mil.dtra.hpac.client.ProjectEditorIfc project_editor,
    java.awt.geom.Point2D coord
)
```

41.1.8 Method `createMapIcons()`

```
protected java.util.Collection
createMapIcons()
```

Subclasses may override this method to create instances of other classes extending `MapIcon`.

Returns:

collection of icons created

41.2 Class `MissileIntercept.MultiIconListener`

```
mil.dtra.hpac.models.mint.client
protected MissileIntercept.MultiIconListener
extends Object
implements PropertyChangeListener
```

Listener for property changes on `MapIcon` instances.

Methods:

```
public void propertyChange()
```

41.2.1 Constructor `MissileIntercept.MultiIconListener()`

```
public
MissileIntercept.MultiIconListener(
    mil.dtra.hpac.models.mint.client.MissileIntercept this$0,
    mil.dtra.hpac.client.models.IncidentModel model
)
```

41.2.2 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

41.3 Class MissileIntercept.MultiIconListener

```
mil.dtra.hpac.models.mint.client
protected MissileIntercept.MultiIconListener
extends Object
implements PropertyChangeListener
```

Listener for property changes on MapIcon instances.

Methods:

```
public void propertyChange()
```

41.3.1 Constructor MissileIntercept.MultiIconListener()

```
public
MissileIntercept.MultiIconListener(
    mil.dtra.hpac.models.mint.client.MissileIntercept this$0,
    mil.dtra.hpac.client.models.IncidentModel model
)
```

41.3.2 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

41.4 Class MissileInterceptBeanInfo

```
mil.dtra.hpac.models.mint.client
public MissileInterceptBeanInfo
extends ModelBeanInfo
```

Fields:

```
public static final mil.dtra.hpac.client.models.ModelBeanInfo BEAN_INFO
```

41.4.1 Field BEAN_INFO

```
public static final mil.dtra.hpac.client.models.ModelBeanInfo BEAN_INFO
```

41.4.2 Constructor MissileInterceptBeanInfo()

```
public
MissileInterceptBeanInfo()
```

41.5 Class MissileInterceptDefinition

```
mil.dtra.hpac.models.mint.client
public MissileInterceptDefinition
extends IncidentDefinition
```

41.5.1 Constructor MissileInterceptDefinition()

```
public
MissileInterceptDefinition()
```

41.6 Class MissileInterceptPanel

```
mil.dtra.hpac.models.mint.client
public MissileInterceptPanel
extends ModelPanel
implements ChangeListenerHPAC SwingConstants ItemListener MissileInterceptConstants PropertyNames Swing
```

Fields:

```
protected mil.dtra.hpac.client.swing.location.LocationBean fAimpointLocationBean
protected mil.dtra.hpac.models.mint.client.swing.InterceptAltitudeBean fAltitudeBean
protected mil.dtra.hpac.models.mint.client.swing.FlightPathBean fBlueBean
protected static java.lang.String[] fBombletAgents
protected static java.lang.String[] fBulkChemAgents
protected int fCurrentSubModel
protected mil.dtra.hpac.models.mint.client.swing.InterceptBean fInterceptBean
protected mil.dtra.hpac.client.swing.location.LocationBean fInterceptorLaunchLoca-
tionBean
protected static mil.dtra.hpac.models.mint.server.PairInfoT[] fPairInfo
protected mil.dtra.hpac.models.mint.client.swing.FlightPathBean fRedBean
protected static java.lang.String[] fSubmunitionAgents
protected mil.dtra.hpac.client.swing.location.LocationBean fThreatLaunchLocation-
Bean
protected mil.dtra.util.ValueProperties fValueProperties
public static final java.lang.String MISSILE_INTERCEPT_PANEL
public static final java.lang.String WHERE_AMPOINT
public static final java.lang.String WHERE_INTERCEPTOR
public static final int WHERE_LIVE
public static final int WHERE_PLAN_AMPOINT
```

```
public static final int WHERE_PLAN_INTERCEPTOR
public static final int WHERE_PLAN_THREAT
public static final java.lang.String WHERE_THREAT
```

Methods:

```
protected java.awt.Component createAWhereComponent()
protected java.awt.Component createWhatComponent()
protected java.awt.Component createWhereComponent()
public void init()
public void itemStateChanged()
public void load()
protected void repack()
public void stateChanged()
public void store()
```

41.6.1 Field fAimpointLocationBean

protected mil.dtra.hpac.client.swing.location.LocationBean **fAimpointLocationBean**

41.6.2 Field fAltitudeBean

protected mil.dtra.hpac.models.mint.client.swing.InterceptAltitudeBean **fAltitudeBean**

41.6.3 Field fBlueBean

protected mil.dtra.hpac.models.mint.client.swing.FlightPathBean **fBlueBean**

41.6.4 Field fBombletAgents

protected static java.lang.String[] **fBombletAgents**

41.6.5 Field fBulkChemAgents

protected static java.lang.String[] **fBulkChemAgents**

41.6.6 Field fCurrentSubModel

protected int **fCurrentSubModel**

41.6.7 Field fInterceptBean

protected mil.dtra.hpac.models.mint.client.swing.InterceptBean **fInterceptBean**

41.6.8 Field fInterceptorLaunchLocationBean

protected mil.dtra.hpac.client.swing.location.LocationBean **fInterceptorLaunchLocationBean**

41.6.9 Field fPairInfo

protected static mil.dtra.hpac.models.mint.server.PairInfoT[] **fPairInfo**

41.6.10 Field fRedBean

protected mil.dtra.hpac.models.mint.client.swing.FlightPathBean **fRedBean**

41.6.11 Field fSubmunitionAgents

protected static java.lang.String[] **fSubmunitionAgents**

41.6.12 Field fThreatLaunchLocationBean

protected mil.dtra.hpac.client.swing.location.LocationBean **fThreatLaunchLocationBean**

41.6.13 Field fValueProperties

protected mil.dtra.util.ValueProperties **fValueProperties**

41.6.14 Field MISSILE_INTERCEPT_PANEL

public static final java.lang.String **MISSILE_INTERCEPT_PANEL**

41.6.15 Field WHERE_AIMPOINT

public static final java.lang.String **WHERE_AIMPOINT**

41.6.16 Field WHERE_INTERCEPTOR

public static final java.lang.String **WHERE_INTERCEPTOR**

41.6.17 Field WHERE_LIVE

```
public static final int WHERE_LIVE
```

41.6.18 Field WHERE_PLAN_AIMPOINT

```
public static final int WHERE_PLAN_AIMPOINT
```

41.6.19 Field WHERE_PLAN_INTERCEPTOR

```
public static final int WHERE_PLAN_INTERCEPTOR
```

41.6.20 Field WHERE_PLAN_THREAT

```
public static final int WHERE_PLAN_THREAT
```

41.6.21 Field WHERE_THREAT

```
public static final java.lang.String WHERE_THREAT
```

41.6.22 Constructor MissileInterceptPanel()

```
public  
MissileInterceptPanel()
```

41.6.23 Constructor MissileInterceptPanel()

```
public  
MissileInterceptPanel(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.client.models.IncidentModel model.bean  
)
```

41.6.24 Method createAWhereComponent()

```
protected java.awt.Component  
createAWhereComponent( int whichOne )
```

41.6.25 Method createWhatComponent()

```
protected java.awt.Component
createWhatComponent(
    int pairId,
    java.lang.String material,
    int damageLevel,
    int subModelType
)
```

41.6.26 Method createWhereComponent()

```
protected java.awt.Component
createWhereComponent( int subModelType )
```

41.6.27 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.models.IncidentModel model_beans
)
```

Exceptions:

IllegalArgumentException - if model_beans is null

41.6.28 Method itemStateChanged()

```
public void
itemStateChanged( java.awt.event.ItemEvent evt )
```

41.6.29 Method load()

```
public void
load()
```

41.6.30 Method repack()

```
protected void
repack()
```

41.6.31 Method stateChanged()

```
public void  
stateChanged( javax.swing.event.ChangeEvent event )
```

Responds to change events on the tabbed pane by changing the help context.

Parameters:

event - change event

41.6.32 Method store()

```
public void  
store()
```

CHAPTER 42

Package **mil.dtra.hpac.models.mint.client.swing**

Classes:

AimpointIcon
FlightPathBean
InterceptAltitudeBean
InterceptBean
InterceptorIcon
InterceptPointIcon
ThreatIcon

Exceptions:

InterceptDataException

Errors:

InterceptDataException

42.1 Class AimpointIcon

```
mil.dtra.hpac.models.mint.client.swing
public AimpointIcon
extends AuxIcon
implements AuxConstants
```

Extends MapIcon to keep a definition of the coord as a property of the object.

Fields:

```
protected java.awt.geom.Point2D fCoord
public static final java.lang.String PROP_aimpoint
```

Methods:

```
protected javax.swing.JPopupMenu createPopupMenu()
public java.awt.geom.Point2D getCoord()
public synchronized void setCoord()
public void showEditDialog()
```

42.1.1 Field fCoord

protected java.awt.geom.Point2D **fCoord**

42.1.2 Field PROP_aimpoint

public static final java.lang.String **PROP_aimpoint**

42.1.3 Constructor AimpointIcon()

public
AimpointIcon(
 mil.dtra.util.ValueProperties props,
 mil.dtra.hpac.client.swing.MapIcon associate,
 javax.swing.Icon icon,
 java.lang.String name,
 java.awt.geom.Point2D coord
)

42.1.4 Method createPopupMenu()

protected javax.swing.JPopupMenu
createPopupMenu()

Returns null.

42.1.5 Method getCoord()

public java.awt.geom.Point2D
getCoord()

42.1.6 Method setCoord()

public synchronized void
setCoord(java.awt.geom.Point2D coord **)**

42.1.7 Method `showEditDialog()`

```
public void
showEditDialog( java.awt.Component component )
```

Overrides `MapIcon.showEditDialog()` to do nothing.

42.2 Class FlightPathBean

```
mil.dtra.hpac.models.mint.client.swing
public FlightPathBean
extends JPanel
implements HPAC Swing Constants Property Change Listener
```

Fields:

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fAzimuthBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fFlightPathAngleBean
public static final java.lang.String FLIGHT_PATH_BEAN
protected mil.dtra.hpac.client.swing.ValueUnitsBean fSpeedBean
public static final java.lang.String PROP_azimuth
public static final java.lang.String PROP_flightPathAngle
public static final java.lang.String PROP_speed
```

Methods:

```
public void clear()
protected void create()
public final double getAzimuth()
public final double getFlightPathAngle()
public final double getSpeed()
public void init()
public void propertyChange()
public final void setAzimuth()
public final void setFlightPathAngle()
public final void setSpeed()
protected void startListening()
protected void stopListening()
```

42.2.1 Field `fAzimuthBean`

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fAzimuthBean
```

42.2.2 Field `fFlightPathAngleBean`

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fFlightPathAngleBean
```

42.2.3 Field FLIGHT_PATH_BEAN

```
public static final java.lang.String FLIGHT_PATH_BEAN
```

42.2.4 Field fSpeedBean

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fSpeedBean
```

42.2.5 Field PROP_azimuth

```
public static final java.lang.String PROP_azimuth
```

42.2.6 Field PROP_flightPathAngle

```
public static final java.lang.String PROP_flightPathAngle
```

42.2.7 Field PROP_speed

```
public static final java.lang.String PROP_speed
```

42.2.8 Constructor FlightPathBean()

```
public  
FlightPathBean()
```

42.2.9 Constructor FlightPathBean()

```
public  
FlightPathBean( mil.dtra.util.ValueProperties props )
```

42.2.10 Constructor FlightPathBean()

```
public  
FlightPathBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String border  
)
```

42.2.11 Constructor FlightPathBean()

```
public
FlightPathBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String border,
    double fpaLimit
)
```

42.2.12 Constructor FlightPathBean()

```
public
FlightPathBean(
    mil.dtra.util.ValueProperties props,
    double speed,
    double azimuth,
    double flight_path_angle,
    java.lang.String borderName,
    double fpaUpperLimit
)
```

42.2.13 Method clear()

```
public void
clear()
```

42.2.14 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    java.lang.String borderName,
    double fpaUpperLimit
)
```

42.2.15 Method getAzimuth()

```
public final double
getAzimuth()
```

42.2.16 Method getFlightPathAngle()

```
public final double  
getFlightPathAngle()
```

42.2.17 Method getSpeed()

```
public final double  
getSpeed()
```

42.2.18 Method init()

```
public void  
init(  
    mil.dtra.util.ValueProperties props,  
    double speed,  
    double azimuth,  
    double flight_path_angle,  
    java.lang.String borderName,  
    double fpaUpperLimit  
)
```

42.2.19 Method propertyChange()

```
public void  
propertyChange( java.beans.PropertyChangeEvent event )
```

42.2.20 Method setAzimuth()

```
public final void  
setAzimuth( double value )
```

42.2.21 Method setFlightPathAngle()

```
public final void  
setFlightPathAngle( double value )
```

42.2.22 Method setSpeed()

```
public final void  
setSpeed( double value )
```

42.2.23 Method startListening()

```
protected void
startListening()
```

42.2.24 Method stopListening()

```
protected void
stopListening()
```

42.3 Class InterceptAltitudeBean

```
mil.dtra.hpac.models.mint.client.swing
public InterceptAltitudeBean
extends JPanel
implements HPAC Swing Constants Property Change Listener
```

Fields:

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fAltitudeBean
public static final java.lang.String INTERCEPT_ALTITUDE_BEAN
public static final java.lang.String PROP_altitude
```

Methods:

```
public void clear()
protected void create()
public final double getAltitude()
public void init()
public void propertyChange()
public final void setAltitude()
protected void startListening()
protected void stopListening()
```

42.3.1 Field fAltitudeBean

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean fAltitudeBean
```

42.3.2 Field INTERCEPT_ALTITUDE_BEAN

```
public static final java.lang.String INTERCEPT_ALTITUDE_BEAN
```

42.3.3 Field PROP_altitude

```
public static final java.lang.String PROP_altitude
```

42.3.4 Constructor InterceptAltitudeBean()

```
public  
InterceptAltitudeBean()
```

42.3.5 Constructor InterceptAltitudeBean()

```
public  
InterceptAltitudeBean( mil.dtra.util.ValueProperties props )
```

42.3.6 Constructor InterceptAltitudeBean()

```
public  
InterceptAltitudeBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String border  
)
```

42.3.7 Constructor InterceptAltitudeBean()

```
public  
InterceptAltitudeBean(  
    mil.dtra.util.ValueProperties props,  
    double altitude,  
    java.lang.String borderName  
)
```

42.3.8 Method clear()

```
public void  
clear()
```

42.3.9 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    java.lang.String borderName
)
```

42.3.10 Method getAltitude()

```
public final double
getAltitude()
```

42.3.11 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    double altitude,
    java.lang.String borderName
)
```

42.3.12 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

42.3.13 Method setAltitude()

```
public final void
setAltitude( double value )
```

42.3.14 Method startListening()

```
protected void
startListening()
```

42.3.15 Method stopListening()

```
protected void
stopListening()
```

42.4 Class InterceptBean

```
mil.dtra.hpac.models.mint.client.swing
public InterceptBean
extends JPanel
implements HPAC Swing Constants Item Listener Property Change Listener Swing Constants
```

Fields:

```
protected mil.dtra.swing.PComboBox fDamageLevelBean
protected mil.dtra.swing.PLabel fDamageLevelLabel
protected mil.dtra.swing.PComboBox fMaterialBean
protected mil.dtra.swing.PLabel fMaterialLabel
protected mil.dtra.swing.PComboBox fPairBean
protected mil.dtra.swing.PLabel fPairLabel
public static final java.lang.String INTERCEPT_BEAN
public static final java.lang.String PROP_damageLevel
public static final java.lang.String PROP_material
public static final java.lang.String PROP_pair
```

Methods:

```
public void clear()
protected void create()
public final int getDamageLevelBean()
public final java.lang.String getMaterialBean()
public final int getPairBean()
public final int getPairIndex()
public void init()
public void itemStateChanged()
public void propertyChange()
public final void setDamageLevelBean()
public final void setMaterialBean()
public final void setPairBean()
protected void startListening()
protected void stopListening()
```

42.4.1 Field fDamageLevelBean

```
protected mil.dtra.swing.PComboBox fDamageLevelBean
```

42.4.2 Field fDamageLevelLabel

```
protected mil.dtra.swing.PLabel fDamageLevelLabel
```

42.4.3 Field **fMaterialBean**

protected mil.dtra.swing.PComboBox **fMaterialBean**

42.4.4 Field **fMaterialLabel**

protected mil.dtra.swing.PLabel **fMaterialLabel**

42.4.5 Field **fPairBean**

protected mil.dtra.swing.PComboBox **fPairBean**

42.4.6 Field **fPairLabel**

protected mil.dtra.swing.PLabel **fPairLabel**

42.4.7 Field **INTERCEPT_BEAN**

public static final java.lang.String **INTERCEPT_BEAN**

42.4.8 Field **PROP_damageLevel**

public static final java.lang.String **PROP_damageLevel**

42.4.9 Field **PROP_material**

public static final java.lang.String **PROP_material**

42.4.10 Field **PROP_pair**

public static final java.lang.String **PROP_pair**

42.4.11 Constructor **InterceptBean()**

public
InterceptBean()

42.4.12 Constructor InterceptBean()

```
public
InterceptBean(
    mil.dtra.util.ValueProperties props,
    int pair,
    java.lang.String material,
    int level,
    mil.dtra.hpac.models.mint.server.PairInfoT[] pairs,
    java.lang.String[] subsAgents,
    java.lang.String[] bombAgents,
    java.lang.String[] bulkAgents
)
```

42.4.13 Method clear()

```
public void
clear()
```

42.4.14 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    int whichList
)
```

42.4.15 Method getDamageLevelBean()

```
public final int
getDamageLevelBean()
```

42.4.16 Method getMaterialBean()

```
public final java.lang.String
getMaterialBean()
```

42.4.17 Method getPairBean()

```
public final int
getPairBean()
```

42.4.18 Method getPairIndex()

```
public final int  
getPairIndex()
```

42.4.19 Method init()

```
public void  
init(  
    mil.dtra.util.ValueProperties props,  
    int pair,  
    java.lang.String material,  
    int level,  
    mil.dtra.hpac.models.mint.server.PairInfoT[] pairs,  
    java.lang.String[] subsAgents,  
    java.lang.String[] bombAgents,  
    java.lang.String[] bulkAgents  
)
```

42.4.20 Method itemStateChanged()

```
public void  
itemStateChanged( java.awt.event.ItemEvent event )
```

42.4.21 Method propertyChange()

```
public void  
propertyChange( java.beans.PropertyChangeEvent event )
```

42.4.22 Method setDamageLevelBean()

```
public final void  
setDamageLevelBean( int value )
```

42.4.23 Method setMaterialBean()

```
public final void  
setMaterialBean( java.lang.String value )
```

42.4.24 Method setPairBean()

```
public final void
setPairBean( int value )
```

42.4.25 Method startListening()

```
protected void
startListening()
```

42.4.26 Method stopListening()

```
protected void
stopListening()
```

42.5 Class InterceptorIcon

```
mil.dtra.hpac.models.mint.client.swing
public InterceptorIcon
extends AuxIcon
implements AuxConstants
```

Extends MapIcon to keep a definition of the coord as a property of the object.

Fields:

```
protected java.awt.geom.Point2D fCoord
public static final java.lang.String PROP_interceptor
```

Methods:

```
protected javax.swing.JPopupMenu createPopupMenu()
public java.awt.geom.Point2D getCoord()
public synchronized void setCoord()
public void showEditDialog()
```

42.5.1 Field fCoord

```
protected java.awt.geom.Point2D fCoord
```

42.5.2 Field PROP_interceptor

```
public static final java.lang.String PROP_interceptor
```

42.5.3 Constructor InterceptorIcon()

```
public
InterceptorIcon(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.swing.MapIcon associate,
    javax.swing.Icon icon,
    java.lang.String name,
    java.awt.geom.Point2D coord
)
```

42.5.4 Method createPopupMenu()

```
protected javax.swing.JPopupMenu
createPopupMenu()
```

Returns null.

42.5.5 Method getCoord()

```
public java.awt.geom.Point2D
getCoord()
```

42.5.6 Method setCoord()

```
public synchronized void
setCoord( java.awt.geom.Point2D coord )
```

42.5.7 Method showEditDialog()

```
public void
showEditDialog( java.awt.Component component )
```

Overrides MapIcon.showEditDialog() to do nothing.

42.6 Class InterceptPointIcon

```
mil.dtra.hpac.models.mint.client.swing
public InterceptPointIcon
extends MapIcon
```

Extends MapIcon to keep a definition of the coord as a property of the object.

Fields:

```
protected java.awt.geom.Point2D fCoord
public static final java.lang.String PROP_interceptPoint
```

Methods:

```
protected javax.swing.JPopupMenu createPopupMenu()
public java.awt.geom.Point2D getCoord()
public synchronized void setCoord()
public void showEditDialog()
```

42.6.1 Field fCoord

```
protected java.awt.geom.Point2D fCoord
```

42.6.2 Field PROP_interceptPoint

```
public static final java.lang.String PROP_interceptPoint
```

42.6.3 Constructor InterceptPointIcon()

```
public
InterceptPointIcon(
    javax.swing.Icon icon,
    java.lang.String name,
    java.awt.geom.Point2D coord
)
```

42.6.4 Method createPopupMenu()

```
protected javax.swing.JPopupMenu
createPopupMenu()
```

Returns null.

42.6.5 Method getCoord()

```
public java.awt.geom.Point2D
getCoord()
```

42.6.6 Method setCoord()

```
public synchronized void
setCoord( java.awt.geom.Point2D coord )
```

42.6.7 Method showEditDialog()

```
public void
showEditDialog( java.awt.Component component )
```

Overrides MapIcon.showEditDialog() to do nothing.

42.7 Class ThreatIcon

```
mil.dtra.hpac.models.mint.client.swing
public ThreatIcon
extends MapIcon
```

Extends MapIcon to keep a definition of the coord as a property of the object.

Fields:

```
protected java.awt.geom.Point2D fCoord
public static final java.lang.String PROP_threat
```

Methods:

```
protected javax.swing.JPopupMenu createPopupMenu()
public java.awt.geom.Point2D getCoord()
public synchronized void setCoord()
public void showEditDialog()
```

42.7.1 Field fCoord

```
protected java.awt.geom.Point2D fCoord
```

42.7.2 Field PROP_threat

```
public static final java.lang.String PROP_threat
```

42.7.3 Constructor ThreatIcon()

```
public
ThreatIcon(
    javax.swing.Icon icon,
    java.lang.String name,
    java.awt.geom.Point2D coord
)
```

42.7.4 Method createPopupMenu()

```
protected javax.swing.JPopupMenu
createPopupMenu()
```

Returns null.

42.7.5 Method getCoord()

```
public java.awt.geom.Point2D
getCoord()
```

42.7.6 Method setCoord()

```
public synchronized void
setCoord( java.awt.geom.Point2D coord )
```

42.7.7 Method showEditDialog()

```
public void
showEditDialog( java.awt.Component component )
```

Overrides MapIcon.showEditDialog() to do nothing.

42.8 Exception InterceptDataException

```
mil.dtra.hpac.models.mint.client.swing
public InterceptDataException
extends Exception
```

42.8.1 Constructor InterceptDataException()

```
public  
InterceptDataException()
```

42.8.2 Constructor InterceptDataException()

```
public  
InterceptDataException( java.lang.String msg )
```

42.9 Exception InterceptDataException

```
mil.dtra.hpac.models.mint.client.swing  
public InterceptDataException  
extends Exception
```

42.9.1 Constructor InterceptDataException()

```
public  
InterceptDataException()
```

42.9.2 Constructor InterceptDataException()

```
public  
InterceptDataException( java.lang.String msg )
```

CHAPTER 43

Package mil.dtra.hpac.models.mint.data

Interfaces:

MissileInterceptConstants

Classes:

FPCtoECR
FPCtoPEELS
LiveSessionData
MintReleaseD
MissileInterceptIncident
PEELSLimits
PlanSessionData
PlanSessionDefault
SubModelData

Exceptions:

SubModelErrorMismatchException

Errors:

SubModelErrorMismatchException

43.1 Interface MissileInterceptConstants

mil.dtra.hpac.models.mint.data
public interface **MissileInterceptConstants**

Fields:

```

public static final int DEBUG_BIT14
public static final int DEBUG_BIT15
public static final int DEBUG_BIT16
public static final int DEBUG_BIT17
public static final int DEBUG_BIT18
public static final int DEBUG_BIT19
public static final int DEBUG_BIT20
public static final int DEBUG_BIT21
public static final int DEBUG_BIT22
public static final int DEBUG_BIT23
public static final int DEBUG_BIT24
public static final int DEBUG_BIT25
public static final int DEBUG_BIT26
public static final int DEBUG_BIT27
public static final int DEBUG_BIT28
public static final int DEBUG_BIT29
public static final int DEBUG_BIT30
public static final int DEBUG_BIT31
public static final int DEBUG_BIT32
public static final int DEBUG_BOMBLET
public static final int DEBUG_DLLS
public static final int DEBUG_INITCLIENT
public static final int DEBUG_INITINCIDENT
public static final int DEBUG_JNI
public static final int DEBUG_LIMITS
public static final int DEBUG_NEM
public static final int DEBUG_PEELS
public static final int DEBUG_SERVER
public static final int DEBUG_SUBS
public static final int DEBUG_UPDATEINCIDENT
public static final int DEBUG_UPDATERELEASE
public static final int DEBUG_UPDATERELEASEWX
public static final double DEGREES_TO_RADIANS
public static final double EPSILON
public static final java.lang.String MINTVersion
public static final java.lang.String PROP_debugMINT
public static final double RADIANS_TO_DEGREES

```

43.1.1 Field DEBUG_BIT14

public static final int **DEBUG_BIT14**

43.1.2 Field DEBUG_BIT15

public static final int **DEBUG_BIT15**

43.1.3 Field DEBUG_BIT16

public static final int **DEBUG_BIT16**

43.1.4 Field DEBUG_BIT17

public static final int **DEBUG_BIT17**

43.1.5 Field DEBUG_BIT18

public static final int **DEBUG_BIT18**

43.1.6 Field DEBUG_BIT19

public static final int **DEBUG_BIT19**

43.1.7 Field DEBUG_BIT20

public static final int **DEBUG_BIT20**

43.1.8 Field DEBUG_BIT21

public static final int **DEBUG_BIT21**

43.1.9 Field DEBUG_BIT22

public static final int **DEBUG_BIT22**

43.1.10 Field DEBUG_BIT23

public static final int **DEBUG_BIT23**

43.1.11 Field DEBUG_BIT24

public static final int **DEBUG_BIT24**

43.1.12 Field DEBUG_BIT25

public static final int **DEBUG_BIT25**

43.1.13 Field DEBUG_BIT26

public static final int **DEBUG_BIT26**

43.1.14 Field DEBUG_BIT27

public static final int **DEBUG_BIT27**

43.1.15 Field DEBUG_BIT28

public static final int **DEBUG_BIT28**

43.1.16 Field DEBUG_BIT29

public static final int **DEBUG_BIT29**

43.1.17 Field DEBUG_BIT30

public static final int **DEBUG_BIT30**

43.1.18 Field DEBUG_BIT31

public static final int **DEBUG_BIT31**

43.1.19 Field DEBUG_BIT32

public static final int **DEBUG_BIT32**

43.1.20 Field DEBUG_BOMBLET

public static final int **DEBUG_BOMBLET**

43.1.21 Field DEBUG_DLLS

public static final int **DEBUG_DLLS**

43.1.22 Field DEBUG_INITCLIENT

public static final int **DEBUG_INITCLIENT**

43.1.23 Field DEBUG_INITINCIDENT

public static final int **DEBUG_INITINCIDENT**

43.1.24 Field DEBUG_JNI

public static final int **DEBUG_JNI**

43.1.25 Field DEBUG_LIMITS

public static final int **DEBUG_LIMITS**

43.1.26 Field DEBUG_NEM

public static final int **DEBUG_NEM**

43.1.27 Field DEBUG_PEELS

public static final int **DEBUG_PEELS**

43.1.28 Field DEBUG_SERVER

public static final int **DEBUG_SERVER**

43.1.29 Field DEBUG_SUBS

public static final int **DEBUG_SUBS**

43.1.30 Field DEBUG_UPDATEINCIDENT

public static final int **DEBUG_UPDATEINCIDENT**

43.1.31 Field DEBUG_UPDATERELEASE

public static final int **DEBUG_UPDATERELEASE**

43.1.32 Field DEBUG_UPDATERELEASEWX

public static final int **DEBUG_UPDATERELEASEWX**

43.1.33 Field DEGREES_TO_RADIANS

```
public static final double DEGREES_TO_RADIANS
```

43.1.34 Field EPSILON

```
public static final double EPSILON
```

43.1.35 Field MINTVersion

```
public static final java.lang.String MINTVersion
```

43.1.36 Field PROP_debugMINT

```
public static final java.lang.String PROP_debugMINT
```

43.1.37 Field RADIANS_TO_DEGREES

```
public static final double RADIANS_TO_DEGREES
```

43.2 Class FPCtoECR

```
mil.dtra.hpac.models.mint.data
public FPCtoECR
extends Object
```

Methods:

```
public double[] getPosition()
public double[] getVelocity()
public void init()
```

43.2.1 Constructor FPCtoECR()

```
public
FPCtoECR()
```

43.2.2 Constructor FPCtoECR()

```
public
FPCtoECR(
    double speed,
    double azimuth,
    double fpa,
    double radius,
    double lng,
    double lat
)
```

43.2.3 Method getPosition()

```
public double[]
getPosition()
```

43.2.4 Method getVelocity()

```
public double[]
getVelocity()
```

43.2.5 Method init()

```
public void
init(
    double speed,
    double azimuth,
    double fpa,
    double radius,
    double lng,
    double lat
)
```

43.3 Class FPCtoPEELS

```
mil.dtra.hpac.models.mint.data
public FPCtoPEELS
extends Object
implements MissileInterceptConstants
```

Methods:

```

public double getClosingSpeed()
public double getCrossingAngle()
public double getLookAngle()
public double getStrikeAngle()
public void init()
public boolean isCrossingAngleValid()
public boolean isLookAngleValid()
public boolean isStrikeAngleValid()

```

43.3.1 Constructor FPCtoPEELS()

```

public
FPCtoPEELS()

```

43.3.2 Constructor FPCtoPEELS()

```

public
FPCtoPEELS(
    double spdInt,
    double azmInt,
    double fpaInt,
    double spdTar,
    double azmTar,
    double fpaTar,
    double lngIntPt,
    double latIntPt
)

```

43.3.3 Method getClosingSpeed()

```

public double
getClosingSpeed()

```

43.3.4 Method getCrossingAngle()

```

public double
getCrossingAngle()

```

43.3.5 Method getLookAngle()

```
public double  
getLookAngle()
```

43.3.6 Method getStrikeAngle()

```
public double  
getStrikeAngle()
```

43.3.7 Method init()

```
public void  
init(  
    double spdInt,  
    double azmInt,  
    double fpaInt,  
    double spdTar,  
    double azmTar,  
    double fpaTar,  
    double lngIntPt,  
    double latIntPt  
)
```

43.3.8 Method isCrossingAngleValid()

```
public boolean  
isCrossingAngleValid()
```

43.3.9 Method isLookAngleValid()

```
public boolean  
isLookAngleValid()
```

43.3.10 Method isStrikeAngleValid()

```
public boolean  
isStrikeAngleValid()
```

43.4 Class LiveSessionData

```
mil.dtra.hpac.models.mint.data
public LiveSessionData
extends SubModelData
```

Methods:

```
public java.lang.Object clone()
public boolean equals()
public void fromLiveSessionDataT()
public void fromSubModelDataT()
public final mil.dtra.units.StoredValue getInterceptorAzimuth()
public final mil.dtra.units.StoredValue getInterceptorFPA()
public final mil.dtra.units.StoredValue getInterceptorSpeed()
public final mil.dtra.units.StoredValue getThreatAzimuth()
public final mil.dtra.units.StoredValue getThreatFPA()
public final mil.dtra.units.StoredValue getThreatSpeed()
public final void setInterceptorAzimuth()
public final void setInterceptorFPA()
public final void setInterceptorSpeed()
public final void setThreatAzimuth()
public final void setThreatFPA()
public final void setThreatSpeed()
public mil.dtra.hpac.models.mint.server.LiveSessionDataT toLiveSessionDataT()
public java.lang.String toString()
```

43.4.1 Constructor LiveSessionData()

```
public
LiveSessionData()
```

Default constructor

43.4.2 Constructor LiveSessionData()

```
public
LiveSessionData( mil.dtra.hpac.models.mint.server.LiveSessionDataT data )
```

Constructs from a `LiveSessionDataT` object.

43.4.3 Method clone()

```
public java.lang.Object  
clone()
```

Overrides Cloneable.

43.4.4 Method equals()

```
public boolean  
equals( java.lang.Object obj )
```

Overrides Object.equals().

43.4.5 Method fromLiveSessionDataT()

```
public void  
fromLiveSessionDataT( mil.dtra.hpac.models.mint.server.LiveSessionDataT obj )
```

43.4.6 Method fromSubModelDataT()

```
public void  
fromSubModelDataT( mil.dtra.hpac.models.mint.server.SubModelDataT obj )
```

43.4.7 Method getInterceptorAzimuth()

```
public final mil.dtra.units.StoredValue  
getInterceptorAzimuth()
```

43.4.8 Method getInterceptorFPA()

```
public final mil.dtra.units.StoredValue  
getInterceptorFPA()
```

43.4.9 Method getInterceptorSpeed()

```
public final mil.dtra.units.StoredValue  
getInterceptorSpeed()
```

43.4.10 Method getThreatAzimuth()

```
public final mil.dtra.units.StoredValue  
getThreatAzimuth()
```

43.4.11 Method getThreatFPA()

```
public final mil.dtra.units.StoredValue  
getThreatFPA()
```

43.4.12 Method getThreatSpeed()

```
public final mil.dtra.units.StoredValue  
getThreatSpeed()
```

43.4.13 Method setInterceptorAzimuth()

```
public final void  
setInterceptorAzimuth( mil.dtra.units.StoredValue value )
```

43.4.14 Method setInterceptorFPA()

```
public final void  
setInterceptorFPA( mil.dtra.units.StoredValue value )
```

43.4.15 Method setInterceptorSpeed()

```
public final void  
setInterceptorSpeed( mil.dtra.units.StoredValue value )
```

43.4.16 Method setThreatAzimuth()

```
public final void  
setThreatAzimuth( mil.dtra.units.StoredValue value )
```

43.4.17 Method setThreatFPA()

```
public final void  
setThreatFPA( mil.dtra.units.StoredValue value )
```

43.4.18 Method setThreatSpeed()

```
public final void
setThreatSpeed( mil.dtra.units.StoredValue value )
```

43.4.19 Method toLiveSessionDataT()

```
public mil.dtra.hpac.models.mint.server.LiveSessionDataT
toLiveSessionDataT()
```

43.4.20 Method toString()

```
public java.lang.String
toString()
```

43.5 Class MintReleaseD

mil.dtra.hpac.models.mint.data
public MintReleaseD
 extends Object

Methods:

```
public static void printReleaseT()
```

43.5.1 Constructor MintReleaseD()

```
public
MintReleaseD()
```

43.5.2 Method printReleaseT()

```
public static void
printReleaseT( mil.dtra.hpac.server.release.ReleaseT item )
```

43.6 Class MissileInterceptIncident

mil.dtra.hpac.models.mint.data
public MissileInterceptIncident
 extends Object
 implements ModelIncident

Methods:

```

public java.lang.Object clone()
public static mil.dtra.hpac.models.mint.server.MissileInterceptIncidentT createMissileIn-
terceptIncidentT()
public boolean equals()
public void extractFromAny()
public void fromMissileInterceptIncidentT()
public final int getClassVersion()
public final int getDamageLevel()
public final java.lang.String getMaterial()
public final int getPairId()
public final mil.dtra.hpac.models.mint.data.SubModelData getSubModelData()
public void insertIntoAny()
public void readProps()
public final void setClassVersion()
public final void setDamageLevel()
public final void setMaterial()
public final void setPairId()
public final void setSubModelData()
public mil.dtra.hpac.models.mint.server.MissileInterceptIncidentT toMissileIntercept-
IncidentT()
public java.lang.String toString()
public void writeProps()

```

43.6.1 Constructor MissileInterceptIncident()

```

public
MissileInterceptIncident()

```

Default constructor to be used in deserialization. You must call `readProps()`.

43.6.2 Constructor MissileInterceptIncident()

```

public
MissileInterceptIncident( mil.dtra.util.ValueProperties props )

```

Constructs from a `ValueProperties` object.

43.6.3 Constructor MissileInterceptIncident()

```

public
MissileInterceptIncident( mil.dtra.hpac.models.mint.server.MissileInterceptIncidentT data )

```

Constructs from a `MissileInterceptIncidentT` object.

43.6.4 Method clone()

```
public java.lang.Object
clone()
```

Overrides Cloneable.

43.6.5 Method createMissileInterceptIncidentT()

```
public static mil.dtra.hpac.models.mint.server.MissileInterceptIncidentT
createMissileInterceptIncidentT( float[] lla )
```

43.6.6 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides Object.equals().

43.6.7 Method extractFromAny()

```
public void
extractFromAny( org.omg.CORBA.Any any )
```

Calls MissileInterceptIncidentTHelper.extract() to set the MissileInterceptIncidentT field.

43.6.8 Method fromMissileInterceptIncidentT()

```
public void
fromMissileInterceptIncidentT( mil.dtra.hpac.models.mint.server.MissileInterceptIncidentT obj )
```

43.6.9 Method getClassVersion()

```
public final int
getClassVersion()
```

43.6.10 Method getDamageLevel()

```
public final int
getDamageLevel()
```

43.6.11 Method getMaterial()

```
public final java.lang.String
getMaterial()
```

43.6.12 Method getPairId()

```
public final int
getPairId()
```

43.6.13 Method getSubModelData()

```
public final mil.dtra.hpac.models.mint.data.SubModelData
getSubModelData()
```

43.6.14 Method insertIntoAny()

```
public void
insertIntoAny( org.omg.CORBA.Any any )
```

Calls `MissileInterceptIncidentTHelper.insert()` passing a `MissileInterceptIncidentT` object created with `toMissileInterceptIncidentT()`.

43.6.15 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Reads property values from the specified properties object assuming the property key prefix.
Note: We're relying on implicit serialization via `ValueProperties`

Parameters:

- `props` - object containing property values
- `prefix` - prefix for property keys, where null implies blank

Exceptions:

- `IOException` - on I/O error

43.6.16 Method setClassVersion()

```
public final void  
setClassVersion( int value )
```

43.6.17 Method setDamageLevel()

```
public final void  
setDamageLevel( int value )
```

43.6.18 Method setMaterial()

```
public final void  
setMaterial( java.lang.String value )
```

43.6.19 Method setPairId()

```
public final void  
setPairId( int value )
```

43.6.20 Method setSubModelData()

```
public final void  
setSubModelData( mil.dtra.hpac.models.mint.data.SubModelData value )
```

43.6.21 Method toMissileInterceptIncidentT()

```
public mil.dtra.hpac.models.mint.server.MissileInterceptIncidentT  
toMissileInterceptIncidentT()
```

43.6.22 Method toString()

```
public java.lang.String  
toString()
```

43.6.23 Method writeProps()

```
public void  
writeProps(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String prefix  
)
```

Writes property values to the specified properties object assuming the property key prefix.
 Note: We're relying on implicit serialization via ValueProperties

Parameters:

props - object containing property values
 prefix - prefix for property keys, where null implies blank

43.7 Class PEELSLimits

```
mil.dtra.hpac.models.mint.data
public PEELSLimits
extends Object
implements MissileInterceptConstants
```

Methods:

```
public boolean checkLimits()
public double getClosingSpeed()
public double getCrossingAngle()
public double getLookAngle()
public java.lang.String getMessage()
public double getStrikeAngle()
```

43.7.1 Constructor PEELSLimits()

```
public
PEELSLimits()
```

43.7.2 Method checkLimits()

```
public boolean
checkLimits(
    mil.dtra.hpac.models.mint.server.LiveSessionDataT scenario,
    float lon,
    float lat,
    float closeSpeedMax,
    float closeSpeedMin,
    float strikeAngleMax,
    float strikeAngleMin,
    float lookAngleMax,
    float lookAngleMin
)
```

43.7.3 Method getClosingSpeed()

```
public double
getClosingSpeed()
```

43.7.4 Method getCrossingAngle()

```
public double
getCrossingAngle()
```

43.7.5 Method getLookAngle()

```
public double
getLookAngle()
```

43.7.6 Method getMessage()

```
public java.lang.String
getMessage()
```

43.7.7 Method getStrikeAngle()

```
public double
getStrikeAngle()
```

43.8 Class PlanSessionData

```
mil.dtra.hpac.models.mint.data
public PlanSessionData
extends SubModelData
implements MissileInterceptConstants
```

Methods:

```
public java.lang.Object clone()
public boolean equals()
public void fromPlanSessionDataT()
public void fromSubModelDataT()
public final mil.dtra.units.StoredValue getAimpointLat()
public final mil.dtra.units.StoredValue getAimpointLon()
public final mil.dtra.units.StoredValue getInterceptAltitude()
public final mil.dtra.units.StoredValue getInterceptorLaunchLat()
public final mil.dtra.units.StoredValue getInterceptorLaunchLon()
public final mil.dtra.units.StoredValue getThreatLaunchLat()
```

```

public final mil.dtra.units.StoredValue getThreatLaunchLon()
public final void setAimpointLat()
public final void setAimpointLon()
public final void setInterceptAltitude()
public final void setInterceptorLaunchLat()
public final void setInterceptorLaunchLon()
public final void setThreatLaunchLat()
public final void setThreatLaunchLon()
public mil.dtra.hpac.models.mint.server.PlanSessionDataT toPlanSessionDataT()
public java.lang.String toString()

```

43.8.1 Constructor PlanSessionData()

```

public
PlanSessionData()

```

Default constructor

43.8.2 Constructor PlanSessionData()

```

public
PlanSessionData( float[] interceptLLA )

```

Constructor that sets secondary icon positions based on location of the intercept event.

43.8.3 Constructor PlanSessionData()

```

public
PlanSessionData( mil.dtra.hpac.models.mint.server.PlanSessionDataT data )

```

Constructs from a PlanSessionDataT object.

43.8.4 Method clone()

```

public java.lang.Object
clone()

```

Overrides Cloneable.

43.8.5 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides Object.equals().

43.8.6 Method fromPlanSessionDataT()

```
public void
fromPlanSessionDataT( mil.dtra.hpac.models.mint.server.PlanSessionDataT obj )
```

43.8.7 Method fromSubModelDataT()

```
public void
fromSubModelDataT( mil.dtra.hpac.models.mint.server.SubModelDataT obj )
```

43.8.8 Method getAimpointLat()

```
public final mil.dtra.units.StoredValue
getAimpointLat()
```

43.8.9 Method getAimpointLon()

```
public final mil.dtra.units.StoredValue
getAimpointLon()
```

43.8.10 Method getInterceptAltitude()

```
public final mil.dtra.units.StoredValue
getInterceptAltitude()
```

43.8.11 Method getInterceptorLaunchLat()

```
public final mil.dtra.units.StoredValue
getInterceptorLaunchLat()
```

43.8.12 Method getInterceptorLaunchLon()

```
public final mil.dtra.units.StoredValue
getInterceptorLaunchLon()
```

43.8.13 Method getThreatLaunchLat()

```
public final mil.dtra.units.StoredValue  
getThreatLaunchLat()
```

43.8.14 Method getThreatLaunchLon()

```
public final mil.dtra.units.StoredValue  
getThreatLaunchLon()
```

43.8.15 Method setAimpointLat()

```
public final void  
setAimpointLat( mil.dtra.units.StoredValue value )
```

43.8.16 Method setAimpointLon()

```
public final void  
setAimpointLon( mil.dtra.units.StoredValue value )
```

43.8.17 Method setInterceptAltitude()

```
public final void  
setInterceptAltitude( mil.dtra.units.StoredValue value )
```

43.8.18 Method setInterceptorLaunchLat()

```
public final void  
setInterceptorLaunchLat( mil.dtra.units.StoredValue value )
```

43.8.19 Method setInterceptorLaunchLon()

```
public final void  
setInterceptorLaunchLon( mil.dtra.units.StoredValue value )
```

43.8.20 Method setThreatLaunchLat()

```
public final void  
setThreatLaunchLat( mil.dtra.units.StoredValue value )
```

43.8.21 Method setThreatLaunchLon()

```
public final void
setThreatLaunchLon( mil.dtra.units.StoredValue value )
```

43.8.22 Method toPlanSessionDataT()

```
public mil.dtra.hpac.models.mint.server.PlanSessionDataT
toPlanSessionDataT()
```

43.8.23 Method toString()

```
public java.lang.String
toString()
```

43.9 Class PlanSessionDefault

mil.dtra.hpac.models.mint.data
 public final **PlanSessionDefault**
 extends Object

Fields:

```
public static double k_DEGTORAD
public static double k_EARTH_RADIUS_KM
public static double k_EPS
public static double k_NMTOKM
public static double k_RADTODEG
public static double NM_Per_Degree
```

Methods:

```
public static java.awt.geom.Point2D azmRngToLatLong()
public static mil.dtra.hpac.models.mint.data.PlanSessionDefault compute()
```

43.9.1 Field k_DEGTORAD

```
public static double k_DEGTORAD
```

43.9.2 Field k_EARTH_RADIUS_KM

```
public static double k_EARTH_RADIUS_KM
```

43.9.3 Field k_EPS

```
public static double k_EPS
```

43.9.4 Field k_NMTOKM

```
public static double k_NMTOKM
```

43.9.5 Field k_RADTODEG

```
public static double k_RADTODEG
```

43.9.6 Field NM_Per_Degree

```
public static double NM_Per_Degree
```

43.9.7 Constructor PlanSessionDefault()

```
public  
PlanSessionDefault()
```

43.9.8 Constructor PlanSessionDefault()

```
public  
PlanSessionDefault(  
    double thrLat,  
    double thrLon,  
    double aimLat,  
    double aimLon,  
    double intLat,  
    double intLon  
)
```

43.9.9 Method azmRngToLatLong()

```
public static java.awt.geom.Point2D  
azmRngToLatLong(  
    double refLat,  
    double refLon,  
    double rng,  
    double azm  
)
```

43.9.10 Method compute()

```
public static mil.dtra.hpac.models.mint.data.PlanSessionDefault
compute(
    double interceptPtLat,
    double interceptPtLon
)
```

43.10 Class SubModelData

```
mil.dtra.hpac.models.mint.data
public abstract SubModelData
extends Object
implements CloneablePropsSerializer
```

Abstract base class for all submodel classes.

Methods:

```
public java.lang.Object clone()
public static int discriminator()
public boolean equals()
public abstract void fromSubModelDataT()
public static mil.dtra.hpac.models.mint.data.SubModelData getInstance()
public void readProps()
public static mil.dtra.hpac.models.mint.server.SubModelDataT toSubModelDataT()
public void writeProps()
```

43.10.1 Constructor SubModelData()

```
protected
SubModelData()
```

Default constructor

43.10.2 Method clone()

```
public java.lang.Object
clone()
```

Overrides `Cloneable`.

43.10.3 Method discriminator()

```
public static int
discriminator( mil.dtra.hpac.models.mint.data.SubModelData data )
```

43.10.4 Method equals()

```
public boolean
equals( java.lang.Object obj )
```

Overrides `Object.equals()`.

43.10.5 Method fromSubModelDataT()

```
public abstract void
fromSubModelDataT( mil.dtra.hpac.models.mint.server.SubModelDataT obj )
```

43.10.6 Method getInstance()

```
public static mil.dtra.hpac.models.mint.data.SubModelData
getInstance( mil.dtra.hpac.models.mint.server.SubModelDataT data )
```

Generates the proper subclass instance given the IDL-generated union instance.

43.10.7 Method readProps()

```
public void
readProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Reads property values from the specified properties object assuming the property key prefix.

Parameters:

- props - object containing property values
- prefix - prefix for property keys, where null implies blank

Exceptions:

- `IOException` - on I/O error

43.10.8 Method toSubModelDataT()

```
public static mil.dtra.hpac.models.mint.server.SubModelDataT
toSubModelDataT( mil.dtra.hpac.models.mint.data.SubModelData sub_model )
```

43.10.9 Method writeProps()

```
public void
writeProps(
    mil.dtra.util.ValueProperties props,
    java.lang.String prefix
)
```

Writes property values to the specified properties object assuming the property key prefix.

Parameters:

props - object containing property values
prefix - prefix for property keys, where null implies blank

43.11 Exception SubModelDataMismatchException

```
mil.dtra.hpac.models.mint.data
public SubModelDataMismatchException
extends Exception
```

43.11.1 Constructor SubModelDataMismatchException()

```
public
SubModelDataMismatchException( java.lang.String msg )
```

43.12 Exception SubModelDataMismatchException

```
mil.dtra.hpac.models.mint.data
public SubModelDataMismatchException
extends Exception
```

43.12.1 Constructor SubModelDataMismatchException()

```
public
SubModelDataMismatchException( java.lang.String msg )
```

PART III

**Nuclear Facility Source Model
Components**

CHAPTER 44

Package mil.dtra.hpac.models.nfac.client

Classes:

Nfac
Nfac.NfacIconListener
NfacBeanInfo
NfacDefinition
NfacPanel
NfacPanel.FacilityDefListener
NfacPanel.FacilityListener
NfacPanel.ModelDefListener
NfacPanel.ModelTimesListener
NfacServerClient

44.1 Class Nfac

```
mil.dtra.hpac.models.nfac.client
public Nfac
extends IncidentModel
implements NfacConstantsNfacModelIfcPropertyNames
```

Fields:

```
public static final mil.dtra.hpac.models.nfac.data.NfacIncident DEFAULT_modelIncident
protected transient java.beans.PropertyChangeListener fNfacIconListener
public static final java.lang.String HELP_CONTEXT_PREFIX
```

Methods:

```
protected java.lang.Object[] createIncidentObjects()
protected java.util.Collection createMapIcons()
public final mil.dtra.hpac.data.Time getEndOfExposure()
```

Inner Classes:

Nfac.NfacIconListener

44.1.1 Field DEFAULT_modelIncident

public static final mil.dtra.hpac.models.nfac.data.NfacIncident **DEFAULT_modelIncident**

44.1.2 Field fNfacIconListener

protected transient java.beans.PropertyChangeListener **fNfacIconListener**

44.1.3 Field HELP_CONTEXT_PREFIX

public static final java.lang.String **HELP_CONTEXT_PREFIX**

44.1.4 Constructor Nfac()

public
Nfac()

Constructs with a new Nfac model.

44.1.5 Constructor Nfac()

public
Nfac(
 mil.dtra.util.ValueProperties props,
 java.lang.String prefix
)

Reads property values from the specified properties object assuming the property key prefix.

Parameters:

props - object containing property values
prefix - prefix for property keys, where null implies blank

Exceptions:

IOException - on I/O error

44.1.6 Constructor Nfac()

```
public
Nfac(
    mil.dtra.hpac.data.Incident incident,
    mil.dtra.hpac.models.nfac.data.NfacIncident nfac_incident
)
```

Constructs a model instance from scratch. Useful for testing.

44.1.7 Method createIncidentObjects()

```
protected java.lang.Object[]
createIncidentObjects(
    mil.dtra.hpac.client.ProjectEditorIfc project_editor,
    java.awt.geom.Point2D coord
)
```

44.1.8 Method createMapIcons()

```
protected java.util.Collection
createMapIcons()
```

Override to set the *enableDrag* property of the icons and exchange the property listener after calling `super.createMapIcons()`.

44.1.9 Method getEndOfExposure()

```
public final mil.dtra.hpac.data.Time
getEndOfExposure()
```

Satisfies `NfacModelIfc`.

Returns:

copy of property value or null

44.2 Class Nfac.NfacIconListener

```
mil.dtra.hpac.models.nfac.client
protected Nfac.NfacIconListener
extends Object
implements PropertyChangeListener
```

Replaces ReleaseIconListener behavior by updating the *customLocation* property of the *facilityDef*.

Methods:

```
public void propertyChange()
```

44.2.1 Constructor Nfac.NfacIconListener()

```
protected  
Nfac.NfacIconListener( mil.dtra.hpac.models.nfac.client.Nfac this$0 )
```

44.2.2 Method propertyChange()

```
public void  
propertyChange( java.beans.PropertyChangeEvent event )
```

44.3 Class Nfac.NfacIconListener

```
mil.dtra.hpac.models.nfac.client  
protected Nfac.NfacIconListener  
extends Object  
implements PropertyChangeListener
```

Replaces ReleaseIconListener behavior by updating the *customLocation* property of the *facilityDef*.

Methods:

```
public void propertyChange()
```

44.3.1 Constructor Nfac.NfacIconListener()

```
protected  
Nfac.NfacIconListener( mil.dtra.hpac.models.nfac.client.Nfac this$0 )
```

44.3.2 Method propertyChange()

```
public void  
propertyChange( java.beans.PropertyChangeEvent event )
```

44.4 Class NfacBeanInfo

```
mil.dtra.hpac.models.nfac.client
public NfacBeanInfo
extends ModelBeanInfo
```

Fields:

```
public static final mil.dtra.hpac.client.models.ModelBeanInfo BEAN_INFO
```

44.4.1 Field BEAN_INFO

```
public static final mil.dtra.hpac.client.models.ModelBeanInfo BEAN_INFO
```

44.4.2 Constructor NfacBeanInfo()

```
public
NfacBeanInfo()
```

44.5 Class NfacDefinition

```
mil.dtra.hpac.models.nfac.client
public NfacDefinition
extends IncidentDefinition
```

44.5.1 Constructor NfacDefinition()

```
public
NfacDefinition()
```

Default constructor.

44.6 Class NfacPanel

```
mil.dtra.hpac.models.nfac.client
public NfacPanel
extends ModelPanel
implements HPAC Swing Constants Nfac Constants Property Names
```

Fields:

```

protected mil.dtra.hpac.models.nfac.client.swing.FacilityDefBean fFacilityDefBean
protected transient java.beans.PropertyChangeListener fFacilityDefListener
protected transient java.beans.VetoableChangeListener fFacilityListener
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.models.nfac.client.swing.ModelDefBean fModelDefBean
protected transient java.beans.PropertyChangeListener fModelDefListener
protected mil.dtra.hpac.models.nfac.client.swing.ModelTimesBean fModelTimesBean
protected transient java.beans.PropertyChangeListener fModelTimesListener
protected mil.dtra.hpac.models.nfac.data.NfacIncident fNfacIncident
protected transient mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable fSourceTermTable
public static final java.lang.String PERM_DATA_SUBDIR

```

Methods:

```

protected void check()
protected java.awt.Component createWhatComponent()
protected java.awt.Component createWhenComponent()
protected java.awt.Component createWhereComponent()
public mil.dtra.hpac.models.nfac.data.FacilityDB getFacilityDB()
public void init()
public void load()
protected synchronized void startListening()
protected synchronized void stopListening()
public void store()
protected void store()

```

Inner Classes:

```

NfacPanel.FacilityDefListener
NfacPanel.FacilityListener
NfacPanel.ModelDefListener
NfacPanel.ModelTimesListener

```

44.6.1 Field fFacilityDefBean

protected mil.dtra.hpac.models.nfac.client.swing.FacilityDefBean **fFacilityDefBean**

44.6.2 Field fFacilityDefListener

protected transient java.beans.PropertyChangeListener **fFacilityDefListener**

44.6.3 Field fFacilityListener

protected transient java.beans.VetoableChangeListener **fFacilityListener**

44.6.4 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

44.6.5 Field fModelDefBean

protected mil.dtra.hpac.models.nfac.client.swing.ModelDefBean **fModelDefBean**

44.6.6 Field fModelDefListener

protected transient java.beans.PropertyChangeListener **fModelDefListener**

44.6.7 Field fModelTimesBean

protected mil.dtra.hpac.models.nfac.client.swing.ModelTimesBean **fModelTimesBean**

44.6.8 Field fModelTimesListener

protected transient java.beans.PropertyChangeListener **fModelTimesListener**

44.6.9 Field fNfacIncident

protected mil.dtra.hpac.models.nfac.data.NfacIncident **fNfacIncident**

44.6.10 Field fSourceTermTable

protected transient mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable **fSourceTermTable**

44.6.11 Field PERM_DATA_SUBDIR

public static final java.lang.String **PERM_DATA_SUBDIR**

44.6.12 Constructor NfacPanel()

public
NfacPanel()

Default constructor. Must call `init()`, which `IncidentModel` does.

44.6.13 Constructor NfacPanel()

```
public
NfacPanel(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.models.IncidentModel model_beans
)
```

44.6.14 Method check()

```
protected void
check( mil.dtra.hpac.models.nfac.data.NfacIncident nfac_incident )
```

Parameters:

nfac_incident - reference to model incident object

Exceptions:

RuntimeException - if something is not kosher

44.6.15 Method createWhatComponent()

```
protected java.awt.Component
createWhatComponent( mil.dtra.util.ValueProperties props )
```

44.6.16 Method createWhenComponent()

```
protected java.awt.Component
createWhenComponent( mil.dtra.util.ValueProperties props )
```

44.6.17 Method createWhereComponent()

```
protected java.awt.Component
createWhereComponent(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.FacilityDB facility_db
)
```

44.6.18 Method getFacilityDB()

```
public mil.dtra.hpac.models.nfac.data.FacilityDB
getFacilityDB( java.util.Properties props )
```

Reads the data if not already read.

Returns:

object reference

44.6.19 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.client.models.IncidentModel model.bean
)
```

Exceptions:

IllegalArgumentException - if model.bean is null

44.6.20 Method load()

```
public void
load()
```

44.6.21 Method startListening()

```
protected synchronized void
startListening()
```

44.6.22 Method stopListening()

```
protected synchronized void
stopListening()
```

44.6.23 Method store()

```
public void
store()
```

Calls the other `store()` method with a `true` parameter.

44.6.24 Method store()

```
protected void
store( boolean check_flag )
```

Real store implementation in which checks may or may not be called. A false parameter is useful for internal "applies" necessary to synchronize b/w tabs, which for now is only the WHEN tab, in which case you don't want tight checking. A user-initiated call (Apply or OK) should pass true.

Parameters:

check_flag - true to apply model checks, false otherwise

44.7 Class NfacPanel.FacilityDefListener

```
mil.dtra.hpac.models.nfac.client
protected NfacPanel.FacilityDefListener
extends Object
implements PropertyChangeListener
```

PropertyChangeListener for the *facilityDefBean*.

Methods:

```
public void propertyChange()
```

44.7.1 Constructor NfacPanel.FacilityDefListener()

```
protected
NfacPanel.FacilityDefListener( mil.dtra.hpac.models.nfac.client.NfacPanel this$0 )
```

44.7.2 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

44.8 Class NfacPanel.FacilityListener

```
mil.dtra.hpac.models.nfac.client
protected NfacPanel.FacilityListener
extends Object
implements VetoableChangeListener
```

VetoableChangeListener for facility changes.

Methods:

```
public void vetoableChange()
```

44.8.1 Constructor NfacPanel.FacilityListener()

protected
NfacPanel.FacilityListener(mil.dtra.hpac.models.nfac.client.NfacPanel this\$0)

44.8.2 Method vetoableChange()

public void
vetoableChange(java.beans.PropertyChangeEvent event)

44.9 Class NfacPanel.ModelDefListener

mil.dtra.hpac.models.nfac.client
protected **NfacPanel.ModelDefListener**
extends Object
implements PropertyChangeListener

PropertyChangeListener for the *modelDefBean*.

Methods:

```
public void propertyChange()
```

44.9.1 Constructor NfacPanel.ModelDefListener()

protected
NfacPanel.ModelDefListener(mil.dtra.hpac.models.nfac.client.NfacPanel this\$0)

44.9.2 Method propertyChange()

public void
propertyChange(java.beans.PropertyChangeEvent event)

44.10 Class NfacPanel.ModelTimesListener

mil.dtra.hpac.models.nfac.client
protected **NfacPanel.ModelTimesListener**
extends Object
implements PropertyChangeListener

PropertyChangeListener for the *modelTimesBean*.

Methods:

```
public void propertyChange()
```

44.10.1 Constructor NfacPanel.ModelTimesListener()

```
protected  
NfacPanel.ModelTimesListener( mil.dtra.hpac.models.nfac.client.NfacPanel this$0 )
```

44.10.2 Method propertyChange()

```
public void  
propertyChange( java.beans.PropertyChangeEvent event )
```

44.11 Class NfacPanel.FacilityDefListener

```
mil.dtra.hpac.models.nfac.client  
protected NfacPanel.FacilityDefListener  
extends Object  
implements PropertyChangeListener
```

PropertyChangeListener for the *facilityDefBean*.

Methods:

```
public void propertyChange()
```

44.11.1 Constructor NfacPanel.FacilityDefListener()

```
protected  
NfacPanel.FacilityDefListener( mil.dtra.hpac.models.nfac.client.NfacPanel this$0 )
```

44.11.2 Method propertyChange()

```
public void  
propertyChange( java.beans.PropertyChangeEvent event )
```

44.12 Class NfacPanel.FacilityListener

```
mil.dtra.hpac.models.nfac.client
protected NfacPanel.FacilityListener
extends Object
implements VetoableChangeListener
```

VetoableChangeListener for facility changes.

Methods:

```
public void vetoableChange()
```

44.12.1 Constructor NfacPanel.FacilityListener()

```
protected
NfacPanel.FacilityListener( mil.dtra.hpac.models.nfac.client.NfacPanel this$0 )
```

44.12.2 Method vetoableChange()

```
public void
vetoableChange( java.beans.PropertyChangeEvent event )
```

44.13 Class NfacPanel.ModelDefListener

```
mil.dtra.hpac.models.nfac.client
protected NfacPanel.ModelDefListener
extends Object
implements PropertyChangeListener
```

PropertyChangeListener for the *modelDefBean*.

Methods:

```
public void propertyChange()
```

44.13.1 Constructor NfacPanel.ModelDefListener()

```
protected
NfacPanel.ModelDefListener( mil.dtra.hpac.models.nfac.client.NfacPanel this$0 )
```

44.13.2 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

44.14 Class `NfacPanel.ModelTimesListener`

```
mil.dtra.hpac.models.nfac.client
protected NfacPanel.ModelTimesListener
extends Object
implements PropertyChangeListener
```

PropertyChangeListener for the *modelTimesBean*.

Methods:

```
public void propertyChange()
```

44.14.1 Constructor `NfacPanel.ModelTimesListener()`

```
protected
NfacPanel.ModelTimesListener( mil.dtra.hpac.models.nfac.client.NfacPanel this$0 )
```

44.14.2 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

44.15 Class `NfacServerClient`

```
mil.dtra.hpac.models.nfac.client
public NfacServerClient
extends Object
```

Fields:

```
protected mil.dtra.hpac.server.fileutils.FileServer fFileServer
protected java.lang.String fProjectName
protected mil.dtra.hpac.models.nfac.server.NfacServer fServer
protected boolean fStandalone
protected java.lang.String fUserName
```

Methods:

```
public void closeIncident()
protected void finalize()
public void initIncident()
public void updateIncident()
```

44.15.1 Field **fFileServer**

protected mil.dtra.hpac.server.fileutils.FileServer **fFileServer**

44.15.2 Field **fProjectName**

protected java.lang.String **fProjectName**

44.15.3 Field **fServer**

protected mil.dtra.hpac.models.nfac.server.NfacServer **fServer**

44.15.4 Field **fStandalone**

protected boolean **fStandalone**

44.15.5 Field **fUserName**

protected java.lang.String **fUserName**

44.15.6 Constructor **NfacServerClient()**

```
public
NfacServerClient(
    javax.naming.Context corba_context,
    javax.naming.Context rmi_context,
    boolean standalone,
    java.lang.String user_name,
    java.lang.String project_name,
    java.lang.String incident_id
)
```

Constructs by obtaining a server reference to be used for all future operations.

Parameters:

corba_context - JNDI context in which to lookup the CORBA NFAC service
 rmi_context - JNDI context in which to lookup the FileServer service
 standalone - true if running standalone mode, false if client-server
 user_name - user name
 project_name - project_name

Exceptions:

ModelException - on NFAC server errors
 NamingException - if the service cannot be located
 SystemException - on general CORBA errors

44.15.7 Method closeIncident()

```
public void
closeIncident( mil.dtra.hpac.server.IncidentT incident )
```

Calls the `closeIncident()` method on the server.

Exceptions:

IllegalStateException - if we have no handle to the server (meaning construction failed, so how?)
 ModelException - when the server operation fails
 SystemException - on general CORBA errors

44.15.8 Method finalize()

```
protected void
finalize()
```

44.15.9 Method initIncident()

```
public void
initIncident(
  mil.dtra.hpac.data.Incident incident,
  mil.dtra.hpac.models.nfac.data.NfacIncident nfac_incident
)
```

Calls the `initIncident()` method on the server.

Parameters:

incident - incident input and updated on return
 nfac_incident - updated on return

Exceptions:

ModelException - when the server operation fails
 IllegalStateException - if we have no handle to the server (meaning construction failed, so how?)
 SystemException - on general CORBA errors

44.15.10 Method updateIncident()

```
public void
updateIncident(
    mil.dtra.hpac.data.Incident incident,
    mil.dtra.hpac.models.nfac.data.NfacIncident nfac_incident
)
```

Calls the updateIncident() method on the server.

Returns:

Object[] containing the Incident and NfacIncident objects

Exceptions:

ModelException - when the server operation fails
 IllegalStateException - if we have no handle to the server (meaning construction failed, so how?)
 SystemException - on general CORBA errors

CHAPTER 45

Package **mil.dtra.hpac.models.nfac.client.swing**

Classes:

FacilityDefBean
JReadOnlyTextField
ModelDefBean
ModelTimesBean
Nfac Swing Utils

45.1 Class FacilityDefBean

```
mil.dtra.hpac.models.nfac.client.swing
public FacilityDefBean
extends PDialogPanel
implements HPAC Swing Constants Property Change Listener Vetoable Change Listener
```

Bean for displaying and editing the definition of the facility, which is essentially the "Where" of the incident but has some other "What"-like stuff.

Fields:

```
protected mil.dtra.hpac.models.nfac.client.swing.facility.FacilityBean fFacilityBean
protected mil.dtra.hpac.models.nfac.data.FacilityDef fFacilityDef
protected mil.dtra.hpac.models.nfac.client.swing.facility.FacilityInventoryBean fInventoryBean
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.models.nfac.client.swing.facility.FacilityLocationBean fLocationBean
public static final java.lang.String PROP_facility
public static final java.lang.String PROP_facilityDef
```

Methods:

```

protected void create()
public final mil.dtra.hpac.models.nfac.data.FacilityDB getFacilityDB()
public final mil.dtra.hpac.models.nfac.data.FacilityDef getFacilityDef()
public void init()
public void propertyChange()
public final void setFacilityDB()
public void setFacilityDef()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void updateDisplayedLocation()
public void vetoableChange()

```

45.1.1 Field **fFacilityBean**

protected mil.dtra.hpac.models.nfac.client.swing.facility.FacilityBean **fFacilityBean**

45.1.2 Field **fFacilityDef**

protected mil.dtra.hpac.models.nfac.data.FacilityDef **fFacilityDef**

45.1.3 Field **fInventoryBean**

protected mil.dtra.hpac.models.nfac.client.swing.facility.FacilityInventoryBean **fInventoryBean**

45.1.4 Field **fListeningFlag**

protected transient volatile boolean **fListeningFlag**

45.1.5 Field **fLocationBean**

protected mil.dtra.hpac.models.nfac.client.swing.facility.FacilityLocationBean **fLocationBean**

45.1.6 Field **PROP_facility**

public static final java.lang.String **PROP_facility**

45.1.7 Field **PROP_facilityDef**

public static final java.lang.String **PROP_facilityDef**

45.1.8 Constructor FacilityDefBean()

```
public
FacilityDefBean()
```

Default constructor. Must call `init()`.

45.1.9 Constructor FacilityDefBean()

```
public
FacilityDefBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs calling `init()` but assuming default property values.

45.1.10 Constructor FacilityDefBean()

```
public
FacilityDefBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.FacilityDB facility_db,
    java.lang.String title
)
```

Constructs calling `init()` with defaults for everything except *facilityDB* and the title.

45.1.11 Constructor FacilityDefBean()

```
public
FacilityDefBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.FacilityDB facility_db,
    mil.dtra.hpac.models.nfac.data.FacilityDef facility_def,
    java.lang.String title
)
```

Constructs calling `init()`.

45.1.12 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

45.1.13 Method getFacilityDB()

```
public final mil.dtra.hpac.models.nfac.data.FacilityDB
getFacilityDB()
```

Returns:

object reference (may be null)

45.1.14 Method getFacilityDef()

```
public final mil.dtra.hpac.models.nfac.data.FacilityDef
getFacilityDef()
```

Returns:

object copy

45.1.15 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.FacilityDB facility_db,
    mil.dtra.hpac.models.nfac.data.FacilityDef facility_def,
    java.lang.String title
)
```

45.1.16 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

45.1.17 Method setFacilityDB()

```
public final void
setFacilityDB( mil.dtra.hpac.models.nfac.data.FacilityDB facility_db )
```

Parameters:

facility_db - object reference to store

45.1.18 Method setFacilityDef()

```
public void
setFacilityDef( mil.dtra.hpac.models.nfac.data.FacilityDef facility_def )
```

Parameters:

facility_def - object to copy

45.1.19 Method startListening()

```
protected synchronized void
startListening()
```

45.1.20 Method stopListening()

```
protected synchronized void
stopListening()
```

45.1.21 Method updateDisplayedLocation()

```
protected void
updateDisplayedLocation( mil.dtra.hpac.models.nfac.data.Facility facility )
```

Assumes the custom location is null.

45.1.22 Method vetoableChange()

```
public void
vetoableChange( java.beans.PropertyChangeEvent event )
```

45.2 Class JReadOnlyTextField

```
mil.dtra.hpac.models.nfac.client.swing
public JReadOnlyTextField
extends PTextField
```

JTextField extension which sets *editable* to false, a null *border*, and an optional *foreground*.

45.2.1 Constructor JReadOnlyTextField()

```
public
JReadOnlyTextField(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    int columns
)
```

Constructs with the default color.

45.2.2 Constructor JReadOnlyTextField()

```
public
JReadOnlyTextField(
    mil.dtra.util.ValueProperties props,
    java.lang.String text,
    int columns,
    java.awt.Color foreground
)
```

45.3 Class ModelDefBean

```
mil.dtra.hpac.models.nfac.client.swing
public ModelDefBean
extends JPanel
implements HPAC Swing Constants Property Change Listener Property Names
```

Bean for displaying and editing the definition of the model, a ModelDef and Options, which is the "What" of the incident.

Fields:

```
protected mil.dtra.hpac.models.nfac.client.swing.model.AnalystModelBean fAnalyst-
ModelBean
protected mil.dtra.hpac.data.Incident fIncident
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.models.nfac.data.ModelDef fModelDef
protected mil.dtra.hpac.models.nfac.client.swing.model.ModelTypeBean fModelType-
Bean
protected transient mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable fSourceTermTable
public static final java.lang.String PROP_modelDef
public static final java.lang.String PROP_options
```

Methods:

```

protected void create()
public final mil.dtra.hpac.models.nfac.data.Facility getFacility()
public final mil.dtra.hpac.data.Incident getIncident()
public final mil.dtra.hpac.models.nfac.data.ModelDef getModelDef()
public final mil.dtra.hpac.models.nfac.data.Options getOptions()
public void init()
public boolean isFacilityCompatible()
public void propertyChange()
public void repack()
public final void setFacility()
public final void setIncident()
public void setModelDef()
public final void setOptions()
protected synchronized void startListening()
protected synchronized void stopListening()

```

45.3.1 Field **fAnalystModelBean**

protected mil.dtra.hpac.models.nfac.client.swing.model.AnalystModelBean **fAnalystModelBean**

45.3.2 Field **fIncident**

protected mil.dtra.hpac.data.Incident **fIncident**

45.3.3 Field **fListeningFlag**

protected transient volatile boolean **fListeningFlag**

45.3.4 Field **fModelDef**

protected mil.dtra.hpac.models.nfac.data.ModelDef **fModelDef**

45.3.5 Field **fModelTypeBean**

protected mil.dtra.hpac.models.nfac.client.swing.model.ModelTypeBean **fModelTypeBean**

45.3.6 Field **fSourceTermTable**

protected transient mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable **fSourceTermTable**

45.3.7 Field PROP_modelDef

```
public static final java.lang.String PROP_modelDef
```

45.3.8 Field PROP_options

```
public static final java.lang.String PROP_options
```

45.3.9 Constructor ModelDefBean()

```
public  
ModelDefBean()
```

Default constructor. Must call init().

45.3.10 Constructor ModelDefBean()

```
public  
ModelDefBean( mil.dtra.util.ValueProperties props )
```

Constructs calling init() with no title and default properties.

45.3.11 Constructor ModelDefBean()

```
public  
ModelDefBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String title  
)
```

Constructs calling init() leaving defaults for the *analystModel* and *modelType* properties.

45.3.12 Constructor ModelDefBean()

```
public  
ModelDefBean(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.models.nfac.data.Facility facility,  
    mil.dtra.hpac.data.Incident incident,  
    mil.dtra.hpac.models.nfac.data.ModelDef model_def,  
    mil.dtra.hpac.models.nfac.data.Options options,  
    java.lang.String title  
)
```

Constructs calling `init()`.

45.3.13 Method `create()`

```
protected void
create( mil.dtra.util.ValueProperties props )
```

45.3.14 Method `getFacility()`

```
public final mil.dtra.hpac.models.nfac.data.Facility
getFacility()
```

Parameters:

object - reference

45.3.15 Method `getIncident()`

```
public final mil.dtra.hpac.data.Incident
getIncident()
```

45.3.16 Method `getModelDef()`

```
public final mil.dtra.hpac.models.nfac.data.ModelDef
getModelDef()
```

Returns:

object copy

45.3.17 Method `getOptions()`

```
public final mil.dtra.hpac.models.nfac.data.Options
getOptions()
```

Accessor for the `options` property. Calls `getOptions()` on the `analystModelBean`.

Returns:

options object copy

45.3.18 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    mil.dtra.hpac.data.Incident incident,
    mil.dtra.hpac.models.nfac.data.ModelDef model_def,
    mil.dtra.hpac.models.nfac.data.Options options,
    java.lang.String title
)
```

45.3.19 Method isFacilityCompatible()

```
public boolean
isFacilityCompatible( mil.dtra.hpac.models.nfac.data.Facility facility )
```

Checks the facility against the current model definition to determine if the model is appropriate for the facility.

Parameters:

facility - to check

Returns:

true if the current model is compatible with the facility, false otherwise

45.3.20 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

45.3.21 Method repack()

```
public void
repack()
```

45.3.22 Method setFacility()

```
public final void
setFacility( mil.dtra.hpac.models.nfac.data.Facility facility )
```

Parameters:

object - reference to store

45.3.23 Method setIncident()

```
public final void
setIncident( mil.dtra.hpac.data.Incident incident )
```

45.3.24 Method setModelDef()

```
public void
setModelDef( mil.dtra.hpac.models.nfac.data.ModelDef model_def )
```

Applies a valid and different value and fires the property change.

Parameters:

object - to copy

45.3.25 Method setOptions()

```
public final void
setOptions( mil.dtra.hpac.models.nfac.data.Options options )
```

Accessor for the *options* property. Calls `setOptions()` on the *analystModelBean*.

Parameters:

options - options object to copy

45.3.26 Method startListening()

```
protected synchronized void
startListening()
```

45.3.27 Method stopListening()

```
protected synchronized void
stopListening()
```

45.4 Class ModelTimesBean

```
mil.dtra.hpac.models.nfac.client.swing
public ModelTimesBean
extends JPanel
implements ActionListenerHPACSwingConstantsPropertyChangeListener
```

Bean for displaying and editing the times defined for the model, a ModelTimes, which is the "When" of the incident.

Fields:

```

protected static final java.lang.String ACTION_reset
protected static final java.lang.String ACTION_setDay
protected static final java.lang.String ACTION_setHour
protected static final java.lang.String ACTION_setMinute
protected static final java.lang.String ACTION_setMonth
protected static final java.lang.String ACTION_setSecond
protected static final java.lang.String ACTION_setYear
protected mil.dtra.hpac.models.nfac.data.ModelTimes fDefaultTimes
protected javax.swing.JTextArea fInfoArea
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.models.nfac.data.ModelTimes fModelTimes
protected javax.swing.JButton fResetButton
protected mil.dtra.hpac.client.swing.ValueUnitsBean[] fSetTimeBeans
protected javax.swing.JButton[] fSetTimeButtons
protected mil.dtra.hpac.client.swing.time.TimeBean[] fTimeBeans
protected transient mil.dtra.hpac.models.nfac.client.swing.times.ModelTimesMgr fTimes-
Mgr
public static final java.lang.String PROP_modelTimes
protected static final java.lang.String[] SET_TIME_ACTIONS
protected static final java.lang.String[] TIME_BEAN_LABELS

```

Methods:

```

public void actionPerformed()
public void checkTimes()
protected void create()
protected javax.swing.JPanel createOtherPanel()
protected javax.swing.JPanel createSetTimesGroup()
protected javax.swing.JPanel createTimesPanel()
public final mil.dtra.hpac.models.nfac.data.ModelTimes getDefaultTimes()
public final java.lang.String getInfo()
public final mil.dtra.hpac.models.nfac.data.ModelTimes getModelTimes()
public void init()
public void propertyChange()
public void setBackground()
public final void setDefaultTimes()
public final void setInfo()
public void setModelData()
public void setModelTimes()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void updateBeans()

```

45.4.1 Field ACTION_reset

protected static final java.lang.String **ACTION_reset**

45.4.2 Field ACTION_setDay

protected static final java.lang.String **ACTION_setDay**

45.4.3 Field ACTION_setHour

protected static final java.lang.String **ACTION_setHour**

45.4.4 Field ACTION_setMinute

protected static final java.lang.String **ACTION_setMinute**

45.4.5 Field ACTION_setMonth

protected static final java.lang.String **ACTION_setMonth**

45.4.6 Field ACTION_setSecond

protected static final java.lang.String **ACTION_setSecond**

45.4.7 Field ACTION_setYear

protected static final java.lang.String **ACTION_setYear**

45.4.8 Field fDefaultTimes

protected mil.dtra.hpac.models.nfac.data.ModelTimes **fDefaultTimes**

45.4.9 Field fInfoArea

protected javax.swing.JTextArea **fInfoArea**

45.4.10 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

45.4.11 Field **fModelTimes**

protected mil.dtra.hpac.models.nfac.data.ModelTimes **fModelTimes**

45.4.12 Field **fResetButton**

protected javax.swing.JButton **fResetButton**

45.4.13 Field **fSetTimeBeans**

protected mil.dtra.hpac.client.swing.ValueUnitsBean[] **fSetTimeBeans**

45.4.14 Field **fSetTimeButtons**

protected javax.swing.JButton[] **fSetTimeButtons**

45.4.15 Field **fTimeBeans**

protected mil.dtra.hpac.client.swing.time.TimeBean[] **fTimeBeans**

45.4.16 Field **fTimesMgr**

protected transient mil.dtra.hpac.models.nfac.client.swing.times.ModelTimesMgr **fTimesMgr**

45.4.17 Field **PROP_modelTimes**

public static final java.lang.String **PROP_modelTimes**

45.4.18 Field **SET_TIME_ACTIONS**

protected static final java.lang.String[] **SET_TIME_ACTIONS**

45.4.19 Field **TIME_BEAN_LABELS**

protected static final java.lang.String[] **TIME_BEAN_LABELS**

45.4.20 Constructor ModelTimesBean()

```
public
ModelTimesBean()
```

Default constructor. Must call `init()`.

45.4.21 Constructor ModelTimesBean()

```
public
ModelTimesBean( mil.dtra.util.ValueProperties props )
```

Constructs calling `init()` but defaulting everything.

45.4.22 Constructor ModelTimesBean()

```
public
ModelTimesBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs calling `init()` and defaulting everything but the border title.

45.4.23 Constructor ModelTimesBean()

```
public
ModelTimesBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.ModelTimes model_times,
    java.lang.String title
)
```

Constructs calling `init()` with no `defaultTimes` or `info`.

45.4.24 Constructor ModelTimesBean()

```
public
ModelTimesBean(
```

```

mil.dtra.util.ValueProperties props,
mil.dtra.hpac.models.nfac.data.ModelTimes model_times,
mil.dtra.hpac.models.nfac.data.ModelTimes default_times,
java.lang.String info,
java.lang.String title
)

```

Constructs calling `init()`.

45.4.25 Method actionPerformed()

```

public void
actionPerformed( java.awt.event.ActionEvent event )

```

Handles actions from the "all times" and reset buttons.

45.4.26 Method checkTimes()

```

public void
checkTimes()

```

Checks enabled times for valid chronology.

Exceptions:

`IllegalStateException` - if the times are not in proper order

45.4.27 Method create()

```

protected void
create( mil.dtra.util.ValueProperties props )

```

45.4.28 Method createOtherPanel()

```

protected javax.swing.JPanel
createOtherPanel( mil.dtra.util.ValueProperties props )

```

45.4.29 Method createSetTimesGroup()

```

protected javax.swing.JPanel
createSetTimesGroup( mil.dtra.util.ValueProperties props )

```

45.4.30 Method `createTimesPanel()`

```
protected javax.swing.JPanel
createTimesPanel( mil.dtra.util.ValueProperties props )
```

45.4.31 Method `getDefaultTimes()`

```
public final mil.dtra.hpac.models.nfac.data.ModelTimes
getDefaultTimes()
```

Accessor for the *defaultTimes* property.

Returns:

object reference

45.4.32 Method `getInfo()`

```
public final java.lang.String
getInfo()
```

Accessor for the *info* property.

Returns:

info string

45.4.33 Method `getModelTimes()`

```
public final mil.dtra.hpac.models.nfac.data.ModelTimes
getModelTimes()
```

Accessor for the *modelTimes* property.

Returns:

object copy

45.4.34 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.ModelTimes model_times,
    mil.dtra.hpac.models.nfac.data.ModelTimes default_times,
    java.lang.String info,
    java.lang.String title
)
```

45.4.35 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

45.4.36 Method `setBackground()`

```
public void
setBackground( java.awt.Color bg )
```

Override to set *background* of the info text area.

45.4.37 Method `setDefaultTimes()`

```
public final void
setDefaultTimes( mil.dtra.hpac.models.nfac.data.ModelTimes value )
```

Accessor for the *defaultTimes* property.

Parameters:

value - object reference to store

45.4.38 Method `setInfo()`

```
public final void
setInfo( java.lang.String value )
```

Accessor for the *info* property.

Parameters:

value - info string

45.4.39 Method `setModelData()`

```
public void
setModelData(
    mil.dtra.hpac.models.nfac.data.ModelDef model_def,
    mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable.OperationalInfo op_info,
    mil.dtra.hpac.data.Time start_time
)
```

Parameters:

model_def - model object reference
 op_info - reference to operational information object
 start - first time

45.4.40 Method setModelTimes()

public void
setModelTimes(mil.dtra.hpac.models.nfac.data.ModelTimes model_times)

Accessor for the *modelTimes* property. Applies a valid and different value and fires the property change.

Parameters:

object - to copy

45.4.41 Method startListening()

protected synchronized void
startListening()

45.4.42 Method stopListening()

protected synchronized void
stopListening()

45.4.43 Method updateBeans()

protected void
updateBeans(mil.dtra.hpac.models.nfac.data.ModelTimes model_times)

Updates beans assuming listening is turned off.

45.5 Class Nfac Swing Utils

mil.dtra.hpac.models.nfac.client.swing
 public final **Nfac Swing Utils**
 extends Object

Some utilities that probably should make their way to HPAC Swing Utils or PComponent.

Methods:

```
public static void expandPack()
public static void repack()
public static void sizeForHorizontalBox()
public static void sizeForVerticalBox()
```

45.5.1 Constructor NfacSwingUtils()

```
public
NfacSwingUtils()
```

45.5.2 Method expandPack()

```
public static void
expandPack( java.awt.Component comp )
```

Repacks the window containing the specified component, if found.

45.5.3 Method repack()

```
public static void
repack( java.awt.Component comp )
```

Repacks the window containing the specified component, if found.

45.5.4 Method sizeForHorizontalBox()

```
public static void
sizeForHorizontalBox( javax.swing.JComponent comp )
```

Sets the *maximumSize* of the component such that the horizontal size matches the *preferredSize* but the vertical size is unlimited. This is optimal for horizontal box layouts.

45.5.5 Method sizeForVerticalBox()

```
public static void
sizeForVerticalBox( javax.swing.JComponent comp )
```

Sets the *maximumSize* of the component such that the vertical size matches the *preferredSize* but the horizontal size is unlimited. This is optimal for vertical box layouts.

CHAPTER 46

Package **mil.dtra.hpac.models.nfac.client.swing.facility**

Classes:

- AgeUnits
- AgeValue
- CountryTreeNode
- FacilityBean
- FacilityDBTree
- FacilityDBTree.ExpansionHandler
- FacilityDBTreeNode
- FacilityDisplayBean
- FacilityInventoryBean
- FacilityLocationBean
- FacilityTreeNode
- FacilityTypeTreeNode
- FacilityTypeTreeNode.Enumerator
- ReactorDisplayBean
- ReproFacilityDisplayBean
- ReproInventoryBean

46.1 Class AgeUnits

mil.dtra.hpac.models.nfac.client.swing.facility

public **AgeUnits**
extends AbstractUnits

Extension of AbstractUnits for age fields.

Fields:

- public static final java.lang.String DAY
- public static final java.lang.String DAYS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
public static final java.lang.String YEARS
public static final java.lang.String YR
```

46.1.1 Field DAY

```
public static final java.lang.String DAY
```

46.1.2 Field DAYS

```
public static final java.lang.String DAYS
```

46.1.3 Field UNIT_DEFS

```
public static final mil.dtra.units.Units.UnitDef[] UNIT_DEFS
```

46.1.4 Field YEARS

```
public static final java.lang.String YEARS
```

46.1.5 Field YR

```
public static final java.lang.String YR
```

46.1.6 Constructor AgeUnits()

```
public
AgeUnits()
```

46.2 Class AgeValue

```
mil.dtra.hpac.models.nfac.client.swing.facility
public AgeValue
extends UnitsValue
```

Extension of UnitsValue using AgeUnits.

Fields:

```
public static final mil.dtra.units.Units UNITS
```

46.2.1 Field UNITS

```
public static final mil.dtra.units.Units UNITS
```

46.2.2 Constructor AgeValue()

```
public  
AgeValue( double value )
```

46.3 Class CountryTreeNode

```
mil.dtra.hpac.models.nfac.client.swing.facility  
public CountryTreeNode  
extends Object  
implements TreeNode
```

Fields:

```
protected mil.dtra.hpac.models.nfac.client.swing.facility.FacilityTypeTreeNode[] fChildNodes  
protected java.lang.String fName  
protected javax.swing.tree.TreeNode fParent
```

Methods:

```
public java.util.Enumeration children()  
public final boolean getAllowsChildren()  
public javax.swing.tree.TreeNode getChildAt()  
public final int getChildCount()  
public final java.lang.String getCountryName()  
public int getIndex()  
public javax.swing.tree.TreeNode getParent()  
public final boolean isLeaf()  
public final java.lang.String toString()
```

46.3.1 Field fChildNodes

```
protected mil.dtra.hpac.models.nfac.client.swing.facility.FacilityTypeTreeNode[] fChildNodes
```

46.3.2 Field fName

```
protected java.lang.String fName
```

46.3.3 Field fParent

```
protected javax.swing.tree.TreeNode fParent
```

46.3.4 Constructor CountryTreeNode()

```
public  
CountryTreeNode( java.lang.String name )
```

Constructor for TreePath components.

46.3.5 Constructor CountryTreeNode()

```
public  
CountryTreeNode(  
    javax.swing.tree.TreeNode parent,  
    java.lang.String name,  
    mil.dtra.hpac.models.nfac.data.FacilityDB db  
)
```

Constructor for nodes resident in the TreeModel.

46.3.6 Method children()

```
public java.util.Enumeration  
children()
```

46.3.7 Method getAllowsChildren()

```
public final boolean  
getAllowsChildren()
```

46.3.8 Method getChildAt()

```
public javax.swing.tree.TreeNode  
getChildAt( int index )
```

46.3.9 Method getChildCount()

```
public final int  
getChildCount()
```

46.3.10 Method getCountryName()

```
public final java.lang.String
getCountryName()
```

46.3.11 Method getIndex()

```
public int
getIndex( javax.swing.tree.TreeNode node )
```

46.3.12 Method getParent()

```
public javax.swing.tree.TreeNode
getParent()
```

46.3.13 Method isLeaf()

```
public final boolean
isLeaf()
```

46.3.14 Method toString()

```
public final java.lang.String
toString()
```

46.4 Class FacilityBean

```
mil.dtra.hpac.models.nfac.client.swing.facility
public FacilityBean
extends JPanel
implements ActionListenerHPAC SwingConstantsScrollPaneConstants SwingConstants
```

Bean for displaying and editing a Facility selection.

Fields:

```
public static final java.lang.String ACTION_select
protected static final java.lang.String CARD_reactor
protected static final java.lang.String CARD_repro
protected javax.swing.JPanel fCardPanel
protected mil.dtra.hpac.models.nfac.data.Facility fFacility
protected mil.dtra.hpac.models.nfac.data.FacilityDB fFacilityDB
protected transient javax.swing.JScrollPane fFacilityDBPane
protected transient mil.dtra.hpac.models.nfac.client.swing.facility.FacilityDBTree fFa-
cilityDBTree
```

```

protected transient volatile boolean fListeningFlag
protected javax.swing.JTextField fNameField
protected mil.dtra.hpac.models.nfac.client.swing.facility.ReactorDisplayBean fReac-
torBean
protected mil.dtra.hpac.models.nfac.client.swing.facility.ReproFacilityDisplayBean fReproBean
protected javax.swing.JButton fSelectButton
public static final java.lang.String PROP_facility

```

Methods:

```

public void actionPerformed()
protected void create_old()
protected void create()
public final mil.dtra.hpac.models.nfac.data.Facility getFacility()
public final mil.dtra.hpac.models.nfac.data.FacilityDB getFacilityDB()
public void init()
public void setFacility()
public void setFacilityDB()
protected synchronized void startListening()
protected synchronized void stopListening()
public void updateBeans()

```

46.4.1 Field ACTION_select

public static final java.lang.String ACTION_select

46.4.2 Field CARD_reactor

protected static final java.lang.String CARD_reactor

46.4.3 Field CARD_repro

protected static final java.lang.String CARD_repro

46.4.4 Field fCardPanel

protected javax.swing.JPanel fCardPanel

46.4.5 Field fFacility

protected mil.dtra.hpac.models.nfac.data.Facility fFacility

46.4.6 Field fFacilityDB

protected mil.dtra.hpac.models.nfac.data.FacilityDB **fFacilityDB**

46.4.7 Field fFacilityDBPane

protected transient javax.swing.JScrollPane **fFacilityDBPane**

46.4.8 Field fFacilityDBTree

protected transient mil.dtra.hpac.models.nfac.client.swing.facility.FacilityDBTree **fFacilityDBTree**

46.4.9 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

46.4.10 Field fNameField

protected javax.swing.JTextField **fNameField**

46.4.11 Field fReactorBean

protected mil.dtra.hpac.models.nfac.client.swing.facility.ReactorDisplayBean **fReactorBean**

46.4.12 Field fReproBean

protected mil.dtra.hpac.models.nfac.client.swing.facility.ReproFacilityDisplayBean **fReproBean**

46.4.13 Field fSelectButton

protected javax.swing.JButton **fSelectButton**

46.4.14 Field PROP_facility

public static final java.lang.String **PROP_facility**

46.4.15 Constructor FacilityBean()

```
public
FacilityBean()
```

Default constructor. Must call `init()`.

46.4.16 Constructor FacilityBean()

```
public
FacilityBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs calling `init()` but deferring setting of the facility database and facility.

46.4.17 Constructor FacilityBean()

```
public
FacilityBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.FacilityDB facility_db,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    java.lang.String title
)
```

Constructs calling `init()`.

46.4.18 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

46.4.19 Method create_old()

```
protected void
create_old( mil.dtra.util.ValueProperties props )
```

46.4.20 Method `create()`

```
protected void  
create( mil.dtra.util.ValueProperties props )
```

46.4.21 Method `getFacility()`

```
public final mil.dtra.hpac.models.nfac.data.Facility  
getFacility()
```

Returns:

object copy

46.4.22 Method `getFacilityDB()`

```
public final mil.dtra.hpac.models.nfac.data.FacilityDB  
getFacilityDB()
```

Returns:

object reference

46.4.23 Method `init()`

```
public void  
init(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.models.nfac.data.FacilityDB facility_db,  
    mil.dtra.hpac.models.nfac.data.Facility facility,  
    java.lang.String title  
)
```

46.4.24 Method `setFacility()`

```
public void  
setFacility( mil.dtra.hpac.models.nfac.data.Facility facility )
```

Parameters:

facility - object to copy

46.4.25 Method setFacilityDB()

```
public void
setFacilityDB( mil.dtra.hpac.models.nfac.data.FacilityDB facility_db )
```

Parameters:

facility_db - object reference to store

46.4.26 Method startListening()

```
protected synchronized void
startListening()
```

46.4.27 Method stopListening()

```
protected synchronized void
stopListening()
```

46.4.28 Method updateBeans()

```
public void
updateBeans( mil.dtra.hpac.models.nfac.data.Facility facility )
```

46.5 Class FacilityDBTree

```
mil.dtra.hpac.models.nfac.client.swing.facility
public FacilityDBTree
extends JTree
```

Fields:

```
protected mil.dtra.hpac.models.nfac.data.FacilityDB fFacilityDB
protected static javax.swing.border.Border focusedBorder_
protected static javax.swing.border.Border unfocusedBorder_
```

Methods:

```
public void expandWidth()
public mil.dtra.hpac.models.nfac.data.Facility getSelectedFacility()
public void init()
protected void processFocusEvent()
public void setSelectedFacility()
```

Inner Classes:

FacilityDBTree.ExpansionHandler

46.5.1 Field fFacilityDB

protected mil.dtra.hpac.models.nfac.data.FacilityDB **fFacilityDB**

46.5.2 Field focusedBorder__

protected static javax.swing.border.Border **focusedBorder__**

46.5.3 Field unfocusedBorder__

protected static javax.swing.border.Border **unfocusedBorder__**

46.5.4 Constructor FacilityDBTree()

public
FacilityDBTree()

Default constructor. Must call `init()`.

46.5.5 Constructor FacilityDBTree()

public
FacilityDBTree(mil.dtra.hpac.models.nfac.data.FacilityDB facility_db)

Constructs with the database reference.

46.5.6 Method expandWidth()

public void
expandWidth()

Attempts to repack the parent window in response to a resize of this.

46.5.7 Method getSelectedFacility()

```
public mil.dtra.hpac.models.nfac.data.Facility
getSelectedFacility()
```

Returns:

currently selected facility or null if none selected

46.5.8 Method init()

```
public void
init( mil.dtra.hpac.models.nfac.data.FacilityDB facility_db )
```

46.5.9 Method processFocusEvent()

```
protected void
processFocusEvent( java.awt.event.FocusEvent event )
```

46.5.10 Method setSelectedFacility()

```
public void
setSelectedFacility( mil.dtra.hpac.models.nfac.data.Facility facility )
```

Parameters:

facility - facility to select in the tree or null to deselect anything currently selected

46.6 Class FacilityDBTree.ExpansionHandler

```
mil.dtra.hpac.models.nfac.client.swing.facility
protected FacilityDBTree.ExpansionHandler
extends Object
implements TreeExpansionListener
```

Methods:

```
public void treeCollapsed()
public void treeExpanded()
```

46.6.1 Constructor FacilityDBTree.ExpansionHandler()

```
protected
FacilityDBTree.ExpansionHandler( mil.dtra.hpac.models.nfac.client.swing.facility.FacilityDBTree
this$0 )
```

46.6.2 Method treeCollapsed()

```
public void
treeCollapsed( javax.swing.event.TreeExpansionEvent event )
```

46.6.3 Method treeExpanded()

```
public void
treeExpanded( javax.swing.event.TreeExpansionEvent event )
```

46.7 Class FacilityDBTree.ExpansionHandler

```
mil.dtra.hpac.models.nfac.client.swing.facility
protected FacilityDBTree.ExpansionHandler
extends Object
implements TreeExpansionListener
```

Methods:

```
public void treeCollapsed()
public void treeExpanded()
```

46.7.1 Constructor FacilityDBTree.ExpansionHandler()

```
protected
FacilityDBTree.ExpansionHandler( mil.dtra.hpac.models.nfac.client.swing.facility.FacilityDBTree
this$0 )
```

46.7.2 Method treeCollapsed()

```
public void
treeCollapsed( javax.swing.event.TreeExpansionEvent event )
```

46.7.3 Method treeExpanded()

```
public void
treeExpanded( javax.swing.event.TreeExpansionEvent event )
```

46.8 Class FacilityDBTreeNode

```
mil.dtra.hpac.models.nfac.client.swing.facility
public FacilityDBTreeNode
extends Object
implements TreeNode
```

Fields:

```
protected mil.dtra.hpac.models.nfac.client.swing.facility.CountryTreeNode[] fChildNodes
```

Methods:

```
public java.util.Enumeration children()
public final boolean getAllowsChildren()
public javax.swing.tree.TreeNode getChildAt()
public final int getChildCount()
public int getIndex()
public javax.swing.tree.TreeNode getParent()
public final boolean isLeaf()
public final java.lang.String toString()
```

46.8.1 Field fChildNodes

```
protected mil.dtra.hpac.models.nfac.client.swing.facility.CountryTreeNode[] fChildNodes
```

46.8.2 Constructor FacilityDBTreeNode()

```
public
FacilityDBTreeNode( mil.dtra.hpac.models.nfac.data.FacilityDB db )
```

Only constructor. For now, we hard code to the facility types reported by the database.

46.8.3 Method children()

```
public java.util.Enumeration
children()
```

46.8.4 Method getAllowsChildren()

```
public final boolean
getAllowsChildren()
```

46.8.5 Method getChildAt()

```
public javax.swing.tree.TreeNode
getChildAt( int index )
```

46.8.6 Method getChildCount()

```
public final int
getChildCount()
```

46.8.7 Method getIndex()

```
public int
getIndex( javax.swing.tree.TreeNode node )
```

46.8.8 Method getParent()

```
public javax.swing.tree.TreeNode
getParent()
```

46.8.9 Method isLeaf()

```
public final boolean
isLeaf()
```

46.8.10 Method toString()

```
public final java.lang.String
toString()
```

46.9 Class FacilityDisplayBean

```
mil.dtra.hpac.models.nfac.client.swing.facility
public abstract FacilityDisplayBean
extends PDialogPanel
implements HPACSwingConstants, SwingConstants
```

Bean for displaying reactor facility data.

Fields:

```

protected javax.swing.JTextField fConstructionField
protected javax.swing.JTextField fConstructionInfoField
protected mil.dtra.hpac.models.nfac.data.CountryCodeMap fCountryCodeMap
protected javax.swing.JTextField fCountryField
protected mil.dtra.hpac.models.nfac.data.Facility fFacility
protected javax.swing.JTextField fInventoryField
protected javax.swing.JTextField fTypeField

```

Methods:

```

protected void create()
protected void createCommonBeans()
protected abstract void createSpecificBeans()
public final mil.dtra.hpac.models.nfac.data.CountryCodeMap getCountryCodeMap()
public final mil.dtra.hpac.models.nfac.data.Facility getFacility()
public void init()
protected abstract void layout()
public final void setCountryCodeMap()
public void setFacility()
public void updateCommonBeans()
protected abstract void updateSpecificBeans()

```

46.9.1 Field fConstructionField

protected javax.swing.JTextField **fConstructionField**

46.9.2 Field fConstructionInfoField

protected javax.swing.JTextField **fConstructionInfoField**

46.9.3 Field fCountryCodeMap

protected mil.dtra.hpac.models.nfac.data.CountryCodeMap **fCountryCodeMap**

46.9.4 Field fCountryField

protected javax.swing.JTextField **fCountryField**

46.9.5 Field fFacility

protected mil.dtra.hpac.models.nfac.data.Facility **fFacility**

46.9.6 Field fInventoryField

```
protected javax.swing.JTextField fInventoryField
```

46.9.7 Field fTypeField

```
protected javax.swing.JTextField fTypeField
```

46.9.8 Constructor FacilityDisplayBean()

```
protected  
FacilityDisplayBean()
```

Default constructor. Must call init().

46.9.9 Method create()

```
protected void  
create( mil.dtra.util.ValueProperties props )
```

46.9.10 Method createCommonBeans()

```
protected void  
createCommonBeans( mil.dtra.util.ValueProperties props )
```

46.9.11 Method createSpecificBeans()

```
protected abstract void  
createSpecificBeans( mil.dtra.util.ValueProperties props )
```

46.9.12 Method getCountryCodeMap()

```
public final mil.dtra.hpac.models.nfac.data.CountryCodeMap  
getCountryCodeMap()
```

Returns:

object reference

46.9.13 Method getFacility()

```
public final mil.dtra.hpac.models.nfac.data.Facility
getFacility()
```

Returns:

object reference

46.9.14 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.CountryCodeMap code_map,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    java.lang.String title
)
```

46.9.15 Method layout()

```
protected abstract void
layout( mil.dtra.util.ValueProperties props )
```

46.9.16 Method setCountryCodeMap()

```
public final void
setCountryCodeMap( mil.dtra.hpac.models.nfac.data.CountryCodeMap map )
```

Parameters:

map - object reference to store

46.9.17 Method setFacility()

```
public void
setFacility( mil.dtra.hpac.models.nfac.data.Facility facility )
```

Parameters:

facility - object reference to store

46.9.18 Method updateCommonBeans()

```
public void
updateCommonBeans( mil.dtra.hpac.models.nfac.data.Facility facility )
```

46.9.19 Method updateSpecificBeans()

```
protected abstract void
updateSpecificBeans( mil.dtra.hpac.models.nfac.data.Facility facility )
```

46.10 Class FacilityInventoryBean

mil.dtra.hpac.models.nfac.client.swing.facility
public FacilityInventoryBean
extends JPanel
implements ActionListenerHPAC Swing Constants Swing Constants Vetoable Change Listener

Bean for displaying and editing a Facility selection.

Fields:

```
public static final java.lang.String ACTION_browse
public static final java.lang.String ACTION_setInventory
protected javax.swing.JButton fBrowseButton
protected mil.dtra.hpac.server.fileutils.FileReference fCustomInventory
protected javax.swing.JRadioButton fCustomizedButton
protected javax.swing.JRadioButton fDefaultButton
protected mil.dtra.hpac.models.nfac.data.Facility fFacility
protected javax.swing.JTextField fFilenameField
protected transient volatile boolean fListeningFlag
protected transient mil.dtra.util.ValueProperties fProps
protected mil.dtra.hpac.models.nfac.data.ReproInventory[] fReproInventory
protected transient mil.dtra.hpac.models.nfac.client.swing.facility.ReproInventoryBean
fReproInventoryBean
public static final java.lang.String PROP_customInventory
public static final java.lang.String PROP_reproInventory
```

Methods:

```
public void actionPerformed()
protected void activateButtons()
protected void create()
public final mil.dtra.hpac.server.fileutils.FileReference getCustomInventory()
public final mil.dtra.hpac.models.nfac.data.Facility getFacility()
public final mil.dtra.hpac.models.nfac.data.ReproInventory[] getReproInventory()
protected void handleBrowse()
protected void handleSetInventory()
```

```

public void init()
public void setCustomInventory()
public void setEnabled()
public void setFacility()
public void setReproInventory()
protected synchronized void startListening()
protected synchronized void stopListening()
public void vetoableChange()

```

46.10.1 Field ACTION_browse

public static final java.lang.String **ACTION_browse**

46.10.2 Field ACTION_setInventory

public static final java.lang.String **ACTION_setInventory**

46.10.3 Field fBrowseButton

protected javax.swing.JButton **fBrowseButton**

46.10.4 Field fCustomInventory

protected mil.dtra.hpac.server.fileutils.FileReference **fCustomInventory**

46.10.5 Field fCustomizedButton

protected javax.swing.JRadioButton **fCustomizedButton**

46.10.6 Field fDefaultButton

protected javax.swing.JRadioButton **fDefaultButton**

46.10.7 Field fFacility

protected mil.dtra.hpac.models.nfac.data.Facility **fFacility**

46.10.8 Field fFilenameField

protected javax.swing.JTextField **fFilenameField**

46.10.9 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

46.10.10 Field fProps

protected transient mil.dtra.util.ValueProperties **fProps**

46.10.11 Field fReproInventory

protected mil.dtra.hpac.models.nfac.data.ReproInventory[] **fReproInventory**

46.10.12 Field fReproInventoryBean

protected transient mil.dtra.hpac.models.nfac.client.swing.facility.ReproInventoryBean **fReproInventoryBean**

46.10.13 Field PROP_customInventory

public static final java.lang.String **PROP_customInventory**

46.10.14 Field PROP_reproInventory

public static final java.lang.String **PROP_reproInventory**

46.10.15 Constructor FacilityInventoryBean()

public
FacilityInventoryBean()

Default constructor. Must call `init()`.

46.10.16 Constructor FacilityInventoryBean()

public
FacilityInventoryBean(
 mil.dtra.util.ValueProperties props,
 java.lang.String title
)

Constructs calling `init()` and assuming defaults for properties.

46.10.17 Constructor FacilityInventoryBean()

```
public
FacilityInventoryBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    mil.dtra.hpac.server.fileutils.FileReference custom_inventory,
    java.lang.String title
)
```

Constructs calling `init()`.

46.10.18 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

46.10.19 Method activateButtons()

```
protected void
activateButtons()
```

46.10.20 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

46.10.21 Method getCustomInventory()

```
public final mil.dtra.hpac.server.fileutils.FileReference
getCustomInventory()
```

Returns:

object copy

46.10.22 Method getFacility()

```
public final mil.dtra.hpac.models.nfac.data.Facility
getFacility()
```

Returns:

object reference

46.10.23 Method getReproInventory()

```
public final mil.dtra.hpac.models.nfac.data.ReproInventory[]
getReproInventory()
```

Returns:

array reference

46.10.24 Method handleBrowse()

```
protected void
handleBrowse( java.awt.event.ActionEvent event )
```

46.10.25 Method handleSetInventory()

```
protected void
handleSetInventory( java.awt.event.ActionEvent event )
```

46.10.26 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    mil.dtra.hpac.server.fileutils.FileReference custom_inventory,
    java.lang.String title
)
```

46.10.27 Method setCustomInventory()

```
public void
setCustomInventory( mil.dtra.hpac.server.fileutils.FileReference file_ref )
```

Returns:

object to copy

46.10.28 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

46.10.29 Method setFacility()

```
public void
setFacility( mil.dtra.hpac.models.nfac.data.Facility facility )
```

Parameters:

facility - object reference to store

46.10.30 Method setReproInventory()

```
public void
setReproInventory( mil.dtra.hpac.models.nfac.data.ReproInventory[] value )
```

Parameters:

value - array reference to store

46.10.31 Method startListening()

```
protected synchronized void
startListening()
```

46.10.32 Method stopListening()

```
protected synchronized void
stopListening()
```

46.10.33 Method vetoableChange()

```
public void
vetoableChange( java.beans.PropertyChangeEvent event )
```

46.11 Class FacilityLocationBean

```
mil.dtra.hpac.models.nfac.client.swing.facility
public FacilityLocationBean
extends JPanel
implements ActionListenerHPACSwingConstantsPropertyChangeListenerSwingConstants
```

Bean for displaying and editing/customizing a Facility location.

Fields:

```

protected boolean fCustomized
protected javax.swing.JRadioButton fCustomizedButton
protected javax.swing.JRadioButton fDefaultButton
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.data.Location fLocation
protected mil.dtra.hpac.client.swing.location.LocationBean fLocationBean
public static final java.lang.String PROP_customized
public static final java.lang.String PROP_facilityLocation

```

Methods:

```

public void actionPerformed()
protected void create()
public final mil.dtra.hpac.data.Location getFacilityLocation()
public void init()
public final boolean isCustomized()
public void propertyChange()
public void setCustomized()
public void setEnabled()
public void setFacilityLocation()
protected synchronized void startListening()
protected synchronized void stopListening()

```

46.11.1 Field fCustomized

protected boolean fCustomized

46.11.2 Field fCustomizedButton

protected javax.swing.JRadioButton fCustomizedButton

46.11.3 Field fDefaultButton

protected javax.swing.JRadioButton fDefaultButton

46.11.4 Field fListeningFlag

protected transient volatile boolean fListeningFlag

46.11.5 Field fLocation

protected mil.dtra.hpac.data.Location fLocation

46.11.6 Field fLocationBean

```
protected mil.dtra.hpac.client.swing.location.LocationBean fLocationBean
```

46.11.7 Field PROP_customized

```
public static final java.lang.String PROP_customized
```

46.11.8 Field PROP_facilityLocation

```
public static final java.lang.String PROP_facilityLocation
```

46.11.9 Constructor FacilityLocationBean()

```
public
FacilityLocationBean()
```

Default constructor. Must call init().

46.11.10 Constructor FacilityLocationBean()

```
public
FacilityLocationBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs calling init() and assuming defaults for properties.

46.11.11 Constructor FacilityLocationBean()

```
public
FacilityLocationBean(
    mil.dtra.util.ValueProperties props,
    boolean customized,
    mil.dtra.hpac.data.Location location,
    java.lang.String title
)
```

Constructs calling init().

46.11.12 Method actionPerformed()

```
public void  
actionPerformed( java.awt.event.ActionEvent event )
```

46.11.13 Method create()

```
protected void  
create( mil.dtra.util.ValueProperties props )
```

46.11.14 Method getFacilityLocation()

```
public final mil.dtra.hpac.data.Location  
getFacilityLocation()
```

Returns:

object copy

46.11.15 Method init()

```
public void  
init(  
    mil.dtra.util.ValueProperties props,  
    boolean customized,  
    mil.dtra.hpac.data.Location location,  
    java.lang.String title  
)
```

46.11.16 Method isCustomized()

```
public final boolean  
isCustomized()
```

46.11.17 Method propertyChange()

```
public void  
propertyChange( java.beans.PropertyChangeEvent event )
```

46.11.18 Method setCustomized()

```
public void
setCustomized( boolean flag )
```

Returns:

object reference

46.11.19 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

46.11.20 Method setFacilityLocation()

```
public void
setFacilityLocation( mil.dtra.hpac.data.Location location )
```

Returns:

object reference

46.11.21 Method startListening()

```
protected synchronized void
startListening()
```

46.11.22 Method stopListening()

```
protected synchronized void
stopListening()
```

46.12 Class FacilityTreeNode

```
mil.dtra.hpac.models.nfac.client.swing.facility
public FacilityTreeNode
extends Object
implements TreeNode
```

Fields:

```
protected mil.dtra.hpac.models.nfac.data.Facility fFacility
protected javax.swing.tree(TreeNode fParent
```

Methods:

```
public java.util.Enumeration children()
public final boolean getAllowsChildren()
public final javax.swing.tree.TreeNode getChildAt()
public final int getChildCount()
public final mil.dtra.hpac.models.nfac.data.Facility getFacility()
public final int getIndex()
public javax.swing.tree.TreeNode getParent()
public final boolean isLeaf()
public java.lang.String toString()
```

46.12.1 Field fFacility

protected mil.dtra.hpac.models.nfac.data.Facility **fFacility**

46.12.2 Field fParent

protected javax.swing.tree.TreeNode **fParent**

46.12.3 Constructor FacilityTreeNode()

```
public
FacilityTreeNode(
    javax.swing.tree.TreeNode parent,
    mil.dtra.hpac.models.nfac.data.Facility facility
)
```

Only constructor

46.12.4 Method children()

public java.util.Enumeration
children()

46.12.5 Method getAllowsChildren()

public final boolean
getAllowsChildren()

46.12.6 Method getChildAt()

```
public final javax.swing.tree.TreeNode  
getChildAt( int index )
```

46.12.7 Method getChildCount()

```
public final int  
getChildCount()
```

46.12.8 Method getFacility()

```
public final mil.dtra.hpac.models.nfac.data.Facility  
getFacility()
```

Returns:

object reference

46.12.9 Method getIndex()

```
public final int  
getIndex( javax.swing.tree.TreeNode node )
```

46.12.10 Method getParent()

```
public javax.swing.tree.TreeNode  
getParent()
```

46.12.11 Method isLeaf()

```
public final boolean  
isLeaf()
```

46.12.12 Method toString()

```
public java.lang.String  
toString()
```

46.13 Class FacilityTypeTreeNode

```
mil.dtra.hpac.models.nfac.client.swing.facility
public FacilityTypeTreeNode
extends Object
implements TreeNode
```

Fields:

```
protected mil.dtra.hpac.models.nfac.client.swing.facility.FacilityTreeNode[] fChildNodes
protected javax.swing.tree.TreeNode fParent
protected java.lang.String fName
```

Methods:

```
public java.util.Enumeration children()
public final boolean getAllowsChildren()
public javax.swing.tree.TreeNode getChildAt()
public final int getChildCount()
public int getIndex()
public javax.swing.tree.TreeNode getParent()
public final java.lang.String getTypeName()
public final boolean isLeaf()
public final java.lang.String toString()
```

Inner Classes:

FacilityTypeTreeNode.Enumerator

46.13.1 Field fChildNodes

protected mil.dtra.hpac.models.nfac.client.swing.facility.FacilityTreeNode[] **fChildNodes**

46.13.2 Field fParent

protected javax.swing.tree.TreeNode **fParent**

46.13.3 Field fName

protected java.lang.String **fName**

46.13.4 Constructor FacilityTypeTreeNode()

```
public
FacilityTypeTreeNode( java.lang.String name )
```

Constructor for a TreePath component.

46.13.5 Constructor FacilityTypeTreeNode()

```
public
FacilityTypeTreeNode(
    javax.swing.tree.TreeNode parent,
    java.lang.String name,
    mil.dtra.hpac.models.nfac.data.Facility[] facilities
)
```

Constructor for a full-time resident node of the TreeModel.

46.13.6 Method children()

```
public java.util.Enumeration
children()
```

46.13.7 Method getAllowsChildren()

```
public final boolean
getAllowsChildren()
```

46.13.8 Method getChildAt()

```
public javax.swing.tree.TreeNode
getChildAt( int index )
```

46.13.9 Method getChildCount()

```
public final int
getChildCount()
```

46.13.10 Method getIndex()

```
public int
getIndex( javax.swing.tree.TreeNode node )
```

46.13.11 Method getParent()

```
public javax.swing.tree.TreeNode
getParent()
```

46.13.12 Method getTypeName()

```
public final java.lang.String
getTypeName()
```

46.13.13 Method isLeaf()

```
public final boolean
isLeaf()
```

46.13.14 Method toString()

```
public final java.lang.String
toString()
```

46.14 Class FacilityTypeTreeNode.Enumerator

```
mil.dtra.hpac.models.nfac.client.swing.facility
public static FacilityTypeTreeNode.Enumerator
extends Object
implements Enumeration
```

Methods:

```
public final boolean hasMoreElements()
public java.lang.Object nextElement()
```

46.14.1 Constructor FacilityTypeTreeNode.Enumerator()

```
public
FacilityTypeTreeNode.Enumerator( javax.swing.tree.TreeNode[] array )
```

46.14.2 Method hasMoreElements()

```
public final boolean
hasMoreElements()
```

46.14.3 Method nextElement()

```
public java.lang.Object
nextElement()
```

46.15 Class FacilityTypeTreeNode.Enumerator

```
mil.dtra.hpac.models.nfac.client.swing.facility
public static FacilityTypeTreeNode.Enumerator
extends Object
implements Enumeration
```

Methods:

```
public final boolean hasMoreElements()
public java.lang.Object nextElement()
```

46.15.1 Constructor FacilityTypeTreeNode.Enumerator()

```
public
FacilityTypeTreeNode.Enumerator( javax.swing.tree.TreeNode[] array )
```

46.15.2 Method hasMoreElements()

```
public final boolean
hasMoreElements()
```

46.15.3 Method nextElement()

```
public java.lang.Object
nextElement()
```

46.16 Class ReactorDisplayBean

```
mil.dtra.hpac.models.nfac.client.swing.facility
public ReactorDisplayBean
extends FacilityDisplayBean
```

Bean for displaying reactor facility data.

Fields:

```
protected javax.swing.JTextField fPowerField
protected javax.swing.JTextField fStackHtField
```

Methods:

```
protected void createSpecificBeans()
protected void layout()
protected void updateSpecificBeans()
```

46.16.1 Field fPowerField

protected javax.swing.JTextField fPowerField

46.16.2 Field fStackHtField

protected javax.swing.JTextField fStackHtField

46.16.3 Constructor ReactorDisplayBean()

```
public
ReactorDisplayBean()
```

Default constructor. Must call `init()`.

46.16.4 Constructor ReactorDisplayBean()

```
public
ReactorDisplayBean( mil.dtra.util.ValueProperties props )
```

Constructs calling `init()` with no facility or title.

46.16.5 Constructor ReactorDisplayBean()

```
public
ReactorDisplayBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs calling `init()` with no facility.

46.16.6 Constructor ReactorDisplayBean()

```
public
ReactorDisplayBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.CountryCodeMap code_map,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    java.lang.String title
)
```

Constructs calling init().

46.16.7 Method createSpecificBeans()

```
protected void
createSpecificBeans( mil.dtra.util.ValueProperties props )
```

46.16.8 Method layout()

```
protected void
layout( mil.dtra.util.ValueProperties props )
```

46.16.9 Method updateSpecificBeans()

```
protected void
updateSpecificBeans( mil.dtra.hpac.models.nfac.data.Facility facility )
```

46.17 Class ReproFacilityDisplayBean

```
mil.dtra.hpac.models.nfac.client.swing.facility
public ReproFacilityDisplayBean
extends FacilityDisplayBean
```

Bean for displaying reprocessing facility data.

Fields:

```
public static final java.text.DecimalFormat FORMAT_thrput
protected javax.swing.JTextField fThrputField
```

Methods:

```
protected void createSpecificBeans()
protected void layout()
protected void updateSpecificBeans()
```

46.17.1 Field FORMAT_thrput

```
public static final java.text.DecimalFormat FORMAT_thrput
```

46.17.2 Field fThrputField

```
protected javax.swing.JTextField fThrputField
```

46.17.3 Constructor ReproFacilityDisplayBean()

```
public  
ReproFacilityDisplayBean()
```

Default constructor. Must call init().

46.17.4 Constructor ReproFacilityDisplayBean()

```
public  
ReproFacilityDisplayBean( mil.dtra.util.ValueProperties props )
```

Constructs calling init() with no facility or title.

46.17.5 Constructor ReproFacilityDisplayBean()

```
public  
ReproFacilityDisplayBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String title  
)
```

Constructs calling init() with no facility.

46.17.6 Constructor ReproFacilityDisplayBean()

```
public  
ReproFacilityDisplayBean(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.models.nfac.data.CountryCodeMap code_map,  
    mil.dtra.hpac.models.nfac.data.Facility facility,  
    java.lang.String title  
)
```

Constructs calling init().

46.17.7 Method createSpecificBeans()

```
protected void
createSpecificBeans( mil.dtra.util.ValueProperties props )
```

46.17.8 Method layout()

```
protected void
layout( mil.dtra.util.ValueProperties props )
```

46.17.9 Method updateSpecificBeans()

```
protected void
updateSpecificBeans( mil.dtra.hpac.models.nfac.data.Facility facility )
```

46.18 Class ReproInventoryBean

mil.dtra.hpac.models.nfac.client.swing.facility
public ReproInventoryBean
 extends JPanel
 implements ActionListenerHPACSwingConstantsPropertyChangeListenerSwingConstants
 Bean for displaying and editing a Facility selection.

Fields:

```
public static final java.lang.String BROWSE
public static final int DEFAULTItemCount
protected mil.dtra.hpac.client.swing.ValueUnitsBean[] fAgeBeans
protected javax.swing.JButton[] fBrowseButtons
protected javax.swing.JTextField[] fFilenameFields
protected mil.dtra.hpac.server.fileutils.FileReference[] fFiles
protected mil.dtra.hpac.client.swing.ValueUnitsBean[] fFractionBeans
protected transient volatile boolean fListeningFlag
protected static final java.text.DecimalFormat FORMAT_sum
protected mil.dtra.hpac.client.swing.ValueUnitsBean[] fPowerBeans
protected mil.dtra.hpac.models.nfac.data.ReproInventory[] fReproInventory
protected javax.swing.JLabel fSumLabel
```

Methods:

```
public void actionPerformed()
public java.lang.String check()
protected double computeFractionSum()
protected void create()
public mil.dtra.hpac.models.nfac.data.ReproInventory[] getReproInventory()
```

```
public void init()
public void propertyChange()
public void setReproInventory()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void updateBeans()
protected void updateSum()
```

46.18.1 Field BROWSE

public static final java.lang.String **BROWSE**

46.18.2 Field DEFAULTItemCount

public static final int **DEFAULTItemCount**

46.18.3 Field fAgeBeans

protected mil.dtra.hpac.client.swing.ValueUnitsBean[] **fAgeBeans**

46.18.4 Field fBrowseButtons

protected javax.swing.JButton[] **fBrowseButtons**

46.18.5 Field fFilenameFields

protected javax.swing.JTextField[] **fFilenameFields**

46.18.6 Field fFiles

protected mil.dtra.hpac.server.fileutils.FileReference[] **fFiles**

46.18.7 Field fFractionBeans

protected mil.dtra.hpac.client.swing.ValueUnitsBean[] **fFractionBeans**

46.18.8 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

46.18.9 Field FORMAT_sum

```
protected static final java.text.DecimalFormat FORMAT_sum
```

46.18.10 Field fPowerBeans

```
protected mil.dtra.hpac.client.swing.ValueUnitsBean[] fPowerBeans
```

46.18.11 Field fReproInventory

```
protected mil.dtra.hpac.models.nfac.data.ReproInventory[] fReproInventory
```

46.18.12 Field fSumLabel

```
protected javax.swing.JLabel fSumLabel
```

46.18.13 Constructor ReproInventoryBean()

```
public  
ReproInventoryBean()
```

Default constructor. Must call init().

46.18.14 Constructor ReproInventoryBean()

```
public  
ReproInventoryBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String title  
)
```

Constructs calling init() and assuming defaults for properties.

46.18.15 Constructor ReproInventoryBean()

```
public  
ReproInventoryBean(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.models.nfac.data.ReproInventory[] repro_inventory,  
    java.lang.String title  
)
```

Constructs calling init() but assuming the default item count.

46.18.16 Constructor ReproInventoryBean()

```
public
ReproInventoryBean(
    mil.dtra.util.ValueProperties props,
    int item_count,
    mil.dtra.hpac.models.nfac.data.ReproInventory[] repro_inventory,
    java.lang.String title
)
```

Constructs calling init().

46.18.17 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

46.18.18 Method check()

```
public java.lang.String
check()
```

Returns:

string with problems in the current input; empty string means no problems

46.18.19 Method computeFractionSum()

```
protected double
computeFractionSum()
```

46.18.20 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    int item_count
)
```

46.18.21 Method getReproInventory()

```
public mil.dtra.hpac.models.nfac.data.ReproInventory[]
getReproInventory()
```

Returns:

new array

46.18.22 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    int item_count,
    mil.dtra.hpac.models.nfac.data.ReproInventory[] repro_inventory,
    java.lang.String title
)
```

46.18.23 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

46.18.24 Method setReproInventory()

```
public void
setReproInventory( mil.dtra.hpac.models.nfac.data.ReproInventory[] repros )
```

Parameters:

repros - array reference to store

46.18.25 Method startListening()

```
protected synchronized void
startListening()
```

46.18.26 Method stopListening()

```
protected synchronized void
stopListening()
```

46.18.27 Method updateBeans()

```
protected void  
updateBeans( mil.dtra.hpac.models.nfac.data.ReproInventory[] repros )
```

46.18.28 Method updateSum()

```
protected void  
updateSum()
```

CHAPTER 47

Package **mil.dtra.hpac.models.nfac.client.swing.model**

Classes:

AnalystModelBean
ModelTypeBean
OptionsBean

47.1 Class AnalystModelBean

mil.dtra.hpac.models.nfac.client.swing.model
public **AnalystModelBean**
extends JPanel
implements ActionListenerHPACSwingConstantsScrollPaneConstantsSwingConstants

Bean for displaying and editing an AnalystModel.

Fields:

```
public static final java.lang.String ACTION_define
public static final java.lang.String ACTION_editOptions
protected mil.dtra.hpac.models.nfac.data.AnalystModel fAnalystModel
protected javax.swing.JButton fDefineButton
protected mil.dtra.hpac.models.nfac.data.Facility fFacility
protected mil.dtra.hpac.data.Incident fIncident
protected transient volatile boolean fListeningFlag
protected javax.swing.JEditorPane fModelInfoPane
protected mil.dtra.hpac.models.nfac.data.Options fOptions
protected transient mil.dtra.hpac.models.nfac.client.swing.model.OptionsBean fOptionsBean
protected javax.swing.JButton fOptionsButton
protected transient mil.dtra.util.ValueProperties fProps
protected transient mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable fSourceTermTable
```

```

protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizard
fSourceTermWizard
public static final java.lang.String PROP_analystModel
public static final java.lang.String PROP_options

```

Methods:

```

public void actionPerformed()
protected void create()
public final mil.dtra.hpac.models.nfac.data.AnalystModel getAnalystModel()
public final mil.dtra.hpac.models.nfac.data.Facility getFacility()
public final mil.dtra.hpac.data.Incident getIncident()
public final mil.dtra.hpac.models.nfac.data.Options getOptions()
protected void handleDefineAction()
protected void handleEditOptionsAction()
public void init()
public boolean isFacilityCompatible()
public void setAnalystModel()
public void setBackground()
public void setFacility()
public final void setIncident()
public void setOptions()
protected synchronized void startListening()
protected synchronized void stopListening()

```

47.1.1 Field ACTION_define

public static final java.lang.String **ACTION_define**

47.1.2 Field ACTION_editOptions

public static final java.lang.String **ACTION_editOptions**

47.1.3 Field fAnalystModel

protected mil.dtra.hpac.models.nfac.data.AnalystModel **fAnalystModel**

47.1.4 Field fDefineButton

protected javax.swing.JButton **fDefineButton**

47.1.5 Field fFacility

protected mil.dtra.hpac.models.nfac.data.Facility **fFacility**

47.1.6 Field fIncident

protected mil.dtra.hpac.data.Incident **fIncident**

47.1.7 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

47.1.8 Field fModelInfoPane

protected javax.swing.JEditorPane **fModelInfoPane**

47.1.9 Field fOptions

protected mil.dtra.hpac.models.nfac.data.Options **fOptions**

47.1.10 Field fOptionsBean

protected transient mil.dtra.hpac.models.nfac.client.swing.model.OptionsBean **fOptionsBean**

47.1.11 Field fOptionsButton

protected javax.swing.JButton **fOptionsButton**

47.1.12 Field fProps

protected transient mil.dtra.util.ValueProperties **fProps**

47.1.13 Field fSourceTermTable

protected transient mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable **fSourceTermTable**

47.1.14 Field fSourceTermWizard

protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizard **fSourceTermWizard**

47.1.15 Field PROP_analystModel

public static final java.lang.String **PROP_analystModel**

47.1.16 Field PROP_options

```
public static final java.lang.String PROP_options
```

47.1.17 Constructor AnalystModelBean()

```
public  
AnalystModelBean()
```

Default constructor. Must call init().

47.1.18 Constructor AnalystModelBean()

```
public  
AnalystModelBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String title  
)
```

Constructs calling init() but deferring setting of the model and facility.

47.1.19 Constructor AnalystModelBean()

```
public  
AnalystModelBean(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.models.nfac.data.Facility facility,  
    mil.dtra.hpac.data.Incident incident,  
    mil.dtra.hpac.models.nfac.data.AnalystModel model,  
    mil.dtra.hpac.models.nfac.data.Options options,  
    java.lang.String title  
)
```

Constructs calling init().

47.1.20 Method actionPerformed()

```
public void  
actionPerformed( java.awt.event.ActionEvent event )
```

47.1.21 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

47.1.22 Method getAnalystModel()

```
public final mil.dtra.hpac.models.nfac.data.AnalystModel
getAnalystModel()
```

Returns:

object copy

47.1.23 Method getFacility()

```
public final mil.dtra.hpac.models.nfac.data.Facility
getFacility()
```

Returns:

object reference

47.1.24 Method getIncident()

```
public final mil.dtra.hpac.data.Incident
getIncident()
```

47.1.25 Method getOptions()

```
public final mil.dtra.hpac.models.nfac.data.Options
getOptions()
```

Returns:

object copy

47.1.26 Method handleDefineAction()

```
protected void
handleDefineAction( java.awt.event.ActionEvent event )
```

47.1.27 Method handleEditOptionsAction()

```
protected void
handleEditOptionsAction( java.awt.event.ActionEvent event )
```

47.1.28 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    mil.dtra.hpac.data.Incident incident,
    mil.dtra.hpac.models.nfac.data.AnalystModel model,
    mil.dtra.hpac.models.nfac.data.Options options,
    java.lang.String title
)
```

47.1.29 Method isFacilityCompatible()

```
public boolean
isFacilityCompatible(
    mil.dtra.hpac.models.nfac.data.Facility facility,
    mil.dtra.hpac.models.nfac.data.AnalystModel model
)
```

Checks the facility against the current model definition to determine if the model is appropriate for the facility.

Parameters:

facility - to check

Returns:

true if the current model is compatible with the facility, false otherwise

47.1.30 Method setAnalystModel()

```
public void
setAnalystModel( mil.dtra.hpac.models.nfac.data.AnalystModel model )
```

Applies a valid and different value and fires the property change.

Parameters:

object - to copy

47.1.31 Method **setBackground()**

```
public void  
setBackground( java.awt.Color bg )
```

Copies the color to the model info pane.

47.1.32 Method **setFacility()**

```
public void  
setFacility( mil.dtra.hpac.models.nfac.data.Facility facility )
```

Parameters:

facility - object reference to store

47.1.33 Method **setIncident()**

```
public final void  
setIncident( mil.dtra.hpac.data.Incident incident )
```

47.1.34 Method **setOptions()**

```
public void  
setOptions( mil.dtra.hpac.models.nfac.data.Options options )
```

Parameters:

options - object to copy (null ignored)

47.1.35 Method **startListening()**

```
protected synchronized void  
startListening()
```

47.1.36 Method **stopListening()**

```
protected synchronized void  
stopListening()
```

47.2 Class ModelTypeBean

```

mil.dtra.hpac.models.nfac.client.swing.model
public ModelTypeBean
extends JPanel
implements ActionListenerHPACSwingConstants SwingConstants

```

Bean displaying NFAC model types as radio buttons.

Fields:

```

protected javax.swing.JRadioButton fAnalystButton
protected transient volatile boolean fListeningFlag
protected int fModelType
protected javax.swing.JRadioButton fModerateButton
protected javax.swing.JRadioButton fSevereButton
public static final java.lang.String PROP_modelType

```

Methods:

```

public void actionPerformed()
protected void create()
public boolean[] getButtonsEnabled()
public final int getModelType()
public void init()
public void setButtonsEnabled()
public void setModelType()
protected synchronized void startListening()
protected synchronized void stopListening()

```

47.2.1 Field fAnalystButton

protected javax.swing.JRadioButton **fAnalystButton**

47.2.2 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

47.2.3 Field fModelType

protected int **fModelType**

47.2.4 Field fModerateButton

protected javax.swing.JRadioButton **fModerateButton**

47.2.5 Field fSevereButton

```
protected javax.swing.JRadioButton fSevereButton
```

47.2.6 Field PROP_modelType

```
public static final java.lang.String PROP_modelType
```

47.2.7 Constructor ModelTypeBean()

```
public  
ModelTypeBean()
```

Default constructor. Must call `init()`.

47.2.8 Constructor ModelTypeBean()

```
public  
ModelTypeBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String title  
)
```

Constructs calling `init()` with a default *modelType*.

47.2.9 Constructor ModelTypeBean()

```
public  
ModelTypeBean(  
    mil.dtra.util.ValueProperties props,  
    int model_type,  
    java.lang.String title  
)
```

Constructs calling `init()`.

47.2.10 Method actionPerformed()

```
public void  
actionPerformed( java.awt.event.ActionEvent event )
```

47.2.11 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

47.2.12 Method getButtonsEnabled()

```
public boolean[]
getButtonsEnabled(
    boolean moderate,
    boolean severe,
    boolean analyst
)
```

Returns:

boolean[] with *enable* property for the moderate, severe, and analyst buttons

47.2.13 Method getModelType()

```
public final int
getModelType()
```

Accessor for the *modelType* property. If the value differs

Returns:

model type, one of the ModelDef .TYPE_constants

47.2.14 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    int model_type,
    java.lang.String title
)
```

47.2.15 Method setButtonsEnabled()

```
public void
setButtonsEnabled(
    boolean moderate,
    boolean severe,
    boolean analyst
)
```

47.2.16 Method setModelType()

```
public void
setModelType( int model_type )
```

Accessor for the *modelType* property. If the value differs from the current value, fires a property change event.

Parameters:

model_type - model type, one of the ModelDef . TYPE_ constants

47.2.17 Method startListening()

```
protected synchronized void
startListening()
```

47.2.18 Method stopListening()

```
protected synchronized void
stopListening()
```

47.3 Class OptionsBean

```
mil.dtra.hpac.models.nfac.client.swing.model
public OptionsBean
extends JPanel
implements ActionListenerHPACSwingConstantsPropertyChangeListenerSwingConstants
```

Bean for displaying and editing an Options object.

Fields:

```
protected static final java.lang.String AIR_SUB_WARNING
protected static final java.lang.String CLOUD_SHINE_WARNING
protected javax.swing.JRadioButton fAirSubmersionButton
protected javax.swing.JRadioButton fCloudShineButton
protected mil.dtra.hpac.client.swing.ValueUnitsBean fExhaustAreaBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fExhaustVertVelBean
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.models.nfac.data.Options fOptions
protected mil.dtra.hpac.client.swing.ValueUnitsBean fRadiusBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fReleaseHeightBean
protected mil.dtra.hpac.client.swing.ValueUnitsBean fTempExcessBean
public static final java.lang.String PROP_options
```

Methods:

```

public void actionPerformed()
protected void create()
protected javax.swing.JComponent createBuoyancyGroup()
protected javax.swing.JComponent createCloudDoseGroup()
protected javax.swing.JComponent createOtherGroup()
public final mil.dtra.hpac.models.nfac.data.Options getOptions()
public void init()
public void propertyChange()
public void setOptions()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void updateBeans()

```

47.3.1 Field AIR_SUB_WARNING

protected static final java.lang.String **AIR_SUB_WARNING**

47.3.2 Field CLOUD_SHINE_WARNING

protected static final java.lang.String **CLOUD_SHINE_WARNING**

47.3.3 Field fAirSubmersionButton

protected javax.swing.JRadioButton **fAirSubmersionButton**

47.3.4 Field fCloudShineButton

protected javax.swing.JRadioButton **fCloudShineButton**

47.3.5 Field fExhaustAreaBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fExhaustAreaBean**

47.3.6 Field fExhaustVertVelBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fExhaustVertVelBean**

47.3.7 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

47.3.8 Field fOptions

protected mil.dtra.hpac.models.nfac.data.Options **fOptions**

47.3.9 Field fRadiusBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fRadiusBean**

47.3.10 Field fReleaseHeightBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fReleaseHeightBean**

47.3.11 Field fTempExcessBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fTempExcessBean**

47.3.12 Field PROP_options

public static final java.lang.String **PROP_options**

47.3.13 Constructor OptionsBean()

public
OptionsBean()

Default constructor. Must call `init()`.

47.3.14 Constructor OptionsBean()

public
OptionsBean(
 mil.dtra.util.ValueProperties props,
 java.lang.String title
)

Constructs calling `init()` but deferring setting of the model and facility.

47.3.15 Constructor OptionsBean()

```
public
OptionsBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Options options,
    java.lang.String title
)
```

Constructs calling `init()`.

47.3.16 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

47.3.17 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

47.3.18 Method createBuoyancyGroup()

```
protected javax.swing.JComponent
createBuoyancyGroup( mil.dtra.util.ValueProperties props )
```

47.3.19 Method createCloudDoseGroup()

```
protected javax.swing.JComponent
createCloudDoseGroup( mil.dtra.util.ValueProperties props )
```

47.3.20 Method createOtherGroup()

```
protected javax.swing.JComponent
createOtherGroup( mil.dtra.util.ValueProperties props )
```

47.3.21 Method getOptions()

```
public final mil.dtra.hpac.models.nfac.data.Options
getOptions()
```

Accessor for the *options* property.

Returns:

object copy

47.3.22 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Options options,
    java.lang.String title
)
```

47.3.23 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

47.3.24 Method setOptions()

```
public void
setOptions( mil.dtra.hpac.models.nfac.data.Options options )
```

Applies a valid and different value and fires the property change.

Parameters:

object - to copy

47.3.25 Method startListening()

```
protected synchronized void
startListening()
```

47.3.26 Method stopListening()

```
protected synchronized void
stopListening()
```

47.3.27 Method updateBeans()

```
protected void  
updateBeans( mil.dtra.hpac.models.nfac.data.Options options )
```

Assumes no listeners are active.

CHAPTER 48

Package `mil.dtra.hpac.models.nfac.client.swing.model.an`

Interfaces:

`SourceTermWizardPage`

Classes:

`AbstractSourceTermWizardPage`
`ActivityUnitsCombo`
`AnalystMixBean`
`AnalystMixPage`
`ConcentrationUnitsBean`
`ElementsTree`
`ElementsTree.CellEditHandler`
`ElementsTree.EnterAction`
`ElementsTree.ExpansionHandler`
`ElementsTreeCellEditor`
`ElementsTreeCellEditor.ActionHandler`
`ElementsTreeCellEditor.FocusHandler`
`ElementsTreeCellRenderer`
`ElementsTreeModel`
`ExternalRadFileBean`
`ExternalRadFilePage`
`FactorCombo`
`FuelConditionBean`
`IsotopeValueBean`
`IsotopeValuesBean`
`IsotopicConcentrationsBean`
`IsotopicConcentrationsPage`
`IsotopicReleaseRatesBean`
`IsotopicReleaseRatesPage`
`LeakRateBean`
`PercentInventoryBean`

PercentInventoryPage
 PercentInventoryReleaseCellEditor
 PercentInventoryReleaseCellEditor.ActionHandler
 PercentInventoryReleaseCellEditor.FocusHandler
 PercentInventoryReleaseHeaderTable
 PercentInventoryReleaseHeaderTable.Model
 PercentInventoryReleaseHeaderTable.Renderer
 PercentInventoryReleasePane
 PercentInventoryReleaseTable
 PercentInventoryReleaseTable.EnterAction
 PercentInventoryReleaseTable.Model
 PercentInventoryReleaseTable.Renderer
 ReleasePathBean
 ReleaseRateBean
 ReleaseUnitsBean
 SourceTermListBean
 SourceTermListPage
 SourceTermWizard
 SpentFuelBean
 SpentFuelPage
 SpraysBean
 TimeUnitsCombo
 VolumeMassUnitsCombo

48.1 Interface SourceTermWizardPage

```

mil.dtra.hpac.models.nfac.client.swing.model.analyst
public interface SourceTermWizardPage
  
```

Defines what a page in a `SourceTermWizard` must provide. It is assumed to be a `JComponent`.

Methods:

```

public void check()
public mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage
createNextPage()
public mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage
createPrevPage()
public mil.dtra.hpac.models.nfac.data.AnalystModel getAnalystModel()
public java.lang.String getHelpContext()
public java.lang.String getTitle()
public boolean hasNextPage()
public boolean hasPrevPage()
public void init()
public void load()
  
```

48.1.1 Method check()

```
public void  
check()
```

Checks the status of the user's entries and model definition as being okay for a next page or a finish.

Exceptions:

RuntimeException - if anything prevents advance from the page

48.1.2 Method createNextPage()

```
public mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage  
createNextPage()
```

Returns:

next page or null if this has no next page

48.1.3 Method createPrevPage()

```
public mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage  
createPrevPage()
```

Returns:

previous page or null if this has no previous page

48.1.4 Method getAnalystModel()

```
public mil.dtra.hpac.models.nfac.data.AnalystModel  
getAnalystModel()
```

Returns:

reference of the edited model object

48.1.5 Method getHelpContext()

```
public java.lang.String  
getHelpContext()
```

Returns:

help context string

48.1.6 Method getTitle()

```
public java.lang.String
getTitle()
```

Returns:

title string for the wizard dialog

48.1.7 Method hasNextPage()

```
public boolean
hasNextPage()
```

Returns:

true if this has a next page, false otherwise

48.1.8 Method hasPrevPage()

```
public boolean
hasPrevPage()
```

Returns:

true if this has a previous page, false otherwise

48.1.9 Method init()

```
public void
init( mil.dtra.util.ValueProperties props )
```

Called to create the page after construction.

Parameters:

props - object with properties

48.1.10 Method load()

```
public void
load(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    mil.dtra.hpac.data.Incident incident,
    mil.dtra.hpac.models.nfac.data.AnalystModel model,
    mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage prevPage
)
```

Called when the page is loaded in the wizard.

Parameters:

- props - object with properties
- facility - facility object reference
- incident - incident object reference
- model - model object reference
- prev-page - previous page reference

48.2 Class AbstractSourceTermWizardPage

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public abstract AbstractSourceTermWizardPage
extends JPanel
implements HPAC Swing Constants SourceTermWizardPage
```

Base class for SourceTermWizardPage implementations; a generalization of what was in all of them.

Fields:

```
protected mil.dtra.hpac.models.nfac.data.Facility fFacility
protected mil.dtra.hpac.data.Incident fIncident
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage
fPrevPage
protected transient mil.dtra.util.ValueProperties fProps
```

Methods:

```
public void check()
protected void create()
protected abstract javax.swing.JComponent createBean()
public mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage
createNextPage()
public mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage
createPrevPage()
public final mil.dtra.hpac.models.nfac.data.Facility getFacility()
public final mil.dtra.hpac.data.Incident getIncident()
public final mil.dtra.util.ValueProperties getProps()
public boolean hasNextPage()
public boolean hasPrevPage()
public void init()
public void load()
protected abstract void loadBean()
```

48.2.1 Field **fFacility**

protected mil.dtra.hpac.models.nfac.data.Facility **fFacility**

48.2.2 Field **fIncident**

protected mil.dtra.hpac.data.Incident **fIncident**

48.2.3 Field **fPrevPage**

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage **fPrevPage**

48.2.4 Field **fProps**

protected transient mil.dtra.util.ValueProperties **fProps**

48.2.5 Constructor **AbstractSourceTermWizardPage()**

protected
AbstractSourceTermWizardPage()

Default constructor.

48.2.6 Method **check()**

public void
check()

Noop.

48.2.7 Method **create()**

protected void
create(mil.dtra.util.ValueProperties props)

Calls `createBean()`.

48.2.8 Method createBean()

```
protected abstract javax.swing.JComponent
createBean( mil.dtra.util.ValueProperties props )
```

Implemented by subclasses. Called by `create`, with the result placed in the page.

48.2.9 Method createNextPage()

```
public mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage
createNextPage()
```

Returns:

null

48.2.10 Method createPrevPage()

```
public mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage
createPrevPage()
```

Calls `getAnalystModel()` to get the bean value.

Returns:

whatever was passed as the previous page

48.2.11 Method getFacility()

```
public final mil.dtra.hpac.models.nfac.data.Facility
getFacility()
```

Returns:

object reference

48.2.12 Method getIncident()

```
public final mil.dtra.hpac.data.Incident
getIncident()
```

Returns:

object reference

48.2.13 Method getProps()

```
public final mil.dtra.util.ValueProperties
getProps()
```

Returns:

object reference

48.2.14 Method hasNextPage()

```
public boolean
hasNextPage()
```

Returns:

false

48.2.15 Method hasPrevPage()

```
public boolean
hasPrevPage()
```

Returns:

true if *prevPage* is not null

48.2.16 Method init()

```
public void
init( mil.dtra.util.ValueProperties props )
```

48.2.17 Method load()

```
public void
load(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    mil.dtra.hpac.data.Incident incident,
    mil.dtra.hpac.models.nfac.data.AnalystModel model,
    mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage prev_page
)
```

Implementation of *SourceTermWizardPage.load()*. Calls *loadBean()* to give subclasses a chance to initialize the bean.

48.2.18 Method loadBean()

```
protected abstract void
loadBean( mil.dtra.hpac.models.nfac.data.AnalystModel model )
```

Implemented by subclasses. Called by load. result placed in the page.

48.3 Class ActivityUnitsCombo

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public ActivityUnitsCombo
extends JComboBox
```

JComboBox extension for activity unit choices using the ACTIVITY_UNITS_constants defined in mil.dtra.hpac.models.nfac.server.analyst.

Fields:

```
public static final java.lang.String[] ITEMS
```

48.3.1 Field ITEMS

```
public static final java.lang.String[] ITEMS
```

48.3.2 Constructor ActivityUnitsCombo()

```
public
ActivityUnitsCombo()
```

Default constructor.

48.3.3 Constructor ActivityUnitsCombo()

```
public
ActivityUnitsCombo( mil.dtra.util.ValueProperties props )
```

48.4 Class AnalystMixBean

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public AnalystMixBean
extends JPanel
```

```
implements ActionListenerHPACSwingConstantsPercentInventoryConstantsPropertyChangeListenerSwingCom
```

Bean for displaying and editing an Options object.

Fields:

```

public static final java.lang.String ACTION_showCategories
protected mil.dtra.hpac.client.swing.ValueUnitsBean fGrossReleaseRateBean
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.client.swing.ValueUnitsBean[] fPercentageBeans
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ReleaseUnitsBean fRe-
leaseUnitsBean
protected javax.swing.JButton fShowCategoriesButton
protected javax.swing.JLabel fTotalBean
protected mil.dtra.hpac.models.nfac.data.analyst.AnalystMix fValue
protected static final java.lang.String[] MELCOR_GROUP_LISTS
public static final java.lang.String PROP_value

```

Methods:

```

public void actionPerformed()
public void check()
protected void create()
protected javax.swing.JComponent createButtonPanel()
protected javax.swing.JComponent createPercentagesGroup()
protected javax.swing.JComponent createRateGroup()
public final mil.dtra.hpac.models.nfac.data.analyst.AnalystMix getValue()
public void init()
public void propertyChange()
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void updateBeans()
protected void updateTotal()

```

48.4.1 Field ACTION_showCategories

public static final java.lang.String ACTION_showCategories

48.4.2 Field fGrossReleaseRateBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean fGrossReleaseRateBean

48.4.3 Field fListeningFlag

protected transient volatile boolean fListeningFlag

48.4.4 Field fPercentageBeans

protected mil.dtra.hpac.client.swing.ValueUnitsBean[] fPercentageBeans

48.4.5 Field fReleaseUnitsBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ReleaseUnitsBean **fReleaseUnitsBean**

48.4.6 Field fShowCategoriesButton

protected javax.swing.JButton **fShowCategoriesButton**

48.4.7 Field fTotalBean

protected javax.swing.JLabel **fTotalBean**

48.4.8 Field fValue

protected mil.dtra.hpac.models.nfac.data.analyst.AnalystMix **fValue**

48.4.9 Field MELCOR_GROUP_LISTS

protected static final java.lang.String[] **MELCOR_GROUP_LISTS**

48.4.10 Field PROP_value

public static final java.lang.String **PROP_value**

48.4.11 Constructor AnalystMixBean()

public
AnalystMixBean()

Default constructor. Must call `init()`.

48.4.12 Constructor AnalystMixBean()

public
AnalystMixBean(mil.dtra.util.ValueProperties props)

Constructs calling `init()` with nothing but properties object.

48.4.13 Constructor AnalystMixBean()

```
public
AnalystMixBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs calling `init()` but deferring *value* property.

48.4.14 Constructor AnalystMixBean()

```
public
AnalystMixBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.AnalystMix value,
    java.lang.String title
)
```

Constructs calling `init()`.

48.4.15 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.4.16 Method check()

```
public void
check()
```

Checks the total as being ≤ 100 . If not, throws an exception.

Exceptions:

`RuntimeException` - if the percentage total > 100

48.4.17 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

48.4.18 Method createButtonPanel()

```
protected javax.swing.JComponent
createButtonPanel( mil.dtra.util.ValueProperties props )
```

48.4.19 Method createPercentagesGroup()

```
protected javax.swing.JComponent
createPercentagesGroup( mil.dtra.util.ValueProperties props )
```

48.4.20 Method createRateGroup()

```
protected javax.swing.JComponent
createRateGroup( mil.dtra.util.ValueProperties props )
```

48.4.21 Method getValue()

```
public final mil.dtra.hpac.models.nfac.data.analyst.AnalystMix
getValue()
```

Accessor for the *value* property.

Returns:

object copy

48.4.22 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.AnalystMix value,
    java.lang.String title
)
```

48.4.23 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

48.4.24 Method setValue()

```
public void
setValue( mil.dtra.hpac.models.nfac.data.analyst.AnalystMix value )
```

Accessor for the *value* property.

Parameters:

object - to copy

48.4.25 Method startListening()

```
protected synchronized void
startListening()
```

48.4.26 Method stopListening()

```
protected synchronized void
stopListening()
```

48.4.27 Method updateBeans()

```
protected void
updateBeans( mil.dtra.hpac.models.nfac.data.analyst.AnalystMix value )
```

Assumes no listeners are active.

48.4.28 Method updateTotal()

```
protected void
updateTotal( mil.dtra.hpac.models.nfac.data.analyst.AnalystMix value )
```

48.5 Class AnalystMixPage

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public AnalystMixPage
extends AbstractSourceTermWizardPage
```

SourceTermWizardPage wrapper for a AnalystMixBean.

Fields:

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.AnalystMixBean fBean

Methods:

```
public void check()
protected javax.swing.JComponent createBean()
public final mil.dtra.hpac.models.nfac.data.AnalystModel getAnalystModel()
public final java.lang.String getHelpContext()
public final java.lang.String getTitle()
protected void loadBean()
```

48.5.1 Field fBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.AnalystMixBean **fBean**

48.5.2 Constructor AnalystMixPage()

```
public
AnalystMixPage()
```

Default constructor.

48.5.3 Method check()

```
public void
check()
```

Calls check() on fBean.

Exceptions:

RuntimeException - on an invalid AnalystMix

48.5.4 Method createBean()

```
protected javax.swing.JComponent
createBean( mil.dtra.util.ValueProperties props )
```

48.5.5 Method `getAnalystModel()`

```
public final mil.dtra.hpac.models.nfac.data.AnalystModel
getAnalystModel()
```

Returns:

value from the bean

48.5.6 Method `getHelpContext()`

```
public final java.lang.String
getHelpContext()
```

Returns:

null

48.5.7 Method `getTitle()`

```
public final java.lang.String
getTitle()
```

Returns:

"Define Mix Specified By Analyst"

48.5.8 Method `loadBean()`

```
protected void
loadBean( mil.dtra.hpac.models.nfac.data.AnalystModel model )
```

48.6 Class ConcentrationUnitsBean

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public ConcentrationUnitsBean
extends JPanel
implements ActionListener
```

Bean for displaying and editing a `ConcentrationUnits` object and a magnitude factor.

Fields:

```
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ActivityUnitsCombo
fActivityUnitsCombo
protected mil.dtra.hpac.models.nfac.data.analyst.ConcentrationUnits fConcentratio-
nUnits
protected double fFactor
```

```

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.FactorCombo fFactor-
Combo
protected transient boolean fListeningFlag
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.VolumeMassUnitsCombo
fVolumeMassUnitsCombo
public static final java.lang.String PROP_concentrationUnits
public static final java.lang.String PROP_factor

```

Methods:

```

public void actionPerformed()
protected void create()
public final mil.dtra.hpac.models.nfac.data.analyst.ConcentrationUnits getConcen-
trationUnits()
public final double getFactor()
public final java.awt.Component getFirstBean()
public void init()
public void setConcentrationUnits()
public void setFactor()
protected synchronized void startListening()
protected synchronized void stopListening()

```

48.6.1 Field fActivityUnitsCombo

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ActivityUnitsCombo **fActivityU-**
nitsCombo

48.6.2 Field fConcentrationUnits

protected mil.dtra.hpac.models.nfac.data.analyst.ConcentrationUnits **fConcentrationUnits**

48.6.3 Field fFactor

protected double **fFactor**

48.6.4 Field fFactorCombo

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.FactorCombo **fFactorCombo**

48.6.5 Field fListeningFlag

protected transient boolean **fListeningFlag**

48.6.6 Field fVolumeMassUnitsCombo

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.VolumeMassUnitsCombo **fVolumeMassUnitsCombo**

48.6.7 Field PROP_concentrationUnits

public static final java.lang.String **PROP_concentrationUnits**

48.6.8 Field PROP_factor

public static final java.lang.String **PROP_factor**

48.6.9 Constructor ConcentrationUnitsBean()

public
ConcentrationUnitsBean()

Default constructor. Must call `init()`.

48.6.10 Constructor ConcentrationUnitsBean()

public
ConcentrationUnitsBean(mil.dtra.util.ValueProperties props)

Constructs calling `init()` with no title and deferring property values.

48.6.11 Constructor ConcentrationUnitsBean()

public
ConcentrationUnitsBean(
 mil.dtra.util.ValueProperties props,
 java.lang.String title
)

Constructs calling `init()` but deferring property values.

48.6.12 Constructor ConcentrationUnitsBean()

```
public
ConcentrationUnitsBean(
    mil.dtra.util.ValueProperties props,
    double factor,
    mil.dtra.hpac.models.nfac.data.analyst.ConcentrationUnits units,
    java.lang.String title
)
```

Constructs calling init().

48.6.13 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.6.14 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

48.6.15 Method getConcentrationUnits()

```
public final mil.dtra.hpac.models.nfac.data.analyst.ConcentrationUnits
getConcentrationUnits()
```

Accessor for the *concentrationUnits* property.

Returns:

object copy

48.6.16 Method getFactor()

```
public final double
getFactor()
```

Accessor for the *factor* property.

48.6.17 Method `getFirstBean()`

```
public final java.awt.Component
getFirstBean()
```

Returns a reference to the first child component (to be used as a `JLabel` *labelFor*).

Returns:

object reference

48.6.18 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    double factor,
    mil.dtra.hpac.models.nfac.data.analyst.ConcentrationUnits units,
    java.lang.String title
)
```

48.6.19 Method `setConcentrationUnits()`

```
public void
setConcentrationUnits( mil.dtra.hpac.models.nfac.data.analyst.ConcentrationUnits units )
```

Accessor for the *concentrationUnits* property.

Parameters:

`units` - object to copy

48.6.20 Method `setFactor()`

```
public void
setFactor( double factor )
```

Accessor for the *factor* property.

48.6.21 Method `startListening()`

```
protected synchronized void
startListening()
```

48.6.22 Method stopListening()

```
protected synchronized void
stopListening()
```

48.7 Class ElementsTree

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public ElementsTree
extends JTree
```

Fields:

```
protected static final java.lang.String ACTION_enter
protected transient javax.swing.event.CellEditorListener fCellEditHandler
protected mil.dtra.hpac.models.nfac.data.Element[] fElements
protected static javax.swing.border.Border focusedBorder_
protected java.util.HashMap fValueMap
public static final java.lang.String PROP_values
protected static javax.swing.border.Border unfocusedBorder_
```

Methods:

```
public void expandWidth()
public mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue[] getValues()
public void init()
public boolean isPathEditable()
protected void processFocusEvent()
public void setValues()
public void updateValue()
```

Inner Classes:

```
ElementsTree.CellEditHandler
ElementsTree.EnterAction
ElementsTree.ExpansionHandler
```

48.7.1 Field ACTION_enter

```
protected static final java.lang.String ACTION_enter
```

48.7.2 Field fCellEditHandler

```
protected transient javax.swing.event.CellEditorListener fCellEditHandler
```

48.7.3 Field fElements

```
protected mil.dtra.hpac.models.nfac.data.Element[] fElements
```

48.7.4 Field focusedBorder__

```
protected static javax.swing.border.Border focusedBorder__
```

48.7.5 Field fValueMap

```
protected java.util.HashMap fValueMap
```

48.7.6 Field PROP_values

```
public static final java.lang.String PROP_values
```

48.7.7 Field unfocusedBorder__

```
protected static javax.swing.border.Border unfocusedBorder__
```

48.7.8 Constructor ElementsTree()

```
public  
ElementsTree()
```

Default constructor. Must call init().

48.7.9 Constructor ElementsTree()

```
public  
ElementsTree(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.models.nfac.data.Element[] elements,  
    mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue[] isotope_values  
)
```

Constructs calling init().

48.7.10 Method expandWidth()

```
public void
expandWidth()
```

Attempts to repack the parent window in response to a resize of this.

48.7.11 Method getValues()

```
public mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue[]
getValues()
```

Accessor for the *values* property.

Returns:

generated array of values

48.7.12 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Element[] elements,
    mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue[] isotope_values
)
```

48.7.13 Method isPathEditable()

```
public boolean
isPathEditable( javax.swing.tree.TreePath path )
```

48.7.14 Method processFocusEvent()

```
protected void
processFocusEvent( java.awt.event.FocusEvent event )
```

48.7.15 Method setValues()

```
public void
setValues( mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue[] values )
```

Accessor for the *values* property.

Parameters:

values - array of values to store (replacing existing values)

48.7.16 Method updateValue()

```
public void
updateValue( mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue value )
```

If the value's *value* is zero, removes any entry in the list for the isotope, otherwise adds or replaces the value as needed.

48.8 Class ElementsTree.CellEditHandler

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected ElementsTree.CellEditHandler
extends Object
implements CellEditorListener
```

Methods:

```
public void editingCanceled()
public void editingStopped()
```

48.8.1 Constructor ElementsTree.CellEditHandler()

```
protected
ElementsTree.CellEditHandler( mil.dtra.hpac.models.nfac.client.swing.model.analyst.ElementsTree
this$0 )
```

48.8.2 Method editingCanceled()

```
public void
editingCanceled( javax.swing.event.ChangeEvent event )
```

48.8.3 Method editingStopped()

```
public void
editingStopped( javax.swing.event.ChangeEvent event )
```

48.9 Class ElementsTree.EnterAction

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected ElementsTree.EnterAction
extends AbstractAction
```

Methods:

```
public void actionPerformed()
```

48.9.1 Constructor ElementsTree.EnterAction()

```
public
ElementsTree.EnterAction(
    mil.dtra.hpac.models.nfac.client.swing.model.analyst.ElementsTree this$0,
    java.lang.String name
)
```

48.9.2 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.10 Class ElementsTree.ExpansionHandler

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected ElementsTree.ExpansionHandler
extends Object
implements TreeExpansionListener
```

Methods:

```
public void treeCollapsed()
public void treeExpanded()
```

48.10.1 Constructor ElementsTree.ExpansionHandler()

```
protected
ElementsTree.ExpansionHandler( mil.dtra.hpac.models.nfac.client.swing.model.analyst.ElementsTree
this$0 )
```

48.10.2 Method treeCollapsed()

```
public void
treeCollapsed( javax.swing.event.TreeExpansionEvent event )
```

48.10.3 Method treeExpanded()

```
public void
treeExpanded( javax.swing.event.TreeExpansionEvent event )
```

48.11 Class ElementsTree.CellEditHandler

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected ElementsTree.CellEditHandler
extends Object
implements CellEditorListener
```

Methods:

```
public void editingCanceled()
public void editingStopped()
```

48.11.1 Constructor ElementsTree.CellEditHandler()

```
protected
ElementsTree.CellEditHandler( mil.dtra.hpac.models.nfac.client.swing.model.analyst.ElementsTree
this$0 )
```

48.11.2 Method editingCanceled()

```
public void
editingCanceled( javax.swing.event.ChangeEvent event )
```

48.11.3 Method editingStopped()

```
public void
editingStopped( javax.swing.event.ChangeEvent event )
```

48.12 Class ElementsTree.EnterAction

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected ElementsTree.EnterAction
extends AbstractAction
```

Methods:

```
public void actionPerformed()
```

48.12.1 Constructor ElementsTree.EnterAction()

```
public
ElementsTree.EnterAction(
    mil.dtra.hpac.models.nfac.client.swing.model.analyst.ElementsTree this$0,
    java.lang.String name
)
```

48.12.2 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.13 Class ElementsTree.ExpansionHandler

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected ElementsTree.ExpansionHandler
extends Object
implements TreeExpansionListener
```

Methods:

```
public void treeCollapsed()
public void treeExpanded()
```

48.13.1 Constructor ElementsTree.ExpansionHandler()

```
protected
ElementsTree.ExpansionHandler( mil.dtra.hpac.models.nfac.client.swing.model.analyst.ElementsTree
this$0 )
```

48.13.2 Method **treeCollapsed()**

```
public void
treeCollapsed( javax.swing.event.TreeExpansionEvent event )
```

48.13.3 Method **treeExpanded()**

```
public void
treeExpanded( javax.swing.event.TreeExpansionEvent event )
```

48.14 Class **ElementsTreeCellEditor**

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public ElementsTreeCellEditor
extends AbstractCellEditor
implements SwingConstantsTreeCellEditor
```

Fields:

```
protected transient java.awt.event.ActionListener fActionHandler
protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopeValueBean
fBean
protected transient java.awt.event.FocusListener fFocusHandler
protected transient java.util.Map fValueMap
```

Methods:

```
public java.lang.Object getCellEditorValue()
public java.awt.Component getTreeCellEditorComponent()
public boolean isCellEditable()
```

Inner Classes:

```
ElementsTreeCellEditor.ActionListener
ElementsTreeCellEditor.FocusHandler
```

48.14.1 Field **fActionHandler**

```
protected transient java.awt.event.ActionListener fActionHandler
```

48.14.2 Field **fBean**

```
protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopeValueBean fBean
```

48.14.3 Field fFocusHandler

```
protected transient java.awt.event.FocusListener fFocusHandler
```

48.14.4 Field fValueMap

```
protected transient java.util.Map fValueMap
```

48.14.5 Constructor ElementsTreeCellEditor()

```
public  
ElementsTreeCellEditor( java.util.Map value_map )
```

Constructs with the reference to the value list.

48.14.6 Method getCellEditorValue()

```
public java.lang.Object  
getCellEditorValue()
```

Returns:

```
object
```

48.14.7 Method getTreeCellEditorComponent()

```
public java.awt.Component  
getTreeCellEditorComponent(  
    javax.swing.JTree tree,  
    java.lang.Object value,  
    boolean is_selected,  
    boolean is_expanded,  
    boolean is_leaf,  
    int row  
)
```

48.14.8 Method isCellEditable()

```
public boolean  
isCellEditable( java.util.EventObject event )
```

48.15 Class ElementsTreeCellEditor.ActionHandler

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected ElementsTreeCellEditor.ActionHandler
extends Object
implements ActionListener
```

Methods:

```
public void actionPerformed()
```

48.15.1 Constructor ElementsTreeCellEditor.ActionHandler()

```
protected
ElementsTreeCellEditor.ActionHandler( mil.dtra.hpac.models.nfac.client.swing.model.analyst.ElementsTreeCe
this$0 )
```

48.15.2 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.16 Class ElementsTreeCellEditor.FocusHandler

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected ElementsTreeCellEditor.FocusHandler
extends FocusAdapter
```

Methods:

```
public void focusLost()
```

48.16.1 Constructor ElementsTreeCellEditor.FocusHandler()

```
protected
ElementsTreeCellEditor.FocusHandler( mil.dtra.hpac.models.nfac.client.swing.model.analyst.ElementsTreeCe
this$0 )
```

48.16.2 Method focusLost()

```
public void
focusLost( java.awt.event.FocusEvent event )
```

48.17 Class ElementsTreeCellEditor.ActionHandler

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected ElementsTreeCellEditor.ActionHandler
extends Object
implements ActionListener
```

Methods:

```
public void actionPerformed()
```

48.17.1 Constructor ElementsTreeCellEditor.ActionHandler()

```
protected
ElementsTreeCellEditor.ActionHandler( mil.dtra.hpac.models.nfac.client.swing.model.analyst.ElementsTreeCe
this$0 )
```

48.17.2 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.18 Class ElementsTreeCellEditor.FocusHandler

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected ElementsTreeCellEditor.FocusHandler
extends FocusAdapter
```

Methods:

```
public void focusLost()
```

48.18.1 Constructor ElementsTreeCellEditor.FocusHandler()

```
protected
ElementsTreeCellEditor.FocusHandler( mil.dtra.hpac.models.nfac.client.swing.model.analyst.ElementsTreeCe
this$0 )
```

48.18.2 Method focusLost()

```
public void
focusLost( java.awt.event.FocusEvent event )
```

48.19 Class ElementsTreeCellRenderer

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public ElementsTreeCellRenderer
extends DefaultTreeCellRenderer
implements SwingConstants
```

Fields:

```
protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopeValueBean
fBean
protected transient java.util.Map fValueMap
```

Methods:

```
public final mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopeValueBean getI-
sotopeValueBean()
public java.awt.Component getTreeCellRendererComponent()
public mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue getValue()
```

48.19.1 Field fBean

protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopeValueBean **fBean**

48.19.2 Field fValueMap

protected transient java.util.Map **fValueMap**

48.19.3 Constructor ElementsTreeCellRenderer()

public
ElementsTreeCellRenderer(java.util.Map value_map)

Parameters:

value_list - reference to list with current values

48.19.4 Method getIsotopeValueBean()

public final mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopeValueBean
getIsotopeValueBean()

Returns:

object reference

48.19.5 Method `getTreeCellRendererComponent()`

```
public java.awt.Component
getTreeCellRendererComponent(
    javax.swing.JTree tree,
    java.lang.Object value,
    boolean is_selected,
    boolean is_expanded,
    boolean is_leaf,
    int row,
    boolean has_focus
)
```

48.19.6 Method `getValue()`

```
public mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue
getValue()
```

Convenience to call `getValue()` on the *isotopeValueBean*.

Returns:

new object or null if something is not right

48.20 Class `ElementsTreeModel`

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public ElementsTreeModel
extends Object
implements TreeModel
```

Fields:

```
protected mil.dtra.hpac.models.nfac.data.Element[] fElements
protected transient javax.swing.event.EventListenerList fListeners
```

Methods:

```
public void addTreeModelListener()
protected void fireNodesChanged()
public java.lang.Object getChild()
public int getChildCount()
public int getIndexOfChild()
public final java.lang.Object getRoot()
public boolean isLeaf()
public void removeTreeModelListener()
public void valueForPathChanged()
```

48.20.1 Field fElements

```
protected mil.dtra.hpac.models.nfac.data.Element[] fElements
```

48.20.2 Field fListeners

```
protected transient javax.swing.event.EventListenerList fListeners
```

48.20.3 Constructor ElementsTreeModel()

```
public  
ElementsTreeModel( mil.dtra.hpac.models.nfac.data.Element[] elements )
```

Constructs with the reference to the Element [].

48.20.4 Method addTreeModelListener()

```
public void  
addTreeModelListener( javax.swing.event.TreeModelListener listener )
```

48.20.5 Method fireNodesChanged()

```
protected void  
fireNodesChanged( java.lang.Object[] path )
```

48.20.6 Method getChild()

```
public java.lang.Object  
getChild(  
    java.lang.Object parent,  
    int index  
)
```

48.20.7 Method getChildCount()

```
public int  
getChildCount( java.lang.Object parent )
```

48.20.8 Method getIndexOfChild()

```
public int
getIndexOfChild(
    java.lang.Object parent,
    java.lang.Object child
)
```

48.20.9 Method getRoot()

```
public final java.lang.Object
getRoot()
```

48.20.10 Method isLeaf()

```
public boolean
isLeaf( java.lang.Object node )
```

48.20.11 Method removeTreeModelListener()

```
public void
removeTreeModelListener( javax.swing.event.TreeModelListener listener )
```

48.20.12 Method valueForPathChanged()

```
public void
valueForPathChanged(
    javax.swing.tree.TreePath path,
    java.lang.Object new_value
)
```

48.21 Class ExternalRadFileBean

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public ExternalRadFileBean
extends JPanel
implements ActionListenerHPAC SwingConstants SwingConstants
```

Bean for displaying and editing an Options object.

Fields:

```

public static final java.lang.String ACTION_browse
protected javax.swing.JButton fBrowseButton
protected javax.swing.JTextField fFilenameField
protected transient volatile boolean fListeningFlag
protected transient mil.dtra.hpac.client.io.SimpleFileFilter fRadFileFilter
protected mil.dtra.hpac.models.nfac.data.analyst.ExternalRadFile fValue
public static final java.lang.String PROP_value

```

Methods:

```

public void actionPerformed()
public void check()
protected void create()
public final mil.dtra.hpac.models.nfac.data.analyst.ExternalRadFile getValue()
public void init()
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()

```

48.21.1 Field ACTION_browse

public static final java.lang.String ACTION_browse

48.21.2 Field fBrowseButton

protected javax.swing.JButton fBrowseButton

48.21.3 Field fFilenameField

protected javax.swing.JTextField fFilenameField

48.21.4 Field fListeningFlag

protected transient volatile boolean fListeningFlag

48.21.5 Field fRadFileFilter

protected transient mil.dtra.hpac.client.io.SimpleFileFilter fRadFileFilter

48.21.6 Field fValue

protected mil.dtra.hpac.models.nfac.data.analyst.ExternalRadFile fValue

48.21.7 Field PROP_value

```
public static final java.lang.String PROP_value
```

48.21.8 Constructor ExternalRadFileBean()

```
public  
ExternalRadFileBean()
```

Default constructor. Must call init().

48.21.9 Constructor ExternalRadFileBean()

```
public  
ExternalRadFileBean( mil.dtra.util.ValueProperties props )
```

Constructs calling init() with nothing but properties object.

48.21.10 Constructor ExternalRadFileBean()

```
public  
ExternalRadFileBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String title  
)
```

Constructs calling init() but deferring everything except the title.

48.21.11 Constructor ExternalRadFileBean()

```
public  
ExternalRadFileBean(  
    mil.dtra.util.ValueProperties props,  
    mil.dtra.hpac.models.nfac.data.analyst.ExternalRadFile value,  
    java.lang.String title  
)
```

Constructs calling init().

48.21.12 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.21.13 Method check()

```
public void
check()
```

Checks for a valid file reference.

Exceptions:

`RuntimeException` - if the condition holds

48.21.14 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

48.21.15 Method getValue()

```
public final mil.dtra.hpac.models.nfac.data.analyst.ExternalRadFile
getValue()
```

Accessor for the *value* property.

Returns:

object copy

48.21.16 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.ExternalRadFile value,
    java.lang.String title
)
```

48.21.17 Method `setValue()`

```
public void
setValue( mil.dtra.hpac.models.nfac.data.analyst.ExternalRadFile value )
```

Accessor for the *value* property.

Parameters:

object - to copy

48.21.18 Method `startListening()`

```
protected synchronized void
startListening()
```

48.21.19 Method `stopListening()`

```
protected synchronized void
stopListening()
```

48.22 Class `ExternalRadFilePage`

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public ExternalRadFilePage
extends AbstractSourceTermWizardPage
```

`SourceTermWizardPage` wrapper for an `ExternalRadFileBean`.

Fields:

```
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ExternalRadFileBean
fBean
```

Methods:

```
public void check()
protected javax.swing.JComponent createBean()
public final mil.dtra.hpac.models.nfac.data.AnalystModel getAnalystModel()
public final java.lang.String getHelpContext()
public final java.lang.String getTitle()
protected void loadBean()
```

48.22.1 Field fBean

```
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ExternalRadFileBean fBean
```

48.22.2 Constructor ExternalRadFilePage()

```
public  
ExternalRadFilePage()
```

Default constructor.

48.22.3 Method check()

```
public void  
check()
```

Calls check() on fBean.

Exceptions:

RuntimeException - on an invalid ExternalRadFile

48.22.4 Method createBean()

```
protected javax.swing.JComponent  
createBean( mil.dtra.util.ValueProperties props )
```

48.22.5 Method getAnalystModel()

```
public final mil.dtra.hpac.models.nfac.data.AnalystModel  
getAnalystModel()
```

Returns:

value from the bean

48.22.6 Method getHelpContext()

```
public final java.lang.String  
getHelpContext()
```

Returns:

null

48.22.7 Method getTitle()

```
public final java.lang.String
getTitle()
```

Returns:

"Select External Rad File"

48.22.8 Method loadBean()

```
protected void
loadBean( mil.dtra.hpac.models.nfac.data.AnalystModel model )
```

48.23 Class FactorCombo

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public FactorCombo
extends JComboBox
```

JComboBox extension for prefix factor options.

Fields:

```
protected static final double[] FACTORS
public static final java.lang.String[] ITEMS
```

Methods:

```
public double getFactor()
public void setFactor()
```

48.23.1 Field FACTORS

```
protected static final double[] FACTORS
```

48.23.2 Field ITEMS

```
public static final java.lang.String[] ITEMS
```

48.23.3 Constructor FactorCombo()

```
public
FactorCombo()
```

Default constructor.

48.23.4 Constructor FactorCombo()

```
public
FactorCombo( mil.dtra.util.ValueProperties props )
```

48.23.5 Method getFactor()

```
public double
getFactor()
```

Returns:

currently selected factor value

48.23.6 Method setFactor()

```
public void
setFactor( double factor )
```

48.24 Class FuelConditionBean

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public FuelConditionBean
extends JPanel
implements ActionListenerHPACSwingConstantsSwingConstants
```

Bean for displaying and editing fuel condition selections

Fields:

```
public static final java.lang.String DEFAULT_TITLE
protected javax.swing.JRadioButton fCladdingFailureButton
protected javax.swing.JRadioButton fFireButton
protected transient boolean fListeningFlag
public static final java.lang.String PROP_value
```

Methods:

```
public void actionPerformed()
protected void create()
public final int getValue()
public void init()
public final void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()
```

48.24.1 Field DEFAULT_TITLE

```
public static final java.lang.String DEFAULT_TITLE
```

48.24.2 Field fCladdingFailureButton

```
protected javax.swing.JRadioButton fCladdingFailureButton
```

48.24.3 Field fFireButton

```
protected javax.swing.JRadioButton fFireButton
```

48.24.4 Field fListeningFlag

```
protected transient boolean fListeningFlag
```

48.24.5 Field PROP_value

```
public static final java.lang.String PROP_value
```

48.24.6 Constructor FuelConditionBean()

```
public  
FuelConditionBean()
```

Default constructor. Must call init().

48.24.7 Constructor FuelConditionBean()

```
public  
FuelConditionBean( mil.dtra.util.ValueProperties props )
```

Constructs calling init() with a VERTICAL orientation, the default title, and a value of FUEL-COND_FUEL_CLADDING_FAILURE.value

48.24.8 Constructor FuelConditionBean()

```
public
FuelConditionBean(
    mil.dtra.util.ValueProperties props,
    int value
)
```

Constructs calling `init()` with a VERTICAL orientation and the default title.

48.24.9 Constructor FuelConditionBean()

```
public
FuelConditionBean(
    mil.dtra.util.ValueProperties props,
    int value,
    int orientation,
    java.lang.String title
)
```

Constructs calling `init()`.

48.24.10 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.24.11 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    int orientation
)
```

48.24.12 Method getValue()

```
public final int
getValue()
```

Accessor for the *value* property.

48.24.13 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    int value,
    int orientation,
    java.lang.String title
)
```

48.24.14 Method setValue()

```
public final void
setValue( int value )
```

Accessor for the *value* property.

48.24.15 Method startListening()

```
protected synchronized void
startListening()
```

48.24.16 Method stopListening()

```
protected synchronized void
stopListening()
```

48.25 Class IsotopeValueBean

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public IsotopeValueBean
extends JPanel
implements SwingConstants
```

Fields:

```
protected javax.swing.JLabel fLabel
public static final java.text.DecimalFormat FORMAT_value
protected boolean fSelected
protected transient java.awt.Color fSelectedBackground
protected transient java.awt.Color fSelectedBorderColor
protected transient java.awt.Color fSelectedForeground
protected javax.swing.JTextField fTextField
protected transient java.awt.Color fUnselectedBackground
```

protected transient java.awt.Color fUnselectedForeground

Methods:

```
protected void create()
public final javax.swing.JLabel getLabel()
public final javax.swing.JTextField getTextField()
public mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue getValue()
public final boolean isSelected()
public void setEnabled()
public void setSelected()
public final void setValue()
public void setValue()
```

48.25.1 Field fLabel

protected javax.swing.JLabel fLabel

48.25.2 Field FORMAT_value

public static final java.text.DecimalFormat FORMAT_value

48.25.3 Field fSelected

protected boolean fSelected

48.25.4 Field fSelectedBackground

protected transient java.awt.Color fSelectedBackground

48.25.5 Field fSelectedBorderColor

protected transient java.awt.Color fSelectedBorderColor

48.25.6 Field fSelectedForeground

protected transient java.awt.Color fSelectedForeground

48.25.7 Field fTextField

protected javax.swing.JTextField fTextField

48.25.8 Field fUnselectedBackground

```
protected transient java.awt.Color fUnselectedBackground
```

48.25.9 Field fUnselectedForeground

```
protected transient java.awt.Color fUnselectedForeground
```

48.25.10 Constructor IsotopeValueBean()

```
public  
IsotopeValueBean()
```

Default constructor.

48.25.11 Constructor IsotopeValueBean()

```
public  
IsotopeValueBean(  
    java.lang.String name,  
    double value,  
    java.awt.Font font,  
    boolean is_selected,  
    boolean enabled  
)
```

Explicit constructor.

48.25.12 Method create()

```
protected void  
create( java.awt.Font font )
```

48.25.13 Method getLabel()

```
public final javax.swing.JLabel  
getLabel()
```

Returns:

object reference

48.25.14 Method getField()

```
public final javax.swing.JTextField
getField()
```

Returns:

object reference

48.25.15 Method getValue()

```
public mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue
getValue()
```

Accessor for the *value* property.

Returns:

new object constructed from values or null if the input is invalid

48.25.16 Method isSelected()

```
public final boolean
isSelected()
```

48.25.17 Method setEnabled()

```
public void
setEnabled( boolean flag )
```

48.25.18 Method setSelected()

```
public void
setSelected( boolean flag )
```

48.25.19 Method setValue()

```
public final void
setValue( mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue value )
```

Accessor for the *value* property.

Parameters:

value - object reference from which to copy values

48.25.20 Method `setValue()`

```
public void
setValue(
    java.lang.String name,
    double value
)
```

Accessor for the *value* property.

Parameters:

- name - isotope name
- value - isotope value

48.26 Class IsotopeValuesBean

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public IsotopeValuesBean
extends JScrollPane
implements PropertyChangeListener
```

Bean for displaying and editing an `IsotopeValue[]` object. For now, this is a `JScrollPane` wrapping an `ElementsTree`.

Fields:

```
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ElementsTree fElementsTree
public static final java.lang.String PROP_values
```

Methods:

```
public final javax.swing.JTree getTree()
public mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue[] getValues()
public void init()
public void propertyChange()
public void setValues()
```

48.26.1 Field `fElementsTree`

```
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ElementsTree fElementsTree
```

48.26.2 Field `PROP_values`

```
public static final java.lang.String PROP_values
```

48.26.3 Constructor IsotopeValuesBean()

```
public
IsotopeValuesBean()
```

Default constructor. Must call `init()`.

48.26.4 Constructor IsotopeValuesBean()

```
public
IsotopeValuesBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Element[] elements,
    mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue[] values
)
```

Constructs calling `init()`.

48.26.5 Method getTree()

```
public final javax.swing.JTree
getTree()
```

Returns:

object reference

48.26.6 Method getValues()

```
public mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue[]
getValues()
```

Accessor for the *values* property.

Returns:

generated array of values

48.26.7 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Element[] elements,
    mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue[] values
)
```

48.26.8 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

48.26.9 Method `setValues()`

```
public void
setValues( mil.dtra.hpac.models.nfac.data.analyst.IsotopeValue[] values )
```

Accessor for the *values* property.

Parameters:

values - array of values to store (replacing existing values)

48.27 Class `IsotopicConcentrationsBean`

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public IsotopicConcentrationsBean
extends JPanel
implements ActionListenerHPACSwingConstantsPropertyChangeListenerPropertyNameSwingConstants
```

Bean for displaying and editing an Options object.

Fields:

```
public static final java.lang.String ACTION_reset
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ConcentrationUnitsBean
fConcentrationUnitsBean
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopeValuesBean fIso-
topeValuesBean
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ReleaseRateBean fRe-
leaseRateBean
protected javax.swing.JButton fResetButton
protected mil.dtra.hpac.models.nfac.data.analyst.IsotopicConcentrations fValue
public static final java.lang.String PROP_value
```

Methods:

```
public void actionPerformed()
protected void create()
protected javax.swing.JPanel createTopPanel()
public final mil.dtra.hpac.models.nfac.data.analyst.IsotopicConcentrations getValue()
public void init()
public void propertyChange()
```

```
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void updateBeans()
```

48.27.1 Field ACTION_reset

public static final java.lang.String ACTION_reset

48.27.2 Field fConcentrationUnitsBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ConcentrationUnitsBean fConcentrationUnitsBean

48.27.3 Field fIsotopeValuesBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopeValuesBean fIsotopeValuesBean

48.27.4 Field fListeningFlag

protected transient volatile boolean fListeningFlag

48.27.5 Field fReleaseRateBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ReleaseRateBean fReleaseRateBean

48.27.6 Field fResetButton

protected javax.swing.JButton fResetButton

48.27.7 Field fValue

protected mil.dtra.hpac.models.nfac.data.analyst.IsotopicConcentrations fValue

48.27.8 Field PROP_value

public static final java.lang.String PROP_value

48.27.9 Constructor IsotopicConcentrationsBean()

```
public
IsotopicConcentrationsBean()
```

Default constructor. Must call `init()`.

48.27.10 Constructor IsotopicConcentrationsBean()

```
public
IsotopicConcentrationsBean( mil.dtra.util.ValueProperties props )
```

Constructs calling `init()` with properties object only.

48.27.11 Constructor IsotopicConcentrationsBean()

```
public
IsotopicConcentrationsBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs calling `init()` but deferring setting of properties.

48.27.12 Constructor IsotopicConcentrationsBean()

```
public
IsotopicConcentrationsBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.IsotopicConcentrations value,
    java.lang.String title
)
```

Constructs calling `init()`.

48.27.13 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.27.14 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

48.27.15 Method createTopPanel()

```
protected javax.swing.JPanel
createTopPanel( mil.dtra.util.ValueProperties props )
```

48.27.16 Method getValue()

```
public final mil.dtra.hpac.models.nfac.data.analyst.IsotopicConcentrations
getValue()
```

Accessor for the *value* property.

Returns:

object copy

48.27.17 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.IsotopicConcentrations value,
    java.lang.String title
)
```

48.27.18 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

48.27.19 Method setValue()

```
public void
setValue( mil.dtra.hpac.models.nfac.data.analyst.IsotopicConcentrations value )
```

Accessor for the *value* property.

Parameters:

object - to copy

48.27.20 Method startListening()

protected synchronized void
startListening()

48.27.21 Method stopListening()

protected synchronized void
stopListening()

48.27.22 Method updateBeans()

protected void
updateBeans(mil.dtra.hpac.models.nfac.data.analyst.IsotopicConcentrations value)

Assumes no listeners are active.

48.28 Class IsotopicConcentrationsPage

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public IsotopicConcentrationsPage
extends AbstractSourceTermWizardPage
```

SourceTermWizardPage wrapper for a IsotopicConcentrationsBean.

Fields:

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopicConcentrationsBean
fBean

Methods:

```
protected javax.swing.JComponent createBean()
public final mil.dtra.hpac.models.nfac.data.AnalystModel getAnalystModel()
public final java.lang.String getHelpContext()
public final java.lang.String getTitle()
protected void loadBean()
```

48.28.1 Field fBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopicConcentrationsBean **fBean**

48.28.2 Constructor IsotopicConcentrationsPage()

```
public
IsotopicConcentrationsPage()
```

Default constructor.

48.28.3 Method createBean()

```
protected javax.swing.JComponent
createBean( mil.dtra.util.ValueProperties props )
```

48.28.4 Method getAnalystModel()

```
public final mil.dtra.hpac.models.nfac.data.AnalystModel
getAnalystModel()
```

Returns:

value from the bean

48.28.5 Method getHelpContext()

```
public final java.lang.String
getHelpContext()
```

Returns:

null

48.28.6 Method getTitle()

```
public final java.lang.String
getTitle()
```

Returns:

"Define Isotopic Concentrations"

48.28.7 Method loadBean()

```
protected void
loadBean( mil.dtra.hpac.models.nfac.data.AnalystModel model )
```

48.29 Class IsotopicReleaseRatesBean

```

mil.dtra.hpac.models.nfac.client.swing.model.analyst
public IsotopicReleaseRatesBean
extends JPanel
implements ActionListenerHPAC Swing Constants PropertyChangeListener PropertyNames Swing Constants

```

Bean for displaying and editing an Options object.

Fields:

```

public static final java.lang.String ACTION_reset
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopeValuesBean fIso-
topeValuesBean
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ReleaseUnitsBean fRe-
leaseUnitsBean
protected javax.swing.JButton fResetButton
protected mil.dtra.hpac.models.nfac.data.analyst.IsotopicReleaseRates fValue
public static final java.lang.String PROP_value

```

Methods:

```

public void actionPerformed()
protected void create()
public final mil.dtra.hpac.models.nfac.data.analyst.IsotopicReleaseRates getValue()
public void init()
public void propertyChange()
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void updateBeans()

```

48.29.1 Field ACTION_reset

```
public static final java.lang.String ACTION_reset
```

48.29.2 Field fIsotopeValuesBean

```
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopeValuesBean fIso-
topeVal-
uesBean
```

48.29.3 Field fListeningFlag

```
protected transient volatile boolean fListeningFlag
```

48.29.4 Field fReleaseUnitsBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ReleaseUnitsBean **fReleaseUnitsBean**

48.29.5 Field fResetButton

protected javax.swing.JButton **fResetButton**

48.29.6 Field fValue

protected mil.dtra.hpac.models.nfac.data.analyst.IsotopicReleaseRates **fValue**

48.29.7 Field PROP_value

public static final java.lang.String **PROP_value**

48.29.8 Constructor IsotopicReleaseRatesBean()

public
IsotopicReleaseRatesBean()

Default constructor. Must call `init()`.

48.29.9 Constructor IsotopicReleaseRatesBean()

public
IsotopicReleaseRatesBean(mil.dtra.util.ValueProperties props)

Constructs calling `init()` with nothing but properties object.

48.29.10 Constructor IsotopicReleaseRatesBean()

public
IsotopicReleaseRatesBean(
 mil.dtra.util.ValueProperties props,
 java.lang.String title
)

Constructs calling `init()` but deferring setting of properties.

48.29.11 Constructor IsotopicReleaseRatesBean()

```
public
IsotopicReleaseRatesBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.IsotopicReleaseRates value,
    java.lang.String title
)
```

Constructs calling `init()`.

48.29.12 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.29.13 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

48.29.14 Method getValue()

```
public final mil.dtra.hpac.models.nfac.data.analyst.IsotopicReleaseRates
getValue()
```

Accessor for the *value* property.

Returns:

object copy

48.29.15 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.IsotopicReleaseRates value,
    java.lang.String title
)
```

48.29.16 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

48.29.17 Method `setValue()`

```
public void
setValue( mil.dtra.hpac.models.nfac.data.analyst.IsotopicReleaseRates value )
```

Accessor for the *value* property.

Parameters:

object - to copy

48.29.18 Method `startListening()`

```
protected synchronized void
startListening()
```

48.29.19 Method `stopListening()`

```
protected synchronized void
stopListening()
```

48.29.20 Method `updateBeans()`

```
protected void
updateBeans( mil.dtra.hpac.models.nfac.data.analyst.IsotopicReleaseRates value )
```

Assumes no listeners are active.

48.30 Class `IsotopicReleaseRatesPage`

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public IsotopicReleaseRatesPage
extends AbstractSourceTermWizardPage
```

`SourceTermWizardPage` wrapper for a `IsotopicReleaseRatesBean`.

Fields:

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopicReleaseRatesBean
fBean

Methods:

```
public void check()
protected javax.swing.JComponent createBean()
public final mil.dtra.hpac.models.nfac.data.AnalystModel getAnalystModel()
public final java.lang.String getHelpContext()
public final java.lang.String getTitle()
protected void loadBean()
```

48.30.1 Field fBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.IsotopicReleaseRatesBean **fBean**

48.30.2 Constructor IsotopicReleaseRatesPage()

```
public
IsotopicReleaseRatesPage()
```

Default constructor.

48.30.3 Method check()

```
public void
check()
```

Noop.

48.30.4 Method createBean()

```
protected javax.swing.JComponent
createBean( mil.dtra.util.ValueProperties props )
```

48.30.5 Method getAnalystModel()

```
public final mil.dtra.hpac.models.nfac.data.AnalystModel
getAnalystModel()
```

Returns:

value from the bean

48.30.6 Method getHelpContext()

```
public final java.lang.String
getHelpContext()
```

Returns:

null

48.30.7 Method getTitle()

```
public final java.lang.String
getTitle()
```

Returns:

"Define Isotopic Release Rates"

48.30.8 Method loadBean()

```
protected void
loadBean( mil.dtra.hpac.models.nfac.data.AnalystModel model )
```

48.31 Class LeakRateBean

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public LeakRateBean
extends JPanel
implements ListSelectionListener
```

Bean for displaying and editing a leak rate percentage.

Fields:

```
protected transient java.lang.String[] fLeakRates
protected javax.swing.JList fListBean
protected transient boolean fListeningFlag
public static final java.lang.String PROP_value
```

Methods:

```
protected void create()
public final java.lang.String[] getLeakRates()
public final javax.swing.JList getListBean()
public final double getValue()
public void init()
public void setLeakRates()
public void setValue()
```

```
protected synchronized void startListening()
protected synchronized void stopListening()
public void valueChanged()
```

48.31.1 Field fLeakRates

protected transient java.lang.String[] **fLeakRates**

48.31.2 Field fListBean

protected javax.swing.JList **fListBean**

48.31.3 Field fListeningFlag

protected transient boolean **fListeningFlag**

48.31.4 Field PROP_value

public static final java.lang.String **PROP_value**

48.31.5 Constructor LeakRateBean()

public
LeakRateBean()

Default constructor. Must call `init()`.

48.31.6 Constructor LeakRateBean()

public
LeakRateBean(mil.dtra.util.ValueProperties props)

Constructs calling `init()` with nothing but properties object.

48.31.7 Constructor **LeakRateBean()**

```
public
LeakRateBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs calling `init()` but deferring everything but the title.

48.31.8 Constructor **LeakRateBean()**

```
public
LeakRateBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String[] leak_rates,
    double value,
    java.lang.String title
)
```

Constructs calling `init()`.

48.31.9 Method **create()**

```
protected void
create( mil.dtra.util.ValueProperties props )
```

48.31.10 Method **getLeakRates()**

```
public final java.lang.String[]
getLeakRates()
```

Accessor for the *leakRates* property.

Parameters:

array - reference to store

48.31.11 Method getListBean()

```
public final javax.swing.JList
getListBean()
```

Returns:

object reference

48.31.12 Method getValue()

```
public final double
getValue()
```

Accessor for the *value* property.

Returns:

percentage value

48.31.13 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    java.lang.String[] leak_rates,
    double value,
    java.lang.String title
)
```

48.31.14 Method setLeakRates()

```
public void
setLeakRates( java.lang.String[] leak_rates )
```

Accessor for the *leakRates* property.

Parameters:

array - reference to store

48.31.15 Method setValue()

```
public void
setValue( double value )
```

Accessor for the *value* property.

Parameters:

percentage - value

48.31.16 Method startListening()

```
protected synchronized void
startListening()
```

48.31.17 Method stopListening()

```
protected synchronized void
stopListening()
```

48.31.18 Method valueChanged()

```
public void
valueChanged( javax.swing.event.ListSelectionEvent event )
```

48.32 Class PercentInventoryBean

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public PercentInventoryBean
extends JPanel
implements ActionListenerHPACSwingConstantsPropertyChangeListenerPropertyNameSwingConstants
```

Bean for displaying and editing an Options object.

Fields:

```
public static final java.lang.String ACTION_delete
public static final java.lang.String ACTION_load
public static final java.lang.String ACTION_new
public static final java.lang.String ACTION_save
protected javax.swing.JButton fDeleteButton
protected javax.swing.JComboBox fDurationUnitCombo
protected transient volatile boolean fListeningFlag
protected javax.swing.JButton fLoadButton
```

```

protected javax.swing.JButton fNewButton
protected mil.dtra.hpac.client.swing.ValueUnitsBean fPowerBean
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleasePane
fReleasePane
protected javax.swing.JButton fSaveButton
protected mil.dtra.hpac.models.nfac.data.analyst.PercentInventory fValue
public static final int MAX_RELEASE_COUNT
public static final java.lang.String PROP_value

```

Methods:

```

public void actionPerformed()
public void check()
protected void create()
public final mil.dtra.hpac.models.nfac.data.analyst.PercentInventory getValue()
protected void handleLoadAction()
protected void handleSaveAction()
public void init()
public void propertyChange()
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void updateBeans()

```

48.32.1 Field ACTION_delete

public static final java.lang.String ACTION_delete

48.32.2 Field ACTION_load

public static final java.lang.String ACTION_load

48.32.3 Field ACTION_new

public static final java.lang.String ACTION_new

48.32.4 Field ACTION_save

public static final java.lang.String ACTION_save

48.32.5 Field fDeleteButton

protected javax.swing.JButton fDeleteButton

48.32.6 Field fDurationUnitCombo

protected javax.swing.JComboBox **fDurationUnitCombo**

48.32.7 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

48.32.8 Field fLoadButton

protected javax.swing.JButton **fLoadButton**

48.32.9 Field fNewButton

protected javax.swing.JButton **fNewButton**

48.32.10 Field fPowerBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fPowerBean**

48.32.11 Field fReleasePane

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleasePane **fReleasePane**

48.32.12 Field fSaveButton

protected javax.swing.JButton **fSaveButton**

48.32.13 Field fValue

protected mil.dtra.hpac.models.nfac.data.analyst.PercentInventory **fValue**

48.32.14 Field MAX_RELEASE_COUNT

public static final int **MAX_RELEASE_COUNT**

48.32.15 Field PROP_value

public static final java.lang.String **PROP_value**

48.32.16 Constructor PercentInventoryBean()

```
public
PercentInventoryBean()
```

Default constructor. Must call init().

48.32.17 Constructor PercentInventoryBean()

```
public
PercentInventoryBean( mil.dtra.util.ValueProperties props )
```

Constructs calling init() with nothing but properties object.

48.32.18 Constructor PercentInventoryBean()

```
public
PercentInventoryBean(
    mil.dtra.util.ValueProperties props,
    java.lang.String title
)
```

Constructs calling init() but deferring setting of properties.

48.32.19 Constructor PercentInventoryBean()

```
public
PercentInventoryBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.PercentInventory value,
    java.lang.String title
)
```

Constructs calling init().

48.32.20 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.32.21 Method check()

```
public void
check()
```

Calls check() on fBean.

Exceptions:

RuntimeException - on an invalid AnalystMix

48.32.22 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

48.32.23 Method getValue()

```
public final mil.dtra.hpac.models.nfac.data.analyst.PercentInventory
getValue()
```

Accessor for the *value* property.

Returns:

object copy

48.32.24 Method handleLoadAction()

```
protected void
handleLoadAction( java.awt.event.ActionEvent event )
```

48.32.25 Method handleSaveAction()

```
protected void
handleSaveAction( java.awt.event.ActionEvent event )
```

48.32.26 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.PercentInventory value,
    java.lang.String title
)
```

48.32.27 Method `propertyChange()`

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

48.32.28 Method `setValue()`

```
public void
setValue( mil.dtra.hpac.models.nfac.data.analyst.PercentInventory value )
```

Accessor for the *value* property.

Parameters:

object - to copy

48.32.29 Method `startListening()`

```
protected synchronized void
startListening()
```

48.32.30 Method `stopListening()`

```
protected synchronized void
stopListening()
```

48.32.31 Method `updateBeans()`

```
protected void
updateBeans( mil.dtra.hpac.models.nfac.data.analyst.PercentInventory value )
```

Assumes no listeners are active.

48.33 Class `PercentInventoryPage`

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public PercentInventoryPage
extends AbstractSourceTermWizardPage
```

`SourceTermWizardPage` wrapper for a `PercentInventoryBean`.

Fields:

```
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryBean
fBean
```

Methods:

```
public void check()
protected javax.swing.JComponent createBean()
public final mil.dtra.hpac.models.nfac.data.AnalystModel getAnalystModel()
public final java.lang.String getHelpContext()
public final java.lang.String getTitle()
protected void loadBean()
```

48.33.1 Field fBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryBean **fBean**

48.33.2 Constructor PercentInventoryPage()

```
public
PercentInventoryPage()
```

Default constructor.

48.33.3 Method check()

```
public void
check()
```

Calls check() on fBean.

Exceptions:

RuntimeException - on an invalid AnalystMix

48.33.4 Method createBean()

```
protected javax.swing.JComponent
createBean( mil.dtra.util.ValueProperties props )
```

48.33.5 Method getAnalystModel()

```
public final mil.dtra.hpac.models.nfac.data.AnalystModel
getAnalystModel()
```

Returns:

value from the bean

48.33.6 Method getHelpContext()

```
public final java.lang.String
getHelpContext()
```

Returns:

null

48.33.7 Method getTitle()

```
public final java.lang.String
getTitle()
```

Returns:

"Define Isotopic Release Rates"

48.33.8 Method loadBean()

```
protected void
loadBean( mil.dtra.hpac.models.nfac.data.AnalystModel model )
```

48.34 Class PercentInventoryReleaseCellEditor

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public PercentInventoryReleaseCellEditor
extends DefaultCellEditor
implements SwingConstants
```

Fields:

```
protected transient java.awt.event.ActionListener fActionHandler
protected transient int fEditCol
protected transient int fEditRow
protected transient javax.swing.JTable fEditTable
protected transient javax.swing.JTextField fField
protected transient java.awt.event.FocusListener fFocusHandler
protected transient javax.swing.JTable fTable
```

Methods:

```
public void endEdit()
public java.lang.Object getCellEditorValue()
public java.awt.Component getTableCellEditorComponent()
public boolean isCellEditable()
```

Inner Classes:

```
PercentInventoryReleaseCellEditor.ActionHandler
PercentInventoryReleaseCellEditor.FocusHandler
```

48.34.1 Field fActionHandler

protected transient java.awt.event.ActionListener **fActionHandler**

48.34.2 Field fEditCol

protected transient int **fEditCol**

48.34.3 Field fEditRow

protected transient int **fEditRow**

48.34.4 Field fEditTable

protected transient javax.swing.JTable **fEditTable**

48.34.5 Field fField

protected transient javax.swing.JTextField **fField**

48.34.6 Field fFocusHandler

protected transient java.awt.event.FocusListener **fFocusHandler**

48.34.7 Field fTable

protected transient javax.swing.JTable **fTable**

48.34.8 Constructor PercentInventoryReleaseCellEditor()

```
public
PercentInventoryReleaseCellEditor()
```

Constructs with the reference to the value list.

48.34.9 Method endEdit()

```
public void
endEdit()
```

Returns:

object or null if the input was invalid

48.34.10 Method getCellEditorValue()

```
public java.lang.Object
getCellEditorValue()
```

Returns:

object or null if the input was invalid

48.34.11 Method getTableCellEditorComponent()

```
public java.awt.Component
getTableCellEditorComponent(
    javax.swing.JTable table,
    java.lang.Object value,
    boolean is_selected,
    int row,
    int col
)
```

48.34.12 Method isCellEditable()

```
public boolean
isCellEditable( java.util.EventObject event )
```

48.35 Class PercentInventoryReleaseCellEditor.ActionHandler

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseCellEditor.ActionHandler
extends Object
implements ActionListener
```

Methods:

```
public void actionPerformed()
```

48.35.1 Constructor PercentInventoryReleaseCellEditor.ActionHandler()

```
protected
PercentInventoryReleaseCellEditor.ActionHandler( mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseCellEditor.this$0 )
```

48.35.2 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.36 Class PercentInventoryReleaseCellEditor.FocusHandler

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseCellEditor.FocusHandler
extends FocusAdapter
```

Methods:

```
public void focusLost()
```

48.36.1 Constructor PercentInventoryReleaseCellEditor.FocusHandler()

```
protected
PercentInventoryReleaseCellEditor.FocusHandler( mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseCellEditor.this$0 )
```

48.36.2 Method focusLost()

```
public void
focusLost( java.awt.event.FocusEvent event )
```

48.37 Class PercentInventoryReleaseCellEditor.ActionHandler

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseCellEditor.ActionHandler
extends Object
implements ActionListener
```

Methods:

```
public void actionPerformed()
```

48.37.1 Constructor PercentInventoryReleaseCellEditor.ActionHandler()

```
protected
PercentInventoryReleaseCellEditor.ActionHandler( mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseCellEditor.this$0 )
```

48.37.2 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.38 Class PercentInventoryReleaseCellEditor.FocusHandler

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseCellEditor.FocusHandler
extends FocusAdapter
```

Methods:

```
public void focusLost()
```

48.38.1 Constructor PercentInventoryReleaseCellEditor.FocusHandler()

```
protected
PercentInventoryReleaseCellEditor.FocusHandler( mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseCellEditor.this$0 )
```

48.38.2 Method focusLost()

```
public void
focusLost( java.awt.event.FocusEvent event )
```

48.39 Class PercentInventoryReleaseHeaderTable

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public PercentInventoryReleaseHeaderTable
extends JTable
implements NfacConstantsPercentInventoryConstants
```

Fields:

```
protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseHeaderTable
fModel
protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseHeaderTable
fRenderer
protected mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease fTotals
```

Methods:

```
public java.awt.Dimension getPreferredSize()
public java.awt.Dimension getPreferredSize()
public final mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease getTotals()
public void init()
public boolean isFocusTraversable()
public void setReleases()
```

Inner Classes:

```
PercentInventoryReleaseHeaderTable.Model
PercentInventoryReleaseHeaderTable.Renderer
```

48.39.1 Field fModel

```
protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseHeaderTable.M
fModel
```

48.39.2 Field fRenderer

```
protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseHeaderTable.R
fRenderer
```

48.39.3 Field fTotals

```
protected mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease fTotals
```

48.39.4 Constructor PercentInventoryReleaseHeaderTable()

```
public
PercentInventoryReleaseHeaderTable()
```

Default constructor. Must call init().

48.39.5 Constructor PercentInventoryReleaseHeaderTable()

```
public
PercentInventoryReleaseHeaderTable(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] releases
)
```

Constructs calling init().

48.39.6 Method getPreferredScrollableViewportSize()

```
public java.awt.Dimension
getPreferredScrollableViewportSize()
```

48.39.7 Method getSize()

```
public java.awt.Dimension
getSize()
```

48.39.8 Method getTotals()

```
public final mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease
getTotals()
```

Accessor for the *totals* property.

Returns:

copy of totals object

48.39.9 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] releases
)
```

48.39.10 Method isFocusTraversable()

```
public boolean
isFocusTraversable()
```

48.39.11 Method setReleases()

```
public void
setReleases( mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] releases )
```

48.40 Class PercentInventoryReleaseHeaderTable.Model

mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseHeaderTable.Model
extends AbstractTableModel

Methods:

```
public final java.lang.Class getColumnClass()
public final int getColumnCount()
public final java.lang.String getColumnName()
public final int getRowCount()
public final java.lang.Object getValueAt()
public final boolean isCellEditable()
public final void setValueAt()
public void updateTotals()
```

48.40.1 Constructor PercentInventoryReleaseHeaderTable.Model()

protected
PercentInventoryReleaseHeaderTable.Model(mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseHeaderTable.Model this\$0)

48.40.2 Method getColumnClass()

```
public final java.lang.Class  
getColumnClass( int index )
```

48.40.3 Method getColumnCount()

```
public final int  
getColumnCount()
```

48.40.4 Method getColumnName()

```
public final java.lang.String  
getColumnName( int index )
```

48.40.5 Method getCount()

```
public final int  
getCount()
```

48.40.6 Method getValueAt()

```
public final java.lang.Object  
getValueAt(  
    int row,  
    int col  
)
```

48.40.7 Method isCellEditable()

```
public final boolean  
isCellEditable(  
    int row,  
    int col  
)
```

48.40.8 Method setValueAt()

```
public final void  
setValueAt(
```

```
java.lang.Object value,
int row,
int col
)
```

48.40.9 Method updateTotals()

```
public void
updateTotals(
    mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] releases,
    boolean fire_event_flag
)
```

48.41 Class PercentInventoryReleaseHeaderTable.Renderer

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseHeaderTable.Renderer
extends DefaultTableCellRenderer
```

Methods:

```
public java.awt.Component getTableCellRendererComponent()
```

48.41.1 Constructor PercentInventoryReleaseHeaderTable.Renderer()

```
protected
PercentInventoryReleaseHeaderTable.Renderer( mil.dtra.hpac.models.nfac.client.swing.model.analyst.Percent
this$0 )
```

48.41.2 Method getTableCellRendererComponent()

```
public java.awt.Component
getTableCellRendererComponent(
    javax.swing.JTable table,
    java.lang.Object value,
    boolean is_selected,
    boolean has_focus,
    int row,
    int col
)
```

48.42 Class PercentInventoryReleaseHeaderTable.Model

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseHeaderTable.Model
extends AbstractTableModel
```

Methods:

```
public final java.lang.Class getColumnClass()
public final int getColumnCount()
public final java.lang.String getColumnName()
public final int getRowCount()
public final java.lang.Object getValueAt()
public final boolean isCellEditable()
public final void setValueAt()
public void updateTotals()
```

48.42.1 Constructor PercentInventoryReleaseHeaderTable.Model()

protected

```
PercentInventoryReleaseHeaderTable.Model( mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentIn
this$0 )
```

48.42.2 Method getColumnClass()

```
public final java.lang.Class
getColumnClass( int index )
```

48.42.3 Method getCount()

```
public final int
getCount()
```

48.42.4 Method getColumnName()

```
public final java.lang.String
getColumnName( int index )
```

48.42.5 Method getRowCount()

```
public final int
getRowCount()
```

48.42.6 Method getValueAt()

```
public final java.lang.Object
getValueAt(
    int row,
    int col
)
```

48.42.7 Method isCellEditable()

```
public final boolean
isCellEditable(
    int row,
    int col
)
```

48.42.8 Method setValueAt()

```
public final void
setValueAt(
    java.lang.Object value,
    int row,
    int col
)
```

48.42.9 Method updateTotals()

```
public void
updateTotals(
    mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] releases,
    boolean fire_event_flag
)
```

48.43 Class PercentInventoryReleaseHeaderTable.Renderer

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseHeaderTable.Renderer
extends DefaultTableCellRenderer
```

Methods:

```
public java.awt.Component getTableCellRendererComponent()
```

48.43.1 Constructor PercentInventoryReleaseHeaderTable.Renderer()

```
protected
PercentInventoryReleaseHeaderTable.Renderer( mil.dtra.hpac.models.nfac.client.swing.model.analyst.Percent
this$0 )
```

48.43.2 Method getTableCellRendererComponent()

```
public java.awt.Component
getTableCellRendererComponent(
    javax.swing.JTable table,
    java.lang.Object value,
    boolean is_selected,
    boolean has_focus,
    int row,
    int col
)
```

48.44 Class PercentInventoryReleasePane

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public PercentInventoryReleasePane
extends JPanel
implements PropertyChangeListenerScrollPaneConstants
```

Fields:

```
protected transient boolean fListeningFlag
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseTable
fReleaseTable
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseHeaderTable
fRowHeaderTable
protected javax.swing.JViewport fRowViewport
protected javax.swing.JScrollPane fScrollPane
public static final java.lang.String PROP_values
```

Methods:

```
public void addRelease()
public void deleteReleases()
public final mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseTable
getReleaseTable()
public final mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseHeaderTable
getRowHeaderTable()
public final mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] getVal-
ues()
```

```
public void init()
public void propertyChange()
public final void setValues()
protected void startListening()
protected void stopListening()
```

48.44.1 Field fListeningFlag

protected transient boolean **fListeningFlag**

48.44.2 Field fReleaseTable

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseTable **fReleaseTable**

Simpler renderer, same editor, perhaps as an inner class

48.44.3 Field fRowHeaderTable

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseHeaderTable **fRowHeaderTable**

Listens for release table "values" changes, updates the totals; has his own renderer; not editable; rowHeaderView for the release table

48.44.4 Field fRowViewport

protected javax.swing.JViewport **fRowViewport**

48.44.5 Field fScrollPane

protected javax.swing.JScrollPane **fScrollPane**

48.44.6 Field PROP_values

public static final java.lang.String **PROP_values**

48.44.7 Constructor PercentInventoryReleasePane()

```
public
PercentInventoryReleasePane()
```

Default constructor. Must call `init()`.

48.44.8 Constructor PercentInventoryReleasePane()

```
public
PercentInventoryReleasePane(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] values
)
```

Constructs calling init().

48.44.9 Method addRelease()

```
public void
addRelease()
```

Adds a new release to the end of the list.

48.44.10 Method deleteReleases()

```
public void
deleteReleases()
```

Deletes releases for the selected columns.

48.44.11 Method getReleaseTable()

```
public final mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseTable
getReleaseTable()
```

Returns a reference to the release table bean.

Returns:

object reference

48.44.12 Method getRowHeaderTable()

```
public final mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseHeaderTable
getRowHeaderTable()
```

Returns a reference to the header table bean.

Returns:

object reference

48.44.13 Method getValues()

```
public final mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[]
getValues()
```

Accessor for the *values* property.

Returns:

generated array of values

48.44.14 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] values
)
```

48.44.15 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

48.44.16 Method setValues()

```
public final void
setValues( mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] values )
```

Accessor for the *values* property.

Parameters:

values - array of values to store (replacing existing values)

48.44.17 Method startListening()

```
protected void
startListening()
```

48.44.18 Method stopListening()

```
protected void
stopListening()
```

48.45 Class PercentInventoryReleaseTable

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public PercentInventoryReleaseTable
extends JTable
implements NfacConstantsPercentInventoryConstants
```

Fields:

```
protected static final java.lang.String ACTION_enter
protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseCellEditor
fEditor
protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseTable.Model
fModel
protected transient java.util.ArrayList fReleaseList
protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseTable.Renderer
fRenderer
public static final java.lang.String PROP_values
```

Methods:

```
public void addRelease()
public void deleteReleases()
public java.awt.Dimension getPreferredSize()
public mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] getValues()
public void init()
public void setValues()
protected void updateTable()
```

Inner Classes:

```
PercentInventoryReleaseTable.EnterAction
PercentInventoryReleaseTable.Model
PercentInventoryReleaseTable.Renderer
```

48.45.1 Field ACTION_enter

```
protected static final java.lang.String ACTION_enter
```

48.45.2 Field fEditor

```
protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseCellEditor
fEditor
```

48.45.3 Field fModel

protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseTable.Model
fModel

48.45.4 Field fReleaseList

protected transient java.util.ArrayList **fReleaseList**

48.45.5 Field fRenderer

protected transient mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseTable.Renderer
fRenderer

48.45.6 Field PROP_values

public static final java.lang.String **PROP_values**

48.45.7 Constructor PercentInventoryReleaseTable()

public
PercentInventoryReleaseTable()

Default constructor. Must call `init()`.

48.45.8 Constructor PercentInventoryReleaseTable()

public
PercentInventoryReleaseTable(
 mil.dtra.util.ValueProperties props,
 mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] values
)

Constructs calling `init()`.

48.45.9 Method addRelease()

public void
addRelease(mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease totals **)**

Adds a new release to the end of the list.

48.45.10 Method deleteReleases()

```
public void
deleteReleases()
```

Deletes releases for the selected columns.

48.45.11 Method getPreferredScrollableViewportSize()

```
public java.awt.Dimension
getPreferredScrollableViewportSize()
```

48.45.12 Method getValues()

```
public mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[]
getValues()
```

Accessor for the *values* property.

Returns:

generated array of release copies

48.45.13 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] values
)
```

48.45.14 Method setValues()

```
public void
setValues( mil.dtra.hpac.models.nfac.data.analyst.PercentInventoryRelease[] values )
```

Accessor for the *values* property.

Parameters:

values - array of values to store (replacing existing values)

48.45.15 Method updateTable()

```
protected void
updateTable()
```

48.46 Class PercentInventoryReleaseTable.EnterAction

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseTable.EnterAction
extends AbstractAction
```

Methods:

```
public void actionPerformed()
```

48.46.1 Constructor PercentInventoryReleaseTable.EnterAction()

```
public
PercentInventoryReleaseTable.EnterAction(
    mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseTable this$0,
    java.lang.String name
)
```

48.46.2 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.47 Class PercentInventoryReleaseTable.Model

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseTable.Model
extends AbstractTableModel
```

Methods:

```
public final java.lang.Class getColumnClass()
public final int getColumnCount()
public final java.lang.String getColumnName()
public final int getRowCount()
public final java.lang.Object getValueAt()
public final boolean isCellEditable()
public final void setValueAt()
```

48.47.1 Constructor PercentInventoryReleaseTable.Model()

```
protected  
PercentInventoryReleaseTable.Model( mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventory  
this$0 )
```

48.47.2 Method getColumnClass()

```
public final java.lang.Class  
getColumnClass( int index )
```

48.47.3 Method getColumnCount()

```
public final int  
getColumnCount()
```

48.47.4 Method getColumnName()

```
public final java.lang.String  
getColumnName( int index )
```

48.47.5 Method getRowCount()

```
public final int  
getRowCount()
```

48.47.6 Method getValueAt()

```
public final java.lang.Object  
getValueAt(  
    int row,  
    int col  
)
```

48.47.7 Method isCellEditable()

```
public final boolean  
isCellEditable(  
    int row,  
    int col  
)
```

48.47.8 Method setValueAt()

```
public final void
setValueAt(
    java.lang.Object value,
    int row,
    int col
)
```

48.48 Class PercentInventoryReleaseTable.Renderer

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseTable.Renderer
extends DefaultTableCellRenderer
```

Methods:

```
public java.awt.Component getTableCellRendererComponent()
```

48.48.1 Constructor PercentInventoryReleaseTable.Renderer()

```
protected
PercentInventoryReleaseTable.Renderer( mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseTable
this$0 )
```

48.48.2 Method getTableCellRendererComponent()

```
public java.awt.Component
getTableCellRendererComponent(
    javax.swing.JTable table,
    java.lang.Object value,
    boolean is_selected,
    boolean has_focus,
    int row,
    int col
)
```

48.49 Class PercentInventoryReleaseTable.EnterAction

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseTable.EnterAction
extends AbstractAction
```

Methods:

```
public void actionPerformed()
```

48.49.1 Constructor PercentInventoryReleaseTable.EnterAction()

```
public  
PercentInventoryReleaseTable.EnterAction(  
    mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseTable this$0,  
    java.lang.String name  
)
```

48.49.2 Method actionPerformed()

```
public void  
actionPerformed( java.awt.event.ActionEvent event )
```

48.50 Class PercentInventoryReleaseTable.Model

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst  
protected PercentInventoryReleaseTable.Model  
extends AbstractTableModel
```

Methods:

```
public final java.lang.Class getColumnClass()  
public final int getColumnCount()  
public final java.lang.String getColumnName()  
public final int getRowCount()  
public final java.lang.Object getValueAt()  
public final boolean isCellEditable()  
public final void setValueAt()
```

48.50.1 Constructor PercentInventoryReleaseTable.Model()

```
protected  
PercentInventoryReleaseTable.Model( mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventory  
this$0 )
```

48.50.2 Method getColumnClass()

```
public final java.lang.Class  
getColumnClass( int index )
```

48.50.3 Method getColumnCount()

```
public final int  
getColumnCount()
```

48.50.4 Method getColumnName()

```
public final java.lang.String  
getColumnName( int index )
```

48.50.5 Method getCount()

```
public final int  
getCount()
```

48.50.6 Method getValueAt()

```
public final java.lang.Object  
getValueAt(  
    int row,  
    int col  
)
```

48.50.7 Method isCellEditable()

```
public final boolean  
isCellEditable(  
    int row,  
    int col  
)
```

48.50.8 Method setValueAt()

```
public final void  
setValueAt(
```

```
java.lang.Object value,
int row,
int col
)
```

48.51 Class PercentInventoryReleaseTable.Renderer

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
protected PercentInventoryReleaseTable.Renderer
extends DefaultTableCellRenderer
```

Methods:

```
public java.awt.Component getTableCellRendererComponent()
```

48.51.1 Constructor PercentInventoryReleaseTable.Renderer()

```
protected
PercentInventoryReleaseTable.Renderer( mil.dtra.hpac.models.nfac.client.swing.model.analyst.PercentInventoryReleaseTable
this$0 )
```

48.51.2 Method getTableCellRendererComponent()

```
public java.awt.Component
getTableCellRendererComponent(
    javax.swing.JTable table,
    java.lang.Object value,
    boolean isSelected,
    boolean hasFocus,
    int row,
    int col
)
```

48.52 Class ReleasePathBean

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public ReleasePathBean
extends JPanel
implements ActionListenerHPACSwingConstantsSwingConstants
```

Bean for displaying and editing true/false filtered release path selection.

Fields:

```
public static final java.lang.String DEFAULT_TITLE
protected javax.swing.JRadioButton fFilteredButton
protected transient boolean fListeningFlag
protected javax.swing.JRadioButton fUnfilteredButton
public static final java.lang.String PROP_value
```

Methods:

```
public void actionPerformed()
protected void create()
public final boolean getValue()
public void init()
public final void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()
```

48.52.1 Field DEFAULT_TITLE

public static final java.lang.String DEFAULT_TITLE

48.52.2 Field fFilteredButton

protected javax.swing.JRadioButton fFilteredButton

48.52.3 Field fListeningFlag

protected transient boolean fListeningFlag

48.52.4 Field fUnfilteredButton

protected javax.swing.JRadioButton fUnfilteredButton

48.52.5 Field PROP_value

public static final java.lang.String PROP_value

48.52.6 Constructor ReleasePathBean()

public
ReleasePathBean()

Default constructor. Must call init().

48.52.7 Constructor ReleasePathBean()

```
public
ReleasePathBean( mil.dtra.util.ValueProperties props )
```

Constructs calling `init()` with a VERTICAL orientation, the default title, and a *value* of false.

48.52.8 Constructor ReleasePathBean()

```
public
ReleasePathBean(
    mil.dtra.util.ValueProperties props,
    boolean value
)
```

Constructs calling `init()` with a VERTICAL orientation and a default title.

48.52.9 Constructor ReleasePathBean()

```
public
ReleasePathBean(
    mil.dtra.util.ValueProperties props,
    boolean value,
    int orientation,
    java.lang.String title
)
```

Constructs calling `init()`.

48.52.10 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.52.11 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    int orientation
)
```

48.52.12 Method `getValue()`

```
public final boolean
getValue()
```

Accessor for the *value* property.

48.52.13 Method `init()`

```
public void
init(
    mil.dtra.util.ValueProperties props,
    boolean value,
    int orientation,
    java.lang.String title
)
```

48.52.14 Method `setValue()`

```
public final void
setValue( boolean value )
```

Accessor for the *value* property.

48.52.15 Method `startListening()`

```
protected synchronized void
startListening()
```

48.52.16 Method `stopListening()`

```
protected synchronized void
stopListening()
```

48.53 Class `ReleaseRateBean`

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public ReleaseRateBean
extends JPanel
implements ActionListenerPropertyChangeListener
```

Bean for displaying and editing a `ReleaseRate` object and a magnitude factor.

Fields:

```

protected transient boolean fListeningFlag
protected mil.dtra.hpac.models.nfac.data.analyst.ReleaseRate fReleaseRate
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.TimeUnitsCombo fTime-
UnitsCombo
protected double fValue
protected mil.dtra.hpac.client.swing.ValueUnitsBean fValueBean
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.VolumeMassUnitsCombo
fVolumeMassUnitsCombo
public static final java.lang.String PROP_releaseRate

```

Methods:

```

public void actionPerformed()
protected void create()
public final java.awt.Component getFirstBean()
public final mil.dtra.hpac.models.nfac.data.analyst.ReleaseRate getReleaseRate()
public void init()
public void propertyChange()
public void setReleaseRate()
protected synchronized void startListening()
protected synchronized void stopListening()

```

48.53.1 Field fListeningFlag

protected transient boolean **fListeningFlag**

48.53.2 Field fReleaseRate

protected mil.dtra.hpac.models.nfac.data.analyst.ReleaseRate **fReleaseRate**

48.53.3 Field fTimeUnitsCombo

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.TimeUnitsCombo **fTimeUnitsCombo**

48.53.4 Field fValue

protected double **fValue**

48.53.5 Field fValueBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean **fValueBean**

48.53.6 Field fVolumeMassUnitsCombo

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.VolumeMassUnitsCombo **fVolumeMassUnitsCombo**

48.53.7 Field PROP_releaseRate

public static final java.lang.String **PROP_releaseRate**

48.53.8 Constructor ReleaseRateBean()

public
ReleaseRateBean()

Default constructor. Must call `init()`.

48.53.9 Constructor ReleaseRateBean()

public
ReleaseRateBean(mil.dtra.util.ValueProperties props)

Constructs calling `init()` with no title and a default *releaseRate*.

48.53.10 Constructor ReleaseRateBean()

public
ReleaseRateBean(
 mil.dtra.util.ValueProperties props,
 java.lang.String title
)

Constructs calling `init()` with a default *releaseRate*.

48.53.11 Constructor ReleaseRateBean()

public
ReleaseRateBean(
 mil.dtra.util.ValueProperties props,
 mil.dtra.hpac.models.nfac.data.analyst.ReleaseRate rate,
 java.lang.String title
)

Constructs calling `init()`.

48.53.12 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.53.13 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

48.53.14 Method getFirstBean()

```
public final java.awt.Component
getFirstBean()
```

Returns a reference to the first child component (to be used as a `JLabel` *labelFor*).

Returns:

object reference

48.53.15 Method getReleaseRate()

```
public final mil.dtra.hpac.models.nfac.data.analyst.ReleaseRate
getReleaseRate()
```

Accessor for the *releaseRate* property.

Returns:

object copy

48.53.16 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.analyst.ReleaseRate rate,
    java.lang.String title
)
```

48.53.17 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

48.53.18 Method setReleaseRate()

```
public void
setReleaseRate( mil.dtra.hpac.models.nfac.data.analyst.ReleaseRate rate )
```

Accessor for the *releaseRate* property.

Parameters:

rate - object to copy

48.53.19 Method startListening()

```
protected synchronized void
startListening()
```

48.53.20 Method stopListening()

```
protected synchronized void
stopListening()
```

48.54 Class ReleaseUnitsBean

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public ReleaseUnitsBean
extends JPanel
implements ActionListener
```

Bean for displaying and editing a `ReleaseUnits` object and a magnitude factor.

Fields:

```
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ActivityUnitsCombo
fActivityUnitsCombo
protected double fFactor
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.FactorCombo fFactor-
Combo
protected transient boolean fListeningFlag
protected mil.dtra.hpac.models.nfac.data.analyst.ReleaseUnits fReleaseUnits
protected boolean fShowFactor
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.TimeUnitsCombo fTime-
UnitsCombo
public static final java.lang.String PROP_factor
public static final java.lang.String PROP_releaseUnits
```

Methods:

```

public void actionPerformed()
protected void create()
public final double getFactor()
public final java.awt.Component getFirstBean()
public final mil.dtra.hpac.models.nfac.data.analyst.ReleaseUnits getReleaseUnits()
public final boolean getShowFactor()
public void init()
public void setFactor()
public void setReleaseUnits()
public void setShowFactor()
protected synchronized void startListening()
protected synchronized void stopListening()

```

48.54.1 Field fActivityUnitsCombo

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ActivityUnitsCombo **fActivityUnitsCombo**

48.54.2 Field fFactor

protected double **fFactor**

48.54.3 Field fFactorCombo

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.FactorCombo **fFactorCombo**

48.54.4 Field fListeningFlag

protected transient boolean **fListeningFlag**

48.54.5 Field fReleaseUnits

protected mil.dtra.hpac.models.nfac.data.analyst.ReleaseUnits **fReleaseUnits**

48.54.6 Field fShowFactor

protected boolean **fShowFactor**

48.54.7 Field fTimeUnitsCombo

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.TimeUnitsCombo **fTimeUnitsCombo**

48.54.8 Field PROP_factor

```
public static final java.lang.String PROP_factor
```

48.54.9 Field PROP_releaseUnits

```
public static final java.lang.String PROP_releaseUnits
```

48.54.10 Constructor ReleaseUnitsBean()

```
public  
ReleaseUnitsBean()
```

Default constructor. Must call init().

48.54.11 Constructor ReleaseUnitsBean()

```
public  
ReleaseUnitsBean( mil.dtra.util.ValueProperties props )
```

Constructs calling init() with no title and deferring property values.

48.54.12 Constructor ReleaseUnitsBean()

```
public  
ReleaseUnitsBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String title  
)
```

Constructs calling init() but deferring property values.

48.54.13 Constructor ReleaseUnitsBean()

```
public  
ReleaseUnitsBean(  
    mil.dtra.util.ValueProperties props,  
    double factor,  
    mil.dtra.hpac.models.nfac.data.analyst.ReleaseUnits units,  
    java.lang.String title  
)
```

Constructs calling init().

48.54.14 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.54.15 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

48.54.16 Method getFactor()

```
public final double
getFactor()
```

Accessor for the *factor* property.

48.54.17 Method getFirstBean()

```
public final java.awt.Component
getFirstBean()
```

Returns a reference to the first child component (to be used as a `JLabel` *labelFor*).

Returns:

object reference

48.54.18 Method getReleaseUnits()

```
public final mil.dtra.hpac.models.nfac.data.analyst.ReleaseUnits
getReleaseUnits()
```

Accessor for the *releaseUnits* property.

Returns:

object copy

48.54.19 Method getShowFactor()

```
public final boolean
getShowFactor()
```

Accessor for the *showFactor* property.

48.54.20 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    double factor,
    mil.dtra.hpac.models.nfac.data.analyst.ReleaseUnits units,
    java.lang.String title
)
```

48.54.21 Method setFactor()

```
public void
setFactor( double factor )
```

Accessor for the *factor* property.

48.54.22 Method setReleaseUnits()

```
public void
setReleaseUnits( mil.dtra.hpac.models.nfac.data.analyst.ReleaseUnits units )
```

Accessor for the *releaseUnits* property.

Parameters:

units - object to copy

48.54.23 Method setShowFactor()

```
public void
setShowFactor( boolean flag )
```

Accessor for the *showFactor* property.

48.54.24 Method startListening()

```
protected synchronized void
startListening()
```

48.54.25 Method stopListening()

```
protected synchronized void
stopListening()
```

48.55 Class SourceTermListBean

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public SourceTermListBean
extends JPanel
implements HPAC Swing Constants ScrollPane Constants Swing Constants
```

Bean for displaying available source terms.

Fields:

```
protected javax.swing.JTextField fFacilityNameField
protected javax.swing.JTextField fFacilityTypeField
protected javax.swing.JList fList
protected transient mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable fSourceTermTable
```

Methods:

```
protected void create()
protected javax.swing.JPanel createFacilityInfoGroup()
public final java.lang.String getSourceTerm()
public void init()
protected void setFacility()
protected void setModel()
public final void setSourceTerm()
```

48.55.1 Field fFacilityNameField

```
protected javax.swing.JTextField fFacilityNameField
```

48.55.2 Field fFacilityTypeField

```
protected javax.swing.JTextField fFacilityTypeField
```

48.55.3 Field fList

```
protected javax.swing.JList fList
```

48.55.4 Field fSourceTermTable

protected transient mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable **fSourceTermTable**

48.55.5 Constructor SourceTermListBean()

```
public
SourceTermListBean()
```

Default constructor. Must call init().

48.55.6 Constructor SourceTermListBean()

```
public
SourceTermListBean( mil.dtra.util.ValueProperties props )
```

Constructs calling init() with properties object only.

48.55.7 Constructor SourceTermListBean()

```
public
SourceTermListBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    mil.dtra.hpac.models.nfac.data.AnalystModel model
)
```

Constructs calling init() and assuming no title.

48.55.8 Constructor SourceTermListBean()

```
public
SourceTermListBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    mil.dtra.hpac.models.nfac.data.AnalystModel model,
    java.lang.String title
)
```

Constructs calling init().

48.55.9 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

48.55.10 Method createFacilityInfoGroup()

```
protected javax.swing.JPanel
createFacilityInfoGroup( mil.dtra.util.ValueProperties props )
```

48.55.11 Method getSourceTerm()

```
public final java.lang.String
getSourceTerm()
```

Accessor for the *sourceTerm* property.

48.55.12 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    mil.dtra.hpac.models.nfac.data.AnalystModel model,
    java.lang.String title
)
```

48.55.13 Method setFacility()

```
protected void
setFacility( mil.dtra.hpac.models.nfac.data.Facility facility )
```

48.55.14 Method setModel()

```
protected void
setModel( mil.dtra.hpac.models.nfac.data.AnalystModel model )
```

48.55.15 Method setSourceTerm()

```
public final void
setSourceTerm( java.lang.String term )
```

Accessor for the *sourceTerm* property.

48.56 Class SourceTermListPage

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public SourceTermListPage
extends AbstractSourceTermWizardPage
implements SwingConstants
```

SourceTermWizardPage wrapper for a SourceTermListBean.

Fields:

```
protected mil.dtra.hpac.models.nfac.data.AnalystModel fAnalystModel
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermListBean
fBean
protected transient java.util.HashMap fPageTable
```

Methods:

```
protected void create()
protected javax.swing.JComponent createBean()
public mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage
createNextPage()
public final mil.dtra.hpac.models.nfac.data.AnalystModel getAnalystModel()
public final java.lang.String getHelpContext()
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage
getPage()
public final java.lang.String getTitle()
public final boolean hasNextPage()
public final boolean hasPrevPage()
protected void loadBean()
```

48.56.1 Field fAnalystModel

protected mil.dtra.hpac.models.nfac.data.AnalystModel **fAnalystModel**

48.56.2 Field fBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermListBean **fBean**

48.56.3 Field fPageTable

protected transient java.util.HashMap **fPageTable**

48.56.4 Constructor SourceTermListPage()

```
public
SourceTermListPage()
```

Default constructor. Must call single parameter init().

48.56.5 Constructor SourceTermListPage()

```
public
SourceTermListPage( mil.dtra.util.ValueProperties props )
```

Constructs calling init().

48.56.6 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

Calls createBean().

48.56.7 Method createBean()

```
protected javax.swing.JComponent
createBean( mil.dtra.util.ValueProperties props )
```

48.56.8 Method createNextPage()

```
public mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage
createNextPage()
```

Returns:

page appropriate for source term selection

48.56.9 Method getAnalystModel()

```
public final mil.dtra.hpac.models.nfac.data.AnalystModel
getAnalystModel()
```

Returns:

null

48.56.10 Method getHelpContext()

```
public final java.lang.String  
getHelpContext()
```

Returns:

null

48.56.11 Method getPage()

```
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage  
getPage( java.lang.Class page_class )
```

Reuses or creates the page of the specified class.

Returns:

SourceTermWizardPage reference

48.56.12 Method getTitle()

```
public final java.lang.String  
getTitle()
```

Returns:

"Select Source Term"

48.56.13 Method hasNextPage()

```
public final boolean  
hasNextPage()
```

Returns:

true

48.56.14 Method hasPrevPage()

```
public final boolean  
hasPrevPage()
```

Returns:

false

48.56.15 Method loadBean()

```
protected void
loadBean( mil.dtra.hpac.models.nfac.data.AnalystModel model )
```

48.57 Class SourceTermWizard

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public SourceTermWizard
extends JOptionPane
implements ActionListenerHPACSwingConstants SwingConstants
```

Bean for displaying and editing an AnalystModel.

Fields:

```
public static final java.lang.String ACTION_back
public static final java.lang.String ACTION_cancel
public static final java.lang.String ACTION_finish
public static final java.lang.String ACTION_next
protected javax.swing.JButton fBackButton
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage
fCurrentPage
protected transient javax.swing.JDialog fDialog
protected boolean fFinished
protected javax.swing.JButton fFinishNextButton
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage
fFirstPage
protected mil.dtra.hpac.help.HelpButtonBean fHelpButton
protected transient volatile boolean fListeningFlag
protected transient mil.dtra.util.ValueProperties fProps
public static final java.lang.String PROP_analystModel
public static final java.lang.String PROP_facility
```

Methods:

```
public void actionPerformed()
protected void create()
public mil.dtra.hpac.models.nfac.data.AnalystModel getAnalystModel()
protected void handleCheckException()
public void hideDialog()
public void init()
public void setCurrentPage()
public void showDialog()
```

48.57.1 Field ACTION_back

```
public static final java.lang.String ACTION_back
```

48.57.2 Field ACTION_cancel

public static final java.lang.String ACTION_cancel

48.57.3 Field ACTION_finish

public static final java.lang.String ACTION_finish

48.57.4 Field ACTION_next

public static final java.lang.String ACTION_next

48.57.5 Field fBackButton

protected javax.swing.JButton fBackButton

48.57.6 Field fCurrentPage

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage fCurrentPage

48.57.7 Field fDialog

protected transient javax.swing.JDialog fDialog

48.57.8 Field fFinished

protected boolean fFinished

48.57.9 Field fFinishNextButton

protected javax.swing.JButton fFinishNextButton

48.57.10 Field fFirstPage

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage fFirstPage

48.57.11 Field fHelpButton

protected mil.dtra.hpac.help.HelpButtonBean fHelpButton

48.57.12 Field fListeningFlag

protected transient volatile boolean **fListeningFlag**

48.57.13 Field fProps

protected transient mil.dtra.util.ValueProperties **fProps**

48.57.14 Field PROP_analystModel

public static final java.lang.String **PROP_analystModel**

48.57.15 Field PROP_facility

public static final java.lang.String **PROP_facility**

48.57.16 Constructor SourceTermWizard()

public
SourceTermWizard()

Default constructor. Must call `init()`.

48.57.17 Constructor SourceTermWizard()

public
SourceTermWizard(mil.dtra.util.ValueProperties props)

Constructs calling `init()`.

48.57.18 Method actionPerformed()

public void
actionPerformed(java.awt.event.ActionEvent event)

48.57.19 Method create()

protected void
create(mil.dtra.util.ValueProperties props)

48.57.20 Method getAnalystModel()

```
public mil.dtra.hpac.models.nfac.data.AnalystModel  
getAnalystModel()
```

Returns:

reference of the edited model object or null if the operation was canceled or failed

48.57.21 Method handleCheckException()

```
protected void  
handleCheckException( java.lang.RuntimeException ex )
```

48.57.22 Method hideDialog()

```
public void  
hideDialog()
```

48.57.23 Method init()

```
public void  
init( mil.dtra.util.ValueProperties props )
```

48.57.24 Method setCurrentPage()

```
public void  
setCurrentPage( mil.dtra.hpac.models.nfac.client.swing.model.analyst.SourceTermWizardPage  
page )
```

48.57.25 Method showDialog()

```
public void  
showDialog(  
    java.awt.Component parent,  
    mil.dtra.hpac.models.nfac.data.Facility facility,  
    mil.dtra.hpac.data.Incident incident,  
    mil.dtra.hpac.models.nfac.data.AnalystModel model  
)
```

48.58 Class SpentFuelBean

```

mil.dtra.hpac.models.nfac.client.swing.model.analyst
public SpentFuelBean
extends JPanel
implements ActionListenerHPAC Swing Constants PropertyChangeListener Swing Constants

```

Bean for displaying and editing an Options object.

Fields:

```

public static final java.lang.String ACTION_reset
protected mil.dtra.hpac.client.swing.ValueUnitsBean fBatchCountBean
protected mil.dtra.hpac.models.nfac.data.Facility fFacility
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.FuelConditionBean fFuelConditionBean
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.LeakRateBean fLeakRateBean
protected transient volatile boolean fListeningFlag
protected mil.dtra.hpac.client.swing.ValueUnitsBean fOperatingPowerBean
protected transient mil.dtra.hpac.models.nfac.data.analyst.PlantConditionTables fPlantConditionTables
protected mil.dtra.hpac.client.swing.time.TimeBean fPoolTimeBean
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ReleasePathBean fReleasePathBean
protected javax.swing.JButton fResetButton
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SpraysBean fSpraysBean
protected mil.dtra.hpac.models.nfac.data.analyst.SpentFuel fValue
public static final java.lang.String PROP_value

```

Methods:

```

public void actionPerformed()
public void check()
protected void create()
protected javax.swing.JComponent createButtonPanel()
public final mil.dtra.hpac.models.nfac.data.Facility getFacility()
public final mil.dtra.hpac.models.nfac.data.analyst.SpentFuel getValue()
public void init()
public void propertyChange()
public void setFacility()
public void setStartTime()
public void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()
protected void updateBeans()

```

48.58.1 Field ACTION_reset

public static final java.lang.String ACTION_reset

48.58.2 Field fBatchCountBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean fBatchCountBean

48.58.3 Field fFacility

protected mil.dtra.hpac.models.nfac.data.Facility fFacility

48.58.4 Field fFuelConditionBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.FuelConditionBean fFuelConditionBean

48.58.5 Field fLeakRateBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.LeakRateBean fLeakRateBean

48.58.6 Field fListeningFlag

protected transient volatile boolean fListeningFlag

48.58.7 Field fOperatingPowerBean

protected mil.dtra.hpac.client.swing.ValueUnitsBean fOperatingPowerBean

48.58.8 Field fPlantConditionTables

protected transient mil.dtra.hpac.models.nfac.data.analyst.PlantConditionTables fPlantConditionTables

48.58.9 Field fPoolTimeBean

protected mil.dtra.hpac.client.swing.time.TimeBean fPoolTimeBean

48.58.10 Field fReleasePathBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.ReleasePathBean fReleasePathBean

48.58.11 Field fResetButton

```
protected javax.swing.JButton fResetButton
```

48.58.12 Field fSpraysBean

```
protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SpraysBean fSpraysBean
```

48.58.13 Field fValue

```
protected mil.dtra.hpac.models.nfac.data.analyst.SpentFuel fValue
```

48.58.14 Field PROP_value

```
public static final java.lang.String PROP_value
```

48.58.15 Constructor SpentFuelBean()

```
public  
SpentFuelBean()
```

Default constructor. Must call init().

48.58.16 Constructor SpentFuelBean()

```
public  
SpentFuelBean( mil.dtra.util.ValueProperties props )
```

Constructs calling init() with nothing but properties object.

48.58.17 Constructor SpentFuelBean()

```
public  
SpentFuelBean(  
    mil.dtra.util.ValueProperties props,  
    java.lang.String title  
)
```

Constructs calling init() but deferring everything except the title.

48.58.18 Constructor SpentFuelBean()

```
public
SpentFuelBean(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    mil.dtra.hpac.models.nfac.data.analyst.SpentFuel value,
    java.lang.String title
)
```

Constructs calling init().

48.58.19 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.58.20 Method check()

```
public void
check()
```

Checks for *leakRate* of 100.0 when *filteredReleasePath* is true.

Exceptions:

RuntimeException - if the condition holds

48.58.21 Method create()

```
protected void
create( mil.dtra.util.ValueProperties props )
```

48.58.22 Method createButtonPanel()

```
protected javax.swing.JComponent
createButtonPanel( mil.dtra.util.ValueProperties props )
```

48.58.23 Method getFacility()

```
public final mil.dtra.hpac.models.nfac.data.Facility
getFacility()
```

Accessor for the *facility* property.

Returns:

object reference

48.58.24 Method getValue()

```
public final mil.dtra.hpac.models.nfac.data.analyst.SpentFuel
getValue()
```

Accessor for the *value* property.

Returns:

object copy

48.58.25 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    mil.dtra.hpac.models.nfac.data.Facility facility,
    mil.dtra.hpac.models.nfac.data.analyst.SpentFuel value,
    java.lang.String title
)
```

48.58.26 Method propertyChange()

```
public void
propertyChange( java.beans.PropertyChangeEvent event )
```

48.58.27 Method setFacility()

```
public void
setFacility( mil.dtra.hpac.models.nfac.data.Facility facility )
```

Accessor for the *facility* property.

Parameters:

object - reference to store

48.58.28 Method setStartTime()

```
public void
setStartTime( mil.dtra.hpac.data.Time start_time )
```

48.58.29 Method setValue()

```
public void
setValue( mil.dtra.hpac.models.nfac.data.analyst.SpentFuel value )
```

Accessor for the *value* property.

Parameters:

object - to copy

48.58.30 Method startListening()

```
protected synchronized void
startListening()
```

48.58.31 Method stopListening()

```
protected synchronized void
stopListening()
```

48.58.32 Method updateBeans()

```
protected void
updateBeans( mil.dtra.hpac.models.nfac.data.analyst.SpentFuel value )
```

Assumes no listeners are active.

48.59 Class SpentFuelPage

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public SpentFuelPage
extends AbstractSourceTermWizardPage
```

SourceTermWizardPage wrapper for a SpentFuelBean.

Fields:

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SpentFuelBean fBean

Methods:

```
public void check()
protected javax.swing.JComponent createBean()
public final mil.dtra.hpac.models.nfac.data.AnalystModel getAnalystModel()
public final java.lang.String getHelpContext()
public final java.lang.String getTitle()
protected void loadBean()
```

48.59.1 Field fBean

protected mil.dtra.hpac.models.nfac.client.swing.model.analyst.SpentFuelBean fBean

48.59.2 Constructor SpentFuelPage()

```
public
SpentFuelPage()
```

Default constructor.

48.59.3 Method check()

```
public void
check()
```

Calls check() on fBean.

Exceptions:

RuntimeException - on an invalid SpentFuel

48.59.4 Method createBean()

```
protected javax.swing.JComponent
createBean( mil.dtra.util.ValueProperties props )
```

48.59.5 Method getAnalystModel()

```
public final mil.dtra.hpac.models.nfac.data.AnalystModel
getAnalystModel()
```

Returns:

value from the bean

48.59.6 Method getHelpContext()

```
public final java.lang.String
getHelpContext()
```

Returns:

null

48.59.7 Method getTitle()

```
public final java.lang.String
getTitle()
```

Returns:

"Define Mix Specified By Analyst"

48.59.8 Method loadBean()

```
protected void
loadBean( mil.dtra.hpac.models.nfac.data.AnalystModel model )
```

48.60 Class SpraysBean

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public SpraysBean
extends JPanel
implements ActionListenerHPACSwingConstantsSwingConstants
```

Bean for displaying and editing off/on sprays selection.

Fields:

```
public static final java.lang.String DEFAULT_TITLE
protected transient boolean fListeningFlag
protected javax.swing.JRadioButton fOffButton
protected javax.swing.JRadioButton fOnButton
public static final java.lang.String PROP_value
```

Methods:

```
public void actionPerformed()
protected void create()
public final boolean getValue()
public void init()
public final void setValue()
protected synchronized void startListening()
protected synchronized void stopListening()
```

48.60.1 Field DEFAULT_TITLE

public static final java.lang.String **DEFAULT_TITLE**

48.60.2 Field fListeningFlag

protected transient boolean **fListeningFlag**

48.60.3 Field fOffButton

protected javax.swing.JRadioButton **fOffButton**

48.60.4 Field fOnButton

protected javax.swing.JRadioButton **fOnButton**

48.60.5 Field PROP_value

public static final java.lang.String **PROP_value**

48.60.6 Constructor SpraysBean()

public
SpraysBean()

Default constructor. Must call `init()`.

48.60.7 Constructor SpraysBean()

public
SpraysBean(mil.dtra.util.ValueProperties props)

Constructs calling `init()` with a VERTICAL orientation, the default title, and a *value* of false.

48.60.8 Constructor SpraysBean()

```
public
SpraysBean(
    mil.dtra.util.ValueProperties props,
    boolean value
)
```

Constructs calling `init()` with a VERTICAL orientation and the default title.

48.60.9 Constructor SpraysBean()

```
public
SpraysBean(
    mil.dtra.util.ValueProperties props,
    boolean value,
    int orientation,
    java.lang.String title
)
```

Constructs calling `init()`.

48.60.10 Method actionPerformed()

```
public void
actionPerformed( java.awt.event.ActionEvent event )
```

48.60.11 Method create()

```
protected void
create(
    mil.dtra.util.ValueProperties props,
    int orientation
)
```

48.60.12 Method getValue()

```
public final boolean
getValue()
```

Accessor for the *value* property.

48.60.13 Method init()

```
public void
init(
    mil.dtra.util.ValueProperties props,
    boolean value,
    int orientation,
    java.lang.String title
)
```

48.60.14 Method setValue()

```
public final void
setValue( boolean value )
```

Accessor for the *value* property.

48.60.15 Method startListening()

```
protected synchronized void
startListening()
```

48.60.16 Method stopListening()

```
protected synchronized void
stopListening()
```

48.61 Class TimeUnitsCombo

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public TimeUnitsCombo
extends JComboBox
```

JComboBox extension for time unit choices using the TIME_UNITS_constants defined in mil.dtra.hpac.model

Fields:

```
public static final java.lang.String[] ITEMS
```

48.61.1 Field ITEMS

```
public static final java.lang.String[] ITEMS
```

48.61.2 Constructor TimeUnitsCombo()

```
public
TimeUnitsCombo()
```

Default constructor.

48.61.3 Constructor TimeUnitsCombo()

```
public
TimeUnitsCombo( mil.dtra.util.ValueProperties props )
```

48.62 Class VolumeMassUnitsCombo

```
mil.dtra.hpac.models.nfac.client.swing.model.analyst
public VolumeMassUnitsCombo
extends JComboBox
```

JComboBox extension for volume/mass unit choices using the VM_UNITS_ constants defined in mil.dtra.hpac.models.nfac.server.analyst.

Fields:

```
public static final java.lang.String[] ITEMS
```

48.62.1 Field ITEMS

```
public static final java.lang.String[] ITEMS
```

48.62.2 Constructor VolumeMassUnitsCombo()

```
public
VolumeMassUnitsCombo()
```

Default constructor.

48.62.3 Constructor VolumeMassUnitsCombo()

```
public
VolumeMassUnitsCombo( mil.dtra.util.ValueProperties props )
```

CHAPTER 49

Package **mil.dtra.hpac.models.nfac.client.swing.times**

Interfaces:

ModelTimesMgr

Classes:

AbstractTimesMgr
AnalystMixTimesMgr
ExternalRadFileTimesMgr
IsotopicConcentrationsTimesMgr
IsotopicReleaseRatesTimesMgr
ModelTimesMgrFactory
NoopTimesMgr
OperationalTimesMgr
PercentInventoryTimesMgr
SpentFuelTimesMgr

49.1 Interface ModelTimesMgr

mil.dtra.hpac.models.nfac.client.swing.times
public interface **ModelTimesMgr**

Definition of object which manages the time display for a particular source term type.

Fields:

public static final int CONTROL_disabled
public static final int CONTROL_enabled
public static final int CONTROL_invisible

Methods:

```
public int[] getControlFlags()
public mil.dtra.hpac.models.nfac.data.ModelTimes getDefaultTimes()
public java.lang.String getInfoText()
public void init()
public void updateTimes()
```

49.1.1 Field CONTROL_disabled

public static final int **CONTROL_disabled**

49.1.2 Field CONTROL_enabled

public static final int **CONTROL_enabled**

49.1.3 Field CONTROL_invisible

public static final int **CONTROL_invisible**

49.1.4 Method getControlFlags()

public int[]
getControlFlags()

Returns a int [5] with CONTROL_flag values indicating which of the times, in order of *startOfDecay*, *releaseToContainment*, *releaseToEnvironment*, *endOfRelease*, and *endOfExposure*, are enabled and / or visible.

Returns:

array of control flags

49.1.5 Method getDefaultTimes()

public mil.dtra.hpac.models.nfac.data.ModelTimes
getDefaultTimes()

Return a default times value object.

Returns:

object reference

49.1.6 Method `getInfoText()`

```
public java.lang.String
getInfoText()
```

Returns a string with an information display for the times. If the information display is to be invisible, null should be returned.

Returns:

information text; should not be null

49.1.7 Method `init()`

```
public void
init(
    mil.dtra.hpac.models.nfac.data.ModelDef model_def,
    mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable.OperationalInfo op_info,
    mil.dtra.hpac.data.Time start_time
)
```

Called before any other methods to allow the manager to see what model objects are to be processed.

Parameters:

`model_def` - model object reference
`op_info` - reference to operational information object
`start` - first time

49.1.8 Method `updateTimes()`

```
public void
updateTimes( mil.dtra.hpac.models.nfac.data.ModelTimes value )
```

Modify times as necessary to enforce rules for time properties.

Parameters:

`value` - object to inspect and if necessary modify

49.2 Class AbstractTimesMgr

```
mil.dtra.hpac.models.nfac.client.swing.times
public abstract AbstractTimesMgr
extends Object
implements ModelTimesMgr
```

Passive ModelTimesMgr implementation.

Fields:

```
public static final int[] CONTROLS_allEnabled
protected int[] fControlFlags
protected mil.dtra.hpac.models.nfac.data.ModelTimes fDefaultTimes
protected java.lang.String fInfoText
protected static final java.text.DecimalFormat FORMAT_duration
```

Methods:

```
protected mil.dtra.hpac.models.nfac.data.ModelTimes createDefaultTimes()
protected java.lang.String createInfoText()
public final int[] getControlFlags()
public final mil.dtra.hpac.models.nfac.data.ModelTimes getDefaultTimes()
public final java.lang.String getInfoText()
protected void set()
```

49.2.1 Field CONTROLS_allEnabled

```
public static final int[] CONTROLS_allEnabled
```

49.2.2 Field fControlFlags

```
protected int[] fControlFlags
```

49.2.3 Field fDefaultTimes

```
protected mil.dtra.hpac.models.nfac.data.ModelTimes fDefaultTimes
```

49.2.4 Field fInfoText

```
protected java.lang.String fInfoText
```

49.2.5 Field FORMAT_duration

```
protected static final java.text.DecimalFormat FORMAT_duration
```

49.2.6 Constructor AbstractTimesMgr()

protected
AbstractTimesMgr()

49.2.7 Method createDefaultTimes()

protected mil.dtra.hpac.models.nfac.data.ModelTimes
createDefaultTimes(

```
    mil.dtra.hpac.data.Time start_time,
    double duration,
    double puff_duration
)
```

Creates default times as the incident start time with offsets for time properties of:

Returns:

new times object

49.2.8 Method createInfoText()

protected java.lang.String
createInfoText(

```
    int release_count,
    double duration
)
```

Builds an info text string giving the duration in hours and broken down into days, hours, minutes, and seconds.

Returns:

info text string

49.2.9 Method getControlFlags()

public final int[]
getControlFlags()

Returns:

int[5] reference

49.2.10 Method getDefaultTimes()

```
public final mil.dtra.hpac.models.nfac.data.ModelTimes
getDefaultTimes()
```

Returns:

object reference

49.2.11 Method getInfoText()

```
public final java.lang.String
getInfoText()
```

Returns:

info text

49.2.12 Method set()

```
protected void
set(
    int[] control_flags,
    mil.dtra.hpac.models.nfac.data.ModelTimes default_times,
    java.lang.String info_text
)
```

Sets property value **references** to be returned in `getXXX()` calls.

49.3 Class AnalystMixTimesMgr

`mil.dtra.hpac.models.nfac.client.swing.times`

`public AnalystMixTimesMgr`

`extends NoopTimesMgr`

Manages times for `AnalystMix` models. `releaseToContainment` is made invisible and forced equal to `releaseToEnvironment`.

Fields:

```
public static final int[] CONTROLS
```

Methods:

```
public final int[] getNoopControlFlags()
public void updateTimes()
```

49.3.1 Field CONTROLS

```
public static final int[] CONTROLS
```

49.3.2 Constructor AnalystMixTimesMgr()

```
public  
AnalystMixTimesMgr()
```

49.3.3 Method getNoopControlFlags()

```
public final int[]  
getNoopControlFlags()
```

Returns:

reference to CONTROLS

49.3.4 Method updateTimes()

```
public void  
updateTimes( mil.dtra.hpac.models.nfac.data.ModelTimes value )
```

49.4 Class ExternalRadFileTimesMgr

```
mil.dtra.hpac.models.nfac.client.swing.times  
public ExternalRadFileTimesMgr  
extends NoopTimesMgr
```

Manages times for ExternalRadFile models. Both *startOfDecay* and *releaseToContainment* are made invisible and forced equal to *releaseToEnvironment*. *endOfRelease* is disabled and set for the duration in the rad file.

Fields:

```
public static final int[] CONTROLS  
protected mil.dtra.hpac.models.nfac.data.analyst.ExternalRadFile fExternalRadFile
```

Methods:

```
public final int[] getNoopControlFlags()  
public void init()  
public void updateTimes()
```

49.4.1 Field CONTROLS

```
public static final int[] CONTROLS
```

49.4.2 Field fExternalRadFile

```
protected mil.dtra.hpac.models.nfac.data.analyst.ExternalRadFile fExternalRadFile
```

49.4.3 Constructor ExternalRadFileTimesMgr()

```
public  
ExternalRadFileTimesMgr()
```

49.4.4 Method getNoopControlFlags()

```
public final int[]  
getNoopControlFlags()
```

Returns:

reference to CONTROLS

49.4.5 Method init()

```
public void  
init(  
    mil.dtra.hpac.models.nfac.data.ModelDef model_def,  
    mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable.OperationalInfo op_info,  
    mil.dtra.hpac.data.Time start_time  
)
```

Overrides NoopTimesMgr .init() to save the model_def and limit the release duration by the leak rate.

49.4.6 Method updateTimes()

```
public void  
updateTimes( mil.dtra.hpac.models.nfac.data.ModelTimes value )
```

49.5 Class IsotopicConcentrationsTimesMgr

```
mil.dtra.hpac.models.nfac.client.swing.times
public IsotopicConcentrationsTimesMgr
extends NoopTimesMgr
```

Manages times for IsotopicConcentrations models. Only *releasetoContainment* is invisible and is forced equal to *startOfDecay*.

Fields:

```
public static final int[] CONTROLS
```

Methods:

```
public int[] getNoopControlFlags()
public void updateTimes()
```

49.5.1 Field CONTROLS

```
public static final int[] CONTROLS
```

49.5.2 Constructor IsotopicConcentrationsTimesMgr()

```
public
IsotopicConcentrationsTimesMgr()
```

49.5.3 Method getNoopControlFlags()

```
public int[]
getNoopControlFlags()
```

Returns:

```
reference to CONTROLS
```

49.5.4 Method updateTimes()

```
public void
updateTimes( mil.dtra.hpac.models.nfac.data.ModelTimes value )
```

49.6 Class IsotopicReleaseRatesTimesMgr

```
mil.dtra.hpac.models.nfac.client.swing.times
public IsotopicReleaseRatesTimesMgr
extends NoopTimesMgr
```

Manages times for IsotopicReleaseRates models. Both *startOfDecay* and *releaseToContainment* are made invisible and forced equal to *releaseToEnvironment*.

Fields:

```
public static final int[] CONTROLS
```

Methods:

```
public final int[] getNoopControlFlags()
public void updateTimes()
```

49.6.1 Field CONTROLS

```
public static final int[] CONTROLS
```

49.6.2 Constructor IsotopicReleaseRatesTimesMgr()

```
public
IsotopicReleaseRatesTimesMgr()
```

49.6.3 Method getNoopControlFlags()

```
public final int[]
getNoopControlFlags()
```

Returns:

```
reference to CONTROLS
```

49.6.4 Method updateTimes()

```
public void
updateTimes( mil.dtra.hpac.models.nfac.data.ModelTimes value )
```

49.7 Class ModelTimesMgrFactory

```
mil.dtra.hpac.models.nfac.client.swing.times
public final ModelTimesMgrFactory
extends Object
```

Utility class serving as a factory for ModelTimesMgr instances.

Methods:

```
public static mil.dtra.hpac.models.nfac.client.swing.times.ModelTimesMgr getInstance()
```

49.7.1 Constructor ModelTimesMgrFactory()

```
public
ModelTimesMgrFactory()
```

49.7.2 Method getInstance()

```
public static mil.dtra.hpac.models.nfac.client.swing.times.ModelTimesMgr
getInstance(
    mil.dtra.hpac.models.nfac.data.ModelDef model_def,
    mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable.OperationalInfo op_info,
    mil.dtra.hpac.data.Time start_time
)
```

49.8 Class NoopTimesMgr

```
mil.dtra.hpac.models.nfac.client.swing.times
public NoopTimesMgr
extends AbstractTimesMgr
```

Passive ModelTimesMgr implementation.

Methods:

```
public int[] getNoopControlFlags()
public void init()
public void updateTimes()
```

49.8.1 Constructor NoopTimesMgr()

```
public
NoopTimesMgr()
```

49.8.2 Method `getNoopControlFlags()`

```
public int[]
getNoopControlFlags()
```

Called from `init()` so subclasses can override and inherit from this class.

Returns:

reference to `CONTROLS_allEnabled`

49.8.3 Method `init()`

```
public void
init(
    mil.dtra.hpac.models.nfac.data.ModelDef model_def,
    mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable.OperationalInfo op_info,
    mil.dtra.hpac.data.Time start_time
)
```

Calls `set()` with results of `getNoopControlFlags()`, `createDefaultTimes()` with the incident *startTime* and values of 1.0 and 3.0 for duration and *puff_duration*, respectively. Sets a blank string as the info text.

49.8.4 Method `updateTimes()`

```
public void
updateTimes( mil.dtra.hpac.models.nfac.data.ModelTimes value )
```

Noop.

49.9 Class `OperationalTimesMgr`

```
mil.dtra.hpac.models.nfac.client.swing.times
public OperationalTimesMgr
extends PercentInventoryTimesMgr
```

Manages times for operational (`PercentInventory`) models.

Fields:

```
public static final int[] CONTROLS
```

Methods:

```
public void init()
public void updateTimes()
```

49.9.1 Field CONTROLS

```
public static final int[] CONTROLS
```

49.9.2 Constructor OperationalTimesMgr()

```
public  
OperationalTimesMgr()
```

49.9.3 Method init()

```
public void  
init(  
    mil.dtra.hpac.models.nfac.data.ModelDef model_def,  
    mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable.OperationalInfo op_info,  
    mil.dtra.hpac.data.Time start_time  
)
```

49.9.4 Method updateTimes()

```
public void  
updateTimes( mil.dtra.hpac.models.nfac.data.ModelTimes value )
```

49.10 Class PercentInventoryTimesMgr

```
mil.dtra.hpac.models.nfac.client.swing.times  
public PercentInventoryTimesMgr  
extends AbstractTimesMgr
```

Manages times for non-operational PercentInventory models.

Fields:

```
public static final int[] CONTROLS  
protected double fDuration
```

Methods:

```
public void init()  
public void updateTimes()
```

49.10.1 Field CONTROLS

```
public static final int[] CONTROLS
```

49.10.2 Field fDuration

```
protected double fDuration
```

49.10.3 Constructor PercentInventoryTimesMgr()

```
public  
PercentInventoryTimesMgr()
```

49.10.4 Method init()

```
public void  
init(  
    mil.dtra.hpac.models.nfac.data.ModelDef model_def,  
    mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable.OperationalInfo op_info,  
    mil.dtra.hpac.data.Time start_time  
)
```

Calculates the *duration* and calls `set()`. Calls `createDefaultTimes()` and `createInfoText()` with the calculated duration.

49.10.5 Method updateTimes()

```
public void  
updateTimes( mil.dtra.hpac.models.nfac.data.ModelTimes value )
```

49.11 Class SpentFuelTimesMgr

```
mil.dtra.hpac.models.nfac.client.swing.times  
public SpentFuelTimesMgr  
extends NoopTimesMgr
```

Manages times for SpentFuel models. The *startOfDecay* time is invisible.

Fields:

```
public static final int[] CONTROLS  
protected mil.dtra.hpac.models.nfac.data.analyst.SpentFuel fSpentFuel
```

Methods:

```
public final int[] getNoopControlFlags()  
public void init()  
public void updateTimes()
```

49.11.1 Field CONTROLS

```
public static final int[] CONTROLS
```

49.11.2 Field fSpentFuel

```
protected mil.dtra.hpac.models.nfac.data.analyst.SpentFuel fSpentFuel
```

49.11.3 Constructor SpentFuelTimesMgr()

```
public  
SpentFuelTimesMgr()
```

49.11.4 Method getNoopControlFlags()

```
public final int[]  
getNoopControlFlags()
```

Returns:

reference to CONTROLS

49.11.5 Method init()

```
public void  
init(  
    mil.dtra.hpac.models.nfac.data.ModelDef model_def,  
    mil.dtra.hpac.models.nfac.data.analyst.SourceTermTable.OperationalInfo op_info,  
    mil.dtra.hpac.data.Time start_time  
)
```

Overrides NoopTimesMgr .init() to save the model_def and limit the release duration by the leak rate.

49.11.6 Method updateTimes()

```
public void  
updateTimes( mil.dtra.hpac.models.nfac.data.ModelTimes value )
```