

# **HP Operations Manager**

## **Java GUI Operator's Guide**

**Software Version: 9.10**

**for the UNIX and Linux operating systems**



**Manufacturing Part Number: None**

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## Glossary

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## Printing History

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# Conventions

The following typographical conventions are used in this manual:

**Table 1**                      **Typographical Conventions**

<b>Font</b>	<b>Meaning</b>	<b>Example</b>
<i>Italic</i>	Book titles and manual page names	For more information, see the <i>HPOM Administrator's Reference</i> and the <i>opc(1m)</i> manual page.
	Emphasis	You <i>must</i> follow these steps.
	Variable that you must supply when entering a command (in angle brackets)	At the prompt, enter <b>rlogin</b> <b>&lt;username&gt;</b> .
	Parameters to a function	The <i>oper_name</i> parameter returns an integer response.
Computer	Text and other items on the computer screen	The following system message displays:  Are you sure you want to remove current group?
	Command names	Use the <code>grep</code> command ...
	Function names	Use the <code>opc_connect()</code> function to connect...
	File and directory names	Edit the <code>itooprc</code> file...  <code>/opt/OV/bin/OpC/</code>
	Process names	Check to see if <code>opcmona</code> is running.
<b>Computer Bold</b>	Text that you enter	At the prompt, enter <b>ls -l</b> .

**Table 1**                      **Typographical Conventions (Continued)**

<b>Font</b>	<b>Meaning</b>	<b>Example</b>
<b>Keycap</b>	Keyboard keys	Press <b>Return</b> .
	Menu name followed by a colon (:) means that you select the menu, and then the item. When the item is followed by an arrow (->), a cascading menu follows.	From the menu bar, select <b>Actions: Filtering -&gt; All Active Messages</b> .
	Buttons in the user interface	Click <b>OK</b> .

---

## Documentation Map

HP Operations Manager (HPOM) provides a set of manuals and online help that is designed to help you use the product more efficiently and understand more quickly the concepts underlying the product. This section describes what information is available and where you can find it.

### Electronic Versions of the Manuals

All the HPOM manuals are available as Adobe Portable Document Format (PDF) files in the documentation directory on the HPOM product DVD.

Alternatively, you can download all the HPOM product manuals from the following website, which requires login credentials:

<http://support.openview.hp.com/selfsolve/manuals>

Watch this website regularly for the latest edition of the *HPOM Software Release Notes*, which is updated every two to three months with the latest news (for example, additionally supported operating system versions, the latest patches and so on).

A more limited selection of the product manuals is also available in the following HPOM web-server directories:

- Standard Connection:

[http://<management\\_server>:8081/ITO\\_DOC/<lang>/manuals/](http://<management_server>:8081/ITO_DOC/<lang>/manuals/)

- Secure Connection:

[https://<management\\_server>:8444/ITO\\_DOC/<lang>/manuals/](https://<management_server>:8444/ITO_DOC/<lang>/manuals/)

<management\_server>

Fully qualified hostname of the HPOM management server

<lang>

System language set on the management server, for example, C for the English environment

You can also find a selection of product manuals in the following locations on the HP Operations management server file system after software installation is complete:

- **HP Operations Manager:**  
`/opt/OV/www/htdocs/ito_doc/<lang>/manuals`
- **HPOM Administration UI**  
`/opt/OV/OMU/adminUI/jre/db/docs/pdf/`
- **Hotfix Deployment Tool**  
`/opt/OV/contrib/OpC/Hotfix_deployment_tool/`
- **HP Event Correlation Services (ECS):**  
`/opt/OV/doc/ecs/<lang>/`
- **HP OVprotect tool**  
`/opt/OV/contrib/OpC/OvProtect/`
- **HP SiteScope**  
`/opt/OV/nonOV/tomcat/b/www/webapps/topaz/amdocs/eng/pdfs/`
- **HP Business Availability Center (BAC)**  
`/opt/OV/install/OpC/`
- **Tomcat**  
`/opt/OV/nonOV/tomcat/b/www/webapps/docs/architecture/startup/`  
`/opt/OV/nonOV/tomcat/b/www/webapps/docs/architecture/requestProcess/`
- **Incident WebServices Perl libraries**  
`/opt/OV/contrib/OprWsIncPerl/`

HPOM Java GUI Online Information is found in the following location on the HP Operations management server file system after software installation is complete:

`/opt/OV/www/htdocs/ito_op/help/<lang>/ovo/html/`



## HPOM Manuals

This section provides an overview of the most important manuals provided with HPOM on UNIX and HPOM on Linux. For information about additional documentation, see “Electronic Versions of the Manuals” on page 23. Table 2 on page 25 lists the manuals, indicates who the target audience is, and briefly describes the manuals scope and contents.

**Table 2**                      **HPOM Manuals**

<b>Manual Title</b>	<b>Audience</b>	<b>Description</b>
<i>HPOM Installation Guide for the Management Server</i>	Administrators	Explains how to install HPOM software on the management server and perform the initial configuration. This manual covers the following topics: <ul style="list-style-type: none"><li>• Software and hardware requirements</li><li>• Software installation and removal instructions</li><li>• Configuration defaults</li></ul>
<i>HPOM Concepts Guide</i>	Administrators Operators	Provides you with an understanding of HPOM on two levels. As an operator, you learn about the basic structure of HPOM. As an administrator, you gain an insight into the setup and configuration of HPOM in your own environment.
<i>HPOM Administrator’s Reference</i>	Administrators	Explains how to install HPOM on the managed nodes and helps with HPOM administration and troubleshooting.  Also, provides information for those who are responsible for installing, configuring, maintaining, and troubleshooting the HP Operations <i>Service Navigator</i> . This manual also contains a high-level overview of the concepts behind service management.
<i>HPOM HTTPS Agent Concepts and Configuration Guide</i>	Administrators Operators	Provides platform-specific information about each HTTPS-based managed node platform. Contains conceptual and general information about the HPOM managed nodes.

**Table 2**                      **HPOM Manuals (Continued)**

<b>Manual Title</b>	<b>Audience</b>	<b>Description</b>
<i>HPOM Reporting and Database Schema</i>	Administrators	Provides a detailed description of the HPOM database tables, as well as examples for generating reports from the HPOM database.
<i>HPOM Java GUI Operator's Guide</i>	Administrators Operators	Provides you with a detailed description of the HPOM Java-based operator GUI and the Service Navigator. This manual contains detailed information about general HPOM and Service Navigator concepts and tasks for HPOM operators, as well as reference and troubleshooting information.
<i>HPOM Software Release Notes</i>	Administrators	Lists new features and helps you with the following tasks: <ul style="list-style-type: none"><li>• Compare features of the current software with features of previous versions.</li><li>• Determine system and software compatibility.</li><li>• Solve known problems.</li></ul>
<i>HPOM Firewall Concepts and Configuration Guide</i>	Administrators	Describes the HPOM firewall concepts and provides instructions for configuring the secure environment.
<i>HPOM Web Services Integration Guide</i>	Administrators	Describes the HPOM Web-Services integration.
<i>HPOM Server Configuration Variables</i>	Administrators	List and explains the variables that are available to configure the HPOM management server.

## HPOM Online Information

The following information is available online, that is, on the HPOM management server after installation and initial configuration is complete.

**Table 3**                    **HPOM Online Information**

<b>Online Information</b>	<b>Description</b>
HPOM Java GUI Online Information	HTML-based help system for the HPOM Java-based operator GUI and Service Navigator. This help system contains detailed information about general HPOM and Service Navigator concepts and tasks for HPOM operators, as well as reference and troubleshooting information.
HPOM manual pages	<p>HPOM manual pages are available not only on the command line but also in HTML format. To access the HPOM manual pages in HTML format, enter one of the following addresses (URLs) in your web browser:</p> <ul style="list-style-type: none"><li>• Standard Connection: <b><code>http://&lt;HPOM_management_server&gt;:8081/ITO_MAN</code></b></li><li>• Secure Connection: <b><code>https://&lt;HPOM_management_server&gt;:8444/ITO_MAN</code></b></li></ul> <p>In these URLs, <code>&lt;HPOM_management_server&gt;</code> is the fully qualified hostname of your HPOM management server. Note that the manual pages for the HPOM agents are installed on each managed node.</p>

# HPOM Administration UI Documentation

The following information is available online, that is: on the HPOM management server after installation and initial configuration is complete.

**Table 4**                    **HPOM Administration UI Documentation**

<b>Online Information</b>	<b>Description</b>
HPOM Administration UI Online Help	<p>The online help for the HPOM administrator GUI provides context-sensitive information about individual pages, menus, and options displayed in the administrator's graphical user interface. Menus and menu options differ according to the data context in which you are working. Start the HPOM administrator's user interface by entering the following URL in a supported Web browser:</p> <ul style="list-style-type: none"><li>• Standard Connection: <b>http://&lt;HPOM_management_server&gt;:9662</b></li><li>• Secure Connection: <b>https://&lt;HPOM_management_server&gt;:9663</b></li></ul>
<i>HPOM Administration UI Installation Guide</i>	This document provides information about the installation, basic configuration and troubleshooting of Administration UI.
<i>HPOM Administration UI Administration and Configuration Guide</i>	This document provides information about the architecture, configuration, maintenance and troubleshooting of Administration UI.
<i>HPOM Administration UI User Guide</i>	This document provides instructions on usage of the Administration UI software.
<i>HPOM Administration UI Performance and Scalability Guide</i>	This document provides information and recommendations about designing and configuring the environment to run Administration UI.
<i>HPOM Administration UI Release Notes</i>	This document lists new features of the Administration UI, provides installation hints and information on the product known problems and workarounds.

---

## HPOM Online Help

This preface describes online documentation for the HP Operations Manager (HPOM) administrator and the HPOM operator Java graphical user interface (Java GUI).

### Online Help for the HPOM Administrator GUI

The online help for the HPOM administrator GUI provides context-sensitive information about individual pages, menus, and options displayed in the graphical user interface. Menus and menu options differ according to the data context in which you are working. The OMU Administration UI online-help provides information about the following data contexts:

❑ **HPOM for UNIX:**

Describes the user interface displayed when you are working in the *HP Operations Manager for UNIX* data context. In the HPOM for UNIX data context, you manage all HPOM for UNIX-related objects, for example: nodes, policies, categories, applications, users, message groups, and so on.

❑ **Server:**

Describes the user interface displayed when you are working in the *server* data context. In the data server context, you can add new jobs, manage tasks, and browse details of log files on the local or currently selected server.

❑ **Admin:**

Describes the user interface displayed when you are working in the Administration (Admin) data context. In the *Admin* data context, you configure and manage the administrator users who log in to the HPOM Admin UI, the servers that you manage with the HPOM Admin UI, and the licenses that HPOM Admin UI requires to function.

#### Accessing the Admin GUI Online Help

To access online help for the HPOM Administrator's GUI (Admin UI), perform the following steps:

1. Start the HPOM administrator's user interface by entering the following URL in a supported Web browser:
  - Standard Connection:  
**http://localhost:9662**
  - Secure Connection:  
**https://localhost:9663**
2. Log in to the HPOM administrator UI. The default user name and password are as follows:

User name	<b>opc_adm</b>
Password	<b>OpC_adm</b>
3. In the Web browser that opens, click the Help icon in the title bar.
4. Select the link that corresponds to the technical area you need help for, for example: HPOM for UNIX, Server, or Admin.
5. To display context-sensitive help for the current page displayed in the HPOM Admin UI, click the Help icon in the top right of the page.

## Online Help for the Java GUI and Service Navigator

The online help for the Java GUI includes information about the HP Service Navigator (Service Navigator) and helps operators to become familiar with and use the HPOM product.

The online help for the HPOM Java GUI includes the following information:

- Tasks:**  
Step-by-step instructions to help you complete important procedures.
- Concepts:**  
Introduction to the key concepts and features underlying the product features and functionality.
- Troubleshooting:**  
Tips, tricks, and solutions to common problems you might encounter while using the product.

❑ Index:

List of topics in alphabetical order to help you find the information you need, quickly and easily.

**Accessing the Java GUI Online Help**

To access online help for the Java GUI, perform the following steps:

1. Configure HPOM to use your preferred browser.
2. Start the Java GUI and, in the Java GUI menu bar, select **Help: Contents**
3. In the Web browser that opens, choose the topic you want to read about.





---

## Preface

The HP Operations Java-based graphical user interface (Java GUI) includes the following components:

❑ **HP Operations Manager**

Centralized operations and problem-management product for distributed multi-vendor systems.

❑ **Service Navigator**

Add-on to HPOM that enables you to manage your information technology (IT) environment while focusing on the IT services you provide. Service Navigator may not be installed on your system.

## Welcome

Welcome to HP Operations Manager and Service Navigator. To help you become familiar with and use this product in your IT tasks, the following information is available online. To view any topic, open the appropriate folders in the window frame on the left, then click the topic title.

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**NOTE**

You can view the *HPOM Java GUI Operator's Guide* in Adobe Acrobat Portable Document Format (PDF). For details, see "About the Operator's Guide" on page 36.

---

## About the Online Help

This online help contains the following sections:

### ❑ **HPOM Operator Help**

- *Tasks*

Step-by-step instructions for using HPOM.

- *Concepts*

An introduction to the key concepts and features of HPOM. If you have not previously used HPOM for IT management, read this section before continuing.

- *References*

Detailed information to help you maximize your use of HPOM and Service Navigator.

- *Troubleshooting*

Solutions to common problems you may encounter while using HPOM or Service Navigator.

### ❑ **Service Navigator Help**

- *Tasks*

Step-by-step instructions for using Service Navigator.

- *Concepts*

An introduction to the key concepts and features of Service Navigator. If you have not previously used Service Navigator for information technology management, read this section before continuing.

---

**NOTE**

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Service Navigator is an add-on component of the standard HPOM product, and may not be installed on your system.

## About the Operator's Guide

You can also view the *HPOM Java GUI Operator's Guide* in Adobe Acrobat Portable Document Format (PDF) from the following HPOM web server directory:

```
http://<management_server>:8081/ITO_DOC/C/manuals/\
JavaOperatorGuide.pdf
```

```
http://<management_server>:8081/ITO_DOC/japanese/manuals/\
JavaOperatorGuide_Jpn.pdf
```

In this URL, *<management\_server>* is the fully qualified hostname of your management server.

You can access the PDF by opening this location in your web browser, or by clicking the *Operator's Guide (PDF)* link in the left panel of this online help document.

Or you can download the PDF from the following web site:

```
http://support.openview.hp.com/selfsolve/manuals
```

## What's New

The Java GUI for HPOM 9.xx includes the following new features:

### ❑ **Java Runtime Environment Support**

The latest version of the Java Runtime Environment 1.6 is supported. For the most up-to-date list of the supported Java Runtime Environment and for the list of obsolete versions, refer to the *HPOM Software Release Notes*.

### ❑ **Online Java GUI Synchronization**

HPOM provides a synchronization mechanism between the server and Java GUI during the configuration update. Most configuration changes are automatically reflected in the Java GUI and there is no need for configuration reload. You can see the relevant configuration changes in the Java GUI immediately.

### ❑ **Cockpit View**

The HPOM cockpit view is a web-based interface that displays the state of the environment monitored by HPOM. Cockpit view helps users to quickly assess the health and readiness of the environment to support the business.

The cockpit view consists of the indicator panel and the message browser. Indicator panel displays multiple message filter groups, while the message browser displays messages for each filter.

### ❑ **Service Map Table View**

Besides the views available from the previous releases (Graph, Map, and Tree), the Service Map Table view is introduced. This view is similar to the message browser - services and their properties are listed in a table. Service Map Table View is available for service submaps and custom maps, not for service graphs.

### ❑ **Message Filter Browser Enhancements**

The following enhancements are introduced with the current release:

- When performing exporting, dragging or printing of messages from a message filter browser, the messages are sorted in the same way as they were in the message filter browser.
- When using relative time filtering with enabled relative time recalculation, message browser is refreshed with new messages and drops the messages that become too old to satisfy the filter

criteria. This behavior can be enabled by the administrator using the `OPCUIWWW_FILTER_RELATIVE_TIME_RECALC` server parameter.

#### ❑ **Support for Web Browsers**

Only ActiveX and external browser are available, since the embedded web browser is removed from the Java GUI. A new value `activex` is added for `web_browser_type` in `itooopc`. Thus, the valid values are `external` and `activex`.

On Windows, ActiveX is the default browser. On other operating systems, only external browser is available. The valid values for the XPL variable `OPC_JGUI_INTERNBRW_DISABLED` are `ACTIVEX` and `NONE`.

#### ❑ **Stay On Top Option**

A new option `Stay On Top` in the Preferences dialog box was introduced. This option enables the Java UI windows (main and detached) to stay on top of other windows. A parameter `stay_on_top` is introduced in `itooopc`. Its default value is `no`.

#### ❑ **Customizable Size of Service Icons and Severity Status Indicators**

To avoid the overlap between service icons and severity status indicators in large service graphs and maps, you can now customize the size of service icons and severity status indicators by using the `service_icon_zoom` parameter of the `itooopc` resource file.

#### ❑ **Launching Java GUI by Using WebStart**

HPOM Java UI can be launched by using WebStart. A link for the WebStart launch of Java UI was added to the HPOM home page:

- Standard Connection:

`http://<HPOM_management_server>:8081/ITO_OP/`

- Secure Connection:

`https://<HPOM_management_server>:8444/ITO_OP`

#### ❑ **Java Console Version for the Client Verification**

You can now verify the Java Console version by running `ito_op -version` on UNIX or `ito_op.bat -version` on Windows.

### ❑ **Hyperlinks Support in Messages**

The Java UI functionality was extended to support https and ftp hyperlinks in messages.

### ❑ **Improved Memory Settings Handling**

The following two memory parameters were added to `ito_op.bat`:

- `-maxperm` is used to set maximum permanent memory for JVM.
- `-maxheap` is used to set maximum heap memory for JVM.

Both parameters can be also set by means of environment variables.

### ❑ **Enhanced listguis Tool**

For Java UI clients connected in HTTPS mode, the `listguis` tool shows the following information: hostname (long name), IP address, connection type (https vs. socket), connection port (for example, 2531 for socket comm).

### ❑ **CMA Pattern Matching**

Java GUI filtering now supports CMAs with HPOM style pattern matching.

### ❑ **Alignment with HPOM for Windows**

Some of the Java GUI terminology was aligned with the HPOM for Windows. Thus, the name `Tools` is used instead of the name `Applications`.

### ❑ **Displaying frequently used tools**

Tools that are frequently used are displayed in pop-up menus for starting tools above the separator line, so that they can be easily accessed.

To set the number of tools to be displayed a new option `Number of Frequently Used Tools` was introduced in the Preferences dialog box. Also a parameter `number_of_frequently_used_tools` is introduced in `itooprc`. Its default value is 5, but you can set it in the range of 1 through 15.

# Organization

This guide is intended for operators who perform daily tasks using the Java GUI:

- ❑ **Chapter 1. Daily Tasks**  
Brief description of the concept, functionality, and structure of HPOM.
- ❑ **Chapter 2. Performing Daily Tasks**  
Step-by-step instructions for using HPOM.
- ❑ **Chapter 3. Service Navigator**  
Brief description of the concept, functionality, and structure of Service Navigator.
- ❑ **Chapter 4. Performing Daily Tasks with Service Navigator**  
Step-by-step instructions for using Service Navigator.
- ❑ **Appendix A. Troubleshooting**  
Solutions to common problems you may encounter when using HPOM or Service Navigator.
- ❑ **Appendix B. References**  
Detailed information to help you maximize your use of HPOM and Service Navigator.
- ❑ **Glossary**  
Definitions of terms used in HPOM and Service Navigator.
- ❑ **Index**  
Alphabetized cross-references enable you to find topics, procedures, and reference material quickly and easily.



---

# **1** **Daily Tasks**

## **In this Chapter**

This chapter describes some of the daily tasks performed by operators of HP Operations Manager (HPOM).

### **Who Should Read this Chapter**

Although this chapter is designed primarily for HPOM operators, HPOM administrators should also read it to familiarize themselves with the working environment and problem solving processes of HPOM operators.

### **What this Chapter Does**

This chapter is organized as follows:

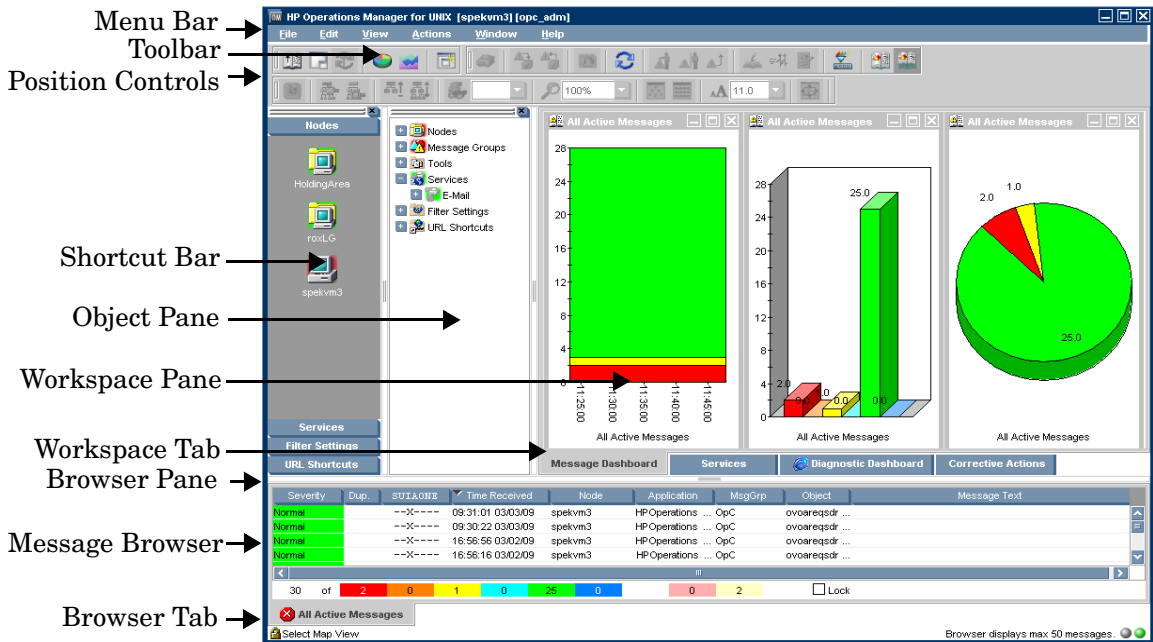
- ❑ **Tour of the HPOM Java GUI**
  - Shortcut Bar
  - Object Pane
  - Workspace Pane
  - Browser Pane
  - Integrated Web Browsers
  - Menu Bar
  - Toolbar
  - Position Controls
  - Pop-up Menus
  - Detached Windows
  - Cockpit View
- ❑ **Problem Solving Process**
  - Detecting Problems in Your Environment
  - Investigating Problems in Your Environment

- Solving Problems in Your Environment
- Documenting Solutions in Your Environment
- **Customizing Your Environment**

## Tour of the HPOM Java GUI

When you start the HPOM Java GUI, you see the main window, as shown in Figure 1-1.

**Figure 1-1** Main Window of the HPOM Java GUI



The main window of the Java GUI is divided into four main areas:

### ❑ Shortcut Bar

Top-left pane provides you with shortcuts to frequently used objects. For details, see “Shortcut Bar” on page 46.

### ❑ Object Pane

Top-middle pane displays the structure of your managed environment. For details, see “Object Pane” on page 48.

### ❑ Workspace Pane

Top-right pane contains multiple tabs, each containing one workplace. For details, see “Workspace Pane” on page 59.

❑ **Browser Pane**

Bottom pane provides you with quick access to the latest messages. For details, see “Browser Pane” on page 66.

The top of the Java GUI contains the following navigation tools:

❑ **Menu Bar**

Top row of pull-down menus. For an overview, see “Menu Bar” on page 81.

❑ **Toolbar**

Row of icons just below the menu bar. For an overview, see “Toolbar” on page 82.

❑ **Position Controls**

Narrow band of horizontal bars just below the toolbar. For an overview, see “Position Controls” on page 83.

By default, the position controls are not visible. To find out how to switch them on and off, see “Showing and Hiding the Position Controls” on page 179.

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**NOTE**

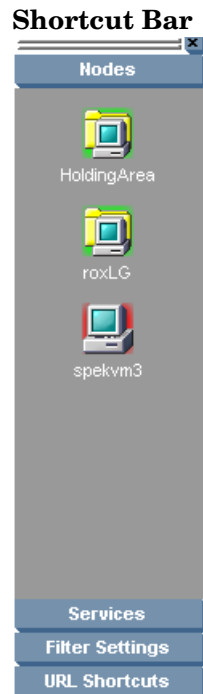
For details about pop-up menus in each of the four main areas of the Java GUI, see “Pop-up Menus” on page 84.

---

## Shortcut Bar

The shortcut bar is the first pane below the toolbar and position controls, as shown in Figure 1-2.

**Figure 1-2**



From the shortcut bar, you use pop-up menus to perform all operations that are available from the object pane (for example, start tools, open a new filtered message browser, get service graphs, and so on). This quick access is very useful if there are many objects in the object pane.

---

**NOTE**

For details about pop-up menus in the shortcut bar, see “Shortcut Bar Pop-up Menu” on page 85. To find out how to customize the shortcut bar, see “Moving Panes and Areas” on page 180, “Showing and Hiding Panes and Areas” on page 181, and “Customizing the Shortcut Bar” on page 184.

---

Service icons in the shortcut bar can also display service labels with textual information and images that give you more information about the objects at a glance. The status of the icons and service labels information is updated at every refresh interval.

By default, the following shortcut groups (gray buttons) are created:

❑ **Nodes**

Systems, printers, or any other elements in the network environment. For details, see “Nodes” on page 50.

❑ **Services**

If Service Navigator is installed and configured, maps problems with messages associated with affected services.

❑ **Filter Settings**

Enables you to create and access message filters quickly and easily. For details, see “Filter Settings” on page 55.

❑ **URL Shortcuts**

Enables you to update and start URL tools. For details, see “URL Shortcuts” on page 58.

You can also add other shortcut groups, such as the following:

❑ **Message Groups**

Message groups for which you are responsible. For details, see “Message Groups” on page 52.

❑ **Tools**

Scripts or programs that have been integrated into HPOM. For details, see “Tools” on page 54.

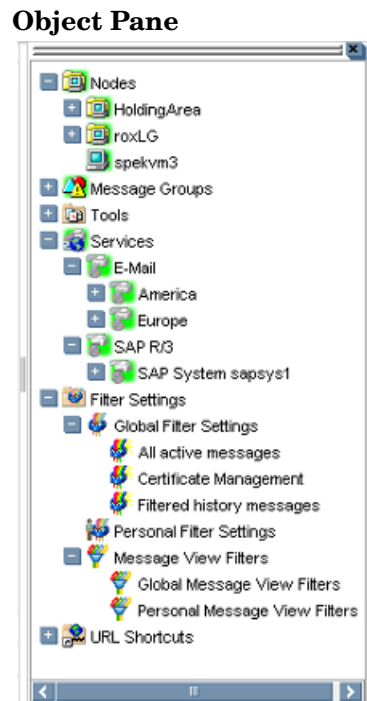
All shortcuts are saved in a console settings file. For details, see “Saving Console Settings” on page 175.

---

## Object Pane

The object pane is the second pane below the toolbar and position controls, as shown in Figure 1-3. This pane contains the object tree, a hierarchical tree diagram designed to help you navigate to different elements within your managed environment.

**Figure 1-3**



The object tree contains the following branches:

- ❑ **Nodes**  
Systems, printers, or any other element in the network environment. For details, see “Nodes” on page 50.
- ❑ **Message Groups**  
Message groups for which a particular operator is responsible. For details, see “Message Groups” on page 52.
- ❑ **Tools**



Scripts or programs that have been integrated into HPOM. For details, see “Tools” on page 54.

❑ **Services**

If Service Navigator is installed and configured, maps problems with messages associated with affected services.

❑ **Filter Settings**

Enables you to create and access message filters quickly and easily. For details, see “Filter Settings” on page 55.

❑ **URL Shortcuts**

Enables you to start URL tools. For details, see “URL Shortcuts” on page 58.

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**NOTE**

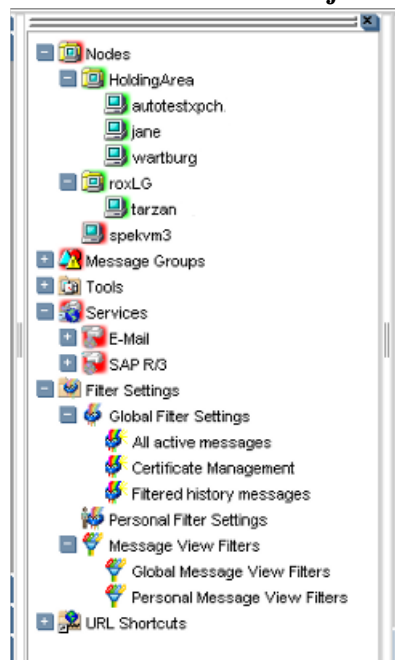
You can search for specific items in the object tree with a basic or advanced search function. For details, see “Searching the Object Pane” on page 119.

---

## Nodes

In the object tree, the node icons in the Nodes folder represent the **managed nodes of a particular operator**. Managed nodes can be systems, printers, or any other element in the network environment. As shown in Figure 1-4, the Nodes folder in the object tree contains an icon for each node, collection of nodes (called a node layout group), or external node for which you are responsible. The external node represents a range of nodes from which external events are integrated into HPOM.

**Figure 1-4** Nodes Folder in the Object Tree



### Node Layout Groups

Within the object tree, icons in the Nodes folder can represent folders or collections of nodes. For example, all nodes located in a single building or all nodes serving a similar purpose can be grouped together and represented by a single node layout group icon. Clicking the **PLUS SIGN (+)** next to the folder opens the folder and displays the individual nodes of the layout group.

## Node Colors

Node icons are displayed in colors that correspond to the highest severity of any message received from that node. For example, the node icon turns red when the affected node has at least one unacknowledged critical message. After all critical messages have been acknowledged, the node icon changes color to indicate the highest severity level of the remaining messages. The status of other map tools (for example, the IP Map) is not included.

Depending on how HPOM is configured, folder icons are displayed in colors corresponding to the highest severity message of any of its components. For example, if the folder icon is cyan, there must be at least one element with the status of `Warning` in an underlying layer.

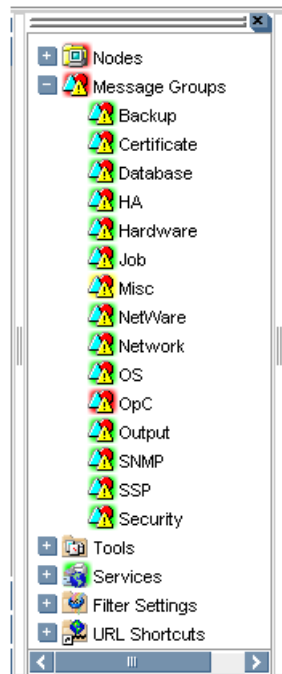
For information about message colors, see the following:

- ❑ “Message Group Colors” on page 53
- ❑ “Message Colors” on page 69
- ❑ “Message Severity Coloring” on page 126
- ❑ “Message Fields” on page 553

## Message Groups

The Message Groups folder in the object tree contains icons representing the message groups for which you are responsible, as shown in Figure 1-5. In this folder, you can review the status of each group, and select specific groups for message review. HPOM uses message groups to combine management information about similar or related managed objects under a chosen name, and provide status information on a group level.

**Figure 1-5** Message Groups Folder in the Object Tree



## Message Group Colors

As in the Nodes folder, the color of a particular icon in the Message Groups folder represents the current status of that group. A change in the color of an icon in the Message Groups folder indicates a change in status of a managed node within your operator environment.

For more information about message colors, see the following:

- ❑ “Message Colors” on page 69
- ❑ “Message Severity Coloring” on page 126
- ❑ “Message Fields” on page 553

## Organizing Message Groups

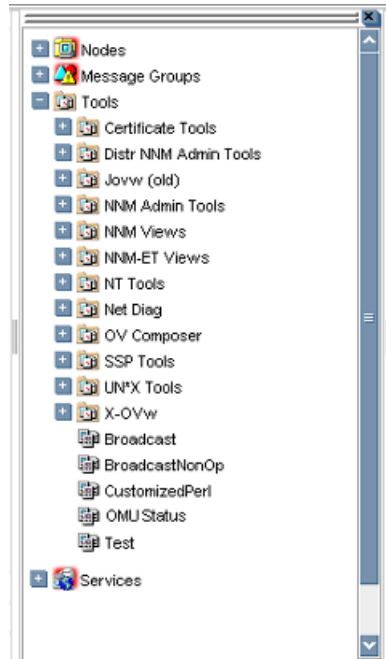
Messages are organized into groups to simplify message management, and to let you do your work in a task-oriented way. For example, one operator can be responsible for backups and output, and another operator can be responsible for network, operating system, and security aspects of message management.

You can reduce the number of messages in the message browser by selecting the required message group from the Message Group folder, and opening a filtered message browser. Then only messages in that message group are displayed.

## Tools

The Tools folder in the object tree contains icons for the scripts or programs that have been integrated into HPOM, as shown in Figure 1-6. You can start any integrated tool from this folder.

**Figure 1-6** Tools Folder in the Object Tree



The HPOM administrator first examines your environment and then determines which tools you need to maintain it. Each tool has predefined start-up attributes, including a list of the managed nodes for individual operators.

Tools can also be programs or services running in the environment (for example, the UNIX `df` or `bdf` commands). You could be responsible for controlling the amount of free disk space on a system. To maintain sufficient disk space on a system, you respond to messages issued by the HPOM monitor agent, and send controlling commands, such as `df` or `bdf`.

## Filter Settings

The Filter Settings folder in the object tree contains icons for the following types of filters, as shown in Figure 1-7:

### ❑ Message browser filters

Global and personal message browser filters are stored in the Global Filter Settings and the Personal Filter Settings folders.

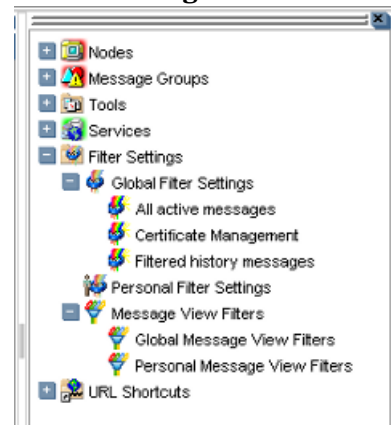
### ❑ Message view filters

Global and personal message view filters are stored in the Global Message View Filters and Personal Message View Filters folders.

For more information about the different types of message filters, see “Filtering Message Browsers” on page 71

Figure 1-7

Filter Settings Folder in the Object Tree



From the Filter Settings folder, you can create and access message filters quickly and easily. For example, if you want to see all messages that could show a possible problem in the Performance area, you would create a filter that shows all warnings, all minor, major, and critical messages, and all unknown messages within the message group Performance. You would then save the new filter. Later, to see the messages in your new filter, you could open a message browser, and apply your filter settings to it.

---

**NOTE**

---

Only HPOM administrators are allowed to create global filters. As an operator, you can add filters to the personal filters folder only.

To access a saved filter, you select the Filter Settings group from one of two locations:

❑ **Shortcut Bar**

For details, see “Shortcut Bar” on page 46.

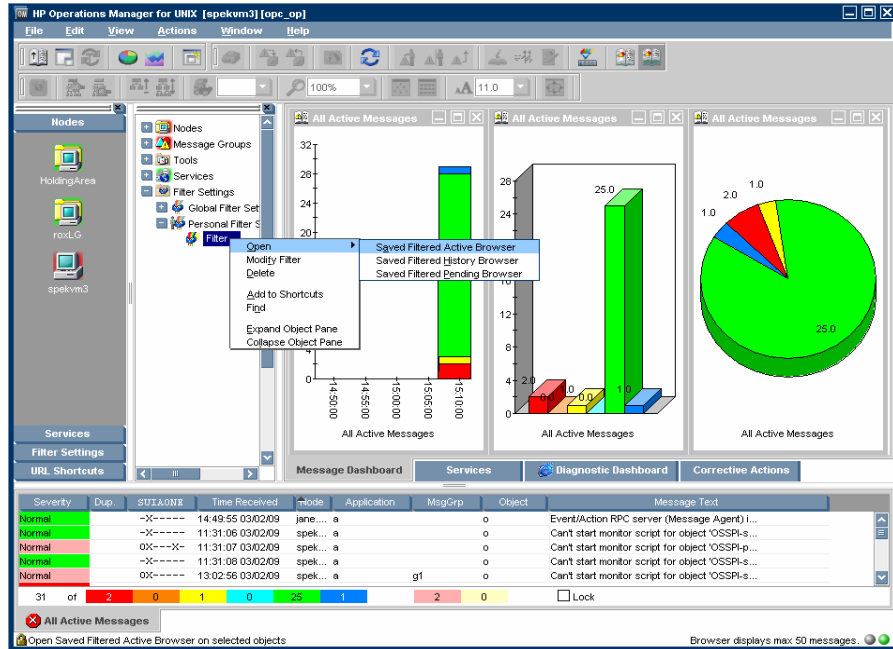
❑ **Object Pane**

For details, see “Object Pane” on page 48.



Figure 1-8 shows personal filters in the Filter Settings area of the object pane.

**Figure 1-8** Personal Message Browser Filters in the Filter Settings Area of the Object Pane



## URL Shortcuts

The URL Shortcuts folder in the object tree contains icons for operator-defined URL shortcuts, as shown in Figure 1-9.

**Figure 1-9** URL Shortcuts Folder in the Object Tree



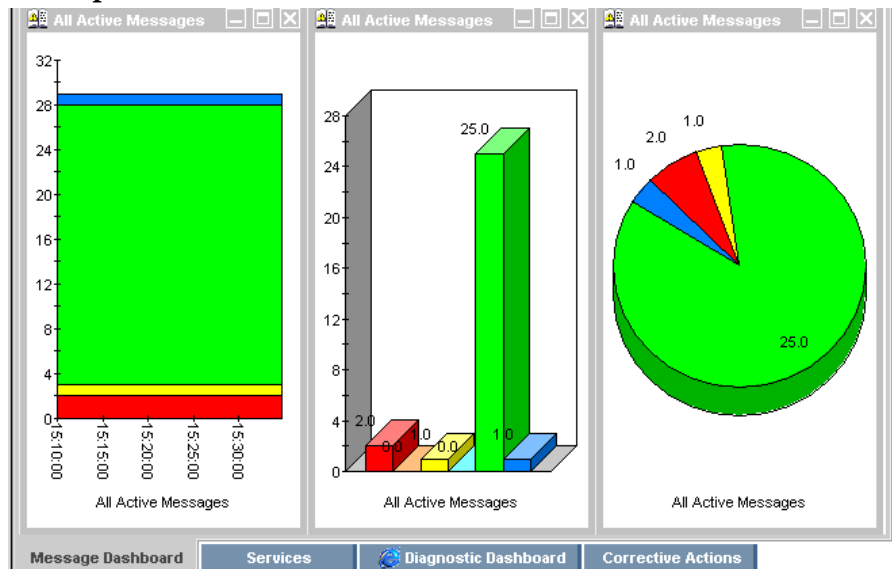
You may have a variety of URLs provided by your HPOM administrator. The URL Shortcuts folder enables you to define new shortcuts to URLs that you use frequently. These shortcuts are saved in your personal console sessions files.

## Workspace Pane

The workspace pane is the third pane below the toolbar, as shown in Figure 1-10. The workspace pane has multiple tabs, each containing one workspace.

**Figure 1-10**

### Workspace Pane



**NOTE**

For details about pop-up menus in the workspace pane, see “Workspace Pane Pop-up Menu” on page 87.

By default, the workspace pane contains the following tabbed workspaces:

**Message Dashboard**

Shows message severity in one of two formats. For details, see “Viewing Message Severity in the Message Dashboard” on page 136.

**Services**

Displays only if Service Navigator is installed and configured. For details, see “Services Workspace” on page 61.

**Diagnostic Dashboard**

For details, see “Diagnostic Dashboard Workspace” on page 61.

**Corrective Actions**

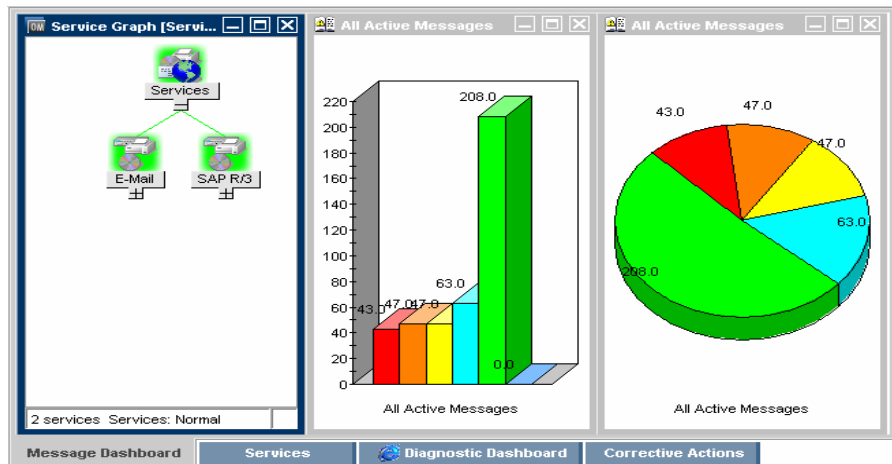
For details, see “Corrective Actions Workspace” on page 62.

You can also define your own workspaces, each of which can contain the following:

- Application output windows
- Graphs and charts
- Message browsers
- Web browsers

Figure 1-11 shows a workspace with a service graph, history graph, and bar chart.

**Figure 1-11** Workspace with Graphs and Charts



To logically organize your work, you can define different workspaces for different tasks:

**Normal Workspaces**

Can contain message browsers, graphs, charts, application outputs, and non-ActiveX web browsers.

❑ **ActiveX Workspaces**

Can contain only Microsoft Internet Explorer web browsers.

## **Message Dashboard Workspace**

You can view message severity in a current state chart or a history chart in the Message Dashboard tab of the workspace pane. For details, see “Viewing Message Severity in the Message Dashboard” on page 136.

## **Services Workspace**

The Services tab is present only if Service Navigator is installed. If Service Navigator is installed, the Services tab contains a service graph showing the hierarchical organization of your services and subservices. You can use this tab to start root-cause and impacted-service analyses. For more information about Service Navigator, see Service Navigator documentation.

## **Diagnostic Dashboard Workspace**

The Diagnostic Dashboard tab is reserved for other tools that integrate with HPOM.

For example, the following tools provide integration points for HPOM:

❑ **Performance**

HP Performance for Windows is a scalable, distributed network performance management tool that improves network operations, staff efficiency, and network total cost of ownership (TCO). This tool provides a clear historical view through out-of-the-box reports, as well as insightful capacity planning through trend threshold reports.

❑ **Network Path**

HP Network Path provides detailed status and performance information about static and dynamic network paths. Path monitoring allows relevant path analysis, based on the tools and protocols in use, and supports duplicate IP and firewall environments.

❑ **Internet Services**

HP Internet Services enables enterprises that operate business-critical Internet services (for example, POP3, SMTP, HTTP, HTTPS, FTP, DNS, and so on) to meet their customer needs with availability and performance levels that meet or exceed their defined service-level objectives.

Through trend reports and baselines, Internet Services can communicate early warnings to customers before their business is affected. It can also immediately determine which service component is exceeding threshold, and thereby identify the root cause of the problem. With Internet Services, customer care personnel can share with their customers summarized and detailed reports on service-level compliance.

## **Corrective Actions Workspace**

The Corrective Actions tab enables you to maintain a current and accurate overview of the computing environment by reviewing the status and results of actions. The status of an action is defined as the availability and current state of the action.

The status indicates whether an action:

- Has been configured for the message
- Is still running
- Has been successfully completed
- Failed

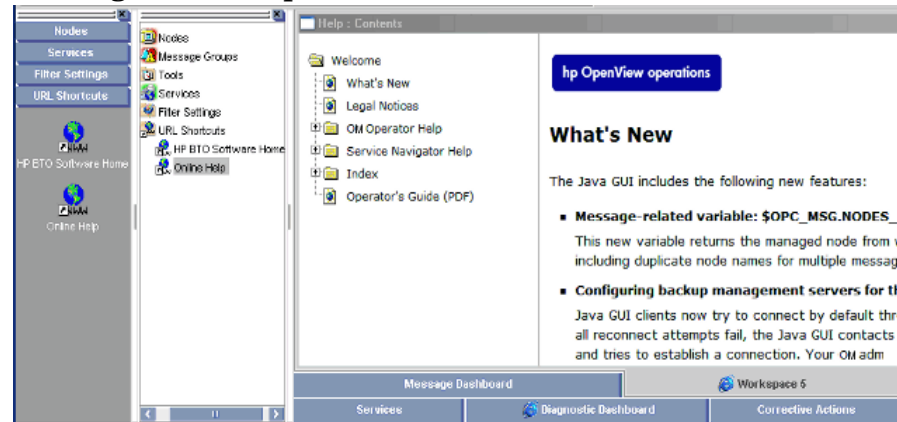
For more information about reviewing action status in the Corrective Actions workspace, see “Evaluating Action Results in the Corrective Actions Workspace” on page 148.

## Online Help Workspace

The Online Help workspace contains online documentation for all installed tools. Figure 1-12 shows how to start the HPOM online help in the Online Help workspace from the shortcut bar.

Figure 1-12

### Starting Online Help from the Shortcut Bar



#### NOTE

The Online Help workspace is not an operator default assigned by the system. It can be defined by the HPOM administrator on the HP Operations management server. For more information, see “Operator Defaults Assigned by the HPOM Administrator” on page 172.

## Updating the Current Workspace

Updating the current workspace only applies to tools that are based on evaluating message-related variables. For example, from the URL Shortcuts folder, you can define URLs that include message-related variables, select a message and then start the tool. When you choose a different message and update the URL tool, the message-related variables are re-evaluated based on the currently selected message. You launch the update from a button in the browser pane or the workspace pane of the Java GUI.

**NOTE**

Updating the current workspace works only if the workspace supports Microsoft Internet Explorer ActiveX controls.

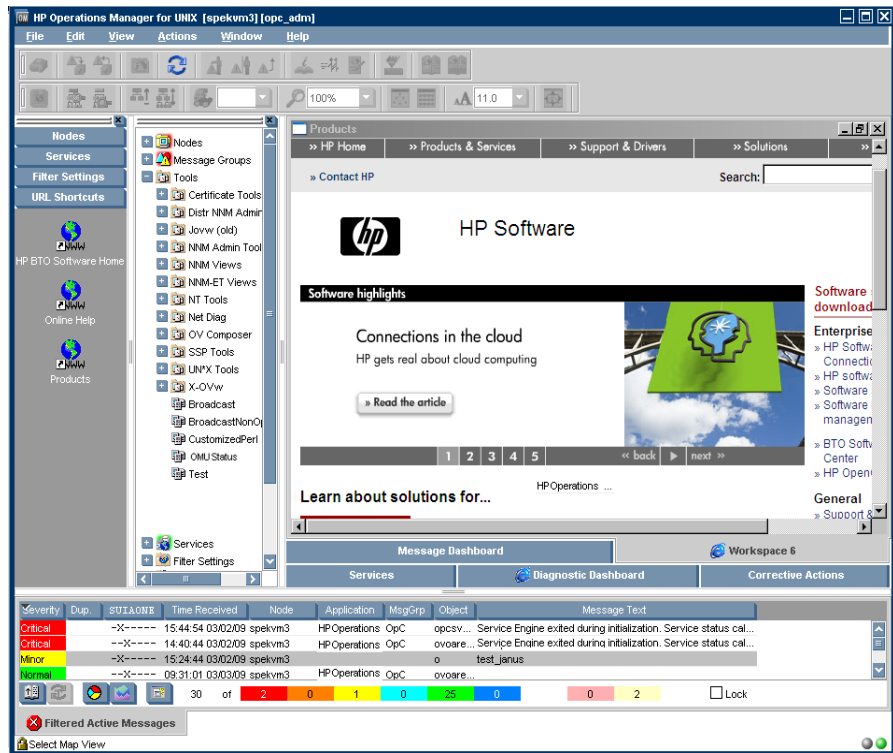
For example, you could set up a tool with the following URL:

[http://www.openview.hp.com/\\$OPC\\_MSG.TEXT\[2\]](http://www.openview.hp.com/$OPC_MSG.TEXT[2])

In this example, messages are sent that include the words products or solutions as the second word in the message text.

In Figure 1-13, the first message, products, is selected, and the URL tool is started.

**Figure 1-13** Updating a URL Tool for “products”

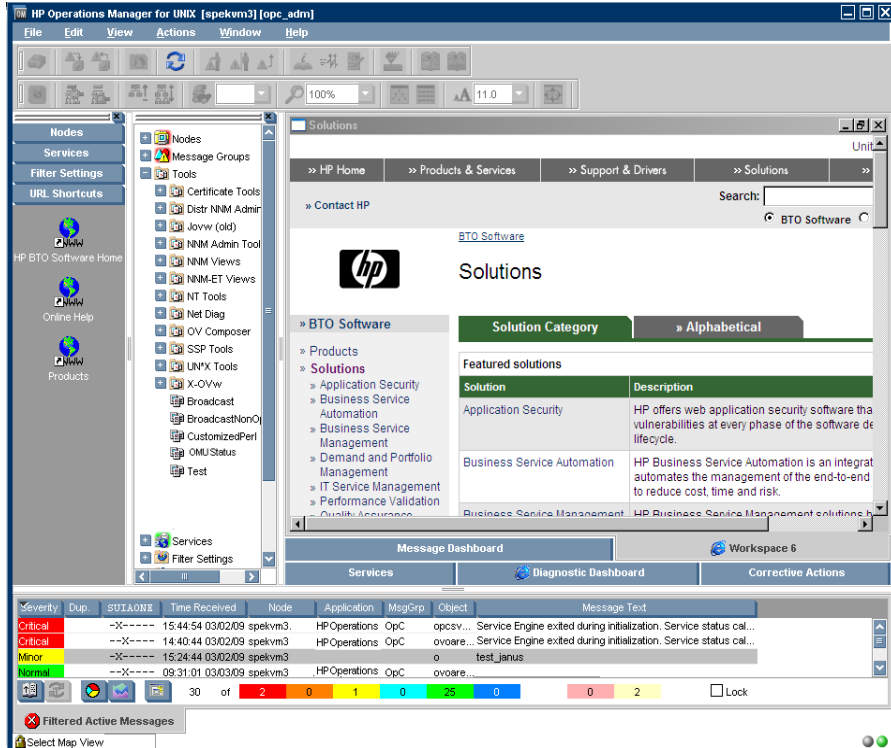




In Figure 1-14, the second message, solutions, is selected, and the update button is pressed. The URL tool is updated with the new message text in the URL.

Figure 1-14

### Updating a URL Tool for “solutions”



As a result, the following page is loaded:

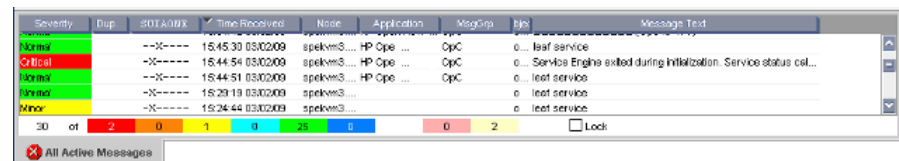
<http://www.openview.hp.com/solutions>

## Browser Pane

The browser pane is the pane at the bottom of the Java GUI, as shown in Figure 1-15.

Figure 1-15

### Browser Pane



The browser pane can have multiple tabs, each containing one message browser. Each tab displays an icon before the name that shows the severity of the most critical message in that message browser. You can change the properties (name, description) of each tab, or delete the tab entirely, along with the corresponding message browser.

### NOTE

For an explanation of the critical coloring in the browser pane, see “Message Fields” on page 553. For details about pop-up menus in the browser pane, see “Browser Pane Pop-up Menu” on page 89.

The browser pane provides you with quick access to the latest messages. You can easily identify the severity of messages in the browser pane through severity icons on the tabs. You can also switch between different message browsers.

By default, when you start the Java GUI, an All Active Messages message browser is opened in the browser pane. With the first button on the toolbar, you can switch the browser between the browser pane and the workspace pane. For example, you could switch one message browser to the workspace pane, and continue to work there. You could also create a new message browser and then move it to the browser pane so you can always access important messages.

The browser pane is visible by default. You can hide it by clearing View: Browser Pane in the menu bar. You can make the browser pane visible again by re-selecting this option.

Figure 1-16 shows the browser pane with three message browsers (indicated by tabs).

**Figure 1-16** Three Message Browsers in Browser Pane

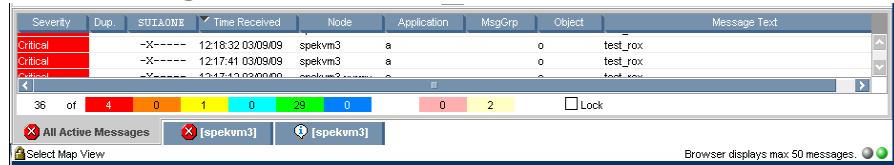
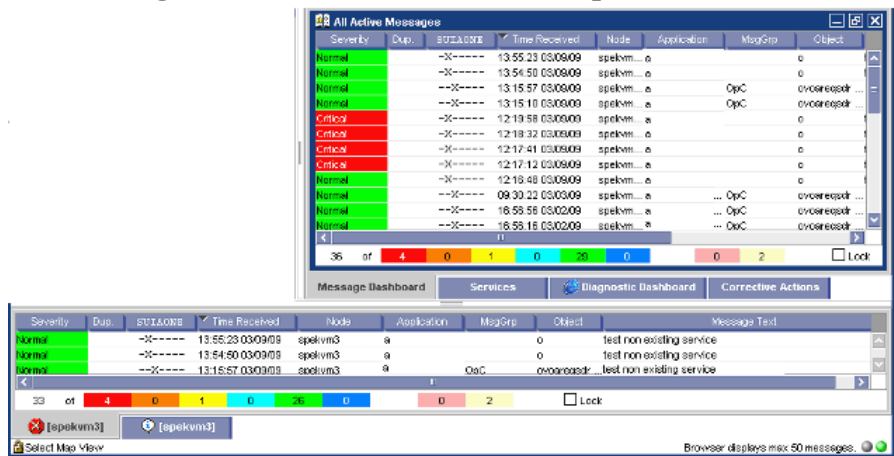


Figure 1-17 shows one message browser moved from the browser pane to the workspace pane.

**Figure 1-17** One Message Browser Moved to the Workspace Pane



## Message Browser

HPOM provides information about your managed environment through messages displayed in the message browser. A message represents an event that has occurred on a node within the managed environment (for example, a status change or a threshold violation) generated by the agents running on the node.

The active message browser, as shown in Figure 1-18, is your unique GUI client (that is, of all active messages for which you are responsible). HPOM collects messages from the managed nodes of the message groups assigned to you, and delivers them to your GUI client.

### NOTE

The message browser can also display GIF and JPEG images, and URLs as hyperlinks. Images and URLs can be displayed in all fields except in the Severity column, Flags column, and in date and time related columns. All URL texts must start with <http://> to be displayed as hyperlinks.

Images in the message browser are available only if previously configured by the HPOM administrator.

Figure 1-18

Active Messages Browser

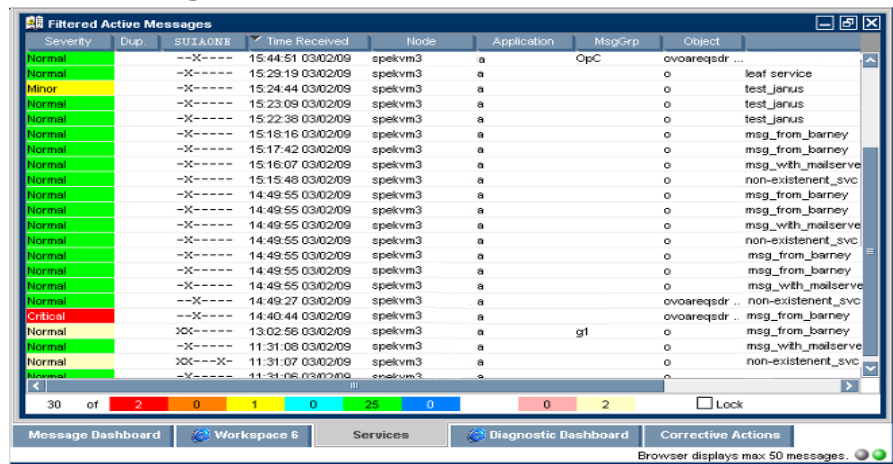


Figure 1-19 shows the message headline portion of the message browser.

**Figure 1-19**

### Message Browser Headline

Severity	Dup.	SUTIAONE	Time Received	Node	Application	MsgGrp	Object	Message Text
----------	------	----------	---------------	------	-------------	--------	--------	--------------

To provide you with additional information that will help you solve problems, messages are characterized by attributes summarized in the message browser.

### Message Colors

You use message browsers to review and manage messages, and to guide problem resolution. Incoming messages are displayed with preconfigured attributes and with status information. As with the Nodes and Message Groups folders, the status of a message in the message browsers is indicated by a color, which displays in the Severity column, with red denoting the highest severity level (Critical).

HPOM can also be configured to color the entire message line in the browser to provide at-a-glance classification of message severity. For details, see “Customizing the Color Preferences for the Message Browser” on page 314.

To provide you with an even better overview of critical messages, the tabs in the browser pane contain an icon that shows the severity of the most critical message in the corresponding message browser. If the most critical message has a severity of Normal, the tab contains the icon for Normal. The currently selected tab in the browser pane is indicated by a blue background color, as shown in Figure 1-20.

**Figure 1-20**

### Most Critical Coloring of Browser Pane Tabs

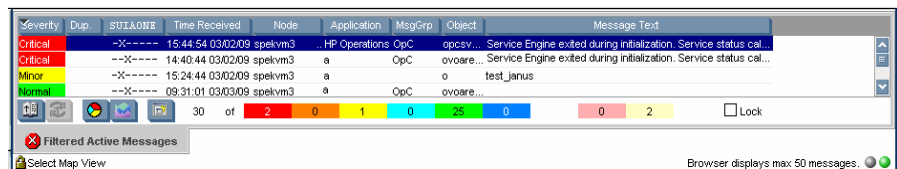
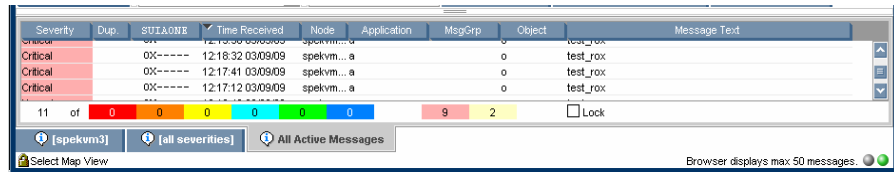


Figure 1-21 shows coloring that is changed after all critical and major messages were unacknowledged in the filtered history message browser.

Figure 1-21

### Color Change After Messages Unacknowledged



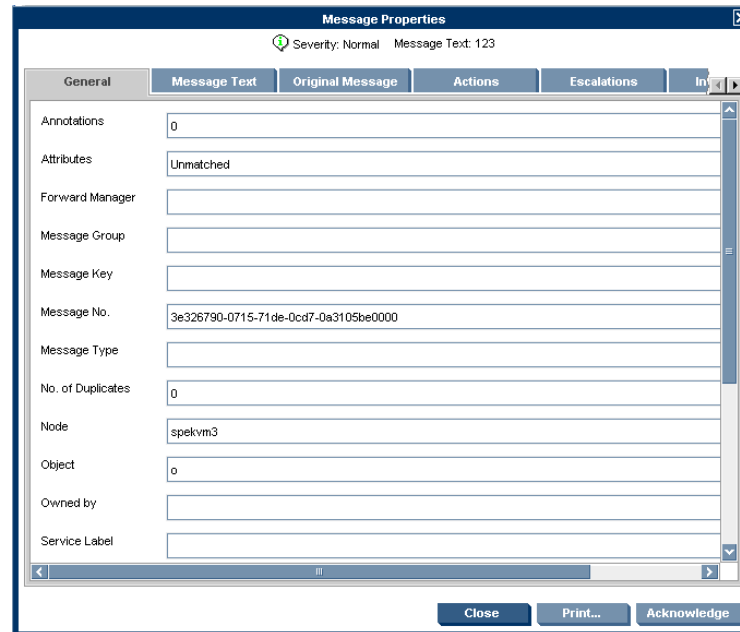
## Messages

You can look at all the details of a single message, and initiate an operator-initiated action to resolve the event that triggered the message. Or HPOM can perform an automatic action for you. If necessary, you can restart actions any time, or even stop the execution. You can also print messages, and prepare message reports. In addition, the HPOM annotation facility lets you document your actions, and review previous actions in detail. Finally, you can acknowledge messages for which actions have been completed in the message browser.

Double-clicking any message in any of the browsers displays the Message Properties window, as shown in Figure 1-22.

**Figure 1-22**

### Message Properties Window



This window contains details of the chosen message, and allows *some* operations to be performed. However, the information and operations that are available in the Message Properties window differ according to which browser (active, pending, history) was used to open it.

For example, the Unbuffer Time field displays only if the Message Properties window is opened from the filtered pending messages browser.

### Filtering Message Browsers

By default, an active message browser displays the latest 50 messages for which you are responsible. You can change the set of visible messages by increasing or decreasing the default limit so that more or fewer messages are displayed, and you can apply a message filter so that only messages that match the filter are displayed.

HPOM distinguishes between the following types of message filters:


### ❑ **Message browser filters**

Message browser filters consist of criteria that define which messages are loaded into the message browser from the database. Message browser filters create a filtered active, history, or pending messages browser. The word `Filtered` in the browser's title bar indicates that a filter is applied to the message browser. The word in brackets (for example, `[Oracle]` in Figure 1-23 on page 74) represents the filter name.

Message browser filters are evaluated on the management server. This evaluation reduces the network traffic between the Java GUI client and the management server because fewer messages are transferred. However, the filter evaluation may increase the workload of the management server where the filtering takes place.

### ❑ **Message view filters**

Message view filters temporarily hide messages from view. They consist of criteria and rules that define which of the already loaded messages are displayed in an already existing message browser. The loaded messages may already have gone through a first level of filtering applied through message browser filters. In this case, message view filters apply a second level of filtering.

The message view filter icon  on the message browser itself and on the message browser headline indicates that a message view filter is applied to the message browser. Figure 1-23 on page 74 shows an example of a filtered active messages browser with a message view filter applied to the Application and Object message browser columns.

Message view filters are evaluated on the Java GUI client. As a result, they produce quicker results than message browser filters because no additional messages need to be transferred from the management server.



---

**NOTE**

Using message view filters as first-level filters on a history message browser showing all history messages may increase the memory usage on the management server because all history messages must first be retrieved from the database before a message view filter can be applied. For more information about history message browsers, see “Filtered History Message Browser” on page 75. This does not apply to active or pending messages.

---

You can save filters, and then reuse them later on. Administrators can create global filters that are available to all operators. Any user can create personal filters that are available for their personal use only.

### **Filtered Active Message Browser**

A filtered active message browser is the result of applying message browser filters to the messages you are responsible for.

You can use the filtered active message browser to work with your selected messages in the same way you would in the active message browser. The filtered active message browser is your personally customized presentation of the messages displayed in the active browser. While the active message browser displays every message belonging to your managed nodes and message groups, the filtered active message browser displays only the messages you have configured it to display.

---

**NOTE**

You can limit the maximum number of messages loaded into active message browsers. This can be set in the Preferences window in the General tab. See the “Preferences Dialog Box” on page 526 for more information.

---

Figure 1-23 shows active messages in a sample filtered active message browser that also has message view filters applied.

Figure 1-23

### Active Messages in a Filtered Active Message Browser

Severity	Dup.	SUIAONE	Time Received	Node	Application	MsgGrp	Object
Normal		---S-X-	22:25:14 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Disk
Minor		---S-X-	22:20:10 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Disk
Minor		---S-X-	22:10:18 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Disk
Normal		---S-X-	22:00:10 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Disk
Minor		---S-X-	21:50:15 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Disk
Normal		---S-X-	21:40:07 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Network
Minor		---S-X-	21:40:05 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Disk
Minor		---S-X-	21:35:16 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Network
Normal		---S-X-	21:30:11 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Disk
Minor		---S-X-	21:20:02 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Disk
Normal		---S-X-	21:15:13 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Disk
Minor		---S-X-	21:10:07 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Disk
Normal		---S-X-	20:50:06 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Disk
Minor		---S-X-	20:45:01 02/23/07	ligety.deu.hp.com	alarmgen	Performance	Disk

In the filtered active message browser, you can tailor the view so only the most important messages are displayed, and concentrate on messages that need immediate attention:

#### Select Specific Messages

You can select specific messages in the message browser to be displayed in the filtered message browser.

#### Define Message Browser Filters

You can define a message browser filter to load only a subset of the messages you are responsible for.

#### Define Message View Filters

You can define a message view filter to display only a subset of the already loaded messages.

You can perform the same functions in the filtered active message browser as you can in the active message browser (for example, starting operator-initiated actions or tools on the node that generated the message).

---

**NOTE**

---

To find out how to customize the message browser, see “Customizing the Message Browser Columns” on page 210.

## **Filtered History Message Browser**

When a message has been acknowledged, it is removed from the active message browser and put in the history database. The filtered history message browser displays all acknowledged messages in the message groups for which you are currently responsible.

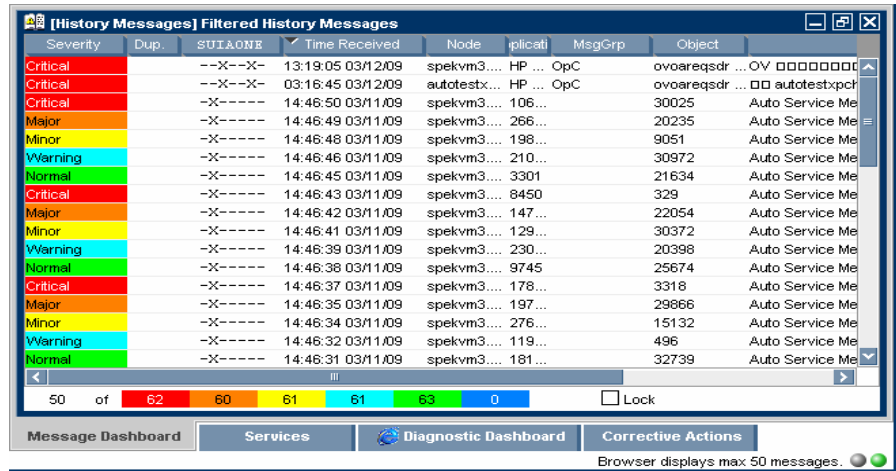
You can use the filtered history message browser to view these messages and unacknowledge them. Examining acknowledged messages can be very helpful when you want to find out more about techniques you used previously to solve problems.

Opening a filtered history message browser may take a long time to complete because history messages are retrieved from the database and not from cache. During the download, the Java GUI cannot be used for other tasks. If you need to access the Java GUI while history messages are being downloaded, cancel the download, and consider changing the criteria of your message browser filter to better match the history messages you are interested in.

You can also limit the maximum number of messages displayed in a history message browser.

Figure 1-24 shows acknowledged messages in the filtered history message browser.

**Figure 1-24** Acknowledged Messages in the Filtered History Message Browser



**NOTE**

You can create a new history filter on a selected message. The menu item for creating the new history filter can be accessed in one of the following ways:

- ❑ Performing a right-click on the selected message (pop-up menu).
- ❑ Selecting **Actions: Messages** from the menu bar.

## Filtered Pending Messages Browser

You can start the filtered pending messages browser like any other filtered browser. The filtered pending messages browser shows those messages that have been buffered because they arrived outside a defined period of **service hours**.

If you want to work on a pending message, you must first **unbuffer** it. Unbuffering a message moves the message from the filtered pending messages browser to the active message browser, where operations may be performed in the usual way. You can perform a limited set of actions on messages in the filtered pending messages browser. For example, you can save and print messages, or unbuffer and acknowledge messages.

---

### CAUTION

Although you can acknowledge pending messages, and add or modify their annotations, it is better to perform operations on messages only when they are in the active message browser.

---

Sometimes, the filtered pending messages browser may not contain any messages, for one of two reasons:

❑ **Within Service Hours**

You are currently operating within service hours, and all messages arrive in the active message browser.

❑ **Outside Service Hours**

Your HPOM administrator may not have configured HPOM to buffer messages outside service hours.

---

### NOTE

The severity level of messages in the filtered pending messages browser does not affect status propagation in the Nodes and Message Groups folders, and so on.

---

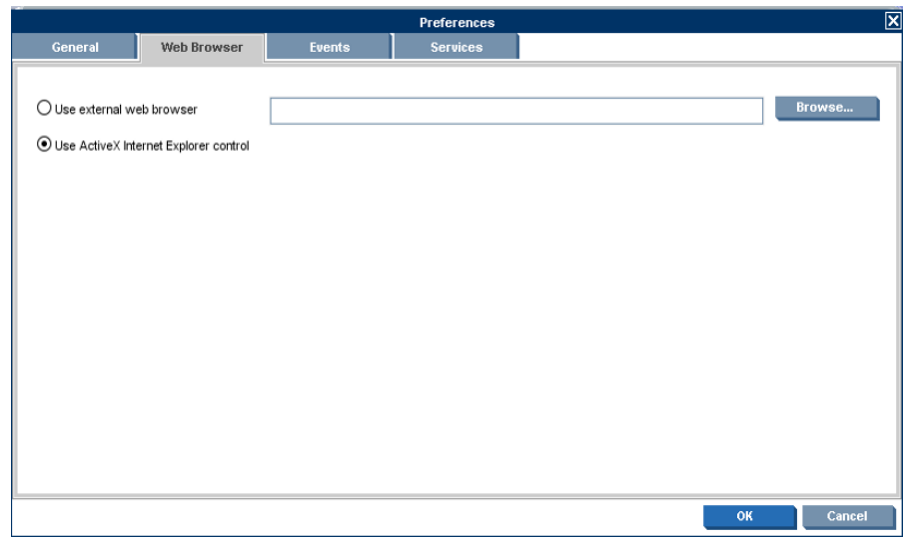
---

## Integrated Web Browsers

Instead of running an external web browser in the background, you can run your favorite web browser from within the HPOM Java GUI itself. As a result, you can access intranet sites, search the Internet for business-related information, and view your HPOM message browsers from within a single, integrated interface. Integrated web browsers display in the workspace pane of the HPOM Java GUI.

You set your web browser preferences in the Web Browser tab of the Preferences window, as shown in Figure 1-25.

**Figure 1-25** Web Browser Tab in Preferences Window



You can choose any one of the following types of browsers:

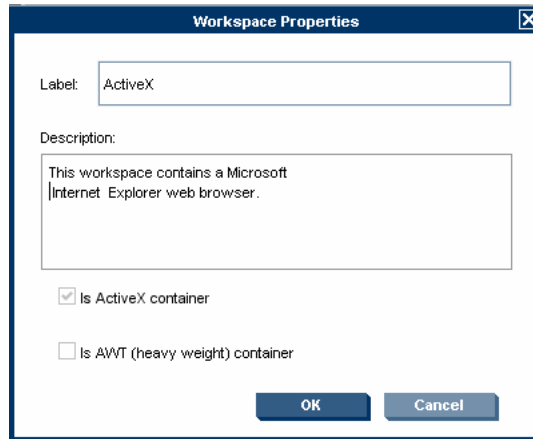
**External Web Browser**

You can access an external web browser, such as Microsoft Internet Explorer or Mozilla Firefox.

❑ **ActiveX Control**

You can access Microsoft Internet Explorer ActiveX controls by creating special ActiveX tabs in the Workspace Properties window, as shown in Figure 1-26. Make sure the **Is ActiveX Container** check box is selected.

**Figure 1-26** Defining ActiveX Workspace in Workspace Properties Window



## Status Bar

The Java GUI status bar, at the bottom of the message browser, displays the information on the current status of the Java GUI. The following information is available from the status bar:

- ❑ Status of the secure link (SSL) between the management server and the Java GUI client: enabled or disabled. The default is disabled SSL, signified by an open lock in the far left corner of the status bar.
- ❑ All actions currently performed in the Java GUI. When no actions are being performed, the Java GUI is in the idle state and Ready is displayed in the left corner of the status bar.
- ❑ Maximum number of messages that the message browser is configured to display, displayed in the right corner of the status bar.
- ❑ Status of the communication between the Java GUI and the management server, and the status of loading services from the management server.

The gray indication light changes to yellow when services are retrieved from the management server. No service-related actions can be performed during this time.

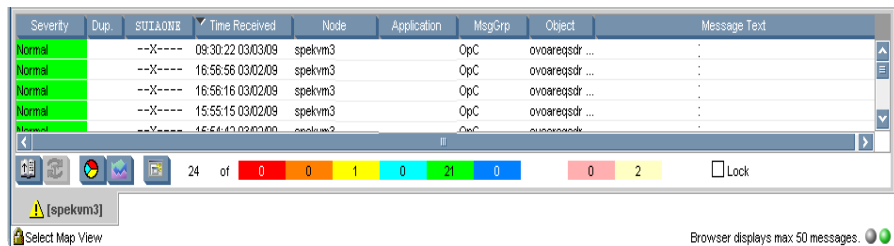
The green indication light changes to red to indicate that the communication between the Java GUI and the management server is in progress.

The indication lights are placed in the far right corner of the status bar.

Figure 1-27 shows the Java GUI status bar with indicators.

Figure 1-27

### Status Bar





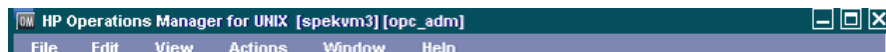
---

## Menu Bar

The menu bar is the strip of pull-down menus at the very top of the Java GUI, as shown in Figure 1-28. You can use these menus to perform operations throughout the Java GUI.

**Figure 1-28**

### Menu Bar



## Toolbar

The toolbar is the row of icons just below the menu bar, as shown in Figure 1-29. The toolbar provides menu choices that apply to the objects in the object pane, workspace pane, and browser pane.

**Figure 1-29**

### Toolbar



The toolbar is divided into the following components:

- Message Browser Toolbar
- Message Toolbar
- Service Toolbar

You can reposition these components in a particular order, or you can hide any of them. For more details, see “Customizing the Toolbar” on page 283.

### Go to Service

The Go to Service drop-down list is a part of the Service Toolbar. It contains a list of all services currently present in the Java GUI cache, which can be displayed within the selected service graph. You can use the Go to Service drop-down list for navigating only within service graphs.

When you select a service in the list, and then click the **Go to Service** toolbar button, the service is displayed in the center of a service graph surrounded by its neighboring services.

---

#### NOTE

The Go to Service drop-down list is available only from the toolbar.

---

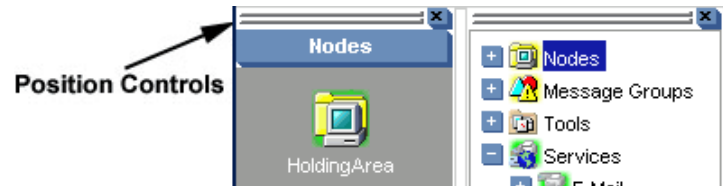
---

## Position Controls

The position controls are the narrow band of horizontal bars just below the toolbar, as shown in Figure 1-30. These bars enable you to move the shortcut bar and object pane horizontally.

**Figure 1-30**

### Position Controls



By default, the position controls are hidden. You can make them visible by selecting **View: Position Controls** in the menu bar. Likewise, when the position controls are visible, you can hide them again by clearing **View: Position Controls** in the menu bar.

## Pop-up Menus

HPOM provides pop-up menus for each major area of the Java GUI:

❑ **Shortcut Bar**

For an overview of pop-up menus in the shortcut bar, see “Shortcut Bar Pop-up Menu” on page 85.

For an overview of the shortcut bar itself, see “Shortcut Bar” on page 46.

❑ **Object Pane**

For an overview of pop-up menus in the object pane, see “Object Pane Pop-up Menu” on page 86.

For an overview of the object pane itself, see “Object Pane” on page 48.

❑ **Workspace Pane**

For an overview of pop-up menus in the workspace pane, see “Workspace Pane Pop-up Menu” on page 87.

For an overview of the workspace pane itself, see “Workspace Pane” on page 59.

❑ **Browser Pane**

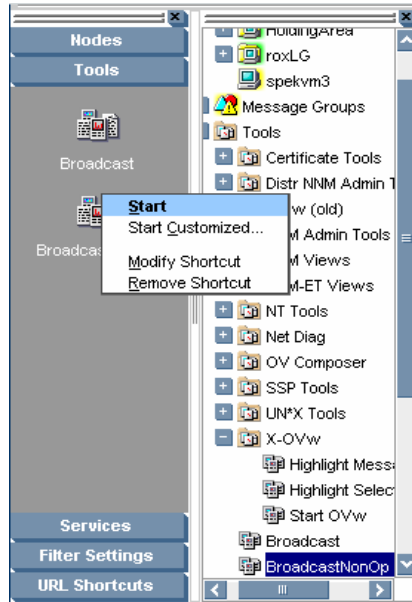
For an overview of pop-up menus in the browser pane, see “Browser Pane Pop-up Menu” on page 89.

For an overview of the browser pane itself, see “Browser Pane” on page 66.

## Shortcut Bar Pop-up Menu

Figure 1-31 shows a pop-up menu for a selected tool in the shortcut bar. To access this menu, right-click any shortcut bar item.

**Figure 1-31** Pop-up Menu for a Selected Tool in the Shortcut Bar



---

**NOTE** For a description of the shortcut bar, see “Shortcut Bar” on page 46.

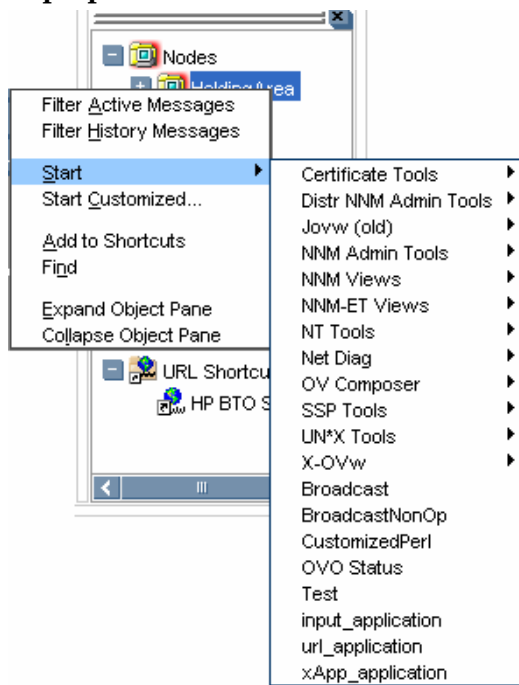
---

## Object Pane Pop-up Menu

The object pane pop-up menu differs, depending on which object is selected. For example, the pop-up menu for services is different from the pop-up menu for a node.

Figure 1-32 shows how to generate a predefined report from the pop-up menu in the object pane. To access this menu, right-click any object pane item.

**Figure 1-32** Pop-up Menu for a Particular Node in the Object Pane



---

**NOTE** For a description of the object pane, see “Object Pane” on page 48.

---

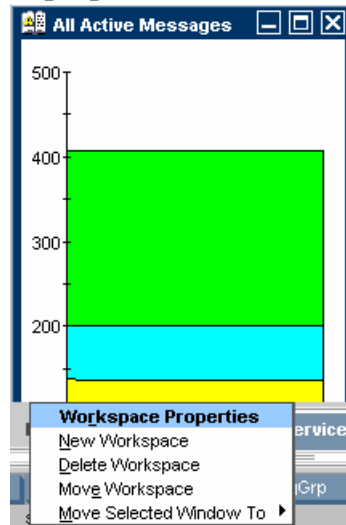
## Workspace Pane Pop-up Menu

The workspace pane contains two kinds of pop-up menus:

### ❑ Tab Menu

To access this menu, right-click a tab at the bottom of the workspace pane, as shown in Figure 1-33.

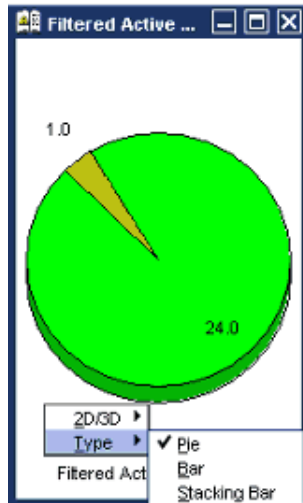
**Figure 1-33** Pop-up Menu on a Tab in the Workspace Pane



❑ **Workspace Menu**

To access this menu, right-click a workspace in the workspace pane, as shown in Figure 1-34 on page 88.

**Figure 1-34** Pop-up Menu on a Workspace Pane



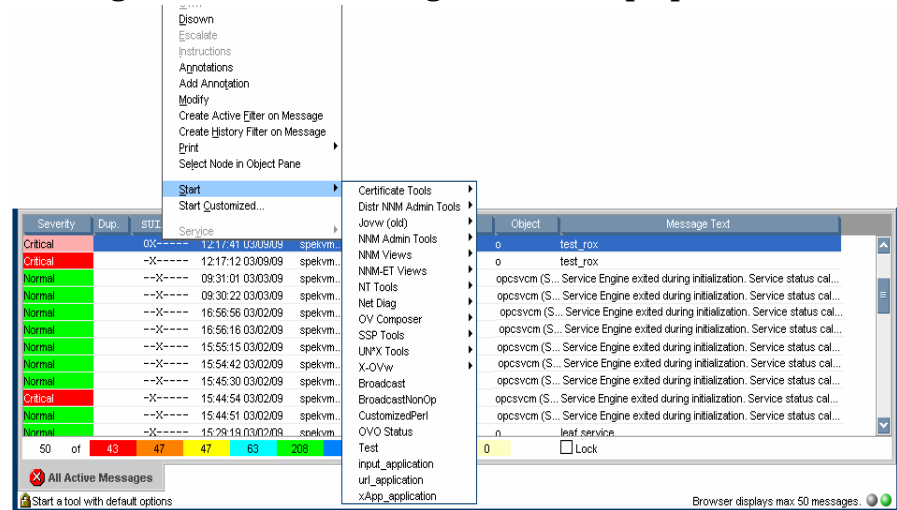


## Browser Pane Pop-up Menu

Figure 1-35 shows the context sensitive pop-up menu for tool launch in the browser pane. To access this menu, right-click a message in the browser pane.

Figure 1-35

Starting an Tool from a Message Browser Pop-up Menu



### NOTE

For a description of the browser pane, see “Browser Pane” on page 66.

## Detached Windows

Detached windows are windows that are separated from the main Java GUI window so that they can be moved independently. Detaching a window is helpful, for example, if you want to extend a window to another monitor to increase the amount of available space on your screen, or if you want to monitor the content of a window regardless of other activities on your computer.


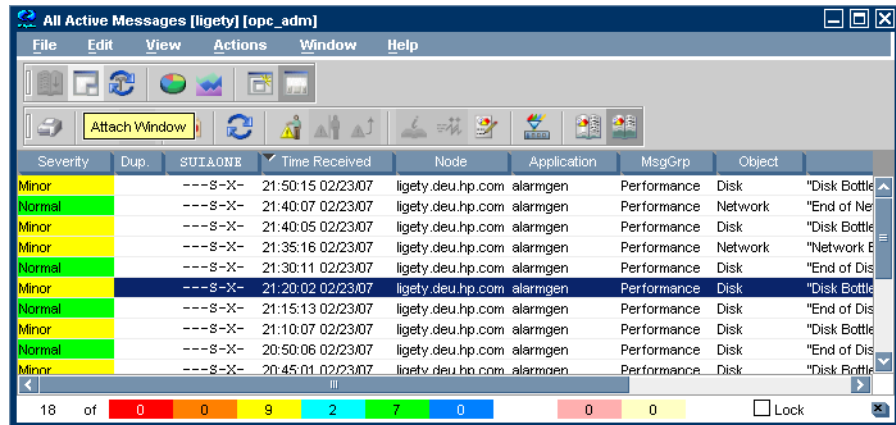
You can detach message browsers, service graphs, service submaps, and service custom maps by selecting the window to detach and then clicking the **Detach Window**  icon in the main toolbar. HPOM places the detached window at the center of your screen and adds a menu and toolbar to the detached window.

Figure 1-36 shows a detached message browser. To re-attach a detached window, select the window and click the **Attach Window** icon on the toolbar of the detached window.

Figure 1-36

### Detached Message Browser



Detached windows are saved along with their settings and positions as part of the console session settings so that they are restored the next time you start a Java GUI session.

To further increase the amount of available space in detached windows, you can temporarily hide any of the following window components:

- ❑ Menu bar and toolbars
- ❑ Status summary area in message browsers
- ❑ Horizontal scroll bar in message browsers

---

**TIP**

To perform an operation on messages or services displayed in the main window and a detached window, use the **CTRL** key to select multiple objects in both windows.

---

## Creating the HPOM GUI Start-up Message

According to the NIST 800-37 standard, usage and criticality of any application (tool) should be acknowledged before its startup. This is achieved with warning message displayed before the tool is started.

You can create the HPOM GUI start-up message that contains your own text, as well as to enable and disable this message.

---

### IMPORTANT

It is possible to customize, edit, or change the status of HPOM GUI start-up message only as the `root` user.

The HPOM GUI start-up message displays, if it is enabled, after the log-on window. If the agreement defined in this message is accepted, HPOM starts. Otherwise, the log-on sequence is stopped immediately.

If the HPOM GUI start-up message is disabled, HPOM starts right after the log-on window.

For more information on HPOM GUI start-up message creation, and the prerequisites that must be taken into account, see the *HPOM Administrator's Reference*.

## Performing Drag and Drop Operations

Drag and drop operations simplify work with the Java GUI. The Java GUI supports the following drag-and-drop operations:

- ❑ Drag and Drop Operations Inside the Java GUI
- ❑ Drag and Drop Operations Between the Java GUI and Other Applications

---

### NOTE

Drag operations in the Java GUI are performed in two different modes, depending on the object that is being dragged. For mode details on drag modes, see “Drag Modes” on page 102.

---

## Drag and Drop Operations Inside the Java GUI

You can perform these operations through the concept of the following categories:

- ❑ **Sources**

Java GUI areas from which you can drag the objects.

- ❑ **Targets**

Java GUI areas to which you can drop the dragged objects.

Table 1-1 on page 94 shows sources and targets where the drag-and-drop operations are supported. For every source-target pair where drag-and-drop is supported, there are underlying actions associated with these operations. For the description of these actions, see “Sources and Standard Drag Operation” on page 94 and “Targets and Drop Associated Actions” on page 95.

**Table 1-1 Supported Drag and Drop Operations**

Sources	Targets				
	Shortcut bar	Workspace pane	Workspace tab	Object pane	Filter window
Object pane	✓	✓	✓	N/A	✓
Shortcut bar	✓	✓	✓	N/A	✓
Workspace tab	N/A	N/A	✓	N/A	N/A
Client window	N/A	N/A	✓	✓	N/A
Service graph	✓	✓	✓	N/A	✓

**Sources and Standard Drag Operation**

All Java GUI areas from which you can drag objects are marked as sources.

**NOTE**

Objects dragged from the sources are not necessarily displayed in the same way for every target. The way they are displayed depends on the action associated with the particular source-target pair. For more information about the actions performed as a result of drag and drop operations, see “Targets and Drop Associated Actions” on page 95.

When you start dragging an object, the cursor changes to reflect the current status of the operation. The cursor shows whether it is possible to drop the object on a target.

However, there are special cases when you *cannot* use a standard drag operation. For more information, see “Special Mode Cases” on page 102.

---

**NOTE** It is possible to drag more than one object from source to target simultaneously.

---

### Targets and Drop Associated Actions

All Java GUI areas where you can drop the dragged objects are marked as targets. Dropping objects is associated with actions that are described in the following tables. These show possible sources and actions for every target.

---

**NOTE** Most actions associated with dropping objects are also available from the pop-up and other menus of particular target areas.

---

#### ❑ **Shortcut bar**

**Table 1-2**                      **Shortcut Bar Drop Actions**

Source	Dropped Object	Associated Action
Object pane	All	Adds an object as a shortcut to the shortcut bar.
Shortcut bar	All	Repositions shortcuts inside the shortcut bar.
Service graph	Service	Creates a new shortcut for service and adds it to the shortcut bar.

There are a number of areas where objects can be dropped within a shortcut bar. These are the following:

- *Shortcut pane*  
Object dropped anywhere inside the shortcut pane, except between two shortcuts, displays as a shortcut appended to the end of the shortcut pane.
- *Shortcut pane, between two shortcuts*

Object dropped between two shortcuts displays as a shortcut inserted at the position indicated by a visible “insert line.”



- *Shortcut group button*

When you drop an object on a shortcut group button, a shortcut group opens. The dropped object displays as a shortcut appended at the end of the shortcut group.

Hovering the mouse over a shortcut group button opens the shortcut group. This helps you to choose a suitable shortcut group onto which to drop the object.

- *Scroll buttons*

Hovering the mouse over a scroll button results in scrolling up or down, depending on the scroll button that you are hovering over. This helps you to choose a position for the object to be dropped where there are many shortcuts present in a shortcut bar.

---

**NOTE**

---

By using drag and drop operations, you can reposition shortcuts in a shortcut bar.

❑ **Workspace pane**

**Table 1-3**                      **Workspace Drop Actions**

<b>Source</b>	<b>Dropped Object</b>	<b>Associated Action</b>
Object pane and shortcut bar	Nodes	Opens an Active Filtered Browser in a workspace.
	Node groups	
	Message groups	
	Filters	
	Root service	Opens a service graph.
	Services	
	Tools	Starts a tool and opens it in a workspace.
	URL shortcuts	Starts a web browser in a workspace.
Browser pane tab		Repositions message browser from browser pane to the workspace.
Service graph		Opens a service graph in a workspace.

❑ **Workspace tab**

**Table 1-4**                      **Workspace Tab Drop Actions**

<b>Source</b>	<b>Dropped Object</b>	<b>Associated Action</b>
Workspace tab		Switches source and target tabs.
Client window	All	Moves a client window from current to the target workspace.

Hovering the mouse over a workspace tab opens the corresponding workspace. This help you to choose a suitable workspace to drop the object on.

When you drop an object on a non-selected workspace tab, the tab is selected and the workspace containing a client window created by dropping the object opens.

---

**NOTE**

You can reposition workspaces from a workspace tab pop-up menu by using the *Move Workspace* option.

---

❑ **Browser pane**

**Table 1-5 Browser Pane Drop Actions**

Source	Dropped Object	Associated Action
Object pane and shortcut bar	Nodes	Opens an Active Filtered Browser in a browser pane.
	Node groups	
	Message groups	
	Filters	
Client window	Message browser	Repositions message browser from workspace to the browser pane.

---

**NOTE**

You can open a message browser directly in the browser pane when you drop an object on it.

---

❑ **Object pane**

**Table 1-6 Object Pane Drop Actions**

Source	Dropped Object	Associated Action
Client window	Message browser	Creates a new personal filter from message browser and adds it to the object pane.

❑ **Filter window**

**Table 1-7 Filter Window Drop Actions**

<b>Source</b>	<b>Dropped Object</b>	<b>Associated Action</b>
Object pane and shortcut bar	Nodes	Adds node names into the list in the Symbols and Objects tab.
	Node groups	
	Message groups	Adds a message group name into the list in the Symbols and Objects tab.
	Root service	Adds a service name into the list in the Symbols and Objects tab.
	Services	
Filters	Copies all filter setting properties from object pane item to a window.	
Service graph		Adds a service name into the list in the Symbols and Objects tab.

## Drag and Drop Operations Between the Java GUI and Other Applications

You can drag and drop a Java GUI message browser to other applications running on the system.

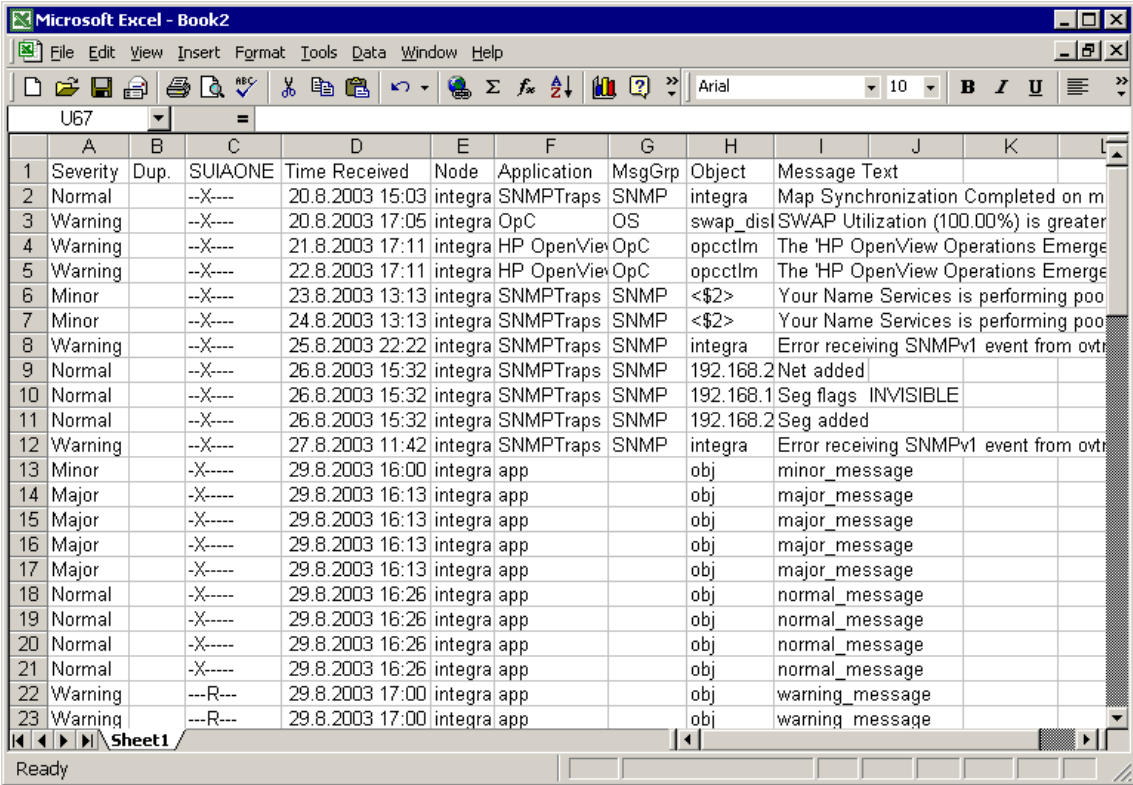
---

**NOTE** It is *not* possible to transfer data from other applications to the Java GUI message browser.

---

Figure 1-37 presents a message browser text in Microsoft Excel.

**Figure 1-37** Message Browser Text in Microsoft Excel



To save data to files that can be attached to emails and other documents, choose **Export** from the Java GUI File menu.

## Drag Modes

The following drag modes exist for drag and drop operations:

### ❑ Normal mode

A standard drag operation. For more information, see “Sources and Standard Drag Operation” on page 94.

### ❑ Special drag mode

This mode is used for the special cases when it is not possible to use a standard drag operation. For more information, see “Special Mode Invocation” on page 102 and “Special Mode Cases” on page 102.

## Special Mode Invocation

To invoke the special drag mode, follow these steps:

1. Select the client window where the dragging will be performed.
2. Place the cursor inside the client window and press **CTRL+D**.

When this mode is on, the cursor changes from an “arrow” to a “hand”, and behaves as in a standard drag operation.

The special drag mode automatically changes to a normal drag mode after you do one of the following:

- Perform the drop operation.
- Move the mouse outside the client window where you performed dragging in the special mode.

You can also turn to the normal mode by pressing **CTRL+D** again.

## Special Mode Cases

A special drag mode must be used when dragging the following:

### ❑ Client windows

A client window is any kind of window that can be opened in the workspace (except an ActiveX web browser).

Client windows can be any of the following types:

- ❑ Application Output Panel
- ❑ Message Browser Charts

- ❑ Message Browser
- ❑ Service Graph (including Service Impact Graph and Service Root Cause Graph)
- ❑ Service Submap and Custom Map

Client windows can be moved only within the workspace by using a standard drag operation. To drag them outside the workspace, you must invoke a special drag mode. To learn how to invoke the special drag mode, see “Special Mode Invocation” on page 102.

Dragging an object inside the window starts a drag and drop operation.

❑ **Services in service graphs and maps**

Services can be moved only within the service graph or map by using a standard drag operation. To enable services to be dropped outside service graph or map, you must invoke a special drag mode. To learn how to invoke the special drag mode, see “Special Mode Invocation” on page 102.

---

**NOTE**

---

You can perform the drop operation depending on the target location that you choose. For more information about supported source-target pairs, see “Drag and Drop Operations Inside the Java GUI” on page 93.

These are possible ways how you can perform the drag operation:

- *Dragging selected services*

If one or more services are selected, dragging one of them moves all selected services to a target location.

- *Dragging non-selected services*

If you drag a non-selected service, even though there might be some services selected, only the non-selected service will be moved to a target location.

---

**NOTE**

If you drag an area surrounding the services, an entire service graph or map, similarly as any other client window, will be moved to a target location.

---



## Cockpit View

The HPOM cockpit view is a web-based interface that displays the state of the environment monitored by HPOM. Cockpit view helps users to quickly assess the health and readiness of the environment to support the business.

A cockpit view consists of two main parts:

- **Indicator panel**

The colored bars and gauges at the top of a cockpit view indicate the status of message filters and groups of message filters, based on the status of the messages that match the filter criteria.

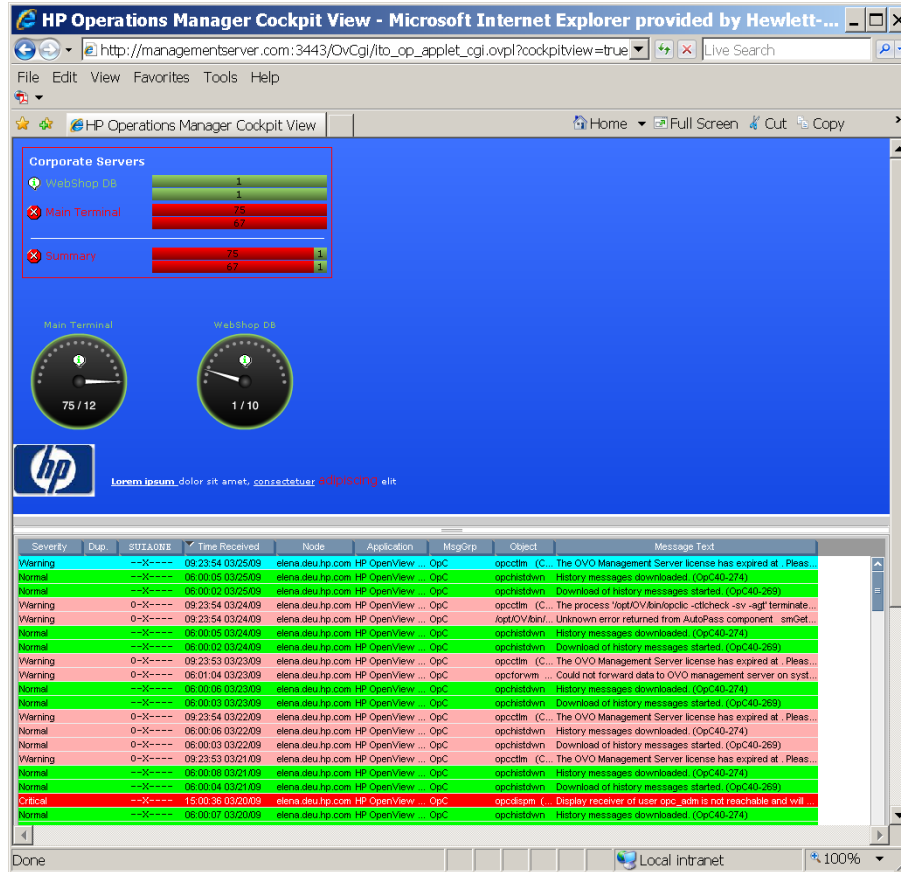
- **Message Browser**

The Java GUI message browser displays at the bottom of a cockpit view. The menu bars and tool bars can be displayed, if required.

Figure 1-38 on page 106 shows an example cockpit view.

Figure 1-38

### Cockpit View



### Message Filters

To display the status of message filters, cockpit view provides the following elements:

- **Icon**

The icon indicates the current status of the message filter.

- **Name, label, or background**

The filter name, label, or background of the text area of a message filter can be color-coded to indicate the current status of the message filter.

- **Message bars**

The upper message bar shows the total number of all messages by severity. The lower message bar shows the number of all unowned messages by severity.

A hyphen (-) indicates that the Java GUI is still loading messages and that the filter criteria are still being evaluated. The hyphen is also displayed in case the filter with the specified file name does not exist. If a bar displays zero (0) messages, no messages currently match the criteria of the filter.

If the specified width of the message bars is too small, the message bars are truncated and shaded to indicate that some information is hidden. You can view the complete information by accessing the tool tip of a truncated message bar.

---

**TIP**

---

You can configure each element to be shown or hidden from view.

The status of a message filter is equal to the most severe, unowned message.

Figure 1-39 on page 107 shows that the message filter Main Terminal has a critical status because there are 75 critical messages.

**Figure 1-39**

**Message Filter**



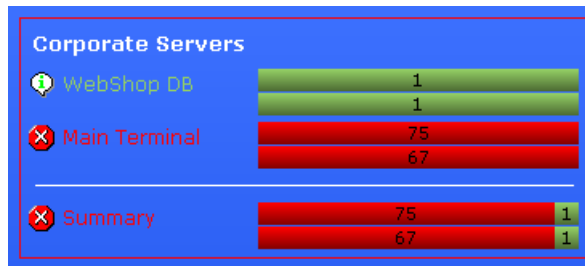
To view the messages that match the criteria of the filter, you can click the message filter. A new message browser tab opens and displays the messages.

## Message Filter Groups

You can collect multiple message filters into message filter groups. As with message filters, you can show message filter groups with an icon, a name or label, a background color, and message bars representing the number of messages by severity, as shown in Figure 1-40 on page 108.

Figure 1-40

### Message Filter Group



For each message filter group, you can choose to display filters for active messages, for pending messages, or for history messages.

Optionally, for each message filter group, you can show a summary status line that indicates the current status of the group. A message filter group aggregates the messages of all contained message filters, and calculates their status, based on the total number of messages that match the criteria of the filters.

When you click the group summary, a new message browser tab opens and displays all messages that match the criteria of the message filters that are members of the message filter group.

### Requirements for Message Filters

Before you configure a message filter in the Java GUI for use in a cockpit view, make sure the filter meets the following cockpit view requirements:

- **Global message filters**

The Java GUI enables you to define global and personal message filters. If you want to use a message filter in a cockpit view, the filter must be of the type global. Global filters must be configured by an administrator.

- **Named message filters**

To insert a message filter in a cockpit view, the filter must have a name that is unique across the HPOM environment.

---

**TIP** Use labels to show message filters under different names in a cockpit view.

---

For more information about setting up message filters, see “Filter Settings” on page 55.

## Health Gauges

A health gauge is an alternative method of displaying a message filter. A health gauge can display an icon, a name or label, a background color, and an indicator showing the number of messages in relation to a maximum value, as shown in Figure 1-41 on page 109.

**Figure 1-41**

### Health Gauges



For each health gauge, you can choose to display a filter for active messages, pending messages, or history messages.

A health gauge shows you at a glance how many messages match the criteria of the filter. It compares the number of messages with a set of thresholds. It then calculates its current status accordingly.

When you configure a health gauge, you define the orientation, maximum value, and thresholds of the scale. A health gauge can have a positive or negative orientation. A positive orientation means that a lower value is more critical than a higher value. The reference value is the maximum, or best, value. If you choose a negative orientation, higher values are considered to be more critical than lower values.

The thresholds define the segments of the scale. The status of a health gauge changes as thresholds are exceeded.

When you click a health gauge, a new message browser tab opens and displays the messages for that message filter.

## Free-Text Areas

Free-text areas are sections in a cockpit view that display single lines of text that you write, as shown in Figure 1-42 on page 110. You can choose the content, position, and format of lines of text.

Figure 1-42

### Free-Text Areas



---

#### NOTE

Free-text areas are static. They do not display status information. In a free-text area, you can select the text, but you cannot click it.

---

## Images

You can place images anywhere in a cockpit view, as shown in Figure 1-43 on page 110. You can choose the image itself, the size, and the position of the image.

Figure 1-43

### Images



## Starting a Cockpit View

For instructions on configuring the cockpit view, see *HPOM Administrator's Reference*.

To start a cockpit view, follow these steps:

1. In a supported web browser, type the following URL:

- Standard Connection:

```
http://<management_server>:8081/OvCgi/ \
ito_op_applet_cgi.ovpl?cockpitview=true&view=<layout>
```

- Secure Connection:

```
https://<management_server>:8444/OvCgi/ \
ito_op_applet_cgi.ovpl?cockpitview=true&view=<layout>
```

Replace *<management\_server>* with the hostname of your management server. Replace *<layout>* with the name of the layout configuration file. (Omit the *.xml* file type extension.)

---

**TIP**

The following URL starts the sample cockpit view provided by HP:

- Standard Connection:

```
http://<management_server>:8081/OvCgi/ \
ito_op_applet_cgi.ovpl?cockpitview=true
```

- Secure Connection:

```
https://<management_server>:8444/OvCgi/ \
ito_op_applet_cgi.ovpl?cockpitview=true
```

---

2. *Optional.* Customize the startup options of a cockpit view.

For instructions, see “Customizing Cockpit View Startup Options” on page 111.

---

**NOTE**

When you start a cockpit view, a Java GUI client automatically starts and runs as an applet within the cockpit view. Depending on the authentication settings of the Java GUI, you may need to enter your user name and password. For details, see “Security and Authentication” on page 113.

---

### Customizing Cockpit View Startup Options

The startup options enable you to customize the initial configuration of a cockpit view.

For example, you can customize the following:

- Refresh interval
- Number of the displayed active and history messages
- Display of the main menu bar and of the tool bars

To customize the initial startup of a cockpit view, you can add the options listed in Table 1-8 to the query part of the startup URL.

**Table 1-8 Startup Options for a Cockpit View**

Option	Description	Default
<code>gui.show.activemessages</code>	Maximum number of active messages the Java GUI displays in a message browser. Possible values are <code>all</code> or an integer (from 1 to two billion-1).	<code>all</code>
<code>gui.show.historymessages</code>	Maximum number of history messages the Java GUI displays in a message browser. Possible values are <code>all</code> or an integer (from 1 to two billion-1).	<code>all</code>
<code>gui.coloredmessagelines</code>	Whether the entire message line or just the severity column are colored in the message browser. Possible values are <code>true</code> or <code>false</code> , <code>yes</code> or <code>no</code> , and <code>on</code> or <code>off</code> .	<code>true</code>
<code>gui.refresh</code>	Interval in seconds after which the message browser refreshes. Possible values are from 5 to 86399.	15
<code>gui.mainmenu</code>	Whether the menu bar displays. Possible values are <code>true</code> or <code>false</code> .	<code>false</code>
<code>gui.toolbar.msgbrw</code>	Whether the message browser toolbar displays. Possible values are <code>true</code> or <code>false</code> .	<code>false</code>
<code>gui.toolbar.msg</code>	Whether the message tool bar is displayed. Possible values are <code>true</code> or <code>false</code> .	<code>false</code>
<code>gui.toolbar.svc</code>	Whether the service tool bar is displayed. Possible values are <code>true</code> or <code>false</code> .	<code>false</code>



The options are passed as name value pairs, separated by ampersands (&):

- **Standard Connection:**

```
http://<management_server>:8081/OvCgi/ito_op_applet CGI.  
ovpl?cockpitview=true&view=<layout>  
&<option>=<value>&<option>=<value>...
```

- **Secure Connection:**

```
https://<management_server>:8444/OvCgi/ito_op_applet CGI.  
.ovpl?cockpitview=true&view=<layout>  
&<option>=<value>&<option>=<value>...
```

**Example:**

```
http://managementserver.hp.com:8081/OvCgi/ito_op_applet CGI.  
ovpl?cockpitview=true&view=MyLayout  
&gui.refresh=15&gui.show.activemessages=100  
&gui.show.historymessages=200&gui.coloredmessagelines=true  
&gui.mainmenu=true&gui.toolbar.msgbrw=false  
&gui.toolbar.msg=true&gui.toolbar.svc=true
```

## Security and Authentication

Cockpit view uses the security and authentication processes of the Java GUI.

Depending on the security setup of the Java GUI, before you can access a cockpit view, you may need to do one of the following:

- Accept an HPOM server certificate.
- Enter information in the Login dialog box.

## Firewall Environments

If a firewall exists between a cockpit view client and the management server, you can do one of the following:

- Configure the firewall to allow the Java GUI direct access to the management server.
- Configure the Java GUI to use a proxy server for all communication with the management server.

For more information about configuring security settings for the Java GUI, see the “Secure HTTPS Communication” on page 215.

## Problem Solving Process

The HPOM problem solving process includes the following steps:

### 1. Detecting Problems

HPOM enables you to automatically detect problems in message browsers and the object pane, review messages and node status, and direct problem management activities. HPOM notifies you when problems occur, and indicates exactly where the problems are located.

For details, see “Detecting Problems in Your Environment” on page 117.

### 2. Investigating Problems

The most common indication of a problem in your managed environment is a message in your message browser. The message indicates where and why a problem occurred, and suggests what you should do to resolve the problem.

For details, see “Investigating Problems in Your Environment” on page 129.

### 3. Solving Problems

After you have been notified of a problem and have investigated its cause, the following tools are available to help you solve it, if they have been configured and assigned to you by the HPOM administrator:

- Tools
- Automatic actions
- Broadcast commands
- Operator-initiated actions
- Operator instructions
- Terminal access

For details, see “Solving Problems in Your Environment” on page 144.

### 4. Documenting Solutions

After you have completed work on a message, you should document your efforts and remove the message from the active message browser, the filtered active message browser, or the filtered pending messages browser. To do this, you use message annotations to record how a problem was resolved, and then acknowledge the message to remove it from the current work area, storing it in the history database.

For details, see “Documenting Solutions in Your Environment” on page 162.

## Detecting Problems in Your Environment

HPOM enables you to automatically detect problems in message browsers and in the Nodes and Message Groups folders in the object pane, review messages and node status, and direct problem management activities. HPOM notifies you when problems occur, and indicates exactly where the problems are located.

This section includes the following information to help you understand how HPOM notifies you of a problem:

❑ **Monitoring Your Environment**

Explains how HPOM highlights the node that generated a message.

❑ **Searching the Object Pane**

Explains how you can use the search function to identify the node you are looking for.

❑ **Message Event Notification**

Explains how you handle message event notification.

❑ **Viewing Messages in the Message Browser**

Explains how you view messages in the message browser.

❑ **Browsing Messages Effectively**

Explains how you use message browsers to identify messages that indicate a problem.

❑ **Message Severity Coloring**

Explains how HPOM uses colors to indicate severity levels.

## Monitoring Your Environment

To monitor your HPOM managed environment, you can view message nodes, search the object pane, and respond to message event notifications:

- ❑ **View a Message Node Manually**

You can manually access and view a message node in the shortcut bar and object pane. For details, see “Viewing a Message Node Manually” on page 223.

- ❑ **View a Message Node Automatically**

You can automatically access and view a message node associated with a problem you have already detected. For details, see “Viewing a Message Node Automatically” on page 224.

- ❑ **Search the Object Pane**

You can search for a specific item in the object tree by using the basic search function or the advanced search function. For details, see “Searching the Object Pane” on page 119.

- ❑ **View Message Event Notifications**

You can automatically access and view a message associated with a problem you have already detected. For details, see “Message Event Notification” on page 120.

## Searching the Object Pane

You can search for a specific item in the object tree by using the basic search function or the advanced search function in the Find window.

---

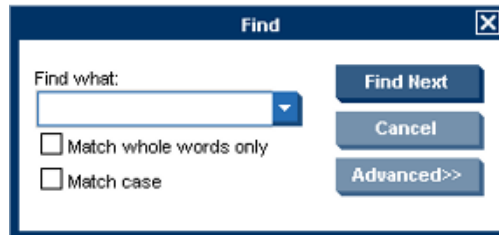
**NOTE**

To find out how to use the search function, see “Searching the Object Pane” on page 224.

---

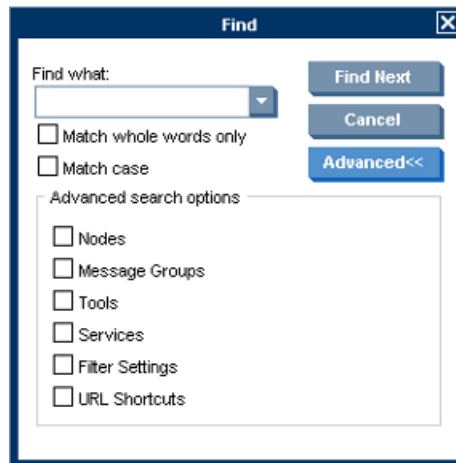
The basic search enables you to search the entire object tree, as shown in Figure 1-44.

**Figure 1-44** Basic Search of the Object Tree



The advanced search enables you to search selected sections of the object tree, as shown in Figure 1-45.

**Figure 1-45** Advanced Search of the Object Tree



In both cases, the search begins at the top of the object tree, rather than from the selected item.

## Message Event Notification

Message event notification keeps you informed about new messages with high severity. This notification is especially helpful if you have many windows opened simultaneously, or if there are a lot of new messages with low severity coming in. Figure 1-46 shows a message event warning.

**Figure 1-46**

### Message Event Warning



To find out what to do when a message event notification window opens, see “Viewing Message Event Notifications” on page 225. To find out how to customize message event notification, see “Customizing Message Event Notification” on page 187.

## Viewing Messages in the Message Browser

When you start the HPOM GUI, a message browser opens in the browser pane, and automatically displays the latest 50 of all active messages from the nodes assigned to you. You can change the number of messages displayed so that all messages are shown. To further narrow your view of the messages in the message browser, you can open filtered message browsers that display only messages matching your selected message browser filters. In addition, you can define message view filters to quickly isolate specific messages.

By locking the message browser, you can make sure that older messages you currently work on remain visible in the message browser while new messages arrive in the message browser.

To find out how to view all, selected, filtered, or old messages in the message browser, see “Viewing Messages” on page 226.



## Browsing Messages Effectively

The message browsers provide you with the following information:

- ❑ What the problem is
- ❑ How serious the problem is
- ❑ Which preconfigured actions you can use to correct the problem

When you browse messages, you scan the message browsers for incoming messages, looking for important information requiring your attention. A good scanning policy makes your message-management tasks easier, and it makes you a more effective operator. To develop a scanning policy, you determine which messages are most important to your environment.

This section explains how to do the following:

- ❑ **Scanning Messages in the Message Browsers**

By using priorities and policies to scan messages in the message browsers or reading each message as it is displayed in the message browsers.

- ❑ **Customizing Browser Columns to be Displayed**

Selecting message attributes (set by the HPOM administrator) to reflect your personal scanning policy.

### Scanning Messages in the Message Browsers

As an example of message scanning, you might scan messages in the message browsers by using the following priorities and policies:

#### Severity

Use the severity flags to search for messages indicating problems. Color-coded severity levels help you do this quickly.

#### Actions

Search for messages indicating started operator-initiated actions.

#### Failures

Search for messages indicating that automatic or operator-initiated actions have failed. Restart the actions to try again.

## Procedures

Search for messages that have no configured action, but require a response from you to correct a problem.

## Ownership

Search for messages owned by you.

## Custom Message Attributes

Search for messages that have a specific attribute chosen by the administrator (for example, a customer name, the type of Service Level Agreement, and so on).

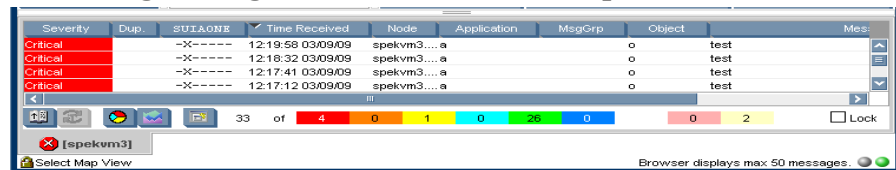
Another approach is to read each message as it is displayed in the message browsers. If you decide to follow this approach, you should be aware that your environment could require you to apply different policies to your message scanning.

The total number of messages relating to each severity level or ownership state displays in the corresponding segment of each color bar.

The severity and the ownership color bars, and the view identifier that specifies which filters you have chosen to display messages, are shown in Figure 1-47.

**Figure 1-47**

## Reviewing Message Number and Ownership



## NOTE

The ownership display mode determines whether colors are used to indicate message ownership. This mode also determines whether the ownership-state color bar displays in the message browsers. For more information about the ownership display mode, see “Message Ownership” on page 146.

By checking the color bars beneath the message buffer, you can use the message browsers to see how many messages relate to a given severity level, or are owned or marked by you or another user.

---

**NOTE**

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For a description of message severity colors, see “Message Colors” on page 69.

If you want node status to be the first priority of your scanning policy, you can use the Nodes folder in the object tree together with the message browsers. If HPOM is configured to do so, the icon of each node in the object tree changes color, reflecting the highest severity level of a message issued by that node. These colors also correspond with the colors used in the severity column of the message browsers. For example, if you notice that a node’s icon has changed to red (*Critical*), scan the message browsers for messages with the status color red.

There are two different read-only message types, setting the S flag to:

- N for NOTIFICATION messages (these messages can be (un)acknowledged and annotations can be added)
- R when message is operator level READ-ONLY (no operations are allowed on these messages)

### **Customizing Browser Columns to be Displayed**

You can use the Customize Message Browser Columns window to select message attributes (set by the HPOM administrator) that reflect your personal scanning policy. You *cannot* use the Customize Message Browser Columns window to remove either the severity or the ownership columns from the message browsers.

The Customize Message Browser Columns window has two tabs:

#### **❑ General**

Enables you to select from default message attributes, as shown in Figure 1-48 on page 124.

**❑ Custom**

Enables you to select custom message attributes previously set by the HPOM administrator, as shown in Figure 1-49 on page 125. For an overview of custom message attributes, see “Custom Message Attributes” on page 134.

Figure 1-48 shows the General tab of the Customize Message Browser Columns window.

**Figure 1-48**

**General Tab in the Customize Message Browser Columns Window**

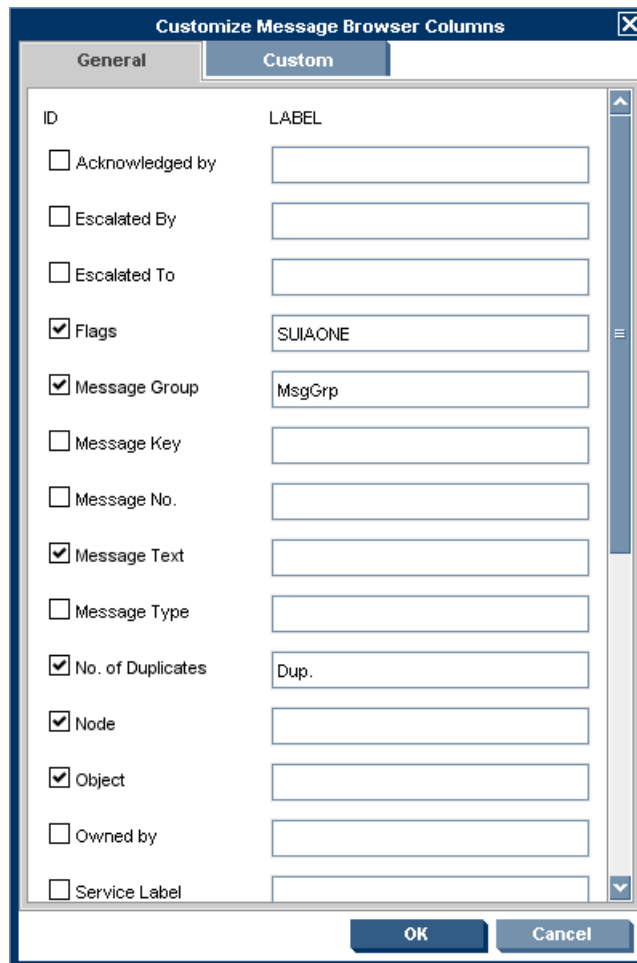
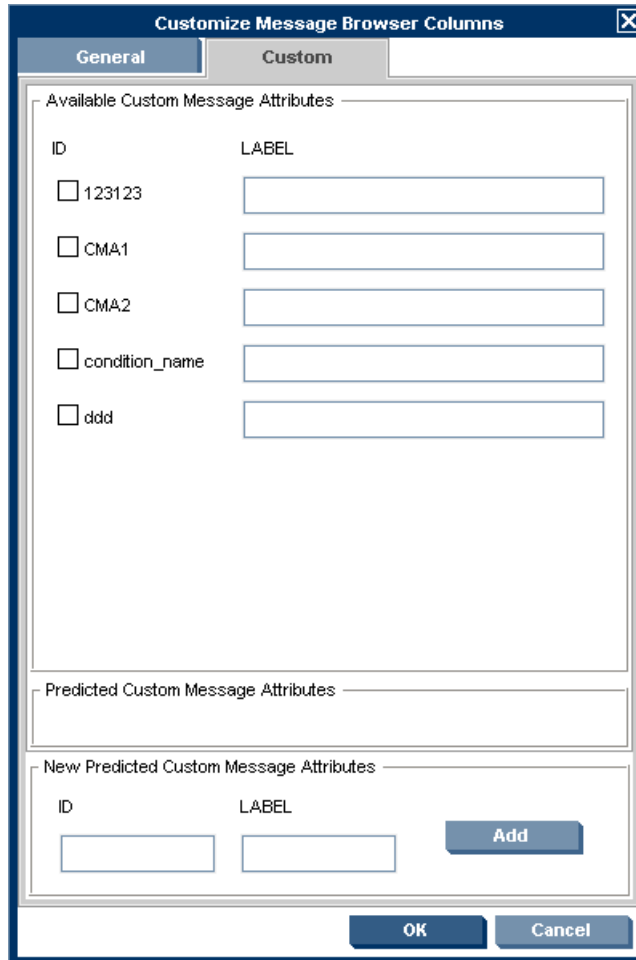


Figure 1-49 shows the Custom tab of the Customize Message Browser Columns window.

**Figure 1-49** Custom Tab in the Customize Message Browser Columns Window



## Message Severity Coloring

The severity of the most critical message determines the color of the following Java GUI containers:

### ❑ **Shortcut Bar**

For details about coloring in the shortcut bar, see “Coloring in the Shortcut Bar and Object Pane” on page 126.

For an overview of the shortcut bar itself, see “Shortcut Bar” on page 46.

### ❑ **Object Pane**

For details about coloring in the object pane, see “Coloring in the Shortcut Bar and Object Pane” on page 126.

For an overview of the object pane itself, see “Object Pane” on page 48.

### ❑ **Browser Pane**

For details about coloring in the browser pane, see “Coloring in the Browser Pane” on page 128.

For an overview of the browser pane itself, see “Browser Pane” on page 66.

## Coloring in the Shortcut Bar and Object Pane

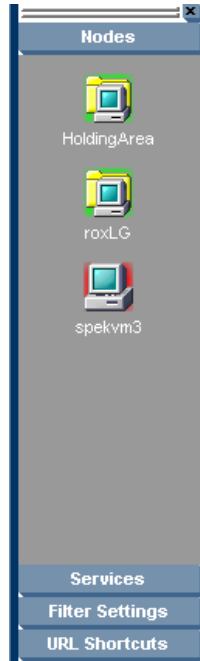
In the shortcut bar (see Figure 1-50 on page 127) and object pane (see Figure 1-51 on page 128), the following elements are colored with the severity color of the most critical message:

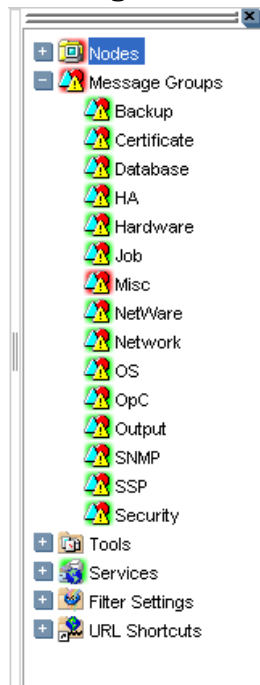
- ❑ Nodes
- ❑ Message groups
- ❑ Services (if Service Navigator is installed)

If the most critical message has a severity of `Normal`, the element that contains it colored green. For example, if a node in the shortcut bar and object pane contains nothing but messages with a severity of `Normal`, the

node is colored green. Then, if a Critical message arrives, the color of the node changes to red, indicating that you need to solve a Critical problem on this node.

**Figure 1-50**      **Coloring of Nodes in the Shortcut Bar**



**Figure 1-51**      **Coloring in the Object Pane****Coloring in the Browser Pane**

In the browser pane, the tabs contain an icon that shows the severity of the most critical message in the corresponding message browser. If a message with a higher severity arrives in the message browser, the icon on the tab changes to reflect the new severity. For example, if a tab in the browser pane contains nothing but messages with severity of *Normal*, the tab shows the icon representing the severity *Normal*. Then, if a *Critical* message arrives, you see the icon of the tab change to reflect the new severity, indicating that you need to solve a *Critical* problem on this node.

**NOTE**

For more information about coloring in the browser pane, see “Message Colors” on page 69.



## Investigating Problems in Your Environment

The most common indication of a problem in your managed environment is a message in your message browser. The message indicates where and why a problem occurred, and suggests what you should do to resolve the problem. Not all messages represent problems. For example, a message about a user logon merely notifies you of the fact that a user has logged on to a system.

This section includes the following information to help you understand how HPOM notifies you of a problem:

- ❑ **Investigating Problems with the Message Browser**

Explains how you can get basic information about a message by reviewing the message in the workspace pane or the browser pane. Also explains how you can view detailed information about a message by reviewing the Message Properties window.
- ❑ **Examining Message Attributes**

Explains how you can access details about a message, and what the message attributes tell you about a message.
- ❑ **Modifying Message Attributes**

Explains when and how you would modify message attributes to make the message more meaningful.
- ❑ **Reviewing the Original Message Text**

Explains how to display the original, unfiltered text of a message.
- ❑ **Adding HPOM Variables**

Explains message attributes, including custom message attributes, that can be used in applications (tools).
- ❑ **Custom Message Attributes**

Explains what custom message attributes are, and how you can review them.
- ❑ **Viewing Message Severity in the Message Dashboard**

Explains how to view message severity in one of two formats.

❑ **Finding Impacted Service Navigator Services with the Services Workspace**

Explains how Service Navigator helps you identify impacted services.

❑ **Using HP Software Products in the Diagnostic Dashboard**

Explains how you can use integrated products to identify a problem.

❑ **Investigating Message Histories**

Explains how message histories help you find the solution to a problem.

❑ **Investigating Pending Messages**

Explains when you should work on pending messages.

## **Investigating Problems with the Message Browser**

You can investigate problems with the message browser as follows:

❑ **Basic Information**

You get basic information about a message by reviewing the message in the workspace pane or the browser pane. Only the most important information is shown. For details, see “Viewing Messages in the Message Browser” on page 233.

You can modify and even forward the message to another operator or to the HPOM administrator. For details, see “Sending an HPOM Message to Another Operator” on page 233.

❑ **Detailed Information**

You view detailed information about a message by reviewing the Message Properties window. There you can view all information associated with a message, including instructions, annotations, and any configured actions. For details, see “Viewing Detailed Message Information” on page 234.

## **Examining Message Attributes**

The key information in the message browsers is the incoming messages. Each line of the message buffer displays a single message and its attributes. Reading and understanding the attributes is as important as reading the message text.

Double-clicking a message opens the Message Properties window. The Message Properties window contains the full details of a message, including all message attributes, as shown in see Figure 1-22 on page 71.

From this window, you can implement the problem-solving actions indicated in the message browsers. For example, you can perform operator-initiated actions, view available instructions or annotations, or acknowledge the message. As an added convenience, you can print messages from the window.

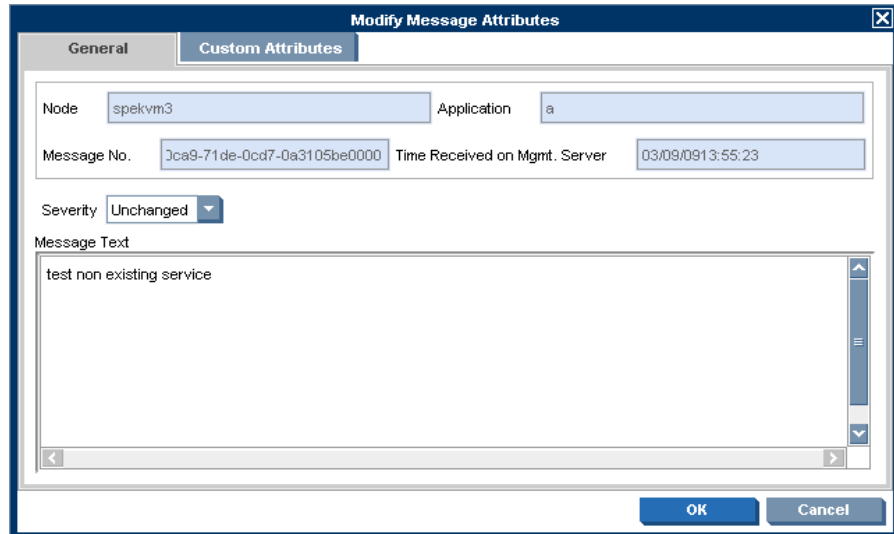
The **Modify...** button is displayed only if you have been granted the right to modify the attributes of a message.

## Modifying Message Attributes

The Modify Message Attributes window enables you to modify the severity and the text of a message, as shown in Figure 1-52.

**Figure 1-52**

### Modify Message Attributes Window



Use this window if you want to increase or decrease the severity of a message.

In the Modify Message Attributes window, the original message text is not changed, only the message text as it is presented by HPOM. All modifications are tracked through automatic annotations.

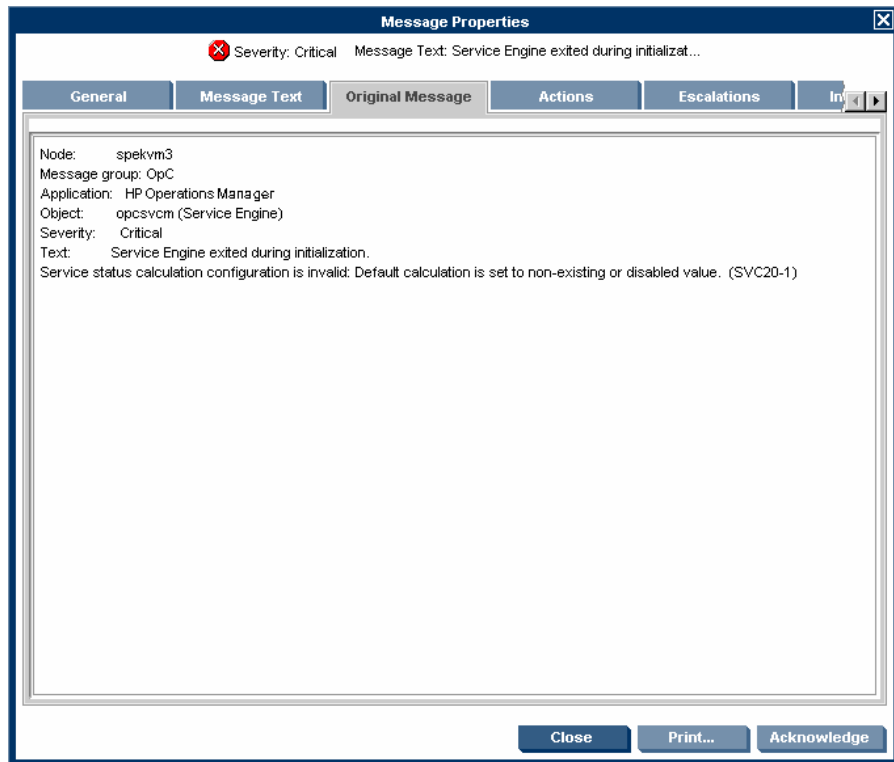
## Reviewing the Original Message Text

Displaying the original, unfiltered message text may be useful when the message text in the Message Properties window proves to be unhelpful.

Figure 1-53 shows an example of the Original Message tab in the Message Properties window.

**Figure 1-53**

### Original Message Tab in the Message Properties Window



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**NOTE**

If the message does not have any original message text, the Original Message tab is empty.

---

## Custom Message Attributes

Custom message attributes are message attributes that the HPOM administrator defines for a message. These attributes can convey any kind of information, whatever the administrator thinks useful. Typical custom message attributes are, for example, `Customer` for a customer name or `SLA` for service level agreements.

HPOM enables you to review these custom message attributes in the following windows:

- ❑ **Message Browser** (optional)

Custom message attributes are displayed as additional columns in the message browser windows. For details, see “Viewing Custom Message Attributes” on page 135.

- ❑ **Message Properties** (default)

You can view currently available custom message attributes in the Custom Attributes tab.

You can sort messages in the browser according to custom message attributes. You can open a filtered browser based on the custom message attributes.

---

**NOTE**

You can also use custom message attributes as message-related variables, which are used for tool launch, operator-initiated actions, and message event notification actions. The custom message attributes are used as input launch parameters. For more information about message related variables, see “Adding HPOM Variables” on page 159.

---

## Viewing Custom Message Attributes

If you have enabled the display of custom message attributes in your message browser, they display as additional columns in your browser windows, as shown in Figure 1-54.

Figure 1-54

### Custom Message Attribute as a Column in the Message Browser

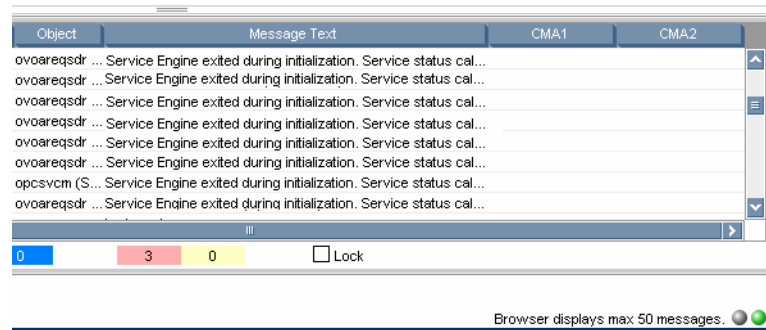
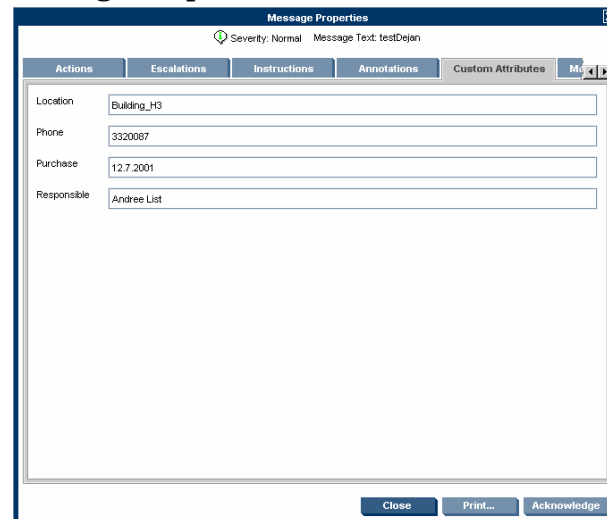


Figure 1-55 shows the Message Properties window with the Custom Attributes tab for available custom message attributes.

Figure 1-55

### Message Properties Window with Custom Attributes Tab



## Investigating Problems with the Workspace Pane

You can use the workspace pane to investigate problems as follows:

### ❑ Message Dashboard

You can view message severity in the Message Dashboard workspace. For details, see “Viewing Message Severity in the Message Dashboard” on page 136.

### ❑ Services

If Service Navigator is installed and configured on your system, the Services tab displays in the workspace pane. You can use the Services tab to get impacted service analysis.

### ❑ Diagnostic Dashboard

You can use the Diagnostic Dashboard to access other applications (tools) integrated with HPOM. These tools help you to further diagnose the problem. For details, see “Using HP Software Products in the Diagnostic Dashboard” on page 140.

## Viewing Message Severity in the Message Dashboard

In the Message Dashboard tab of the workspace pane, you can view message severity in one of two formats:

### ❑ Current State Chart

Displays the severity of all messages in the currently selected message browser.

For details, see “Current State Chart” on page 137.

### ❑ History Chart

Displays the severity changes over time of all messages in the currently selected message browser.

For details, see “History Chart” on page 139.

You can switch between these two charts by using `Switch to Current State Chart` and `Switch to History Chart` icons on the toolbar. You can also open a new message browser with the same filter as the original browser from the message browser, current state chart, or history chart.



For example, you could switch an active message browser to a current state chart to get a quick overview of the severities of the current messages. Then you could open a new message browser to compare the pie chart with messages. You could also analyze messages in the history message browser. Finally, you could switch to the history chart, where you would see that many critical messages arrived at a specific day or hour, and see that no more critical messages arrived after the problem was resolved.

### Current State Chart

The current state chart displays the severity of all messages in the currently selected message browser. The messages are grouped by severity, which is color-coded. The chart can be displayed as a pie chart or a bar chart in two- or three-dimensional formats.

Figure 1-56 shows a current state chart, formatted as two-dimensional (2D) bar chart, displaying a number of messages with a specific severity.

Figure 1-56

### Current State Chart as a Bar Chart

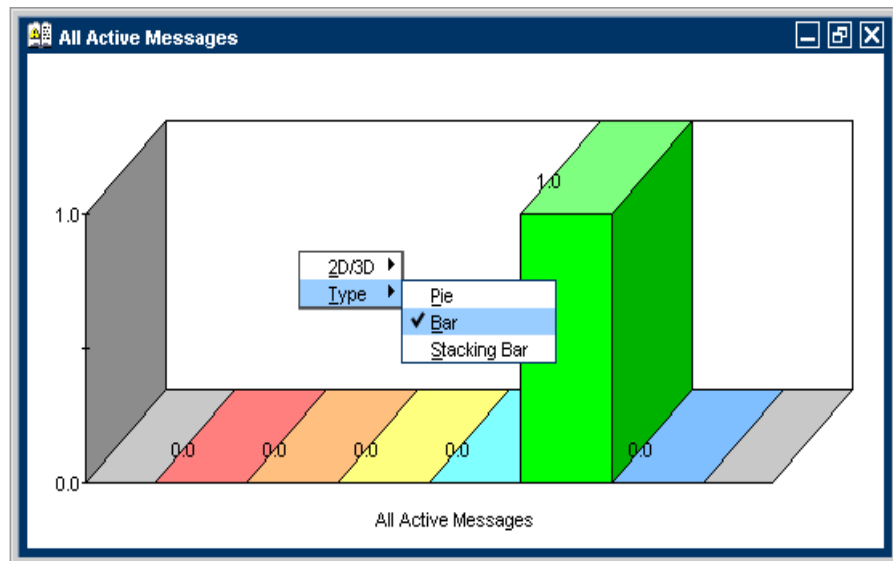
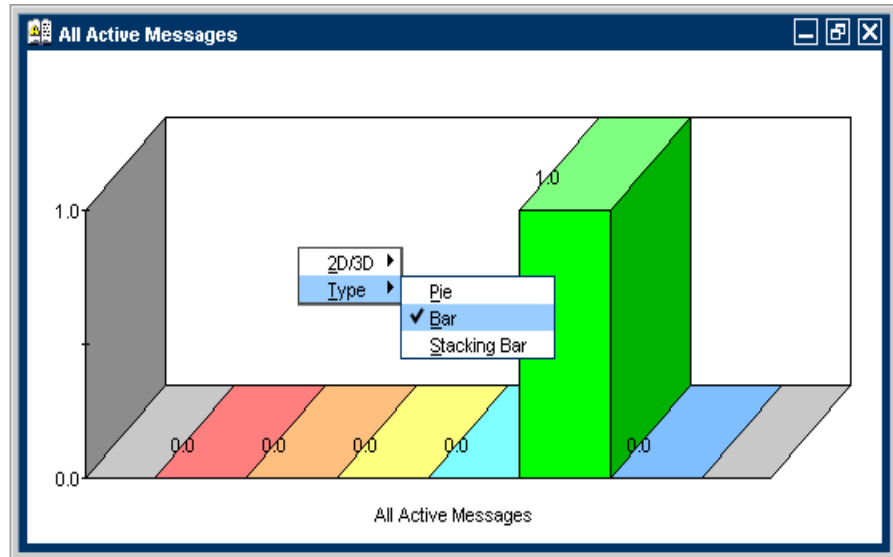


Figure 1-57 shows a current state chart of all active messages, formatted as a two-dimensional (2D) pie chart with a pop-up menu.

**Figure 1-57** Current State Chart as a Pie Chart

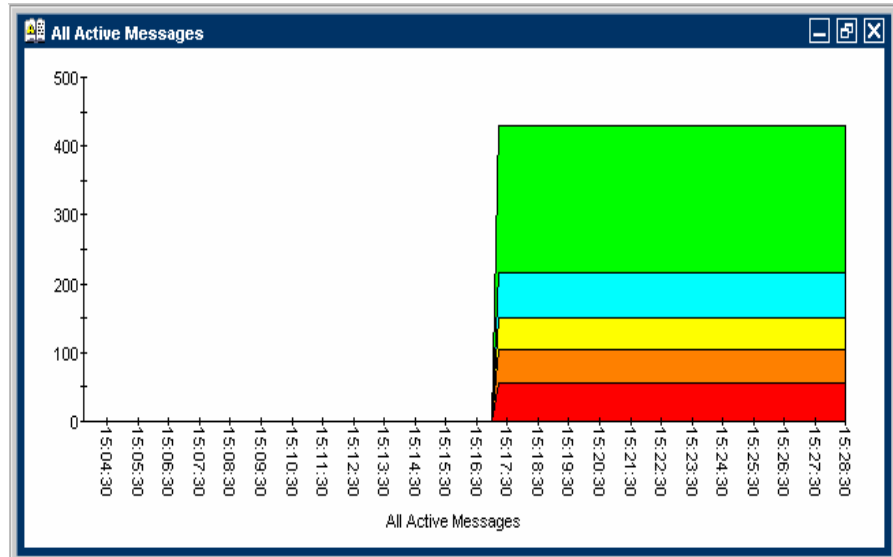


## History Chart

The history chart displays the severity changes over time of all messages in the currently selected message browser, as shown in Figure 1-58.

Figure 1-58

### History Graph Shows Severity Changes over Time



The messages are grouped by severity and time interval, from the earliest to latest message. These groups are connected with lines and displayed in the color of the corresponding severity.

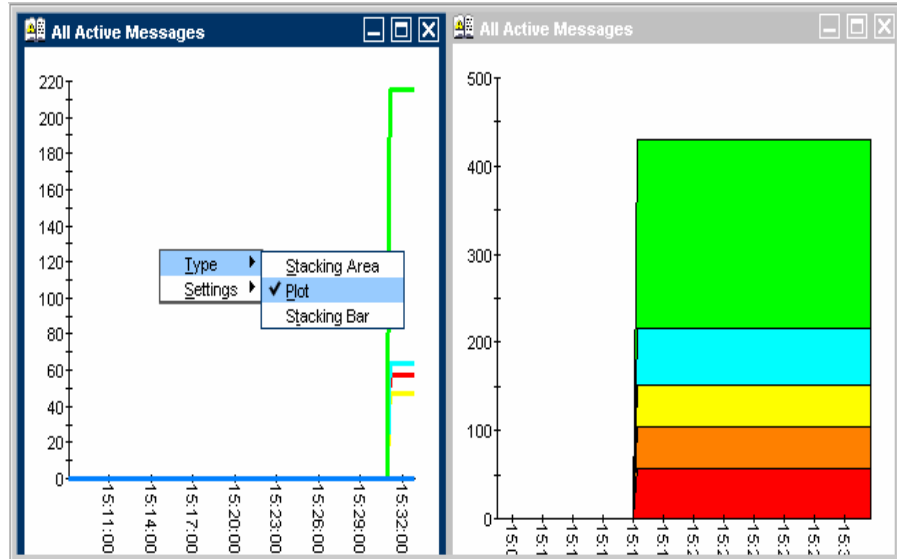
From the pop-up menu in the history chart, you can choose any one of three formats for the history chart:

- Stacking Area
- Plot
- Stacking Bar

All three types are displayed in two-dimensional (2D) format only.

Figure 1-59 shows two history graphs with an associated pop-up menu.

**Figure 1-59** Two History Graphs and an Associated Pop-up Menu



## Finding Impacted Service Navigator Services with the Services Workspace

If Service Navigator is installed and configured on your system, the Services tab displays in the workspace pane. You can use the Services tab to get impacted service analysis.

## Using HP Software Products in the Diagnostic Dashboard

Additional HP Software tools may be installed on top of HPOM. If these additional tools are installed and configured, you can access them in the Diagnostic Dashboard tab of the workspace pane. For details, see “Diagnostic Dashboard Workspace” on page 61. To find out how you can use these tools to investigate a problem further, see the documentation of the respective tool.

## Investigating Message Histories

As shown in Figure 1-24 on page 76, the filtered history message browser displays all **acknowledged** messages. Acknowledged messages are all messages for which you have completed work, or that have been sent to the history database by HPOM.

---

**NOTE**

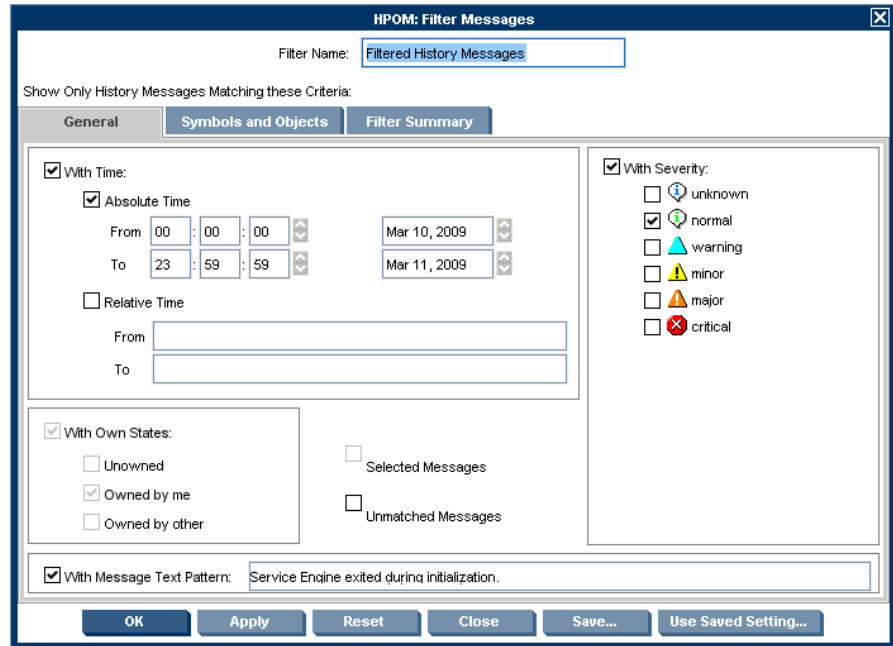
For details about the filtered history message browser, see “Filtered History Message Browser” on page 75. For more information on message acknowledgment and automatic acknowledgments, see “Documenting Solutions in Your Environment” on page 162.

---

Use the filtered history message browser as a resource for solving problems. For example, if you are not sure how to perform an action for a message, you can review the history data for occurrences of the same or similar messages. By reviewing techniques used to solve previous problems (often stored as annotations to a message), you can devise a plan to solve your current problem. The HPOM administrator can run reports to determine which messages occur more frequently, so automatic and operator-initiated actions or instructional text are available to help solve the problems that are generating the messages.

You use the Filter Messages window to define a set of message browser filters, and to open the filtered history message browser, as shown in Figure 1-60.

**Figure 1-60** Filter Messages Window



---

**NOTE**

The With Time check box is in the selected state by default to avoid accidentally opening a history browser with an excessive number of messages.

---

After you have configured the filtered history message browser to display the desired information in the desired way, you can use the Save Browser Filter Settings window to save the settings for reuse. In this way, you can see the same or similar information at a later date without having to repeat the configuration process.

For more information on the Save Browser Filter Settings and the Browser Settings windows, see “Customizing the Message Browser Columns” on page 210.

## Investigating Pending Messages

The filtered pending messages browser displays all messages that arrive on the HP Operations management server outside of defined **service hours**. They remain on the management server until a defined unbuffer time has been reached.

You can do the following with **pending messages**:

❑ **Acknowledge**

Messages are moved to the filtered history message browser.

❑ **Unbuffer** (manually or automatically)

Messages are moved to the active message browser.

---

**NOTE**

For details about the filtered pending messages browser, see “Filtered Pending Messages Browser” on page 77.

---

## Solving Problems in Your Environment

After you have been notified of a problem and have investigated its cause, the following tools are available to help you solve it, if they have been configured and assigned to you by the HPOM administrator:

- ❑ Tools
- ❑ Automatic actions
- ❑ Broadcast command
- ❑ Operator-initiated actions
- ❑ Operator instructions
- ❑ Terminal access

This section includes the following information to help you understand how HPOM helps you solve a problem:

- ❑ **Message Ownership**

Explains the effect message ownership has on your capabilities to work on a message.

- ❑ **Evaluating Action Results in the Corrective Actions Workspace**

Explains where and how you would evaluate results of automatic actions.

- ❑ **Reviewing and Rerunning Automatic Actions**

Explains the nature of automatic actions, and when you would rerun them.

- ❑ **Starting and Reviewing Operator-initiated Actions**

Explains how to work with operator-initiated actions.

- ❑ **Reading Operator Instructions**

Explains how to read and follow operator instructions.

- ❑ **Starting and Customizing Tools**

Explains how to start and customize tools.



- ❑ **Operating with the Java GUI from Other Java Applications**  
Explains how to use certain Java GUI features remotely from other Java applications.
- ❑ **Adding HPOM Variables**  
Explains how to use HPOM variables in application calls.
- ❑ **Broadcasting Commands**  
Explains how to broadcast commands to multiple nodes.

---

**NOTE**

Some of the operations described in this section are available only to the owner of the related message. For more information about message ownership, see “Message Ownership” on page 146.

---

## Message Ownership

It is important to understand the effect ownership has on operations performed to solve problems. The HPOM administrator determines ownership policy by selecting one of the ownership modes allowed in HPOM.

### Ownership Modes

HPOM provides the following default message **ownership modes**:

#### ❑ **Optional**

As an operator, you have explicit permission to take ownership of a message. The owner of a message has exclusive read-write access to the message. With the exception of the HPOM administrator, all users who find this message in their message browsers have only limited access to it.

In this mode, only the owner of a message may do the following:

- Start or stop operator-initiated actions related to the message.
- Stop or restart automatic or operator-initiated actions related to the message.
- Acknowledge the message.
- Unacknowledge the message.

#### ❑ **Enforced** (default mode)

As an operator, you can either choose explicitly to take ownership of an unowned message or automatically own the message when performing operations on the message.

In this mode, an operator automatically owns a message when attempting to do the following:

- Start or stop operator-initiated actions relating to the message.
- Stop or restart automatic or operator-initiated actions related to the message.
- Unacknowledge the message.

### ❑ **Informational**

The concept of ownership is replaced with that of marking and unmarking. A **marked** message indicates that you have taken note of the message. Marking a message is purely for informational purposes. It does not restrict or alter operations on the message in the way optional or enforced mode do. As an operator, you may unmark only those messages you yourself have marked. The HPOM administrator can unmark any marked message.

### **Ownership Display Modes**

The ownership display mode determines whether owning or marking a message influences status propagation.

HPOM provides the following **ownership display modes**:

#### ❑ **No Status Propagation** (default display mode)

The moment a message is owned or marked, the color indicating the severity of the message changes, a flag displays in the own-state column (S) in the message browsers, and the own-state color bar in the message browsers reflects the new number of messages owned. The status of a message that is owned or marked is ignored for the purposes of status propagation in the Nodes and Message Group folders in the object pane.

For example, if you take ownership of the one and only message with `Critical` severity level relating to a given managed node, the managed node to which that `Critical` message relates no longer displays the `Critical` severity-level color (by default, red). Instead, it displays the status of the next unowned message with the highest severity level in the message browser relating to the same managed node.

#### ❑ **Status Propagation**

The status of all messages, whether owned or not, is used to determine the status of the related symbols of other submap windows. Consequently, in the example above, the managed node to which the single critical message relates will continue to assume the `Critical` severity-level color (by default, red) even after the message has been owned. In this display mode, the only indication that the message is owned is a flag in the own-state column in the message browsers.

## Evaluating Action Results in the Corrective Actions Workspace

To maintain a current and accurate overview of the computing environment, you need to know the status and results of actions. The **status** of an action is defined as the availability and current state of the action.

The status indicates whether an action:

- Has been configured for the message
- Is still running
- Has been successfully completed
- Failed

Reviewing action availability is part of your initial investigation of problems. You review the message browsers and the Message Properties window to determine the availability of automatic or operator-initiated actions. The value beneath the `Flags` field in the message browser displays the availability and state of the action.

Evaluating the results of actions is essential to problem-solving because corrective actions are not always successful. They do not always solve the problem.

Use the following guidelines to check the result of an action:

### **Review Annotations**

Review the annotations of the message. If configured to do so, HPOM automatically writes the `stdout` and `stderr` actions as annotations for automatic and operator-initiated actions.

### **Review Object Status**

Broadcast a script or command by using the `Broadcast` tool, to review the status of the object. In the Broadcast Output window, you can review the results.

## Reviewing and Rerunning Automatic Actions

The HPOM administrator can configure automatic actions for a message. These actions are started automatically as soon as the event is detected.

### Reviewing Automatic Actions

You can review the automatic action of a message either by checking the status column in a message browser or by opening the Message Properties window. For details, see “Message Browser” on page 68 and “Examining Message Attributes” on page 130.

After an automatic action has completed, you can review the results to ensure that the problem has been corrected. If the HPOM administrator has configured annotations for the message, you can review the results of an automatic action by reading these annotations. The `stdout` and `stderr` actions are logged as annotations with the message. If the problem still exists, or if the automatic action was not successful, you can rerun the action.

### Rerunning Automatic Actions

You rerun an automatic action by doing one of the following:

#### ❑ Menu Bar

Select the message in the message browser and then select **Actions: Messages -> Perform/Stop Action -> Perform Automatic Action** from the menu bar.

#### ❑ Pop-up Menu

Right-click the message in the message browser and then choose **Perform/Stop Action -> Perform Automatic Action** from the pop-up menu.

## Reviewing Annotations to Automatic Actions

The HPOM administrator evaluates the effectiveness of actions by reviewing annotations and then decides whether additional or different automatic actions should be configured. For more information about creating message annotations, see “Annotating Messages” on page 162.

## Configuring Automatic Acknowledgements

Your HPOM administrator can configure an automatic acknowledgment of automatic actions that execute successfully. If HPOM is so configured, the message associated with the action is automatically moved to the history database after the action completes.

## Starting and Reviewing Operator-initiated Actions

The HPOM administrator configures operator-initiated actions for messages where automatic actions are not suitable. For example, actions or programs requiring too much CPU should not be started without first evaluating system load factors and requirements. For these types of actions, your intervention and control are necessary.

### Starting Operator-initiated Actions

You start an operator-initiated action by doing one of the following:

#### ❑ Menu Bar

Select the message in the message browser and then select **Actions: Messages -> Perform/Stop Action -> Perform Operator-initiated Action** from the menu bar.

#### ❑ Pop-up Menu

Right-click the message in the message browser and then choose **Perform/Stop Action -> Perform Operator-initiated Action** from the pop-up menu.

### Reviewing Operator-initiated Actions

You can review the operator-initiated action of a message either by checking the status column in a message browser or by opening the Message Properties window. For details, see “Examining Message Attributes” on page 130.

After an operator-initiated action has completed, you can review the results to ensure that the problem has been corrected. If the HPOM administrator has configured annotations for the message, you can review the results of an operator-initiated action by reading these annotations. The `stdout` and `stderr` actions are logged as annotations with the message. If the problem still exists, or if the operator-initiated action was not successful, you can rerun the action.

### **Reviewing Annotations to Operator-initiated Actions**

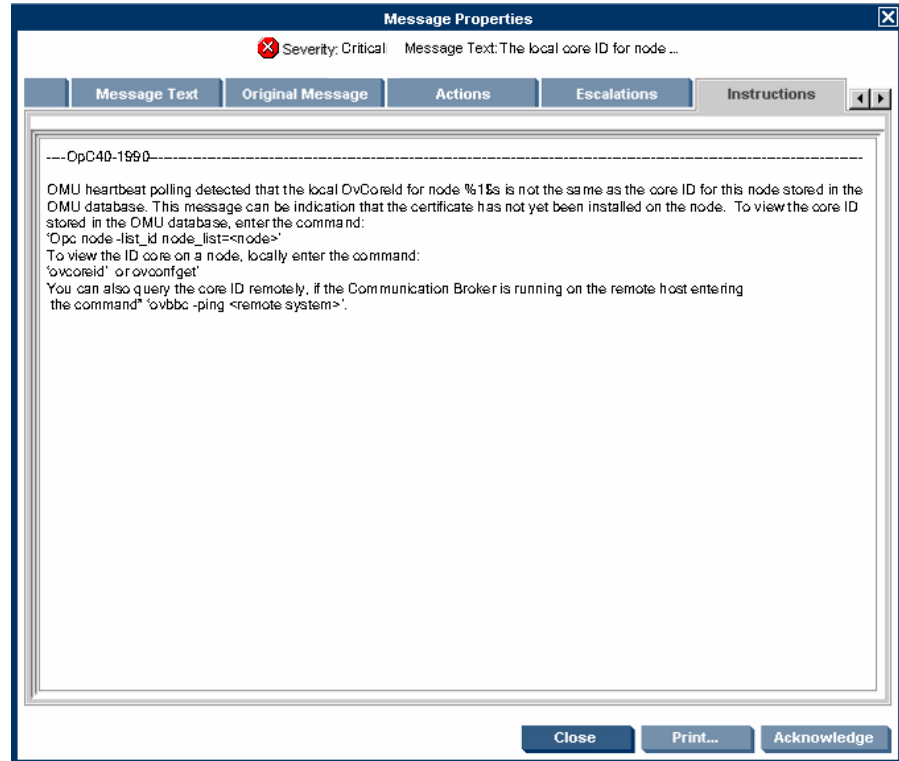
The HPOM administrator evaluates the effectiveness of operator-initiated actions by reviewing annotations and determines whether additional or different operator-initiated actions should be configured.

## Reading Operator Instructions

To help you solve a problem, the HPOM administrator can provide you with instructions for a message, as shown in Figure 1-61.

Figure 1-61

### Instructions for Solving Problems



Typically, operator instructions do the following:

- ❑ **Describe Automatic Action**  
Describe an automatic action. For details, see “Reviewing and Rerunning Automatic Actions” on page 149.
- ❑ **Describe Operator-initiated Action**  
Provide details of how you should perform an operator-initiated action. For details, see “Starting and Reviewing Operator-initiated Actions” on page 150.
- ❑ **Describe Steps**



Describe any manual steps required for solving a problem (for example, “Start Tool X”).

In the attribute column I of the message browser, you see an X for each message with written instructions.

The HPOM administrator can also use the instructions interface to call an external tool to present you with a message. The way you view these messages varies, depending on the external tool used by the HPOM administrator. The tool may use either one of its own windows or a window in the Java GUI.

## Starting and Customizing Tools

Applications (tools) are scripts or programs that have been integrated into HPOM. The HPOM administrator first examines your environment and then determines which tools you need to maintain it. Each tool has predefined start-up attributes, including a list of the managed nodes for individual operators.

Applications (tools) can also be programs or services running in the environment (for example, the UNIX `lp` print spooler program). You could be responsible for controlling the status of the `lp` spooler and its peripherals. To maintain the print services, you respond to messages issued by the `lp` spooler, and send controlling commands, such as `enable`. Controlling programs within your environment means that you can access the correct commands and the user log-on capabilities.

### Starting Tools

As an operator, you can start tools to resolve unsuccessful automatic or operator-initiated actions, or messages for which an action has not been configured.

You should have a thorough understanding of the event and message before starting a tool to resolve a problem.

---

#### NOTE

To start tools with no graphical interface, such as `cmd.exe` or `telnet`, as local tools in Java GUI, the start-up parameters must be properly configured by HPOM administrator when assigning Java GUI operator defaults. For more information, see the *HPOM Administrator's Reference*.

---

You can start tools from one of three locations:

❑ **Shortcut Bar**

You can start tools from nodes, tools, and services in the shortcut bar.

❑ **Object Pane**

You can start tools from nodes, tools, and services in the object pane.

❑ **Message Browser**

You can start tools from pop-up menus on messages in the message browser.

---

**NOTE**

If Service Navigator is installed, tools can also be started on services. This includes general tools that are available in HPOM as well as service-specific tools that have been set up especially for services.

---

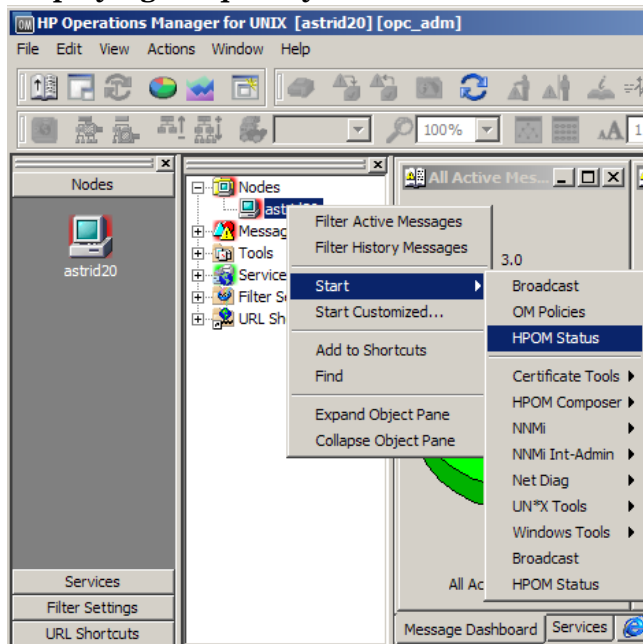
### **Displaying Frequently Used Tools**

Tools that you use frequently are displayed in pop-up menus for starting tools above the separator line, so that you can easily access these tools. This line is visible in all looks and feels except HP one voice, because of its white background. The Figure 1-62 on page 155 shows how frequently used tools are visually distinguished from other tools in the Windows look and feel.

The number of tools separated in this way can be set in the General tab of the Preferences dialog box. For more information, see “Preferences: General Tab” on page 526. For details about the `itoopec` parameter used for setting this number, see Table B-4 on page 588.

Figure 1-62

### Displaying Frequently Used Tools



## Customizing Tools

If the HPOM administrator has set up the correct permissions, you can change many of the start-up attributes of a tool by using the Start Customized Tool wizard, as shown in Figure 1-63.

**Figure 1-63** Start Customized Tool Wizard (Step 2 of 3)

The screenshot shows a dialog box titled "Start Tool - Customized Wizard (Step 2 of 3)". The main heading is "Broadcast". Below it, the text reads "Step 2 of 3: Select the nodes where you want to run the tool." There are two input areas: "Additional Node:" with an empty text box and an "Add to Selected" button; and "Selected Nodes:" with a list box containing "spekvm3" and buttons for "Get Selections", "Delete", and "Get Default". At the bottom, there are navigation buttons: "< Back", "Next >", "Finish", and "Cancel".

For example, you can change the nodes on which a tool is started, the user name, or additional call parameters. The only item that cannot be changed is the application call itself. To find out how you can use message variables to pass parts of the message as parameters to the application call, see “Adding HPOM Variables” on page 159.

## Operating with the Java GUI from Other Java Applications

You can control certain features in the Java GUI remotely from other Java applications by using the Java GUI Remote APIs. The features can be controlled from the following:

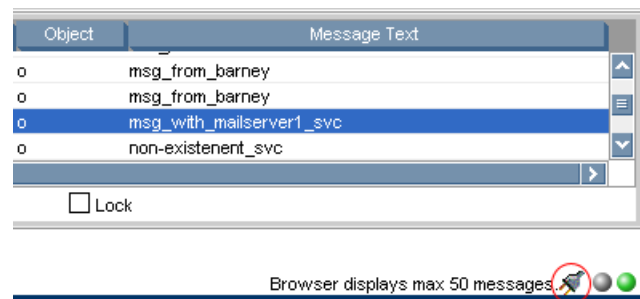
- ❑ An independent application that runs separately from the Java GUI on a localhost.
- ❑ A Java applet that runs as an integrated add-on component in the workspace of the Java GUI.

Using Java GUI Remote APIs is useful in cases when you have HPOM services or nodes mapped in other Java applets or applications. The possibility to operate with specific configurations remotely from other Java applications enables you to identify and resolve problems without searching for problem causing elements directly in the Java GUI.

When the Java GUI Remote APIs are enabled, an additional icon is displayed in the Java GUI, as presented in the Figure 1-64:

**Figure 1-64**

### Icon Indicating Enabled Java GUI Remote APIs Feature in the Java GUI



For details about the available Remote APIs, see the Java GUI Remote APIs Specification, which you can access by opening the following URL in a web browser:

- Standard Connection:  
[http://<management\\_server>:8081/ITO\\_DOC/C/manuals/APIdoc](http://<management_server>:8081/ITO_DOC/C/manuals/APIdoc)
- Secure Connection:  
[https://<management\\_server>:8444/ITO\\_DOC/C/manuals/APIdoc](https://<management_server>:8444/ITO_DOC/C/manuals/APIdoc)

In this instance, *<management\_server>* is the fully qualified hostname of your management server.

## Adding HPOM Variables

All message attributes, including custom message attributes, are variables that can be used in applications (tools) and are exchanged for their values at tool launch time. For example, you can write tools that depend on specific attributes. Then the attributes are given as parameters to the tool.

Figure 1-65 shows how to add HPOM variables as parameters in the Start Customized Tool wizard.

**Figure 1-65**

### Start Customized Tool Wizard (Step 3 of 3)

**Start Tool - Customized Wizard (Step 3 of 3)** [X]

Broadcast

Step 3 of 3: Specify additional information needed to run the tool.

Command: /opt/OV/bin/OpC/call\_sqlplus.sh sel\_msg

Additional Parameters: 2483507e-cfb0-71ds-02bb-0f887e320000

User Name: opc\_op

Password: ●●●●●●

Presentation: Output only.

Click Finish to launch your customized tool.

< Back   Next >   Finish   Cancel

## Broadcasting Commands

You can start corrective actions simultaneously on multiple nodes by broadcasting a command. You specify the command you want to broadcast, and select the nodes within your environment on which you want to start the command. You can also use this capability to investigate problems (for example, by issuing the `ps -ef` command to all specified nodes to check the number of currently running processes).

Starting the `Broadcast` tool always starts the wizard.

---

### NOTE

The `Broadcast` tool may not be available to you by default. The HPOM administrator may need to assign it to you specifically.

---

When you broadcast a command, you specify the command once. The command is then sent to multiple nodes to help you to perform global tasks quickly and easily. Although HPOM does not limit the length of the command to be broadcast, if the command is longer than the maximum length supported on the target system, the target system will truncate it.



Figure 1-66 shows the last step in completing the broadcast command wizard.

**Figure 1-66**

### Completing the Broadcast Command Wizard

The screenshot shows a dialog box titled "Start Tool - Customized Wizard (Step 3 of 3)" with a close button in the top right corner. The main title is "Broadcast". Below the title, it says "Step 3 of 3: Specify additional information needed to run the tool." There are four input fields: "Command:" with a dropdown menu showing "pwd"; "Additional Parameters:" with an empty text box; "User Name:" with a text box containing "opc\_op"; and "Password:" with a masked text box showing seven dots. Below these fields, it says "Presentation: Output only." At the bottom of the dialog, there are four buttons: "< Back", "Next >", "Finish", and "Cancel".

To retrieve the commands from the current session, click the arrow in the Command call, as shown in Figure 1-66.

The output of a broadcast command is displayed in the Corrective Actions workspace as application output.

## Documenting Solutions in Your Environment

After you have completed work on a message, you document your efforts and remove the message from the active message browser, filtered active message browser, or filtered pending messages browser. To do this, you use message annotations to record how a problem was resolved, and then acknowledge the message to remove it from the current work area, storing it in the history database.

This section explains how to document solutions:

- ❑ **Annotating Messages**

Explains how to add quick summaries to a message.

- ❑ **Printing Messages**

Explains how to print message, message details, and application output.

- ❑ **Acknowledging Messages**

Explains how to move messages from the active message browser, filtered active message browser, or filtered pending messages browser to the history database.

### Annotating Messages

Annotating a message is similar to adding a short note of explanation to a business contract. Message annotation quickly summarizes the important points of the message. It can serve as a reference the next time you receive the same message.

#### Annotations

Message annotations generally contain the following information:

- ❑ Action performed to resolve the problem
- ❑ Name of the user who started the action
- ❑ Status information of the action performed (`stdout`, `stderr`)
- ❑ Start and finish times for the action
- ❑ Any pre- and post-action information

- ❑ Any message attributes changed
- ❑ Any duplicates of the message found

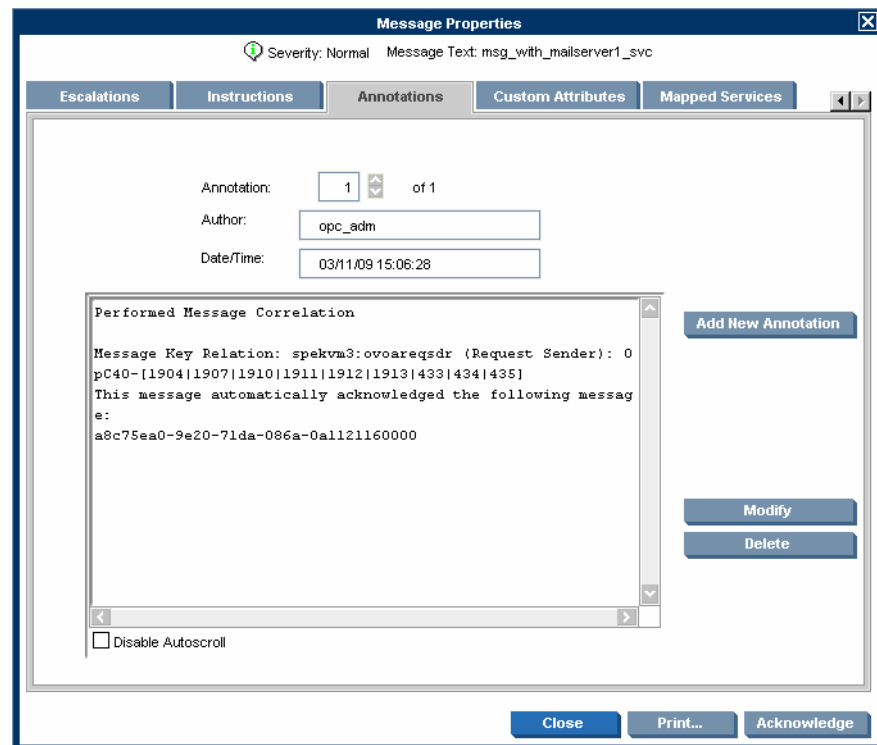
### Adding Annotations

You can also use annotations to record difficulties you encountered solving the problem, verbal or written instructions you received about the problem, communications sent to users or groups affected by the problem, and so on. For example, if you are at the end of your shift, but a particular problem is not yet resolved, you can leave an annotated message for your colleagues.

The Annotations tab in the Message Properties window contains all annotations related to a single message, as shown in Figure 1-67.

Figure 1-67

### Adding a New Annotation



### **Reviewing Annotations**

Like a note of explanation, a message annotation serves as a resource for solving problems. You can review the message annotations for a record of previous actions used to solve the problem. This includes, for example, comparing previous action exit values with current ones, or reviewing cautions or warnings related to the proposed action. You can add your own annotations, or even delete them if they are no longer needed or correct.

The HPOM administrator can use message annotations as a record of events that describe resolution techniques, times, and resources. In addition, the HPOM administrator can use message annotations as a basis for developing instructional text and preconfigured actions for messages.

### **Printing Messages**

HPOM enables you to print the following:

- Messages
- Message Details
- Application Output

## Acknowledging Messages

Acknowledging a message is similar to filing (or storing) a bill after you have paid it. You want to retain a copy of the transaction to verify you have paid the bill, and as a reference to compare with future bills. After you have finished working with a message you “remove” it from your desktop and “file” it away for future reference.

### Acknowledgements

Typically, you acknowledge a message for one of the following reasons:

**Resolved Problems**

You have finished work on the message and resolved all related problems.

**Duplicate Messages**

You have another message in your message browsers describing the same event.

**Irrelevant Messages**

You no longer need the message (for example, if the message has low severity and requires no action).

Acknowledging a message moves it from the active message browser, filtered active message browser, or filtered pending messages browser to the history database. Also, the status of the corresponding message group and node may change depending on the highest priority of the remaining messages.

---

**NOTE**

A problem is not resolved by acknowledging the message. You should review the results of your corrective actions to ensure that the problem has been resolved before acknowledging the message. For details, see “Solving Problems in Your Environment” on page 144.

---

### **Automatic Acknowledgments from the Administrator**

The HPOM administrator can configure an automatic acknowledgment for messages with either automatic or operator-initiated actions. When the action for a message with an automatic action and an automatic acknowledgment is successfully completed, the message is sent directly to the history database. The message is removed from the message browsers, without your intervention. You can review automatically acknowledged messages by using the filtered history message browser.

### **Automatic Acknowledgments from HPOM**

Messages can be acknowledged automatically by succeeding messages if HPOM establishes a relationship between them:

**Problem Deteriorating**

Succeeding messages report a deterioration of the original problem (for example, the amount of free disk space has reduced even more).

**Problem Solved**

Original problem has been solved (for example, the tool is running again).

### **Reviewing Acknowledgments**

Messages that have been acknowledged are stored in the history database. You can review these messages by using the filtered history message browser. For details, see “Investigating Message Histories” on page 141.

You can also move acknowledged messages back to the active message browser by unacknowledging them. After unacknowledging a message, you can continue working with it.

## Customizing Your Environment

You can customize your HPOM environment as follows:

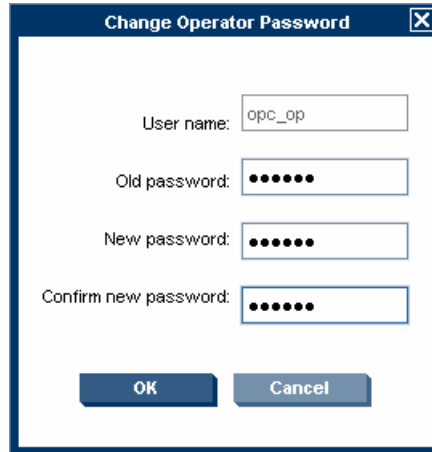
- ❑ **Customizing the Java GUI**
  - Changing Operator Passwords
  - Loading the Default Configuration
  - Changing the Refresh Interval
  - Saving Console Settings
  - Changing the Look and Feel of the Java GUI
  - Showing and Hiding the Position Controls
  - Moving Panes and Areas
  - Showing and Hiding Panes and Areas
  - Customizing the Shortcut Bar
  - Choosing a Web Browser
  - Customizing Pop-up Menus
  - Customizing the Toolbar
  - Customizing Message Event Notification
  - Customizing General Preferences
- ❑ **Customizing Message Browsers**
  - Setting Up Message Browser Filters
  - Setting Up Message View Filters
  - Adding Message Browser Tabs in the Browser Pane
  - Switching Message Colors to an Entire Line
  - Customizing the Message Browser Columns
  - Showing and Hiding Message Browser Columns
  - Saving the Customized Message Browser Layout

## Changing Operator Passwords

HPOM enables you to change your log-on password from the Change Operator Password window, as shown in Figure 1-68.

**Figure 1-68**

### Change Operator Password Window



The screenshot shows a dialog box titled "Change Operator Password". It contains the following fields and controls:

- User name:** A text input field containing the text "opc\_op".
- Old password:** A password input field with seven dots.
- New password:** A password input field with seven dots.
- Confirm new password:** A password input field with seven dots.
- Buttons:** "OK" and "Cancel" buttons at the bottom.

You can access this window from the **File: Change Password** in the menu bar. After the information is sent to the management server and updated in the database, you receive a system message confirming the password change.

---

**NOTE**

Only the password for the currently logged-on operator can be changed.

On the first logon as any of the default users, you must change your default password for security reasons. Although you can change your password again at a later time, you are not allowed to set the password back to default.



## Loading the Default Configuration

The Java GUI comes with a standard set of defaults. These defaults are normally changed by your HPOM administrator. As a result, the first time you log on to the HPOM Java GUI, you receive a set of default components, provided by your HPOM administrator.

As an operator, you can do one or both of the following:

### ❑ Save Console Session Settings

If you customize the Java GUI (for example, adding URL shortcuts to the shortcut bar, moving panes or areas, adding filtered message browsers, detaching windows, and so on), you can save these changes by selecting `File: Save Console Session Settings` from the menu bar. The next time you log on to the Java GUI, you see these changes, which override the default configuration originally provided by your HPOM administrator. You can customize the Java GUI and save your changes as often as you like.

### ❑ Reload Assigned Defaults

If you make a major mistake when customizing the Java GUI (for example, unintentionally deleting the browser pane), you can restore the defaults originally provided by your HPOM administrators by selecting `File: Reload Assigned Defaults` from the menu bar.

---

### CAUTION

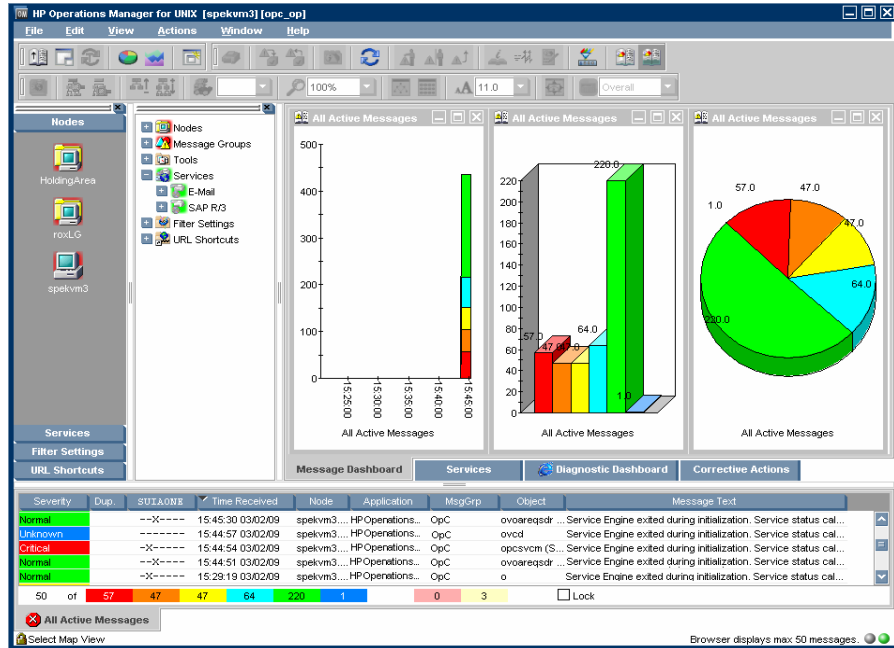
---

If you reload assigned defaults, you lose all changes you made to the Java GUI and saved with the `File: Save Console Session Settings` option. That is, your changes are overwritten by the defaults originally assigned to you by your HPOM administrator.

## Operator Defaults Assigned by the System

Figure 1-69 shows the operator defaults assigned by the system.

**Figure 1-69** System-defined Defaults for Operators



The Java GUI provides operators with the following system defaults:

### ❑ Movable Panes

Main window contains four visible movable panes:

- Shortcut bar (top left)
- Object pane (top center)
- Workspace pane (top right)
- Browser pane (bottom)

By default, the movable pane is disabled

### ❑ Shortcut Bar

In the shortcut bar, the following shortcut groups display as menu items:

- *Nodes*  
Shortcuts for every first-level node element
- *Services* (if there are any services available)  
Shortcuts for every first-level service
- *Filter Settings* (empty by default)  
Shortcuts for global (administrator) and personal (operator) filter settings.
- *URL Shortcuts*  
Includes the HP BTO Software Home URL shortcut:  
<http://welcome.hp.com/country/us/en/prodserv/software.html>

#### □ **Workspace Pane**

In the workspace pane, the following non-ActiveX workspaces are created, in the following order:

1. Message Dashboard (default workspace)

In the Message Dashboard workspace, three message browser for all active messages are opened with the vertically tiled positions and the following content types:

- History chart (stacking area)
- Bar chart (3D)
- Pie chart (3D)

For details, see “Message Dashboard Workspace” on page 61.

2. Services (if any services are available)

In the Services workspace, a service graph for all first-level services is opened. For details, see “Services Workspace” on page 61.

3. Diagnostic Dashboard

In the Diagnostic Dashboard workspace, other tools that integrate with HPOM are displayed. For details, see “Diagnostic Dashboard Workspace” on page 61.

4. Corrective Actions

In the Corrective Actions workspace, you can maintain a current and accurate overview of the computing environment by reviewing the status and results of actions. For details, see “Corrective Actions Workspace” on page 62.

❑ **Browser Pane**

In the browser pane, a message browser is opened, displaying the latest 50 of all active messages the operator is responsible for. For details, see “Browser Pane” on page 66.

**Operator Defaults Assigned by the HPOM Administrator**

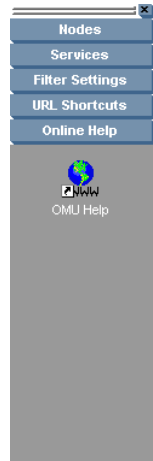
The HPOM administrator can define default start-up behaviors for operator areas of the Java GUI with two application groups:

❑ **Shortcuts**

The HPOM administrator can create new application groups that are added individually at the end of the shortcut bar. These application groups can contain any kind of tool. The same tree level found under the shortcuts application group is added to the shortcut bar, as shown in Table 1-9.

Figure 1-70 shows an example of the Online Help shortcut group and the HPOM Java GUI shortcut, which were added to the shortcut bar as defaults by the HPOM administrator on the management server. The Figure 1-12 on page 63 shows this example displayed within the HPOM Java GUI window.

**Figure 1-70 Online Help Shortcut Assigned by the HPOM Administrator**



#### ❑ Workspaces

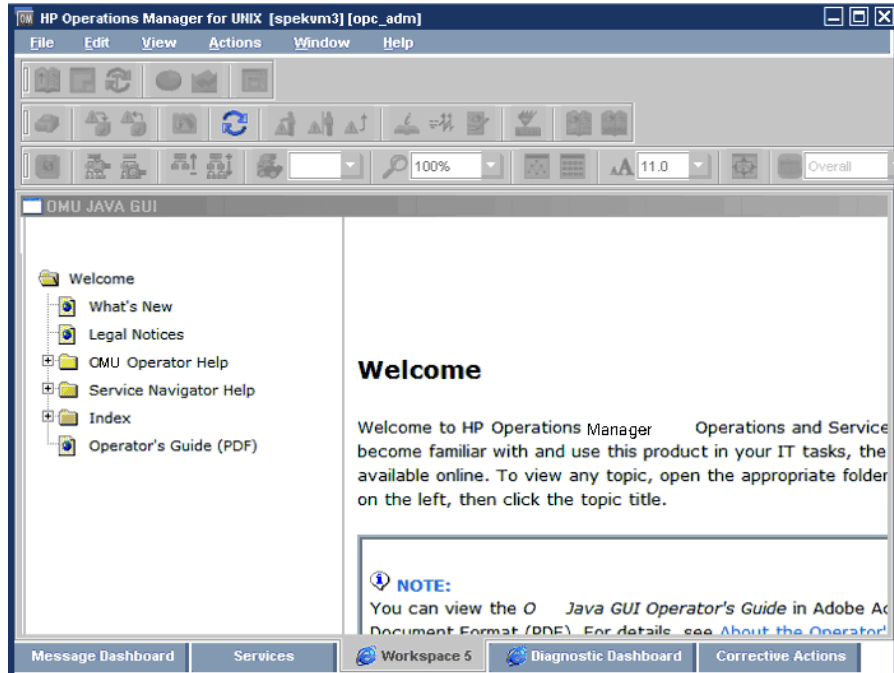
The HPOM administrator can create new application groups that are added individually after existing default workspaces in the workspace pane. These application default groups can contain any kind of tool. All tools found in the second level of the `Workspaces` application group are then started accordingly to the previously created workspace pane workspaces. All opened tools in the workspaces are tiled vertically.

Because the default container type for workspaces is *not* ActiveX, you *cannot* use a Microsoft Internet Explorer web browser in default workspaces. If you want to use Internet Explorer, you must create a new workspace with the ActiveX container type.

To avoid duplication, HPOM does *not* add items that already exist on the level to which you try to add them. After the HPOM administrator adds new shortcuts and workspaces for tools, the tools under Shortcuts and Workspaces behave like any other tool in the object pane. The tools are always opened in the currently selected workspace.

Figure 1-71 shows an example of the Online Help workspace that presents the Java GUI online help introduction page. The Figure 1-12 on page 63 shows this example displayed within the HPOM Java GUI window.

**Figure 1-71 Online Help Workspace Assigned by the HPOM Administrator**



For information on how to create application groups and tools on the management server to set the operator defaults, see the *HPOM Administrator's Reference*.

---

**NOTE**

HPOM administrators can assign a set of shortcuts or workspaces to an individual operator, a group of operators, or all operators.

---

## Changing the Refresh Interval

Choosing **View: Refresh** in the menu bar updates the node status, message group status, browser status summary line, all messages in the message browser, and the service status. By default, the Java GUI automatically refreshes at the preset interval of 30 seconds. If you want, you can choose **Edit: Preferences** in the menu bar and modify this interval in the Preference window. However, if you make the refresh interval too a large, you may not be immediately informed of any status changes.

---

### NOTE

After the HPOM administrator performed any configuration updates, such as change of your responsibilities, managed nodes, or tools, Java GUI reflects the changes automatically. No actions are required to synchronize Java GUI after configuration changes.

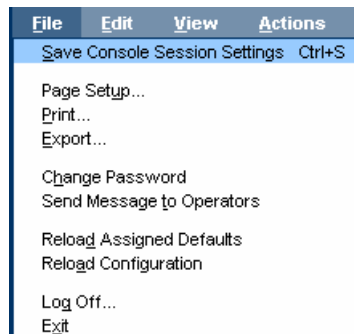
---

## Saving Console Settings

You can store any customizations you made in a Java GUI session by choosing **File: Save Console Session Settings** in the menu bar, as shown in Figure 1-72.

**Figure 1-72**

### Save Console Session Settings Menu Item



The next time you start the Java GUI, the stored settings are read and restored in the Java GUI. For example, you could add a few URL shortcuts to the shortcut bar, reverse the positions of the shortcut bar and workspace pane, and add a few filtered message browsers to the browser pane. If you save these changes, they display the next time you log on to the Java GUI.

You can save the following console session settings:

❑ **Position Controls**

Position and visibility of moveable areas

❑ **Shortcut Bar**

- Position and visibility of buttons and shortcuts
- Names and locations of URL shortcuts

❑ **Workspace Pane**

- Workspace names, descriptions, positions, and so on
- Filters, styles, and positions of open message browsers
- Positions of open URL tools
- Positions of open service graphs
- Web browser and proxy settings

❑ **Browser Pane**

Tab names, descriptions, positions, and so on

❑ **Message Browser Toolbar**

Visibility in toolbar, workspaces, and browser pane

❑ **Filtered Message Browsers**

Message browser filters applied to message browsers

❑ **Detached windows**

Position and settings of detached windows

---

**NOTE**

If global mode is enabled, you may not be able to save your console settings. For more information, see “Using Global Java GUI Property Files” on page 214.

---

HPOM console session settings are stored in a binary file called `HP_OV_consoleSettings_mgmtServerName_operator`, which is stored locally on your system:

❑ **Windows 2003 and Windows XP**



C:\Documents and Settings\*<user>*

**Solaris**

/export/home/*<user>*

**Other platforms**

/home/*<user>*

---

**NOTE**

HPOM does not support IP addresses in the `HP_OV_consoleSettings_mgmtServerName_operator` console settings file name.

---

## Changing the Look and Feel of the Java GUI

You can change the look and feel of the Java GUI by choosing Edit: Preferences in the menu bar.

From the Preferences window, you can select one of the following look-and-feel options:

- Metal
- HP One Voice (default look)
- Windows (available *only* on Windows systems)
- Aqua (available *only* on Mac operating systems)

For a description of each option on the Preferences window, see “Preferences Dialog Box” on page 526.

## Customizing the Progress Window

You can change the image that appears inside of a progress window by placing an image named `customImg.gif` into your home directory.

Figure 1-73 shows the progress window. The progress window opens when HPOM performs tasks that take a long time to complete.

**Figure 1-73**

### Progress Window



Note that HPOM resizes custom images to fit into the progress window.

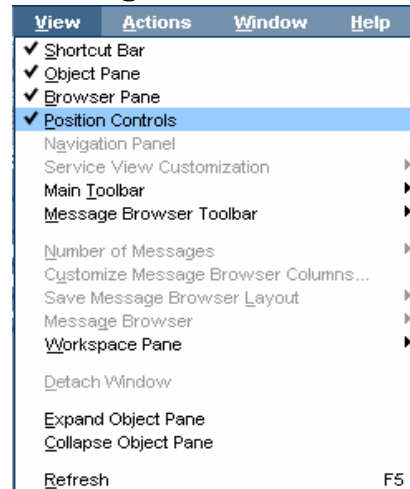
## Showing and Hiding the Position Controls

The position controls are the narrow band of horizontal bars near the top of the Java GUI that enable you to move the shortcut bar and the object pane horizontally. If you do not want to use the position controls, you can hide them by clearing `View: Position Controls` from the menu bar. Likewise, if the position controls are already hidden, you can make them visible again by selecting `View: Position Controls` from the menu bar.

Figure 1-74 shows how to enable the position controls from the menu bar.

Figure 1-74

### Enabling the Position Controls



## Moving Panes and Areas

You can use the position controls to move the shortcut bar and the object pane horizontally, as shown in Figure 1-75.

**Figure 1-75** Moving the Object Pane: Before

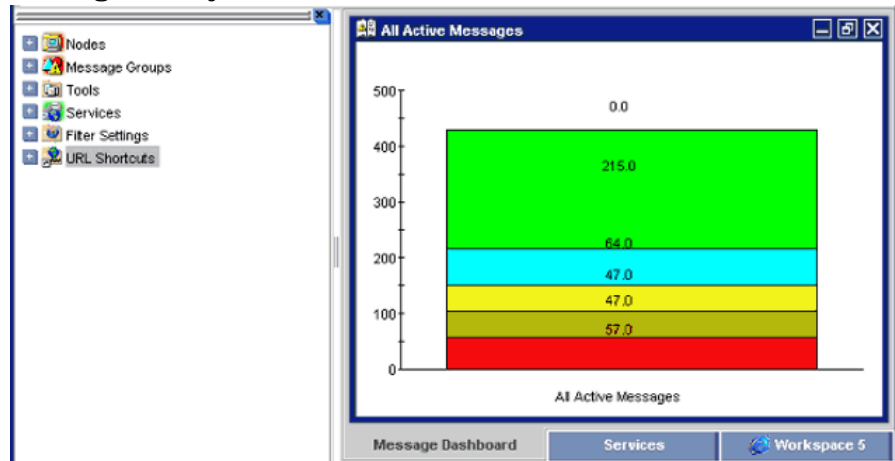
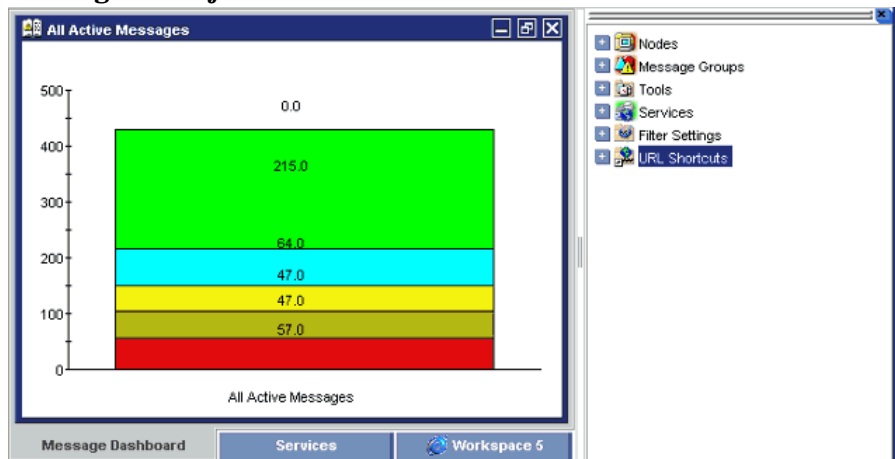


Figure 1-76 shows object pane moved to the right of the workspace pane.

**Figure 1-76** Moving the Object Pane: After



## Showing and Hiding Panes and Areas

HPOM enables you to show or hide the following parts of the Java GUI:

- Shortcut bar
- Object pane
- Browser pane

If you want to hide the browser pane, simply remove all message browsers from the browser pane. You cannot hide the workspace pane.

Figure 1-77 shows how to enable the shortcut bar by selecting **View: Shortcut Bar** in the menu bar.

Figure 1-77

### Enabling the Shortcut Bar and Object Pane

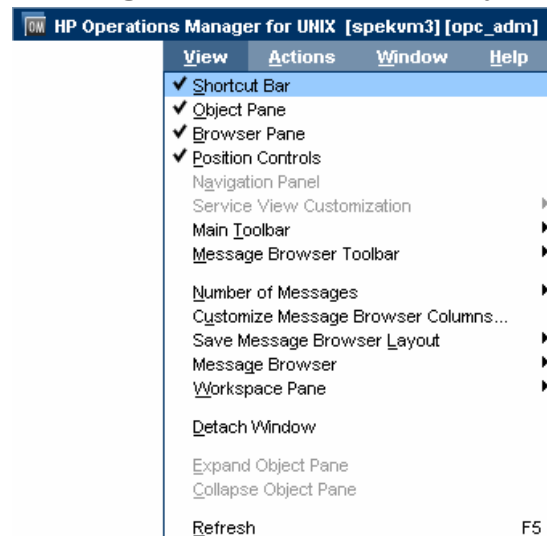


Figure 1-78 shows how to disable the shortcut bar by clearing View: Shortcut Bar in the menu bar.

Figure 1-78

### Disabling the Shortcut Bar

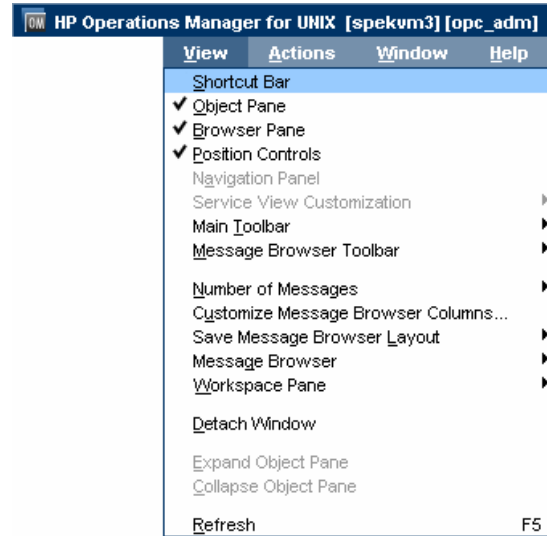
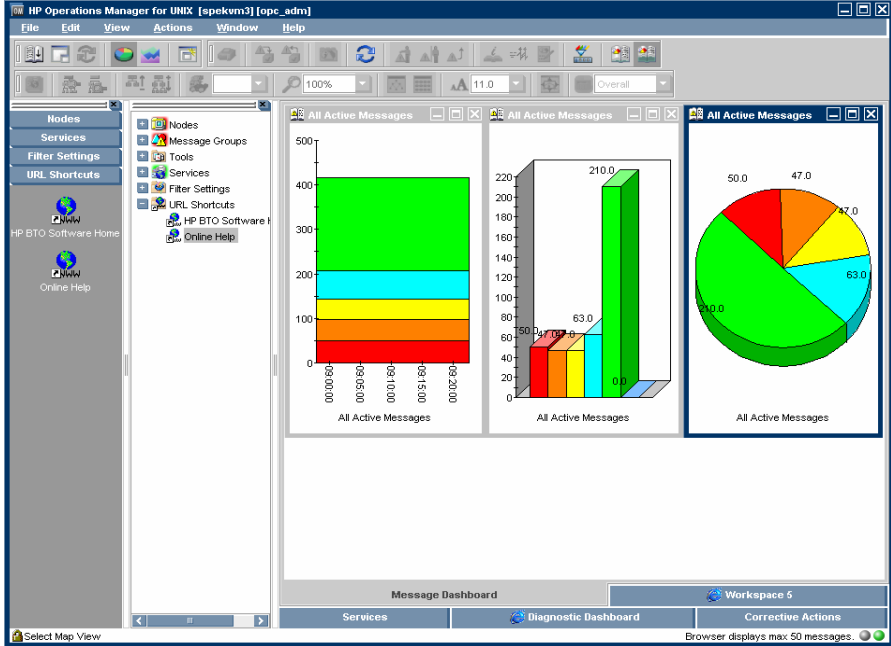


Figure 1-79 shows how the HPOM GUI looks like after you have selected Close from the pop-up menu on all browser tabs in the browser pane.

Figure 1-79

Disabled Browser Pane



## Customizing the Shortcut Bar

You can customize the shortcut bar as follows:

- ❑ **Switch the Shortcut Bar On and Off**

Switch the shortcut bar on or off from the View menu in the menu bar.

- ❑ **Add Object Pane Items**

Add selected object pane items to the shortcut bar by selecting **Add to Shortcuts** from the pop-up menu in the object pane.

- ❑ **Customize Shortcut Groups**

Add, rename or delete shortcut groups from the pop-up menu in the shortcut bar.

- ❑ **Customize Shortcuts**

Rename or delete shortcuts from the pop-up menu in the shortcut bar.

- ❑ **Customize Icon Size**

Customize the size of the icons in the shortcut bar from the General tab of the Preferences window.

To start or customize a shortcut, right-click the shortcut icon and then select an item from the pop-up menu.

## Choosing a Web Browser

Instead running an external web browser in the background, you can run your favorite web browser from within the HPOM Java GUI itself. As a result, you can access intranet sites, search the Internet for business-related information, and view your message browsers from within a single, integrated interface. Integrated web browsers display in the workspace pane of the HPOM Java GUI.

For details about choosing a web browser, see “Integrated Web Browsers” on page 78.



## Customizing the Toolbar

All toolbar components are visible, by default. You can hide or make visible any of them. For more information about the toolbar components, see “Toolbar” on page 82.

You can also reposition any of the toolbar components by creating a floating toolbar or by moving a component within the docked toolbar.

For more information on how to perform these actions, see “Customizing the Toolbar” on page 283.

## Customizing Pop-up Menus

If you have selected messages in the message browser, you may want to focus exclusively on the tools that are related to those messages. A large number of unrelated tools can, at times, make the pop-up menu unwieldy.

HPOM enables you to limit the number of tools that display in pop-up menus. The `Tailored Set of Tools` limits pop-up menu items to tool that are related to currently selected messages. Related tools are defined with the `$OPC_MSG` string in the application call. If there are no tools with currently selected `$OPC_MSG` string, the pop-up menu does not contain any tools.

To enable tailored pop-up menus, you select **Tailored Set of Tools** from the General tab in the Preferences dialog box, as shown in Figure 1-80. Likewise, to switch the feature off, you clear the check box.

**Figure 1-80** Preferences Check Box for a Tailored Set of Tools

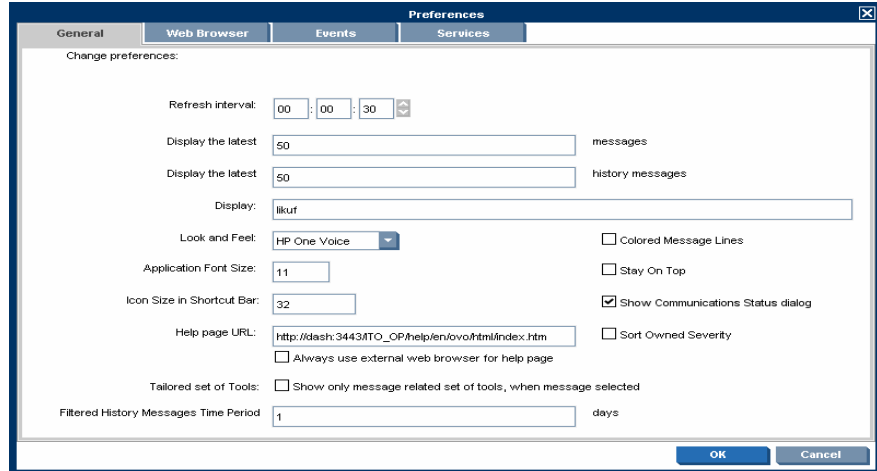
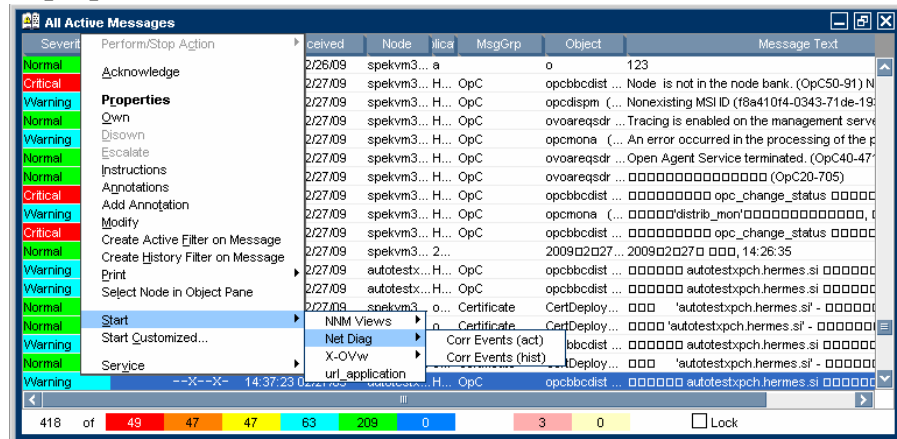


Figure 1-81 shows a pop-up menu for a tailored set of tools. The marked tools use message-related variables and are therefore shown in the pop-up menu on the selected message.

**Figure 1-81** Pop-up Menu for a Tailored Set of Tools

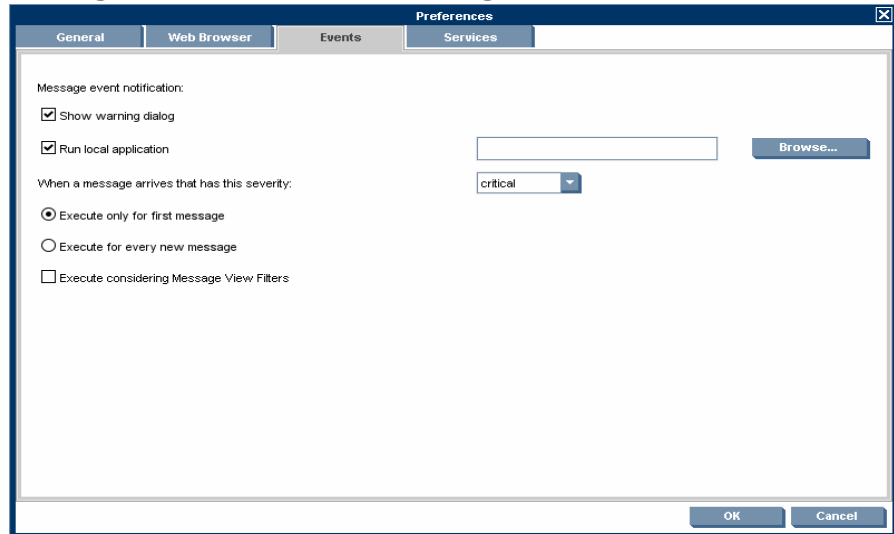


## Customizing Message Event Notification

You can enable or disable message event notification, run local tools (for example, to produce acoustic warnings), or reset the severity threshold for notification, from the Events tab of the Preferences window, as shown in Figure 1-82.

Figure 1-82

### Message Event Notification Settings in the Preferences Window



For an overview of message event notification, see “Message Event Notification” on page 120.

## Customizing General Preferences

### Customizing General Font Size

You can set the general font size in the `General` tab of the Java GUI Edit: Preferences window.

### Customizing Font Size in Service Graphs and Maps

You can set the default value of the font size in service graphs and maps in the `Service Graph Font Size` drop-down list `Services` tab of the Java GUI Edit: Preferences window.

Each time a new service graph or map is opened this value is used.

---

**IMPORTANT**

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To find out more about customizing the font size in service graphs and maps, see “Customizing the Font Size in Service Graphs and Service Maps” on page 285.

### Disabling HPOM Communications Status dialog

You can enable, or disable the `HPOM Communications Status` dialog by selecting the **Show Communications Status Dialog** check box in the `General` tab of the Java GUI Edit: Preferences dialog box. Or by setting the `itooprc` file. See “`itooprc` Options and Parameters” on page 588.

Disabling this dialog is useful in an environment with many clients logged in with the same user name at the same time. When one of these clients reloads the Java GUI configuration, the `HPOM Communications Status` dialog boxes are:

- displayed only on those clients where this option is enabled.
- refrained from disturbing the rest of the clients where this option is disabled locally.

For a description of each option on the `General` tab of the Preferences window, see “Preferences: General Tab” on page 526.

## Setting Up Message Browser Filters

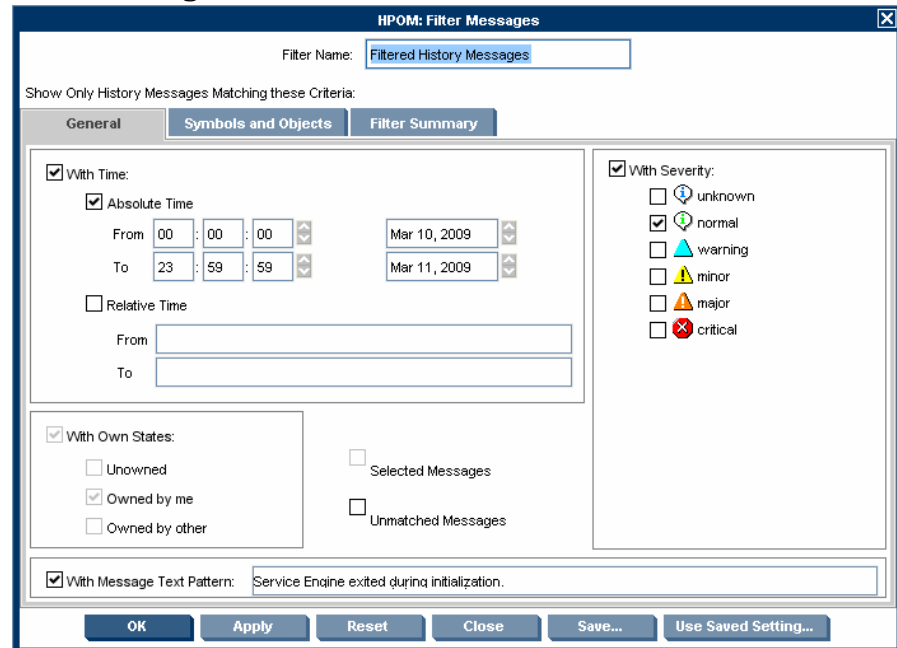
Message browsers with message browser filters applied show only a subset of all available messages, filtered according to criteria you select yourself. For example, if you want to display messages with severity levels of **Warning** or **Critical**, you can specify that messages of all other severity levels are not loaded from the management server.

You can also set up message view filters to isolate specific messages in a message browser. Message view filters apply a second level of filtering to a browser that already has message browser filters applied. For more information about message view filters, see “Setting Up Message View Filters” on page 195

You can add new message browser filters and modify existing filters through the Filter Messages window, as shown in Figure 1-83.

**Figure 1-83**

**Filter Messages Window**



To access the Filter Messages window, select **Actions: Filtering -> <Filter type>** from the menu bar.

The Filter Messages window contains the following options:

### ❑ **With Time Filter**

The **With Time** filter is very useful for reviewing only those messages that arrive during a specific day or period of time. Time may be defined as absolute or relative to the time the browser settings are saved.

When using relative time filtering with enabled relative time recalculation, the relative time filtering is done at a specified time interval. Active Message Browser is refreshed with new messages and drops the messages that become too old to satisfy the filter criteria. This behavior should be enabled by the administrator using the `OPCUIWWW_FILTER_RELATIVE_TIME_RECALC` server parameter. For more information, see the *HPOM Administrator's Reference*.

---

### **NOTE**

If the Java GUI is running on a system with a time zone setting different from the setting on the HP Operations management server, the time stamps in the messages displayed in the Java GUI are taken from the local system (the system where the Java GUI is running on) and not from the HP Operations management server.

---

### ❑ **With Own States Filter**

The **With Own States** filter may be used to see messages you own. It is not possible for the administrator to determine from the **With Own States** filter the identity of the owner of a given message.

### ❑ **With Message Text Pattern Filter and With Pattern Filter**

The message texts pattern filters (**With Message Text Pattern** and **With Pattern**) are used to see only messages that match a specified text pattern. You can specify a filter pattern in the Message Filters dialog box as follows:

- In the **With Message Text Pattern** field in the General tab.
- In the **Name** field of the Symbols and Objects tab. (The object type must be set to CMA and **With Pattern** must be selected.)

The syntax of the pattern in the **Name** field is the same as in the **With Message Text Pattern** field. The same limitations apply.

- *Control characters*

If you use control characters such as angle brackets (<>) or square brackets ([]) in the With Message Text Pattern field, precede these characters with a backslash (\). Otherwise the following error message appears:

```
"Syntax error in pattern definition "[message".  
(OpC20-235) "
```

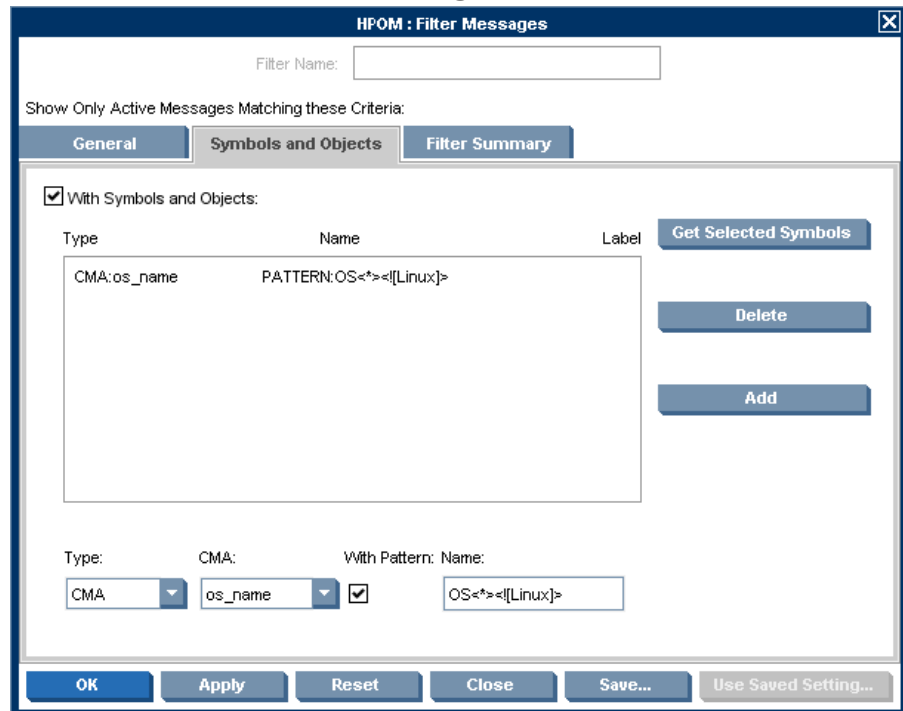
- *Maximum of 254 characters*

The message text pattern is limited to 254 characters.

Figure 1-84 shows an example of the Symbols and Objects tab. The pattern OS<\*><![Linux]> filters for messages with custom message attributes of type os\_name. The custom message attribute value may contain all operating systems except for Linux.

Figure 1-84

Value Pattern for Custom Message Attributes



## Saving and Reusing Message Browser Filters

After you have configured a message browser filter, you can do one of the following:

### ❑ Apply the Filter

You can apply the filter (after having provided a name). A filtered message browser opens, displaying only the messages that you want to see. The Filter Messages window remains open. If you are satisfied with your filter, you can save it for later reuse.

### ❑ Save Filter Settings

Use the Filter Messages window to save the settings for reuse, as shown in Figure 1-85 on page 193. In this way, you can see the same or similar information at a later date without having to repeat the configuration process.

### ❑ Reuse Filter Settings

Use the Browser Settings window to choose from a list of existing settings that may be modified and renamed to suit individual needs, as shown in Figure 1-86 on page 193. These settings are independent of your home session and browser layout. To access the Browser Settings window, select **Actions: Filtering -> Use Saved Settings** from the menu bar, or open a saved filter of desired type from the object pane.

---

## NOTE

You can use the Save Setting and the Browser Settings windows only to save or alter the settings of the window from which you opened them. In addition, if the respective “parent” browser window is closed, both windows are closed automatically.

---

The Browser Settings window allows you to select a saved filter. To use a setting for a new filtered active message browser, filtered history message browser, or filtered pending messages browser, select the desired setting in the list box first.



Figure 1-85 shows the Save Browser Filter Settings window.

**Figure 1-85 Save Browser Filter Settings Window**

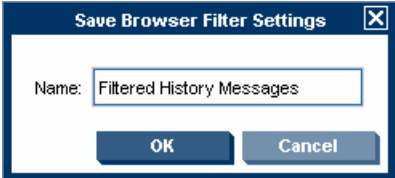


Figure 1-86 shows the Browser Settings window.

**Figure 1-86 Browser Settings Window**



### **Saving Message Browser Filters to the Object Pane**

HPOM enables you to access saved filters in the object pane. For example, if you want to see all messages that could show a possible problem in the Performance area, you would create a filter that shows all warnings, all minor, major, and critical messages, and all unknown messages with message group `Performance`. You would then save the new filter. Later, to see the messages in your new filter, you could select the filter from the object pane, and open a filtered message browser.

To find out how to save filters to the object pane, see “Saving the Browser Filter Settings” on page 291.

### **Accessing Message Browser Filters Quickly**

HPOM enables you to access message browser filters quickly and easily.

To access filtered message browsers, you select the `Filter Settings` group of a pop-up menu in one of two locations:

- ❑ **Shortcut Bar**

For details, see “Shortcut Bar Pop-up Menu” on page 85.

- ❑ **Object Pane**

For details, see “Object Pane Pop-up Menu” on page 86.

## Setting Up Message View Filters

Message view filters temporarily hide messages from view. They consist of criteria and rules that define which of the already loaded messages are displayed in an already existing message browser. The loaded messages may already have gone through a first level of filtering applied through message browser filters. In this case, message view filters apply a second level of filtering.

This section explains the following topics:

- ❑ Rules and Criteria in Message View Filters
- ❑ Quick, Simple, and Advanced Message View Filters
- ❑ Syntax for Message View Filters
- ❑ Saving Message View Filters

### Rules and Criteria in Message View Filters

Message view filters consist of rules and criteria:

#### ❑ Rules

Rules in message view filters can contain one or more criteria. The rules define the relation between multiple criteria and rules. You can combine criteria and rules with a logical AND or OR. Each relation can be negated by using the NOT operator. Rules can be nested to create complex filters.

#### ❑ Criteria

Criteria define the search pattern of the filter. A criterion consists of a message browser column, an operator, and a value to match:

- *Message browser column*

A message browser column as input for the filter, for example, Application or Time Received.

- *Operator*

An operator such as equals (==) or begins (BEGINS). A wide range of operators is available to make your criteria as flexible as possible.

The list of available operators depends on the selected message browser column. For example, the `begins` operator is not appropriate for columns that contain numeric data. For a list of available operators, see “Operators for Message View Filters” on page 204.

- *Value*

A value, for example, `jacko.deu.hp.com`. You can define a value in the following ways:

- Type your own custom value.
- Choose a value from the list of available messages.
- Select a predefined value such as **Management Server** or **Today**. (Predefined values always appear in parentheses.) See also “Predefined Values for Message View Filters” on page 205.

In combination with the `equals (==)` operator, you can also use wildcard characters to match multiple strings:

- *Question mark*

A question mark (?) matches any single character.

- *Asterisk*

An asterisk (\*) matches any group of one or more characters.

---

**TIP**

To match a question mark (?), an asterisk (\*), or a backslash (\), precede these characters with a backslash (\). When writing message view filters in text format, enclose values that contain spaces in quotation marks (“”).

---

For more information about the syntax used in message view filters, see “Syntax for Message View Filters” on page 201.

### **Quick, Simple, and Advanced Message View Filters**

HPOM distinguishes the following types of message view filters:

- **Quick message view filters**

See “Quick Message View Filters” on page 197.

❑ **Simple message view filters**

See “Simple Message View Filters” on page 198.

❑ **Advanced message view filters**

See “Advanced Message View Filters” on page 200.

**Quick Message View Filters** The pop-up menu on the message browser headline offers quick access to filters that show only those messages that match the selected value of a column.

For example, in Figure 1-87, the pop-up menu shows entries for the tools `SNMPTraps` and `alarmgen`, because the browser contains only messages generated by these tools. If `SNMPTraps` is selected, the set of visible messages changes, and the browser shows only messages that are generated by the `SNMPTraps` tool. Selecting `alarmgen` changes the message browser to additionally show messages generated by the tool `alarmgen`.

If you select more than one value for a single column, the message must match only one of these values (OR relation). If you apply quick filters to more than one message browser column, the messages must match all criteria (AND relation). The operator in a quick message view filter is always equals.

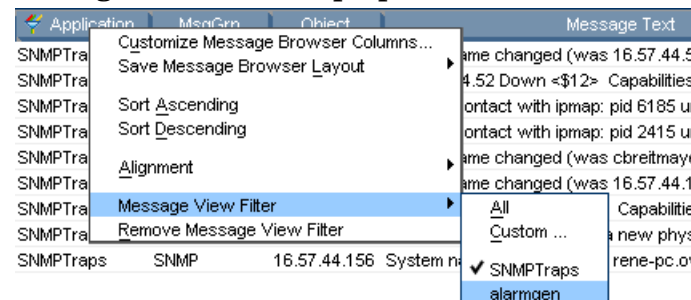
The following example shows a quick filter in text format:

```
"Application" == "SNMPTraps"
OR "Application" == "alarmgen"
```

This filter matches messages that are generated by the `SNMPTraps` or the `alarmgen` tool. Two criteria are combined by an OR rule. Each criterion consists of a message browser column (`Application`), an operator (`==`), and a value (`SNMPTraps` or `alarmgen`).

**Figure 1-87**

**Message View Filter Pop-up Menu**



**Simple Message View Filters** Simple message view filters are similar to quick message view filters, but are defined in a different way and offer more flexibility.

Simple message view filters have the following characteristics:

❑ **Rules in simple message view filters**

In simple message view filters, an OR rule combines criteria that filter the same message browser column. An AND rule combines criteria that filter different message browser columns. You cannot change the AND and OR operators in rules of simple filters.

You can, however, negate rules in simple message view filters by using the NOT operator.

❑ **Operators in criteria of simple message view filters**

For simple message view filters, you can choose among all available operators. (For quick message view filters, only the equals operator is allowed.)

❑ **Configuring simple message view filters**

Use the Simple View tab of the Message View Filter window to define simple message view filters as shown in Figure 1-88.

The following example shows a simple filter in text format:

```
NOT "Object" CONTAINS "opc"  
AND (  
    "Application" == "alarmgen"  
OR "Application" == "SNMPTraps"  
)
```

This filter matches messages that are not associated with an object that contains the word `opc`, and that are generated by the `SNMPTraps` or the `alarmgen` tool.

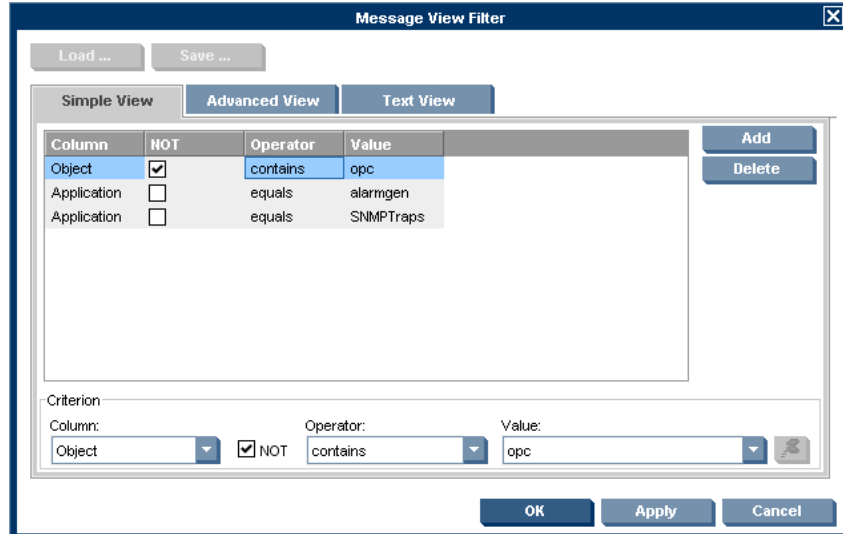
The filter contains three rules:

- ❑ The first rule is a negative rule. It contains a criterion that uses the Object message column and the CONTAINS operator.
- ❑ The second rule is an AND rule. It combines the first rule with a third, nested rule.

- ❑ The third rule combines two criteria with the OR operator. Each criterion consists of a message browser column (Tool), an operator (==), and a value (SNMPTraps or alarmgen).

Figure 1-88

Message View Filter Window: Simple View Tab



**Advanced Message View Filters** Compared to quick and simple message view filters, advanced message view filters offer maximum flexibility. You can configure any criterion and any rule as needed, without any restrictions apart from the fact that the filter syntax must be correct. For more information about the filter syntax, see “Syntax for Message View Filters” on page 201.

Figure 1-89 shows the Advanced View tab of the Message View Filter window where you configure advanced message view filters. In the figure, a criterion is currently selected. When you select a rule, the lower half of the window changes so that you can change the logical operator of the rule or invert the rule, if needed.

The following example shows an advanced filter in text format:

```
NOT "Object" CONTAINS "opc"
AND (
  "Application" == "alarmgen"
  OR NOT "Severity" < "Minor"
  OR (
    "Time Received" == "TODAY"
    AND "Application" == "SNMPTraps"
  )
)
```

This filter matches messages that are not associated with an object that contains the word `opc`, and match *one of* the following additional criteria:

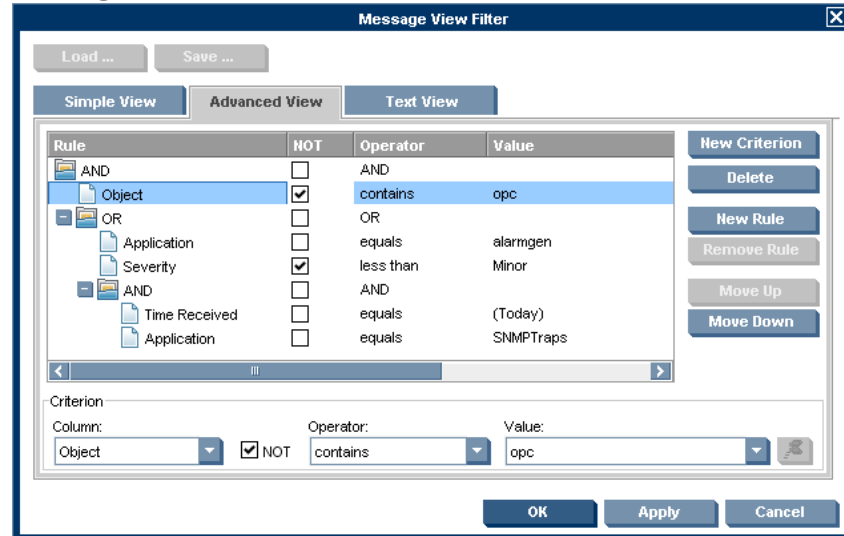
- Generating tool is `alarmgen`.
- Message severity is not less than minor (that is, it is major or critical).



- ❑ Message was received between 00:00:00 and 23:59:59 on the current day, and generated by the SNMPTraps tool.

Figure 1-89

Message View Filter Window: Advanced View Tab



**TIP**

The Text View tab lets you configure message view filters in plain text format without using the fields and buttons in the other tabs.

**Syntax for Message View Filters**

Message view filters conform to the following syntax rules:

```
filter := rule;
rule := NOT rule | (rule) | rule logical rule |
      criterion;
logical := AND | OR;
criterion:= COLUMN_NAME operator VALUE;
operator := == | > | >= | < | <= | BEGINS | ENDS | CONTAINS;
```

The following example shows a complex message view filter:

```
"Severity" >= "Minor"
AND "Flags" == "O--FX-E"
AND NOT "Message Text" BEGINS "Memory"
AND (
    "Time Received" == "TODAY"
    OR "Node" CONTAINS "hp.com"
)
```

The filter matches messages with the following characteristics:

- Severity is greater than or equals to minor (that is, minor, major, or critical).
- Message is owned by you, failed automatic actions, and has operator-initiated actions available. The unmatched, instructions, and annotations status must not be set.
- Message text does not begin with `Memory`.
- Message was received today or issued by a node from the `hp.com` network.

To see more examples for message view filters, see “Quick, Simple, and Advanced Message View Filters” on page 196.

The message view filter syntax uses the following parameters:

filter

A filter is a rule.

rule

A rule can be negated with the NOT operator.

A rule can be enclosed in parentheses (). Parentheses define the precedence order. By default, AND takes precedence over OR.

Two or more rules (rule) can be related with a logical operator.

A rule can consist of a single criterion.

logical

The logical operators AND and OR.

criterion

A criterion consists of a column name (COLUMN\_NAME), operator, and value (VALUE).

COLUMN\_NAME

Message attribute or column ID key.

operator

For a list of available operators for criteria in message view filters, see Table 1-9 on page 204.

VALUE

Any string value for message view filters. The following applies:

- *Values with spaces*  
Enclose values that contain spaces in quotation marks (“”).
- *Predefined values*  
Predefined values are available for node and time-related values. For a list of predefined values, see “Predefined Values for Message View Filters” on page 205.
- *Severity column*  
Reserved words for message severity are Unknown, Normal, Warning, Minor, Major, and Critical. The words are not case-sensitive.
- *Number of duplicates column*  
Only positive integer and zero (0) values are allowed.
- *Flags column*  
Seven characters (that is, one for each flag) are expected. The following values are allowed:

Flag	Valid Values
1 (State)	? - O M X R N

Flag	Valid Values
2 (Unmatched)	? - X
3 (Instructions)	? - X
4 (Automatic action)	? - X S F R
5 (Operator-initiated action)	? - X S F R
6 (Annotations)	? - X

The question mark (?) represents any value. The hyphen (-) means that the flag is not set.

- *Time and date columns*

The valid time and date format depends on the regional setting of the Java GUI client system.

**Operators for Message View Filters** There are two types of operators for message view filters:

❑ **Operators for criteria**

The available criteria operators depend on the type of data displayed in the message browser column. There are operators for columns with numeric or string data.

The operators listed in Table 1-9 are available:

**Table 1-9 Operators for Criteria**

Data Type	Operator	Keyword
String data only	begins with	BEGINS
	ends with	ENDS
	contains	CONTAINS

**Table 1-9 Operators for Criteria (Continued)**

Data Type	Operator	Keyword
Numeric or string data	equals	==
	greater than	>
	greater than or equals	>=
	less than	<
	less than or equals	<=

**❑ Operators for rules**

The following operators are available for rules:

- AND  
 Logical operator AND (logical conjunction).
- OR  
 Logical operator OR (logical disjunction).
- NOT

A rule can be inverted with the NOT operator. For example, if you want to find messages that do not begin with a certain character, use NOT "<COLUMN\_NAME>" BEGINS "<VALUE>" or select the **NOT** check box in the Message View Filter window.

**Predefined Values for Message View Filters** A number of predefined values for message view filters exist to help you make your filters more flexible and reusable. Predefined values always come first in the list of available values, and are enclosed in parentheses () to help you identify them as predefined values.

Time values are relative values. They are resolved on the Java GUI client system based on the locale and time zone that is set on that system. This means that the data resulting from applied message view filters may be different for users in different regions.

The only valid operator for predefined time values is the equals (==) operator.

Table 1-10 lists the predefined values that can be used in message view filters.

**Table 1-10** Predefined Values for Message View Filters

	<b>Predefined Value</b>	<b>Description</b>
Node values	(Management Server)	Fully qualified domain name (FQDN) of the management server system.
Time values	(Today)	Time interval from 00:00:00 to 23:59:59 on the current day.
	(Yesterday)	Time interval from 00:00:00 to 23:59:59 on the previous day.
	(Current Week)	Time interval from 00:00:00 on the first day to 23:59:59 on the last day of the current week.
	(Previous Week)	Time interval from 00:00:00 on the first day to 23:59:59 on the last day of the previous week.
	(Current Month)	Time interval from 00:00:00 on the first day to 23:59:59 on the last day of the current month.
	(Previous Month)	Time interval from 00:00:00 on the first day to 23:59:59 on the last day of the previous month.

## Saving Message View Filters

You can save message view filters in the following ways:

### ❑ Console session settings

When you save your console settings, any message view filters that are currently applied to message browsers are also saved. The next time you start the Java GUI, your message browsers automatically have the message view filters applied.

To save your console settings, select **File: Save Console Session Settings** from the menu bar.

### ❑ Message browser layout

When you save a customized message browser layout, any currently applied message view filter is also saved to the `itooopbrw` file. The next time you open a browser with a saved layout, the message view filter is automatically applied to the browser.

To save your message browser layout, select **View: Save Message Browser Layout** from the menu bar.

### ❑ Named message view filters

If you find that you use the same message view filters during several Java GUI sessions, you may want to save the filters for future use. Named message view filters are stored independently of the console settings and the browser layout so that you can later load and apply them to a message browser.

HPOM distinguishes global and personal named message view filters:

- *Global message view filters*

Global message view filters are stored by the HPOM administrator on the management server. Operators can load global filters for their personal use, but cannot create or save them.

---

**NOTE**

You can download and upload global message view filters to a new server (by using the `opccfgdwn` and the `opccfgupld` commands) without the need to download and upload other user configuration settings. To be able to do so, set the `JGUI_MSG_VIEW_FILTERS` entity in a download specification file.

After the download, the entire layout tree is stored in the `/<download_directory>/<language>/OTHER/JGUI/MVFS/` directory.

For more information, see the *opccfgdwn(1m)* and the *opccfgupld(1m)* manual pages.

---

- *Personal message view filters*

Personal message view filters are available only to the operator who created them. They are also stored on the management server system, but in user-specific locations.

You can access and apply named message view filters by loading them into the Message View Filter window or by selecting them in the object pane as shown in Figure 1-90.

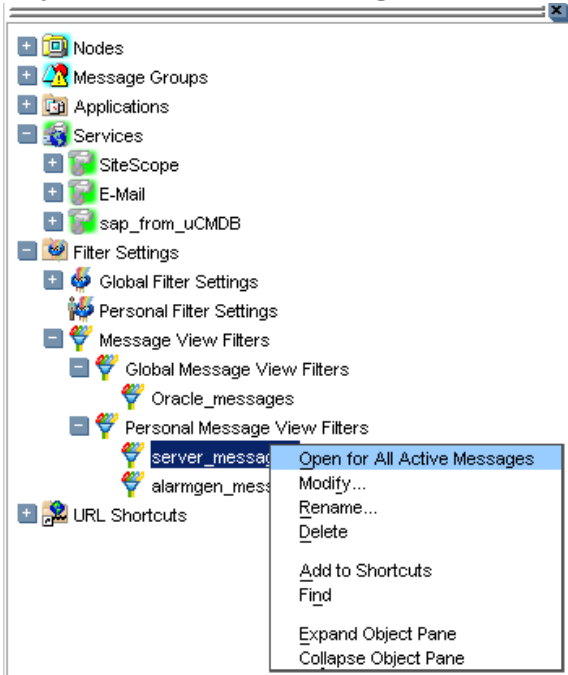


**NOTE**

A named message view filter currently cannot be applied to history or pending message browsers from the object pane.

**Figure 1-90**

**Object Pane: Named Message View Filters**



## Adding Message Browser Tabs in the Browser Pane

When you open a filtered message browser, it is automatically displayed in the workspace pane. To move the filtered message browser from the workspace pane to the browser pane, you need to click the **Put Message Browser to Browser Pane** toolbar button (see “Toolbar Icons and Drop-down Lists” on page 445). After it is in the browser pane, the browser can be moved back to the workspace pane by using the same toolbar button.

Figure 1-17 on page 67 shows how to move a browser from the workspace pane to the browser pane.

## Switching Message Colors to an Entire Line

To toggle between the default and colorized modes, choose **Edit: Preferences...** from the menu bar. Then, in the General tab of the Preferences window, select or clear the **Colored Lines** check box, and then click **OK**.

The preferences are saved on the computer where the Java GUI is running. The preferences are also saved to all Java GUIs running on that client. If you start another Java GUI on another client, the settings previously saved on that other client are used. If you want, you can change the settings on that other client as well.

## Customizing the Message Browser Columns

HPOM enables you to change the physical layout of browser columns:

### **Resize Columns**

Resize them by dragging the column borders to the left or right.

### **Reorder Columns**

Reorder the columns by dragging the column labels.

### **Show or Hide Columns**

Show or hide columns by choosing in the Customize Browser Columns window which message attributes to show or hide. For details, see “Showing and Hiding Message Browser Columns” on page 212.

❑ **Customize Column Labels**

Specify new labels for message browser columns in the Customize Browser Columns window. For details, see “Customize Message Browser Columns Dialog Box” on page 493.

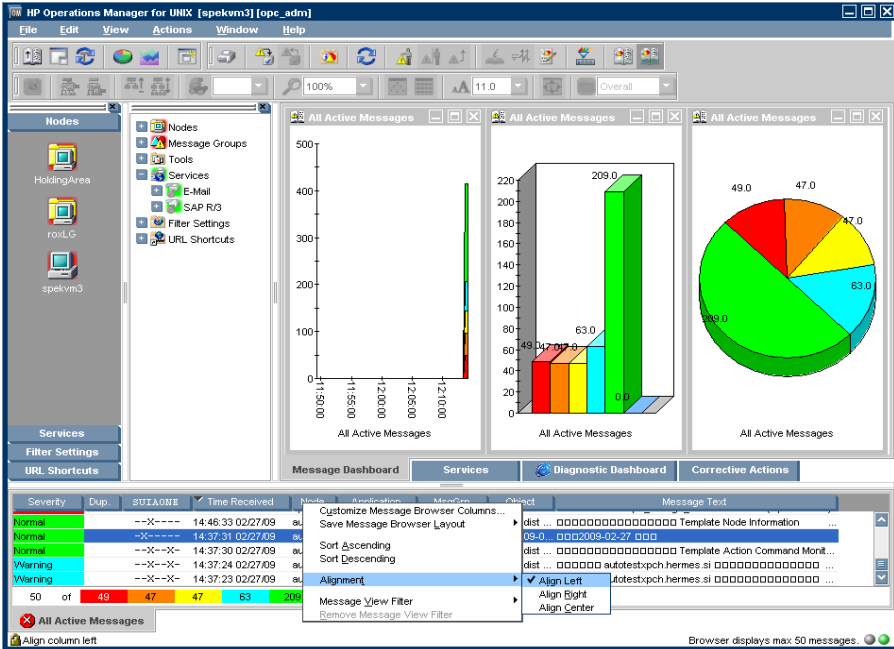
❑ **Align the Column Content**

Align the column content by using a pop-up menu in the message browser opened on the message browser headline. Alignment can be set to left, right, or center. See Figure 1-91 on page 211.

These settings can be saved for future sessions by using the Save Message Browser Layout item of the View or pop-up menus.

To find out how to save the message browser layout, see “Saving the Customized Message Browser Layout” on page 213.

**Figure 1-91 Customizing Browser Layout from the Message Browser**



## Showing and Hiding Message Browser Columns

You can configure HPOM to display only a subset of all available message attributes in the message browsers. This also applies to custom message attributes. This is done in the Customize Browser Columns window.

To access this window, choose **Customize Message Browser Columns** from the View menu in the Java GUI or right-click the message browser headline and select **Customize Message Browser Columns...** from the pop-up menu.

The Customize Browser Columns window contains two tabs:

### ❑ **General tab**

List of general message attributes. Figure 1-48 on page 124 shows the General tab for displaying default columns in the Customize Browser Columns window. The selected items are displayed in the current message browser with the specified label or ID (if there is no label).

### ❑ **Custom tab**

Customized message attributes. Figure 1-49 on page 125 shows the Custom tab for displaying custom message attributes as columns in the Customize Browser Columns window.

The Custom tab has three sections:

- *Available Custom Message Attributes*  
Attributes already defined in the database.
- *Predicted Custom Message Attributes*  
Attributes you expect to be present in the future.
- *New Predicted Custom Message Attribute*  
New operator-defined attributes.

From either of these tabs, you can configure to display the message attributes for the current message browser. After you press **OK**, this configuration applies only to the current (active) message browser.

## Saving the Customized Message Browser Layout

To save the browser layout for opened message browsers, use the `Save Browser Layout` option for every particular type of the browser:

### ❑ **Filtered Browsers**

Matches the filter name for filtered message browsers. The saved layout applies only to the named message browser. You cannot globalize to other named message browsers.

### ❑ **Default Browsers**

Matches the type for default message browsers:

- Filtered active messages browser
- Filtered history message browser
- Filtered pending messages browser

---

## Using Global Java GUI Property Files

When you customize the Java GUI, your changes are stored in property files, which reside in your home directory. The next time you start the Java GUI, your property files are evaluated and your customized settings are loaded. Customizations are stored in the following property files:

❑ **Console settings**

Changes to the console settings are stored in the file `HP_OV_consoleSettings_<server_name>_<user>`. See also “Saving Console Settings” on page 175.

❑ **Preferences window**

Changes made in the Preferences window are stored in the Java GUI resource file `itooprc`.

❑ **Browser settings**

Changes made to the message browsers are stored in the browser settings file `itooibrw`.

The administrator can configure a global mode for Java GUI clients so that local property files are ignored in favor of global settings. The global property files reside in a shared location under administrator control.

With global mode enabled, you are not able to save your customizations. Instead, a message is displayed informing you about global mode being enabled. Only the administrator and, if configured, selected operators are allowed to continue saving and using their local settings.

When the global property files change in the shared location, HPOM displays a message and requests a restart of Java GUI.

For more information about enabling global property files, see the *HPOM Administrator's Reference*.

## Secure HTTPS Communication

This section describes how to secure the communication between the Java GUI and the management server by setting up an HTTPS-based Java GUI.

The following topics are discussed:

❑ **Architecture**

A description of the underlying concepts and architecture of the HTTPS-based Java GUI. For more information, see “HTTPS-Based Java GUI Architecture” on page 216.

❑ **Establishing secure communication**

A description of the process for establishing a secure communication. See “Establishing Secure Communication” on page 217.

❑ **Certificates**

A description of the certificates and the authentication modes. For more information, see “Certificates” on page 220.

For more information about configuring secure communication between a HTTPS-based Java GUI and the HP Operations management server, see “Configuring Secure HTTPS-based Java GUI Communication” on page 315.

Instructions on how to install and enable the HTTPS-based Java GUI, as well as how to disable the non-secure communication between the Java GUI client and the HP Operations management server, are detailed in the *HPOM Installation Guide for the Management Server*.

## HTTPS-Based Java GUI Architecture

The standard Java GUI supplied with HPOM 8 has no secured link to the management server. This functionality is provided with the HTTPS-based Java GUI, that is the Java GUI which uses a HTTPS protocol with Secure Socket Layer (SSL) encryption for communication with HP Operations management server. The SSL encryption is based on the Core functionality components.

The HTTPS protocol acts as a guardian for applications (tools), gauging which incoming communication requests are trustworthy for secure exchange of data. For details on how the secure communication is established, see “Establishing Secure Communication” on page 217.

The HTTPS functionality provides three prerequisites for network security:

- ❑ Secrecy
- ❑ Data integrity
- ❑ Authentication

After a user logs on to the HTTPS-based Java GUI, the communication using the HTTPS protocol is initiated between the client and the management server, based on the authentication of certificates. For more information about the certificates, see “Certificates” on page 220.

The implementation of HTTPS-based communication also secures Service Navigator requests. The HTTPS protocol establishes a secure link between the HPOM Java-based operator client and the HP Operations management server.



## Establishing Secure Communication

The process of establishing a secure communication is as follows:

Java GUI client connects to the `opcuihttps` process, which acts as a proxy between the Java GUI client and the HP Operations management server using the HTTPS protocol. For information about how to configure `opcuihttps` settings and the HTTPS-based Java GUI connection through firewalls, as well as for a list of parameters related to the HTTPS-based Java GUI, see the *HPOM Administrator's Reference*.

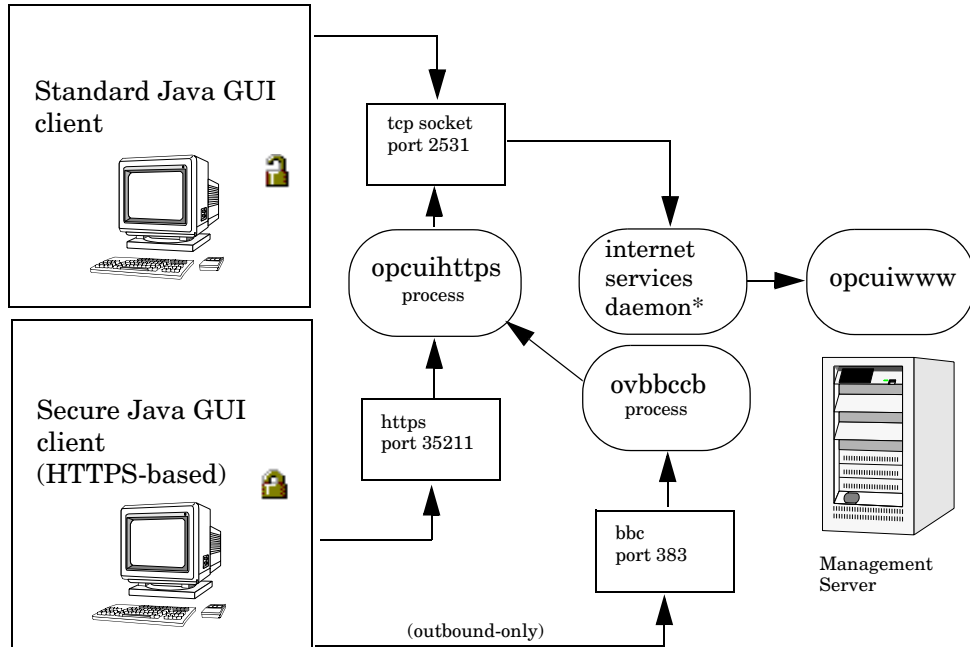
The Java GUI communicates with the `opcuihttps` process using a secure HTTPS protocol on the port 35211. As an outbound-only variant, it is possible to connect to `opcuihttps` through the BBC port 383 (refer to the *HPOM Administrator's Reference* guide for information on how to configure this connection.) The `opcuihttps` process then redirects the HTTPS requests to the standard Java GUI port (2531) using socket communication. All forwarded HTTPS requests are then handled by the `inetd` (on UNIX) and `xinetd` (on Linux) process, as well as the requests from non-secure Java GUI clients.

The `opcuihttps` process also processes replies from the HP Operations management server and mediates them to the Java GUI using the HTTPS protocol.

This way all communication requests, from the Java GUI to the HP Operations management server and the other way round, become trustworthy for secure exchange of data.

Figure 1-92 on page 218 shows the client-server communication.

**Figure 1-92 Client-Server Communication**



\* inetd on UNIX and xinetd on Linux.

### Authentication Process

The authentication process which ensure establishing a secure communication has four steps:

#### 1. Operator logs on.

The operator enters a user name and a password at logon.

For the logon to work, a certificate does not need be installed on the HTTPS-based Java GUI client. For details, see “Certificates” on page 220.

#### 2. Certificate is generated.

If the Java GUI contacts the management server for the first time, a server certificate is generated.

The management server then sends the certificate to authenticate itself to the Java GUI client.

---

**NOTE**

If you choose to use the server certificate for more than a current session, it gets stored in the local Certificate Store. This certificate will then be used for each subsequent connection between Java GUI and the management server.

---

**3. Client identifies the server.**

Based on the certificate it has received from the management server, the client identifies the management server.

If you use a full authentication mode, the client also authenticates itself with the client certificate. This way the higher level of security is achieved. For more information about the authentication modes, see “Certificates” on page 220.

**4. Communication channel is opened.**

If the authentication is successful, a communication channel is opened.

---

**NOTE**

If HTTPS-based communication between Java GUI and the HP Operations management server fails to establish, you are prompted to use a non-secure communication type. If you press **Cancel**, the log-on window is displayed.

If you set the `https_only` parameter in the `ito_op` start-up script to **yes**, you are not prompted to use a non-secure communication. For more information about the start-up parameters for the HTTPS-based communication, see the “Configuring HTTPS-based Communication on the Java GUI Client” on page 316.

---

Figure 1-92 on page 218 shows what you see depending on the chosen communication type:

❑ **HTTPS-based communication**

If you use the HTTPS-based Java GUI communication, a *closed* padlock icon appears on the log-on window and on the status bar.

❑ **Standard communication**

If you use the standard HTTPS Java GUI communication, an *open* padlock icon appears in the GUI.

## Certificates

The HTTPS-based Java GUI provides network security through the exchange and authentication of electronic **certificates** between client and server. A certificate is a way of endorsing a public key, and includes, in an encrypted format, the user name and public key of the sender.

Certificates are signed with the private key of the trusted **Certification Authority** (CA) who issued it. The CA then appends its public key to the certificate, which means that it can be verified by the person receiving it.

## Authentication Modes

The SSL encryption is provided for the following authentication modes:

❑ **Server authentication**

This is a default authentication mode, where only server certificates are required. It is possible to connect to an HP Operations management server from an anonymous Java GUI client.

❑ **Full authentication**

The full authentication mode requires that client certificates are installed on the client systems.

For details about providing certificates for both authentication modes, see “Providing Certificates” on page 320.

---

## **2 Performing Daily Tasks**

## Detecting Problems with HPOM

HPOM detects problems and potential problems in the managed environment.

This section describes the following:

- ❑ **Monitoring HPOM**

To monitor your HPOM managed environment, you can view message nodes, search the object tree, and respond to message event notifications.

- ❑ **Viewing Messages**

When you start the HPOM GUI, a message browser opens in the browser pane, and automatically displays all active messages from the nodes assigned to you.

---

**NOTE**

For an overview of the HPOM problems solving process, see “Problem Solving Process” on page 115.

---

## Monitoring HPOM

To monitor your HPOM managed environment, you can view message nodes, search the object tree, and respond to message event notifications:

### ❑ View a Message Node Manually

You can manually access and view a message node in the shortcut bar and object pane. For details, see “Viewing a Message Node Manually” on page 223.

### ❑ View a Message Node Automatically

You can automatically access and view a message node associated with a problem you have already detected. For details, see “Viewing a Message Node Automatically” on page 224.

### ❑ Search the Object Pane

You can search for a specific item in the object tree using the basic search function or the advanced search function. For details, see “Searching the Object Pane” on page 224.

### ❑ View Message Event Notifications

You can automatically access and view a message associated with a problem you have already detected. For details, see “Viewing Message Event Notifications” on page 225.

## Viewing a Message Node Manually

In the managed environment, nodes are displayed hierarchically in two locations:

### ❑ Shortcut Bar

To view nodes in the shortcut bar, click the **Nodes** bar. For an overview of the shortcut bar, see “Shortcut Bar” on page 46. For an image of nodes in the shortcut bar, see Figure 1-50 on page 127.

### ❑ Object Pane

To view nodes in the object pane, click the **PLUS SIGN (+)** next to the Nodes or Node Layout Group icon. For an overview of the object pane, see “Object Pane” on page 48. For an image of nodes in the object tree, see Figure 1-4 on page 50.

### Viewing a Message Node Automatically

When you detected a problem, you can automatically highlight the affected node in the object pane.

To access a message node automatically, follow these steps:

1. In the message browser, select the message you have investigated. For details, see “Message Browser” on page 68.
2. Right-click the message, and then select **Select Node in Object Pane** from the pop-up menu.

Right-clicking **Select Node in Object Pane** highlights the node or nodes in the object pane. You can now start tools on that node.

### Searching the Object Pane

You can search for a specific item in the object pane by using the basic search function or the advanced search function. For an overview of the search function, see “Searching the Object Pane” on page 119.

To search for a specific item in the object pane, follow these steps:

1. Select **Edit: Find...** from the menu bar.
2. In the Find dialog box, enter your search criteria.

For descriptions of options in the Find dialog box, see “Find Dialog Box” on page 504.

---

#### NOTE

You can search for whole worlds only, matching case, or both. When the search function finds a specific item, the item is highlighted in the object pane. If the item is not visible because the object tree is collapsed, the tree is expanded, and the item is scrolled into the visible area of the object pane. Normally, the search starts from the top of the object tree. However, if you start a search while an item is already highlighted, the search starts from the selected item.

3. Click **Find Next**.

The basic search enables you to search the entire object pane.



## Viewing Message Event Notifications

Message event notification keeps you informed about new messages with high severity. This notification is especially helpful if you have many windows opened at the same time, or if there are a lot of new messages with low severity coming in. For an overview of message event notification, see “Message Event Notification” on page 120.

When a message event notification dialog box opens, you can choose one of the following two options:

**Show Message Browser**

Opens the associated message browser to show the message with high severity. If the message is associated with more than one message browser (for example, because they use the same filter), only one message browser is displayed.

**Close**

Closes the message event notification dialog box.

---

**NOTE**

You can enable or disable message event notification, or reset the severity threshold for notification, from the Preferences dialog box. To find out how to configure message event notification, see “Configuring Message Event Notification” on page 284. For descriptions of options in the Preferences dialog box, see “Preferences Dialog Box” on page 526.

---

## Viewing Messages

When you start the HPOM GUI, a message browser opens in the browser pane, and automatically displays the latest 50 active messages from the nodes assigned to you.

---

### NOTE

For an overview of the message browser, see “Message Browser” on page 68. For an overview of the browser pane, see “Browser Pane” on page 66.

---

You can change the maximum number of messages displayed so that all messages are shown. For details, see “Changing the Number of Displayed Messages” on page 312. The default number of messages displayed is 50, but you can change it as needed.

To further narrow your view of the messages in the message browser, you can open filtered message browsers that display only messages matching your selected view filters. For details, see “Viewing Active Messages” on page 228.

---

### TIP

Use message view filters to quickly isolate specific messages in a message browser. Message view filters temporarily hide messages from view. To learn how to use message view filters, see “Working with Message View Filters” on page 293.

---

This section describes how to do the following:

- ❑ Viewing All Active Messages
- ❑ Viewing Selected Messages
- ❑ Viewing Active Messages
- ❑ Viewing History Messages
- ❑ Viewing Pending Messages

## Viewing All Active Messages

To view all active messages, in the menu bar, select **Actions: Filtering -> All Active Messages**.

A message browser opens in the workspace pane, displaying all active messages.

---

### NOTE

To move the message browser from the workspace pane to the browser pane, click the **Move to Browser Pane** button on the toolbar. For details, see “Toolbar Icons and Drop-down Lists” on page 445.

---

## Viewing Selected Messages

You can open a message browser displaying only a selection of messages (for example, if you want to focus on messages from a particular node or message group).

---

### NOTE

Viewing selected messages enables you to open a filtered message browser quickly. To open a filtered message browser with a different filter criteria, see “Viewing Active Messages” on page 228.

---

To view selected messages, follow these steps:

1. In the object pane, right-click a node, a message group, or a service.

For an overview of the object pane, see “Object Pane” on page 48.

A pop-up menu opens.

2. In the pop-up menu, select one of the following:

- **Filter Active Messages**
- **Filter History Messages**

In the workspace pane, a message browser opens displaying only messages generated from the selected node, message group, or service. Depending on which option you selected in the pop-up menu, the message browser shows either active or history messages.

For an overview of the workspace pane, see “Workspace Pane” on page 59.

### Viewing Active Messages

You can save message browser settings so that you can apply the same filter when required.

---

#### NOTE

Viewing active messages enables you to open a filtered message browser with a different filter criteria. To open a filtered message browser quickly, see “Viewing Selected Messages” on page 227.

---

To view filtered active messages, follow these steps:

1. From the menu bar, select **Actions: Filtering -> New Active Filtered Browser**.
2. In the Filter Messages dialog box, type a name for the filter.  
  
For a description of each option in the Filter Messages dialog box, see “Filter Messages Dialog Box” on page 497.
3. Select the filtering criteria you want to apply.
4. Click **OK**.

A new filtered active message browser opens, displaying only the messages matching your selected criteria.

### Viewing History Messages

To view filtered history messages, follow these steps:

1. From the menu bar, select **Actions: Filtering -> New History Filtered Browser**.
2. In the Filter Messages dialog box, type a name for the filter.  
  
For a description of each option in the Filter Messages dialog box, see “Filter Messages Dialog Box” on page 497.
3. Select the filtering criteria you want to apply.
4. Click **OK**.

A new filtered history message browser opens, displaying only the messages matching your selected criteria.

---

**NOTE**

You can create a new history filter on a selected message. The menu item for creating a new history filter can be accessed in one of the following ways:

- ❑ By right-clicking the selected message (the pop-up menu).
  - ❑ By selecting **Actions: Messages** from the menu bar.
- 

### Viewing Older Messages

The arrival of new messages can cause that the messages you are currently viewing become invisible in the message browser.

To make sure that the messages you currently work on remain visible in the message browser while new messages are arriving, lock the message browser by clicking the Lock check box placed at the bottom of the message browser, as shown in Figure 2-1.

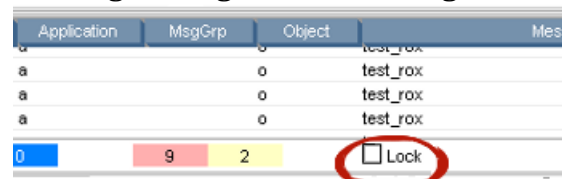
The locked message browser shows the changes in the messages that are already visible. It, however, does not display acknowledged messages and messages that arrived after you set the lock.

Moving the scroll slider unlocks the message browser. Changing sorting, clicking the column header, or scrolling inside the message browser with keys does not unlock it, thus allowing the navigation through messages while the message browser is locked.

In addition, appropriate information is displayed in a locked message browser status bar to indicate its status.

**Figure 2-1**

### Locking Messages in the Message Browser



## Viewing Pending Messages

Use the filtered pending messages browser to review and manage messages that arrive on the HP Operations management server outside defined service hours. For an overview of the filtered pending messages browser, see “Filtered Pending Messages Browser” on page 77.

To view filtered or unfiltered pending messages, follow these steps:

1. From the menu bar, select **Actions: Filtering -> New Pending Filtered Browser**.
2. In the Filter Messages dialog box, select all or specified pending messages:

- *All Pending Messages*

Click **OK** to see all pending messages.

- *Specified Pending Messages*

To see only some pending messages, use the following tabs:

— *General*

In the General tab, you can select messages received within a certain time frame, messages owned by selected parties, messages selected in the message browser, messages that do *not* match the selected criteria, messages with a selected severity level, and messages that match a specified text pattern.

— *Symbols and Objects*

In the Symbols and Objects tab, you can select symbols and objects chosen from the message browser or the object pane.

— *Pending Details*

In the Pending Details tab, you can select buffered messages with an expired buffer time frame and messages received within a certain time frame.

For descriptions of options in the Filter Messages dialog box, see “Filter Messages Dialog Box” on page 497.

3. Click **OK**.

A new filtered pending messages browser opens, displaying only the messages that match your selected criteria.

---

**NOTE**

Messages in the pending messages browser are read-only. If you want to move a pending message directly to the history database, simply acknowledge it. If you want to work with a pending message, you must first unbuffer it to move it into the message browser.

---

## Investigating Problems with HPOM

If HPOM detects a problem in your managed environment, you need to investigate the problem. This section explain how to use the message browser or the Message Properties dialog box to find out more about the problem, including when the problem occurred, on which node the problem occurred, how severe the problem is, and if any actions are preconfigured to solve the problem. The history database is also a good resource for investigating how similar problems have been solved previously.

This section describes the following:

- ❑ Investigating Problems with the Message Browser
- ❑ Modifying the Attributes of a Message
- ❑ Investigating Problems with the Workspace Pane
- ❑ Investigating Message Histories
- ❑ Investigating Pending Messages

### Investigating Problems with the Message Browser

You can investigate problems with the message browser as follows:

#### ❑ **Basic Information**

You get basic information about a message by reviewing the message in the workspace pane or the browser pane. Only the most important information is shown. For details, see “Viewing Messages in the Message Browser” on page 233.

You can modify and even forward the message to another operator or to the HPOM administrator. For details, see “Sending an HPOM Message to Another Operator” on page 233.

#### ❑ **Detailed Information**

You view detailed information about a message by reviewing the Message Properties dialog box where you can view all information associated with the message, including instructions, annotations, and any configured actions. For details, see “Viewing Detailed Message Information” on page 234.



## Viewing Messages in the Message Browser

By default, the message browser headline displays the most important attributes of a message. For an overview of the message browser and its headline, see “Message Browser” on page 68. For a description of default elements in the message headline, see “Message Browser Headline” on page 549.

If you want, you can modify the message browser as follows:

### ❑ **Sort Messages**

You can sort messages by date and time, or by the attribute (including the custom message attribute). For details, see “Changing the Layout of Browser Windows” on page 310.

### ❑ **Resize Columns**

You can resize the columns of the message browser. For details, see “Changing the Layout of Browser Windows” on page 310.

### ❑ **Change Attributes**

You can change the attributes of a message. For details, see “Modifying the Attributes of a Message” on page 234. For descriptions of message attributes, see “Message Fields” on page 553.

### ❑ **Lock the Message Browser**

You can lock the message browser to make sure that the older messages you are currently viewing remain visible while new messages arrive. For details, see “Viewing Older Messages” on page 229.

## Sending an HPOM Message to Another Operator

You can copy the message in the message browser to the clipboard and paste it into a text file. This may be useful when you want to send the message to another operator or to the HPOM administrator.

To send a message, follow these steps:

1. In the message browser, select the message.
2. In the menu bar, select **Edit: Copy to Clipboard**.
3. In your email program, paste the text into the body of a message, and then send the message to another operator or to the HPOM administrator.

## Viewing Detailed Message Information

To view detailed message information, follow these steps:

1. Access the Message Properties dialog box.

In the browser pane, do one the following:

- Double-click the message.
- Select the message, and then, from the menu bar, select **Actions: Messages -> Properties**.
- Right-click the message and use the pop-up menu.
- Select the message, and then, from the toolbar, click **Show Properties**. For details, see “Toolbar Icons and Drop-down Lists” on page 445.

The Message Properties dialog box opens.

2. In the Message Properties dialog box, access options by clicking tabs, such as the following:

- *Original Message*  
May contain more information about the message itself.
- *Instructions*  
May contain information about how to solve the problem.

For descriptions of options in the Message Properties dialog box, see “Message Properties Dialog Box” on page 510.

3. *Optional*: Print the contents of the Message Properties window by clicking **Print...**

A print dialog opens where you can specify further options.

For more information about printing the contents of the Message Properties dialog box, see “Printing HPOM Messages and Application Output” on page 258.

## Modifying the Attributes of a Message

In some situations it may be useful to modify the attributes of a message (for example, if you want to give a message a higher severity or a more meaningful message text).

---

**NOTE**

---

You can modify message attributes only if your HPOM administrator has provided you with sufficient operator privileges.

To modify the attributes of a message, follow these steps:

1. In the message browser, select the message you want to modify.
2. Right-click the message, and then select **Modify** from the pop-up menu.

The Modify Message Attributes dialog box opens.

3. Modify the message severity or text.
4. Click **OK**.

Your changes are applied immediately to the message you selected. You now own the message.

## Investigating Problems with the Workspace Pane

You can use the workspace pane to investigate problems as follows:

### ❑ Message Dashboard

You can view message severity in the Message Dashboard workspace. For details, see “Viewing Message Severity in the Message Dashboard Workspace” on page 235.

### ❑ Diagnostic Dashboard

You can monitor other HP Software applications (tools) that integrate with HPOM in the Message Dashboard workspace. For details, see “Monitoring Tools in the Diagnostic Dashboard Workspace” on page 236.

## Viewing Message Severity in the Message Dashboard Workspace

You can view message severity in the Message Dashboard workspace of the workspace pane.

You can view message severity in one of the following two formats:

❑ **Current State Chart**

Displays the severity of all messages in the currently selected message browser. For details, see “Current State Chart” on page 137.

❑ **History Chart**

Displays the severity changes over time of all messages in the currently selected message browser. For details, see “History Chart” on page 139.

You can switch between these two charts by using the Switch to Pie Chart (the current state chart) and the Switch to History Chart icons on the toolbar (see “Toolbar Icons and Drop-down Lists” on page 445). You can also open a new message browser with the same filter as the original browser from the message browser, current state chart, or history chart.

For an overview of the Message Dashboard workspace, see “Message Dashboard Workspace” on page 61.

### **Monitoring Tools in the Diagnostic Dashboard Workspace**

The Diagnostic Dashboard workspace enables you to monitor other HP Software tools that integrate with HPOM.

For example, the following tools provide integration points for HPOM:

- ❑ Performance (HP Performance for Windows)
- ❑ Network Neighbor View
- ❑ Network Path
- ❑ Internet Services

For more information about how applications (tools) can help you investigate problems, see the documentation supplied with the applications.

For an overview of the Diagnostic Dashboard workspace, see “Diagnostic Dashboard Workspace” on page 61.

## Investigating Message Histories

The history database contains all of your acknowledged messages (that is, all messages for which you have completed work). It can serve as a knowledge database in which you can search for previous solutions to problems. You access the history database by opening a filtered history message browser and reviewing the displayed messages.

For an overview of the filtered history message browser, see “Filtered History Message Browser” on page 75.

This section describes the following:

- ❑ Accessing the History Database Quickly
- ❑ Specifying a Detailed Filter
- ❑ Changing Your Current View

Opening a filtered history message browser may take a long time to complete because history messages are retrieved from the database and not from the cache. During the download, the Java GUI cannot be used for other tasks. If you need to access the Java GUI while history messages are being downloaded, cancel the download and consider changing the filter criteria to better match the history messages you are interested in.

You can also limit the maximum number of messages displayed in a history message browser.

### Accessing the History Database Quickly

To access the history database quickly, follow these steps:

1. In the object pane, select the desired node, message group, or service.  
For an overview of the object pane, see “Object Pane” on page 48.
2. Open a filtered history message browser.  
Right-click the message, and then select **Filter History Messages** from the pop-up menu.

A filtered history message browser opens, displaying only acknowledged messages from the selected node, message group, or service. By default, only messages generated the same day are displayed. If you want to see message generated on other days, you must specify a detailed filter.

## Specifying a Detailed Filter

To specify a detailed filter, follow these steps:

1. From the menu bar, select **Actions: Filtering -> New History Filtered Browser**.
2. In the Filter Messages dialog box, select the filtering criteria you want to apply.

For descriptions of options in the Filter Messages dialog box, see “Filter Messages Dialog Box” on page 497.

3. Click **OK**.

A filtered history message browser opens, displaying only the messages that match your selected criteria (see “Filtered History Message Browser” on page 75).

## Changing Your Current View

To change your current view, follow these steps:

1. From the menu bar, select **Actions: Filtering -> Modify Filter**.
2. In the Filter Messages dialog box, specify further criteria.

You can open as many different filtered message browsers as needed.

## Investigating Pending Messages

The filtered pending messages browser displays all messages that arrive on the HP Operations management server outside service hours. These messages remain on the management server until a defined unbuffer time is reached.

You can do the following with pending messages:

### **Acknowledge**

Messages are moved to the filtered history message browser. To find out how to acknowledge messages, see “Acknowledging Messages” on page 261.

### **Unbuffer** (manually or automatically)

Messages are moved to the active message browser. To find out how to unbuffer messages, see “Unbuffering a Pending Message” on page 242.

For details about the filtered pending messages browser, see “Filtered Pending Messages Browser” on page 77.

## Solving Problems with HPOM

After you investigated a problem, you need to direct problem solving activities to remedy the problem in the managed environment.

This section describes the following:

- ❑ Owning Messages
- ❑ Disowning Messages
- ❑ Unbuffering a Pending Message
- ❑ Verifying Automatic Actions
- ❑ Verifying Operator-initiated Actions
- ❑ Accessing Operator Instructions
- ❑ Viewing Operator-assigned Tools
- ❑ Starting Tools
- ❑ Customizing the Start-up Attributes of a Tool
- ❑ Broadcasting a Command



## Owning Messages

Owning a message indicates to other operators that you have read a message and want to perform the actions associated with that message. When you assume ownership of a message, actions associated with the message are restricted to you. However, other users are still allowed to view the message.

The number of messages owned by you and owned by others is displayed in the color bar of the message browser.

To own a message, follow these steps:

1. In the workspace pane, select the message you want to work with (see “Workspace Pane” on page 59).
2. Do one of the following:
  - On the toolbar, click the **Own** button (see “Toolbar Icons and Drop-down Lists” on page 445).
  - Right-click the message, and then select **Own** from the pop-up menu.
  - From the menu bar, select **Actions: Messages -> Own**.

## Disowning Messages

Disowning a message indicates that you no longer want to work with that message. Only the owner or the HPOM administrator may disown a message.

To disown a message, follow these steps:

1. In the workspace pane, select the message you no longer want to work with (see “Workspace Pane” on page 59).
2. Do one of the following:
  - On the toolbar, click the **Disown** button (see “Toolbar Icons and Drop-down Lists” on page 445).
  - Right-click the message and then select **Disown** from the pop-up menu.
  - From the menu bar, select **Actions: Messages -> Disown**.

## Unbuffering a Pending Message

Before you can start working with a pending message, you must first unbuffer it.

To unbuffer a pending message, follow these steps:

1. Open a filtered pending messages browser and select the message you want to unbuffer.

For details, see “Viewing Pending Messages” on page 230.

2. Do one of the following:

- Right-click the message and then select **Unbuffer** from the pop-up menu.
- From the menu bar, select **Actions: Messages -> Unbuffer**.

3. The pending message is moved to the message browser.

You can now work with the message as you would with any other active message.

## Verifying Automatic Actions

HPOM solves some problems automatically by using preconfigured actions. If a message has an associated automatic action, you will find a value in the A column of the Flags field in the message browser.

By using either the message browser or the Message Properties dialog box, you can verify whether an automatic action is configured for a message, and, if so, whether the action was completed successfully.

This section describes the following:

- ❑ Verifying an Automatic Action in the Message Browser
- ❑ Verifying an Automatic Action in the Message Properties Dialog Box

### Verifying an Automatic Action in the Message Browser

To verify an action for a message, follow these steps:

1. Check the Flags (SUIAONE) field of the message browser.
2. In the A column, look for the following values:

- No automatic action is configured for the message.

S	Automatic action was successful.
F	Automatic action failed.
R	Automatic action is running.

### Verifying an Automatic Action in the Message Properties Dialog Box

To verify an action in the Message Properties dialog box, follow these steps:

1. Access the Message Properties dialog box, and then in the browser pane, do one of the following:
  - Double-click the message.
  - Select the message, and then, from the menu bar, select **Actions: Messages -> Properties**.
  - Right-click the message and then use the pop-up menu.
  - Select the message, and then, from the toolbar, click **Show Properties** (see “Toolbar Icons and Drop-down Lists” on page 445).
2. Click the **Actions** tab of the Message Properties dialog box.
3. Check for any actions of the Automatic type.
4. Check the Status field.

If the Status field indicates *Successful*, the automatic action is completed successfully. The status field may also indicate that the automatic action is currently running. If necessary, you can stop running actions.

5. In the Message Properties dialog box, click the **Annotations** tab.

You can also access the Annotations tab by doing one of the following:

- Select the message and then click **Annotation** on the toolbar (see “Toolbar Icons and Drop-down Lists” on page 445).
- Right-click the message and then use the pop-up menu.
- Select the message and then select **Actions: Messages -> Annotations** from the menu bar.

If the action has an associated annotation, the annotation is shown.

6. Check the annotations for more information about the results of the action.

## Verifying Operator-initiated Actions

Use operator-initiated actions when you want to evaluate a problem before activating the solution. If a message has an associated operator-initiated action, you see a value in the O column of the Flags field in the message browser.

By using either the message browser or the Message Properties dialog box, you can verify whether an operator-initiated action is configured for a message, and, if so, whether the action is completed successfully.

This section describes the following:

- ❑ Verifying an Operator-initiated Action in the Message Browser
- ❑ Verifying an Operator-initiated Action in the Message Properties Dialog Box

### Verifying an Operator-initiated Action in the Message Browser

To verify an operator-initiated action for a message, follow these steps:

1. Check the Flags (UIAONE) field of the message browser.
2. In the O column, look for the following values:

-	No operator-initiated action is configured for the message.
X	Operator-initiated action is configured for the message.
S	Operator-initiated action was successful.
F	Operator-initiated action failed.
R	Operator-initiated action is running.

## Verifying an Operator-initiated Action in the Message Properties Dialog Box

To verify an operator-initiated action in the Message Properties dialog box, follow these steps:

1. Access the Message Properties dialog box, and then in the browser pane, do one of the following:
  - Double-click the message.
  - Select the message, and then, from the menu bar, select **Actions: Messages -> Properties**.
  - Right-click the message, and then use the pop-up menu.
  - Select the message and then, from the toolbar, click **Properties** (see “Toolbar” on page 82).
2. Click the **Actions** tab of the Message Properties dialog box.
3. Check for any actions of the Operator Initiated type.
4. Review the command and determine if it is appropriate to proceed with the action.
5. If you decide that the configured action is appropriate, click **Perform** to initiate the action.

You can also initiate the action by doing one of the following:

- Select the message, and then click the **Perform Action** button on the toolbar (see “Toolbar Icons and Drop-down Lists” on page 445).
- Right-click the message, and then select **Perform/Stop Action -> Perform Operator-Initiated Action** from the pop-up menu.
- Select the message, and then select **Actions: Messages -> Perform/Stop Action** from the menu bar.

---

### NOTE

---

If you started the action by mistake, or if the action seems to be pending, you can also stop it.

6. Check the annotation (if configured) for the output of the action.

You can perform operator-initiated actions as often as needed.

## Accessing Operator Instructions

In the I attribute column of the message browser, you see an X for each message with written instructions.

To read these instructions, follow these steps:

1. In the message browser, right-click the message.
2. In the pop-up menu, click **Properties**.
3. Click the **Instructions** tab to review the instructions written for you.

## Viewing Operator-assigned Tools

To view all applications assigned to you, do one of the following:

- ❑ In the menu bar, select one of the following:
  - **Actions: Start**
  - **Actions: Start Customized...**

Figure 2-2 on page 247 shows all operator-assigned actions as viewed from the Actions menu.

- ❑ In the object pane, do one of the following:
  - Double-click a tool in the Tools folder.
  - Right-click a tool in the Tools folder, and then select one of the following from the pop-up menu:
    - **Start**
    - **Start Customized...**

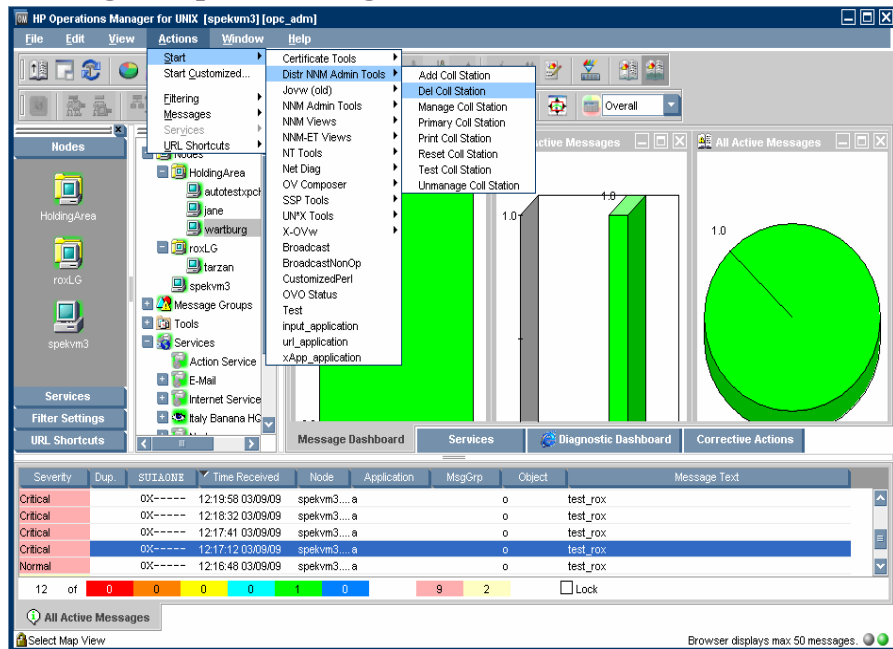
For descriptions of pop-up menu options in the object pane, see “Object Pane Pop-up Menu Items” on page 458.

**NOTE**

When Use Tailored Set of Tools is selected in the Preferences dialog box, the set of available tools in the pop-up menu is smaller than the set of available tool in the Actions menu. For descriptions of options in the Preferences dialog box, see “Preferences Dialog Box” on page 526.

**Figure 2-2**

**Viewing All Operator-assigned Actions from the Actions Menu**



**Starting Tools**

You can start a tool from HPOM to remedy an unsuccessful automatic action or operator-initiated action, or to handle a message for which no action is configured. Tools are executed on the management server, configured nodes, or selected nodes.

**NOTE**

All tools assigned to an operator are displayed in the Actions: Start and the Tools: Start Customized... wizard in the menu bar.

To start a tool, do one of the following:

- ❑ Start the tool directly by using the Start menu without further customizing the tool.

Figure 2-2 on page 247 shows all operator-assigned actions as viewed from the Actions menu.

- ❑ Start the Start Customized Tool wizard that enables you to customize the tool (for example, to add parameters to the tool call).

For details, see “Customizing the Start-up Attributes of a Tool” on page 251. For descriptions of options in the Start Customized Tool wizard, see “Start Customized Tool Wizard” on page 546.

This section describes the following:

- ❑ Starting a Tool from the Menu Bar
- ❑ Starting a Tool from the Object Pane
- ❑ Starting a Tool from the Message Browser

---

**NOTE**

The separator line displayed in the pop-up menus from which you start the tools helps you to distinguish the most frequently used tools from the other tools. For detailed information on how to set the number of tools to be displayed above the line, see “Displaying Frequently Used Tools” on page 154.

---

### **Starting a Tool from the Menu Bar**

To start a tool from the menu bar, follow these steps:

1. In the shortcut bar or object pane, select the managed node or nodes on which you want to start the tool.

---

**NOTE**

You can use the search function to find the node. To find out how, see “Searching the Object Pane” on page 224. For an overview of the search function, see “Searching the Object Pane” on page 119. For descriptions of options in the Find dialog box, see “Find Dialog Box” on page 504.

---



2. In the Actions menu, select one of the following:

- **Start -> <Tool>**

Starts the tool without further customizing the tool.

Figure 2-2 on page 247 shows all operator-assigned actions as viewed from the Actions menu.

- **Start Customize...**

Starts the Start Customized Tools wizard that enables you to customize the tool (for example, to add parameters to the tool call).

For details, see “Customizing the Start-up Attributes of a Tool” on page 251.

For more information about the Actions menu, see “Actions Menu” on page 434.

3. Select the tool you want to start.

---

**NOTE**

All outputs are displayed in a new workspace pane window. This output can also be printed.

For details, see “Printing HPOM Messages and Application Output” on page 258.

---

### Starting a Tool from the Object Pane

To start a tool from the object pane, follow these steps:

1. In the menu bar or object pane, select the managed node or nodes on which you want to start the tool.

2. Right-click the node.

A pop-up menu of available application groups and tools opens.

For more information about this pop-up menu, see “Object Pane Pop-up Menu Items” on page 458.

3. From the pop-up menu, choose one of the following items:

- **Start -> <Tool>**

Starts the tool without further customizing the tool.

Figure 2-2 on page 247 shows all operator-assigned actions as viewed from the Actions menu.

The list of available tools in the pop-up menu can be further reduced by selecting the **Tailored set of Tools** check box in the General tab of the Preferences dialog box. If the Tailored set of Tools check box is selected, HPOM automatically selects the tools that are appropriate for the node. That is, HPOM would not offer Microsoft Windows tools for a UNIX node.

For details, see “Customizing Pop-up Menus” on page 185 and “Preferences Dialog Box” on page 526.

- **Start Customize...**

Starts the Start Customized Tool wizard that enables you to customize the tool (for example, to add parameters to the tool call).

For details, see “Customizing the Start-up Attributes of a Tool” on page 251.

---

**NOTE**

All outputs are displayed in a new workspace pane window. This output can also be printed.

For details, see “Printing HPOM Messages and Application Output” on page 258.

---

### **Starting a Tool from the Message Browser**

HPOM enables you to start tools on a node from a pop-up menu in the message browser, as shown in Figure 1-81 on page 186. For example, if a critical message event arrives with the Error writing on disk. Disk might be full. message text from the abc.hp.com node, you must immediately investigate the disk space on this node. To investigate the disk space on the node, select the message and launch the Disk Space tool from the pop-up menu. The tool is then started on the abc.hp.com node.

If you start a tool from multiple messages in the message browser, the tool takes the node attributes from all selected messages. If some selected messages have duplicate (identical) node attributes, the tool uses the node attributes only once, thereby preventing the tool from being started on the node more than once.

To start a tool from the message browser, follow these steps:

1. In the message browser, right-click a message.
2. From the pop-up menu, choose one of the following items:
  - **Start -> <Tool>**

Starts the tool without further customization of this tool.

Figure 2-2 on page 247 shows all operator-assigned actions as viewed from the Actions menu.

The list of available tools in the pop-up menu can be further reduced by selecting the **Tailored set of Tools** check box in the General tab of the Preferences dialog box. If the Tailored set of Tools check box is selected, HPOM automatically selects the tools that are appropriate for the node. That is, HPOM would not offer Windows tools for a UNIX node.

For details, see “Customizing Pop-up Menus” on page 185 and “Preferences Dialog Box” on page 526.

- **Start Customize...**

Starts the Start Customized Tool wizard that enables you to customize the tool (for example, to add parameters to the tool call).

For details, see “Customizing the Start-up Attributes of a Tool” on page 251.

## Customizing the Start-up Attributes of a Tool

You can change the preconfigured start-up attributes of a tool (for example, parameters, username, and password) and specify the nodes on which you want to start the tool by using the HPOM Start Customized Tool wizard, as shown in Figure 1-65 on page 159.

For descriptions of options in the Start Customized Tool wizard, see “Start Customized Tool Wizard” on page 546.

To customize the start-up attributes of a tool, follow these steps:

1. In the object pane, select one or more managed nodes on which you want to start the tool.

For an overview of the object pane, see “Object Pane” on page 48.

2. Select a tool by holding down **CTRL** and clicking a tool in the object pane.

At this point, both the managed node(s) and the tool are selected in the object pane.

3. Open the Start Customized Tool wizard by doing one of the following:
  - Selecting **Actions: Start Customized...** from the menu bar.
  - Right-clicking the node, and then selecting **Start Customized...** from the pop-up menu.

The Start Customized Tool wizard, Step 1 of 3, displays a tool menu tree and the following four buttons:

- **<Back**
- **Next>**
- **Finish>**
- **Cancel**

---

**NOTE**

Depending on the tool you choose, there are either two or three steps involved in customizing the start of a tool. You can go back and forward between the steps by using the **<Back** and **Next>** buttons.

For descriptions of options in the Start Customized Tool wizard, see “Start Customized Tool Wizard” on page 546.

---

4. To customize the tool, follow these steps:
  - a. From the tool tree in Step 1 of 3, choose the tool you want to execute, and then click **Next>**.
  - b. Choose the node or nodes on which you would like to execute the tool.

A node list combination box is displayed. You can add selected nodes to this list.
  - c. Specify the command you want to execute.

Include any additional parameters, the user name, and the password (if necessary) under which to run the command.

If the command accepts node names or message IDs as an option, you can specify nodes in the Command field, (for example, `-nodes $OPC_NODES`).

Possible variables are the following:

- `$OPC_NODES`  
Returns the names of all regular nodes that are selected at the time the tool is executed. The names are separated by spaces. The nodes need not be in the Node Bank.
- `$OPC_MSG_NODES`  
Returns the names of all nodes on which the events that generated currently selected messages took place. The names are separated by spaces. The nodes need not be in the Node Bank. If the same message is selected in more than one of these browsers, the duplicate selections are ignored. Only nodes of messages currently selected in the top-most browser are returned.
- `$OPC_EXT_NODES`  
Returns the node pattern of all external nodes that are selected at the time the tool is executed. The names are separated by spaces.
- `$OPC_MSGIDS_ACT`  
Returns the Message IDs (UUIDs) of the messages currently selected in the Active/All and any Message Browser. If the same message is selected in more than one of these browsers, the duplicate selections is ignored.
- `$OPC_MSGIDS_HIST`  
Returns the Message IDs (UUIDs) of the messages currently selected in the History Message Browser.
- `$OPC_MSGIDS_PEND`  
Returns the Message IDs (UUIDs) of the messages currently selected in the Pending Messages Browser.
- `$OPC_ENV(env variable)`  
Returns the value of the environmental variable for the user who has started HPOM, (for example, `PATH`, `NLS_LANG`, `EDITOR`, `SHELL`, `HOME`, `TERM`).

- `$OPC_USER`

Returns the name of the HPOM user who is currently logged on to the node.

---

**IMPORTANT**

Do not use the `$AGENT_USER` variable. Only the HPOM administrator can set this variable as a start-up attribute of a tool.

For more information, see the *HPOM Administrator's Reference*.

---

5. Click **Finish>** to exit the Customized Startup wizard, and then start the tool.

## Broadcasting a Command

You can broadcast a command to one or more specified managed nodes to start a corrective action. You can also broadcast a command to investigate problems (for example, by issuing the `ps -ef` command to all specified nodes to check the number of current processes).

---

**NOTE**

The `Broadcast` command may not be available if it is not configured for you by the HPOM administrator.

---

To broadcast a command, follow these steps:

1. Select the managed node or nodes to which you want to broadcast the command.
2. Right-click the managed node or nodes to which you want to broadcast a command, and then select **Start -> Broadcast** from the pop-up menu.

The Start Customized Tool wizard opens, with `Broadcast` selected in Step 1 of 3.

For descriptions of options in this wizard, see “Start Customized Tool Wizard” on page 546.

3. Click **Next>**.
4. In Step 2 of 3, verify that the correct nodes are specified.

At this point, you can make corrections or enter additional nodes.

5. Click **Next>**.
6. In Step 3 of 3, type the broadcast command and desired additional parameters.
7. Click **Finish**.

All outputs are displayed in a new workspace pane window.

## Documenting Solutions with HPOM

The final step in the HPOM problem-solving model is to document your solution to a problem. This step facilitates problem management in the future. It enables you to modify message instructions and move resolved problems from the message browser to the history database by acknowledging them.

This section describes the following:

- ❑ Annotating a Message
- ❑ Printing HPOM Messages and Application Output
- ❑ Acknowledging Messages



## Annotating a Message

After you finish working with a message, you document your efforts by adding an annotation.

To annotate a message, follow these steps:

1. In the message browser, select the message you want to annotate.

For an overview of the message browser, see “Message Browser” on page 68.

2. Do one of the following:

- Select **Messages -> Add Annotation** from the Actions menu.
- Right-click the message you want to annotate, and then select **Add Annotation** from the pop-up menu.
- First, click the **Show Message Annotations** button on the toolbar (see “Toolbar Icons and Drop-down Lists” on page 445). Then, from the Annotations tab of the Message Properties dialog box, click **Add New Annotation**.

For descriptions of options in the Message Properties dialog box, see “Message Properties Dialog Box” on page 510.

The Add Annotation dialog box opens.

For descriptions of options in the Annotations dialog box, see “Add Annotation Dialog Box” on page 488.

3. In the Add Annotation dialog box, type the text for your annotation.
4. Click **OK**.

Your annotation is added to the message.

---

### NOTE

You can read all annotations associated with a message by opening the Message Annotation dialog box. Clicking the **UP ARROW** displays the next annotation, and clicking the **DOWN ARROW** displays the previous annotation. You can also modify or delete annotations.

---

## Printing HPOM Messages and Application Output

HPOM enables you to print the following:

❑ **Messages**

To find out how to print messages, see “Printing Messages” on page 259.

❑ **Message Details**

To find out how to print message details, see “Printing Message Details” on page 260.

❑ **Application Output**

To find out how to print application output, see “Printing Application Output” on page 261.

For an example of a print dialog box, see “Example of the Print Dialog Box (for Microsoft Windows)” on page 261.

The print output is formatted using the default monospaced font of the Java Runtime, font size 10. The lines that are too long are wrapped.

## Printing Messages

To print messages, follow these steps:

1. If needed, change the page setup by selecting **File: Page Setup...** from the menu bar.

The new settings are saved for the current session only.

2. Select the messages in the browser.

3. Do one of the following:

- Click the **Print** button on the toolbar (see “Toolbar Icons and Drop-down Lists” on page 445).

The selected messages (without details) are printed directly to the default printer.

- Select one of the following from the menu bar:

— **File: Print...**

— **Actions: Messages -> Print -> Selected Messages...**

— **Actions: Messages -> Print -> All Messages...**

Print dialog opens (see Figure 2-3) where you can specify further options.

- Right-click the selected messages in the message browser, and then select one of the following from the pop-up menu:

— **Print -> Selected Messages...**

— **Print -> All Messages...**

The Print dialog box opens (see Figure 2-3) where you can specify further options.

## Printing Message Details

To print message details, follow these steps:

1. If needed, change the page setup by selecting **File: Page Setup...** from the menu bar.

The new setting is saved for the current session only.

2. Do one of the following:

- Double-click the message in the message browser, and then click **Print...** in the Message Properties dialog box.
- Select the message in the message browser, and then select **Actions: Messages -> Print** from the main menu bar, and choose one of the following:
  - **Selected Messages...**
  - **All Messages in Browser...**
  - **Details of Selected Messages...**
  - **Details of All Messages...**
- Right-click the selected messages in the message browser, and then select one of the following from the pop-up menu:
  - **Print -> Selected Messages...**
  - **Print -> All Messages in Browser...**
  - **Print -> Details of Selected Messages...**
  - **Print -> Details of All Messages...**

The Print dialog box opens (see Figure 2-3) where you can specify further options.

## Printing Application Output

1. If needed, change the page setup by selecting **File: Page Setup...** from the menu bar.

The new setting is for the current session only.

2. Make sure that the application output window is active by clicking it.
3. Do one of the following:

- Select **File: Print...** from the menu bar.

The Print dialog opens (see Figure 2-3) where you can specify further options.

- Click the **Print** button on the toolbar (see “Toolbar Icons and Drop-down Lists” on page 445).

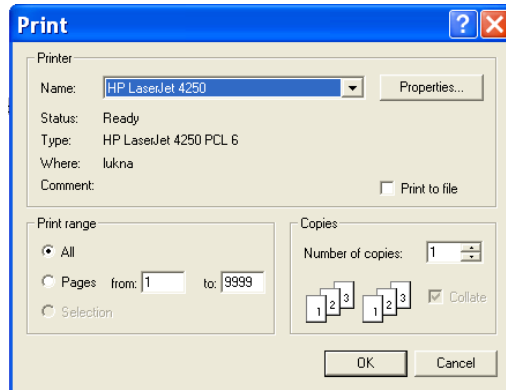
The application output is printed directly to the default printer.

### Example of the Print Dialog Box (for Microsoft Windows)

Figure 2-3 shows the default Java Runtime print dialog box. The dialog box may vary according to the Java Runtime version installed.

Figure 2-3

### Java Runtime Print Dialog Box



## Acknowledging Messages

When a message is resolved, you can acknowledge it from the message browser, and then move it to the history database. Later, if you want to work with the message again, you can unacknowledge it.

---

**NOTE**

The HPOM administrator can configure an automatic acknowledgment for messages with either automatic or operator-initiated actions. When the action is successfully completed for a message with an automatic action and an automatic acknowledgment, the message is sent directly to the history database. The message disappears from the message browser window, without your intervention.

Similarly, messages can be acknowledged automatically by succeeding messages if HPOM establishes a relationship between them. The relationship could be that succeeding messages report a deterioration of the original problem (for example, the amount of free disk space has reduced even more). Or the relationship could be that the original problem has been solved (for example, the tool is running again).

---

This section describes how to do the following:

- Acknowledging Selected Messages
- Acknowledging All Messages in the Current View
- Unacknowledging a Message

---

**NOTE**

By default, the Java GUI acknowledges, unacknowledges, owns, and disowns messages. One message is acknowledged at a time by using the common message APIs. Acknowledging more messages at once could result in slowing the Java GUI and the entire system performance.

---

### Acknowledging Selected Messages

To acknowledge selected messages, follow these steps:

1. In the message browser, select one or more messages you want to acknowledge.

For an overview of the message browser, see “Message Browser” on page 68.

2. Do one of the following:
  - From the menu bar, select **Actions: Messages -> Acknowledge**.

- On the toolbar, click the **Acknowledge** button (see “Toolbar Icons and Drop-down Lists” on page 445).
- Right-click the selected messages in the message browser, and then select **Acknowledge** from the pop-up menu.

### **Acknowledging All Messages in the Current View**

You can acknowledge every message for which you are responsible. If you have worked on all messages from node beans, you can acknowledge all messages in the current message browser. To do so, open a filtered message browser for all messages from the node beans, and then use the menu bar to acknowledge all messages in the current view.

To acknowledge all messages in the current view (for example, on a specific node), follow these steps:

1. In the object pane, select the node that you worked on.
2. Right-click the selected node, and then select **Filter Active Messages** from the pop-up menu.

The Filtered Active Messages browser opens with the active messages associated with that node.

3. Do one of the following:
  - From the menu bar, select **Actions: Messages -> Acknowledge All in Current View**.
  - In the filtered message browser, select all messages. Then click the **Acknowledge Selected Objects** button on the toolbar (see “Toolbar Icons and Drop-down Lists” on page 445).
  - In the filtered message browser, select all messages. Then right-click the selected messages in the message browser, and select **Acknowledge** from the pop-up menu.

All messages are moved to the history database.

### **Unacknowledging a Message**

Sometimes it is useful to unacknowledge a previously acknowledged message, so you can work with it again.

To unacknowledge a message, follow these steps:

1. Open the filtered history message browser.

2. Select the message you want to unacknowledge.
3. On the toolbar, click the **Unacknowledge** button (see “Toolbar Icons and Drop-down Lists” on page 445). You can also do one of the following:
  - From the menu bar, select **Actions: Messages -> Unacknowledge**.
  - Click the **Unacknowledge Selected Objects** button on the toolbar (see “Toolbar Icons and Drop-down Lists” on page 445).
  - Right-click the selected messages in the message browser, and then select **Unacknowledge** from the pop-up menu.

The message is moved back to your active message browser, where you can work with the message again.



## Sending Information Messages

In some situations it may be useful to send a message to other HPOM users, (for example to inform them of an unexpected system failure or to remind them of a planned outage). Similarly, the HPOM administrator may send a message to you, (for example to ask you to reload your current configuration).

When you receive a message from another user, the HPOM Communication Status dialog box opens and displays the text of the message.

To send a message to other users, follow these steps:

1. From the menu bar, choose **File: Send Message to Operator(s)**. The Send Message to Operator(s) dialog box opens.
2. Under Message, type the text of the message to send.
3. Select the receiver of the message:
  - Send to All Operators sends the message to all currently logged on users.
  - Send to Selected Operators sends the message to the specified users only. If you want to specify more than one user, type the HPOM user names separated by commas (,).
4. Click **OK**.

The message is sent to the specified HPOM users and the dialog box is closed.

You can also use the `opcwall` command line tool to send a message to other HPOM users. For more information, see the `opcwall(1)` manual page.

## Customizing HPOM

This section describes the following:

- ❑ **Customizing the Java GUI**
  - Changing Your Operator Password
  - Loading the Default Configuration
  - Reloading the Configuration
  - Refreshing the Java GUI Manually
  - Customizing the Refresh Interval
  - Customizing Console Settings
  - Customizing the Look and Feel of the Java GUI
  - Customizing the Progress Dialog Box
  - Customizing Movable Panes
  - Customizing the Shortcut Bar
  - Customizing Workspace Pane Workspaces
  - Changing Your Integrated Web Browser
  - Customizing Pop-up Menus
  - Customizing the Toolbar
  - Configuring Message Event Notification
  - Customizing the Font Size
  - Detaching Windows

❑ **Customizing the Message Browser**

- Creating a Filtered Message Browser
- Saving the Browser Filter Settings
- Accessing Filtered Message Browsers
- Moving Filtered Message Browsers
- Working with Message View Filters
- Saving the Browser Layout
- Changing the Layout of Browser Windows
- Changing the Number of Displayed Messages
- Customizing the Color Preferences for the Message Browser

## Changing Your Operator Password

HPOM enables you to change your own operator password as often as you want.

---

### IMPORTANT

On the first logon as any of the default users, you must change your default password for security reasons. You can change your password again at a later time, but you will not be allowed to set the password back to default.

---

---

### NOTE

You can change only your own operator password, not the passwords of other HPOM operators. When you change your password, you must use it for all future HPOM sessions, or until you change it again.

---

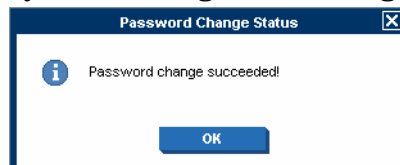
To change your operator password, follow these steps:

1. From the menu bar, choose **File: Change Password**.
2. Under `Old Password`, type your current password.
3. Under `New Password`, type your new password.
4. Under `Confirm New Password`, type your new password again.

You receive a system message confirming your password change, as shown in Figure 2-4.

**Figure 2-4**

### System Message Confirming the Password Change



## Loading the Default Configuration

The first time you log on to the HPOM Java GUI, you receive a set of default components. HPOM administrators can change this configuration globally for all operators. As an operator, you can accept the latest default configuration by using a **Reload Assigned Defaults** action.

To load the latest default configuration assigned by HPOM or your HPOM system administrator, from the menu bar, select **File: Reload Assigned Defaults**.

## Reloading the Configuration

After your HPOM administrator performs configuration updates, such as change of your responsibilities, managed nodes, or tools, the Java GUI reflects changes automatically. No actions are required to synchronize the Java GUI after configuration changes.

However, in case of some configuration updates, like the change of filters definition or the change of services with the disabled `Automatic Service Reload` option, you need to reload your new configuration from the HP Operations management server. You do not need to log out of the Java GUI.

To reload the configuration, from the menu bar, select **File: Reload Configuration**.

You can also refresh the message browser manually. For details, see “Refreshing the Java GUI Manually” on page 269.

## Refreshing the Java GUI Manually

The Java GUI automatically refreshes the node status, message group status, service status, browser status summary line, and all messages in the message browser at a preset interval. You may also refresh this information manually.

To refresh the message browser manually, do one of the following:

- From the menu bar, select **View: Refresh**.
- On the toolbar, click the **Refresh** button.

The number of messages refreshed depends on whether the Show All Messages icon or the Show Latest Messages icon is selected on the toolbar. For descriptions of icons on the toolbar, see “Toolbar Icons and Drop-down Lists” on page 445

To find out how to change the browser refresh preset interval for the current session, see “Customizing the Refresh Interval” on page 270. For descriptions of toolbar icons, see “Toolbar Icons and Drop-down Lists” on page 445.

## Customizing the Refresh Interval

Refreshing a browser updates the node status, message groups status, browser status summary line, all messages in the browser, and the service status (see “Message Attributes” on page 551). The HPOM Java GUI automatically refreshes at a preset interval. By default, this interval is set to 30 seconds.

To customize the refresh interval, follow these steps:

1. From the menu, select **Edit: Preferences**.

For a description of each option in the Preferences dialog box, see “Preferences Dialog Box” on page 526.

2. In the Refresh Interval field of the General tab, type the desired refresh interval in hours, minutes, and seconds (hh:mm:ss).

---

### CAUTION

---

If you set the refresh interval too high (for example, 24:00:00), you may not be informed of status changes in a timely manner.

3. Click **OK**.

The refresh interval is used only for retrieving the latest messages or service status. It does not update browsers with the Relative Time filter set on.

---

**NOTE**

After your HPOM administrator performs configuration updates, such as change of your responsibilities, managed nodes, or tools, the Java GUI reflects changes automatically. No actions are required to synchronize the Java GUI after configuration changes.

---

## Customizing Console Settings

HPOM enables you to customize and save console settings. The next time you start the Java GUI, the stored settings are read and restored in the Java GUI.

---

**NOTE**

If the global mode is enabled, you may not be able to save your console settings.

For more information, see “Using Global Java GUI Property Files” on page 214.

---

To customize console settings, follow these steps:

1. Make any of the following changes to the console:

- *Position Controls*

Change the position of moveable areas, or switch them on or off.

For instructions, see “Customizing Movable Panes” on page 274.

- *Shortcut Bar*

Change the following in the shortcut bar:

- Switch buttons on and off, and add shortcuts.

- Add, change, or delete names and locations of URL shortcuts.

For instructions, see “Customizing the Shortcut Bar” on page 275.

- *Workspace Pane*

Change the following in the workspace pane:

- Add, change, or delete tab names, descriptions, and so on.

- Add, change, or delete message browsers, service graphs, and web browsers.

For instructions, see “Customizing Workspace Pane Workspaces” on page 279.

- *Browser Pane*

Add, change, or delete tab names, descriptions, and so on.

For instructions, see “Changing the Layout of Browser Windows” on page 310.

- *Message Browser Toolbar*

Show or hide the message browser toolbar in the main toolbar, workspace pane, and browser pane.

For instructions, see “Customizing the Toolbar” on page 283.

- *Filtered Message Browsers*

Apply message browser filters to message browsers.

For instructions, see “Working with Message View Filters” on page 293.

- *Detached Windows*

Change the following in the Java GUI:

- Detach windows.
- Change the size and position of detached windows.

Increase the amount of visible space in detached windows:

- Show or hide the toolbar in detached windows.
- Show or hide the horizontal scroll bar in the detached message browser.
- Show or hide the status summary area in the detached message browsers.

For instructions, see “Detaching Windows” on page 287.

2. From the menu bar, choose **File: Save Console Session Settings**.



## Customizing the Look and Feel of the Java GUI

To customize the look and feel of the HPOM Java GUI and the Service Navigator GUI, follow these steps:

1. From the menu bar, select **Edit: Preferences**.

For a description of each option in the Preferences dialog box, see “Preferences Dialog Box” on page 526.

2. In the Look and Feel pulldown menu of the General tab, select one of the following styles:

- Metal
- Motif
- HP One Voice (default look)
- Windows (available *only* on Windows systems)
- Aqua (available *only* on Mac OS systems)

3. Click **OK**.

## Customizing the Progress Dialog Box

When HPOM performs tasks that take a long time to complete, a progress dialog box with a sawing lumberjack appears.

To change the image that is used inside the dialog box, follow these steps:

1. Choose a custom image in GIF format and name it `customImg.gif`.
2. Place `customImg.gif` to your home directory.

Your home directory is at the following location:

- *Windows 2003 and XP*  
C:\Documents and Settings\*<user>*
- *Solaris*  
/export/home/*<user>*
- *Other platforms*  
/home/*<user>*

3. Restart the Java GUI.

---

**NOTE**

---

HPOM resizes the image to fit into the progress dialog box.

## Customizing Movable Panes

The movable panes contain the following interface elements:

**Position Controls**

For an overview of the position controls, see “Position Controls” on page 83.

**Shortcut Bar**

For an overview of the shortcut bar, see “Shortcut Bar” on page 46.

**Object Pane**

For an overview of the object pane, see “Object Pane” on page 48.

**Workspace Pane**

For an overview of the workspace pane, see “Workspace Pane” on page 59.

This section describes the following:

- Enabling or Disabling the Position Controls
- Moving the Shortcut Bar or Object Pane
- Enabling or Disabling the Shortcut Bar
- Enabling or Disabling the Object Pane

### Enabling or Disabling the Position Controls

The position controls are the narrow band of horizontal bars near the top of the Java GUI that enable you to move the shortcut bar and the object pane horizontally.

To enable or disable the position controls, do the following:

- To enable the position controls, select **View: Position Controls** from the menu bar.

- ❑ To disable the position controls, clear **View: Position Controls** from the menu bar.

### **Moving the Shortcut Bar or Object Pane**

To move the shortcut bar or the object pane horizontally, drag the narrow band of horizontal bars immediately above the pane and drop it at the desired location.

### **Enabling or Disabling the Shortcut Bar**

To enable or disable the shortcut bar, do one of the following:

- ❑ To enable the shortcut bar, select **View: Shortcut Bar** in the menu bar.
- ❑ To disable the shortcut bar, clear **View: Shortcut Bar** in the menu bar.

### **Enabling or Disabling the Object Pane**

To enable or disable the object pane, do one of the following:

- ❑ To enable the object pane, select **View: Object Pane** in the menu bar.
- ❑ To disable the object pane, clear **View: Object Pane** in the menu bar.

### **Customizing the Shortcut Bar**

You can add object pane items to the shortcut bar, and customize shortcuts and shortcut groups.

For an overview of the shortcut bar, see “Shortcut Bar” on page 46.

This section describes the following:

- ❑ Adding Object Pane Items to the Shortcut Bar
- ❑ Adding a New Shortcut
- ❑ Modifying a Shortcut
- ❑ Removing a Shortcut
- ❑ Adding a Shortcut Group
- ❑ Renaming a Shortcut Group
- ❑ Removing a Shortcut Group
- ❑ Customizing the Size of Shortcut Bar Icons

### Adding Object Pane Items to the Shortcut Bar

To add selected object pane items to the shortcut bar, follow these steps:

1. In the object pane, select the items you want to add to the shortcut bar.
2. In the object pane, right-click the selected items to open the pop-up menu.
3. From the pop-up menu, select **Add to Shortcut Bar**.

The selected items are displayed in the shortcut bar.

### Adding a New Shortcut

To add a new shortcut to the shortcut bar, follow these steps:

1. Right-click the shortcut immediately above the place where you want to add a new shortcut.

---

#### NOTE

The new shortcut is added immediately below the currently selected shortcut.

2. Select **Add New URL Shortcut...** from the pop-up menu.

The Add New URL Shortcut dialog box opens.

For descriptions of options in the Add New URL Shortcut dialog box, see “Add New URL Shortcut Dialog Box” on page 489.

3. From the input text fields, add the following:
  - Shortcut group label
  - URL string (for URL shortcuts only)
4. Click **OK**.

### Modifying a Shortcut

To modify a shortcut in the shortcut bar, follow these steps:

1. Right-click the shortcut you want to rename.
2. From the pop-up menu, select **Modify Shortcut**.

The Modify Shortcut dialog box opens.

For descriptions of options in the Modify Shortcut dialog box, see “Modify Shortcut Dialog Box” on page 524.

3. From the input text fields, change one or both of the following:
  - Shortcut label
  - URL string (for URL shortcuts only)
4. Click **OK**.

### Removing a Shortcut

To remove a shortcut in the shortcut bar, follow these steps:

1. Right-click the shortcut you want to remove.
2. From the pop-up menu, select **Remove Shortcut**.

### Adding a Shortcut Group

To add a shortcut group to the shortcut bar, follow these steps:

1. Select and right-click the shortcut group immediately above the place where you want to add a new shortcut group.

---

**NOTE**

---

The new group is added immediately below the currently selected shortcut group.

2. From the pop-up menu, select **Add New Group**.

The Add New Group dialog box opens. For descriptions of options in the Add New Group dialog box, see “Add New Group Dialog Box” on page 488.

3. Type a label for the new shortcut group into the text field.
4. Click **OK**.

### Renaming a Shortcut Group

To rename a shortcut group in the shortcut bar, follow these steps:

1. Right-click the shortcut group you want to rename.
2. From the pop-up menu, select **Modify Current Group**.

The Modify Group dialog box opens.

3. In the Enter Label field, type a new name for the shortcut group.
4. Click **OK**.

### Removing a Shortcut Group

To remove a shortcut group in the shortcut bar, follow these steps:

1. Right-click the shortcut group you want to remove.
2. From the pop-up menu, select **Remove Current Group**.

You are asked to confirm the deletion:

Are you sure you want to remove current group?

3. Click **OK**.

### Customizing the Size of Shortcut Bar Icons

To customize the size of icons in the shortcut bar, follow these steps:

1. Click the General tab in the Preferences dialog box.

For descriptions of options in the Preferences dialog box, see “Preferences Dialog Box” on page 526.

2. In the Icon Size in Shortcut Bar field, type a new icon size.

The default is 32 pixels wide.

3. Click **OK**.

Icons in the shortcut bar are resized to your specification.

---

#### NOTE

It is also possible to customize the size of service icons and their severity status indicators. For more information, see “Customizing the Size of Service Icons and Severity Status Indicators” on page 376.

---

## Customizing Workspace Pane Workspaces

In the workspace pane, you can define several workspaces. Each of these workspaces can contain several message browsers, application outputs, service graphs, or web browsers. You can create new workspaces, rename, and add descriptions to existing workspaces, as well as delete existing workspaces.

---

### NOTE

Regular workspaces cannot contain ActiveX controls. Similarly, if you want to use ActiveX controls, you must create a special workspace that contains only ActiveX controls.

---

This section describes how to do the following:

- ❑ Creating a New Workspace
- ❑ Modifying an Existing Workspace
- ❑ Removing an Existing Workspace

### Creating a New Workspace

To create a new workspace in the workspace pane, follow these steps:

1. Right-click an empty area in the workspace pane.

Make sure to click immediately to the right of where you want the workspace tab to appear.

2. In the pop-up menu, select **New Workspace**.
3. In the Workspace Properties dialog box, type the name you want to appear under the workspace tab, a description of the workspace, and indicate whether the workspace is for an ActiveX control.

For descriptions of the options in the Workspace Properties dialog box, see “Workspace Properties Dialog Box” on page 545. There you can also find a description of the Abstract Window Toolkit (AWT) container option.

For an overview of ActiveX controls in the workspace pane, see “Integrated Web Browsers” on page 78.

## Modifying an Existing Workspace

To modify an existing workspace in the workspace pane, follow these steps:

1. Right-click the tab you want to modify in the workspace pane.
2. In the pop-up menu, select **Workspace Properties**.
3. In the Workspace Properties dialog box, edit the name or description of the workspace.

For descriptions of the options in the Workspace Properties dialog box, see “Workspace Properties Dialog Box” on page 545. There you can also find a description of the Abstract Window Toolkit (AWT) container option.

## Removing an Existing Workspace

To remove an existing workspace in the workspace pane, follow these steps:

1. Right-click the tab you want to delete from the workspace pane.
2. In the pop-up menu, select **Delete Workspace**.

A confirmation box with the following text appears:

Are you sure you want to delete the workspace?

3. Click **OK** to confirm the deletion.

## Changing Your Integrated Web Browser

By default, HPOM embeds a web browser in the workspace pane. You can change this default to your favorite web browser.

To change your integrated web browser, follow these steps:

1. Select **Edit: Preferences...** from the menu bar.

The Preferences dialog box opens.

2. In the Preferences dialog box, click the **Web Browser** tab.

---

### NOTE

If you want to change to an ActiveX control, you need to first create an ActiveX container in the workspace pane.



For details, see “Creating a New Workspace” on page 279.

---

3. In the pane that appears when you click the Web Browser tab, select one of the following options:

- Use external web browser

Click **Browse** to select an external web browser (for example, Mozilla) installed on your computer.

- Use ActiveX Internet Explorer control

Before you choose this option, you must create a workspace pane that is an ActiveX container.

For details, see “Creating a New Workspace” on page 279.

---

**NOTE**

The ActiveX Internet Explorer Control option is available on Windows systems only.

---

For a description of each option in the pane under Web Browser tab of the Preferences dialog box, see “Preferences: Web Browser Tab” on page 529.

4. Click **OK**.

---

**NOTE**

For your changes to take effect, you need to save your console settings. For details, see “Customizing Console Settings” on page 271.

---

## Customizing Pop-up Menus

HPOM enables you to limit the number of tools that appear in pop-up menus. The Tailored Set of Tools check box limits pop-up menu items to tools that are related to currently selected messages. Related tools are defined with the \$OPC\_MSG string in the application call. If there are no tools with the currently selected \$OPC\_MSG string, the pop-up menu does not contain any tools.

### **Enabling Tailored Pop-up Menus**

To enable tailored pop-up menus, follow these steps:

1. Select **Edit: Preferences...** from the menu bar.
2. In the pane under General tab of the Preferences dialog box, select the Tailored Set of Tools check box.

### **Disabling Tailored Pop-up Menus**

To disable tailored pop-up menus, follow these steps:

1. Select **Edit: Preferences...** from the menu bar.
2. In the pane under General tab of the Preferences dialog box, clear the Tailored Set of Tools check box.

## Customizing the Toolbar

You can customize the toolbar in the following ways:

### ❑ **Hide or make visible any of the toolbar components**

By default, all components of the toolbar are visible. You can hide any of them by clearing the option from the View: Main Toolbar menu, or from the toolbar pop-up menu. You can make any of the components visible again by reselecting these options.

For information about the toolbar and its components, see “Toolbar” on page 82.

### ❑ **Reposition the toolbar components**

You can reposition the toolbar in the following ways:

- *Create a floating toolbar*

You can create a floating toolbar from any of the components by pointing to the vertical bar on the left side of the toolbar and dragging it from the taskbar anywhere on the screen, even outside the Java GUI window. However, when you place any of the floating toolbar components back to the taskbar, it is automatically placed as the last toolbar component in the order.

- *Move a component within the docked toolbar*

You can move any of the toolbar components to another location on the taskbar by pointing to the vertical bar on the left side of the toolbar and dragging it to the left or right.

## Configuring Message Event Notification

You can enable or disable message event notification, or reset the severity threshold for notification, from the Preferences dialog box.

For an overview of message event notification, see “Message Event Notification” on page 120. To find out how to respond to message event notification, see “Viewing Message Event Notifications” on page 225.

To configure message event notification, follow these steps:

1. Select **Edit: Preferences...** from the menu bar.
2. In the Preferences dialog box, click the **Events** tab.
3. In the pane opened with Events tab, modify your message event notification preferences.

For descriptions of options under the Events tab of the Preferences dialog box, see “Preferences: Events Tab” on page 530.

4. Click **OK**.

---

### NOTE

To save your message event notification preferences for future sessions, select **File: Save Console Session Settings** from the menu bar.

---

## Customizing the Font Size

When customizing the font size, you can either customize the general font size or the font size in service graphs and service maps.

### Customizing the General Font Size

To set the general font size in the Java GUI, follow these steps:

1. Select **Edit: Preferences...** from the menu bar.
2. In the pane opened with General tab of the Preferences window, specify a value in the Application Font Size text field.
3. Click **OK**.

The changes take effect immediately.

For a description of each option under the General tab of the Preferences dialog box, see “Preferences: General Tab” on page 526.

### Customizing the Font Size in Service Graphs and Service Maps

To set the font size in the Java GUI, follow these steps:

1. Select **Edit: Preferences...** from the menu bar.
2. In the pane opened with Services tab of the Preferences window, specify a value in the Service Graph Font Size drop-down list.
3. Click **OK**.

The changes take effect immediately.

For a description of each option in the General pane of the Preferences dialog box, see “Preferences: General Tab” on page 526.

## Customizing the Display of the HPOM Communications Status Dialog Box

Java GUI clients check for changes to the global property files in the shared location. If a change is detected, the HPOM Communications Status dialog box displays a message that informs the operator of the changes and requests a restart of the Java GUI.

The Show Communications Status dialog option enables or disables the HPOM Communications Status dialog box from displaying. By default, this option is selected.

### Disabling the HPOM Communications Status Dialog Box

To disable the display of the HPOM Communications Status dialog box, follow these steps:

1. Select **Edit: Preferences...** from the menu bar.
2. In the General pane of the Preferences dialog box, clear the Show Communications Status dialog check box.

Disabling this option is useful in an environment with many clients logged on with the same user name at the same time. When one of these clients reloads the Java GUI configuration, the HPOM Communications Status dialog boxes are displayed only on those clients where this option is enabled and refrained from disturbing the rest of the clients where this option is disabled locally.

HPOM enables you to set this option manually by adding the `show_comm_status_dlg` parameter option to the `itooopc` resource file. For more information, see Table B-4, “itooopc Options and Parameters.”

## Detaching Windows

HPOM enables you to detach windows from the main Java GUI window, so that you can move them outside the main window (for example, to another monitor). You can detach message browsers, service graphs, service submaps, and custom service maps.

For more information about detached windows, see “Detached Windows” on page 90.

### Detaching a Window from the Main Java GUI Window

To detach a window from the main Java GUI window, follow these steps:

1. Select the window that you want to detach.
2. Select **View: Detach Window** from the main menu bar, or click the **Detach Window** icon in the main toolbar.

HPOM places the detached window at the center of your screen and adds a menu and a toolbar to the detached window.

### Attaching a Detached Window to the Main Window

To attach a detached window to the main Java GUI window, follow these steps:

1. Select the workspace where you want to attach the window.
2. Select the detached window that you want to attach.
3. Select **View: Attach Window** from the menu bar of the detached window, or click the **Attach Window** icon on the toolbar of the detached window.

HPOM attaches the window to the currently selected workspace and removes the menu and toolbars from the window.

If you want to obtain more space within a detached window, you can hide the following window components:

- Menu or toolbar in detached windows
- Status summary area in detached message browsers
- Horizontal scroll bar in detached message browsers

### Showing or Hiding the Menu or Toolbar in Detached Windows

To hide the menu or toolbar in detached windows, follow these steps:

1. Right-click the background of the toolbar of a detached window.

The toolbar pop-up menu opens.

2. Select the window component that you want to hide in the pop-up menu.

The selected window component disappears from the detached window.

To show a hidden component again, select the component on the toolbar pop-up menu.

### Showing or Hiding the Status Summary Area in Message Browsers

To show or hide the status summary area in message browsers, follow these steps:

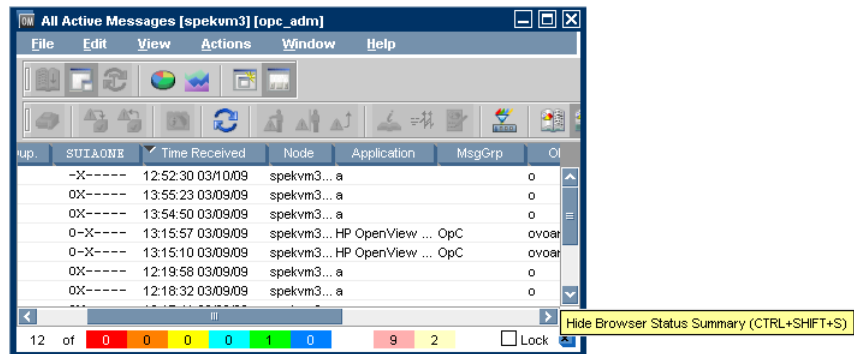
- To hide the status summary area in a detached message browser, click the **Hide Browser Status Summary** icon in the lower-right corner of the browser, or press **CTRL+SHIFT+S**.

The status summary area disappears from the message browser.

- To show the summary area again, press **CTRL+SHIFT+S** again.

Figure 2-5

### Hiding the Status Summary Area in Detached Message Browsers





### **Showing or Hiding the Horizontal Scroll Bar in Message Browsers**

To show or hide the horizontal scroll bar in message browsers, follow these steps:

- ❑ To hide the horizontal scroll bar in a detached message browser, click the **Hide Horizontal Scroll Bar** icon in the message browser toolbar, or press **CTRL+SHIFT+H**.

The horizontal scroll bar disappears from the message browser.

- ❑ To show the scroll bar again, click the toolbar icon again, or press **CTRL+SHIFT+H** again.

## Creating a Filtered Message Browser

HPOM enables you to create your own filtered active, history, and pending message browsers. You can then save and reuse the filters.

To create a filtered message browser, you can choose one of the following two methods:

### ❑ Creating a New Filter

You can create a new filter in one of the following two ways:

- *From the Menu Bar*

In the menu bar, choose **Actions: Filtering** and one of the following:

- New Active Filtered Browser
- New History Filtered Browser
- New Pending Filtered Browser

Then define the new filter in the **Filter Messages** dialog box.

For detailed instructions, see “Setting Up Message Browser Filters” on page 189. For descriptions of options in the **Filter Messages** dialog box, see “Filter Messages Dialog Box” on page 497.

- *From the Pop-up Menu*

In the object tree, right-click **Personal Filter Settings** and then select **Add New Filter** from the pop-up menu. Then define the new filter in the **Filter Messages** dialog box.

This option is available for operators only. Administrators can only add new filters in the **Global Filter Settings**.

For descriptions of options in the **Filter Messages** dialog box, see “Filter Messages Dialog Box” on page 497.

### ❑ Reusing an Existing Filter

To reuse an existing filter, follow these steps:

1. Select **Actions: Filtering -> Use Saved Settings**.
2. Select an existing filter, rename the filter, and then update the filter.

For detailed instructions, see “Reloading the Layout of a Filtered Browser” on page 310.

### Options for Displaying External Nodes in the Message Browser

When creating the browser filter in the Java GUI, the following options are available for displaying external nodes:

- To filter on external nodes in general, use the `OPC: prefix`.
- To filter on external nodes with an IP address match pattern, use the `OPC:EA prefix`.
- To filter on external nodes with an IP name match pattern, use the `OPC:EN prefix`.
- To filter on external nodes with a non-IP match pattern, use the `OPC:EO prefix`.

### Saving the Browser Filter Settings

If you find that you use the same filtered active, history, or pending messages browsers during several HPOM sessions, you may want to save the browser filter settings for future use. By saving the browser filter settings, you avoid having to recreate the same filtered message browser each time you start the HPOM Java GUI.

---

#### NOTE

Saving browser filter settings saves only the filter used to view messages, not the layout of the browser columns.

If you want to save the size and layout of the message browser, see “Saving the Browser Layout” on page 307.

---

To save the browser filter settings, follow these steps:

1. From the menu bar, select **Actions: Filtering**, and then one of the following:
  - New Active Filtered Browser
  - New History Filtered Browser
  - New Pending Filtered Browser

The Filter Messages dialog box opens.

2. In the Filter Messages dialog box, select your filtering criteria.

For descriptions of options in the Filter Messages dialog box, see “Filter Messages Dialog Box” on page 497.

3. Click **Save...**

The Save Browser Settings dialog box opens.

4. In the Save Browser Settings dialog box, type a name for the filter.

Type a descriptive name, so you can easily identify the filter when you want to use it again.

For descriptions of options in the Save Browser Settings dialog box, see “Save Browser Filter Settings Dialog Box” on page 535.

5. Click **OK**.

Your browser settings are now saved.

---

**NOTE**

Your HPOM administrator may also save browser settings that are available to you. The type of these browser settings is global, so that they can be used by any HPOM operator.

---

## Accessing Filtered Message Browsers

When you create filtered message browsers, you can access them quickly and easily.

To access filtered message browsers, select the Filter Settings group of a pop-up menu in one of two locations:

- ❑ **Shortcut Bar**

For details, see “Shortcut Bar Pop-up Menu” on page 85.

- ❑ **Object Pane**

For details, see “Object Pane Pop-up Menu” on page 86.

## Moving Filtered Message Browsers

When you open a filtered message browser, it is automatically displayed in the workspace pane. You can move the filtered message browser from the workspace pane to the browser pane, and vice versa.

### Moving a Message Browser to the Browser Pane

To move a filtered message browser from the workspace pane to the browser pane, follow these steps:

1. Select the filtered message browser you want to move.
2. Click **Put Message Browser to Browser Pane** on the toolbar (see “Toolbar Icons and Drop-down Lists” on page 445).

### Moving a Message Browser to the Workspace Pane

To move the filtered message browser from the browser pane to the workspace pane, follow these steps:

1. Select the filtered message browser you want to move.
2. Click **Put Message Browser to Workspace Pane** on the toolbar.

## Working with Message View Filters

Message view filters let you isolate specific messages in a message browser by applying filter criteria and rules to the browser. The browser displays only the messages that match the filter.

This section describes the following:

- Creating Quick Filters on Message Browser Columns
- Creating Simple Message View Filters
- Creating Advanced Message View Filters
- Writing Message View Filters in the Text View
- Saving Named Message View Filters
- Applying Saved Message View Filters
- Modifying Saved Message View Filters
- Removing Filters from Message Browser Columns

## Creating Quick Filters on Message Browser Columns


The pop-up menu in the message browser headline offers a quick and convenient way to find and work with a subset of messages in a message browser. See also “Quick Message View Filters” on page 197 for more information about this filter type.

### Using quick filters on message browser columns:

1. Right-click the label of the message browser column that you want to filter.  
A pop-up menu opens.
2. Select **Message View Filter** and the value from the column by which you want to filter.

Example:

To show all messages generated by the SNMPTraps tool, open the pop-up menu on the Application column label, and select **Column Filter: SNMPTraps** from the pop-up menu.

The message browser displays only those messages that match the message view filter. In addition, the message view filter icon  appears in the column label and in the filtered message browser.

---

### NOTE

The Java GUI truncates the values in the pop-up menu if there are too many values or the values are too long to display. This is typically the case for values in the Message Text column. If no values are shown at all and **Custom** is selected in the pop-up menu, a simple or advanced message view filter is currently applied, and can only be changed in the Message View Filter dialog box.

---

Messages in the browser are updated each time a message view filter is applied and, for filtered time and date related columns, at every refresh interval.

For more information about removing message view filters, see “Removing Filters from Message Browser Columns” on page 305.

## Creating Simple Message View Filters

To create simple message view filters, use the Simple View pane of the Message View Filter dialog box.

For more information about this filter type, see “Simple Message View Filters” on page 198.

### Creating simple message view filters:

1. Select the message browser that you want to filter.
2. Do one of the following:
  - Select **Actions: Filtering -> Message View Filter...** from the menu bar.
  - Right-click the message browser headline, and then select **Message View Filter: Custom...** from the pop-up menu.
  - Click the **Open Message View Filter Dialog Box** icon in the main toolbar.

The Message View Filter dialog box opens with the Simple View pane displayed. If no message view filter is configured for the browser, this pane is empty.

If the Advanced View pane opens, an advanced message view filter is applied. To switch to the Simple View pane, first remove the existing advanced filter.

3. Click **Add**.

An empty criterion is added to the pane, and the lower half of the dialog box is now available for you to make selections.
4. Select or type the Column name on which you want to filter.

The list of available column names offers all existing names, including custom message attribute names.
5. *Optional*: Select **NOT** to invert the criterion.

For example, if you choose **NOT** and the equals operator, the criterion filters messages that *do not* match the chosen value.


6. Select **Operator**.

The operators vary depending on the contents of the specified message browser column. Only appropriate operators are offered for numeric or string data. See also “Operators for Message View Filters” on page 204.

7. Select **Value**.

You can type your own custom value, choose a value from the list of available messages, or select a predefined value, such as **Management Server** or **Today**. See also “Predefined Values for Message View Filters” on page 205.

If the `equals` operator is selected, you can also use the question mark (?) and asterisk (\*) wildcard characters. A question mark matches any single character. An asterisk matches any group of one or more characters.

8. *Optional*: For time-related columns and the Flags columns, select the  button, and use the subsequent dialog boxes to help you type a value.

9. Press **Enter** if the filter is not updated in the pane.


10. *Optional*: To create additional criteria, click **Add**, and then modify the criteria as required.

11. Apply the filter:

- Click **Apply** to apply the filter without closing the dialog box.
- Click **OK** to apply the filter and close the dialog box.

If the filter does not conform to the syntax rules, a message appears and explains the problem.

See “Syntax for Message View Filters” on page 201 for a description of the required syntax.

The message browser displays only those messages that match the message view filter. In addition, the message view filter icon  appears in the column label and in the filtered message browser.

Messages in the browser are updated each time a message view filter is applied and, for filtered time and date related columns, at every refresh interval.



## Creating Advanced Message View Filters

Use the Advanced View tab of the Message View Filter dialog box to create advanced message view filters. See “Advanced Message View Filters” on page 200 for more information about this filter type.

You cannot switch from the Advanced View pane to the Simple View pane if an advanced filter is defined because the complex structure of an advanced filter can be displayed only in the Advanced View or the Text View tab.

### Creating advanced message view filters:

1. Select the message browser that you want to filter.
2. Do one of the following:
  - Select **Actions: Filtering -> Message View Filter...** from the menu bar.
  - Right-click the message browser headline, and then select **Message View Filter: Custom...** from the pop-up menu.
  - Click the **Open Message View Filter Dialog Box** icon in the main toolbar.

The Message View Filter dialog box opens. If no message view filter is configured for the browser, the Simple View tab displays. Click Advanced View to open the Advanced View tab.

If the Advanced View tab opens, an advanced message view filter is already applied to this browser. You must delete it before you can create a new one. Or simply modify the existing filter.

3. Create criteria:
  - a. Click **New Criterion**.

An empty criterion is added to the tab. The lower half of the dialog box is now available for you to make selections.
  - b. Select or type the Column name on which you want to filter.

The list of available column names offers all existing names, including custom message attribute names.
  - c. *Optional:* Select **NOT** to invert the criterion.

For example, if you choose **NOT** and the equals operator, the criterion filters messages that *do not* match the chosen value.


d. Select **Operator**.

The operators vary depending on the contents of the specified message browser column. Only appropriate operators are offered for numeric or string data. See also “Operators for Message View Filters” on page 204.

e. Select **Value**.

You can type your own custom value, choose a value from the list of available messages, or select a predefined value such as (Management Server) or (Today). See also “Predefined Values for Message View Filters” on page 205.

If the equals operator is selected, you can also use the question mark (?) and asterisk (\*) wildcard characters. A question mark matches any single character. An asterisk matches any group of one or more characters.

f. *Optional:* For time-related columns and the Flags columns, select the  button, and use the subsequent dialog boxes to help you enter a value.

g. Press **Enter** if the filter is not updated in the tab.

h. Click **New Criterion** again, and modify any additional criteria as required.

When you add a second criterion, it is combined with the first criterion by an AND rule, which means that the messages must match both criteria.

4. Create a rule:

a. Click **New Rule**.

An empty rule is added to the tab and the lower half of the dialog box changes, so that you can configure the rule.

b. Select the rule operator. You have a choice between AND and OR.

c. *Optional:* Select **NOT** to invert the rule.

For example, if you select the NOT and the AND operator, the rule filters messages that *do not* match either of the configured criteria.

d. Press **Enter** if the filter is not updated in the tab.

e. Add criteria to the rule as required.

---

**TIP**

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You can also create a rule by selecting two or more criteria or rules, and by clicking **New Rule**. The selected items become members of the new rule. The selected items must directly belong to the same parent rule. Otherwise, a new rule cannot be created for them.

5. *Optional*: Use **Move Up** and **Move Down** to change the order and nesting of criteria and rules.

6. Apply the filter:

- Click **Apply** to apply the filter without closing the dialog box.
- Click **OK** to apply the filter and close the dialog box.

If the filter does not conform to the syntax rules, an error message appears and explains the problem. See “Syntax for Message View Filters” on page 201 for a description of the required syntax.

The message browser displays only those messages that match the message view filter. In addition, the message view filter icon  appears in the column label and in the filtered message browser.

Messages in the browser are updated each time a message view filter is applied and, for filtered time and date related columns, at every refresh interval.

### Writing Message View Filters in the Text View

If you feel more comfortable with writing message view filters in text format, you can use the Text View tab of the Message View Filter dialog box to define message view filters.

---

**NOTE**

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Enclose column names and values that contain spaces in quotation marks (“”).

### Creating message view filters by using the Text View tab:

1. Familiarize yourself with the message view filter syntax described in “Syntax for Message View Filters” on page 201.
2. Select the message browser that you want to filter.

3. Do one of the following:

- Select **Actions: Filtering -> Message View Filter...** from the menu bar.
- Right-click the message browser headline, and then select **Message View Filter: Custom...** from the pop-up menu.
- Click the **Open Message View Filter Dialog Box** icon in the main toolbar.

The Message View Filter dialog box opens.

4. Click **Text View** to open the Text View tab.

5. Place the cursor in the editable text area, and type your filter definition.


6. Click **Check** to verify that your filter definition is syntactically correct.

An information message informs you about the results. If errors are detected, correct the filter, and then check the syntax again.

7. Apply the filter:

- Click **Apply** to apply the filter without closing the dialog box.
- Click **OK** to apply the filter and close the dialog box.

If the filter does not conform to the syntax rules, a message appears and explains the problem.

The message browser displays only those messages that match the message view filter. In addition, the message view filter icon  appears in the column label and in the filtered message browser.

Messages in the browser are updated each time a message view filter is applied and, for filtered time and date related columns, at every refresh interval.

### **Saving Named Message View Filters**

You can store message view filters as part of the console session settings and of any customized browser layout. The next time you start the Java GUI or open a browser with a saved layout, the stored message view filters are immediately applied to the browsers.

You can also store message view filters independently of the console settings and the browser layout as described in this section. Saved message view filters are listed in the Filter Settings folder of the object tree. See also “Saving Message View Filters” on page 207.

### **Saving a named message view filter:**

1. Select the message browser that you want to filter.
2. Do one of the following:
  - Select **Actions: Filtering -> Message View Filter...** from the menu bar.
  - Right-click the message browser headline, and then select **Message View Filter: Custom...** from the pop-up menu.
  - Click the **Open Message View Filter Dialog Box** icon on the main toolbar.

The Message View Filter dialog box opens. If a message view filter is already applied to the message browser, the Message View Filter dialog box displays this filter.

3. *Optional:* If the Message View Filter dialog box is empty, create a message view filter.

For more information, see “Creating Simple Message View Filters” on page 295 and “Creating Advanced Message View Filters” on page 297.

4. Click **Save...**

The Save Message View Filter dialog box opens.

5. Select the filter type: **Global** or **Personal**.

If you are not the HPOM administrator, the **Global** option is not available to you. You can store the filter for your personal use only.

6. Type a descriptive name for your message view filter into the **Name** field.

Filter names can contain only alpha-numeric characters and the underscore character (A ... Z, a ... z, 0 ... 9, and \_). The length is limited to 254 characters.

7. Click **OK** to save the filter, and then close the Save Message View Filter dialog box.

8. In the Message View Filter dialog box, click **OK** to apply the filter, and then close the dialog box.

For information about applying saved filters and loading them for modification, see “Applying Saved Message View Filters” on page 302 and “Modifying Saved Message View Filters” on page 303.

### **Applying Saved Message View Filters**

You can apply saved message view filters to a specific browser or to the All Active Messages browser.

#### **Applying a Saved Message View Filter to a Specific Browser**

1. Select the message browser that you want to filter.
2. Load the saved message view filter into the Message View Filter dialog box, and click **Apply**.

For information about loading saved message view filters, see “Modifying Saved Message View Filters” on page 303.

#### **Applying a Saved Message View Filter to the All Active Messages Browser:**

1. Select a saved message view filter in the Filter Settings folder of the object tree.
2. Do one of the following:
  - Select **Open for All Active Messages** in the pop-up menu.
  - Double-click the saved filter.
  - Drag the saved filter onto the workspace or browser pane.

The All Active Messages browser opens and displays all active messages that match the applied message view filter.

## Modifying Saved Message View Filters

After you save a message view filter, you can access it again by loading it into the Message View Filter dialog box.

You can also modify a saved message view filter by selecting the filter in the object pane and selecting **Modify...** in the pop-up menu. You can then modify the filter in the Message View Filter dialog box and save it, but you cannot apply it to a browser because the filter requires (but does not have) the context of a specific browser.

---

### NOTE

When you load a saved message view filter into the Message View Filter dialog box, it replaces any previously listed filters.

---

## Loading a Message View Filter

1. Select the message browser that you want to filter.
2. Do one of the following:
  - Select **Actions: Filtering -> Message View Filter...** from the menu bar.
  - Right-click the message browser headline, and then select **Message View Filter: Custom...** from the pop-up menu.
  - Click the **Open Message View Filter Dialog Box** icon on the main toolbar.

The Message View Filter dialog box opens.

3. Click **Load....**

The Load Message View Filter dialog box opens.

4. Select the saved message view filter that you want to load.
5. Click **OK** in the Load Message View Filter dialog box.

In the Message View Filter dialog box, the selected filter replaces any previously listed filters.

6. Modify the loaded message view filter as required.

---

**NOTE**

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Operators can load both global and personal filters, but can only save personal filters. Administrators can load and save only global filters.

7. Click **OK** to apply the loaded filter, and close the Message View Filter dialog box.



## Removing Filters from Message Browser Columns


You can undo message view filtering by removing filter criteria from a single message browser column or by removing the entire filter from the browser.

### Removing a Single Criterion from a Message Browser Column

1. Right-click the label of the message browser column from which you want to remove the criterion.

A pop-up menu opens.

2. Clear the criterion in the Message View Filter pop-up menu.

The criterion is removed from the selected message browser column. The message view filter icon  remains in the column label if other filter criteria are selected for the message browser column.


If filter criteria are applied to other message browser columns, the browser shows only those messages that match the remaining criteria.

### Removing All Criteria from a Single Message Browser Column

1. Right-click the label of the message browser column from which you want to remove the filter.

A pop-up menu opens.

2. Select **Message View Filter: All**.


The filter criteria are removed from the selected message browser column only, and the message view filter icon  disappears from the column label.

If filter criteria are applied to other message browser columns, the browser shows only those messages that match the remaining criteria.

### Removing a Message View Filter from a Message Browser

1. Select the message browser from which you want to remove the message view filter.
2. Do one of the following:
  - Select **Actions: Filtering -> Remove Message View Filter** from the menu bar.

- Right-click the message browser headline, and then select **Remove Message View Filter** from the pop-up menu.

The message browser shows all messages it is configured to display and the message view filter icon  disappears from the message browser.

---

**NOTE**

Removing a message view filter from a message browser does not delete any saved message view filters.

---

## Saving the Browser Layout

If you change the size of the browser or customize the columns during several HPOM sessions, you may want to save the browser layout for future use. By saving the browser layout, you avoid having to change the size of the browser or change the sorting order, column width, column labels, and so on, every time you start the HPOM GUI.

---

**NOTE**

Any changes to the browser filters must be saved separately. For details, see “Saving the Browser Filter Settings” on page 291.

---

This section describes the following:

- ❑ Saving the Physical Layout of a Non-filtered Message Browser
- ❑ Saving the Physical Layout of a Filtered Browser
- ❑ Reloading the Layout of a Filtered Browser

## Saving the Physical Layout of a Non-filtered Message Browser

To save the physical layout of a non-filtered message browser, follow these steps:

1. Change the message browser size, as well as the sorting order, column width, column labels, and so on.

For instructions, see “Changing the Layout of Browser Windows” on page 310.

2. Apply message view filters.

For instructions, see “Working with Message View Filters” on page 293.

3. Make sure the browser for which you want to save the layout is active.

4. In the menu bar, select **View: Save Message Browser Layout -> Save as Default For**, and then one of the following:

- **Active**

Saves the current browser as the default active message browser.

- **History**

Saves the current layout as the default for filtered history message browsers.

- **Pending**

Saves the current browser layout as the default for filtered pending message browsers.

HPOM saves the layout in the `itoopbrw` file in your home directory.

This file is usually stored in the following directories:

- *Windows 2003 and XP*

`C:\Documents and Settings\user`

- *Solaris*

`/export/home/user`

- *Other platforms*

`/home/user`

## Saving the Physical Layout of a Filtered Browser

To save the physical layout of a filtered browser, follow these steps:

1. Open a browser with the saved message browser filter settings.

---

### NOTE

If you have not already done so, define the message browser filter and save it. Then open a browser with the new saved filter settings. To find out how to define a message browser filter, see “Creating a Filtered Message Browser” on page 290.

2. Change the message browser size, as well as the sorting order, column width, column labels, and so on.

For instructions, see “Changing the Layout of Browser Windows” on page 310.

3. Apply message view filters.

For instructions, see “Working with Message View Filters” on page 293.

4. Make sure that the browser for which you want to save the layout is active.

5. Select **View: Save Message Browser Layout -> Save For Filter Name**.

HPOM saves the layout in the `itooopbrw` file in your home directory.

This file is usually stored in the following directories:

- *Windows 2003 and XP*  
C:\Documents and Settings\*<user>*
- *Other platforms*  
/home/*<user>*

The new layout is read from the configuration file the next time you start the GUI. The new layout is used as the default layout for subsequent sessions.

## Reloading the Layout of a Filtered Browser

To reload a previously saved browser layout with a filter name, select **Actions: Filtering -> Use Saved Setting**.

## Changing the Layout of Browser Windows

The layout of browser windows can be changed to help you browse messages according to your requirements:

### ❑ Changing Attribute Columns

You can move or resize the attribute columns by dragging the column borders to the left or right. You can also hide the columns.

### ❑ Reordering Browser Columns

You can reorder browser columns by dragging the column labels.

### ❑ Sorting Messages

You can sort messages according to attributes by clicking column labels. An arrow appears in the column labels to indicate by which attribute the messages are sorted.

Message fields with numerical values can also be sorted. Numerical values can be integer values or floating point numbers. Scientific notation is supported also. Example values of message fields are the following:

- 982374 (integer)
- 123.045 (floating point)
- 10e-2 (scientific notation)

For an example of a sorted browser column with numerical values, see Figure 1-91 on page 211.

### ❑ Aligning the Column Content

You can align the column content by using a pop-up menu in the Message Browser opened in the message browser headline. Alignment can be set to left, right, or center. For details, see Figure 2-1 on page 229.

❑ **Customizing Columns**

You can show or hide message browser columns, and change their labels by selecting the message browser you want to customize, and then selecting **View: Customize Message Browser Columns...** from the menu bar. Or right-click the message browser headline, and select **Customize Message Browser Columns...** from the pop-up menu. For details, see “Customize Message Browser Columns Dialog Box” on page 493.

---

**NOTE**

Changing the layout of a browser window is effective for the current session only unless you save the new layout for future use. To find out how to save the browser layout, see “Saving the Browser Layout” on page 307.

---

## Changing the Number of Displayed Messages

You can view either all messages or only the most recent messages in the active or history message browser.

This section describes the following:

- ❑ Viewing All Messages in the Message Browser
- ❑ Viewing Only the Latest Messages in the Message Browser
- ❑ Changing the Number of Messages in the Messages Browser

---

### NOTE

The following procedures are effective for the current session only.

---

### Viewing All Messages in the Message Browser

To view all messages in the active or history message browser, do one of the following:

- ❑ On the toolbar, click the **Show All Messages** icon (see “Toolbar Icons and Drop-down Lists” on page 445).
- ❑ From the menu bar, select **View: Number of Messages -> All Messages**.

### Viewing Only the Latest Messages in the Message Browser

To view only the latest messages in the message browser, do one of the following:

- ❑ On the toolbar, click the **Show Latest Messages** icon (see “Toolbar Icons and Drop-down Lists” on page 445).
- ❑ From the menu bar, select **View: Number of Messages -> Latest Messages**.

The default number of messages displayed in the Latest Messages view is 50.

### Changing the Number of Messages in the Messages Browser

In the menu bar, you can choose to view Latest Messages or All Messages in the active or history message browser. If you choose Latest Messages, you can change the number of messages to be displayed at one time. For details, see “View Menu” on page 428.



To change the number of messages displayed in the active or history message browser, follow these steps:

1. From the menu bar, choose **Edit: Preferences**.

For a description of each option on the Preferences dialog box, see “Preferences Dialog Box” on page 526.

2. In the General tab, type the maximum number of messages displayed in the active or history message browser:
  - Display the latest messages for active message browsers.
  - Display the latest history messages for history message browsers.
3. Click **OK**.

## Customizing the Color Preferences for the Message Browser

Normally, HPOM colors just the Severity column in the message browser. If you want, you can configure HPOM to color the entire line in the message browser according to the severity of each message. Coloring the entire line is useful when running HPOM in an environment where at-a-glance classification of message severity is of primary importance. To make this change, you simply toggle the **Colored Lines** check box in the Preferences window.

To customize the color preferences for the message browser, follow these steps:

1. From the menu bar, select **Edit: Preferences**.

For a description of each option on the Preferences dialog box, see “Preferences Dialog Box” on page 526.

2. In the General tab, select or clear the **Colored Lines** check box.

By default, the check box is cleared.

3. Click **OK**.

---

### NOTE

The preference settings are saved on the computer where the Java GUI is running and applied to all Java GUIs running on that client. If you start the Java GUI on another client, the settings on the other client are used.

---

## Configuring Secure HTTPS-based Java GUI Communication

This section describes how to configure secure communication between HTTPS-based Java GUI and the HP Operations management server. The following topics are discussed:

### ❑ **Start-up Script Parameters**

Describes the parameters in the `ito_op (ito_op.bat)` start-up script related to the HTTPS-based Java GUI.

For more information, see “Configuring HTTPS-based Communication on the Java GUI Client” on page 316.

### ❑ **Core Functionality**

Outlines the role that the Core functionality has in the process of establishing the secure communication and explains how to install it.

For more information, see “Installing the Core Functionality” on page 318.

### ❑ **Certificates**

Explains how to provide certificates for the server authentication mode and the full authentication mode.

For more information, see “Providing Certificates” on page 320.

### ❑ **Firewall**

Explains how to configure the connection between the HPOM management server and the Java GUI client through the proxy server.

For more information, see “Configuring the HTTPS-based Java GUI Connection Through Firewalls” on page 323.

For more information about the HTTPS-based Java GUI underlying concepts and architecture, see “HTTPS-Based Java GUI Architecture” on page 216.

## Configuring HTTPS-based Communication on the Java GUI Client

To configure HTTPS-based communication between the Java GUI and the management server, set the parameters listed in Table 2-1 in the `ito_op` (`ito_op.bat` on Windows) Java GUI start-up script.

Table 2-1 presents the available start-up options for setting the HTTPS-based communication type.

**Table 2-1 Start-up Script Options for Setting the HTTPS Protocol**

Option	Format	Default	Description
<code>https</code>	<code>yes no</code>	<code>yes</code>	Sets the HTTPS-based communication type to be used at the startup. If set to <code>no</code> , the standard non-secure communication is used.
<code>lcore_defaults</code>	<code>yes no</code>	<code>no</code>	This option is necessary for setting the full SSL authentication. If set to <code>yes</code> , the default Core functionality directories are used.
<code>https_only</code>	<code>yes no</code>	<code>no</code>	If set to <code>yes</code> , disables the communication fallback to the standard socket communication.
<code>https_port</code>	<code>&lt;number&gt;</code>	<code>35211</code>	The port on which <code>opcuihttps</code> is listening. The standard Java GUI uses port 2531.

---

### NOTE

When starting the Java GUI from the command line by using `ito_op` (`ito_op.bat` on Windows), you can specify *only* the `https` parameter.

Set all other start-up parameters by adding them either to the `ito_op` (`ito_op.bat` on Windows) script at the end of the line where the Java GUI start-up command is stated, or to the `itooopc` configuration file that is located in the user's home directory.

---

---

**IMPORTANT**

Start-up parameters specified in the `itoooprc` configuration file using the global settings mode on the HP Operations management server are ignored upon HPOM Java GUI startup. Only locally specified start-up parameters are applied. For more information about global settings mode, see the *HPOM Administrator's Reference*.

---

For information about how to configure `opcuihttps` settings as well as for the list of the parameters related to the HTTPS-based Java GUI, see the *HPOM Administrator's Reference*.

For information about configuring the connection between the HP Operations management server and the Java GUI client through a proxy server, see “Configuring the HTTPS-based Java GUI Connection Through Firewalls” on page 323.

The process for establishing a secure communication is described in “Establishing Secure Communication” on page 217.

## Installing the Core Functionality

The Core functionality is required on the client system if you choose to set the full authentication mode and the HP Operations agent is not installed on the Java GUI client.

Using the Core functionality enables you to configure the proxy server through which the connection between the HP Operations management server and the Java GUI client is established. However, having the Core functionality installed is not mandatory for the proxy server configuration. For more information, see “Configuring the HTTPS-based Java GUI Connection Through Firewalls” on page 323.

---

**NOTE**

Instructions on how to install and enable the HTTPS-based Java GUI, as well as how to disable the non-secure communication between the Java GUI client and the HP Operations management server, are detailed in the *HPOM Installation Guide for the Management Server*.

---

## Installing the Core Functionality

To install the Core functionality, follow these steps:

1. Copy the following packages:

```
HPOvXpl  
HPOvBbc  
HPOvSecCo  
HPOvSecCC
```

from the HP Operations management server vendor tree at the following location:

```
/var/opt/OV/share/databases/OpC/mgd_node/vendor/  
<VENDOR>/<FAMILY>/<OS>/<HPOM_VERSION>/RPC_BBC
```

to the Java GUI client system.

For example, for Windows XP, these packages are located in the following directory:

```
/var/opt/OV/share/databases/OpC/mgd_node/vendor/ms/x86/  
winnt/08.52.006/RPC_BBC/
```

2. Install the packages. On Windows XP, for example, these packages are the following:

```
HPOvXpl.msi  
HPOvBbc.msi  
HPOvSecCo.msi  
HPOvSecCC.msi
```

## Providing Certificates

This section describes providing certificates for the following authentication modes:

### ❑ **Server authentication**

See “To Provide Certificates for Server Authentication Mode” on page 320.

### ❑ **Full authentication**

See “Providing Certificates for Full Authentication Mode” on page 321.

For more information about certificates and authentication modes, see “Certificates” on page 220.

### **To Provide Certificates for Server Authentication Mode**

To use the HTTPS-based Java GUI, it is not necessary to have any certificate installed because the GUI connects to the HP Operations management server anonymously.

The certificates are generated upon the first connection to the HP Operations management server and are stored together with the public key in the local Certificate Store. The certificates are then used by the `opcuihttps` server in the process of authentication.

Depending on whether the certificate exists in the local Certificate Store, the following scenarios are possible:

### ❑ **Certificate is already stored on the client.**

The communication between the Java GUI and the HPOM management server is established without any notice.

### ❑ **Certificate does not exist on the client.**

The HPOM Server Certificate dialog box with the following options is displayed:

<b>Yes</b>	HP Operations server certificate is accepted only for the current session. At the next logon, you are prompted to accept this certificate again.
------------	--------------------------------------------------------------------------------------------------------------------------------------------------



<b>No</b>	Connection to the HP Operations management server is cancelled. In the newly displayed log-on window, you can choose another HP Operations management server or cancel the log-on procedure.
<b>Always</b>	HP Operations server certificate is used for the current and all subsequent Java GUI sessions.

### Providing Certificates for Full Authentication Mode

To provide the certificates for the full authentication mode, follow these steps:

1. Configure the `opcuihttps` process to enable the full authentication mode. To do so, type the following, and then restart the `opcuihttps` process:

```
ovconfchg -ovrg server -ns opc.opcuihttps -set\  
SSL_CLIENT_VERIFICATION_MODE RequireCertificate
```

For more information about configuring the `opcuihttps` parameters, see the *HPOM Administrator's Reference* guide.

2. Ensure that the client certificate is present on the client system.

If the Operations HTTPS agent is installed on the Java GUI client system, you can use its HPOM client certificate for authentication. Otherwise, you should install the client certificate manually. For details about the manual client certificate installation, see “Installing the Client Certificate Manually” on page 322.

3. Set the Java GUI start-up parameter `lcore_defaults` to `yes`, so that the Java GUI can use the default Core functionality. The Core functionality is either installed with the HP Operations agent in case it exists on the Java GUI client, or you have to install it additionally. For more information, see “Installing the Core Functionality” on page 318.

**Installing the Client Certificate Manually** To install the client certificate manually on the client system, follow these steps:

1. On the Java GUI client system, install the Core functionality if it is not already installed.

For information about installing the Core functionality, see “Installing the Core Functionality” on page 318.

2. On the Java GUI client system, create a client core ID by using the following command:

```
ovcoreid
```

3. On the HP Operations management server, create a new certificate, associate the public key for this certificate, and store it in a file. Type the following:

```
ovcm -issue -file <filename> -name <system_name> \  
-pass <passphrase> -coreid <client_coreid>
```

In this instance, *<system\_name>* is the HP Operations management server hostname, *<passphrase>* is the password, *<client\_coreid>* is the client core ID, and *<filename>* is the name of the file where the certificate is stored.

4. Transfer the file containing the certificate to the client system (for example, by using the ftp service).
5. Install the certificate on the client system by typing the following:

```
ovcert -importcert -file <filename> -pass <passphrase>
```

## Configuring the HTTPS-based Java GUI Connection Through Firewalls

For the HTTPS-based Java GUI to communicate with an HP Operations management server through a firewall, you can either configure the firewall to allow the HTTPS-based Java GUI direct access to the HP Operations management server, or you can configure the HTTPS-based Java GUI to use a proxy server for communication with the HP Operations management server. The default port on which the `opcuhttps` process is listening on the management server is 35211. The standard Java GUI uses port 3521.

There are different methods for specifying a proxy server for the HTTPS-based Java GUI:

- ❑ *Using the Core functionality:*
  - Configuring a Proxy Server with the Core Functionality
- ❑ *Without Core functionality installed:*
  - Configuring a Proxy Server by Using the `ito_op` Command Line Tool
  - Configuring a Proxy Server by Using the `itoopec` File
  - Configuring a Proxy Server in the Login Dialog Box
  - Configuring a Proxy Server for Java GUI Applets

### Syntax for Proxy Server Configuration

For each method, configure the proxy server `<proxy_config>` by using the following syntax:

```
<proxy>:<port>+(<a>)-(<b>);<proxy2>:<port2>+(<a>)-(<b>);...
```

- |                            |                                                                                                                                                                                           |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>&lt;proxy&gt;</code> | Full hostname of the proxy server.                                                                                                                                                        |
| <code>&lt;port&gt;</code>  | Port on which the proxy server is running.                                                                                                                                                |
| <code>&lt;a&gt;</code>     | Comma or semicolon separated list of hostnames for which this proxy server is used (for example, the name of the HP Operations management server to which the connection is made).        |
| <code>&lt;b&gt;</code>     | Comma or semicolon separated list of hostnames for which this proxy server is used (for example, the name of the HP Operations management server to which the connection is not allowed). |

Note that for *<a>* and *<b>*, the first matching proxy is used.

Example:

```
web-proxy:8088-(*.hp.com)+( *.deu.hp.com; *)
```

In this example, the `web-proxy` proxy is used with port 8088 for every server (\*) except hosts that match `*.hp.com` (for example, `www.hp.com`). If the hostname matches `*.deu.hp.com` (for example, `merlin.deu.hp.com`), the proxy server is also used.

It is also possible to use IP addresses instead of hostnames (for example, `15.*.*.*`). Make sure that you specify the correct number of dots.

The default is an empty string and no proxy server is specified.

## Configuring a Proxy Server by Using the `ito_op` Command Line Tool

To specify a proxy server for the `ito_op` (`ito_op.bat`) command line tool, specify the `bbc.http:proxy` parameter:

```
ito_op ... -bbc.http:proxy <proxy_config>
```

For example, to enable a connection to the HP Operations management server `barney.hp.com` through the proxy server `proxy.hp.com`, which runs on port 8088, type the following:

```
ito_op -bbc.http:proxy proxy.hp.com:8088+(barney.hp.com)
```

For details of `<proxy_config>`, see “Syntax for Proxy Server Configuration” on page 323.

## Configuring a Proxy Server by Using the `itoopec` File

You can also set the `bbc.http:proxy <proxy_config>` parameter in the `itoopec` file. The `itoopec` file is located in the user’s home directory.

For example, to enable a connection to the HP Operations management server `barney.hp.com` through the proxy server `proxy.hp.com`, which runs on port 8088, add the following line to the `itoopec` file:

```
bbc.http:proxy proxy.hp.com:8088+(barney.hp.com)
```

For details of `<proxy_config>`, see “Syntax for Proxy Server Configuration” on page 323.

For more information about available options, see “itoopec Resource File” on page 588.

### Configuring a Proxy Server in the Login Dialog Box

If the Java GUI is configured to use HTTPS communication, the Login dialog box displays an additional field for selecting a proxy server. The Proxy field offers the following options:

Add New

Select **Add New** to type a new proxy server into the Proxy field of the Login dialog box. The value is stored in your local `itoooproxy` configuration file. For details of the proxy configuration syntax, see “Syntax for Proxy Server Configuration” on page 323.

For example, to enable a connection to the HP Operations management server `barney.hp.com` through the proxy server `proxy.hp.com`, which runs on port 8088, type the following:

**proxy.hp.com:8088+(barney.hp.com)**

None

Select **None** if you do not want to use a proxy server for this connection.

Default

Select **Default** if a proxy server is already specified by using the `ito_op` command line tool or in the `ito_op_applet.html` applet file.

<proxy\_server>

Select an already defined `<proxy_server>` to use for the connection to the HP Operations management server.

When you select a proxy server in the Login dialog box, this proxy server becomes the default for any subsequent connections to the HP Operations management server. The default proxy server setting is stored in your local `itoooproxy` configuration file.

If the Java GUI is accessed directly, without the Login dialog box being displayed, the default proxy server is used.

## Configuring a Proxy Server for Java GUI Applets

To configure a proxy for the HTTPS-based Java GUI running as an applet, follow these steps on the management server:

1. Edit the file:

```
/opt/OV/www/htdocs/ito_op/ito_op_applet.html
```

by setting the proxy definition in the following line:

```
<PARAM NAME = bbc.http:PROXY VALUE = "proxy_config">
```

For details of *<proxy\_config>*, see “Syntax for Proxy Server Configuration” on page 323.

2. Restart the HTTPS-based Java GUI applet.

For example, to enable the connection to the HP Operations management server `barney.hp.com` through the proxy server `proxy.hp.com`, which runs on port 8088, type the following:

```
<PARAM NAME = bbc.http:PROXY VALUE = \  
"proxy.hp.com:8088+(barney.hp.com)">
```

## Configuring a Proxy Server with the Core Functionality

To configure a proxy server with the Core functionality, follow these steps:

1. Install the Core functionality.

For more information, see “Installing the Core Functionality” on page 318.

---

### NOTE

You do not need to install the Core functionality if the HP Operations HTTPS agent is present on the Java GUI client system. The Core functionality is automatically installed upon the HP Operations agent installation.

---

2. Configure the Core functionality on the HTTPS-based Java GUI system:

- a. In the `bbc.http` namespace, set the `PROXY` parameter by using the `ovconfchg` command:

```
ovconfchg -ns bbc.http -set PROXY <proxy_config>
```

For details of `<proxy_config>`, see “Syntax for Proxy Server Configuration” on page 323.

For example, to enable the connection to the HP Operations management server `barney.hp.com` through the proxy server `proxy.hp.com`, which runs on port 8088, type the following:

```
ovconfchg -ns bbc.http -set PROXY \  
proxy.hp.com:8088+(barney.hp.com)
```

For more information, see the `ovconfchg(1)` manual page.

- b. Set the `lcore_defaults` Java GUI parameter to `yes` in the `ito_op(ito_op.bat)` start-up script.



---

# **3** **Service Navigator**

## In This Chapter

This chapter describes what Service Navigator is and how it works.

---

### NOTE

It is essential for successful deployment and operation of this product that you understand its underlying concepts. This applies in particular to the status propagation and calculation rules.

This guide assumes that you have previous experience with HP Operations Manager.

---

## HP Operations Service Navigator

HP Operations Service Navigator is an add-on component of the Java GUI. It enables you to manage your IT environment while focusing on the IT services you provide.

While HP Operations Manager lets you detect, solve, and prevent problems occurring in networks, systems, and applications in your IT environment, Service Navigator takes you one step further. Service Navigator lets you map the problems discovered by HPOM to the IT services you want to monitor. Instead of focusing on single elements within a complex IT environment, you can now manage your IT environment by focusing on the IT services you are responsible for.

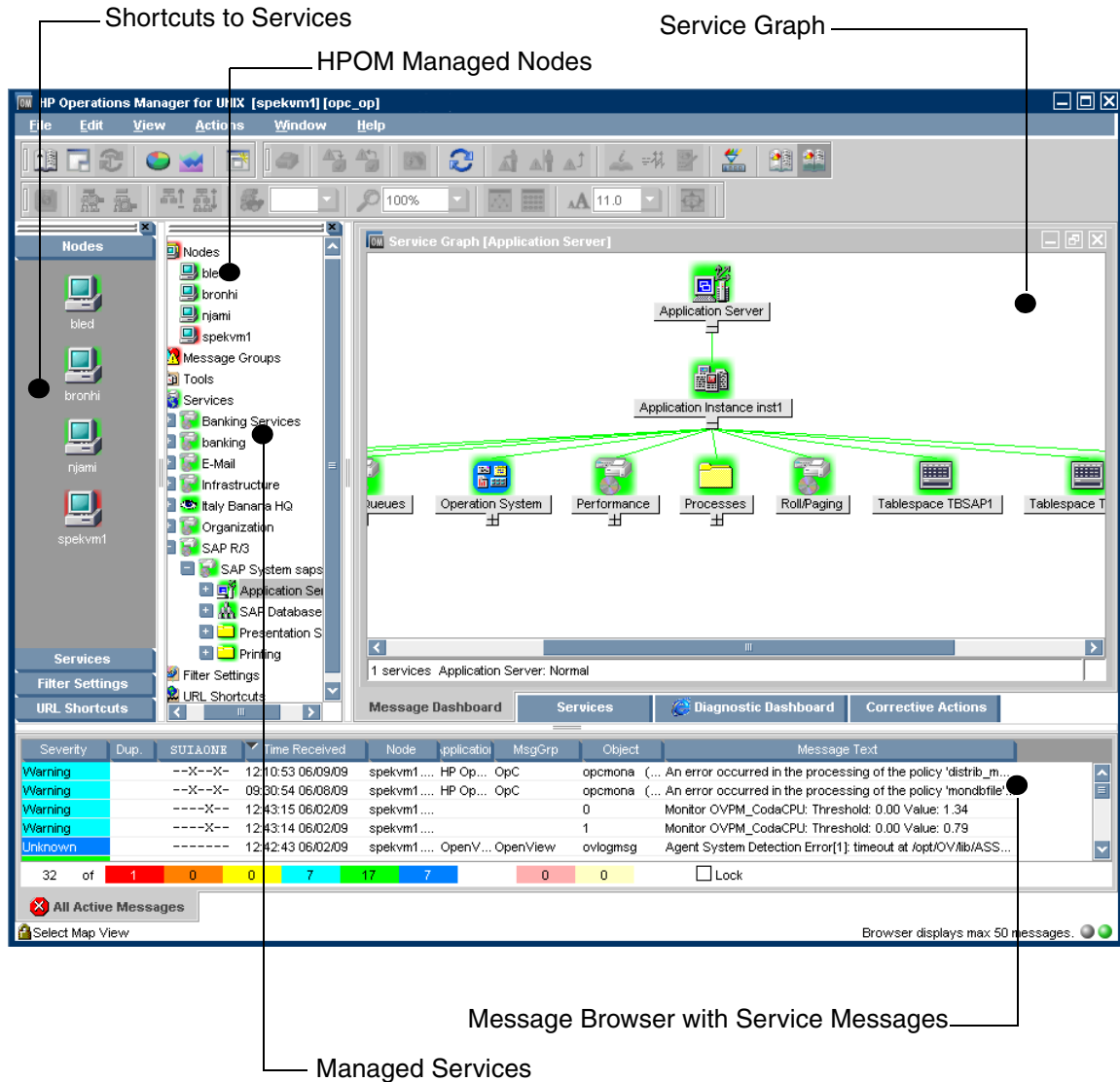
Service Navigator is based on HPOM and depends on the monitoring, message, and action capabilities HPOM provides. If a problem occurs on one of the objects managed by HPOM, a message about this problem is generated and sent to the user responsible for the area concerned. With Service Navigator installed and configured, this message is mapped to the service that is affected by the problem, and sent to the user responsible for that service.

The severity status of the problem also changes the severity status of the service so that the user can easily identify services that are in a problematic state. To solve service-related problems, HPOM's problem resolution capabilities are further extended to include service-specific analysis operations and actions.

If enabled, Service Navigator logs each change of the status in the database so that reports about service availability can be generated.

Figure 3-1 on page 332 shows the main window of Service Navigator. In addition to the customary HPOM managed nodes and message groups, managed services are displayed in the scoping pane on the left. The content area on the right is split into two sections. The upper section displays a service hierarchy in graphical form where each service is represented by an icon. The lower section contains the standard HPOM message browser configured to display only the messages that are related to your service.

**Figure 3-1 The Service Navigator GUI**



## Managing Service Problems with Service Navigator

Service Navigator helps you to quickly identify and solve the most critical problems affecting your services before service performance deteriorates.

You can handle service problems by using Service Navigator in one of the following ways:

- ❑ Traditional way:
  - Highlight the service that is affected, and then perform an analysis of the impacted services to find out which other services are affected.
- ❑ Service-oriented top-down way:
  - Open a service graph and monitor the status of displayed services. When a service changes status, perform a root cause analysis to find out the cause of the problem.

### Analysis of the Impacted Services

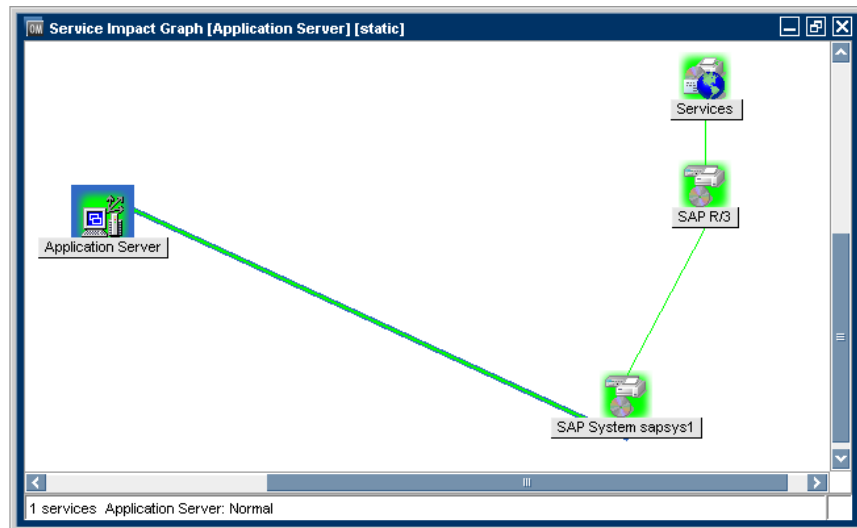
Whereas the root cause analysis drills down the service hierarchy to the service that caused the status to change, analysis of the impacted services works the other way: it searches upwards through the service hierarchy and displays all other services that are affected by the change in the status. The nature of the effect is determined by considering the configured status propagation and calculation rules. This helps operators to prioritize their tasks by simply determining which problem has the highest impact (for example, a problem that impacts critical business services and a large number of users should be solved first). Analysis of the impacted services identifies whether critical business services are affected.

In Figure 3-2 on page 334, the Update subservice has the major severity that impacts the Display Queues and Processes services. Both services are affected by a problem related to Update. Note that the service impact graph, just like the root cause graph, is static; it does not get updated but displays the status of the services at the time it was generated.

Analysis of the impacted services is also available for messages: select a message in a browser, and click **Get Impacted Services**. This highlights the impacted services in the service tree in the scoping pane.

Note that analysis of the impacted services considers only negative effects (that is, for example, a status change from major to critical, but not from critical to major). This means that the impact graph does not necessarily display the top-level service, but stops where the last service was impacted.

**Figure 3-2** Analysis of the Impacted Services



## Root Cause Analysis

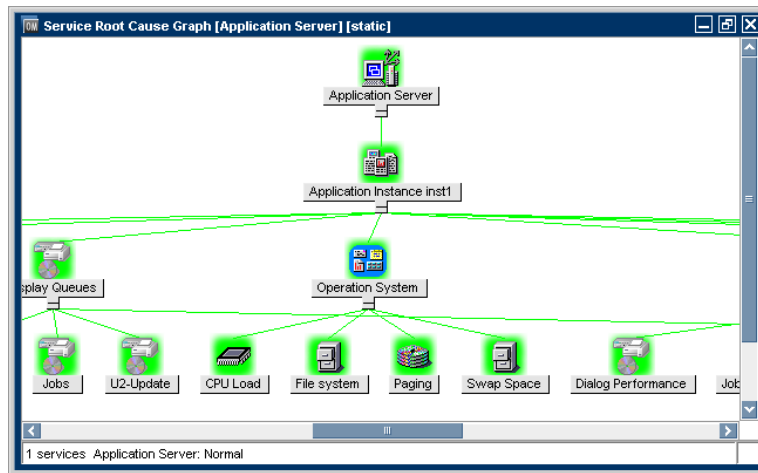
In a service hierarchy with many hierarchical levels it can be difficult to determine why a service adopts a certain severity status. The service can turn critical because of a critical message, a critical subservice, or several affected subservices.

Service Navigator helps you find the cause for a certain severity status by performing a root cause analysis. You simply highlight the icon of the service you are interested in, and select **Get Root Cause**. A new window that displays the service you selected and all other subservices that contributed to its status.

The root cause analysis performs a top-down investigation. It stops on the hierarchical level where the cause of the problem lies. Note that there may be more branches or levels below that one, which are not displayed, because the services on these levels did not contribute to the problem.

For an example of a root cause graph, see Figure 3-3 on page 335. Note that the root cause graph is static; it does not get updated but displays the status of the services at the time it was generated.

**Figure 3-3**      **Root Cause Analysis**



## Service Navigator Concepts

The concept behind Service Navigator is that of a hierarchical service structure. Service Navigator lets you build a hierarchy that reflects the relationships and dependencies between the service-relevant managed objects in your IT environment.

This section explains the concept of a service hierarchy and how a service can be logically related to a subservice as well as the dynamic aspects of the relationship between a service and its subservices in terms of status severity.

### Service Hierarchy

A service hierarchy is a logical organization of the services you provide, each higher level covering a wider or more general service area than the next lower level.

The relationship between services in a hierarchy can be one of the following types:

#### ❑ **Containment**

A service is contained in a service (that is, a service is part of, and defined within, another service). The contained service cannot exist without the containing service. A service can contain more than one subservices.

#### ❑ **Usage**

A service is contained in a service but, at the same time, is used, or referenced, by another service. The used service can exist without the using service; the using service depends on the used service.

For the purposes of status propagation and calculation it is of no consequence whether a service is contained in or used by another service. Note, however, that a service can be defined only once, but be used or contained many times.

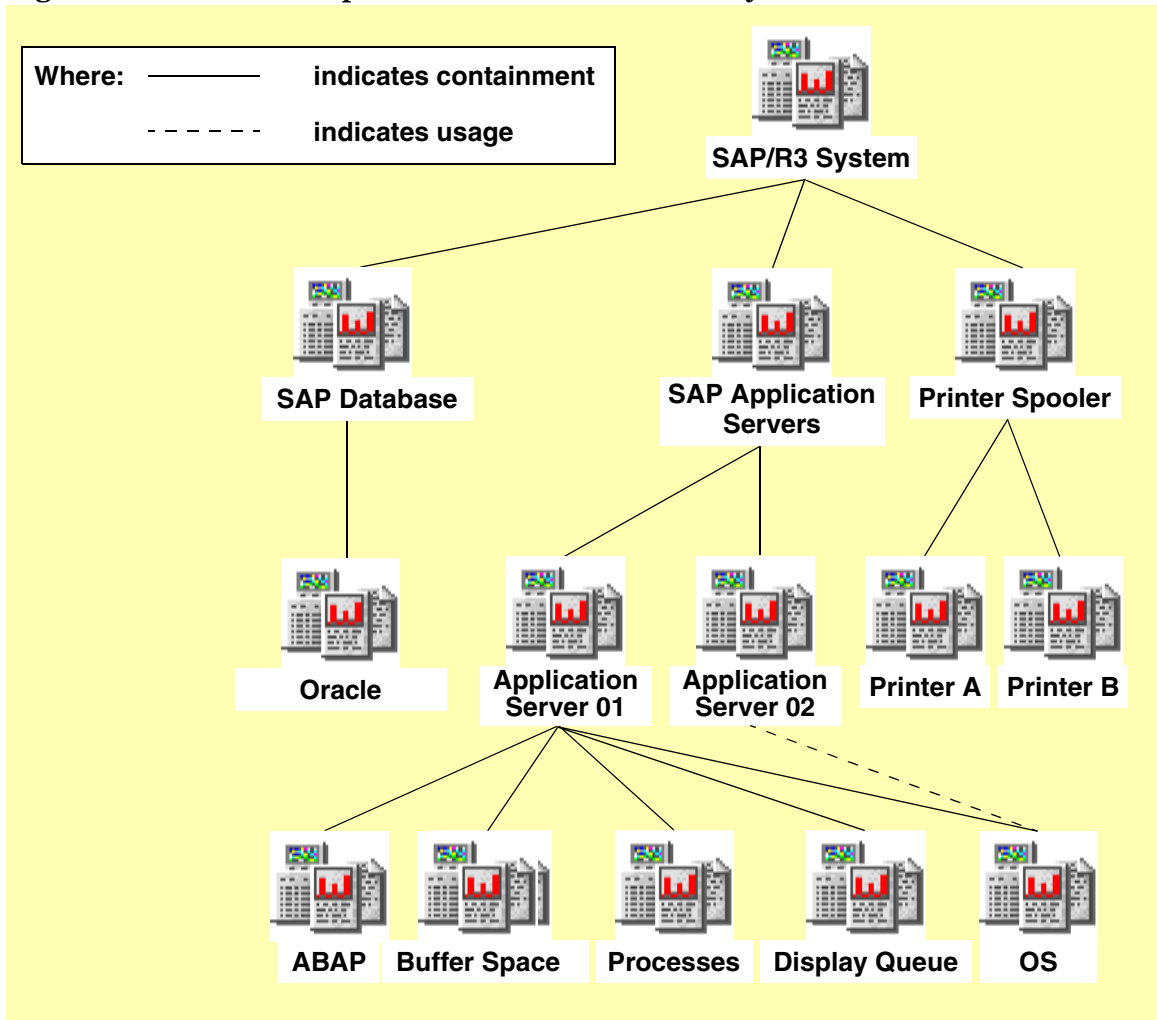
Service Navigator supports up to 256 hierarchical levels.



Figure 3-4 on page 338 shows an example of a service hierarchy for an SAP/R3 system. The SAP/R3 service includes components of SAP database servers and application servers, as well as a printer spooler. Each of these subservices is divided into further elements. Together they build the SAP/R3 service hierarchy. The relationship between the services is of the *containment* type, except for the relationship between Application Server 02 and its subservice. Application Server 02 uses a subservice contained in Application Server 01.

With HPOM, one service can use another subservice, so you do not have to set up specific subservices for each of your service hierarchies. You can set up a generic service (for example, monitoring the operating system on an SAP/R3 application server that can be used by any other service hierarchy responsible for monitoring the SAP/R3 application server).

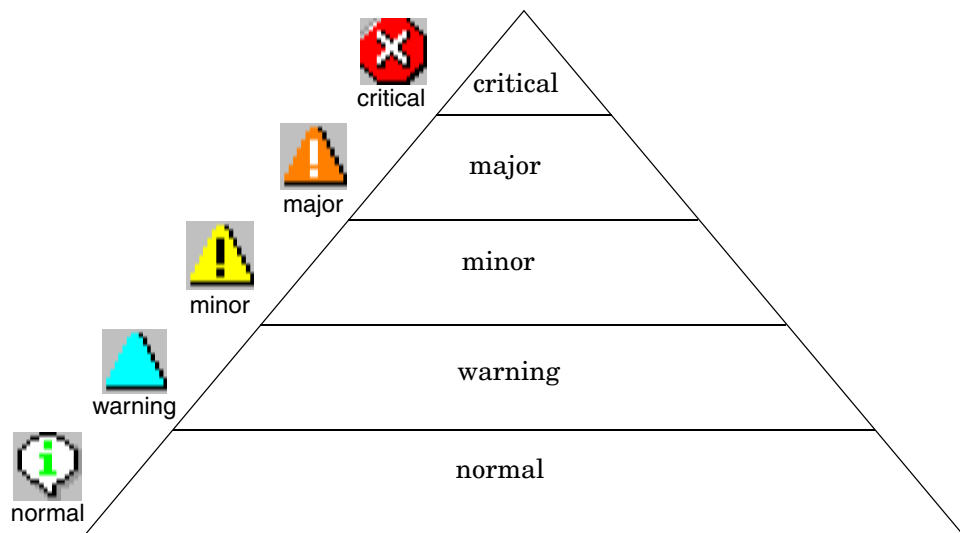
**Figure 3-4 Example: SAP/R3 Service Hierarchy**



## Status of a Service

The status of a service is the current operational status of a service. The status is indicated by status colors, each color signalling how severe the current situation is. For example, the red color indicates a critical problem situation. For an illustration of the HPOM severity status model, see Figure 3-5.

**Figure 3-5** HPOM Severity Pyramid



Since a service contains or uses several subservices, and since each subservice in turn contains or uses other subservices, the severity status of the service must be determined and calculated on the basis of the severity statuses of the next lower services in addition to the severity statuses of the messages targeting the service.

This is done on the basis of status propagation and status calculation rules. These rules define the relationship of a service to its subservices in terms of how they interpret each other's severity status. Status rules are defined in the service configuration file; see *HPOM Administrator's Reference* for more information.

Example:

A service contains two subservices, one has the critical severity status, the other has the normal severity status. The service sets its own severity status to critical because a critical state is more serious than a normal state.

However, Service Navigator offers you much greater flexibility in terms of how the service interprets other severity statuses. For example, a subservice may be less important than another subservice; that is, problems in that subservice have a smaller effect on the service than problems in another subservice. In this case, you would want to decrease the severity status of one subservice, but increase the severity status of the other subservice. This is defined by applying different status propagation rules to the relationship between a service and a subservice; see also “Status Propagation Rules” on page 341.

Status calculation rules, on the other hand, define how a service computes its severity status from the severity statuses of its subservices after the status propagation rules are applied. In this example, the service sets its severity status to critical because one of its subservices is critical. This is an application of the status calculation rule Most Critical. You can, however, define other rules, as explained in “Status Calculation Rules” on page 344.

You can also make one service count more than another service by adding a weighting factor for the purposes of status calculation. See the section on “Weighting” on page 346 for more information.

## Status Propagation Rules

Status propagation rules define how a service determines the severity of a subservice. The relationship between two services can be one of the following:

- |                  |                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>increase</b>  | <p>If the subservice is interpreted as more important, that is, its severity status has more effect on the next higher service than other subservices on the same hierarchical level, its severity status is increased by a level.</p> <p>For example, if a subservice has the severity status minor and status propagation is defined as increase, its severity status is increased from minor to major.</p>       |
| <b>unchanged</b> | <p>The subservice propagates its severity status unchanged to the service. This is the default configuration.</p> <p>For example, if a subservice has the severity status normal, the service interprets it as normal.</p>                                                                                                                                                                                          |
| <b>decrease</b>  | <p>If the subservice is interpreted as less important, that is, its severity status has less effect on the next higher service than other subservices on the same hierarchical level, its severity status is decreased by a level.</p> <p>For example, if a subservice has the severity status critical and status propagation is defined as decrease, its severity status is decreased from critical to major.</p> |
| <b>ignore</b>    | <p>The severity of the subservice does not influence the service. Propagation does not take place.</p>                                                                                                                                                                                                                                                                                                              |
| <b>set to</b>    | <p>The severity of the subservice is set to a specified severity. The new severity status can be either higher or lower than the original status.</p> <p>For example, the severity of a subservice can always be set to the severity status critical.</p>                                                                                                                                                           |

Figure 3-6 on page 343 shows how the selected status propagation rule influences the status of a service. The subservices ABAP and Buffer Space are interpreted as more important than the Processes and Display Queue subservices. Therefore, the severity statuses of the former are increased, the severity statuses of the latter are decreased. The Application Server service now has a manipulated but correct view of the actual situation.

Status propagation rules can be set in the following ways:

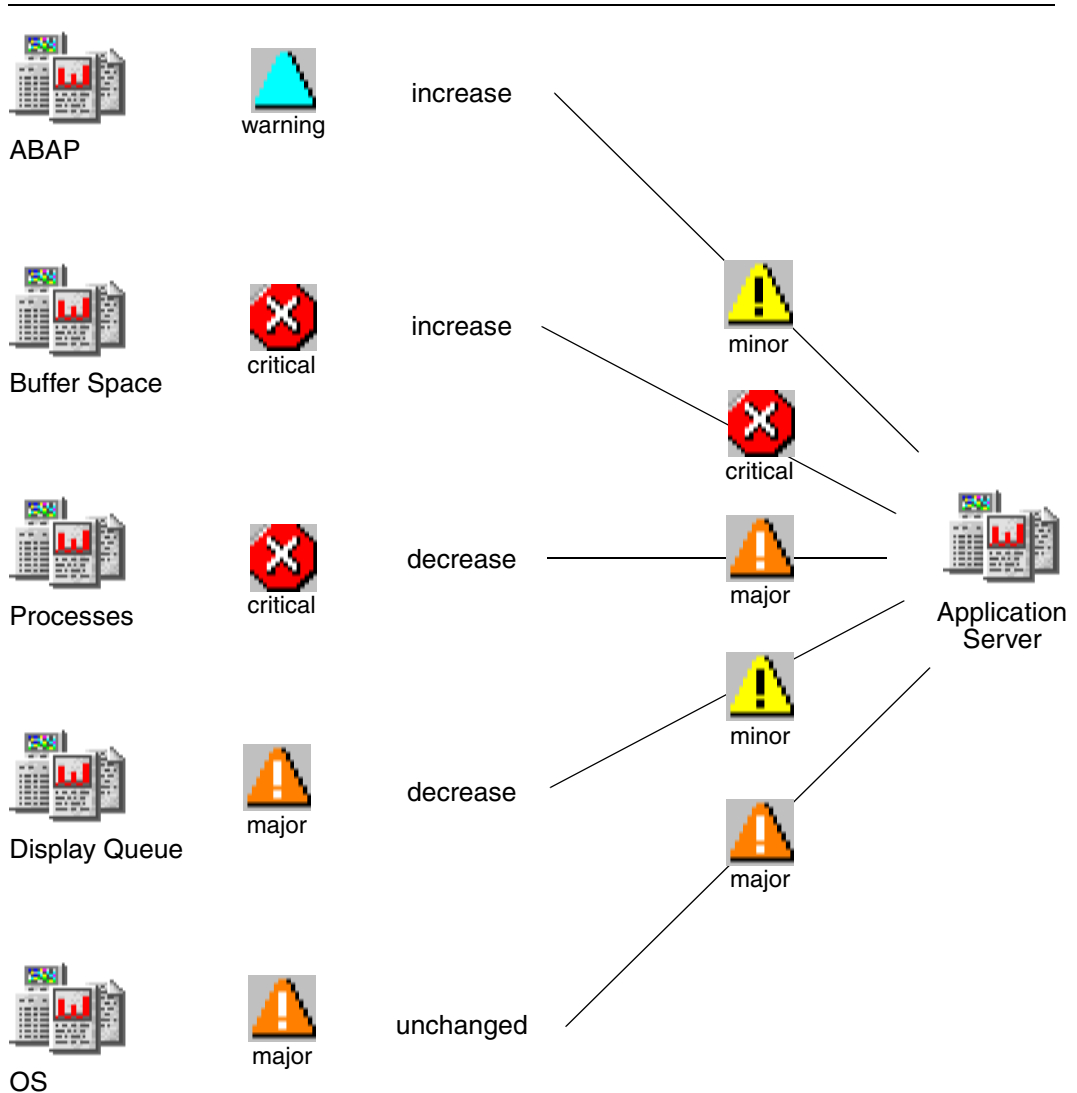
❑ **Default Propagation Attribute**

A default propagation attribute is applied (for example, the severity of a subservice is always increased).

❑ **Severity-specific Propagation Attribute**

Severity-specific propagation attributes are applied. This means that, depending on the severity of the subservice, a specific propagation rule is applied (for example, the severity normal is always ignored, but the severity warning is always increased).

**Figure 3-6 Example: Status Propagation Rules**  
**Subservices With Severity Propagation Rule Severity as seen by Service**



## Status Calculation Rules

Status calculation rules define the formula for calculating the severity of a service based on the severity of its subservices and the messages targeting the service directly. Calculation rules model the behavior of the relationship between services. For example, by selecting a calculation rule you determine whether the highest severity of the subservices or the highest average severity of the subservices determines the severity of the service.

The concept is based on setting thresholds that must be exceeded before the status of the service changes. The service adopts the status of the subservice or message that first exceeds the threshold.

The following status calculation rules are available:

**Most Critical** The service adopts the status of the subservice with the highest severity. The absolute threshold is set to 0. (This is a special case of the Single Threshold rule.)

The Most Critical rule models a worst-case scenario: the highest severity of the subservices “wins”.

**Single Threshold** The highest severity of the subservices that is found more often than the threshold will be the severity of the service. (This is a special case of the Multiple Threshold rule where the same threshold is defined for all severities.)

The Single Threshold rule computes the highest average severity of all subservices. This average severity is then adopted by the service.

**Multiple Thresholds** The concept is the same as Single Threshold but you can set individual thresholds for each severity except the severity normal.

---

### NOTE

---

It is *not* possible to specify more than one threshold for the same severity. If multiple thresholds are specified, only the last one will be active.

The Multiple Thresholds rule, for example, allows a few severe problems to be more important than many problems of a lower severity.








The threshold itself can be defined as an absolute value or as a percentage. For information on the format of a percentage that should be used when specifying a relative threshold value in the service configuration file, see *HPOM Administrator's Reference*.

When calculating the value that is compared to the threshold, the severity of the subservice and their lower severities are counted. For example, if a subservice has the severity critical, the severities major, minor, warning, and normal are also counted. See also Figure 3-5 on page 339.

Table 3-1 shows how the severity of each subservice in Figure 3-6 and each message is calculated. The first column lists all subservices and messages. The second column states the severity of each subservice as it is interpreted by the service. This is determined by the status propagation rules explained in the section “Status Propagation Rules” on page 341. The remaining columns are then compared to the severity of the subservice, and **1** is entered if they match, **0** if they do not match. You must also enter **1** for each lower severity of a matching subservice.

**Table 3-1 Example: Status Calculation Scenario**

Subservices	Severity as interpreted by the service Application Server					
		critical	major	minor	warning	normal
ABAP	minor	0	0	1	1	1
Buffer Space	critical	1	1	1	1	1
Processes	major	0	1	1	1	1
Display Queue	minor	0	0	1	1	1
OS	major	0	1	1	1	1
Messages targeting Application Server: severity minor <sup>a</sup>		0	0	1	1	1
	Total:	1 (16%)	3 (50%)	6 (100%)	6 (100%)	6 (100%)

- a. The messages directly targeting a service are seen as an entity: the message with the highest severity affects the service.

For example, the service Application Server interprets the severity of the subservice ABAP as minor. The original severity of ABAP is warning, but the relationship is defined as increase. Consequently, the status normal is increased to minor (see also Figure 3-6). You enter a **1** in the column where minor matches minor, and a **1** for every subsequent lower severity, in this case for warning and normal.

When you have performed this for all subservices, you add up each column to arrive at a total for each severity.

Depending on the status calculation rule and the threshold you have selected, the service Application Server changes severity. For example, if one of the following was configured:

- Most Critical:** the service changes to critical because the highest severity found amongst the subservices and messages (critical) is adopted by the service.
- Single Threshold 50%:** the service changes to major because the severity that first exceeds the threshold of 50% is adopted by the service. In this case the severity major with 50% is the first to exceed the threshold of 50%.
- Multiple thresholds:**
  - threshold of 15% for severity critical
  - threshold of 50% for severity major
  - threshold of 60% for severity minor
  - threshold of 70% for severity warning

The service changes to critical because the first threshold to be exceeded is 15% (severity critical).

Note that there is no need to specify a threshold for the severity normal because normal is the lowest severity status.

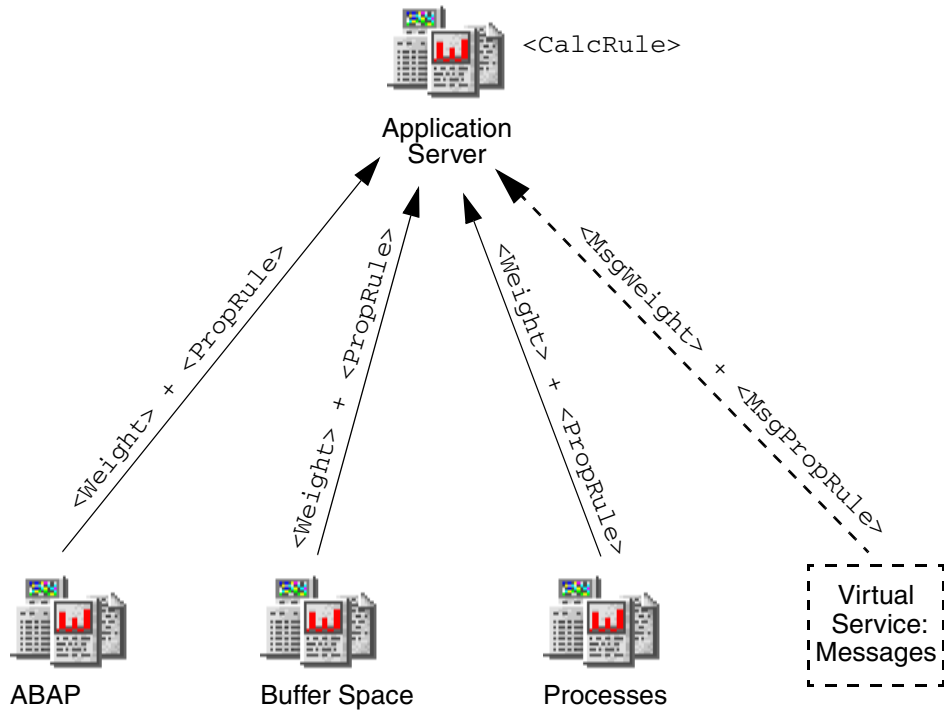
### Weighting

Weighting enables you to associate a factor with a subservice. This is done by specifying the `<Weight>` tag when defining the service in the service configuration file. The subservice is then weighted more compared to all other subservices, and consequently affects status calculation differently than without the weighting factor. `<Weight>` can be a decimal number.

You can also add a weighting factor to the messages directly targeting the service. The tag is `<MsgWeight>` and is specified when defining the service in the service configuration file. `<MsgWeight>` can be a decimal number. Figure 3-7 on page 348 illustrates how the messages directly targeting the service contribute to its status. These messages can also be seen as a “virtual message service”.

Figure 3-7 on page 348 also shows that the calculation rule of the service considers both `<Weight>` (or `<MsgWeight>`) and `<PropRule>` (or `<MsgPropRule>`).

**Figure 3-7 Virtual Message Service**



For example, if you define the weight of the OS subservice to be 2 instead of 1 that is the default for all subservices, OS is weighted more when the status of the service is calculated. However, the weight is not taken as an absolute number, but as a fraction of all subservices and messages. Service Navigator calculates the factor by using the following formula:

$$\text{Weighting Factor} = \frac{\text{Factor of a subservice/message}}{\text{Sum of all factors of all subservices/messages}}$$






The following example assumes that factor 2 is attributed to OS whereas all other subservices have default factor 1. In addition, the messages targeting the service directly are weighted with message factor 2. The sum of all factors is 8. According to the formula that Service Navigator uses to calculate the factor, the weighting factor for ABAP is: 1 divided by 8 equals 0.125; and the weighting factor for OS is: 2 divided by 8 equals 0.25. The message weighting factor is: 2 divided by 8 equals 0.25. See also Table 3-2.

**Table 3-2 Example: Calculating the Weighting Factor**

Subservices	Weight	Factor
ABAP	1	0.125
Buffer Space	1	0.125
Processes	1	0.125
Display Queue	1	0.125
OS	2	0.25
Message	2	0.25
Total	8	1

When calculating the status of a service, Service Navigator multiplies each severity with the factor and arrives at the results shown in Table 3-3.

**Table 3-3 Example: Status Calculation Modified by the Factor**

Sub-services	Severity as interpreted by the service Application Server	Multiply with the factor	 critical	 major	 minor	 warning	 normal
ABAP	minor	0.125	0	0	0.125	0.125	0.125
Buffer Space	critical	0.125	0.125	0.125	0.125	0.125	0.125
Processes	major	0.125	0	0.125	0.125	0.125	0.125
Display Queue	minor	0.125	0	0	0.125	0.125	0.125
OS	major	0.25	0	0.25	0.25	0.25	0.25
Messages targeting Application Server: severity minor <sup>a</sup>		0.25	0	0	0.25	0.25	0.25
Total		1	0.125 (12%)	0.50 (50%)	1 (100%)	1 (100%)	1 (100%)

a. The messages directly targeting a service are seen as an entity: the message with the highest severity effects the service.

If you now compare the results with Table 3-1 on page 345, you can see the effect the weighted subservice OS and the weighted messages have on the overall status calculation. If one of the following was configured:

- ❑ **Most Critical:** the service changes to critical because the highest severity found amongst the subservices (critical) is adopted by the service.

This is not different from the example without the weighting factor (“Example: Status Calculation Scenario” on page 345) because critical is still the highest severity found amongst the subservices and messages.

- ❑ **Single Threshold 50%:** the service changes to major because the severity that first exceeds the threshold of 50% is adopted by the service. In this case the severity major with 50% is the first to exceed the threshold of 50%.

This is not different from the example without the weighting factor (“Example: Status Calculation Scenario” on page 345) because major is still the first to exceed the threshold.

- ❑ **Multiple thresholds:**
  - threshold of 15% for severity critical
  - threshold of 50% for severity major
  - threshold of 60% for severity minor
  - threshold of 70% for severity warning

The service changes to major because the first threshold to be exceeded is 50% (severity major). This is different from the example without the weighting factor (insert link) because critical does not exceed the threshold, but major does. So instead of adopting the severity critical, the service adopts the severity major.

Note that there is no need to specify a threshold for the severity normal because normal is the lowest severity status.

## Service Multi-Status Calculation Views

A service status is, as described in the “Status Calculation Rules” on page 344, a result of the formula for calculating the severity of a service. The service severity is calculated considering the severities of messages targeting the service and of services related to this service. However, services can also reflect the status based on the ownership of messages targeting them.

You can monitor and work with services displayed in the following two status calculation views:

- ❑ **Overall**

The service status calculation view based on all messages present in the active message browser.

- ❑ **Operational**

The service status calculation view based on all non-owned messages present in the active message browser.

You can realize the differences between these two views best in an actual situation. For example, a message with severity `Critical` targets a service and colors it red. Consequently, all upper services in the service hierarchy change their color depending on the propagation rule set for them.

The `Overall` status calculation view displays these services in the same way, irrespective of the targeting message ownership status. In this example, these services are colored red. You can observe this in the object pane, service graph or map, and in the shortcut bar where the nodes containing these services are also colored red.

When you take the ownership of the message, the severity of the service does not change until the message is acknowledged.

If your status calculation view is set to `Operational` and you take ownership of the message, the severities of the targeted service and all dependent services change back to the severity visible before the message arrives.



The benefit of service multi-status calculation views is that you can get an insight of how the service hierarchy would look if the message targeting a service is acknowledged; in other words, if the problem is solved.

This is very useful, especially if you monitor your services in both calculation views simultaneously, as shown in Figure 3-8.

**Figure 3-8** Multi-Status Calculation Views

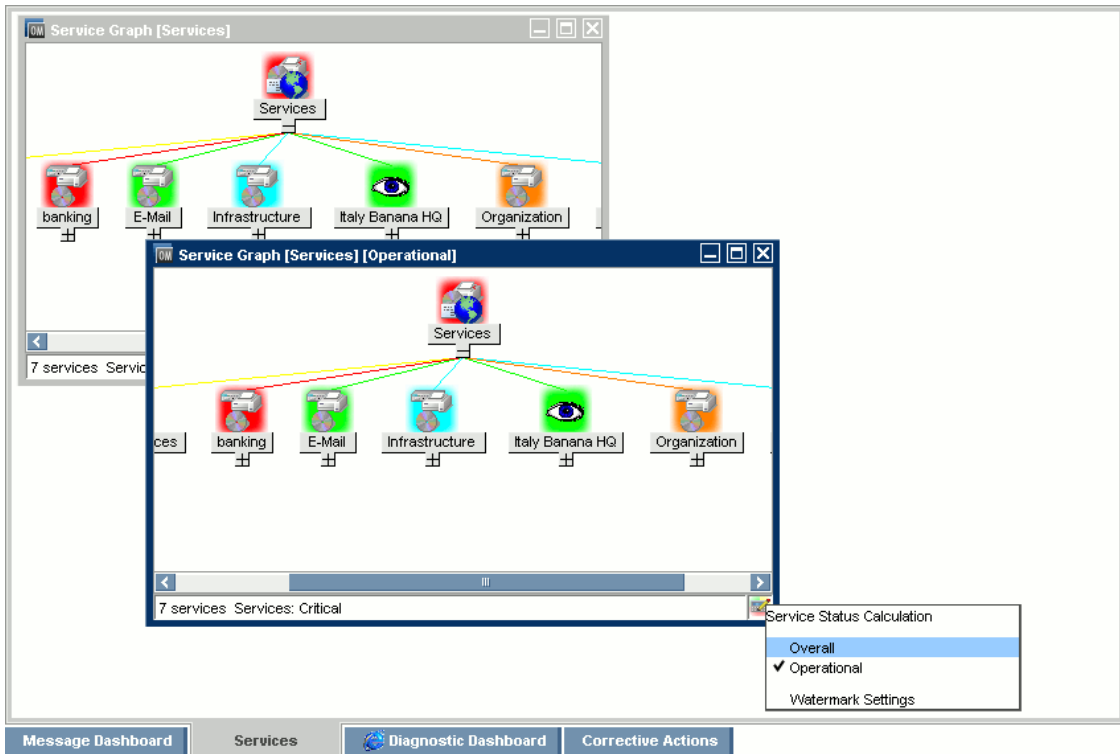


Figure 3-8 shows both Overall and Operational status calculation views. In the service graph presenting the Operational status calculation view, the currently displayed view is clearly indicated in the window title bar. In addition, an icon appears in the bottom right corner to indicate that the currently set view is Operational.

---

**NOTE**

---

You can monitor the service multi-status calculation changes not only by using the Java GUI. You can integrate the status changes with a third party client. For more details, see *HPOM Administrator's Reference*.

## Setting Service Status Calculation Views

Service status calculation views are set in the following ways:

- ❑ **In the `ovconfchg` configuration file** (enabling and setting the default view)

Service status calculation views are enabled and set by the HPOM administrator in the `ovconfchg` configuration file. The HPOM administrator also specifies the global default calculation view that is displayed every time you start Service Navigator. It is also possible to rename the service status calculation views. For more information, see the *HPOM Administrator's Reference*.

- ❑ **In the Preferences dialog box** (setting the default view)

Even though the HPOM administrator sets the status calculation views, you do not have to accept all these settings. You can set your custom status calculation view if more than one is enabled in the `ovconfchg` configuration file. You can achieve this by selecting the status calculation view in the Services tab in the Preferences dialog box. For more details about the Preferences dialog box, see the section “Preferences Dialog Box” on page 526.

- ❑ **From the ‘calculation’ toolbar drop-down list** (only for the currently active service graph or map)

The service status calculation view set using the toolbar list is displayed within the currently active service graph or map, but it does *not* change the default calculation view in the object pane or in the shortcut bar. If no service graph or map is currently active, the ‘calculation’ drop-down list is disabled.

For more details about the ‘calculation’ drop-down list, see the section “Toolbar Icons and Drop-down Lists” on page 445.

---

**IMPORTANT**

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As soon as you restart the Java GUI, these changes on service graphs and maps are lost, and the default status calculation view is reset again.

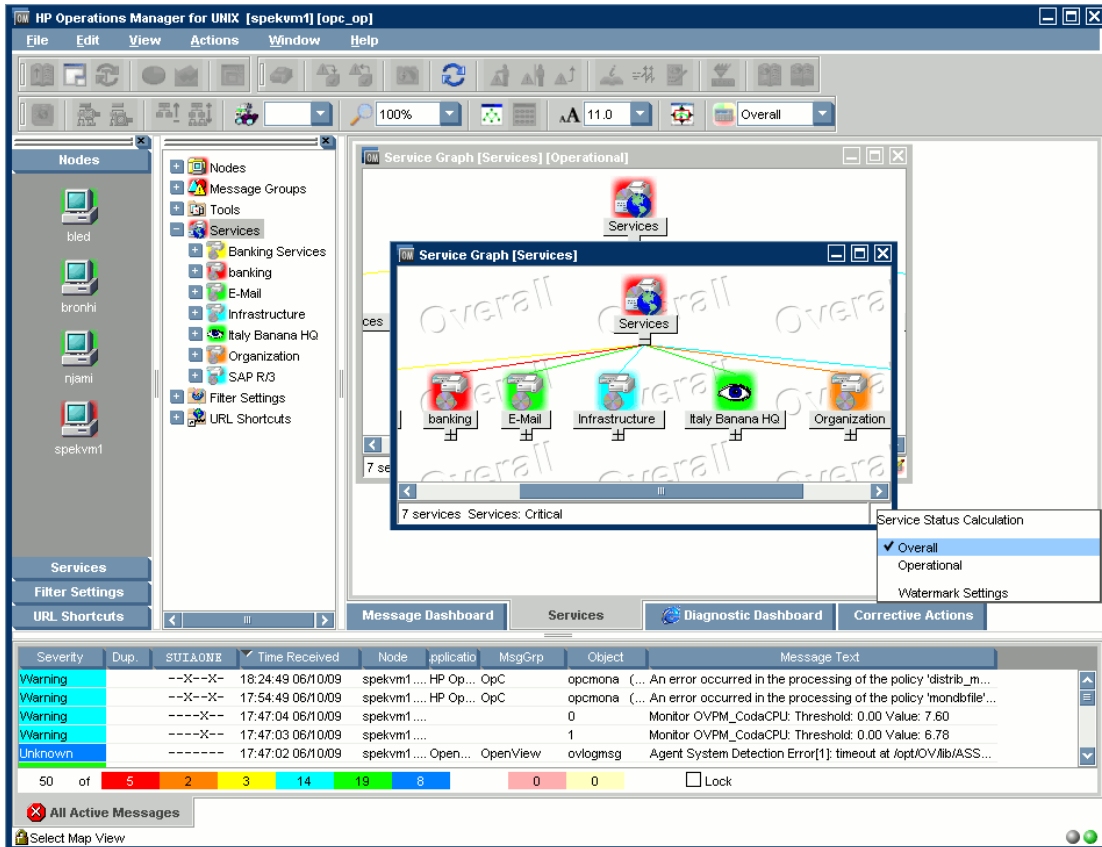
- ❑ **From the service graph's or map's pop-up menu** (for the currently active service graph or map only)

This is an alternative to the toolbar 'calculation' drop-down list that can be used when the services toolbar is turned off. The service status calculation view that is set using the service graph's or map's pop-up menu is displayed within the currently active service graph or map, but it does *not* change the default calculation view in the object pane. As with the 'calculation' drop-down list, the default calculation view is reset after the Java GUI is restarted.

## Setting Watermarks on Service Graphs and Maps

To easily differentiate between two service status calculation views, you can set watermarks on service graphs and maps for any of the status calculation views. A watermark represents the text displayed in the background of a service graph or a map. Figure 3-9 shows an example of a custom watermark for the Overall status calculation view.

**Figure 3-9** Watermark for Overall Status Calculation View



You can enable and customize watermarks for any of the calculation views in the Watermark Advanced Setting dialog box that is accessible in one of the following ways:

❑ **From the Preferences dialog box**

To open the Watermark Advanced Setting dialog box, click the **Advanced** button in the Services tab in the Preferences dialog box. For more details about the Preferences and the Watermark Advanced Setting dialog boxes, see “Preferences Dialog Box” on page 526 and “Watermark Advanced Settings Dialog Box” on page 542.

❑ **From the service graph’s or map’s pop-up menu**

To open the Watermark Advanced Setting dialog box, select the `Watermark Settings` option from the Service Status Calculation pop-up menu. Right-click the area in the bottom right corner of the service graph or map to access the menu. For more details on the Watermark Advanced Setting dialog box, see the “Watermark Advanced Settings Dialog Box” on page 542.

## **Enabling and Disabling Customized Watermarks**

To enable or disable one or more already customized watermarks on the service graphs and maps, use the `Show Watermark on Service Graphs and Maps` check box in the Services tab in the Preferences dialog box.

This check box is automatically selected if you enable the watermark for at least one of the status calculation views in the Watermark Advanced Settings dialog box. Likewise, if you disable watermarks for both status calculation views in the Watermark Advanced Settings dialog box, the `Show Watermark on Service Graphs and Maps` check box is automatically cleared.

For more details about the Preferences and the Watermark Advanced Settings dialog boxes, see “Preferences Dialog Box” on page 526 and “Watermark Advanced Settings Dialog Box” on page 542.

## Mapping Messages to Services

HPOM generates a message as a result of an event or a change of the status on a managed node. If the event matches preconfigured filters (that is, the HPOM message conditions), the message is generated, formatted, and then sent to the responsible user. If the event does not match the filtering criteria, the event is ignored.

Formatting consists of attaching attributes to the message. Attributes are, for example, the node or the application on which the event happened, the object that was affected, or the message group of the message.

Service Navigator enables you to attach a service name as an additional attribute to the message. If an event occurs on a managed object and this event matches the filtering criteria, HPOM generates a message and attaches the service name as an attribute to this message. The service name of the message is then compared with the service names in your hierarchy. If the service name of the message is matched by a service name in the hierarchy, the message is sent to the GUI of the user to whom that service is assigned.

The comparison of a service message with a service can take place on the node that generated the message or on the management server, depending on how the HPOM administrator has configured the system.

When mapping messages to services, you should first consider what the problem is, and then which service is affected, before setting the service name.

The service name can be set by using the `opcmsg(1)` parameter.

Example:

```
/opt/OV/bin/OpC/opcmsg application=appl \  
object=obj msg_text=msg_text service_id=service_id
```

For more information, see the `opcmsg(1)` manual page.

Naming the service takes place when you define the service in the configuration file. Service names must be unique for each service so that HPOM can identify the service and map messages to that service. Note that the service name can contain HPOM variables and can make use of a pattern-matching mechanism.

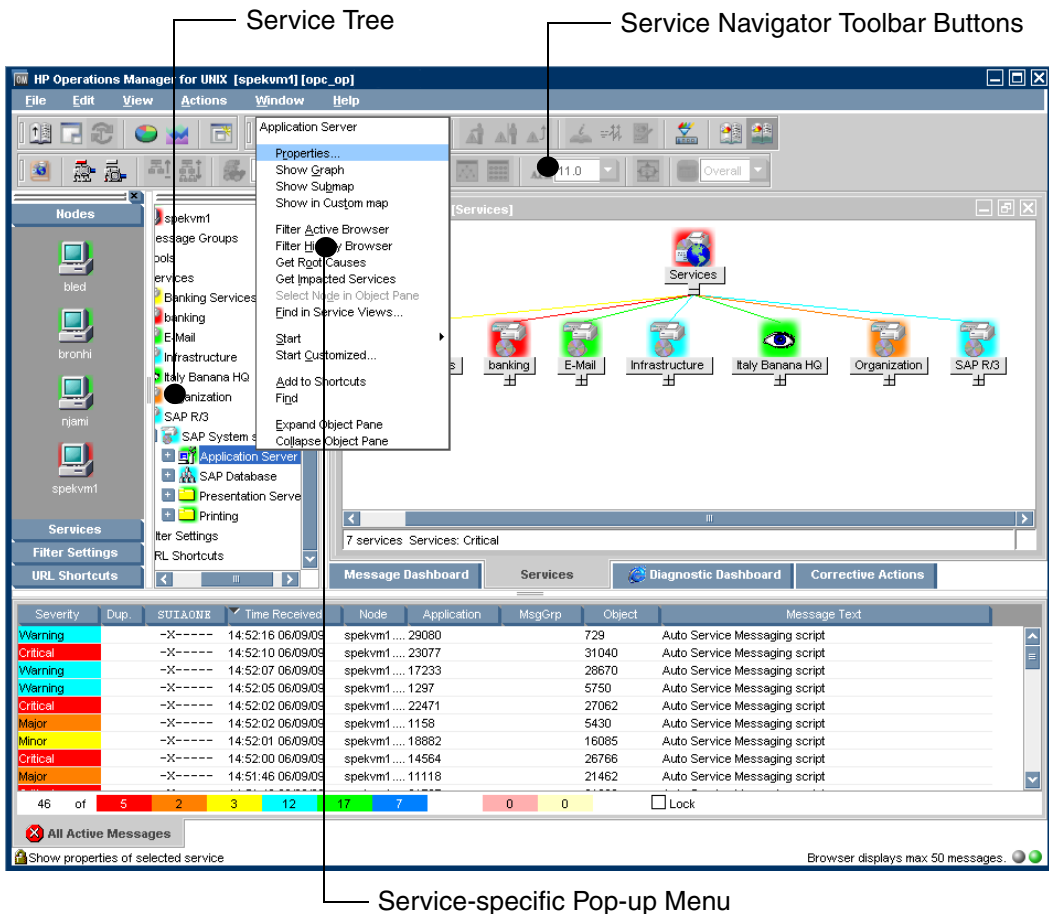
This mechanism enables you to keep your HPOM policies as generic as possible, namely by using variables to match service names, and by using one policy to match several services.

## Service Navigator GUI

When you start the Service Navigator GUI, you see that the HPOM Java GUI is extended to include the following:

- ❑ service tree in the scoping pane on the left
- ❑ additional toolbar buttons
- ❑ additional options in the menu bar and pop up menu

**Figure 3-10** Service Navigator GUI

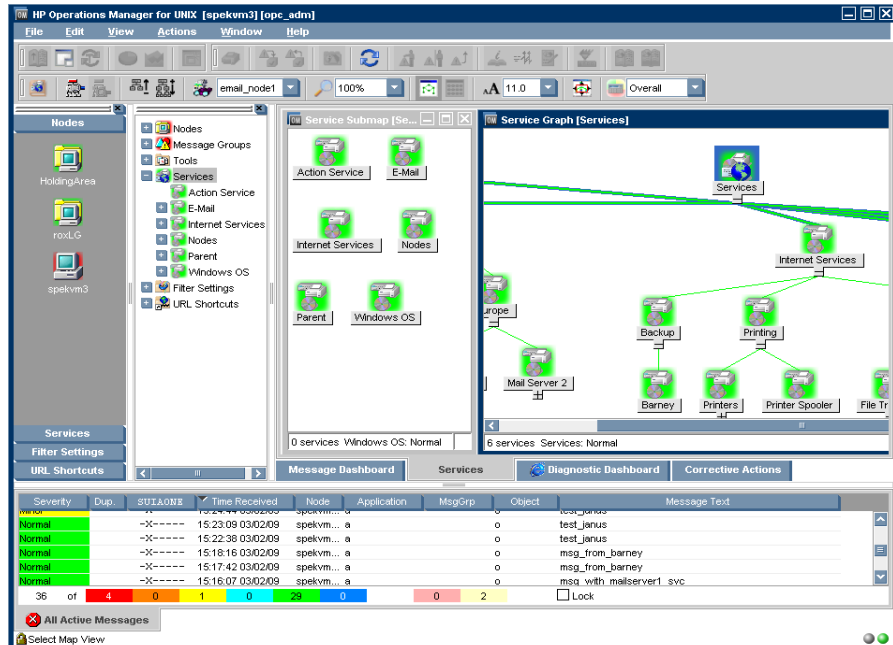




## Service Graphs, Submaps, and Custom Service Maps

Figure 3-11 shows a service submap and a service graph in the Service Navigator GUI.

**Figure 3-11** Service Submap and Service Graph in Service Navigator

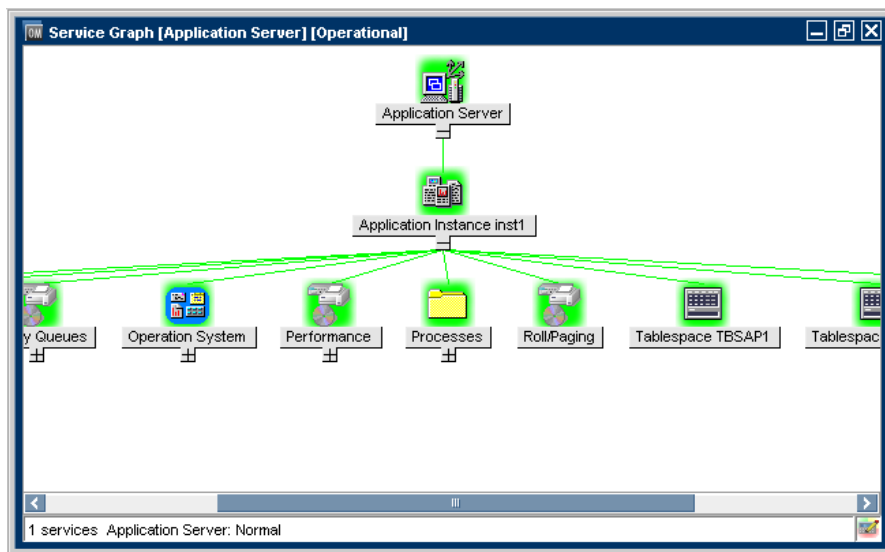


### Service Graphs

Service Navigator displays a simple hierarchical view of services through a service tree in the scoping pane of the GUI. This information can also be graphically presented in the content area with service graphs. These are graphical representations of the hierarchy of services and their subservices. Service graphs are dynamic and are updated whenever the severity of a displayed service changes. To expand the hierarchy, click the **PLUS SIGN (+)** below the icon label. To collapse the hierarchy, click the **MINUS SIGN (-)**.

You can select one or more service icons, and apply any operation from the right-click pop-up menu. For an example of a service graph, see Figure 3-12.

**Figure 3-12** Service Graph



---

**TIP**

You can also double-click a service icon in the service graph to expand or collapse the service hierarchy below. If the service's submap is defined to be displayed with the background image display, it will be opened instead.

---

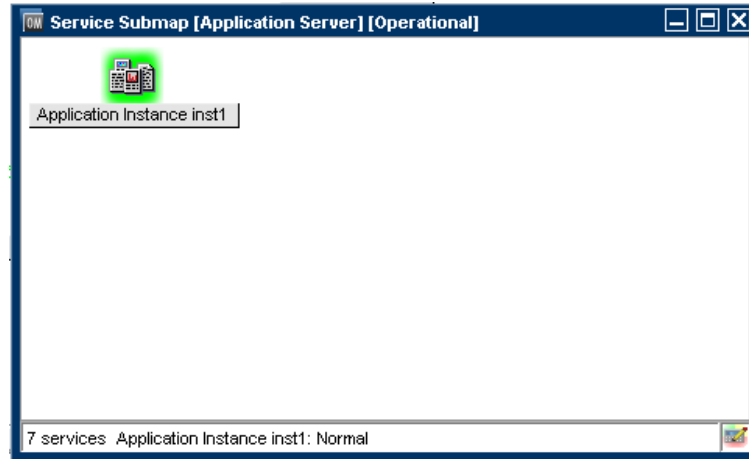
### Service Submaps

Service submaps are graphical representations of subservices of a selected service. No hierarchical information is displayed. Service submaps are most useful for providing a clear view of the status of the subservices within parent services when hierarchical relationships are not of primary interest. For an example of a service submap, see Figure 3-13.

Subservice submaps of the current service submap are accessed by double-clicking the service icon.

Figure 3-13

### Service Submap



### Enhancing Service Submaps

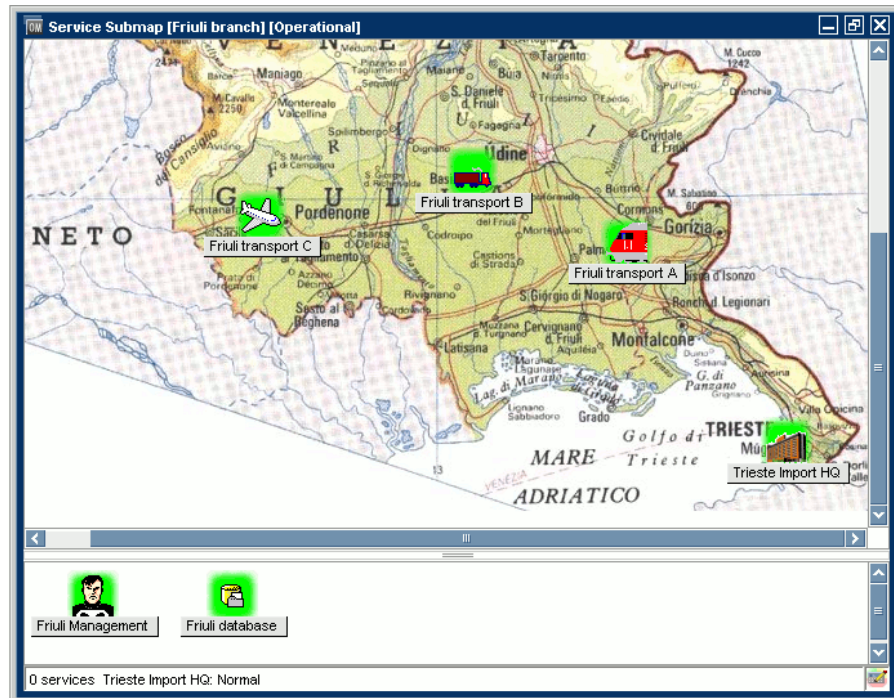
Service submaps can be enhanced with alternative background images (for example, a network schematic or a country map). You can also define the display position of subservice icons on the background image to create clearer overview of the services being managed. For example, position service icons over their geographical locations on a country map.

The customized Service Submap window of a service can be split into two horizontal panes if there are services without any positional information. These icons are then placed in the lower pane.

Figure 3-14 shows the service submap of the Friuli branch service. The Friuli branch service has some subservices located on the submap background and others without positional information placed in the lower pane.

Figure 3-14

### Enhanced Service Submap



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**NOTE**

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These options are available in the Java GUI only if previously configured by the HPOM administrator.

For information on how to customize your service submaps, see the *HPOM Administrator's Reference*.

### **Custom Service Maps**

Custom service maps are graphical representations of services. Multiple services from the service hierarchy can be selected and displayed within a custom service map. Custom service maps are very useful for maintaining an overview of the most important services or even displaying them on a large screen in the IT Center.

## Labeling Services

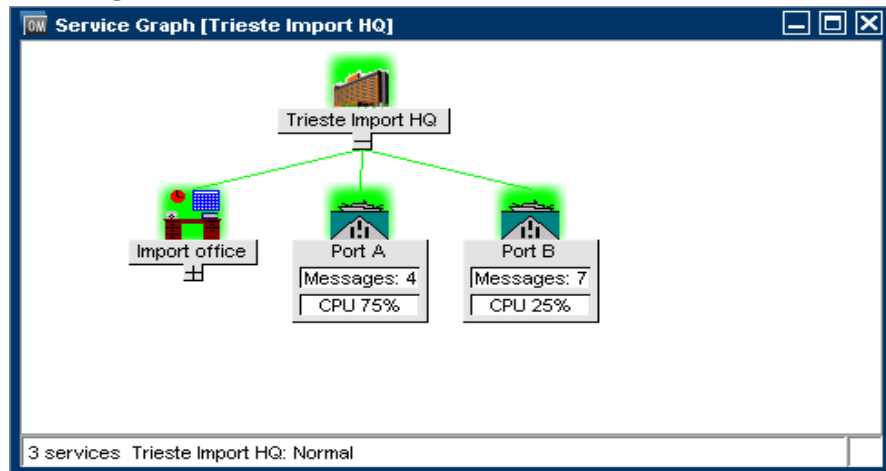
All service icons are identified by using a label. The label appears below an icon in the shortcut bar, the service graph, the service submap, and the custom service map. Additional text or image labels can also be displayed by service icons. An unlimited number of labels can be applied to an icon, the practical limitation being the space available on the display.

Additional labels are used to display information that is important for monitoring the service. For example, the CPU load of the systems that are hosting the service can be displayed as a numerical value and as a bar graph for at-a-glance information. An example of how these labels can be applied to service icons is shown in Figure 3-15.

A collection of reserved service attribute names that are recognized by the GUI are used for labeling. For more information, see the *HPOM Administrator's Reference*.

Figure 3-15

Labeling a Service



**NOTE**

These options are available in the Java GUI only if previously configured by the HPOM administrator.

There are two ways of labeling services by using reserved service attributes:

❑ **Service Configuration File**

As part of the service configuration file. The values for these labels are acquired at Service Navigator startup and cannot be changed or removed during the current session.

❑ **Dynamically**

It is also possible to automatically update the text or the image of a label and display the most up-to-date information by using the messages. The refresh rate is determined by that set for the message browser.

For more information, see the *HPOM Administrator's Reference*.

## Personalizing Your Service Graph and Map View

When operating with many service graphs and maps, especially large ones, it can become difficult to access a particular service or to easily navigate through the graph or map.

You can personalize your service graph and map views in Service Navigator to obtain a more focused overview of the services and make easier to work with them.

You can achieve this by using the following Service Navigator features:

- ❑ Service Graph and Map Zooming
- ❑ Navigating Through Service Graphs and Maps
- ❑ Easy Scrolling and Repositioning of Services in Service Graphs
- ❑ Making Selections in Service Graphs
- ❑ Customizing Font Size in Service Graphs and Maps
- ❑ Customizing Font Size in Service Graphs and Maps

---

### NOTE

Zooming and navigating are supported in both service graphs (including Service Root Cause Graph and Service Impact Graph) and service maps. Easy scrolling, repositioning of services, and making selections are supported *only* in service graphs.

---

### Service Graph and Map Zooming

You can set the size of service graphs and maps by using the manual and automatic zooming adjustments of the following zooming commands:

- ❑ Service Graph and Map Quick Zooming
- ❑ Setting Default Zoom Ratio



## Service Graph and Map Quick Zooming

You can instantly magnify or reduce your view of the service graph or map in the following ways:

### ❑ By using the ‘zoom’ drop-down list from the toolbar

From the ‘zoom’ toolbar drop-down list, select a value from a predefined set of proportional zoom ratios expressed in percentages, from 5% to 100%.

There are two other zoom options available from the ‘zoom’ toolbar drop-down list:

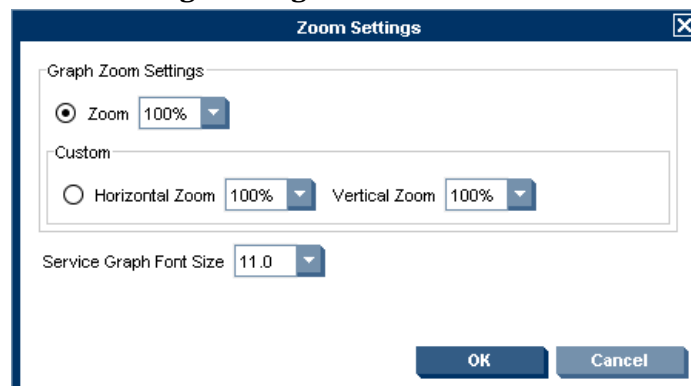
- Fit

The **Fit** zoom option zooms the whole service graph or map, so that it fits exactly into the current window.

- Custom

The **Custom** zoom option opens the Zoom Settings dialog box where you can specify the overall zoom ratio, the horizontal, and the vertical zoom ratio, as shown in the Figure 3-16.

**Figure 3-16** Zoom Settings Dialog Box



### ❑ By using the Zoom Settings pop-up menu

The options available from the ‘zoom’ toolbar drop-down list are also available from the Zoom Settings pop-up menu.

To raise the Zoom Settings pop-up menu, right-click any empty (white) area of the Service Graph or Service Submap window.

### **Setting Default Zoom Ratio**

You can set the zoom ratio that is used each time a new service graph or a new map is opened in the Services tab in the Preferences dialog box.

For a description of each option in the Preferences dialog box, see “Preferences Dialog Box” on page 526.

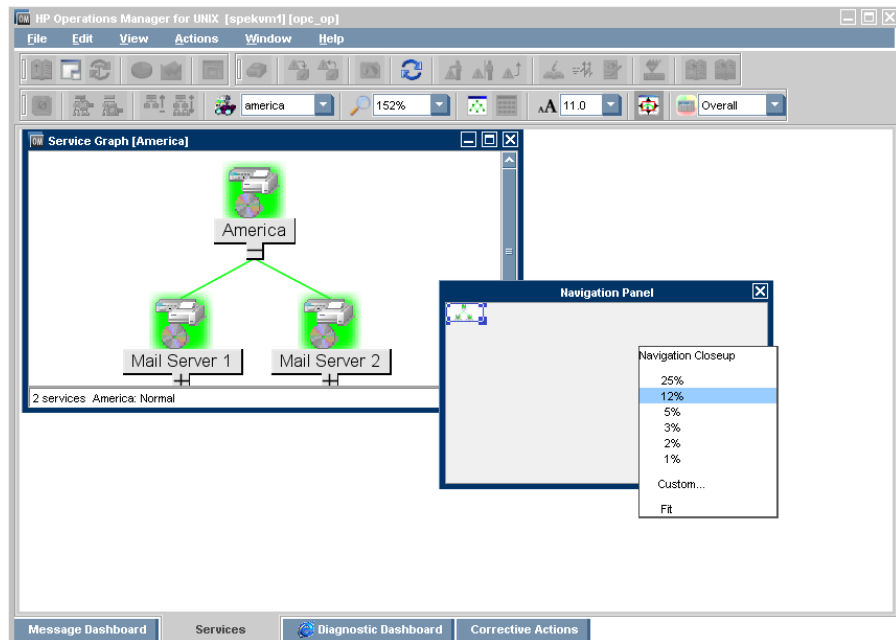
## Navigating Through Service Graphs and Maps

### Navigating by Using the Navigation Panel

The Navigation Panel is a resizable window that helps you to easily navigate through the whole service graph or map area and to get a better overview of the services.

Figure 3-17 shows the Navigation Panel and Service Graph windows in the Service Navigator workspace.

**Figure 3-17** Service Graph Navigation Panel



The view box in the Navigation Panel window represents the boundaries of the service graph area that is displayed in the Service Graph window.

---

#### NOTE

A Navigation Panel window in one pane has no influence on another pane. If you want to navigate through service submaps that are split into two horizontal panes, such as service submaps with a geographical display, you must use the Navigation Panel window in each pane to navigate through that pane.

When two service maps or submaps are displayed, you can switch the target for the Navigation Panel window by clicking the title bar of a service (sub)map where you want to navigate.

---

If the entire service graph or map is not visible in the current workspace, you can use the Navigation Panel window to bring another area of the service graph into view by dragging the view box over the Navigation Panel window.

It is also possible to magnify or reduce the size of the service graph or the map area visible in the Service Graph or Service Submap window. You can achieve this by manually resizing the view box in the Navigation Panel window.

You can also magnify or reduce the size of the Navigation Panel window by using the Navigation Closeup pop-up menu, as shown in Figure 3-17.

---

**NOTE**

You can also use the Navigation Panel window to navigate through the Service Impact Graph and Service Root Cause Graph windows.

---

The Navigation Panel window can be enabled or disabled in one of the following ways:

- By selecting **View-> Navigation Panel** from the menu bar.
- By choosing the **Toggle Navigation Panel** icon from the toolbar.

## Navigating from the Toolbar

The Go to Service drop-down list is available only from the toolbar list. This drop-down list is part of the Service Toolbar component. It contains a list of all services currently present in the Java GUI cache that can be displayed within the selected service graph.

---

### NOTE

You can use the Go to Service drop-down list for navigating only from service graphs.

---

When you select a service and click the **Go** button on the service toolbar, the service is displayed in the center of a service graph surrounded by its neighboring services. This way you can easily navigate through your service graph.

---

### NOTE

If the `Service Load on Demand` option from the **Edit-> Preferences** dialog box is enabled, only the names of the services that are currently retrieved from the management server are displayed in the Go to Service drop-down list.

---

## Making Selections in Service Graphs

In large service graphs with many service icons and connection lines, it can be difficult to determine relationships between service icons.

To easily distinguish between service icons and determine the relationships among them, you can do one of the following:

### ❑ Select service icons

When you select a service icon, all connection lines to its subsequent services are highlighted, as shown in the Figure 3-18 on page 375.

Multiple selections of service icons, either by using the `CTRL` key or a mouse (lasso selections), are also possible.

### ❑ Highlight connection lines

It is possible to highlight any connection line among service icons to determine their relationships.

---

**NOTE**

You can select the service icons and their connection lines only in active Service Graph windows. When the Service Graph window becomes inactive, all selections are no longer highlighted.

---

## Easy Scrolling and Repositioning of Services in Service Graphs

The following features make your work with the service graphs easier:

❑ **Easy scrolling**

You can scroll the whole service graph area by dragging it with the mouse, without need to use the scroll bars. The dragging continues even if you move the mouse outside the Service Graph window.

❑ **Repositioning of service icons**

You can reposition service icons and their connection lines by using drag and drop. If several service icons are selected, you can simultaneously move them over the service graph area.

You can switch between the customized and the auto service layout. The auto service layout assumes the original (default) state of service icons positioning. When you change the position of service icons, the layout switches to the customized. If you switch back to the auto service layout, the positioning is restored to the previous state (default). All new changes made in this layout are now reflected in the new customized layout, while the changes made previously are lost unless saved to the console session settings file.

Easy scrolling and repositioning of service icons make it much easier to determine the connections that belong to particular services as well as allow you to personalize the service graph shape. Figure 3-18 on page 375 shows the repositioned Internet Services icon.

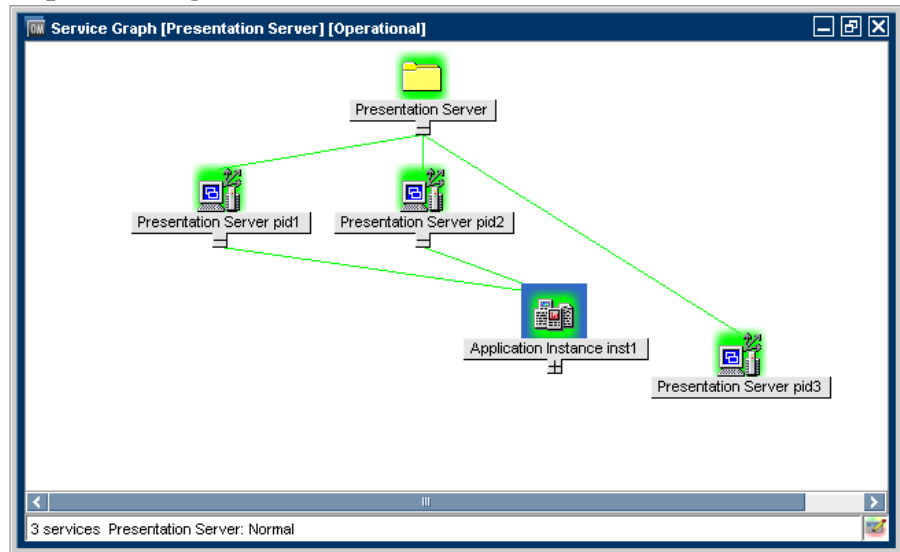
---

**NOTE**

You can move service icons outside service graphs and maps, and you can also move service graphs and maps outside the workspace pane. To learn more about Java GUI drag and drop operations, see “Performing Drag and Drop Operations” on page 93.

---

**Figure 3-18**      **Repositioning Service Icons**



---

**NOTE**

Any action that changes the service graph structure, such as expand or collapse, restores the service icons to their default positions.

---

## Customizing Font Size in Service Graphs and Maps

You can customize the font size in service graphs and maps in one of the following ways:

❑ **By using the ‘font size’ drop-down list from the toolbar**

You can change the font size in your currently active service graph or map by choosing one of the available values from the ‘font size’ toolbar drop-down list.

❑ **By specifying the value in the Zoom Settings dialog box**

You can set the font size in your currently active service graph or map by specifying a value in the Zoom Settings dialog box.

---

**NOTE**

In the Zoom Settings dialog box, you can also set the overall zoom ratio, the horizontal, and the vertical zoom ratio, as shown in the Figure 3-16 on page 369.

---

The Zoom Settings dialog box opens when you choose the `Custom` option from the ‘zoom’ toolbar drop-down list or from the Zoom Settings pop-up menu in your Service Graph or Service Submap window. To learn more about the Zoom Settings dialog box, see “Service Graph and Map Quick Zooming” on page 369.

❑ **By setting the default value in the Preferences dialog box**

You can set the font size that is used each time a new service graph or a new map is opened in the Services tab in the Preferences dialog box.

For a description of each option on the Preferences dialog box, see “Preferences Dialog Box” on page 526.

---

**NOTE**

You can also set the general font size that applies to all Java GUI components except for the service graphs and maps. For more information, see “Customizing the General Font Size” on page 285.

---

## Customizing the Size of Service Icons and Severity Status Indicators

To avoid the overlap between service icons and severity status indicators in large service graphs and maps, you can customize the size of service icons and severity status indicators by using the `service_icon_zoom` parameter of the `itooopc` resource file. Its default value is 100 (%), which is the original size of these icons and indicators, and can be set from 1 through 100. The `service_icon_zoom` parameter can also be used in `ito_op_applet.html`.

For more information about customizing the size of the icons in the shortcut bar, see “Customizing the Size of Shortcut Bar Icons” on page 278. For the list of the `itooopc` resource file parameters, see “itooopc Resource File” on page 588.



## **Saving the Service Graph Layout**

You can save the service graph layout according to your own arrangement of the services, except for the Root Cause and Impact Static Service graphs. The saved information includes the position of the services and the expanded status of the services.

There are two types of layout, the auto layout, which is the default layout, and the custom layout. The toggle button enables you to switch between the auto and the custom layout on a currently selected service graph. If it is ON, the custom layout is enabled. If it is OFF, the auto layout is enabled.

## Loading Services on Demand

Loading services on demand enables you to specify the number of levels in a service hierarchy that are retrieved from the management server, instead of retrieving the entire service tree.

This is especially useful in environments with slow connection lines, such as ISDN or PSTN, or in environments with large service configurations. It enables you to load only the necessary configuration, and therefore to reduce the time needed for the Java GUI startup and to decrease the overall load of the Java GUI.

The retrieval of levels in a service hierarchy is a transfer of service information from the management server to the Java GUI. The retrieved service information is stored in the Java GUI cache.

However, not all service information stored in the Java GUI cache is displayed at once. It can be displayed as follows:

- ❑ At the Java GUI startup, by default only the top-level service and its subservices (level 1) are displayed in the service tree or graph, regardless of the number you specified for the hierarchical levels to be retrieved. Nevertheless, if you saved services to console settings from any previous Java GUI session, the saved configuration is displayed.
- ❑ After the Java GUI startup, you can display the retrieved levels in a service hierarchy in one of the following ways:
  - By expanding any service icon from the last displayed hierarchical level. This displays the next level in a graph or an object pane.
  - By using the Expand Service Graph Level toolbar icon. The next level is expanded from the selected service. This icon can be used to expand services only in a service graph.
  - By expanding the services using the pop-up menu of the selected service, in a service graph and in an object pane. This way you can expand more than one level at once, as described in “Example of Expanding More Hierarchical Levels by Using the Pop-up Menu” on page 381.

The hierarchical levels of services are retrieved by the Java GUI at its startup and on every subsequent user's request.

A user's request is any request for particular services that are currently not present in the Java GUI, such as expanding services. Services can be expanded, for example, by using the `Expand Service Graph` option from the pop-up menu of the selected service.

Every user's request retrieves the specified number of levels in a service hierarchy from the management server. However, there are special cases when more levels than specified are retrieved. These are the following:

- ❑ A message arrives with the name of the service that has not yet been retrieved from the management server. If you choose `Select Service in Object Pane` from the pop-up menu of the message, this service, together with all missing services on its path from the root service, is retrieved from the management server.
- ❑ Services that have been saved to console settings, as well as all missing services on their path from the root service, will also be retrieved from the management server at the Java GUI startup.

Loading services on demand is enabled by default. You can disable this feature or change the settings in the `Services` tab in the `Preferences` dialog box. All changes made in this pane are automatically stored in the `itopr.c` file and take effect immediately.

---

**NOTE**

The `Services` tab is grayed out and thus *not* accessible if no services are assigned to the operator currently using the Java GUI.

---

For more information about the `Services` tab of the Java GUI `Preferences` dialog box, see “`Preferences: Services Tab`” on page 531.

When you disable loading services on demand, you are notified through the `HPOM Communications Status` window that the reload of configuration is in progress. This is because the Java GUI retrieves the entire service tree from the management server. When this option is enabled again, the configuration will not reload because it is already present in the Java GUI.

To learn more about reload of the configuration, see “`Reloading the Configuration`” on page 269.

In addition to setting the number of levels in a service hierarchy, the following can also be configured:

- ❑ An automatic reload of the service configuration when a change occurs on the management server.

When this is enabled, the service tree or graph always reflects the latest configuration on the management server. After the automatic reload, the service graph and the object pane layouts remain unchanged.

- ❑ A possibility to retain services in the Java GUI cache displayed in any service graph or object pane, visible or minimized. All other retrieved services are removed from the cache. Next time you make a request for services that are no longer stored in the cache, they must be reloaded from the management server.

This reduces memory consumption in the Java GUI while maintaining performance.

For more information on how to configure these settings, see “Preferences: Services Tab” on page 531.

## Example of Expanding More Hierarchical Levels by Using the Pop-up Menu

The following example describes how to expand more than one hierarchical level at once by using the pop-up menu of a selected service.

Figure 3-19 on page 382 shows the service graph marked with number 1 shows the selected E-mail service and its subservices America and Europe. The Europe service is expanded by one hierarchical level.

If you choose the `Expand Service Graph` option from the E-mail service pop-up menu, the `Expanding Tree or Graph` dialog box appears. In this dialog box, you can choose to expand one of the following:

**OK**

Only part of the service tree or graph, which means the part that is already retrieved from the management server.

**Expand All**

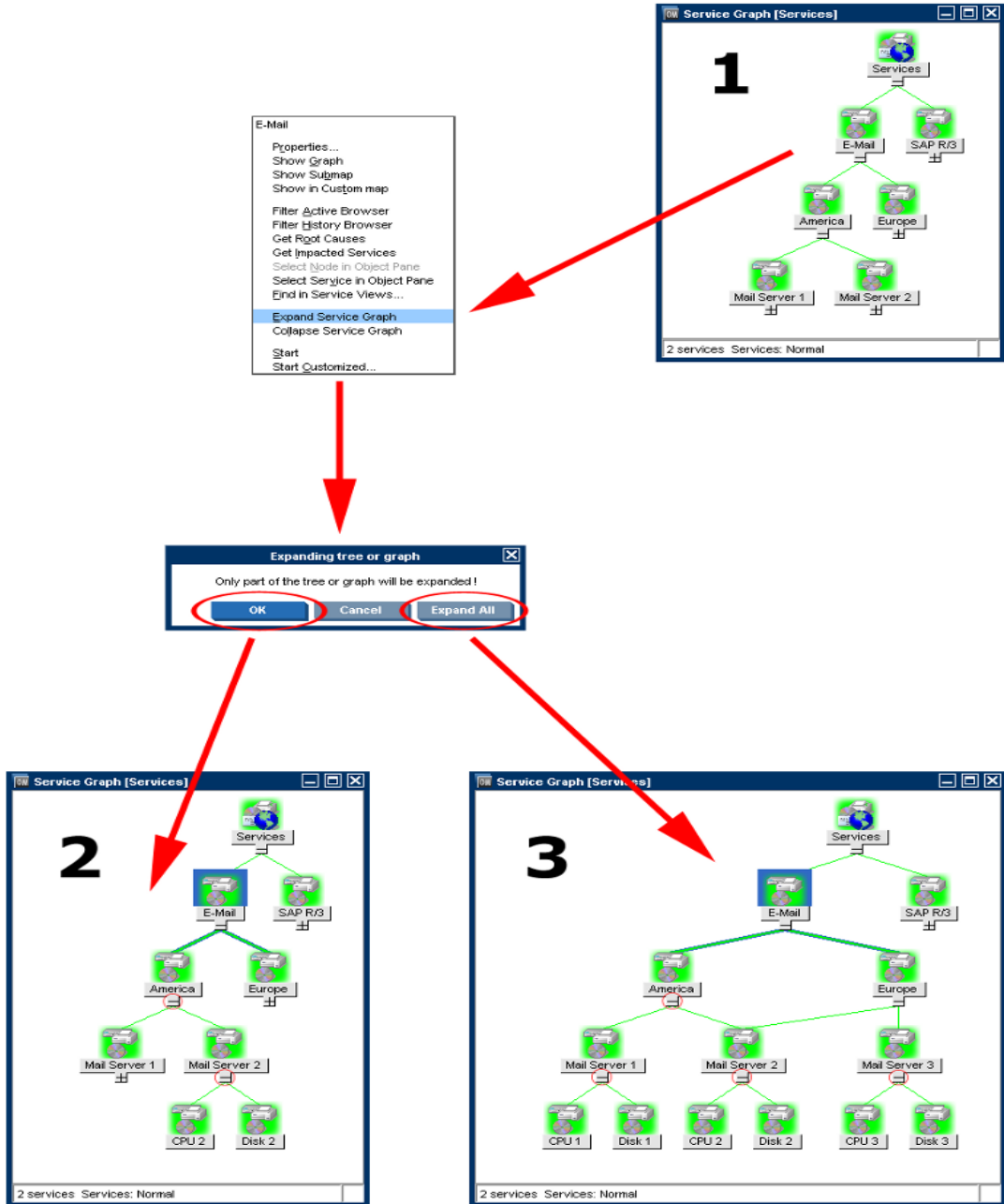
Service tree or graph that shows all subservices of the selected service.

In the service graph marked with number 2, where only part of the service graph was expanded, you can observe which services are retrieved from the management server when the Europe service was expanded.

The service graph marked with number 3 shows all subservices of the E-mail service.

During the retrieval of services from the management server, indication lights in the Java GUI status bar change their color to indicate that services are being transferred. For more information, see “Status Bar” on page 80.

Figure 3-19 Expanding Service Graph with Use Service Load on Demand



## Service Logging and Reporting

A critical aspect of IT management is the capability to generate reports about your service delivery performance.

If configured, Service Navigator creates a log entry in the HPOM database whenever a service changes the severity. Reports retrieve the logs from the HPOM database and display the information in the graphical or statistical form. You can design and generate your own reports or use the service reports that are bundled with HP Reporter.

Service reports cover a wide range of reports, starting from reports about the current status of a service, to reports about trends based on historical status data. The following Service Navigator reports are bundled with HP Reporter:

❑ **Service availability**

This report displays the duration of a service in each status. Each status is presented in percent using a pie chart. Alternatively, a bar chart can be displayed. The report is based on all status logs in the HPOM database.

❑ **Message trend by service**

This report displays the number of messages received for each service over time. It is based on all active and history messages in the HPOM database that affect a service. The report displays a line graph for each service.

❑ **Top active messages by service**

This report displays the three services with the highest number of active messages, broken down by severity. The report is based on all active messages in the HPOM database and displays a bar chart.

For more information about these reports, see the HP Reporter documentation. For information about the contents of the HPOM database and how to design and generate your own reports, see the *HPOM Reporting and Database Schema*.

Service logging is easily enabled (or disabled) by using a Service Navigator command line tool. Command line tools are also available to download or upload service data from or into the HPOM database. This can be useful for database maintenance purposes. See *HPOM Administrator's Reference* for more information.

The service logging file lists the services for which logging is enabled and is placed at the following location:

```
/etc/opt/OV/share/conf/OpC/mgmt_sv/opcsvcm/loggings
```

---

**NOTE**

Never edit the service logging file directly.

---



---

## **4 Performing Daily Tasks with Service Navigator**

## Managing Problems with Service Navigator

In addition to monitoring the managed objects in your environment, Service Navigator allows you to monitor services. As a result, you can focus on the status of the services for which you are responsible and watch for any changes in their severity levels.

For an overview of the HPOM problems solving process, see “Problem Solving Process” on page 115.

In general, the HPOM logical problem-solving model also applies to Service Navigator:

### ❑ Detecting Problems

If a problem occurs on one of the managed objects that affects one of your managed services, a message arrives in your message browser informing you of the problem. The severity status of the service also changes to reflect the new situation. For details, see “Detecting Problems with HPOM and Service Navigator” on page 388.

### ❑ Investigating Problems

By using a filtered message browser, you can find out where and why the problem affecting the service has occurred. In addition, the Get Root Cause and Get Impacted Services analyses show you where the cause of the problem lies, and which other services are affected. For details, see “Investigating Problems with HPOM and Service Navigator” on page 394.

### ❑ Solving Problems

HPOM provides a number of tools to help you solve the problem (for example, automatic or operator-initiated actions, operator instructions, and tools). In addition, the HPOM administrator may have configured service-specific actions. For details, see “Solving Problems with HPOM and Service Navigator” on page 397.

❑ **Documenting Solutions**

The problem management process is documented by instructions and annotations associated with each message. Instructions and annotations can serve as a helpful reference the next time the problem arises. For details, see “Documenting Solutions with HPOM and Service Navigator” on page 400.

After you solve a problem and document its solution, you acknowledge the message that alerted you to the problem in the first place. Acknowledging a message moves it from your active message browser to the history database. You can access the message again by opening the filtered history message browser.

## Detecting Problems with HPOM and Service Navigator

HPOM and Service Navigator detect problems and potential problems in the managed environment.

You can use Service Navigator to detect problems in your managed environment as follows:

- ❑ “Viewing Services” on page 389
- ❑ “Viewing Service Details” on page 390
- ❑ “Viewing Service-related Messages” on page 391
- ❑ “Finding a Service in Multiple Service Hierarchies” on page 392

You can use HPOM to detect problems in your managed environment as follows:

- ❑ “Viewing a Message Node Manually” on page 223
- ❑ “Viewing Messages” on page 226
- ❑ “Refreshing the Java GUI Manually” on page 269
- ❑ “Reloading the Configuration” on page 269

---

### NOTE

For an overview of the HPOM problems solving process, see “Problem Solving Process” on page 115.

---

## Viewing Services

Services in the managed environment are displayed hierarchically in the object pane. If a problem occurs on one of your managed objects that affects a service for which you are responsible, the severity status of the service changes to reflect the new situation.

The service can change severity because one of its subservices changes severity, or because a message that directly affects the service arrives. In this case, the subservices of the service do not change the severity, only the parent service itself adopts a new status.

### Viewing Services in the Object Pane

To view services in the object pane, do one of the following:

#### ❑ Expand the Object Tree

In the object pane, do one of the following:

- Double-click the **Services** icon.
- Click the plus icon (+).

#### ❑ Collapse the Object Tree

In the object pane, click the minus icon (-).

### Viewing Services in a Custom Map

To view services in a custom map, follow these steps:

1. Click the **Services** tab. In the displayed pane, right-click the service you want to monitor.
2. From the pop-up menu, select **Show in Custom Map**.

A new client window opens, displaying the subservices of the selected service in a service submap.

---

#### NOTE

If configured by the HPOM administrator, icons in the custom map can also show dynamic labels with textual information and images that give you more information about the specific services at a glance.

---

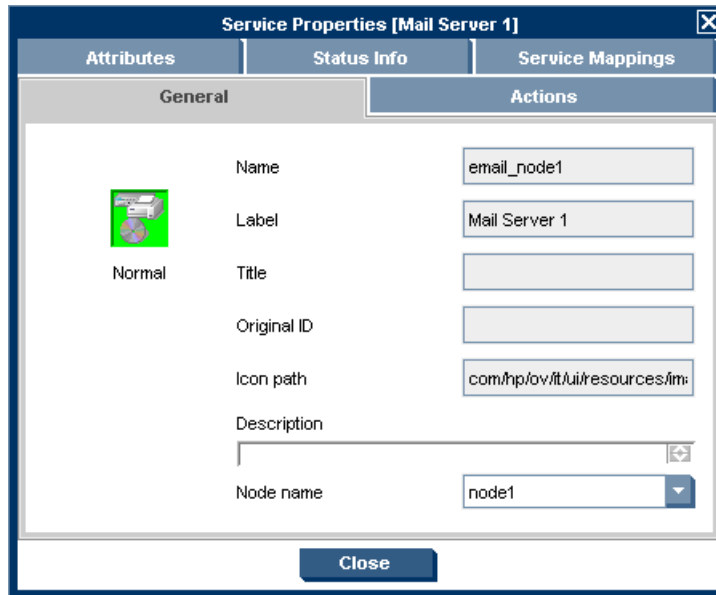
## Viewing Service Details

It may be useful to get detailed information about the general configuration of a service. The Service Properties dialog box contains details of the current configuration of the service.

To view service details, follow these steps:

1. In the object pane, right-click the service for which you want details.
2. From the pop-up menu, select **Properties**.

The Service Properties dialog box opens.



For information about the options in the Service Properties dialog box, see “Service Properties Dialog Box” on page 538.

3. When you finish reviewing the details of the service, click **OK**.

## Viewing Service-related Messages

The standard HPOM message browser displays all messages generated from the managed objects for which you are responsible. If you want to view only the messages that are related to a specific service, open a filtered message browser with corresponding filtering criteria.

To view service-related messages, follow these steps:

1. In the object pane, select the service that is affected.
2. Do one of the following:
  - Right-click the selected message to open a pop-up menu, and then select either **Filtered Active Browser** or **Filtered History Browser**.
  - From the menu bar, select **Actions: Filtering -> New Active Filtered Browser**, and then select the filter criteria in the Filter Messages dialog box, as shown in Figure 1-60 on page 142.

For descriptions of the options in this dialog box, see “Filter Messages Dialog Box” on page 497.

## Finding a Service in Multiple Service Hierarchies

---

**NOTE**

This section is only relevant for you if the HPOM administrator uses HP Operations Service Configuration for Service Navigator to configure services. Service Configuration is a graphical user interface for configuring service hierarchies for Service Navigator.

---

In Service Configuration, a service can have multiple parent services. This means that in the Java GUI, the same service can appear in multiple service hierarchies, each time having a different status and different associated actions.

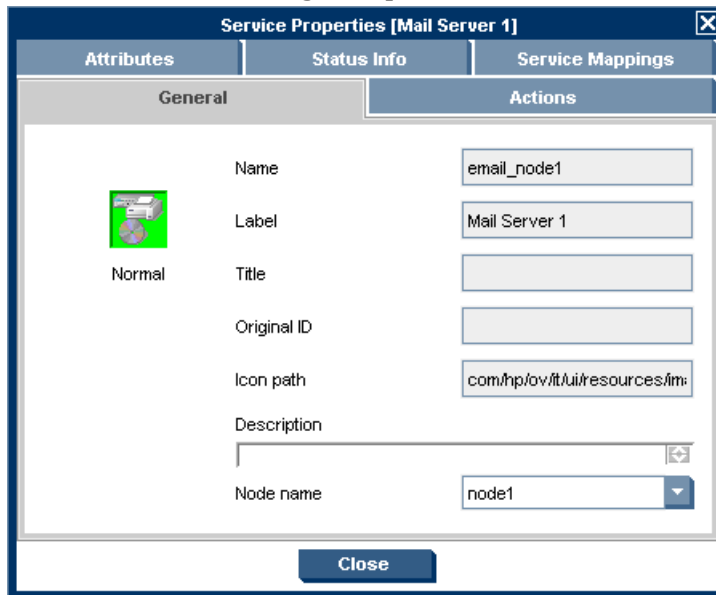
A change in the status of one occurrence of the service does not necessarily mean that the status of all other occurrences also changes. However, it is good practice to identify all hierarchies that contain the service to ensure that other services are not impacted. Because all occurrences of the same service share the same identifier (the original ID), the Java GUI lets you easily identify all occurrences of the service.

To find a service in multiple service hierarchies, follow these steps:

1. In the object pane, right-click the service for which you want to find other services with the same original ID.
2. From the pop-up menu, select **Find in Service Views....**



The Service Views dialog box opens.



The Service column contains all services that have the same original ID as the service for which you started the search. The Root Service column lists the root service of each service hierarchy that contains an identified service.

3. Select one of the identified services, and then click **Show Graph**. A service graph opens with the selected service highlighted.

---

**TIP**

---

You can also double-click a service to open the service graph.

4. When you finish with the search results, click **Close** to close the Service Views dialog box.

## Investigating Problems with HPOM and Service Navigator

After HPOM has detected a problem in your managed environment, you should investigate the problem. This section explains how to use either the message browser headline or the Message Properties dialog box to determine the details of the problem, including when it happened, on what node, how severe the problem is, and if any actions are preconfigured to solve the problem. The history database is also a good resource for investigating how similar problems have been solved previously.

You can use Service Navigator to investigate problems in your managed environment as follows:

- ❑ “Highlighting an Affected Service” on page 394
- ❑ “Identifying the Root Cause of a Problem” on page 395
- ❑ “Identifying Impacted Services” on page 396

You can use HPOM to investigate problems in your managed environment as follows:

- ❑ “Investigating Problems with the Message Browser” on page 232
- ❑ “Viewing Detailed Message Information” on page 234
- ❑ “Investigating Message Histories” on page 237
- ❑ “Viewing a Message Node Automatically” on page 224

For an overview of the HPOM problems solving process, see “Problem Solving Process” on page 115.

### Highlighting an Affected Service

After you have investigated the problem, you can easily highlight the service which is affected in the object pane.

To highlight an affected service with a fastlink, follow these steps:

1. In the message browser, right-click the message you are investigating.
2. From the pop-up menu, select **Select Service in Object Pane**.

HPOM highlights the service in the object pane. You can now further investigate the problem by starting the detailed Get Root Cause or Get Impacted Services analysis. For details, see “Identifying the Root Cause of a Problem” on page 395 and “Identifying Impacted Services” on page 396.

## **Identifying the Root Cause of a Problem**

It may be difficult for you to determine whether the service itself or one or more subservices has caused the service to change its severity. Service Navigator provides you with a get-root-cause analysis tool that lets you quickly find the service that caused the severity to change.

To identify the root cause of a problem, follow these steps:

1. Select the service in the object pane that caused the severity change.
2. Right-click the service, and then select **Get Root Causes** from the pop-up menu.

A new client window opens displaying Service Root Cause Graph for the service. You can now identify the subservice that caused the status change.

## Identifying Impacted Services

A subservice contained in a parent service can also be used by another service. As a result, a change of the severity not only affects the immediate parent service, but also all other services that use the subservice. To quickly determine which other services are affected by a change of the severity, Service Navigator displays all impacted services in Service Impact Graph.

---

### NOTE

Subservices not impacted by the problem are not displayed in Service Impact Graph although they are subservices of the selected parent service.

However, Service Impact Graph may display additional impacted parent services that are not assigned to you. This is because the impact analysis is done on the entire service hierarchy regardless of any service assignments.

---

To identify impacted services, follow these steps:

1. In the object pane, right-click the service.
2. From the pop-up menu, select **Get Impacted Services**.

A new client window opens displaying Service Impact Graph for your service. The service you had selected and all services that are affected by the problem appear as icons in the graph.

## Solving Problems with HPOM and Service Navigator

After you have investigated a problem, you should solve the problem in your managed environment.

You can use Service Navigator to solve problems in your managed environment as follows:

- ❑ “Performing a Service Action” on page 397
- ❑ “Starting a Tool from a Service” on page 399

You can use HPOM to solve problems in your managed environment as follows:

- ❑ “Unbuffering a Pending Message” on page 242
- ❑ “Modifying the Attributes of a Message” on page 234
- ❑ “Owning Messages” on page 241
- ❑ “Verifying Automatic Actions” on page 242
- ❑ “Verifying Operator-initiated Actions” on page 244
- ❑ “Viewing Operator-assigned Tools” on page 246
- ❑ “Starting Tools” on page 247
- ❑ “Customizing the Start-up Attributes of a Tool” on page 251
- ❑ “Broadcasting a Command” on page 254

For an overview of the HPOM problems solving process, see “Problem Solving Process” on page 115.

### Performing a Service Action

You can check if an action is configured for the service by viewing the service details.

To perform a service action, follow these steps:

1. In the object pane, right-click a service.
2. From the pop-up menu, select **Start**, and then choose the service action you want to execute.

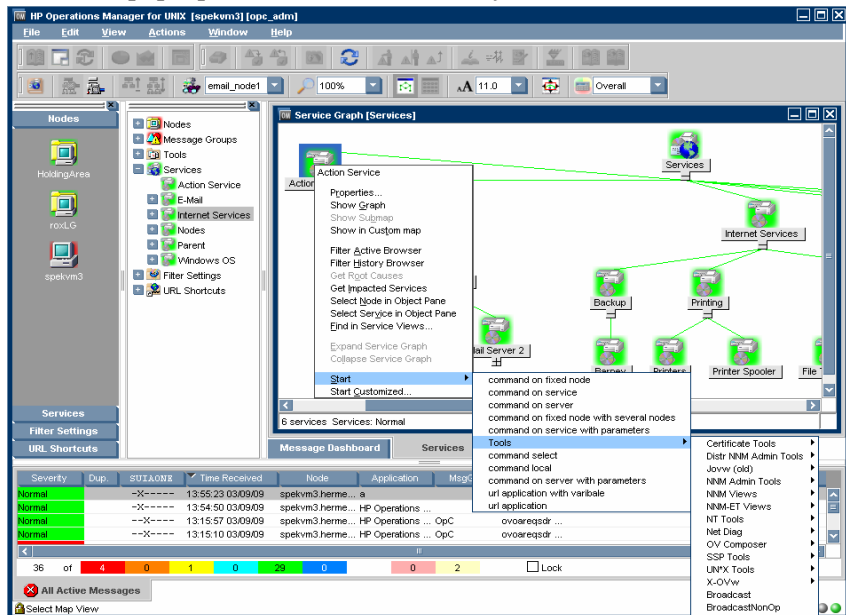
The type of service action, either a web application or a command, determines how the output of the action is displayed:

- If a web application is started, a web browser opens.
- If a command is started, the output is displayed in a new workspace pane window.

## Starting a Tool from a Service

To start a tool from a service, follow these steps:

1. Click the **Services** tab. In the displayed pane, right-click a service or a subservice.
2. From the pop-up menu, choose the tool you want to start.



In the figure, tools in the red box are service tools.

### NOTE

You can also start regular tools from the Service menus. For example, you can quickly run a background task on the management server while simultaneously viewing the service tree.

## Documenting Solutions with HPOM and Service Navigator

The final step in the HPOM problem-solving model is to document solutions. This step facilitates problem management in the future. To document solutions, you modify message instructions and move resolved problems from the message browser to the history database by acknowledging them.

You can use HPOM to solve problems in your managed environment as follows:

- ❑ “Annotating a Message” on page 257
- ❑ “Printing HPOM Messages and Application Output” on page 258
- ❑ “Acknowledging Messages” on page 261

For an overview of the HPOM problems solving process, see “Problem Solving Process” on page 115.



## Customizing HPOM and Service Navigator

You can customize HPOM and Service Navigator to help streamline your IT tasks.

You can customize your managed environment as follows:

- ❑ “Changing Your Operator Password” on page 268
- ❑ “Loading the Default Configuration” on page 269
- ❑ “Customizing Console Settings” on page 271
- ❑ “Customizing Movable Panes” on page 274
- ❑ “Customizing the Shortcut Bar” on page 275
- ❑ “Customizing Workspace Pane Workspaces” on page 279
- ❑ “Changing Your Integrated Web Browser” on page 280
- ❑ “Customizing the Toolbar” on page 283
- ❑ “Creating a Filtered Message Browser” on page 290
- ❑ “Saving the Browser Filter Settings” on page 291
- ❑ “Saving the Browser Layout” on page 307
- ❑ “Changing the Layout of Browser Windows” on page 310
- ❑ “Changing the Number of Displayed Messages” on page 312
- ❑ “Customizing the Refresh Interval” on page 270
- ❑ “Customizing the Look and Feel of the Java GUI” on page 273
- ❑ “Customizing the Color Preferences for the Message Browser” on page 314
- ❑ “Customizing the Font Size” on page 285
- ❑ “Customizing the Progress Dialog Box” on page 273
- ❑ “Customizing the Size of Service Icons and Severity Status Indicators” on page 376



---

# **A Troubleshooting**

## General Troubleshooting

In general, if you encounter problems with HPOM, you should check error messages and make a note of all related symptoms.

### ❑ **Checking Error Messages**

You can check error messages in the error dialog box, MS-DOS, or terminal window, and error log files.

### ❑ **Analyzing Symptoms**

You can analyze the facts, the scope, the context, and duration of the problem.

For specific troubleshooting procedures, see “Specific Troubleshooting” on page 408.

## Checking Error Messages

If you encounter a problem, you can check error messages in the following locations:

- ❑ **Error Dialog Box**

The error dialog box that pops up when an error occurs.

- ❑ **MS-DOS or Terminal Window**

The MS-DOS or the terminal window that was used to start the GUI.

- ❑ **Error log files**

Error log files on the management server:

```
/var/opt/OV/log/OpC/mgmt.sv
```

For other supported agent platforms, ask your HPOM administrator for the location of the error log files.

## Analyzing Symptoms

If you encounter a problem, make a note of the following related symptoms:

### ❑ **Facts**

Write down the following facts:

- Did you receive an error message?
- Did the user interface hang or crash?
- Did you receive a communication error?

### ❑ **Scope**

Determine which components are affected by the problem:

- Distinguish between GUI and server problems.
- If you suspect a problem is related to the server, try to duplicate the problem on a different GUI client to find out whether it is a client-specific problem.

### ❑ **Context**

Determine if anything is changed in your managed environment or with the product configuration:

- Hardware
- Software
- Files
- Security
- Name services
- Routing
- Utilization

❑ **Duration**

Determine a time pattern, if any:

- How long did the problem last?
- How often did the problem occur?
- Is the problem consistent or intermittent?
  - *Consistent*  
Fails every time
  - *Intermittent*  
Fails only sometimes

## Specific Troubleshooting

This sections describes solutions to specific problems you may encounter:

❑ **HPOM GUI Does Not Start**

What to do if you receive the error message in an MS-DOS terminal window.

❑ **HPOM Tool Does Not Start**

What to do if a tool set up in HPOM can no longer be started on a managed node.

❑ **Action Does Not Complete**

What to do if an automatic action, an operator-initiated action, or a scheduled action hangs and does not terminate.

❑ **Colors Do Not Display Properly**

What to do if a window contains nothing but a single color or squares of colors.

❑ **Applets Do Not Start in a Workspace**

What to do if Java2 applets do not start in a workspace.

❑ **Service Navigator Cannot Find the Service Definition**

What to do if Service Navigator cannot find the service definition.

❑ **Error Message is Displayed When Exiting or Logging off from the HTTPS Java GUI**

What to do if you receive an error message when exiting or logging off from the HTTPS Java GUI.

For general troubleshooting procedures, see “General Troubleshooting” on page 404.



## HPOM GUI Does Not Start

If you receive an error message when trying to log on, make sure the management server is reachable and that the HP Operations server processes are running on the management server.

### Problem

After entering the log-on information, you receive an error box with the following message:

```
Management server is not running.
```

### Solution

To solve this problem, follow these steps:

1. Make sure the HP Operations management server is reachable.

Try the ping command from an MS-DOS terminal window:

```
ping <HPOM_management_server>
```

2. Make sure the HP Operations server processes are running on the management server.

Ask your HPOM administrator to check the status of the server processes.

## HPOM Tool Does Not Start

If you can no longer start a tool set up in HPOM on a managed node, either adapt the start-up configuration of the HPOM default tool or use customized start-up options.

### Problem A

A tool is upgraded, and its command path, access security, or something else has been changed.

### Solution A

Adapt the start-up configuration of the HPOM default tool accordingly.

### Problem B

The user's password for start-up configuration of the default tool is changed.

### Solution B

Use customized tool startup options.

For details, see "Customizing the Start-up Attributes of a Tool" on page 251.

### Problem C

A tool with no graphical interface, such as `cmd.exe` and `telnet`, does not appear to be running at the startup.

### Solution C

Because the tool has no graphical interface, it is not visible, even though it is running. Starting tools like this one has to be properly configured by the HPOM administrator when assigning Java GUI operator defaults. For more information, refer to the *HPOM Administrator's Reference*.

## Action Does Not Complete

If an automatic action, an operator-initiated action, or a scheduled action hangs and does not terminate, kill the specific process and modify the related policy condition, script, or command.

### Problem

An automatic action, an operator-initiated action, or a scheduled action hangs and does not finish because of programming errors, requests for user input, and so on.

### Solution

To solve the problem, follow these steps:

1. Run the `ps` command to determine the process ID of the endlessly running action.
2. Run the `kill` command for the specific process ID.
3. To prevent the problem from recurring, do one of the following:
  - Change the related policy condition.
  - Fix the script or the command.

## Colors Do Not Display Properly

If a window opens but contains nothing except a single color or squares of colors, select another color scheme and restart HPOM.

### Problem

The color scheme on your system has either the identical background and foreground colors or there is not enough color contrast between the foreground and the background. This is more often a problem with the UNIX system's displays than with other platforms (for example, the NorthernSky and Mustard color schemes on HP-UX cause this problem).

### Solution

To solve this problem, select another color scheme on your window manager, and then restart HPOM.

## Applets Do Not Start in a Workspace

If you want to access web pages that start Java2 applets in a workspace, the Java GUI itself must be running as an applet.

### Problem

When starting a web page that starts a Java2 applet in a workspace, you receive the following error message:

```
Attachment to a running Virtual Machine failed
```

### Solution

To solve this problem, the Java GUI *itself* must be running as an applet. Follow these steps:

1. Exit your current GUI session.
2. Start the Java GUI with the menu sequence **Start: HP Operations for UNIX->JAVA Console Plugin.**

## Service Navigator Cannot Find the Service Definition

With Service Configuration for Service Navigator, a message can target multiple services. Any service-related message operations (for example opening a service graph from a selected message) therefore affect multiple services. If one of the affected services is not in your responsibility matrix, the following error message appears:

Figure A-1

### Service Not Found



### Problem

The `Service not found` error message appears when you start one of the following operations:

- Select service or services in Object Pane
- Show Graph(s)
- Show Submap(s)
- Get Impacted Services

### Solution

The service you tried to access is not part of your responsibilities and can therefore not be displayed to you.

## **Error Message is Displayed When Exiting or Logging off from the HTTPS Java GUI**

### **Problem**

When exiting or logging off from the HTTPS Java GUI, the following error message appears:

```
ERROR MSG, 7:42:47 AM, com.hp.ov.it.comm.OvEmbHttpClient:  
https status - InternalServerError:text/html,  
Message = HTTP/1.1 500 Internal Server Error  
Date: Wed, 11 May 2005 05:41:57 GMT  
Transfer-Encoding: chunked  
  
Server: BBC 05.20.010; opcuihttps 01.00.000  
senderid: e6979118-acal-750b-1f6a-de6eb9cfe391  
Cache-Control: no-cache  
Content-Type: text/html
```

### **Solution**

This message can be safely ignored.





---

## **B** **References**

## In This Appendix

This appendix contains the following detailed reference information:

❑ **Keyboard Shortcuts**

Explains how to enter menu bar and pop-up menu commands from the keyboard without using the mouse.

❑ **Menu Bar Items**

Explains options contained in the menu bar.

For an overview of the menu bar, see “Menu Bar” on page 81.

❑ **Toolbar Icons and Drop-down Lists**

Explains icons on the toolbar.

For an overview of the toolbar, see “Toolbar” on page 82.

❑ **Pop-up Menu Items**

Explains pop-up menu items in the Java GUI.

For an overview of the Java GUI, see “Tour of the HPOM Java GUI” on page 44.

❑ **Dialog Boxes**

Explains options that are available within dialog boxes throughout the Java GUI.

❑ **Start Customized Tool Wizard**

Explains how to change the preconfigured start-up attributes of a tool.

❑ **Message Browser Headline**

Describes the default elements that are available in the headline of the message browser.

❑ **Message-related Variables**

Explains the parameters for extended message-related variables used in HPOM messages.

For an overview of extended message-related variables, see “Adding HPOM Variables” on page 159.

❑ **Types of HPOM Variables**

Explains the variables used in HPOM or passed to external programs.

❑ **itoopbrw File**

Explains how to customize and save a message browser layout with the `itoopbrw` file.

For an overview of customizing message browsers, see “Changing the Layout of Browser Windows” on page 310 and “Saving the Browser Layout” on page 307.

❑ **ito\_op Start-up Options**

Describes the start-up options evaluated by the Java GUI when it is started by using the `ito_op` startup script.

❑ **itoprc Resource File**

Describes the options that can be added in the `itoprc` file, which stores operator preferences.

## Keyboard Shortcuts

The Java GUI enables you to type many commands by using the keyboard, without using the mouse.

The Java GUI contains two types of keyboard shortcuts:

### ❑ Key Accelerators

Key accelerators directly access functionality without opening any menus. Key accelerators are available for the most commonly performed tasks in the Java GUI. An example of a key accelerator is **CTRL+S** that enables you to save the console session settings.

For a list of key accelerators in the Java GUI, see “Java GUI Key Accelerators” on page 421.

### ❑ Key Mnemonics

Key mnemonics enable you to jump straight to specific menu items by using one or more keystrokes once a menu is opened. Key mnemonics are available for almost all menu commands. Ways for accessing the key mnemonics are different for commands in the menu bar and in pop-up menus:

- *Menu Bar*

Press and hold down the **ALT** key, and then press the underlined letter of the menu that you want to access. For example, if you want to select File: Save Console Session Settings, press and hold down the **ALT** key, and then press **F** and **S** (**ALT+FS**).

For descriptions of options available in the menu bar, as well as their keyboard mnemonics, see “Menu Bar Items” on page 424.

- *Pop-up Menus*

Select an item with a right-click, or select an item and press **SHIFT+F10** to get a pop-up menu. For example, if you want to create a filtered active message browser on a particular node, right-click the node, and then press **A**. Or click the node, press and hold down **SHIFT**, and then press **F10** and **A** (**SHIFT+F10+A**).

For descriptions of options available in pop-up menus, as well as their keyboard mnemonics, see “Pop-up Menu Items” on page 449.

## Java GUI Key Accelerators

The key accelerators used in the Java GUI are listed in Table B-1. For a graphical presentation of the key accelerators in the Java GUI, see Figure B-1 on page 423.

**Table B-1 Key Accelerators in the Java GUI**

Key Accelerator	Action
ALT+ENTER	Shows the Property dialog box of a selected message or multiple selected services.
CTRL+PLUS SIGN or CTRL+MINUS SIGN	Zooms in or out of all graphs and the custom map.
CTRL+F6 or CTRL+SHIFT+F6	Moves to the next or previous internal window.
CTRL+DEL	Acknowledges one or more selected messages.
CTRL+SHIFT+S	<i>In detached message browsers only:</i> Shows or hides the status summary area in detached message browsers.
CTRL+SHIFT+H	<i>In detached message browsers only:</i> Shows or hides the horizontal scroll bar in detached message browsers.
CTRL+TAB or CTRL+SHIFT+TAB	Moves to the next or previous workspace tab.
CTRL+C	Copies one or more messages.
CTRL+F	Finds an object in the object pane.
CTRL+I	Disowns one or more selected messages.
CTRL+M	Modifies the selected message.
CTRL+N	Adds an annotation to one or more selected messages.
CTRL+P	Prints one or more selected messages.
CTRL+S	Saves the console session settings.
CTRL+U	Adds a new URL shortcut.

**Table B-1 Key Accelerators in the Java GUI (Continued)**

Key Accelerator	Action
<b>CTRL+V</b>	Pastes one or more messages. Fields of the message are separated with tabs. This makes possible organizing messages into Excel spreadsheets, where each field of each message is a separate column in the row.
<b>CTRL+W</b>	Owns one or more selected messages.
<b>DEL</b>	Acknowledges one or more messages with the Confirm dialog box.
<b>F1</b>	Displays the contents of the Java GUI online documentation.
<b>F5</b>	Refreshes the status of objects in the Java GUI.
<b>F6 or SHIFT+F6</b>	Moves to the next or previous area pane.

Figure B-1 Java GUI Key Accelerators

The screenshot displays the HP Operations Manager for UNIX interface. A context menu is open over the 'Messages' section, listing various actions with their corresponding keyboard shortcuts:

- Start
- Start Customized...
- Filtering
- Messages
- Services
- URL Shortcuts

The 'Perform/Stop Action' submenu includes:

- Acknowledge (Ctrl+Delete)
- Unacknowledge
- Unbuffer
- Properties (Alt+Enter)
- Own (Ctrl+W)
- Down (Ctrl+I)
- Escalate
- Instructions
- Annotations
- Add Annotations (Ctrl+N)
- Modify (Ctrl+M)
- Create Active Filter on Message
- Create History Filter on Message
- Print
- Select nodes in Object Pane
- Acknowledge All in Current View
- Acknowledge All Messages
- Update Current Workspace

The main dashboard features a 3D bar chart and a pie chart. The bar chart shows values: 4.0, 0.0, 1.0, 0.0, 25.0, 0.0. The pie chart shows values: 4.0, 1.0, 25.0.

At the bottom, a table lists active messages:

Severity	Dup.	SUIAONE	Time Received	Node	Application	MsgGrp	Object	Message Text
Normal		-X----	15:29:19 03/02/09	spekvm3...a	leaf service	o		
Minor		-X----	15:24:44 03/02/09	spekvm3...a	test_janus	o		
Normal		-X----	15:23:09 03/02/09	spekvm3...a	test_janus	o		
Normal		-X----	15:22:38 03/02/09	spekvm3...a	test_janus	o		
Normal		-X----	15:18:16 03/02/09	spekvm3...a	msg_from_barney	o		
Normal		-X----	15:17:42 03/02/09	spekvm3...a	msg_from_barney	o		
Normal		-X----	15:16:07 03/02/09	spekvm3...a	msg_with_mailserver1_svc	o		

Summary: 32 of 4 0 1 0 25 0 0 2 Lock

Messages: Perform Action, Acknowledge, Properties, Instructions, Annotations, Acknowledge All Messages

Browser displays max 50 messages.

## Menu Bar Items

This section describes the menu items that are available in the menu bar:

❑ **File Menu**

See “File Menu” on page 425.

❑ **Edit Menu**

See “Edit Menu” on page 427.

❑ **View Menu**

See “View Menu” on page 428.

❑ **Actions Menu**

See “Actions Menu” on page 434.

❑ **Window Menu**

See “Window Menu” on page 443.

❑ **Help Menu**

See “Help Menu” on page 444.

For an overview of the menu bar, see “Menu Bar” on page 81.

---

**NOTE**

If Service Navigator is installed, additional menu bar options are available in the Actions menu.

---



## File Menu

The File menu (**ALT+F**) in the menu bar has the following options:

Save Console Session Settings (**ALT+FS**)

Stores any customization you made to the toolbar, position controls, shortcut bar, object pane, and browser pane, as well as any changes you made in the Preferences dialog box. For details, see “Customizing HPOM” on page 266 and “Preferences Dialog Box” on page 526. The next time you start the Java GUI, the stored settings are read and restored.

Page Setup... (**ALT+FU**)

Enables you to set preferences for your printer.

Print... (**ALT+FP**)

Prints the active pane. From the Java Runtime print dialog box, you can select a printer, printing preferences, whether to print to a file, number of pages to print, how many copies to print, whether to collate pages, and so on. For details, see “Printing HPOM Messages and Application Output” on page 258.

Export... (**ALT+FE**)

Saves one or more selected messages to a file of any given format (for example, to a text file). For details, see “Drag and Drop Operations Between the Java GUI and Other Applications” on page 101.

Change Password (**ALT+FH**)

Opens the Change Operator Password dialog box. For descriptions of options in this dialog box, see “Change Operator Password Dialog Box” on page 492.

Send Message to Operators (**ALT+FT**)

Opens the Send Message to Operator(s) dialog box. For descriptions of options in this dialog box, see “Send Message to Operator(s) Dialog Box” on page 536.

Reload Assigned Defaults (**ALT+FD**)

Reloads the administrator-defined default preferences for the toolbar, position controls, shortcut bar, object pane, workspace pane, and browser pane, as well as any changes made in the Preferences dialog box made by the administrator.

---

**CAUTION**

---

This options overwrites your own preferences that cannot be recovered.

To find out how to change these defaults, see “Customizing HPOM” on page 266 and “Preferences Dialog Box” on page 526. If you change any of these preferences, you must save them by using `File: Save Console Session Settings` in the menu bar. For details, see “File Menu” on page 425. The next time you start the Java GUI, the stored settings are read and restored.

Reload Configuration (**ALT+FA**)

Reloads configuration data, such as assigned nodes, message groups, and services (if Service Navigator is installed), defined by the HPOM administrator for the Java GUI.

Log Off... (**ALT+FG**)

Logs you out of the Java GUI. Before you are logged out, an alert box asks if you want to save any console session changes for future sessions.

Exit (**ALT+FX**)

Shuts down the Java GUI. Before the Java GUI shuts down, an alert box asks if you want to save any console session changes for future sessions.

## Edit Menu

The Edit menu (**ALT+E**) in the menu bar has the following options:

Copy to Clipboard (**ALT+EC**)

Copies the selected text to the system clipboard.

Find... (**ALT+EF**)

Enables you to search for a specific item in the object tree by entering the name of the item. You can choose to search for whole words only, matching case, or both. When the search function finds a specific item, the item is highlighted in the object pane. If the item is not visible because the object tree is collapsed, the tree is expanded, and the item is scrolled into the visible area of the object pane. The search begins at the top of the object tree, rather than from the selected item. For an overview of the search function, see “Searching the Object Pane” on page 119. For descriptions of options in the Find dialog box, see “Find Dialog Box” on page 504.

Preferences... (**ALT+EP**)

Opens the Preferences dialog box. For descriptions of options in the Preferences dialog box, see “Preferences Dialog Box” on page 526.

## View Menu

The View menu (**ALT+V**) in the menu bar has the following options:

### Shortcut Bar (**ALT+VS**)

Shows or hides the shortcut bar. If the menu item is selected, the shortcut bar is available. If the menu item is not selected, the shortcut bar is not available. For an overview of the shortcut bar, see “Shortcut Bar” on page 46.

### Object Pane (**ALT+VO**)

Shows or hides the object pane. If the menu item is selected, the object pane is available. If the menu item is not selected, the object pane is not available. For an overview of the object controls, see “Object Pane” on page 48.

### Browser Pane (**ALT+VB**)

Shows or hides the browser pane. If the menu item is selected, the browser pane is available. If the menu item is not selected, the browser pane is not available. For an overview of the browser pane, see “Browser Pane” on page 66.

### Position Controls (**ALT+VP**)

Shows or hides the position controls. If the menu item is selected, the position controls are available in the Java GUI. If the menu item is not selected, the position controls are not available in the Java GUI. For an overview of the position controls, see “Position Controls” on page 83.

### Navigation Panel (**ALT+VA**)

Shows or hides the Navigation Panel window. If the menu item is selected, the Navigation Panel window is available. If the menu item is not selected, the Navigation Panel window is not available.

You can access the Navigation Panel window also from the toolbar. For more information about toolbar icons and drop-down lists, see “Toolbar Icons and Drop-down Lists” on page 445.

To learn more about navigating through service graphs and maps, see “Navigating Through Service Graphs and Maps” on page 371.

Main Toolbar (**ALT+VT**) (or Toolbar (**ALT+VT**) in detached windows)

Shows or hides any of the toolbar components. For descriptions of icons that belong to these components, see “Toolbar Icons and Drop-down Lists” on page 445.

Message Browser Toolbar (**ALT+VTB**)

If selected, all icons belonging to this toolbar component are visible on the toolbar.

Message Toolbar (**ALT+VTM**)

If selected, all icons belonging to this toolbar component are visible on the toolbar.

Service Toolbar (**ALT+VTS**)

If selected, all icons belonging to this toolbar component are visible on the toolbar.

Message Browser Toolbar (**ALT+VM**)

Switches message browser icons on and off. For descriptions of the toolbar icons, see “Toolbar Icons and Drop-down Lists” on page 445.

On Main Toolbar (**ALT+VMM**)

If selected, icons are on the toolbar.

On Workspace Message Browser (**ALT+VMW**)

If selected, icons are on each message browser in the workspace pane.

On Browser Pane Message Browser (**ALT+VMB**)

If selected, icons are on the message browser in the browser pane.

Browser Status Summary (**ALT+VS**)

*In detached message browsers only.* Shows or hides the status summary area in detached message browsers. For an overview of detached windows, see “Detached Windows” on page 90.

Horizontal Scroll Bar (**ALT+VH**)

*In detached message browsers only.* Shows or hides the horizontal scroll bar in detached message browsers. For an overview of detached windows, see “Detached Windows” on page 90.

Number of Messages (**ALT+VN**)

Enables you to choose one of two methods for displaying messages in the active message browser:

Latest Messages (**ALT+VNL**)

By default, displays the 50 most recent messages in the active message browser. To find out how to change this number, see “Changing the Number of Displayed Messages” on page 312.

All Messages (**ALT+VNA**)

Displays all messages currently assigned to you in the active message browser.

---

**CAUTION**

Displaying all messages could cause a problem if a very large number of messages are assigned to you. In addition, choosing to display only 50 messages could cause a problem if there are critical messages that are not displayed in the active message browser. To prevent either problem, you can sort messages by severity (see “Changing the Layout of Browser Windows” on page 310). You can also create message filters that meet your specific requirements (see “Creating a Filtered Message Browser” on page 290).

Customize Message Browser Columns... (**ALT+VU**)

Opens the Customize Browser Columns dialog box where you can determine which message browser columns you want to display and what text you want to see in the column labels. In this dialog box, you can also add custom message attributes. For descriptions of options in the Customize Browser Columns dialog box, see “Customize Message Browser Columns Dialog Box” on page 493. For an overview of custom message attributes, see “Custom Message Attributes” on page 134.

Save Message Browser Layout (**ALT+VL**)

Saves the new browser layout as one of the following:

Save As Default For (**ALT+VLD**)

Saves the new browser layout (order, width, sorting order, and selection of columns) for a new default active (**ALT+VLDA**), history (**ALT+VLDH**), or pending (**ALT+VLDP**) message browser.

Save For Filter Name (**ALT+VLF**)

Saves the new browser layout (order, width, sorting order, and selection of columns) for the currently selected (top-most) filtered message browser.

Message Browser (**ALT+VG**)

Accesses the following browser pane pop-up menu items and toolbar menu items. For descriptions of these options, see “Browser Pane Pop-up Menu Items” on page 475 and “Toolbar Icons and Drop-down Lists” on page 445.

Show Chart (**ALT+VGS**)

See “Browser Pane Pop-up Menu Items” on page 475 and “Toolbar Icons and Drop-down Lists” on page 445.

Browser Pane Tab Properties (**ALT+VGP**)

See Properties in “Browser Pane: Browser Tab Menu” on page 476.

Close Browser Pane Tab (**ALT+VGL**)

See Close in “Browser Pane: Browser Tab Menu” on page 476.

Current State Chart (**ALT+VGC**)

See Switch to Current State Chart in “Toolbar Icons and Drop-down Lists” on page 445.

History Chart (**ALT+VGH**)

See Switch to History Chart in “Toolbar Icons and Drop-down Lists” on page 445.

Put Message Browser to Browser Pane (**ALT+VGB**)

See “Toolbar Icons and Drop-down Lists” on page 445.

Put Message Browser to Workspace Pane (**ALT+VGB**)

See “Toolbar Icons and Drop-down Lists” on page 445.

Workspace Pane (**ALT+VT**)

Accesses the following workspace pane pop-up menu items.

- Workspace Properties (**ALT+VTW**)
- Delete Workspace (**ALT+VTD**)
- New Workspace (**ALT+VTN**)
- Move Selected Window To (**ALT+VTM**)

For descriptions of these options, see “Workspace Pane Pop-up Menu Items” on page 468.



Detach Window (**ALT+VD**)

Detaches the selected window from the main Java GUI window and places it in the center of the screen. For an overview of detached windows, see “Detached Windows” on page 90.

Attach Window (**ALT+VC**)

*In detached message browsers only.* Attaches the detached window to the currently selected workspace. For an overview of detached windows, see “Detached Windows” on page 90.

Expand Object Pane (**ALT+VE**)

Expands all branches of the selected item in the object tree. Equivalent to clicking the **PLUS SIGN (+)** next to all branches of the object tree. For an overview of the object tree, see “Object Pane” on page 48.

Collapse Object Pane (**ALT+VC**)

Collapses all branches in the selected item of the object tree. Equivalent to clicking the **MINUS SIGN (-)** next to all branches of the object tree. For an overview of the object tree, see “Object Pane” on page 48.

Refresh (**ALT+VR**)

Refreshes the status of nodes, message groups, message charts, and services (if Service Navigator is installed).

## Actions Menu

If Service Navigator is installed, additional menu bar options are available in the Actions menu.

The Actions menu (**ALT+A**) in the menu bar has the following options:

Start (**ALT+AS**)

Enables you to start tools assigned to you by your HPOM administrator.

Start Customized... (**ALT+AC**)

Opens the Start Customized Tool wizard. For descriptions of options in this wizard, see “Start Customized Tool Wizard” on page 546.

Filtering (**ALT+AF**)

Enables you to create and modify filtered message browsers to meet your specific requirements:

New Active Filtered Browser... (**ALT+AFA**)

Opens the Filter Messages dialog box where you can create a new filtered active message browser. For descriptions of options in the Filter Messages dialog box, see “Filter Messages Dialog Box” on page 497. For an overview of the filtered active message browser, see “Filtered Active Message Browser” on page 73.

New History Filtered Browser... (**ALT+AFH**)

Opens the Filter Messages dialog box where you can create a new filtered history message browser. For descriptions of options in the Filter Messages dialog box, see “Filter Messages Dialog Box” on page 497. For an overview of the filtered history message browser, see “Filtered History Message Browser” on page 75.

New Pending Filtered Browser... (**ALT+AFP**)

Opens the Filter Messages dialog box where you can create a new filtered pending messages browser. For descriptions of options in the Filter Messages dialog box, see “Filter Messages Dialog Box” on page 497. For an overview of the filtered pending messages browser, see “Filtered Pending Messages Browser” on page 77.

All Active Messages (**ALT+AFL**)

By default, opens a message browser that displays the 50 most recent messages. To find out how to change this number, see “Changing the Number of Displayed Messages” on page 312.

Modify Filter... (**ALT+AFM**)

Opens the Filter Messages dialog box where you can edit the definition of the selected filtered message browser. For descriptions of options in the Filter Messages dialog box, see “Filter Messages Dialog Box” on page 497.

Clone Selected Filtered Browser

Equivalent to clicking the Open a New Message Browser Window with the Same Filter icon on the toolbar. For details, see “Toolbar Icons and Drop-down Lists” on page 445.

Remove Filter from Browser (**ALT+AFR**)

Deletes the selected filtered message browser definition.

Close Filtered Browser (**ALT+ AFC**)

Closes the selected filtered message browser.

Save Settings... (**ALT+AFS**)

Saves settings you configured for the filtered active, history, or pending messages browser windows. In this way, you can see the same or similar information at a later date without having to repeat the configuration process.

Use Saved Settings... (**ALT+AFU**)

Enables you to reuse browser filters.

Message View Filter... (**ALT+AFO**)

Opens the Message View Filter dialog box where you can create, save, and load message view filters.

For descriptions of options in the Message View Filter dialog box, see “Message View Filter Dialog Box” on page 517. For an overview of message view filters, see “Setting Up Message View Filters” on page 195.

Remove Message View Filter (**ALT+AFE**)

Removes a message view filter from a message browser.

For more information about removing message view filter, see “Removing Filters from Message Browser Columns” on page 305.

Messages (**ALT+AM**)

Enables you to stop or start actions, unacknowledge messages, unbuffer messages, change message properties, own or disown messages, and so on.

Perform/Stop Action (**ALT+AMF**)

Starts or stops the action associated with the selected message in the message browser.

Choose one of the following:

- Perform Operator-initiated Action (**ALT+AMFP**)
- Rerun Automatic Action (**ALT+AMFR**)
- Stop Operator-initiated Action (**ALT+AMFO**)
- Stop Automatic Action (**ALT+AMFA**)

Acknowledge (**ALT+AMA**)

Moves the selected message from the active message browser to the history database. For details, see “Acknowledging Selected Messages” on page 262.

Unacknowledge (**ALT+AMU**)

Moves the selected message from the history database to the active message browser. For details, see “Unacknowledging a Message” on page 263.

Unbuffer (**ALT+AMB**)

Moves the selected message from the pending messages browser to the active message browser. For details, see “Unbuffering a Pending Message” on page 242.

Properties (**ALT+AMR**)

Opens the Message Properties dialog box. For descriptions of options in this dialog box, see “Message Properties Dialog Box” on page 510.

Own (**ALT+AMO**)

Owns the selected message. For details, see “Owning Messages” on page 241.

Disown (**ALT+AMD**)

Disowns the selected message. For details, see “Disowning Messages” on page 241.

Instructions (**ALT+AMI**)

Opens the Instructions tab of the Message Properties dialog box. For descriptions of options in this tab, see “Message Properties: Instructions Tab” on page 515.

Annotations (**ALT+AMN**)

Opens the Annotations tab of the Message Properties dialog box. For descriptions of options in this tab, see “Message Properties: Annotations Tab” on page 515.

Modify (**ALT+AMM**)

Opens the Modify Message Attributes dialog box. For descriptions of options in this dialog box, see “Modify Message Attributes Dialog Box” on page 522.

Create Active Filter on Message (**ALT+AML**)

Opens the Filter Messages dialog box. The fields related to the message are already selected (for example, the severity is preselected in the `With Severity` check box). You can use the Filter Messages dialog box to clear the items you do not need. For descriptions of options in this dialog box, see “Filter Messages Dialog Box” on page 497.

Print (**ALT+AMP**)

Enables you to print selected messages (**ALT+AMPS**), all messages in the message browser (**ALT+AMPA**), details of selected messages (**ALT+AMPD**), or details of all messages in the message browser (**ALT+AMPE**). From the print dialog box, you can select a printer, printing preferences, whether to print to a file, number of pages to print, how many copies to print, whether to collate pages, and so on. For details, see “Printing HPOM Messages and Application Output” on page 258.

Select Nodes in Object Pane (**ALT+AMS**)

Highlights the node that generated the selected message in the object pane. This option can be very helpful if you have many nodes and want to locate the node associated with a particular message quickly. For an overview of the object tree, see “Object Pane” on page 48.

Acknowledge All in Current View (**ALT+AMC**)

Acknowledges all messages in the selected message browser. For details, see “Acknowledging Messages” on page 261.

Acknowledge All Messages (**ALT+AMK**)

Acknowledges all messages in all browsers.

Update Current Workspace (**ALT+AMW**)

Updates the URL tool associated with the selected message.

Works only if the workspace supports Microsoft Internet Explorer ActiveX controls.

Services (**ALT+AV**)

If you use Service Navigator, additional options are available in the Services submenu of the HPOM Actions menu. These options supplement the menu bar options that come with the standard HPOM product and are the following:

Properties... (**ALT+AVR**)

Opens the Service Properties dialog box. For an overview of this dialog box, see “Service Properties Dialog Box” on page 538.

Show Graph (**ALT+AVG**)

Opens a service graph of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Show Submap (**ALT+AVB**)

Opens a submap of the subservices of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Show in Custom Map (**ALT+AVT**)

Opens a custom map of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Filter Active Browser (**ALTALT+AVA**)

Opens a message browser that contains filtered active messages related to the selected service. For an overview of the filtered active message browser, see “Filtered Active Message Browser” on page 73.



Filter History Browser (**ALT+AVH**)

Opens a message browser that contains filtered history messages related to the selected service. For an overview of the filtered history message browser, see “Filtered History Message Browser” on page 75.

Get Root Causes (**ALT+AVO**)

Opens a root causes graph for the selected service. To find out more about root causes, see “Identifying the Root Cause of a Problem” on page 395.

Get Impacted Services (**ALT+AVI**)

Opens an impacted services graph for the selected service. To find out more about impacted services, see “Identifying Impacted Services” on page 396.

Select Node in Object Pane (**ALT+AVN**)

Highlights the selected node in the object pane. For an overview of the object pane, see “Object Pane” on page 48

Select Service in Object Pane (**ALT+AVV**)

Highlights the selected service in the object pane. For an overview of the object pane, see “Object Pane” on page 48.

Find in Service Views... (**SHIFT+F10+VVF**)

Opens the Service Views dialog box. For an overview of this dialog box, see “Service Views Dialog Box” on page 541.

Collapse Service Graph Level (**ALT+AVL**)

Collapses one level of the service tree in the service graph. Equivalent to clicking the **MINUS SIGN (-)** next to all open branches of the tree.

Expand Service Graph Level (**ALT+AVE**)

Expands one level of the service tree in the service graph. Equivalent to clicking the **PLUS SIGN (+)** next to all closed branches of the tree.

Start (**ALT+AVS**)

Enables you to start tools assigned to you by your HPOM administrator.

Start Customized... (**ALT+AVC**)

Opens the Start Customized Tool wizard. For descriptions of options in this wizard, see “Start Customized Tool Wizard” on page 546.

URL Shortcuts (**ALT+AU**)

Enables you to add, start, delete, and modify URL shortcuts. For details, see “Shortcut Bar Pop-up Menu Items” on page 451.

## Window Menu

The Window menu (**ALT+W**) in the menu bar has the following options:

Next (**ALT+WN**)

Moves the selection to the next window in the workspace pane.

Previous (**ALT+WP**)

Moves the selection to the previous window in the workspace pane.

Cascade (**ALT+WC**)

Cascades (folds like a deck of cards) workspace pane windows.

Tile Horizontally (**ALT+WH**)

Places windows next to each other horizontally.

Tile Vertically (**ALT+WV**)

Stacks windows on top of each other vertically.

The Window menu may contain a list of window titles if windows are detached from the main Java GUI window. Select an item in this list to bring the detached window to the front of the screen.

## Help Menu

The Help menu (**ALT+H**) in the menu bar has the following options:

Contents (**ALT+HC**)

Displays the contents of the HPOM online documentation. When selected for the first time, it asks you to provide the path to the web browser you want to use.

Home Page (**ALT+HH**)

Displays the link to HP Operations Support:

<http://support.openview.hp.com/support.jsp?FromPROD=ito>

About (**ALT+HA**)

Displays information about the installed HPOM version.

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## Toolbar Icons and Drop-down Lists

The toolbar contains the following icons that are listed by the components to which they belong:

❑ **Message Browser Toolbar**

The following toolbar icons belong to the Message Browser Toolbar component:



**Put Message Browser to Browser Pane**

Moves the message browser to the browser pane.



**Put Message Browser to Workspace Pane**

Moves the message browser to the workspace pane.



**Detach Window**

Detaches the selected window from the main Java GUI window and places it in the center of the screen.



**Update Current Workspace**

Updates the current workspace. Works only if the workspace supports Microsoft Internet Explorer ActiveX controls.



**Switch to Current State Chart**

Switches the view to the current state chart.



**Switch to History Chart**

Switches the view to a history chart.



**Open New Message Browser Window with Same Filter**

Opens a new message browser window with the same filter.



**Show/Hide Horizontal Scroll Bar**

*In detached message browsers only.* Shows or hides the horizontal scroll bar in detached message browsers.

□ Message Toolbar

The following toolbar icons belong to the Message Toolbar component:



**Print**

Prints the current window.



**Acknowledge Selected Objects**

Acknowledges the selected message or messages.



**Unacknowledge Selected Objects**

Unacknowledges the selected message or messages.



**Show Properties**

Opens the Message Properties dialog box (see “Message Properties Dialog Box” on page 510).



**Refresh Message Browser**

Refreshes the Java GUI. Same as selecting View: Refresh from the menu bar (see “View Menu” on page 428).



**Own Selected Objects**

Owens the selected message or messages.



**Disown Selected Objects**

Disowns the selected message or messages.



**Show Message Instructions**

Opens the Instructions tab of the Message Properties dialog box (see “Message Properties: Instructions Tab” on page 515).



**Perform Action**

Starts the operator-initiated action associated with the selected message.



**Show Message Annotations**

Opens the Annotations tab of the Message Properties dialog box (see “Message Properties: Annotations Tab” on page 515).



**Open Message View Filter Dialog Box**

Opens the Message View Filter dialog box (see “Message View Filter Dialog Box” on page 517).

**Show All Messages**

Toggles from Show Latest Messages to show all messages in the message browser.

**Show Latest Messages**

Toggles from Show All Messages to show the latest 50 messages in the message browser.

□ Service Toolbar component

The following toolbar icons belong to the Service Toolbar component:

**Show Service Properties**

Opens the Service Properties dialog box (see “Service Properties Dialog Box” on page 538).

**Show Root Cause Services**

Shows the services that caused the problem.

**Show Impacted Services**

Shows the services affected by the problem.

**Collapse Service Graph Level**

Collapses the *Service* level in the object tree and the service graph in the workspace pane.

**Expand Service Graph Level**

Expands the *Service* level in the object tree and the service graph in the workspace pane.

**Toggle Navigation Panel**

Opens the Navigation Panel, a resizable window that helps you to easily navigate through the whole service graph or map area, and to get a better overview of the services. For more details about navigating using the Navigation Panel window, see “Navigating by Using the Navigation Panel” on page 371.

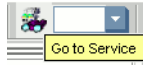
**Service Graph Layout Customization**

Switches between the customized and auto service layout.

**Switch Between Different Views**

Switches between the service map view and the table view.

The Service Toolbar component includes also the following drop-down lists:



**Go to Service Drop-down List**

Contains a list of all services currently present in the Java GUI cache. When you select a service, it appears in the center of a service graph or map surrounded by its neighboring services.

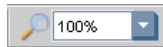
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**NOTE**

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The Go to Service drop-down list is available only from the toolbar.

See “Go to Service” on page 82 for more information.



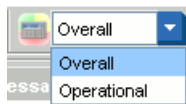
**Zoom Drop-down List**

Offers a predefined set of proportional zoom ratios expressed in percentages, from 5% to 100%. For more details about service graph and map zooming, see “Service Graph and Map Quick Zooming” on page 369.



**Font Size Drop-down List**

Offers a predefined set of font size values for service graphs and maps. For more details about changing the font size in service graphs and maps, see “Customizing Font Size in Service Graphs and Maps” on page 188.



**Status Calculation Drop-down List**

Offers two service status calculation views, Overall and Operational. You can set these views only for the currently active service graph or map. For more details about service status calculation, see “Service Multi-Status Calculation Views” on page 352.

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**NOTE**

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For an overview of the toolbar, see “Toolbar” on page 82.



## Pop-up Menu Items

This section describes pop-up menus for each of the five major areas of the Java GUI:

❑ **Toolbar**

For descriptions of pop-up menu items in each area of the toolbar, see “Toolbar Pop-up Menu Items” on page 450.

❑ **Shortcut Bar**

For descriptions of pop-up menu items in each area of the shortcut bar, see “Shortcut Bar Pop-up Menu Items” on page 451.

❑ **Object Pane**

For descriptions of pop-up menu items in each area of the object pane, see “Object Pane Pop-up Menu Items” on page 458.

❑ **Workspace Pane**

For descriptions of pop-up menu items in each area of the workspace pane, see “Workspace Pane Pop-up Menu Items” on page 468.

❑ **Browser Pane**

For descriptions of pop-up menu items in each area of the browser pane, see “Browser Pane Pop-up Menu Items” on page 475.

For an overview of pop-up menus, see “Pop-up Menus” on page 84.

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**NOTE**

If Service Navigator is installed, additional service pop-up menu options are available in the shortcut bar, the object pane, and the workspace pane.

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## Toolbar Pop-up Menu Items

The toolbar pop-up menu contains a list of toolbar components. Selecting a component shows or hides the component in the main toolbar. For descriptions of icons that belong to these components, see “Toolbar Icons and Drop-down Lists” on page 445.

The pop-up menu on the toolbar has the following options:

Message Browser Toolbar (right-click+**B**)

If selected, all icons belonging to this toolbar component are visible on the toolbar.

Message Toolbar (right-click+**M**)

If selected, all icons belonging to this toolbar component are visible on the toolbar.

Service Toolbar (right-click+**S**)

If selected, all icons belonging to this toolbar component are visible on the toolbar.

## Shortcut Bar Pop-up Menu Items

The selection of pop-up menu items in the shortcut bar depends on the type of object you select. For example, the items available from a node are different from the options available from a URL shortcut.

This section describes the distinct pop-up menus in each area of the shortcut bar:

❑ **Shortcut Groups**

Pop-up menus in each shortcut group. For details, see “Shortcut Bar: Shortcut Group Menus” on page 452.

❑ **Nodes**

Pop-up menus in the Nodes area. For details, see “Shortcut Bar: Nodes Menu” on page 453.

❑ **Services**

If Service Navigator is installed, pop-up menus in the Services area. For details, see “Shortcut Bar: Services Menu” on page 454.

❑ **Filter Settings**

Pop-up menus in the Filter Settings area. For details, see “Shortcut Bar: Filter Settings Menu” on page 456.

❑ **URL Shortcuts**

Pop-up menus in the URL Shortcuts area. For details, see “Shortcut Bar: URL Shortcuts Menu” on page 457.

For an overview of the pop-up menu in the shortcut bar, see “Shortcut Bar Pop-up Menu” on page 85. For a description of the shortcut bar, see “Shortcut Bar” on page 46.

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**NOTE**

If Service Navigator is installed, additional service pop-up menu options are available in the shortcut bar, the object pane, and the workspace pane.

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### Shortcut Bar: Shortcut Group Menus

The pop-up menu in each shortcut group (the gray bar) in the shortcut bar has the following options:

Add New URL Shortcut... (right-click+**U**)

Opens the New URL Shortcut dialog box. For descriptions of options in the New URL Shortcut dialog box, see “Add New URL Shortcut Dialog Box” on page 489.

Modify Current Group (right-click+**M**)

Opens the Modify Group dialog box. For descriptions of options in the Modify Group dialog box, see “Modify Group Dialog Box” on page 521.

Remove Current Group (right-click+**R**)

Deletes the selected shortcut group.

Add New Group... (right-click+**A**)

Adds a new shortcut group. A dialog box opens with the input text field for the shortcut group label.

The new group is placed immediately after the shortcut group you selected before opening the pop-up menu.

## Shortcut Bar: Nodes Menu

The pop-up menu in the Nodes area of the shortcut bar has the following options:

Filter Active Messages (right-click+A)

Opens a filtered active message browser for the selected node. For an overview of the filtered active message browser, see “Filtered Active Message Browser” on page 73.

Filter History Messages (right-click+H)

Opens a filtered history message browser for the selected node. For an overview of the filtered history message browser, see “Filtered History Message Browser” on page 75.

Start (right-click+S)

Enables you to choose and start tools available for the selected node.

Start Customized... (right-click+C)

Starts the Start Customized Tool wizard. For details, see “Start Customized Tool Wizard” on page 546.

Modify Shortcut (right-click+M)

Opens the Modify Shortcut dialog box. For descriptions of options in the Modify Shortcut dialog box, see “Modify Shortcut Dialog Box” on page 524.

Remove Shortcut (right-click+R)

Deletes the selected shortcut from the shortcut bar, but not from the object pane.

## Shortcut Bar: Services Menu

If you use Service Navigator, additional options are available in the Services pop-up menus in the shortcut bar. These options supplement the pop-up menu options that come with the standard HPOM product and are the following:

Properties... (right-click+**R**)

Opens the Service Properties dialog box. For an overview of this dialog box, see “Service Properties Dialog Box” on page 538.

Show Graph (right-click+**G**)

Opens a service graph of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Show Submap (right-click+**B**)

Opens a submap of the subservices of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Show in Custom Map (right-click+**M**)

Opens a custom map of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Filter Active Browser (right-click+**A** on service)

Opens a message browser that contains filtered active messages related to the selected service. For an overview of the filtered active message browser, see “Filtered Active Message Browser” on page 73.

Filter History Browser (right-click+**H**)

Opens a message browser that contains filtered history messages related to the selected service. For an overview of the filtered history message browser, see “Filtered History Message Browser” on page 75.

Get Root Causes (right-click+O)

Opens a root causes graph for the selected service. To find out more about root causes, see “Identifying the Root Cause of a Problem” on page 395.

Get Impacted Services (right-click+I)

Opens an impacted services graph for the selected service. To find out more about impacted services, see “Identifying Impacted Services” on page 396.

Select Node in Object Pane (right-click+N)

Highlights the selected node in the object pane. For an overview of the object tree, see “Object Pane” on page 48.

Find in Service Views... (right-click+F)

Opens the Service Views dialog box. For an overview of this dialog box, see “Service Views Dialog Box” on page 541.

Start (right-click+S)

Enables you to choose and start tools available for the selected node.

Start Customized... (right-click+C)

Starts the Start Customized Tool wizard. For details, see “Start Customized Tool Wizard” on page 546.

Modify Shortcut (right-click+M)

Opens the Modify Shortcut dialog box. For details, see “Modify Shortcut Dialog Box” on page 524.

Remove Shortcut (right-click+R)

Deletes the selected shortcut from the shortcut bar but not from the object pane.

### Shortcut Bar: Filter Settings Menu

If Personal Filter Settings for HPOM operators or Global Filter Settings for HPOM administrators is selected, the pop-up menu in the Filter Settings area of the shortcut bar has the following options:

Add New Filter (right-click+F)

Opens the Filter Messages dialog box where you can create a new filter. For an overview of this dialog box, see “Filter Messages Dialog Box” on page 497.

Modify Shortcut (right-click+M)

Opens the Modify Shortcut dialog box. For details, see “Modify Shortcut Dialog Box” on page 524.

Remove Shortcut (right-click+R)

Deletes the selected shortcut from the shortcut bar but not from the object pane.

If a particular filter item is selected, the pop-up menu in the Filter Settings area of the shortcut bar has the following options:

Open (right-click+O)

Opens the saved filtered active (right-click+OA), history (right-click+OH), or pending (right-click+OP) message browser.

Modify Filter (right-click+F)

Opens the Filter Messages dialog box where you can modify the selected filter. For details, see “Filter Messages Dialog Box” on page 497.

Delete (right-click+D)

Deletes the selected shortcut from the shortcut bar but not from the object pane.

Modify Shortcut (right-click+M)

Opens the Modify Shortcut dialog box. For details, see “Modify Shortcut Dialog Box” on page 524.

Remove Shortcut (right-click+R)

Deletes the selected shortcut from the shortcut bar but not from the object pane.



### Shortcut Bar: URL Shortcuts Menu

If the URL Shortcuts group is selected, the pop-up menu contains shortcut group options. For details, see “Shortcut Bar: Shortcut Group Menus” on page 452.

If a particular URL shortcut is selected, the pop-up menu in the URL Shortcuts area of the shortcut bar has the following options:

Start URL (right-click+S)

Starts tools on the selected shortcut.

Delete URL Shortcut (right-click+D)

Deletes the selected shortcut from the shortcut bar and the object pane.

Modify URL Shortcut (right-click+M)

Opens the Modify URL Shortcut dialog box. For details, see “Modify URL Shortcut Dialog Box” on page 525.

Remove URL Shortcut (right-click+R)

Deletes the selected shortcut from the shortcut bar but not from the object pane.

## Object Pane Pop-up Menu Items

This section describes the distinct pop-up menus in each area of the object bar:

### ❑ **Global Options**

Options that are available in every pop-up menu in the object pane. For details, see “Object Pane: Global Options” on page 459.

### ❑ **Nodes**

Pop-up menus in the Nodes area. For details, see “Object Pane: Nodes Menu” on page 460.

### ❑ **Message Groups**

Pop-up menus in the Message Groups area. For details, see “Object Pane: Message Groups Menu” on page 461.

### ❑ **Tools**

Pop-up menus in the Tools area. For details, see “Object Pane: Tools Menu” on page 461.

### ❑ **Services**

If Service Navigator is installed, pop-up menus in the Services area. For details, see “Object Pane: Services Menu” on page 462.

### ❑ **Filter Settings**

Pop-up menus in the Filter Settings area. For details, see “Object Pane: Filter Settings Menu” on page 464.

### ❑ **URL Shortcuts**

Pop-up menus in the URL Shortcuts area. For details, see “Object Pane: URL Shortcuts Menu” on page 467.

For an overview of the pop-up menu in the object pane, see “Object Pane Pop-up Menu” on page 86. For a description of the object pane, see “Object Pane” on page 48.

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**NOTE**

If Service Navigator is installed, additional service pop-up menu options are available in the shortcut bar, the object pane, and the workspace pane.

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## Object Pane: Global Options

Each pop-up menu in the object pane has the following options:

Add to Shortcuts (**SHIFT+F10+U**)

Adds selected items to the shortcut bar.

Find (**SHIFT+F10+N**)

Enables you to search for a specific item in the object tree by entering the name of the item. You can choose to search for whole worlds only, matching case, or both. When the search function finds a specific item, the item is highlighted in the object pane. If the item is not visible because the object tree is collapsed, the tree is expanded and the item is scrolled into the visible area of the object pane. The search begins at the top of the object tree, rather than from the selected item. For an overview of the search function, see “Searching the Object Pane” on page 119. For descriptions of options in the Find dialog box, see “Find Dialog Box” on page 504.

Expand Object Pane (**SHIFT+F10+E**)

Expands all branches of the object tree. Equivalent to clicking the **PLUS SIGN (+)** next to all branches of the object tree. For an overview of the object tree, see “Object Pane” on page 48.

Collapse Object Pane (**SHIFT+F10+L**)

Collapses all branches of the object tree. Equivalent to clicking the **MINUS SIGN (-)** next to all branches of the object tree. For an overview of the object tree, see “Object Pane” on page 48.

## Object Pane: Nodes Menu

The pop-up menu in the Nodes area of the object pane has the following options:

Filter Active Messages (**SHIFT+F10+A**)

Opens the filtered active message browser on the selected node. For an overview of the filtered active message browser, see “Filtered Active Message Browser” on page 73.

Filter History Messages (**SHIFT+F10+H**)

Opens the filtered history message browser on the selected node. For an overview of the filtered history message browser, see “Filtered History Message Browser” on page 75.

Start (**SHIFT+F10+S**)

Starts tools on the selected node.

Start Customized... (**SHIFT+F10+C**)

Starts the Start Customized Tool wizard. For details, see “Start Customized Tool Wizard” on page 546.

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### NOTE

For descriptions of global options that are available in all pop-up menus in the object pane, see “Object Pane: Global Options” on page 459.

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### Object Pane: Message Groups Menu

The pop-up menu in the Message Groups area of the object pane has the following options:

Filter Active Messages (**SHIFT+F10+A**)

Opens the filtered active message browser on the selected node. For an overview of the filtered active message browser, see “Filtered Active Message Browser” on page 73.

Filter History Messages (**SHIFT+F10+H**)

Opens the filtered history message browser on the selected node. For an overview of the filtered history message browser, see “Filtered History Message Browser” on page 75.

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#### NOTE

For descriptions of global options that are available in all pop-up menus in the object pane, see “Object Pane: Global Options” on page 459.

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### Object Pane: Tools Menu

The pop-up menu in the Tools area of the object pane has the following options:

Start (**SHIFT+F10+S**)

Starts a tool if it is selected.

Start Customized... (**SHIFT+F10+C**)

Starts the Start Customized Tool wizard if a tool is selected. For details, see “Start Customized Tool Wizard” on page 546.

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#### NOTE

For descriptions of global options that are available in all pop-up menus in the object pane, see “Object Pane: Global Options” on page 459.

---

## Object Pane: Services Menu

If you use Service Navigator, additional options are available in the Services pop-up menu in the object pane. These options supplement the HPOM pop-up menu options and are the following:

Properties... (**SHIFT+F10+R**)

Opens the Service Properties dialog box. For an overview of this dialog box, see “Service Properties Dialog Box” on page 538.

Show Graph (**SHIFT+F10+G**)

Opens a service graph of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Show Submap (**SHIFT+F10+B**)

Opens a submap of the subservices of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Show in Custom Map (**SHIFT+F10+T**)

Opens a custom map of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Filter Active Browser (**SHIFT+F10+A**)

Opens a message browser that contains filtered active messages related to the selected service. For an overview of the filtered active message browser, see “Filtered Active Message Browser” on page 73.

Filter History Browser (**SHIFT+F10+H**)

Opens a message browser that contains filtered history messages related to the selected service. For an overview of the filtered history message browser, see “Filtered History Message Browser” on page 75.

Get Root Causes (**SHIFT+F10+O**)

Opens a root causes graph for the selected service. To find out more about root causes, see “Identifying the Root Cause of a Problem” on page 395.

Get Impacted Services (**SHIFT+F10+I**)

Opens an impacted services graph for the selected service. To find out more about impacted services, see “Identifying Impacted Services” on page 396.

Select Node in Object Pane (**SHIFT+F10+D**)

Highlights the selected node in the object pane.

Find in Service Views... (**SHIFT+F10+VF**)

Opens the Service Views dialog box. For an overview of this dialog box, see “Service Views Dialog Box” on page 541.

Start (**SHIFT+F10+S**)

Enables you to select and start available tools.

Start Customized... (**SHIFT+F10+C**)

Starts the Start Customized Tool wizard. For details, see “Start Customized Tool Wizard” on page 546.

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**NOTE**

For descriptions of global options that are available in all pop-up menus in the object pane, see “Object Pane: Global Options” on page 459.

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## Object Pane: Filter Settings Menu

The pop-up menu in the Filter Settings area of the object pane has different options depending on your current selection.

### Filter Settings: Global and Personal Filter Settings Menu

#### ❑ Global and personal filter settings

If you select Personal Filter Settings (for HPOM operators) or Global Filter Settings (for HPOM administrators), the pop-up menu in the Filter Settings area of the object pane has the following options:

Add New Filter (**SHIFT+F10+F**)

Opens the Filter Messages dialog box where you can create a new filter. For an overview of this dialog box, see “Filter Messages Dialog Box” on page 497.

After you save global or personal filters, they are automatically available as subgroups of the Filter Settings group.

#### ❑ Saved global and personal filters

If a particular filter item is selected, the pop-up menu in the Filter Settings area of the object pane has the following options:

Open (**SHIFT+F10+O**)

Opens a saved filtered active (**SHIFT+F10+OA**), history (**SHIFT+F10+OH**), or pending (**SHIFT+F10+OP**) message browser.

Modify Filter (**SHIFT+F10+F**)

Opens the Filter Messages dialog box where you can modify the selected filter. For details, see “Filter Messages Dialog Box” on page 497.

Delete (**SHIFT+F10+D**)

Deletes the selected message browser filter from HPOM.



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**NOTE**

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For descriptions of global options that are available in all pop-up menus in the object pane, see “Object Pane: Global Options” on page 459.

### **Filter Settings: Message View Filters Menu**

#### **❑ Global and personal message view filters**

If you select Personal Message View Filters (for HPOM operators) or Global Message View Filters (for HPOM administrators), the pop-up menu in the Message View Filters area of the object pane has the following options:

Add New (**SHIFT+F10+D**)

Opens the Message View Filter dialog box where you can create a new message view filter. For an overview of this dialog box, see “Message View Filter Dialog Box” on page 517.

After you save global (for HPOM administrators only) or personal message view filters (for HPOM operators only), they are automatically available as subgroups of the Message View Filters group.

#### **❑ Saved global and personal message view filters**

If a particular filter item is selected, the pop-up menu in the Message View Filters area of the object pane has the following options:

Open for All Active Messages (**SHIFT+F10+O**)

Opens an all active messages browser with the selected message view filter applied. This may take a while, depending on the number of messages to be loaded.

Modify (**SHIFT+F10+F**)

Opens the Message View Filter dialog box where you can modify the selected message view filter. For details, see “Message View Filter Dialog Box” on page 517.

Rename (**SHIFT+F10+R**)

Opens the Rename Message View Filter dialog box where you can type a new name for the selected message view filter. For details, see “Rename Message View Filter Dialog Box” on page 534.

Delete (**SHIFT+F10+D**)

Deletes the selected message view filter from HPOM.

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**NOTE**

For descriptions of global options that are available in all pop-up menus in the object pane, see “Object Pane: Global Options” on page 459.

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### Object Pane: URL Shortcuts Menu

If the URL Shortcuts group is selected, the pop-up menu in the URL Shortcuts area of the object pane has the following options:

Add New URL Shortcut... (right click+**U**)

Opens the New URL Shortcut dialog box. For details, see “Add New URL Shortcut Dialog Box” on page 489.

If a particular URL shortcut is selected, the pop-up menu in the URL Shortcuts area of the object pane has the following options:

Start URL (right-click+**S**)

Starts tools on the selected shortcut.

Delete URL Shortcut (right-click+**D**)

Deletes the selected shortcut from the shortcut bar and the object pane.

Modify URL Shortcut (right-click+**M**)

Opens the Modify URL Shortcut dialog box. For details, see “Modify URL Shortcut Dialog Box” on page 525.

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#### NOTE

For descriptions of global options that are available in all pop-up menus in the object pane, see “Object Pane: Global Options” on page 459.

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## Workspace Pane Pop-up Menu Items

This section describes the distinct pop-up menus in each area of the workspace pane:

### ❑ All Workspace Tabs

Pop-up menus on each tab in the workspace pane. For details, see “Workspace Tab Menus” on page 469.

### ❑ Charts

Pop-up menus on current state charts and history charts in the workspace pane. For details, see “Workspace Pane: Charts Menu” on page 470.

### ❑ Services

If Service Navigator is installed, pop-up menus in the Services workspace. For details, see “Workspace Pane: Services Menu” on page 472.

### ❑ URLs

Pop-up menus on web pages in the internal web browser in the workspace pane. For details, see “Workspace Pane: URL Menu” on page 474.

For an overview of the pop-up menu in the workspace pane, see “Workspace Pane Pop-up Menu” on page 87. For a description of the Workspace Pane, see “Workspace Pane” on page 59.

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### NOTE

If Service Navigator is installed, additional service pop-up menu options are available in the shortcut bar, the object pane, and the workspace pane.

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## Workspace Tab Menus

Each tab of the workspace pane has a pop-up menu with the following options:

Workspace Properties (**SHIFT+F10+R**)

Opens the Workspace Properties dialog box where you can change the name and the description of the current workspace. For details, see “Workspace Properties Dialog Box” on page 545.

New Workspace (**SHIFT+F10+N**)

Opens the Workspace Properties dialog box, which you use to create a new workspace immediately to the right of the current workspace. For details, see “Workspace Properties Dialog Box” on page 545.

Delete Workspace (**SHIFT+F10+D**)

Removes the current workspace. A pop-up dialog box asks you to confirm the deletion. This option is not available in the first workspace pane (by default, the Message Dashboard workspace).

Move Selected Window To (**SHIFT+F10+M**)

Enables you to move the selected frame (window) to the Message Dashboard, Services, or Corrective Actions workspace. This option is not available in the first workspace pane (by default, the Message Dashboard workspace).

### Workspace Pane: Charts Menu

The pop-up menu in the current state chart in the workspace pane has the following options:

2D/3D

Enables you to view the selected chart in a two- or three-dimensional format.

Type

Enables you to view the selected chart as a stacking area, a pie, a plot, or a stacking bar chart.

The pop-up menu in the history chart in the workspace pane has the following options:

2D/3D

Enables you to view the selected chart in a two- or three-dimensional format.

Type

Enables you to view the selected chart as a stacking area, a pie, a plot, or a stacking bar chart.

Settings

Enables you to set the following parameters for the selected chart:

Data Storage Duration

Opens the Enter Data Storage Duration dialog box where you can enter the data storage duration for the chart in days, hours, minutes, and seconds (ddd:hh:mm:ss). For details, see “Enter Data Storage Duration Dialog Box” on page 496.

Current History Chart

Opens the Enter Current View Interval dialog box where you can enter the interval for the chart in days, hours, minutes, and seconds (ddd:hh:mm:ss). For details, see “Enter Current View Interval Dialog Box” on page 495.

Zoom Interval

Opens the Enter Zoom Interval dialog box where you enter date and time ranges for the chart. For details, see “Enter Zoom Interval Dialog Box” on page 496.

## Workspace Pane: Services Menu

If you use Service Navigator, and you right-click an empty area of the Services workspace, the workspace tab pop-up menu appears. For descriptions of options in this pop-up menu, see “Workspace Tab Menus” on page 469.

If you right-click an item in the Services workspace, additional options that supplement the HPOM pop-up menu options and are available:

Properties... (right-click+**R**)

Opens the Service Properties dialog box. For an overview of this dialog box, see “Service Properties Dialog Box” on page 538.

Show Graph (right-click+**G**)

Opens a service graph of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Show Submap (right-click+**B**)

Opens a submap of the subservices of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Show in Custom Map (right-click+**T**)

Opens a custom map of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Filter Active Browser (right-click+**A**)

Opens a message browser that contains filtered active messages related to the selected service. For an overview of the filtered active message browser, see “Filtered Active Message Browser” on page 73.

Filter History Browser (right-click+**H**)

Opens a message browser that contains filtered history messages related to the selected service. For an overview of the filtered history message browser, see “Filtered History Message Browser” on page 75.

Get Root Causes (right-click+**O**)



Opens a root causes graph for the selected service. To find out more about root causes, see “Identifying the Root Cause of a Problem” on page 395.

Get Impacted Services (right-click+I)

Opens an impacted services graph for the selected service. To find out more about impacted services, see “Identifying Impacted Services” on page 396.

Select Node in Object Pane (right-click+N)

Highlights the node in the object pane that is defined in the service. This option can be very helpful if you have many nodes and want to locate the node associated with a particular service. For an overview of the object tree, see “Object Pane” on page 48.

Select Service in Object Pane (right-click+V)

Highlights the service in the object pane. This option can be very helpful if you have many services and want to locate the selected service.

Find in Service Views... (right-click+F)

Opens the Service Views dialog box. For an overview of this dialog box, see “Service Views Dialog Box” on page 541.

Expand Service Tree (right-click+E)

Expands one level of the service tree. Equivalent to clicking the **PLUS SIGN (+)** next to all closed branches of the tree.

Collapse Service Tree (right-click+L)

Collapses one level of the service tree. Equivalent to clicking the **MINUS SIGN (-)** next to all open branches of the tree

Start (right-click+S)

Starts tools on the selected shortcut.

Start Customized... (right-click+C)

Starts the Start Customized Tool wizard. For details, see “Start Customized Tool Wizard” on page 546.

### Workspace Pane: URL Menu

The pop-up menu on web pages in the internal web browser in the workspace pane has the following options:

Back

Moves to the previously viewed page, as in any web browser.

Forward

Moves to the next page, as in any web browser.

Save Target As...

Saves the current page to a local directory on your computer.

Refresh

Refreshes the current page, as in any web browser.

Properties

Opens the Web Browser Properties dialog box where you can change the name and the description of the current workspace. For details, see “Web Browser Properties Dialog Box” on page 544.

---

#### NOTE

The pop-up menu on web pages opened in Microsoft Internet Explorer in an ActiveX workspace has Internet Explorer options.

---

## Browser Pane Pop-up Menu Items

This section describes the distinct pop-up menus in each area of the browser pane:

### ❑ **Browser Tab**

Pop-up menus on each tab in the browser pane. By default, the All Active Messages tab appears first in the browser pane.

For details, see “Browser Pane: Browser Tab Menu” on page 476.

### ❑ **Message Browser**

Pop-up menus in each message browser in the browser pane. These menus are also available in each message browser that is moved to the workspace pane.

For details, see “Browser Pane: Message Browser Menu” on page 477. For descriptions of pop-up menu items in the workspace pane, see “Workspace Pane Pop-up Menu Items” on page 468.

### ❑ **Message Browser Headline**

Pop-up menus on each column header in the message browser in the browser pane. These menus are also available in each message browser that is moved to the workspace pane.

For details, see “Browser Pane: Message Browser Headline Menu” on page 480. For descriptions of pop-up menu items in the workspace pane, see “Workspace Pane Pop-up Menu Items” on page 468.

### ❑ **Charts**

Pop-up menus on current state charts and history charts in the workspace pane.

For details, see “Browser Pane: Charts Menu” on page 483.

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#### NOTE

For an overview of the pop-up menu in the Browser Pane, see “Browser Pane Pop-up Menu” on page 89. For a description of the browser pane, see “Browser Pane” on page 66.

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### Browser Pane: Browser Tab Menu

Each tab of the browser pane has a pop-up menu with the following options:

Properties (**SHIFT+F10+R**)

Opens the Browser Pane Tab Properties dialog box where you can change the name and the description of the current browser tab. For details, see “Browser Pane Tab Properties Dialog Box” on page 490.

Close

Removes the selected tab in the browser pane.

---

#### CAUTION

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You are not asked to confirm the deletion. The moment you select this option, the tab is deleted.

## Browser Pane: Message Browser Menu

The pop-up menu in the browser pane has the following options:

Perform/Stop Action (**SHIFT+F10+C**)

Enables you to start or stop one of the following actions for the selected message:

- Perform Operator-initiated Action (**SHIFT+F10+CP**)
- Rerun Automatic Action (**SHIFT+F10+CR**)
- Stop Operator-initiated Action (**SHIFT+F10+CO**)
- Stop Automatic Action (**SHIFT+F10+CA**)

Acknowledge (**SHIFT+F10+A**)

Acknowledges the selected message. For details, see “Acknowledging Messages” on page 261.

Properties (**SHIFT+F10+R**)

Opens the Message Properties dialog box. For descriptions of options in this dialog box, see “Message Properties Dialog Box” on page 510.

Own (**SHIFT+F10+O**)

Owns the selected message. For details, see “Owning Messages” on page 241.

Disown (**SHIFT+F10+D**)

Disowns the selected message. For details, see “Disowning Messages” on page 241.

Instructions (**SHIFT+F10+I**)

Opens the Instructions tab of the Message Properties dialog box. For descriptions of options in this tab, see “Message Properties: Instructions Tab” on page 515.

Annotations (**SHIFT+F10+N**)

Opens the Annotations tab of the Message Properties dialog box. For descriptions of options in this tab, see “Message Properties: Annotations Tab” on page 515.

Modify (**SHIFT+F10+M**)

Opens the Modify Annotations dialog box. For descriptions of options in this dialog box, see “Modify Group Dialog Box” on page 521.

Create Active Filter On Message (**SHIFT+F10+F**)

Opens the Filter Messages dialog box. For descriptions of options in this dialog box, see “Filter Messages Dialog Box” on page 497.

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**NOTE**

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This option is a good starting point for creating a message filter. It enables you to modify preset fields for a filter (for example, you can enter a filter pattern in the With Message Text Pattern field).

Print (**SHIFT+F10+P**)

Enables you to print selected messages, all messages in the message browser, details of selected messages, or details of all messages in the message browser. From the Java Runtime print dialog box, you can select a printer, printing preferences, whether to print to a file, number of pages to print, how many copies to print, whether to collate pages, and so on. For details, see “Printing HPOM Messages and Application Output” on page 258.

Select Node in Object Pane (**SHIFT+F10+L**)

Highlights the node that generated the selected message in the object tree. This option can be very helpful if you have many nodes and want to locate the node associated with a particular message quickly. For an overview of the object tree, see “Browser Pane” on page 66.

Start (**SHIFT+F10+S**)

Starts tools on the selected message.

Start Customized... (**SHIFT+F10+C**)

Opens the Start Customized Tool wizard. For descriptions of options in this wizard, see “Start Customized Tool Wizard” on page 546

Service (**SHIFT+F10+V**)

If Service Navigator is installed, this option enables you to generate any one of the following reports:

Select service or services in Object Pane (**SHIFT+F10+VV**)

Highlights the related service or services in the object pane. For an overview of the object tree, see “Object Pane” on page 48.

Show Graph(s) (**SHIFT+F10+VG**)

Opens one or more service graphs of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Show Submap(s) (**SHIFT+F10+VB**)

Opens one or more submaps of the subservices of the selected service. For details, see “Service Graphs, Submaps, and Custom Service Maps” on page 361.

Get Impacted Services (**SHIFT+F10+VF**)

Opens one or more impacted services graphs for the selected service or services. To find out more about impacted services, see “Identifying Impacted Services” on page 396.

Find in Service Views... (**SHIFT+F10+VF**)

Opens the Service Views dialog box. For an overview of this dialog box, see “Service Views Dialog Box” on page 541.

## Browser Pane: Message Browser Headline Menu

The pop-up menu in the message browser headline has the following options:

Customize Message Browser Columns... (right-click+U)

Opens the Customize Browser Columns dialog box where you can determine which message browser columns you want to display and what text you want to see in the column labels. In this dialog box, you can also add custom message attributes. For descriptions of options in the Customize Browser Columns dialog box, see “Customize Message Browser Columns Dialog Box” on page 493. For an overview of custom message attributes, see “Custom Message Attributes” on page 134.

Save Message Browser Layout (right-click+L)

Saves the new browser layout as one of the following:

Save As Default For (right-click+LD)

Saves the new browser layout (the order, the width, the sorting order, and the selection of columns) for a new default active (right-click+LDA), history (right-click+LDH), or pending (right-click+LDP) message browser.

Save For Filter Name (right-click+LF)

Saves the new browser layout (the order, the width, the sorting order, and the selection of columns) for the currently selected (top-most) filtered message browser.

Sort Ascending (right-click+A)

Sorts messages in the ascending order for the selected message browser column.

Sort Descending (right-click+D)

Sorts messages in the descending order for the selected message browser column.



Alignment (right-click+A)

Aligns the contents of the selected message browser column in one of the following ways:

Align Left (right-click+AL)

Left-aligns the contents of the selected message browser column.

Align Right (right-click+AR)

Right-aligns the contents of the selected message browser column.

Align Center (right-click+AC)

Centers the contents of the selected message browser column.

Message View Filter... (right-click+O)

Offers you the following choices:

All (right-click+OA)

Removes the filter criteria from the selected message browser column.

Custom... (right-click+OC)

Opens the Message View Filter dialog box where you can create, save, and load message view filters.

For descriptions of options in the Message View Filter dialog box, see “Message View Filter Dialog Box” on page 517. For an overview of message view filters, see “Setting Up Message View Filters” on page 195.

<column\_value>

Applies a quick message view filter to the selected message browser column. Only messages that match one of the selected values are displayed.

Remove Message View Filter (right-click+**R**)

Removes the message view filter from a message browser.

For more information about removing the message view filter, see “Removing Filters from Message Browser Columns” on page 305.

## Browser Pane: Charts Menu

In the browser pane, you can move between three different views by selecting and clearing buttons on the toolbar:

### ❑ **Message Browser**

Make sure **Switch to Current State Chart** and **Switch to History Chart** on the toolbar are cleared.

### ❑ **Current State Chart**

Select **Switch to Current State Chart** on the toolbar.

### ❑ **History Chart**

Select **Switch to History Chart** on the toolbar.

For descriptions of toolbar icons, see “Toolbar Icons and Drop-down Lists” on page 445.

The pop-up menu in the current state chart in the browser pane has the following options:

2D/3D

Enables you to view the selected chart in a two- or three-dimensional format.

Type

Enables you to view the selected chart as a stacking area, a pie, a plot, or a stacking bar chart.

The pop-up menu in the history chart in the browser pane has the following options:

Type

Enables you to view the selected chart as a stacking area, a pie, a plot, or a stacking bar chart.

Settings

Enables you to set the following parameters for the selected chart:

Data Storage Duration

Opens the Enter Data Storage Duration dialog box where you can enter the data storage duration for

the chart in days, hours, minutes, and seconds (ddd:hh:mm:ss). For details, see “Enter Data Storage Duration Dialog Box” on page 496.

#### Current History Chart

Opens the Enter Current View Interval dialog box where you can enter the interval for the chart in days, hours, minutes, and seconds (ddd:hh:mm:ss). For details, see “Enter Current View Interval Dialog Box” on page 495.

#### Zoom Interval

Opens the Enter Zoom Interval dialog box where you enter date and time ranges for the chart. For details, see “Enter Zoom Interval Dialog Box” on page 496.

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## Dialog Boxes

This section describes the types of dialog boxes that are used in the Java GUI:

- ❑ **Add Annotations**  
See “Add Annotation Dialog Box” on page 488.
- ❑ **Add New Group**  
See “Add New Group Dialog Box” on page 488.
- ❑ **Add New URL Shortcut**  
See “Add New URL Shortcut Dialog Box” on page 489.
- ❑ **Browser Pane Tab Properties Dialog Box**  
See “Browser Pane Tab Properties Dialog Box” on page 490.
- ❑ **Browser Settings Dialog Box**  
See “Browser Settings Dialog Box” on page 491.
- ❑ **Change Operator Password**  
See “Change Operator Password Dialog Box” on page 492.
- ❑ **Customize Message Browser Columns**  
See “Customize Message Browser Columns Dialog Box” on page 493.
- ❑ **Date and Time**  
See “Date and Time Dialog Box” on page 495.
- ❑ **Enter Current View Interval**  
See “Enter Current View Interval Dialog Box” on page 495.
- ❑ **Enter Data Storage Duration**  
See “Enter Data Storage Duration Dialog Box” on page 496.
- ❑ **Enter Zoom Interval**  
See “Enter Zoom Interval Dialog Box” on page 496.
- ❑ **Filter Messages**  
See “Filter Messages Dialog Box” on page 497.

- ❑ **Find**  
See “Find Dialog Box” on page 504.
- ❑ **Flags**  
See “Flags Dialog Box” on page 508.
- ❑ **Load Message View Filters**  
See “Load Message View Filter Dialog Box” on page 509.
- ❑ **Message Properties**  
See “Message Properties Dialog Box” on page 510.
- ❑ **Message View Filters**  
See “Message View Filter Dialog Box” on page 517.
- ❑ **Modify Annotation**  
See “Modify Annotation Dialog Box” on page 521.
- ❑ **Modify Group**  
See “Modify Group Dialog Box” on page 521.
- ❑ **Modify Message Attributes**  
See “Modify Message Attributes Dialog Box” on page 522.
- ❑ **Modify Shortcut**  
See “Modify Shortcut Dialog Box” on page 524.
- ❑ **Modify URL Shortcut**  
See “Modify URL Shortcut Dialog Box” on page 525.
- ❑ **Preferences**  
See “Preferences Dialog Box” on page 526.
- ❑ **Rename Browser Settings**  
See “Rename Browser Settings Dialog Box” on page 534.
- ❑ **Rename Message View Filter**  
See “Rename Message View Filter Dialog Box” on page 534.
- ❑ **Save Browser Filter Settings**  
See “Save Browser Filter Settings Dialog Box” on page 535.

- ❑ **Save Message View Filters**  
See “Save Message View Filter Dialog Box” on page 535.
- ❑ **Send Message to Operators**  
See “Send Message to Operator(s) Dialog Box” on page 536.
- ❑ **Service Properties**  
See “Service Properties Dialog Box” on page 538.
- ❑ **Service Views**  
See “Service Views Dialog Box” on page 541.
- ❑ **Watermark Advanced Settings**  
See “Watermark Advanced Settings Dialog Box” on page 542.
- ❑ **Web Browser Properties**  
See “Web Browser Properties Dialog Box” on page 544.
- ❑ **Workspace Properties**  
See “Workspace Properties Dialog Box” on page 545.

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**NOTE**

If Service Navigator is installed, the Service Properties dialog box is available in HPOM. For details, see “Service Properties Dialog Box” on page 538.

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## Add Annotation Dialog Box

The Add Annotation dialog box opens when you click **Add New Annotation** in the Annotations tab of the Message Properties dialog box. From the Add Annotation dialog box, you can type a text for a new annotation. For information about the Message Properties dialog box, see “Message Properties Dialog Box” on page 510.

The Add Annotation dialog box contains the following fields options:

OK

Saves the new annotation.

Cancel

Closes the dialog box without saving the new annotation.

## Add New Group Dialog Box

The Add New Group dialog box opens when you right-click the shortcut bar, and then select **Add New Group** from the pop-up menu. For details, see “Adding a Shortcut Group” on page 277.

The Add New Group dialog box contains the following options:

Enter Label for New Group

Enables you to add a label for the new shortcut group.

OK

Adds the new shortcut group and closes the dialog box.

Cancel

Closes the dialog box without adding the new shortcut group.



## Add New URL Shortcut Dialog Box

The Add New URL Shortcut dialog box opens when you right-click a shortcut group in the shortcut bar, and then select **Add New URL Shortcut** from the pop-up menu. For details, see “Adding a New Shortcut” on page 276.

The Add New URL Shortcut dialog box contains the following options:

ID

System-generated ID for the new shortcut.

URL

Enables you to add the location of the URL shortcut. You can use message-related variables in this field. For descriptions of message-related variables, see “Message-related Variables” on page 564.

Label

Enables you to add a label for the new shortcut.

OK

Adds the new shortcut and closes the dialog box.

Cancel

Closes the dialog box without adding the new shortcut.

## Browser Pane Tab Properties Dialog Box

The Browser Pane Tab Properties dialog box opens when you right-click a tab in the browser pane, and then select **Properties** from the pop-up menu. For details, see “Browser Pane: Browser Tab Menu” on page 476.

The Browser Pane Tab Properties dialog box contains the following options:

Label	Label for the selected tab in the browser pane.
Description	Description of the selected tab in the browser pane.
OK	Saves changes and closes the dialog box.
Cancel	Closes the dialog box without saving changes.

## Browser Settings Dialog Box

The Browser Settings dialog box opens when you click **Use Saved Settings...** from the Filter Messages dialog box, or when you select **Actions: Filtering -> Saved Settings...** from the main menu. For details, see “Filter Messages Dialog Box” on page 497.

The Browser Settings dialog box contains the following options:

Type

Indicates one of two types of filters:

Global

Filter defined by the administrator.

Personal

Filter defined by the current operator.

Name

Name of the existing filter.

Rename

Saves changes to a new filter. Opens the Rename Browser Settings dialog box where you type the name for the new filter. For details, see “Rename Browser Settings Dialog Box” on page 534.

Delete

Deletes the existing filter.

OK

Saves changes and closes the dialog box.

Apply

Saves changes but keeps the dialog box open. This button is always disabled if the Browser Settings dialog box is opened from the Filter Messages dialog box rather than the menu bar.

Close

Closes the dialog box without saving changes.

## Change Operator Password Dialog Box

The Change Operator Password dialog box opens when you select **File: Change Password** from the menu bar.

The Change Operator Password dialog box contains the following options:

User Name

Your current HPOM operator user name.

Old Password

Your current HPOM operator password.

New Password

Password you want to use in the future.

Confirm New Password

New password (retype to confirm).

OK

Saves changes and closes the dialog box.

Cancel

Closes the dialog box without saving changes.

## Customize Message Browser Columns Dialog Box

The Customize Message Browser Columns dialog box opens when you select `View: Customize Message Browser Columns...` from the menu bar, or when you select the browser to customize, and then select `Customize Message Browser Columns...` from the pop-up menu. The Customize Message Browser Columns dialog box enables you to show or hide message browser columns and to change their labels. The changes you make in this dialog box affect what you see in the message browser as well as in the Message Properties dialog box.

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### NOTE

For more information about message attributes in general, see “Message Fields” on page 553.

For descriptions of options in the Message Properties dialog box, see “Message Properties Dialog Box” on page 510.

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The Customize Message Browser Columns dialog box contains the following tabs:

**General**

For details, see “Customize Message Browser Columns: General Tab” on page 494.

**Custom**

For details, see “Customize Message Browser Columns: Custom Tab” on page 494.

### Customize Message Browser Columns: Global Options

Each tab in the Customize Message Browser Columns dialog box contains the following buttons.

OK

Saves changes and closes the dialog box.

Cancel

Closes the dialog box without saving changes.

### Customize Message Browser Columns: General Tab

The General tab of the Customize Message Browser Columns dialog box enables you to control which fields are available in the message browser. If a column is selected, it is available in the message browser. If you want, you can change the column labels. For descriptions of options in this tab, see “Message Fields” on page 553.

### Customize Message Browser Columns: Custom Tab

The Custom tab of the Customize Message Browser Columns dialog box has the following options:

Available Custom Message Attributes

Enables you to control which fields of available custom message attributes (defined in server-side templates) are available in the message browser. If you want, you can change the column labels.

Predicted Custom Message Attributes

Displays predicted custom attributes entered in New Predicted Custom Message Attributes.

New Predicted Custom Message Attributes

Adds a new predicted custom message attribute.

ID

Text input field for the attribute ID.


LABEL

Text input field for the attribute label.

Add

Adds a new predicted custom attribute to Predicted Custom Message Attributes.

## Date and Time Dialog Box

The Date and Time dialog box opens when a date or time-related column is selected in the Message View Filter dialog box and you click . Use this dialog box to help you create filter criteria for date and time-related columns.

The Date and Time dialog box contains the following options:

Time

Format depends on the regional settings selected on the Java GUI client system.

Date

Format depends on the regional settings selected on the Java GUI client system.

OK

Saves changes and closes the dialog box.

Cancel

Closes the dialog box without saving changes.

## Enter Current View Interval Dialog Box

The Enter Current View Interval dialog box opens when you select *Settings: Current History Chart* from the pop-up menu in a history chart in the workspace pane. For details, see “Workspace Pane: Charts Menu” on page 470.

The Enter Current View Interval dialog box contains the following options:

Interval

Time interval you want to use for the current view of the chart. Enter days, hours, minutes, and seconds (ddd:hh:mm:ss).

OK

Saves changes and closes the dialog box.

Cancel

Closes the dialog box without saving changes.

## Enter Data Storage Duration Dialog Box

The Enter Data Storage Duration dialog box opens when you select Settings -> Data Storage Duration from the pop-up menu in a history chart in the workspace pane. For details, see “Workspace Pane: Charts Menu” on page 470.

The Enter Data Storage Duration dialog box contains the following options:

Duration

Data storage duration you want to use for the chart.  
Enter days, hours, minutes, and seconds  
(ddd:hh:mm:ss).

OK

Saves changes and closes the dialog box.

Cancel

Closes the dialog box without saving changes.

## Enter Zoom Interval Dialog Box

The Enter Zoom Interval dialog box opens when you select Settings -> Zoom Interval from the pop-up menu in a history chart in the workspace pane. For details, see “Workspace Pane: Charts Menu” on page 470.

The Enter Zoom Interval dialog box contains the following options:

From

Beginning time (hh:mm:ss) and date (mm/dd/yyyy) for the chart.

To

Ending time (hh:mm:ss) and date (mm/dd/yyyy) for the chart.

OK

Saves changes and closes the dialog box.

Cancel

Closes the dialog box without saving changes.



## Filter Messages Dialog Box

The Filter Messages dialog box enables you to create, modify, and reuse filtered message browsers in the workspace and browser panes.

The Filter Messages dialog box contains the following tabs:

❑ **General**

For details, see “Filter Messages: General Tab” on page 499.

❑ **Symbols and Object**

For details, see “Filter Messages: Symbols and Objects Tab” on page 501.

❑ **Pending Details**

For details, see “Filter Messages: Pending Details Tab” on page 502.

❑ **Filter Summary**

For details, see “Filter Messages: Filter Summary Tab” on page 503.

---

**NOTE**

Each tab in the Filter Messages dialog box shares a number of options. For details, see “Filter Messages Dialog Box: Global Options” on page 498.

---

To find out how to access the Filter Messages dialog box, see the following procedures:

- ❑ “Viewing Active Messages” on page 228
- ❑ “Viewing History Messages” on page 228
- ❑ “Viewing Pending Messages” on page 230
- ❑ “Saving the Browser Filter Settings” on page 291

### Filter Messages Dialog Box: Global Options

Each tab in the Filter Messages dialog box shares the following options:

Filter Name

Name you want to appear in the message browser window, in the browser pane tab, or in the Filter Settings area of the object pane and the shortcut bar.

OK

Saves changes and closes the dialog box.

Apply

Saves changes but keeps the dialog box open.

Reset

Clears the contents of the dialog box.

Close

Closes the dialog box without saving changes.

Save...

Saves changes to a new filter. Opens the Save Browser Filter Settings dialog box where you type the name for the new filter. For details, see “Save Browser Filter Settings Dialog Box” on page 535.

Use Saved Settings

Accesses filter options from an existing filter. Opens the Browser Settings dialog box where you can select an existing filter. For details, see “Browser Settings Dialog Box” on page 491.

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#### NOTE

If you have already saved filters in the Personal Filter Settings area of the object pane, open the Filter Messages dialog box from a pop-up menu in that area of the object pane. The OK, Apply, and Use Saved Settings buttons are unavailable.

---

## Filter Messages: General Tab

The General tab in the Filter Messages dialog box has the following options:

With Time

Displays only messages received within a certain time frame. You can specify an absolute or a relative value.

Absolute Time

Beginning and ending time  
(hh:mm:ss) and date (mm/dd/yy).

Relative Time

Defined with plus (+) or minus (-) characters in combination with d for days, h for hours, and m for minutes. For example, -1d means “yesterday,” +15m means “in 15 minutes,” and 0d means “now.”

---

### NOTE

If the HPOM Java GUI is running on a system with the time zone setting different from the setting on the HP Operations management server, the time stamps in the messages displayed in the Java GUI are taken from the local system (the system where the Java GUI is running on) and not from the HPOM management server. See also “ito\_op.bat Options” on page 587.

---

With Own States

Active message filters only. Displays messages owned by selected parties.

You can select any combination of the following own states:

- Unowned
- Owned by me
- Owned by other

#### Selected Messages

Active message filters only. Displays only messages selected in the message browser. This check box is *not* available if you opened the dialog box through Actions: Filtering in the menu bar.

#### Unmatched Messages

Displays only messages that have the unmatched flag set. These messages do not conform to any of the configured message conditions.

#### With Severity

Displays messages with a selected severity level. You can select any combination of the severity level:

- Unknown
- Normal
- Warning
- Minor
- Major
- Critical

#### With Message Text Pattern

Displays only messages that match a specified text pattern.

- *Control characters*

If you use control characters, such as angle brackets (< and >) or brackets ([ and ]) in the With Message Text Pattern field, make sure that these characters are preceded with a backslash (\). Otherwise, the following error message appears:

```
"Syntax error in pattern definition  
" [message". (OpC20-235) "
```

- *Maximum of 254 characters*

The message text pattern is limited to 254 characters.

## Filter Messages: Symbols and Objects Tab

The Symbols and Objects tab in the Filter Messages dialog box has the following options:

With Symbols and Objects

Displays symbols and objects chosen from the message browser or the object pane. Select this check box before adding any symbols or objects.

The first combination box includes the following options:

- Node
- Tool
- Msg Group
- Object
- Service
- CMA

The second combination box includes any custom message attributes that are available.

With Pattern

If selected, enables using text patterns in the custom message attributes.

Name

The syntax of the pattern in the Name field is the same as in the With Message Text Pattern field. The same limitations apply.

Get Selected Symbols

Displays the type, the name, and the label of symbols selected in the object pane.

Delete

Deletes the type, the name, and the label selected under Type, Name, and Label.

Add

Adds the type selected in the combination box and the name entered in the text field.

### **Filter Messages: Pending Details Tab**

The Pending Details tab in the Filter Messages dialog box applies to pending message filters only. To find out how to access the Filter Messages dialog box, see “Viewing Pending Messages” on page 230.

The Pending Details tab has the following options:

Buffered Messages with Expired Unbuffer Time

Displays buffered messages with an expired buffer time.

With Unbuffer Time

Displays only messages received within a certain time frame. You can specify an absolute or a relative value.

Absolute Time

Beginning and ending time  
(hh:mm:ss) and date (mm/dd/yy).

Relative Time

Defined with plus (+) or minus (-) characters in combination with d for days, h for hours, and m for minutes. For example, -1d means “yesterday,” +15m means “in 15 minutes,” and 0d means “now.”

### **Filter Messages: Filter Summary Tab**

The Filter Summary tab provides you with a summary of all parameters you have selected in the following Filter Messages dialog box tabs:

❑ **General**

For details, see “Filter Messages: General Tab” on page 499.

❑ **Symbols and Objects**

For details, see “Filter Messages: Symbols and Objects Tab” on page 501.

❑ **Pending Details** (pending message filters only)

For details, see “Filter Messages: Pending Details Tab” on page 502.

## Find Dialog Box

The Find dialog box opens when you select `Edit: Find...` from the menu bar. The Find dialog box enables you to find a specific item in the object pane.

The Find dialog box contains the following areas:

❑ **Search Buttons**

For details, see “Find: Search Buttons” on page 505.

❑ **Basic Search Options**

For details, see “Find: Basic Search Options” on page 506.

❑ **Advanced Search Options**

For details, see “Find: Advanced Search Options” on page 507.

For an overview of the search function, see “Searching the Object Pane” on page 119. To find out how to use the search function, see “Searching the Object Pane” on page 224.



## Find: Search Buttons

The Find dialog box contains the following buttons:

Find Next

Searches for the keywords you entered or selected in the Find What field or the selection list. In both the basic and the advanced search, the search begins at the top of the object tree, rather than from the selected item. For details, see “Find: Basic Search Options” on page 506 and “Find: Advanced Search Options” on page 507.

Cancel

Closes the dialog box without saving changes.

Advanced>>

Opens the advanced search area of the dialog box. For advanced search options, see “Find: Advanced Search Options” on page 507.

Advanced<<

Closes the advanced search area of the dialog box. For basic search options, see “Find: Basic Search Options” on page 506.

## Find: Basic Search Options

---

### NOTE

In the Find dialog box, the search begins at the top of the object tree, rather than from the selected item. If no matches are found, a warning dialog box with the following message appears: *Search string not found*. If matches are found, the search continues each time you click *Find Next*. When the search reaches the bottom of the object tree with no more matching items, a dialog box with the following message appears: *Finished searching*.

---

The basic search area of the Find dialog box has the following options:

Find What

Enables you to enter or select keywords for your search.

Match Whole Words Only

If selected, searches only for items that exactly match the keywords you enter. For example, a search for the whole word *abc* ignores the *ab tool*.

Match Case

If selected, searches only for items that are capitalized exactly as you capitalized your keywords. For example, a search for the *abc.hp.com* server ignores a node named *Abc*.

## Find: Advanced Search Options

---

### NOTE

In the Find dialog box, the search begins at the top of the object tree, rather than from the selected item. If no matches are found, a warning dialog box with the following message appears: *Search string not found*. If matches are found, the search continues each time you click *Find Next*. When the search reaches the bottom of the object tree with no more matching items, a dialog box with the following message appears: *Finished searching*.

---

The advanced search area of the Find dialog box has the following check boxes:

Nodes

If selected, searches nodes in the object pane.

Message Groups

If selected, searches message groups in the object pane.

Tools

If selected, searches tools in the object pane.

Services

Available only if Service Navigator is installed. If selected, searches services in the object pane.

Filter Settings


If selected, searches filter settings in the object pane.

URL Shortcuts

If selected, searches URL shortcuts in the object pane.

You can select any combination of these options.

## Flags Dialog Box

The Flags dialog box opens when you select the Flags column in the Message View Filter dialog box, and then click . Use this dialog box to help you create filter criteria for the Flags column. For more information about message flags, see “Message Flags” on page 558.

The question mark (?) represents any value. The hyphen (-) means that the flag is not set.

The Flags dialog box contains the following options:

State

Current ownership status of a message. Possible values: ? - O M X R N

Unmatched

Information about a message being classified by HPOM as not matching any filter. Possible values: ? - X

Instructions

Availability of instructions. Possible values: ? - X

Automatic action

Availability and the current status of automatic actions. Possible values: ? - X S F R

Operator-initiated action

Availability and the current status of operator-initiated actions. Possible values: ? - X S F R

Annotations

Availability of annotations. Possible values: ? - X

OK

Saves changes and closes the dialog box.

Cancel

Closes the dialog box without saving changes.

## Load Message View Filter Dialog Box

The Load Message View Filter dialog box opens when you click Load... in the Message View Filter dialog box. Use this dialog box to load a saved message view filter into the Message View Filter dialog box.

The Load Message View Filter dialog box contains the following options:

Filters

List of saved message view filters sorted by name.

Global

Indicates that the filter is defined by the HPOM administrator. Global filters are available to all users.

Personal

Indicates that the filter is defined by an HPOM operator for personal use only. Personal Filters are only available to operators. Administrators cannot load this filters.

Rename...

Opens the Rename Message View Filter dialog box. For more information, see “Rename Message View Filter Dialog Box” on page 534.

Delete

Deletes the selected saved message view filter from HPOM.

OK

Saves changes and closes the dialog box.

Cancel

Closes the dialog box without saving changes.

## Message Properties Dialog Box

The Message Properties dialog box opens when you right-click a message and select `Properties` from the pop-up menu. This dialog box contains the full details of the message.

---

### NOTE

URLs are displayed as hyperlinks in the message, instruction, and annotation text items of the Message Properties dialog box.

All URL texts must start with "`http://`" to be displayed as hyperlinks.

---

The Message Properties dialog box contains the following tabs:

❑ **General**

For details, see “Message Properties: General Tab” on page 513.

❑ **Message Text**

For details, see “Message Properties: Message Text Tab” on page 513.

❑ **Original Message**

For details, see “Message Properties: Original Message Tab” on page 513.

❑ **Actions**

For details, see “Message Properties: Actions Tab” on page 514.

❑ **Instructions**

For details, see “Message Properties: Instructions Tab” on page 515.

❑ **Annotations**

For details, see “Message Properties: Annotations Tab” on page 515.

❑ **Custom Attributes**

For details, see “Message Properties: Custom Attributes Tab” on page 516.

❑ **Mapped Services**

For details, see “Mapped Services Tab” on page 516.

---

**NOTE**

Each tab in the Message Properties dialog box shares a number of fields and buttons. For details, see “Message Properties: Global Options” on page 512.

---

For an overview of the Message Properties dialog box, see the following sections:

- ❑ “Messages” on page 70
- ❑ “Examining Message Attributes” on page 130
- ❑ “Modifying Message Attributes” on page 132

### Message Properties: Global Options

Each tab in the Message Properties dialog box has the following fields:

Severity

Indicates the severity of the message:

- Unknown
- Normal
- Warning
- Minor
- Major
- Critical

Message Text

First few words of the message.

Each tab in the Message Properties dialog box has the following buttons:

Close

Closes the dialog box without saving changes.

Print

Prints the contents of the selected message.

Acknowledge

Acknowledges the selected message.



### **Message Properties: General Tab**

The General tab of the Message Properties dialog box contains fields displayed in the message browser. For descriptions of options in this tab, see “Message Fields” on page 553.

### **Message Properties: Message Text Tab**

The Message Text tab of the Message Properties dialog box contains the current text of the message. You can modify this text in the Modify Message Attributes dialog box. For details, see “Modify Message Attributes Dialog Box” on page 522.

### **Message Properties: Original Message Tab**

The Original Message tab of the Message Properties dialog box contains the original text of the message that is archived for reference purposes.

### Message Properties: Actions Tab

The Actions tab of the Message Properties dialog box shows the automatic and operator-initiated actions configured for a message as well as where the action starts. Automatic annotations and acknowledgments are indicated, as are external notification and trouble-ticket configurations.

The Actions tab includes the following fields and buttons:

Type

Type of action (for example, No Automatic Action, No Operator Action, Notification, or Trouble Ticket).

Status

Status of the action (for example, Successful or No).

Node

Node on which the action is performed.

Command

Literal command used to perform the action.

Anno.

Whether the message associated with the action has an annotation (for example, Yes or No).

Ackn.

Whether the message associated with the action is acknowledged (for example, Yes or No).

Operator-initiated Action

Perform

Starts the operator-initiated action associated with the selected message.

Stop

Stops the operator-initiated action associated with the selected message.

Automatic Action

Rerun

Restarts the automatic action associated with the selected message.

Stop

Stops the automatic action associated with the selected message.

### Message Properties: Instructions Tab

The Instructions tab of the Message Properties dialog box shows directions from the administrator to help you resolve the problem. Most messages that are generated by HPOM and are displayed in the message browser have instructions available on request.

### Message Properties: Annotations Tab

The Annotations tab of the Message Properties dialog box enables you to annotate the message. From the tab, you can add a new annotation, modify an existing annotation, or delete the current annotation.

The Annotations tab includes the following fields and buttons:

Annotation

Number of the annotation (for example, 1 of 2). Clicking the **UP ARROW** key moves you to the next annotation. Clicking the **DOWN ARROW** moves you to the previous annotation.

Author

Which operator wrote the current annotation.

Date/Time

When the current annotation was written.

Add New Annotation

Accesses the Add Annotation dialog box where you can enter a new annotation. For details, see “Add Annotation Dialog Box” on page 488.

Modify

Accesses the Modify Annotation dialog box where you can edit the current annotation. For details, see “Modify Group Dialog Box” on page 521.

Delete

Deletes the current annotation.

### **Message Properties: Custom Attributes Tab**

The Custom Attributes tab of the Message Properties dialog box displays available custom message attributes (defined in server-side templates) for the selected message. For more information about custom message attributes, see “Custom Message Attributes” on page 134.

### **Mapped Services Tab**

The Mapped Services tab of the Message Properties dialog box displays a list of the services the selected message targets. Note that only the services that are affected directly are listed, not those that are affected indirectly through status propagation.

Service Label

Label of the service as displayed in the object pane.

Service Name

Name of the service as defined by the HPOM administrator.

This tab is only available if the HPOM administrator uses Service Configuration for Service Navigator to configure Service Navigator.

## Message View Filter Dialog Box

You can open the Message View Filter dialog box in the following ways:

- ❑ **Message browser headline pop-up menu**  
Select **Message View Filter: Custom...** from the pop-up menu in the message browser headline.
- ❑ **Object pane filter settings pop-up menu**  
Select **Add New...** or **Modify...** from the pop-up menu in the filter settings group in the object pane.
- ❑ **Main menu**  
Select **Actions: Filtering -> Message View Filter...** from the main menu.
- ❑ **Toolbar icon**



Click the Open Message View Filter Dialog box toolbar icon.

The Message View Filter dialog box enables you to create, save, and load message view filters. When you close the Message View Filter dialog box, the filter is applied to the current message browser. Message view filters enable you temporarily hide messages from the view so that you can concentrate on a subset of messages.

The Message View Filter dialog box contains the following tabs:

- ❑ **Simple View**  
For details, see “Message View Filter Dialog Box: Simple View Tab” on page 518.
- ❑ **Advanced View**  
For details, see “Message View Filter Dialog Box: Advanced View Tab” on page 519.
- ❑ **Text View**  
For details, see “Message View Filter Dialog Box: Text View Tab” on page 521.

### **Message View Filter Dialog Box: Global Options**

Each tab in the Message View Filter dialog box contains the following buttons:

OK	Applies the message view filter and closes the dialog box.
Apply	Applies the message view filter, but keeps the dialog box open.
Cancel	Closes the dialog box without applying the message view filter.

### **Message View Filter Dialog Box: Simple View Tab**

The Simple View tab of the Message View Filter dialog box has the following options:

Load..	Opens the Load Message View Filter dialog box. For more information, see “Load Message View Filter Dialog Box” on page 509.
Save..	Opens the Save Message View Filter dialog box. For more information, see “Save Message View Filter Dialog Box” on page 535.
Add	Adds a criterion to the list of criteria. New criteria are appended to the end of the list.
Delete	Deletes the selected criterion from the list of criteria.
Column	Name of the message browser column to be filtered.

NOT

Negates the criterion.

Operator

Determines the operation to be performed on the values.

Value

Value or the pattern to be matched.



Opens the Date and Time or the Flags dialog box, depending on the specified column.

For more information, see “Date and Time Dialog Box” on page 495 and “Flags Dialog Box” on page 508.

### **Message View Filter Dialog Box: Advanced View Tab**

The Advanced View tab of the Message View Filter dialog box has the following options:

Load..

Opens the Load Message View Filter dialog box. For more information, see “Load Message View Filter Dialog Box” on page 509.

Save..

Opens the Save Message View Filter dialog box. For more information, see “Save Message View Filter Dialog Box” on page 535.

New Criterion

Adds a new criterion to the filter.

Delete

Deletes a criterion or a rule from the filter. When you delete a rule, all elements of the rule are also deleted.

New Rule

Adds a new rule to the filter.

Remove Rule

Removes a rule from the filter. If the rule contains any elements, they are inserted at the next higher level.

Move Up

Moves the selected criterion or the rule to the next higher level.

Move Down

Moves the selected criterion or the rule to the next lower level.

If a criterion is selected, the lower half of the Message View Filter dialog box displays the following options:

Column

Name of the message browser column to be filtered.

NOT

Negates the criterion if selected.

Operator

Determines the operation to be performed on the values.

Value

Value or the pattern to be matched.



Opens the Date and Time or the Flags dialog box, depending on the specified column. For more information, see “Date and Time Dialog Box” on page 495 and “Flags Dialog Box” on page 508.

If a rule is selected, the lower half of the Message View Filter dialog box displays the following options:

Operator

Logical AND or OR.

NOT

Negates the rule.



### Message View Filter Dialog Box: Text View Tab

The Text View tab of the Message View Filter dialog box has the following options:

Edit Message View Filter Definition

Editable text area where you can type the definition of the message view filter in plain text format.

Message view filters use the syntax described in “Saving Message View Filters” on page 207.

Check

Validates the filter and reports possible errors.

### Modify Annotation Dialog Box

The Modify Annotation dialog box opens when you select **Modify** from the Annotation tab of the Message Properties dialog box. From the Modify Annotation dialog box, you can edit the current annotation. For information about the Message Properties dialog box, see “Message Properties Dialog Box” on page 510.

The Modify Annotation dialog box contains the following fields and buttons:

OK

Saves the edited annotation.

Cancel

Closes the dialog box without saving the edited annotation.

### Modify Group Dialog Box

The Modify Group dialog box opens when you select *Modify Current Group* from a shortcut group pop-up menu. From the Modify Group dialog box, you can edit the current label for the shortcut group.

The Modify Group dialog box contains the following fields and buttons:

Enter Label

Name that appears in the shortcut group in the shortcut bar.

OK

Saves the edited name.

Cancel

Closes the dialog box without saving the edited name.

## Modify Message Attributes Dialog Box

The Modify Message Attributes dialog box opens when you right-click a message and select `Modify` from the pop-up menu. The Modify Message Attributes dialog box enables you to modify the severity and the text of a message. For details, see “Modifying Message Attributes” on page 132.

The Modify Message Attributes dialog box contains the following options:

Node

Node associated with the message.

Application

Tool associated with the message.

Message No.

Number associated with the message.

Time Received on Mgmt. Server

Time the message was received on the management server.

Severity

Enables you to choose one of the following severities for the message:

- Unchanged
- Unknown
- Normal
- Warning
- Minor
- Major
- Critical

Message Text

Enables you to edit the text of the message.

OK

Saves your changes to the message attributes.

Cancel

Closes the dialog box without changing the shortcut.

## Modify Shortcut Dialog Box

The Modify Shortcut dialog box opens when you right-click a shortcut that is *not* in the URL Shortcuts group of the shortcut bar and select `Modify Shortcut` from the pop-up menu. For details, see “Modifying a Shortcut” on page 276.

The Modify Shortcut dialog box contains the following options:

ID	System-generated ID for the new shortcut.
Label	Enables you to edit the label for the shortcut.
OK	Changes the shortcut and closes the dialog box.
Cancel	Closes the dialog box without changing the shortcut.

## Modify URL Shortcut Dialog Box

The Modify URL Shortcut dialog box opens when you right-click a shortcut in the URL Shortcuts group of the shortcut bar and select **Modify URL Shortcut** from the pop-up menu. For details, see “**Modifying a Shortcut**” on page 276.

The Modify URL Shortcut dialog box contains the following options:

ID	System-generated ID for the new shortcut.
URL	Enables you to edit the location of the URL shortcut.
Label	Enables you to edit the label for the shortcut.
OK	Changes the shortcut and closes the dialog box.
Cancel	Closes the dialog box without changing the shortcut.

## Preferences Dialog Box

The Preferences dialog box opens when you select `Edit : Preferences . . .` from the menu bar. The Preferences dialog box enables you to customize your Java GUI.

The Preferences dialog box contains the following tabs:

### ❑ **General**

For details, see “Preferences: General Tab” on page 526.

For an image of the General tab, see Figure 1-80 on page 186.

### ❑ **Web Browser**

For details, see “Preferences: Web Browser Tab” on page 529.

For an image of the Web Browser tab, see Figure 1-25 on page 78.

### ❑ **Events**

For details, see “Preferences: Events Tab” on page 530.

### ❑ **Services**

For details, see “Preferences: Services Tab” on page 531.

To find out how to use the Preferences dialog box, see the following procedures:

- ❑ “Customizing the Size of Shortcut Bar Icons” on page 278
- ❑ “Changing Your Integrated Web Browser” on page 280
- ❑ “Changing the Number of Displayed Messages” on page 312
- ❑ “Customizing the Refresh Interval” on page 270
- ❑ “Customizing the Look and Feel of the Java GUI” on page 273
- ❑ “Customizing the Color Preferences for the Message Browser” on page 314
- ❑ “Configuring Message Event Notification” on page 284
- ❑ “Customizing the Font Size” on page 285

### **Preferences: General Tab**

The General tab in the Preferences dialog box has the following options:

Refresh Interval

Determines how frequently (hh:mm:ss) the Java GUI refreshes automatically. The default is every 30 seconds (00:00:30).

#### Display the Latest Messages

Determines how many active messages to display in the message browsers. The default is 50 messages.

#### Display the Latest History Messages

Determines how many history messages to display in the history message browsers. The default is 50 history messages.

#### Display

Hostname of the exported display where X tools are launched.

#### Look and Feel

Enables you to choose between the following interface styles:

- Metal
- Motif
- HP One Voice (default look)
- Windows (only on Windows)
- Aqua (only on Mac OS)

#### Colored Message Lines

Enables you to color the entire message row in the message browser with the severity color of that message.

#### Application Font Size

Allows you to specify the general font size (in points) that applies to all Java GUI components except for service graphs and maps. The default is 11.

#### Stay On Top

Enables main and detached windows to stay on top of other windows.

Icon Size in Shortcut Bar

Enables you to control the size (in pixels) of icons. The default is 32.

Show Communications Status dialog

Enables (default) or disables the HPOM Communications Status dialog.

Help Page URL

Enables you to change the location of the HPOM online documentation.

Sort Owned Severity

Enables you to sort owned messages by severity.

Always use external web browser for help page

Enables you to set a different web browser in which the help topics are shown.

Tailored Set of Tools

Enables you to include only tools related to the selected message in the pop-up menus.

Number of Frequently Used Tools

Enables you to specify the number of most frequently used tools that are displayed above the separator line in the Start pop-up menus.

Filtered History Messages Time Period

Enables you to define the time period in which the filtered history messages are loaded.



## Preferences: Web Browser Tab

The Web Browser tab in the Preferences dialog box has the following options:

Use external web browser

In non-ActiveX tabs in the workspace pane, selects a web browser external to the Java GUI. In ActiveX tabs in the workspace pane, selects the Microsoft Internet Explorer Active control. Click **Browse** to locate the external web browser on your machine.

Use ActiveX Internet Explorer control

Selects the Microsoft Internet Explorer Active X control. You can activate this control only on an ActiveX tab in the workspace pane.

## Preferences: Events Tab

The Events tab in the Preferences dialog box has the following options:

Message Event Notification

Show Warning Dialog

Shows a warning dialog box when a message event occurs.

Run Local Application

Starts a local tool that you can select by clicking `Browse...`, and then selecting the tool installed on your computer.

When

Message Arrives

List box enables you to choose between the following:

- Unknown
- Normal
- Warning
- Minor
- Major
- Critical

Execute Only for First Message

Sends event notification only for the first message that arrives with a severity equal to or higher than that of the type selected.

Execute for Every New Message

Sends event notification for every new message that arrives with a severity equal to or higher than that of the type selected.

## Preferences: Services Tab

The Services tab in the Preferences dialog box has the following options:

Service Load on Demand

Use Service Load on Demand

Enables you to specify the number of levels in a service hierarchy that is retrieved from the management server at the Java GUI startup or at each subsequent user's request. Specify the number of hierarchical levels to be retrieved in the text field provided. Because Service Navigator supports up to 256 hierarchical levels, this is the maximum number that you can specify. The default value is 1.

Automatic Service Reload

Enabled by default. Enables or disables an automatic reload of the service configuration when a change occurs on the management server.

Use Smart Cache Reload

Allows you to keep only currently used services in the Java GUI. Specify the time interval between two smart cache reload invocations in the text field provided. The default value is 30 minutes.

Show Notification Dialog on Configuration Change

Allows you to choose whether you want to be informed about a configuration change.

This is possible *only* if Use Service Load on Demand is enabled. Otherwise, it is always enabled and *not* accessible (dimmed).

#### Show Service Label in Messages

Allows you to display the label of a service in messages in the message browser. If the service label is not loaded into the Java UI when using the Service Load on Demand functionality, the column displays no text.

#### Graph Zoom Settings

##### Zoom

Allows you to specify the preferred zoom value for service graphs or maps from a predefined set of proportional zoom ratios expressed in percentages, from 5% to 100%.

##### Custom

Allows you to specify the horizontal and vertical zoom values for service graphs or maps from a predefined set of proportional zoom ratios expressed in percentages, from 5% to 100%.

#### Service Graph Font Size

Allows you to specify the font size (in points) in service graphs and maps. The default is 11.

#### Default Service Status Calculation

##### Use Administrator's Settings

Enables you to select the default service status calculation view specified by the HPOM administrator. This calculation view

is automatically applied for the object pane and for each service graph and map you open.

#### Use Custom Setting

Enables you to specify the default service status calculation view regardless of the value specified by the HPOM administrator. This calculation view is automatically applied to the object pane and each service graph and map you open.

#### Show Watermark on Service Graphs and Maps

By selecting this check box you enable watermark or watermarks on service graphs and maps for the specified status calculation views.

This check box is automatically selected if you enable the watermark for at least one of the status calculation views in the Watermark Advanced Settings dialog box. Similarly, if you disable watermarks for both status calculation views in the Watermark Advanced Settings dialog, the Show Watermark on Service Graphs and Maps check box is automatically cleared.

#### Advanced

Opens the Watermark Advanced Settings dialog box where you enable and customize watermarks on service graphs and maps for any of the status calculation views.

## Rename Browser Settings Dialog Box

The Rename Browser Settings dialog box opens when you select `Rename` from the Browser Settings dialog box. For details, see “Browser Settings Dialog Box” on page 491.

The Rename Browser Settings dialog box contains the following attributes:

Name

New name for the existing filter.

OK

Saves a copy of the existing filter under the new name entered in the Name field.

Cancel

Closes the dialog box without saving the new filter name.

## Rename Message View Filter Dialog Box

The Rename Message View Filter dialog box opens when you click `Rename . . .` in the Save Message View Filter or the Load Message View Filter dialog box. Use this dialog box to specify a new name for an already saved message view filter.

The Rename Message View Filter dialog box contains the following options:

Rename Message View Filter

New name for the message view filter.

OK

Saves changes and closes the dialog box.

Cancel

Closes the dialog box without saving changes.

## Save Browser Filter Settings Dialog Box

The Save Browser Filter Settings dialog box opens when you click **Save . . .** in the Filter Messages dialog box. For details, see “Filter Messages Dialog Box” on page 497.

The Save Browser Filter Settings dialog box contains the following options:

Name

New name for the existing filter.

OK

Saves a copy of the existing filter under the new name entered in the Name field.

Cancel

Closes the dialog box without saving the new filter name.

## Save Message View Filter Dialog Box

The Save Message View Filter dialog box opens when you click **Save...** in the Message View Filter dialog box. Use this dialog box to save a message view filter under a name so that you can reuse it in the future.

The Save Message View Filter dialog box contains the following options:

Filters

List of currently saved message view filters, sorted by name.

Global

Indicates that the filter is defined by the HPOM administrator. Global filters are available to all users, but can only be modified and saved by the HPOM administrator.

Personal

Indicates that the filter is defined by an HPOM operator for personal use only. Operators can save only personal filters, and administrators cannot save personal filters.

Rename...

Opens the Rename Message View Filter dialog box. For more information, see “Rename Message View Filter Dialog Box” on page 534.

Delete

Deletes the selected saved message view filter from HPOM.

Name

Name of the message view filter.

OK

Saves changes and closes the dialog box.

Cancel

Closes the dialog box without saving changes.

## Send Message to Operator(s) Dialog Box

The Send Message to Operator(s) dialog box opens when you click **File: Send Message to Operator(s)...** from the menu bar.

The Send Message to Operator(s) dialog box contains the following options:

Message

Text box where you specify the text to be displayed to the users.

Send to All Operators

Selected by default. Sends the message to all currently logged on users.

Send to Selected Operators



Enables you to send the message to selected users only. Type the HPOM user name of the operator you want to inform. If you want to inform more than one user, separate the user names with commas.

OK

Sends the message and closes the dialog box.

Cancel

Closes the dialog box without sending the message.

## Service Properties Dialog Box

If Service Navigator is installed, you can open the Service Properties dialog box by selecting **Actions: Services -> Properties...** from the menu bar. You can also right-click a service item in the shortcut bar or the object pane, or a service graph in the workspace pane, and then select **Properties** from the pop-up menu.

---

### NOTE

The fields of the Service Properties dialog box may be empty if the HPOM administrator does not define any values in the service configuration file. For descriptions of standard HPOM menu bar options, see “Menu Bar Items” on page 424.

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The Service Properties dialog box contains the following tabs:

❑ **General**

For details, see “Service Properties: General Tab” on page 539.

❑ **Actions**

For details, see “Service Properties: Actions Tab” on page 539.

❑ **Attributes**

For details, see “Service Properties: Attributes Tab” on page 539.

❑ **Status Info**

For details, see “Service Properties: Status Info Tab” on page 540.

❑ **Service Mappings**

For details, see “Service Properties: Service Mappings Tab” on page 540.

Each tab in the Service Properties dialog box has the **Close** button that closes the window without saving changes.

### **Service Properties: General Tab**

The General tab of the Services Properties dialog box has the following options:

*Severity*

Current severity status of the service.

Name

Unique name of the service as defined in the administrator's service configuration file.

Label

Label of the service as displayed in the object pane.

Title

Title of the service's client window in the workspace pane.

Original ID

Identifier of the service assigned by HP Operations Service Configuration for Service Navigator.

Description

Detailed description of the service.

Node Name

Node to which the service is attached. Service actions are then executed on the specified node.

### **Service Properties: Actions Tab**

The Actions tab of the Services Properties dialog box displays the actions assigned to the selected service or subservice and includes the unique name, the type, and a detailed description of the service action.

### **Service Properties: Attributes Tab**

The Attributes tab of the Services Properties dialog box displays the attributes assigned to the selected service. Service attributes are defined by the administrator and can be used to convey any additional information about a service.

Reserved attributes are used to apply background images to service submaps, position subservice icons in these backgrounds, and add additional labels to service icons. For more information about reserved service attributes, see the *HPOM Administrator's Reference*.

### **Service Properties: Status Info Tab**

The Status Info tab of the Services Properties dialog box has the following options:

Parameter

Parameter of a service (for example, number of subservices for the service).

Value

Current value of the parameter (for example 3).

Status Calculation Name

Currently enabled one or more service status calculation views (for example, Overall).

Severity

Current service status for each enabled calculation view.

### **Service Properties: Service Mappings Tab**

The Service Mappings tab of the Services Properties dialog box displays a list of service names in messages. If the “service name” attribute of a message matches one of the strings in this list or matches the service name in the General tab, the message targets this service. One message can target more than one service.

## Service Views Dialog Box

If Service Navigator is installed, you can open the Service Views dialog box by selecting `Actions: Services -> Find in Service Views...` from the menu bar. Or you can right-click a service item in the shortcut bar or the object pane, or a service graph in the workspace pane, and then select `Find in Service Views...` from the pop-up menu. To find out how to use this dialog box, see “Finding a Service in Multiple Service Hierarchies” on page 392.

The Service Views dialog box has the following columns:

Service

Lists services with the same original ID. (The original ID is displayed in the title bar of the dialog box.) Each service is listed with its label and its name.

Root Service

Lists the root service of each service view that contains the identified service. Each root service is listed with its label and its name.

## Watermark Advanced Settings Dialog Box

The Watermark Advanced Settings dialog box opens when you perform one of the following:

- ❑ Click the **Advanced** button in the Services tab of the Edit->Preferences dialog.
- ❑ Select the **Watermark Settings** option from the Service Status Calculation pop-up menu. Right-click the area in the bottom right corner of the service graph or map to access the menu.

The Watermark Advanced Settings dialog box contains the following options:

Enable

By selecting this check box you enable watermarks on service graphs or maps for the specified status calculation view. Select one or more status calculation views for which you want to set the watermark from the drop-down list above the check box.

Settings

Text

Text box where you specify the text to be displayed in the service graph or map background. If you leave this text box empty, the name of the status calculation view for which the watermark is set appears instead. When you change the status calculation view's name on the HP Operations management server, you consequently also change the watermark text.

Font Size

Enables you to set the size of the text you specified to be displayed as a watermark. Valid values range from 1 through 128.

Intensity	Enables you to set the intensity of the watermark expressed in percentages, from 0% through 100%. You can set the intensity by entering a value in the provided text box or by using a slider control.
Angle	Enables you to set the display angle for the watermark expressed in degrees, from -90 through +90. You can set the angle by entering a value in the provided text box or by using a slider control.

The Watermark Advanced Settings dialog box contains the following buttons:

OK

Applies the settings and closes the dialog box.

Preview

Enables you to preview the settings in the service graph or map without applying them.

Cancel

Closes the dialog box without changing the settings.

## Web Browser Properties Dialog Box

The Web Browser Properties dialog box opens when you right-click a web page in an internal web browser in the workspace pane and then select *Properties* from the pop-up menu. The appearance of the Web Browser Properties window differs depending on the type of web browser (for example, internal, Microsoft Internet Explorer, or Mozilla). If you use Internet Explorer, the Internet Explorer web browser properties dialog box is used.

If you use an internal web browser, the Web Browser Properties dialog box contains the following options:

*PageTitle*

Title of the current web page.

*Protocol*

Type of transfer protocol (for example, HTTP).

*Type*

Type of source document (for example, HTML or JavaScript).

*URL Address*

Address of the document.

*OK*

Closes the dialog box.



## Workspace Properties Dialog Box

The Workspace Properties dialog box opens when you right-click the bottom of the workspace pane and then select `Workspace Properties` from the pop-up menu. For details, see “Customizing Workspace Pane Workspaces” on page 279.

The Workspace Properties dialog box contains the following options:

Label

Enables you to enter the name for the workspace pane that appears in the workspace tab.

Description

Enables you to enter a short description of the workspace pane.

Is ActiveX Container

Whether the workspace is an ActiveX control. For an overview of ActiveX controls in the workspace pane, see “Integrated Web Browsers” on page 78.

---

**NOTE**

---

This option is available on Windows systems only.

Is AWT (Heavy Weight) Container

Switches the workspace pane from Swing to AWT when running applets in the internal web browser. Using AWT prevents applets from running outside the internal web browser.

---

**NOTE**

---

Switching on AWT can cause some side effects, such as flashing when moving between workspace panes.

OK

Adds changes and closes the dialog box.

Cancel

Closes the dialog box without saving changes.

## Start Customized Tool Wizard

The Start Customized Tool wizard enables you to change the preconfigured start-up attributes of a tool (for example, parameters, a username, and a password), and specify the nodes on which you want to start the tool.

---

### NOTE

To find out how to use the Start Customized Tool wizard, see “Customizing the Start-up Attributes of a Tool” on page 251.

---

The Start Customized Tool wizard has the following buttons:

<Back

Moves to the previous step.

Next>

Moves to the next step.

Finish

Closes the wizard and starts the tool.

Cancel

Closes the wizard without starting the tool.

The Start Customized Tool wizard contains three steps, each with its own options:

### 1. Step 1 of 3: Select a Tool

Contains a tool menu tree from which you choose the tool you want to execute.

### 2. Step 2 of 3: Select the Nodes Where You Want to Run the Tool

Contains the following fields:

Additional Nodes

Enables you to enter the name of any additional node, including nodes that do not appear in the object pane.

Add to Selected

Adds the node you entered in the Additional Node field to the node list combination box.

Selected Nodes

Enables you to select nodes from the object pane.

Get Selections

Adds the node you highlighted in the object pane or the message browser to the node list combination box.

Delete

Deletes any node that is highlighted in the node list combination box.

Get Default

Restores the current node selection to the node selected when the wizard was started.

### 3. Step 3 of 3: Specify Additional Information Needed to Run the Tool

Contains the following fields:

Command

Enter the command.

Additional Parameters

Enter any additional parameters for the command.

User Name

By default, the user name is the configured user.

Password

If needed, enter the password for the user under which the tool will be executed.

Presentation

Read-only field indicates how the tool output will be displayed:

- No window
- Output
- Input/Output

---

## Message Browser Headline

To help you solve problems, messages are characterized by attributes summarized in the message headline in the message browser.

---

### NOTE

For an overview of the message browser, see “Message Browser” on page 68.

To find out how to investigate problems with the message browser, see “Investigating Problems with the Message Browser” on page 232.

To find out how to customize message browser columns, see “Changing the Layout of Browser Windows” on page 310 and “Customize Message Browser Columns Dialog Box” on page 493.

---

By default, the message browser headline contains the following elements:

Severity

Messages are color-coded to indicate how serious the problem is. For details, see “Message Attributes” on page 551.

Dup.

Displays the number of duplicates of the message that are suppressed.

SUIAONE

Indicates whether help instructions, automatic actions, and operator-initiated actions exist for the message. For details, see “Message Attributes” on page 551.

Time Received

Date and time the problem occurred.

Node

Node on which the problem occurred.

Tool

**Message Browser Headline**

	Application the message is associated with.
MsgGrp	
	Major area within the managed environment (for example, the operating system) where the event occurred.
Object	
	Object the message is associated with (for example, disk or memory).
Message Text	
	Short description of the event that generated the message.

## Message Attributes

This section describes message attributes and flags:

❑ **Message Colors**

Color coding that indicates the severity of the problem described by the message. For details, see “Message Colors” on page 552.

❑ **Message Fields**

Attributes summarized in the message headline in the message browser. For details, see “Message Fields” on page 553.

❑ **Message Flags**







Information about help instructions, automatic actions, and operator-initiated actions that may be associated with the message. For details, see “Message Flags” on page 558.

## Message Colors

To help you solve problems, messages are color coded to indicate the severity of the problem they describe. For example, the color coding could indicate that the Normal and Warning messages are generated.

You can configure HPOM to color the entire line in the Message Browser according to the severity of each message (as opposed to the Severity column). To change the color preferences, select **Preferences** from the Edit menu, and then toggle the Colored Message Lines check box.

**Table B-2** Levels of Severity

Severity	Icon	Description
Critical		The condition that affects a service or a node occurred and therefore the immediate corrective action is needed.
Major		The problem severity is high and therefore the normal use of the affected object is likely to be impeded.
Minor		The problem severity is relatively low and therefore the normal use of the affected object is not likely to be impeded.
Warning		A potential or impending service-affecting fault occurred and therefore you must take action to diagnose and correct the problem.
Normal		The message output is as expected and therefore a process may start, complete, and display the status information.
Unknown		The severity level was not defined in the policy running on the managed node for the event that generated the message.



## Message Fields

To help you solve problems, messages are characterized by attributes summarized in the message headline in the message browser. These fields are also available in the Message Properties dialog box associated with the selected message.

For an overview of the message browser, see “Message Browser” on page 68. For a detailed description of message flags, see “Message Flags” on page 558.

To customize message fields, use the Customize Browser Columns dialog box. For details, see “Changing the Layout of Browser Windows” on page 310 and “Customize Message Browser Columns Dialog Box” on page 493.

---

### NOTE

When copying one or more messages by using the **CTRL+C** and **CTRL+V** commands, message fields are separated with tabs. This makes possible organizing messages into Excel spreadsheets where each field of each message is a separate column in the row.

---

HPOM messages contain the following fields:

#### **Acknowledged By**

Name of the operator who acknowledged the message. If the message is acknowledged by an automatic or operator-initiated action, `OpC` appears in this field.

Default column label: `Acknowledged by`

#### **Tool**

Name of the tool related to the selected message.

Default column label: `Tool`

#### **Dup.**

*See* No. of Duplicates.

#### **Flags**

Flags associated with the message. For more information about message flags, see “Message Flags” on page 558.

Default column label: SUIAONE

**Forward Manager**

Manager that passes data to be forwarded to other management servers.

Default column label: Not Available

**Message Group**

Message group to which the selected message belongs.

Default column label: MsgGrp

**Message Key**

Message key that is associated with the selected message.

Default column label: Message Key

**Message No.**

Unique identification number for the selected message. This number is useful when you want to programmatically access to a message by using the open HPOM APIs.

Default column label: Message No.

**Message Text**

Complete text of the selected message.

Default column label: Message Text

**Message Type**

Attribute used by HPOM to divide a set of messages into more manageable subgroups. The message type is defined by the HPOM administrator.

Default column label: Message Type

**MsgGrp**

*See* Message Group.

**No. of Duplicates**

Number of duplicate messages that are suppressed.

Default column label: Dup.

**Node**

Managed node from which the selected message was issued. This can be the original node or a different one if the message conditions have been reformatted by the HPOM administrator.

Default column label: Node

**Object**

Object that caused, detected, or was affected by the event.

Default column label: Object

**Owned By**

Current owner of the selected message.

Default column label: Owned By

**Service Name**

Name of one or more services associated with the message.

Default column label: Service Name

**Service Label**

Label of one or more services associated with the message.

Default column label: Service Label

**Source**

Part of a tool from which the selected message came. For example, the source of a message can be a log file name, a console, an SNMP trap, or a threshold monitor.

Default column label: Source

**SUIAONE**

*See* Flags.

**Time Acknowledged**

Date and time the message was acknowledged. Once it is acknowledged, the message is moved from the active message browser to the filtered history message browser.

Default column label: Time Acknowledged

### **Time Created**

Date and time the selected message was created on the managed node.

Default column label: Time Created

### **Time Last Received**

Date and time the last duplicate message was received on the management server.

Default column label: Time Last Received.

### **Time Owned**

Date and time the owner of the message took ownership of the selected message.

Default column label: Time Owned

### **Time Received**

Date and time the selected message was received on the management server.

Default column label: Time Received

### **Time Unbuffered**

Date and time the message is unbuffered (that is, moved from the filtered pending messages browser to the active messages browser). This time is set by default to the start of the next period of defined service hours for the service to which the message relates. However, you can unbuffer messages manually at any time with the appropriate unbuffer menu option.

Default column label: Time Unbuffered

---

**NOTE**

If the HPOM Java GUI is running on a system with the time zone setting different from the setting on the HP Operations management server, the time stamps in the messages displayed in the Java GUI are taken from the local system (the system where the Java GUI is running on) and not from the HP Operations management server. See also “ito\_op.bat Options” on page 587.

---

## Message Flags

Message flags provide you with the information about help instructions, automatic actions, and operator-initiated actions that may be associated with messages.

For a detailed description of message attributes, see “Message Fields” on page 553.

HPOM messages contain the following flags:

S	Owned:	
	-	Not owned by anyone.
	O	Owned by the user of the message browser.
	X	Owned by someone other than the user of the message browser.
	N	Message is a notification message.
U	Unmatched:	
	-	Not unmatched.
	X	Unmatched. Does not match any of the filters defined for the message source.
I	Instructions:	
	-	No instructions are available.
	X	Instructions are available.
A	Automatic action:	
	-	No automatic action is configured.
	R	Automatic action is running.
	F	Automatic action failed.
	S	Automatic action was successful.

S	Operator-initiated action
-	No operator-initiated action is configured.
R	Operator-initiated action is running.
F	Operator-initiated action failed.
S	Operator-initiated action was successful.
N	Annotations:
-	No annotations are available.
X	Annotation is available.

---

## Types of HPOM Variables

This section describes the following message variables:

### ❑ Standard Variables

Variables that can be used in most broadcast and tool text entry fields. For details, see “Standard Variables” on page 560.

### ❑ Message-related Variables

Variables beginning with `OPC_MSG`. For details, see “Message-related Variables” on page 564.

## Standard Variables

The following variables can only be used in tools started from the Java GUI:

`$OPC_CUSTOM[name]`

Returns the value of the custom message attribute name. For example, the `$OPC_CUSTOM[device]` variable can return the Lan value.

`$OPC_ENV(env variable)`

Returns the value of the environment variable for the user who started HPOM.

Sample output:

`PATH, NLS_LANG, EDITOR, SHELL, HOME, TERM.`

`$OPC_EXACT_SELECTED_NODE_LABELS`

Returns the labels of all nodes and node groups that are selected at the time the tool is executed. The names are separated by spaces.

`$OPC_EXT_NODES`

Returns the node pattern of all external nodes that are selected at the time the tool is executed. The names are separated by spaces.



`$OPC_GUI_CLIENT`

Executes the tool or the action on the client where the Java GUI is currently running. This variable is resolved differently, depending on whether the GUI client is running on a UNIX-based system with DNS or on a PC using MS WINS (Windows Internet Name Service). If you use WINS, `$OPC_GUI_CLIENT` returns the WINS hostname.

`$OPC_GUI_CLIENT_WEB`

Starts a web browser on the client where the Java GUI is currently running. This variable is resolved differently depending on whether the GUI client is running on a UNIX-based system with DNS or on a PC using MS WINS (Windows Internet Name Service). If you use WINS, `$OPC_GUI_CLIENT_WEB` returns the WINS hostname.

`$OPC_MGMTSV`

Returns the name of the current HP Operations management server.

Sample output:

```
richie.c.com
```

`$OPC_MSG_IDS`

Returns the message IDs (UUIDs) of the messages currently selected in one or more open message browsers. If the same message is selected in more than one browser, the duplicate selections are ignored. Only message IDs of the messages currently selected in the top-most browser are returned.

Sample output:

```
85432efa-ab4a-71d0-14d4-0f887a7c0000  
a9c730b8-ab4b-71d0-1148-0f887a7c0000
```

`$OPC_MSG_GEN_NODES`

Returns the names of all nodes from which currently selected messages were sent by HPOM agents. The names are separated by spaces. The nodes need not be in the node bank. If the same message is selected in more than one of these browsers, the duplicate selections are ignored. Only nodes of the messages currently selected in the top-most browser are returned.

Sample output:

```
kernighan.c.com richie.c.com
```

`$OPC_MSG_NODES`

Returns the names of all nodes on which the events that generated currently selected messages took place. The names are separated by spaces. The nodes need not be in the node bank. If the same message is selected in more than one of these browsers, the duplicate selections is ignored. Only nodes of the messages currently selected in the top-most browser are returned.

Sample output:

```
kernighan.c.com richie.c.com
```

`$OPC_MSGIDS_ACT`

Returns the message IDs (UUIDs) of the messages currently selected in the Active/All and any HPOM message browsers. If the same message is selected in more than one of these browsers, the duplicate selections are ignored. Only message IDs of the messages currently selected in the top-most browser are returned.

Sample output:

```
85432efa-ab4a-71d0-14d4-0f887a7c0000  
a9c730b8-ab4b-71d0-1148-0f887a7c0000
```

`$OPC_MSGIDS_HIST`

Returns the message IDs (UUID) of the messages currently selected in the history message browser. Only Message IDs of the messages currently selected in the top-most browser are returned.

Sample output:

```
edd93828-a6aa-71d0-0360-0f887a7c0000  
ee72729a-a6aa-71d0-0360-0f887a7c0000
```

`$OPC_MSGIDS_PEND`

Returns the message IDs (UUID) of the messages currently selected in the pending messages browser. Only Message IDs of the messages currently selected in the top-most browser are returned.

Sample output:

```
edd95828-ac2a-71d0-0360-0f887a7c0000  
ee96729a-ada9-71d0-0360-0f887a7c0000
```

`$OPC_NODES`

Returns the names of all regular nodes that are selected at the time the tool is executed. The names are separated by spaces. The nodes need not be in the node bank. Nodes can be selected directly in a submap of the IP Map.

Sample output:

```
kernighan.c.com richie.c.com
```

`$OPC_NODE_LABELS`

Returns the labels of all nodes in the node tree that are selected at the time the tool is executed. The names are separated by spaces.

`$OPC_USER`

Returns the name of the HPOM user who is currently logged on to the management server.

Sample output:

```
opc_admin
```

## Message-related Variables

This section describes message-related variables:

- ❑ “Parameters for Message-related Variables” on page 564
- ❑ “Examples of Message-related Variables” on page 575

### Parameters for Message-related Variables

There are a few variables that return `TRUE` or `FALSE`, depending on the existence of a specific message attribute. For example, if an automatic action is defined, `TRUE` is returned. Otherwise, `FALSE` is returned.

If an attribute is empty, an empty string is returned. If you use an attribute that does not exist, it is treated like part of a normal string, which means no evaluation happens and the string remains unchanged.

The data returned from variables is exactly the same type as that shown in the Message Properties dialog box.

The indexing for word extraction from strings and for access to specific annotations starts with 1, not with 0.

```
$OPC_MSG.ACTIONS.AUTOMATIC
```

Indicates whether an automatic action is defined.

Sample output:

```
TRUE
```

```
$OPC_MSG.ACTIONS.AUTOMATIC.ACKNOWLEDGE
```

If an automatic action is configured to provide an acknowledgement for the selected message and the actions are successfully completed, this variable returns `yes`. Otherwise, `no` is returned.

Sample output:

```
yes
```

`$OPC_MSG.ACTIONS.AUTOMATIC.ANNOTATION`

If this variable returns `yes`, an automatic action provides annotations for the selected message. Note that if the action fails, an annotation is always written.

Sample output:

`yes`

`$OPC_MSG.ACTIONS.AUTOMATIC.COMMAND`

Returns the script or the program, including its parameters, performed as an automatic action for the selected message.

Sample output:

`dist_del.sh 30 warning`

`$OPC_MSG.ACTIONS.AUTOMATIC.NODE`

Returns the node on which an automatic action has been performed for the selected message.

Sample output:

`kernighan.c.com`

`$OPC_MSG.ACTIONS.AUTOMATIC.STATUS`

Returns the current status of the message's automatic action. The variable can return `running`, `failed`, or `successful`.

Sample output:

`successful`

`$OPC_MSG.ACTIONS.OPERATOR`

Indicates whether an operator-initiated action is defined.

Sample output:

`TRUE`

`$OPC_MSG.ACTIONS.OPERATOR.ACKNOWLEDGE`

If an operator-initiated action is configured to provide an acknowledgement for the selected message and the actions are successfully completed, this variable returns `yes`. Otherwise, `no` is returned.

Sample output:

`yes`

`$OPC_MSG.ACTIONS.OPERATOR.ANNOTATION`

If this variable returns `yes`, an operator-initiated action provides annotations for the selected message. Note that if the action fails, an annotation is always written.

Sample output:

`yes`

`$OPC_MSG.ACTIONS.OPERATOR.COMMAND`

Returns the script or the program, including its parameters, performed as an operator-initiated action for the selected message.

Sample output:

`ps -ef`

`$OPC_MSG.ACTIONS.OPERATOR.COMMAND [n]`

Returns the *n*th parameter of the script or program, performed as an operator-initiated action for the selected message.

Sample output:

`-ef`

`$OPC_MSG.ACTIONS.OPERATOR.NODE`

Returns the node on which an operator-initiated action is performed for the selected message.

Sample output:

`kernighan.c.com`

`$OPC_MSG.ACTIONS.OPERATOR.STATUS`

Returns the current status of the message's operator-initiated action. The variable can return running, failed, or successful.

**Sample output:**

successful

`$OPC_MSG.ACTIONS.TROUBLE_TICKET.ACKNOWLEDGE`

This variable can return the following values:

yes                   The message is automatically acknowledged after being forwarded to a trouble ticket system.

no                    The message is not acknowledged after being forwarded to a trouble ticket system.

**Sample output:**

yes

`$OPC_MSG.ACTIONS.TROUBLE_TICKET.STATUS`

This variable can return the following values:

yes                   The message was forwarded to a trouble ticket system.

no                    The message was not forwarded to a trouble ticket system.

**Sample output:**

yes

`$OPC_MSG.ANNOTATIONS`

Indicates whether annotations exist for a message. Returns TRUE if at least one annotation exists for a message. Otherwise, FALSE is returned.

**Sample output:**

TRUE

`$OPC_MSG.ANNOTATIONS[n]`

Returns the *n*th annotation.

**Sample output:**

Performed Message Correlation;

**Message Key Relation:**

Message 59d06840-ac4f-71d5-1f67-0f887e320000  
with condition id  
fe00fa34-9e34-71d5-143e-0f887e320000 ackn'ed  
0 messages.

`$OPC_MSG.APPLICATION`

Returns the name of the tool related to the selected message.

**Sample output:**

/usr/bin/su(1) Switch User

`$OPC_MSG.ATTRIBUTES`

This variable can return the following values:

unmatched      The message did not match any message conditions.

log only        The message was not originally displayed in the message browser.

**Sample output:**

unmatched

`$OPC_MSG.CREATED`

Returns the date and time the message was created on the managed node.

**Sample output:**

09/18/01 18:08:08



`$OPC_MSG.DUPLICATES`

Returns the number of duplicate messages that have been suppressed.

Sample output:

17

`$OPC_MSG.GROUP`

Returns the message group to which the selected message belongs.

Sample output:

Security

`$OPC_MSG.INSTRUCTIONS`

Returns the text of the instruction.

Sample output:

Available space on the device holding the /  
(root) filesystem is less than the configured  
threshold. This may lead to...

`$OPC_MSG.LAST_RECEIVED`

Returns the date and time the last duplicate message was received on the management server.

Sample output:

09/16/09 03:17:23

`$OPC_MSG.MSG_KEY`

Returns the message key that is associated with a message.

Sample output:

my\_appl\_down:kernighan.c.com

`$OPC_MSG.MSG_ID`

Returns the unique identification number for the selected message.

Sample output:

217362f4-ac4f-71d5-13f3-0f887e320000

`$OPC_MSG.NO_OF_ANNOTATIONS`

Returns the number of annotations of a message.

Sample output:

3

`$OPC_MSG.NODE`

Returns the managed node from which the selected message was issued.

Sample output:

kernighan.c.com

`$OPC_MSG.NODES_INCL_DUPS`

Returns the managed node from which the selected message was issued, including duplicate node names for multiple messages from the same node.

Sample output:

kernighan.c.com richie.c.com richie.c.com

`$OPC_MSG.OBJECT`

Returns the object that was affected by, detected, or caused the event.

Sample output:

CPU

`$OPC_MSG.ORIG_TEXT`

Returns the original text of the selected message.

Sample output:

SU 09/18 18:07 + 6 root-spooladm

`$OPC_MSG.ORIG_TEXT[n]`

Returns the *n*th word in the original text of the message.

Sample output:

the

`$OPC_MSG.OWNER`

Returns the owner of the selected message.

Sample output:

opc\_op

`$OPC_MSG.RECEIVED`

Returns the date and time the message was received on the management server.

Sample output:

09/18/01 18:08:10

`$OPC_MSG.SERVICE`

Returns the service name that is associated with the message.

Sample output:

VP\_SM:Agent:ServicesProcesses@@kernighan.c.com

`$OPC_MSG.SERVICE_LABEL`

Returns the service label that is associated with the message. This can be, for example, for service name `node3_disk` the service label `Disk 3`.

Sample output:

Disk 3

If there is no service label configured, this variable returns an empty string.

`$OPC_MSG.SERVICE.MAPPED_SVC_COUNT`

Returns the number of service names in messages that are mapped to this message.

Sample output:

3

`$OPC_MSG.SERVICE.MAPPED_SVC[n]`

Returns the name of the *n*th service name in this message.

Sample output:

SAP:applsv01

`$OPC_MSG.SERVICE.MAPPED_SVCS`

Returns all service names in messages mapped by this message. The names are separated by spaces.

Sample output:

SAP:applsv01 SAP:applsv02

`$OPC_MSG.SEVERITY`

Returns the severity of the message that can be Unknown, Normal, Warning, Minor, Major, or Critical.

Sample output:

Normal

`$OPC_MSG.SOURCE`

Returns the name of the tool or the component that generated the message.

Sample output:

Message : opcmmsg (1 | 3)

`$OPC_MSG.TEXT`

Returns the complete text of the selected message.

Sample output:

The following configuration information was successfully distributed:

Templates (OpC30-814)

`$OPC_MSG.TEXT [n]`

Returns the *n*th word in the text of the message text.

Sample output:

following

`$OPC_MSG.TIME_OWNED`

Returns the date and time the message was acknowledged.

Sample output:

09/18/01 18:11:10

`$OPC_MSG.TYPE`

Returns the message type of the message.

Sample output:

ECS

## Examples of Message-related Variables

This section contains examples of message-related variables and parameters you can use to perform daily tasks.

### ❑ Accessing Message Attributes

You can access all message attributes by using the following variable:

**\$OPC\_MSG.ATTRIBUTES**

All you need to do is to add an attribute name.

For example, to get the text of a message, use the following:

**\$OPC\_MSG.TEXT**

When working with attributes that represent strings, you can access a specific word.

For example, to get the fourth word in the text of a message, use the following:

**\$OPC\_MSG.TEXT [4]**

Annotations are an exception to this rule. In annotations, an index specifies the annotations that are returned.

For example, access the seventh annotation of the current selected messages with the following:

**\$OPC\_MSG.ANNOTATIONS [7]**

### ❑ Finding Duplicate Messages

If you need information about the number of message duplicates for a tool, use the following:

**\$OPC\_MSG.DUPLICATES**

### ❑ Extracting Creation Time and Severity

If you want to perform some statistical calculations, specify the message creation time and the severity as follows:

**\$OPC\_MSG.CREATED**

**\$OPC\_MSG.SEVERITY**

### ❑ Extracting Message Text

If you defined a template condition that creates a message text with some status as the third word, and you want to extract this status easily and forward it to a tool called `evaluate_status`, use the following:

```
evaluate_status $OPC_MSG.TEXT[3]
```

### ❑ Evaluating Action Attributes

If you want to use and evaluate action attributes, you can write shell scripts that check for automatic and operator-initiated actions, and get more information about their status and if they are annotated:

```
<script_name> $OPC_MSG.ACTIONS.AUTOMATIC
```

```
<script_name> $OPC_MSG.ACTIONS.AUTOMATIC.STATUS
```

```
<script_name> $OPC_MSG.ACTIONS.AUTOMATIC.ANNOTATION
```

The first parameter is `TRUE` if an automatic action was defined for the message. This script is useful only if there are more attributes used afterwards, but not for checking whether each attribute is an empty string.

### ❑ Accessing Annotations

To access the second annotation of a selected message in a tool, use the following:

```
$OPC_MSG.ANNOTATIONS[2]
```

### ❑ Updating Duplicated Severity

When suppressing or counting duplicate messages, the severity and the text of the message that first appears in the browser is retained. When the new incoming message has a different severity or a message text, these new values are displayed instead of the previous data.

To update the severity of the original message, run the following command:

```
ovconfchg -ovrg server -ns opc -set \  
OPC_UPDATE_DUPLICATED_SEVERITY LAST_MESSAGE
```



❑ **Updating Duplicated Message Text**

To update the text of an original message, run the following command:

```
ovconfchg -ovrg server -ns opc -set \  
OPC_UPDATE_DUPLICATED_MSGTEXT LAST_MESSAGE
```

## itooopbrw File

HPOM administrators can use the itooopbrw file to customize the attributes of the current message browser.

---

### NOTE

If a message view filter is applied to a message browser when the browser layout is saved, the message view filter definition is also saved in the itooopbrw file. For more information about the syntax used in message view filters, see “Syntax for Message View Filters” on page 201.

This section explains the following:

❑ **Syntax**

Exact syntax used in the itooopbrw file. For details, see “Syntax for the itooopbrw File” on page 579.

❑ **Parameters**

Descriptions of parameters used in the itooopbrw file. For details, see “Parameters for the itooopbrw File” on page 579.

---

### IMPORTANT

Only experienced HPOM administrators are advised to use the itooopbrw file for customizing the attributes of the current message browser.

---

## Syntax for the itopbrw File

The itopbrw file uses the following syntax:

```
VERSION "VERSION STRING"
[ACTIVE | HISTORY | PENDING | NAME:"<NAME>"
  {"<COLUMN_NAME>" <WIDTH> ["COLUMN_LABEL"]}
  {[ALIGN "<COLUMN_NAME>" LEFT | RIGHT | CENTER]}
  {[FILTER
  [SORT "<COLUMN_NAME>" ASCEND | DESCEND]
  [WIN_WIDTH <WINW>]
  [WIN_HEIGHT <WINH>]
]
```

## Parameters for the itopbrw File

The itopbrw file uses the following parameters:

ACTIVE	Values for the Active message browser filter.
ALIGN	Keyword identifying the alignment information for the specified column.
ASCEND	Direction of sorting: from beginning to end (top to bottom).
CENTER	Direction of alignment: center.
COLUMN_LABEL	Label of the message browser column.

<COLUMN\_NAME>

Message attribute or column ID key. Use the exact custom message attribute ID for custom message attribute columns. Enclose column names that contain spaces in quotation marks (“”).

---

**NOTE**

---

Some of the following message attributes have more than one possible matching ID. This ensures compatibility with the itooibrw file syntax used in earlier versions of HPOM.

Reserved words for general message attributes are the following:

Acknowledged By

Name of the operator who acknowledges the message.

Application | APPLICATION\_COL

Name of the application (the tool) related to the message.

Flags | FLAGS\_COL

Message flags associated with the message (SUIAONE).

Message Group | MSG\_GRP\_COL

Message group to which the message belongs.

Message Key

Message key that is associated with the message.

Message No.

Unique identification number (message ID) for the message. This number is useful when you want to programmatically access a message by using the open HPOM APIs.

Message Text	MSG_TEXT_COL	Complete text of the message.
Message Type		Attribute used by HPOM to divide a set of messages into more manageable subgroups. The message type is defined by the HPOM administrator.
No. of Duplicates	DUPLICATED_COL	Number of duplicated messages.
Node	ODE_COL	Managed node from which the message is issued.
Object	OBJECT_COL	Object that is caused, detected, or affected by an event.
Owned By		Current owner of the message.
Service Name		Name of the service associated with the message.
Service Label		Label of the service associated with the message.
Severity	SEVERITY_COL	Severity of the message.
Source		Part of the application (the tool) from which the message comes. For example, the source of a message could be a log file name, a console, an SNMP trap, or a threshold monitor.

Time Acknowledged

Date and time the message is acknowledged.

Time Created

Date and time the message is created on the managed node.

Time Last Received

Date and time the last duplicate message is received on the management server.

Time Owned

Date and time the owner of the message takes ownership of the selected message.

Time Received | TIME\_COL | DATE\_COL

Date and time the selected message is received on the management server.

Time Unbuffered

Date and time the message is unbuffered (that is, moved from the filtered pending messages browser to the active messages browser). This time is set by default to the start of the next period of defined service hours for the service the message relates to.

DESCEND

Direction of sorting: from end to beginning (bottom to top).

HISTORY

Values for the History message browser filter.

LEFT

Direction of alignment: left.

NAME	Keyword.
<NAME>	Name of the filter. Use backslashes to escape quotation marks and backslashes.
PENDING	Values for the Pending message browser filter.
RIGHT	Direction of alignment: right.
SORT	Keyword identifying the sorting information for the specified column.
VERSION	Keyword for the version of the itooibrw syntax.
VERSION_STRING	Version number of the itooibrw syntax.
<WIDTH>	Integer value representing the column width in pixels.
WIN_HEIGHT	Vertical dimension of the message browser window.
WIN_WIDTH	Horizontal dimension of the message browser window.
<WINH>	Integer value representing the height of the message browser window in pixels.
<WINW>	Integer value representing the width of the message browser window in pixels.

## ito\_op Start-up Options

This section describes the start-up options evaluated by the Java GUI when it is started by using the `ito_op` startup script.

You can start the Java GUI with the `ito_op` script by typing the following:

```
/opt/OV/www/htdocs/ito_op/ito_op &
```

When the Java GUI is started, the following evaluation sequence takes place:

1. Internal system default values are evaluated and considered first.
2. Startup parameters set in the `itoopec` resource file are evaluated. They are considered *instead* of default options.
3. Environment variables are evaluated and considered *instead* of parameters set in the `itoopec` resource file.
4. The command line options passed with the `ito_op` (`ito_op.bat` on Windows) startup script are evaluated and considered *instead* of all parameters set in the `itoopec` resource file.

Table B-3 shows the options evaluated by the Java GUI in the startup scripts:

**Table B-3 Startup Script Options Evaluated by the Java GUI**

Option	Format	Default	Description
<code>apisid</code>	<code>&lt;string&gt;</code>	<code>OV_JGUI_API</code>	Sets a session ID for the particular Java GUI instance at its startup.
<code>bbc.http:proxy</code>	<code>&lt;string&gt;</code>	""	Configures a proxy server for HTTPS-based communication.
<code>colored_message_lines</code>	<code>yes no</code>	<code>no</code>	Decides whether whole messages or just the severity column are colored in the message browser.
<code>def_browser</code>	<code>&lt;filename&gt;</code>	""	Path to the web browser on a local host.



**Table B-3 Startup Script Options Evaluated by the Java GUI (Continued)**

Option	Format	Default	Description
def_look_and_feel	<string>	Windows: com.sun.java.s wing.plaf.moti f.Motif LookAndFeel	Defines the appearance of the Java GUI.
initial_node	<string>	<localhost>	Hostname of the HP Operations management server to which the Java GUI will connect.
locale	<lang_territory>		Presets the locale name.
maxheap	<number>	256MB	Used for specifying the maximum heap memory size for the Java Virtual Machine. This heap memory is used for literal strings and class loader.  You can specify a greater value according to your environment needs.
maxperm	<number>	128MB	Specifies the maximum permanent memory size for the Java Virtual Machine. This kind of memory is used for dynamically created objects.
max_limited_messages	<int>	50	Maximum number of messages displayed in a browser.
nosec	true false	false	Starts the SSL Secure Java GUI in standard mode without the SSL functionality.
passwd	<string>	""	Password of the HPOM operator used for the logon.

**Table B-3 Startup Script Options Evaluated by the Java GUI (Continued)**

Option	Format	Default	Description
refresh_interval	<int> (seconds)	30	Sequence of time after which the message browser is refreshed.
server	<string>	<localhost>	Hostname of the HP Operations management server to which the Java GUI connects.
service_icon_zoom	<number>	100	Used for customizing the size of service icons and severity status indicators. Can be set from 1 through 100.
title_suffix	<string>	""	Displays the string next to the title in the main window.
trace	true false	false	Enables the appearance of tracing messages in the terminal.
user	<string>	""	HPOM operator name used for the logon.

## Java Console Version for the Client Verification

You can verify the Java Console version by running the following command:

- ❑ On UNIX

```
ito_op -version
```

- ❑ On Windows

```
ito_op.bat -version
```

## ito\_op.bat Options

### Time Zone Specification

The Java GUI displays time-related information in the local time zone of the client. If the Java GUI and the HP Operations management server are located in different time zones, you can set the Java GUI to use the time zone of the management server by adding the appropriate text for the preferred time zone in the `ito_op.bat` file.

For example, to use the Australia/Sydney time zone, add the `-Duser.time zone=Australia/Sydney` text to the `ito_op.bat` file:

```
:: Starting JavaGUI
for %%p in (true TRUE on ON yes YES) do if "%%p"=="%TRACE%" echo on
for %%p in (true TRUE on ON yes YES) do if "%%p"=="%PLUGIN%" goto
:PLUGIN
%START% .\j2re1.4.2\bin\%JAVA% -Duser.time zone=Australia/Sydney
-Xmx128m com.hp.ov.it.ui.OvEmbApplet initial_node=%ITOSERVER%
user=%USER% passwd=%PASSWD% trace=%TRACE% display=%DISPLAY%
locale=%LOCALE% max_limited_messages=%MAX_LIMITED_MESSAGES%
refresh_interval=%REFRESH_INTERVAL% apiport=%APIPORT%
apisid=%APISID% https=%HTTPS% %BBCPARAM%
goto END
```

Valid time zones are listed in the `<JRE_HOME>\lib\zidirectory` (for example, GMT, Asia/Singapore, or Europe/Warsaw). If you specify an invalid time zone, GMT is used.

### Java GUI Layout Configuration

You can configure the file name and the location for loading and saving the Java GUI layout as a command line option, for example:

```
ito_op.bat -config=<path/filename>
```

---

## itooopc Resource File

The `itooopc` resource file is used to store operator preferences.

The `itooopc` file is created or updated automatically in the home directory of the user who activated the Java GUI after each click the **OK** button in the Preferences dialog box.

Operator preference options are listed in the `itooopc` file. Each defined option must be listed in a separate line and followed by its parameter.

---

### NOTE

The `itooopc` file should be edited only by experienced administrators or operators.

---

Table B-4 describes the options that can be added in the `itooopc` file with their parameters.

**Table B-4**      **itooopc Options and Parameters**

Option	Format	Description
<code>apisid</code>	<code>&lt;string&gt;</code>	Sets a session ID for the particular Java GUI instance at its startup.
<code>bbc.http:proxy</code>	<code>&lt;string&gt;</code>	Configures a proxy server for HTTPS-based communication.
<code>colored_message_lines</code>	<code>on off true false yes no</code>	Enables you to color the entire message row in the message browser with the severity color of that message.
<code>def_help_url</code>	<code>&lt;url&gt;</code>	Path to the help pages on the management server.
<code>def_look_and_feel</code>	<code>&lt;look_and_feel&gt;</code>	Defines the appearance of Java GUI: Metal, Motif, HP One Voice, Windows, or Aqua.

**Table B-4            itooprc Options and Parameters (Continued)**

<b>Option</b>	<b>Format</b>	<b>Description</b>
default_browser	<path_to_browser>	Path to the web browser on a local host.
global_settings_poll_interval	<number>	Determines how frequently the Java GUI checks for changes to the global property files. The default is five minutes.
initial_node	<hostname/ip>	Hostname of the HP Operations management server to which the Java GUI connects.
install_dir	<path>	For HP internal use only.
https_fallback	<to_socket/to_bbc/none>	Configures the fallback mechanism responsible for the Java GUI client and HPOM management server connection used in a secure communication type.  This configuration cannot be specified as a global setting.
locale	<locale_setting>	Presets the locale name.
max_limited_messages	<number>	Determines how many messages to display in the message browsers.
message_notification_dlg	on off true false yes no	Shows a warning dialog when a message event occurs.
message_notification_dlg_app	on off true false yes no	Starts a local application that is executed when a message event occurs.

**Table B-4** itoopec Options and Parameters (Continued)

Option	Format	Description
message_notification_dlg_app_path	<path>	Path to the local application that is started when a message event occurs.
message_notification_show_all	on off true false yes no	Sends event notification either for the first message to arrive or for every new message.
nosec	on off true false yes no	Starts the SSL Secure Java GUI in standard mode without the SSL functionality.
number_of_frequently_used_tools	<number>	A number of most frequently used tools that are displayed above the separator line in the pop-up menus from which you start the tools. The default value is 5, but you can set it in the range of 1 through 15.
passwd	<password>	Password of the HPOM operator used for the logon.
port	<number>	Port number the Java GUI uses to connect to the management server.
prompt_for_activate	on off true false yes no	For HP internal use only.
reconnect_interval	<number>	Time (in seconds) the Java GUI allocates for reconnecting to the management server.

**Table B-4            itooprc Options and Parameters (Continued)**

Option	Format	Description
reconnect_timeout	<number>	Time (in seconds) after which the Java GUI stops reconnecting to an unreachable management server.
refresh_interval	<number>	Determines how frequently the Java GUI refreshes automatically. The default is 30 seconds.
secure_port	<number>	Port number the Secure Java GUI uses to connect to the management server.
severity_label	text both icon	Determines whether the message browsers display icons, the text, or both in the severity column.
shortcut_tree_icon_width	<number>	Controls the size (in pixels) of icons. The default is 32 pixels.
show_at_severity	0 1 2 3 4 5	Defines the severity of the message for which event notification takes place:  0 = Unknown 1 = Normal 2 = Warning 3 = Minor 4 = Major 5 = Critical

**Table B-4**      **itooprc Options and Parameters (Continued)**

<b>Option</b>	<b>Format</b>	<b>Description</b>
show_svc_label_in_msgs	on off true false yes no	Enables the service label column in the message browser. If you update the service label column manually, make sure that you do it before the startup.
show_comm_status_dlg	yes no	<p>Java GUI clients check for changes to the global property files in the shared location. If a change is detected, the HPOM Communication Status dialog box displays a message that informs the operator of the changes and requests a restart of the Java GUI.</p> <p>This parameter enables or disables the HPOM Communication Status dialog box from displaying. The default value is yes.</p> <p>This is useful if you want to disable this behavior in an environment with many clients logged on with the same user name at the same time. This way, when one of these clients reloads the Java GUI configuration, the HPOM Communication Status dialog boxes are refrained from disturbing all the other clients.</p>



**Table B-4            itooprc Options and Parameters (Continued)**

Option	Format	Description
socket_fallback	<to_bbc none>	Configures the fallback mechanism responsible for the Java GUI client and the HP Operations management server connection by using a non-secure communication type.  This configuration cannot be specified as a global setting.
sort_owned_severity	on off true false yes no	Filters owned messages on the message browser by severity. The default value is no.
stay_on_top	on off true false yes no	Enables the Java UI windows (main and detached) to stay on top of other windows. The default value is no.
subproduct	<subproduct_string>	For HP internal use only.
tailored_applications_start	on off true false yes no	Enables you to include only tools related to the selected message in the pop-up menus.
title_suffix	<title>	Displays the string next to the title in the main window.
trace	on off true false yes no	Enables the appearance of tracing messages in the terminal.
user	<username>	HPOM operator name used for the logon.

Table B-4 itoopec Options and Parameters (Continued)

Option	Format	Description
web_browser_type	external auto manual	<p>Type of web browser to use in the workspace pane:</p> <ul style="list-style-type: none"> <li>• <i>External</i> In non-ActiveX tabs in the workspace pane, selects a web browser external to the Java GUI. In ActiveX tabs in the workspace pane, selects the Microsoft Internet Explorer ActiveX control.</li> <li>• <i>Auto</i> Selects the internal web browser provided with the Java GUI.</li> <li>• <i>Manual</i> Custom selection of a web browser. See the which_browser option.</li> </ul>
web_browser_html_appl_result	true false	<p><i>Internal</i></p> <p>true= Enables the HTML output of the application.</p> <p>false= Disables the HTML output of the application.</p>
which_browser	1 2	<p>Type of web browser to use:</p> <p>1 = ActiveX Internet Explorer</p> <p>2 = Internal web browser</p>

---

# Glossary

## A

**acknowledgement** *See* message acknowledgment.

**action** Response to a message that is assigned by a message source template or condition. This response can be automatic or operator-initiated. *See also* automatic action; operator-initiated action.

**action agent** Also known as “opcacta.” Starts and controls actions on managed nodes. Can be a script, a program, or an application. *See also* agent.

**action identifier** Element in an ARF. Typical elements of this type are install agents or start GUIs. *See also* ARF.

**action manager** Also known as “opactm.” Manager that resides on the management server and controls action agents on managed nodes. The manager is called by the display manager to perform operator-initiated actions or execute applications. The manager is called by the message manager if an automatic action is to be performed on a system other than the managed node from which the message has come.

**action-allowed manager** Management server for a specific managed node that is allowed to execute actions on that node. By default, the only management server that is allowed to execute actions on a managed node is the Installation Manager. You can configure several management servers to execute actions on shared managed nodes.

*See also* HPOM Installation Manager.

**active message browser** *See* message browser.

**agent** Program that receives requests from a manager program, and can gather information, perform processing, and generate responses. *See also* action agent; control agent; message agent.

**annotation** *See* message annotation.

**application** 1. Simple script, process, or command. 2. Complex product that includes a number of programs and configuration files. *See also* operation view; HP application; HP service; HPOM application; HPOM internal application.

**application defaults** Defaults, such as color or font, that can be changed by accessing the X Windows application defaults file. *See also* manual page *opc(1)*.

**application registration file** *See* ARF.

**ARF** application registration file. File explaining how an application integrates with HPOM. For example, this file can contain information about which menu items are used or which user actions are recognized by the application. This file can also contain action identifiers. *See also* action identifier.

**audit entry** Entry written to the database that documents an operator activity (for example, performing an action, launching an application, or logging on or off) or an administrator activity (for example, configuration). You can print hard copies of these entries as reports.

**authentication** Security feature that verifies the identity of the parties involved in a connection. *See also* encryption.

**automatic action** Action triggered by an incoming event or message. No operator intervention is involved. *See also* message acknowledgment; operator-initiated action.

## B

**backup manager** Management server that replaces another management server (for example, in case of failure). This replacement management server becomes the primary management server. It usually has same configuration as the server it replaces. *See also* primary manager.

**broadcasting** Simultaneously sending commands to one or more specified managed nodes. In the Java GUI operators, send these commands from the Tools tree in the Object Pane.

## C

**competence center** Designated centers of expertise for specific areas of a management system, such as databases or operating systems. When these centers are organized into a hierarchy, managed nodes are configured to send messages relating to specific subjects to defined management servers, where the knowledge exists to solve those problems. *See also* flexible management.

**configuration management adapter** Also known as “opcbbcdist.” Configuration management adapter between the HP Operations management server and the HTTPS agents that creates instrumentation from existing actions, commands, and monitors, and switches `nodeinfo` settings into the XPL format used on HTTPS nodes.

**control agent** Also known as “opcctla.” Agent on each managed node that is responsible for starting and stopping all other agents, and processing requests from the management server. During startup, or following a distribution request from the request sender, this agent starts the distribution agent, which gathers new configuration data from the management server. *See also* agent.

**control switch** Switching the responsibility of a message from the source management server to target management servers. This responsibility switch gives the full set of actions and operations associated with the original message to the target management servers. The source management server retains a read-only copy of the message.

*See also* message forwarding; notification message.

**controlled node** Managed node to which all the management and monitoring capabilities of HPOM, including remote logon, can be applied. Actions can be performed and applications can be started on this node.

## D

**datastore service** Any kind of storage mechanism used to store information in a distributed environment (for example, a database storing metadata, persistent object information, historical information, and topological information).

**default objects** *See object.*

**default target nodes** List of nodes on which applications are started or to which commands are broadcast. The administrator defines this list. If the administrator grants

operators customized start-up rights, the operators can modify the list from the Java GUI. *See also* managed nodes; node.

**disabled nodes** Nodes that have been temporarily removed from the environment of a specified operator. No agent processes are started, and incoming messages from these nodes are ignored.

## E

**EC** *See message attributes.*

**encryption** Security option that prevents eavesdropping on messages and tampering with messages. This option ensures that only legitimate, authenticated parties can read the message. *See also* authentication.

**event** Occurrence or incident within a computing environment that triggers a message. Typically, this occurrence is a change in status or a threshold violation. For example, the status of a printer changes when the paper tray empties.

**event attribute** *See message attributes.*

**event correlation** Correlation that allows real-time processing of event streams to identify relationships between events and, where possible, generate new and smaller streams with more useful and manageable information.

**external nodes** Nodes located outside the HPOM domain. These nodes, which include all kinds of nodes (that is, not just IP nodes), have only some of the functionality of normal HPOM nodes. No HP Operations agent runs on these nodes. *See also* node group.

## F

**filtered message browser** Java GUI message browser displays a selection of messages. This browser enables you to viewing only specified messages rather than the entire Message Browser. *See also* history message browser; message browser; pending messages browser.

**filters** Screening devices provided by message conditions that change, redirect, or suppress information on nodes or within the GUI. The administrator uses these screening devices to collect messages from various sources by defining message and suppress conditions. *See also* message conditions; suppress conditions.

**flexible management** Spreading responsibility for managed nodes over a number of management servers, enabling those managed nodes to report to the various management servers according to the time, location, or subject of the messages received. *See also* competence center; follow-the-sun.

**follow-the-sun** Distribution of responsibility across multiple management servers by time zone. Managed nodes send messages to the configured management servers according to time attributes defined by the administrator. *See also* flexible management.

## G

**graphical user interface** *See Java GUI.*

**GUI** *See Java GUI.*

## H

**history message browser** Java GUI browser that displays all acknowledged messages. By examining acknowledged messages, you can review techniques previously used to solve problems. *See also* message browser; pending messages browser; filtered message browser.

**HP application** HP application that has been integrated with the HPOM. *See also* application; HP service; HPOM application; HPOM internal application.

**HP service** Script, process, or command that has been integrated into HPOM from HP Software by using the `opcservice` command-line tool. Unlike applications, services cannot be invoked from symbols. Services are either invoked automatically or manually from the menu bar. Services can be represented by symbols, or as part of a hierarchy under a group symbol. *See also* application; HP application; HPOM application; HPOM internal application.

**HTTPS-based Java GUI** Solution for providing a secure communication between Java GUI and the HP Operations management server built on HTTPS protocol with Secure Socket Layer (SSL) encryption. *See also* Java GUI.

## I

**instruction text interface** Interface that enables the administrator to define an external program used to present instructions to a chosen operator. Depending on the external program used, the administrator can then present different instructions for each message. *See also* help instruction texts.

**integrity** Security feature that reassures the recipient of a message that the message has not been altered since it was generated by a legitimate source.

**IP submaps** Also known as “topology submaps.” Maps maintained by the standard HP service `netmon`. On these submaps, the network objects (for example, systems, routers, bridges, and so on) are organized according to their IP addresses. *See also* map application.

## J

**Java GUI** Java graphical user interface. *See also* object pane.

## L

**license password** A unique character array that contains information about one or more licenses for a licensed object. Passwords are added to the license password repository to install licenses (LTUs).

**license key** A license key contains information about the licensed object and the number of licenses (LTUs) on the key. The HP Operations management server and HP operations agent are examples of licensed objects.

**license to use (LTU)** An LTU is a license that has been acquired by the customer and is used by product components that require licensing.

**log-only message** Message that is logged on the management server (or locally, if so configured) and sent to the history database. This message displays only in the history message browser. The `log-on-management-server-only` attribute

can be set individually for each message condition. Other actions cannot be set when this option is selected for a condition.

**log file encapsulator** Also known as “opcle.” Process residing on the managed nodes that uses the log file template to scan one or more applications or system log files for messages matching a pattern specified by the administrator. If a match causes a message to be generated, the message is forwarded to the message agent.

**log file messages** Messages that are generated from application or service log files. The administrator sets up log file templates. These templates consist of monitoring options (for example, polling interval, processing tool, and character set), as well as message and suppress conditions, to determine the way log files are read by the log file encapsulator. The log file encapsulator then forwards any generated messages to the message agent. *See also* message sources.

## M

**managed nodes** Computer system or intelligent device (for example, a network printer or router) monitored or controlled by HPOM. The HP Operations agent collects, filters, and processes information from each node, and sends it to the management server. *See also* default target nodes; message sources; node; node group; remote node.

**management server** Central computer system of the domain to which all managed nodes forward their HPOM messages.

**manager-of-manager** *See flexible management.*

**map application** Application that creates or modifies the contents of maps. This application can dynamically update the open map to reflect the state of systems on the network, and provide information about objects in the map. *See also* IP submaps.

**marking message** *See message ownership.*

**message** Structured, readable piece of information about the status of a managed object, an event related to a managed object, or a problem with a managed object. Depending on the status of the object, this information is displayed in the Java GUI active message browser, filtered active message browser, filtered history message browser, or filtered pending messages browser. *See also* message attributes.

**message acknowledgment** Moving a message from the message browser to the history database, where it may be viewed by using the Java GUI filtered history message browser. Typically, a message is moved to the history database after the problem or event that triggered it has been resolved by an action. *See also* automatic action; message unacknowledgement.

**message agent** Also known as “opcmsga.” Agent on a managed node that receives messages from the message sources, then processes and forwards the messages to the management server. *See also* agent.

**message-allowed nodes** Nodes that do not run agent software. Messages sent by these nodes are accepted by HPOM.

**message annotation** Text added manually or automatically to a message by an operator or administrator. This text describes actions taken to solve a problem. The text can

consist of multiple lines or pages. Operators and administrators can add more than one annotation to a message.

**message attributes** 1. Characteristics the administrator uses to classify a message received by the management server. 2. Numerical fields of OPCDATA\_MSG. These fields are referenced in string form (for example, in the the event-type field of an EC node). *See also* message; message key.

**message browser** Part of the user interface that enables users to view messages received by the management server. From this browser, users can detect problems, review and acknowledge messages, and direct problem-management activities. *See also* history message browser; pending messages browser; filtered message browser.

**message conditions** Filters that configure HPOM to accept messages from various sources. These filters result in the generation of a message, which is usually displayed in the message browser. A message source template is composed of a series of message and suppress conditions. *See also* filters; message regroup conditions; suppress conditions.

**message forwarding** Copying messages from one management server to other management servers. After copying a message to other servers, the administrator can notify the other servers of an event, or even switch the control of a message to the other servers. *See also* control switch; notification message.

**message groups** Groups of messages that belong to the same task or have some logical connection (for example, messages from backup and output tasks, or messages having a common policy). *See also* operation view.

**message interceptor** Also known as “opcmsgi.” Process that receives incoming messages. You can use the opcmsg(1) command and the opcmsg(3) API to forward messages to HPOM. You can also set conditions to integrate or suppress chosen message types.

**message key** Message attribute (that is, a string) used to identify messages that are triggered from particular events. This string summarizes the important characteristics of the event. The string can be used to allow messages to acknowledge other messages. The string also enables you to identify duplicate messages. *See also* message attributes.

**message manager** Also known as “opcmsgm.” Process running on the management server. This process prioritizes and groups messages, adds annotations, and performs actions.

**message marking** Indicating that an operator or administrator has taken note of a message. This concept is used in informational mode only. It is similar to message ownership in enforced mode. *See also* message ownership.

**message ownership** When an operator or administrator takes charge of a message to carry out actions associated with that message. This concept is similar to message marking in informational mode. *See also* message marking; message ownership mode.



**message ownership mode** One of three modes used by an operator or administrator when interacting with an action. These modes include optional, enforced (default), and informational. *See also* message ownership.

**message regroup conditions** Conditions in the message management policy defined for an operating environment. You can use the conditions to regroup messages on the management server. For example, you can combine message groups for HP-UX to form a new group for operating system messages. *See also* message conditions; suppress conditions.

**message stream interface** Interface that enables external applications to tap into the internal message flow of HPOM. External read-write, read-only, and write-only applications can access the interface, and provide additional message processing. The interface is available on the management server and the agents. A set of APIs is provided with the interface, so you can access its functionality.

**message severity** *See severity.*

**message source template** Template that controls the introduction of messages into HPOM. *See also* template.

**message sources** Sources for messages managed by HPOM. HPOM manages messages from various sources, including log files, SNMP traps, threshold monitors, HPOM message command interface and API (`opcmsg (1 | 3)`), HPOM monitor command interface and API (`opcmon (1 | 3)`), and event correlation services. To handle messages from each of these sources, the HPOM

administrator sets up templates consisting of message defaults, message conditions, and suppress conditions. *See also* log file messages; managed nodes.

**message target rules** Conditions for the managed node that indicate to which management server specific messages must be sent. These conditions also determine when messages are suppressed or buffered during scheduled outages or service hours, based on message attributes or time. The conditions are defined in the configuration file `mgrconf` on the managed node.

**message type** Message attribute used to sort messages into subgroups. This attribute permits a fine differentiation of messages that can be referenced in correlation rules. The attribute is particularly useful when you have an event correlation engine connected to HPOM.

**message unacknowledgement** Moving a message from the history database to the Java GUI active message browser, where it was located before it was acknowledged. The message is no longer displayed in the filtered history message browser, but may be viewed in the filtered active message browser. Only messages in the history message browser can be unacknowledged. *See also* message acknowledgment.

**MoM** manager-of manager. *See also* flexible management.

**monitor agent** Also known as “opcmona.” Process that observes system parameters (for example, CPU load, disk utilization, kernel parameters, and SNMP MIB). The process checks actual values against predefined thresholds. If a threshold has been exceeded, a message is generated and

forwarded to the message agent. The polling interval of the monitored object can be configured by the HPOM administrator.

*See also* threshold monitoring.

**monitored object** Objects such as system parameters, database status, and spooling information that are periodically read by HPOM.

**monitored-only nodes** Nodes on which all agent processes are started, but on which no actions are executed. You can use these nodes to configure systems with high security requirements and restricted remote logons and actions.

## N

**NNM** Network Node Manager. Comprehensive network management solution. *See also* ARF.

**node** Computer system or intelligent device (for example, a bridge or router) in a network. *See also* default target nodes; managed nodes; operation view.

**node group** Logical group of internal and external nodes managed by operators. The administrator applies a consistent set of policies to this logical group. A single node can belong to many groups. *See also* external nodes; managed nodes.

**node hierarchy** Visual representation of the hierarchical organization of nodes and node layout groups. Each hierarchy contains all managed nodes that are configured in the HPOM environment. These hierarchies differ only in how their nodes are organized. The hierarchies are assigned to HPOM

users, and represent the managed nodes for which these users are responsible. The default hierarchy in HPOM is the node bank.

**notification message** Read-only message forwarded to a target management server by HPOM. Although this message is for informational purposes, there is a limited set of operations associated with it. *See also* control switch; message forwarding.

**notification service** Service that alerts operators when an event occurs. Within HPOM, this service includes colors and severity levels configured for messages displayed in the Java GUI message browser. HPOM can also forward messages to external services (for example, beepers, paging services, and so on).

## O

**object** Resource and associated functionality managed by HPOM (for example, a node, application, or operator).

**object pane** Second pane at the top of the Java GUI that helps you navigate to different elements within your managed environment. *See also* Java GUI.

**opc\_adm** HPOM administrator. One of three predefined HPOM users. This is the default administrator in HPOM. *See also* opc\_op; HPOM administrator; user name.

**OPC\_NODES** Reserved variable that enables you to retrieve a list of nodes selected in an operator managed node or in an administrator node bank or node group bank. The hostnames of the nodes are passed to the HPOM application.

**opc\_op** HPOM operator. One of three predefined HPOM users. The operator controls system management functions only. The operator does not manage network activities. The operator can access some UNIX tools (for example, Processes, Disk Space, and Print Status). *See also* `opc_admin`; operators; user name.

**opcacta** *See action agent.*

**opcactm** *See action manager.*

**opcbbcdist** *See configuration management adapter.*

**opcctla** *See control agent.*

**opcple** *See log file encapsulator.*

**opcmona** *See monitor agent.*

**opcmsga** *See message agent.*

**opcmsgi** *See message interceptor.*

**opcmsgm** *See message manager.*

**opcmon (1 | 3)** Command and API used by applications and scripts to pass monitoring values to the HPOM monitor agent (`opcmona`).

**opcmsg (1 | 3)** Command and API used by applications and scripts to pass HPOM message texts and attributes to the HPOM message interceptor (`opcmsgi`).

**opcuiwww** Process that serves Java-based operator GUIs by forwarding all communication requests between to and from the display manager. For each Java-based GUI, at least one such process is started.

**operation view** The operation view displays a hierarchical tree diagram of the nodes and applications within the managed environment, as well as the message groups assigned to the operator. *See also* application; message groups; node.

**operator-initiated action** Action used to take corrective or preventive actions in response to a given message. Unlike automatic actions, these actions are triggered only when operators click a button. Because operator browsers are available to the administrator, the administrator can also trigger these actions as well. *See also* action; automatic action.

**operators** HPOM users responsible for monitoring and responding to messages from the set of nodes and message groups assigned to them by the HPOM administrator. These users perform tasks from the Java GUI message browser and the object pane. The three preconfigured operator is `opc_op`. *See also* `opc_op`; user profile.

**ovcd** *See OV Control.*

**OV Control** Also known as “ovcd.” Process on the management server that starts and stops all other manager processes, and checks that all manager processes are running.

**ovoareqsdr** *See request sender.*

**own state** *See message ownership; ownership display mode.*

**ownership** *See message ownership.*

**ownership display mode** Mode that enables you to decide whether to include or ignore owned or marked messages. The

mode is used to generate message status. Available modes are Status Propagate and No Status Propagate. *See also* status propagation.

## P

**password** Unique identifier for an HPOM administrator or operator. This identifier is not related to the password used to access the operating system. *See also* user name.

**pattern matching** Conditions used to categorize messages. These conditions can include text patterns with which an event can be compared. Success or failure in these comparisons determines how a message is processed by HPOM. *See also* unmatched message.

**pending message** Message that arrives on the HP Operations management server outside defined service hours or during a scheduled outage. This messages resides in the Java GUI filtered pending messages browser until a defined unbuffer time has been reached. The message may be unbuffered manually or automatically. If the message is unbuffered, it moves to the message browser. If the message is acknowledged, it moves to the filtered history message browser. *See also* object pane; service hours; unbuffering message.

**pending messages browser** Browser that shows messages that have been buffered because they arrived outside a defined period of service hours. *See also* history message browser; message browser; pending message; service hours; filtered message browser.

**physical console** *See physical terminal.*

**physical terminal** Terminal that is physically attached to a managed node. This terminal is usually connected through a serial interface. The terminal enables operators to reboot a node or perform tasks when the network connection for the node is not available. HPOM provides only a generic interface to the terminal. *See also* remote logon; virtual terminal.

**primary collection station** Collection station that has primary responsibility for monitoring an object. *See also* secondary collection station.

**primary manager** Management server that is currently responsible for HP Operations agents. Only this server is allowed to start or stop the agents, install new software, or distribute configurations to the agents. Information about the server is stored in the `primmgr` file. If this file does not exist, the HPOM Installation Manager acts as the server responsible for HP Operations agents, and HPOM extracts the file name by using the `ovconfchg` configuration tool for HTTPS-based managed nodes. *See also* backup manager; HPOM Installation Manager.

**process** Execution of a program file. In HPOM, these program file executions include integrated applications and scripts, management server processes, agent processes, and trouble ticket services.

**property sheet** Pop-up window that organizes task steps into options you access by clicking tabs. These steps may be completed in the order you choose.

## R

**remote logon** Accessing a managed node from a location other than the managed node itself. You can access one of your managed nodes by opening a virtual terminal or a physical terminal with a preconfigured or customized user name and password. *See also* physical terminal; virtual terminal.

**remote node** System that uses a communication link. *See also* managed nodes.

**reports** Summaries about configuration information. The HPOM administrator can print HPOM summaries or integrate summaries that are not included with HPOM.

**request sender** Also known as “ovoareqsdr.” Process that sends requests from the management server to the managed node (for example, starting, and stopping the agents, setting heartbeat polling, and so on).

## S

**scheduled outage** Planned periods of time during which services and systems in a computing environment are unavailable. Within these time periods, messages from the unavailable services and systems are suppressed or moved directly into the history database. *See also* pending message; service hours; unbuffering message.

**secondary collection station** Collection station that monitors an object, but is not specified as the primary collection station for that object. *See also* primary collection station.

**secondary manager** Secondary management server. You can transfer management responsibility from the primary management server to a secondary management server. When you transfer responsibilities to the secondary management server, you transform the secondary management server into the primary management server. *See also* manual page for the command *opcragt(1m)*.

**service** *See* HP service.

**service hours** 1. Defined period of time during which the help desk is staffed. This period of time is defined by the customer’s Service Level Agreement. 2. Defined period of time during which messages from HPOM nodes are passed to HPOM operators. Messages generated outside this period of time are buffered until the next defined period of time, during which they are then forwarded. 3. Defined period of time during which a service provider provides support for a service (for example, email, printing, SAP R/3, or outsourcing). *See also* pending message; pending messages browser; object pane; unbuffering message.

**service reports** Reports that provide an overview of the status of services in the HPOM environment at any moment in time or over a specified period of time. These reports are generated with the HP Service Reporter.

**session** Time during which you are logged on to HPOM. You start (or stop) an HPOM session when you log on to (or log out of) HPOM.

**severity** Level assigned by the HPOM administrator to a message, based on its importance in a given operator’s

environment. Symbols representing nodes, node groups, or message groups have the highest severity status level. *See also* status propagation.

## Simple Network Management Protocol

*See SNMP.*

**SNMP** Simple Network Management Protocol. Protocol running above TCP/IP used to exchange network management information. SNMPv2C has extended functionality over the original protocol.

**SNMP traps** One source of messages for HPOM. The HPOM event interceptor collects and filters traps retrieved from nodes in the network. The filtered messages are forwarded to the message agent. The administrator can set up templates for the traps. The templates consist of message and pattern-matching defaults, message conditions, and suppress conditions.

**start-up attributes** Target nodes, application calls, and the user who executes the application call for a given application. These attributes are preconfigured for an application by the HPOM administrator.

**status propagation** Status (determined by severity level) of a given managed node or message group. This severity-level status reflects the status of the highest severity message originating from that managed node or message group. *See also* ownership display mode; severity.

**suppress conditions** Conditions set up by the HPOM administrator to filter out specific messages from specific sources. By setting these conditions, the administrator

prevents the messages from being sent to the message browser. Suppressed messages can be logged locally on the managed node. *See also* filters; message conditions; message regroup conditions.

**system resource files** Files for `opc_op` user configuration (for example, `/etc/passwd` and `/etc/group`), as well as files executed during system startup and shutdown. These configuration files can be modified manually or automatically.

## T

**template** Set of rules that contains message conditions and attributes for a single message source (for example, the severity of a message and the group in which the message is placed). This set of rules can also be used to apply new message attributes to a message. Rules can be defined for log files, `opcmsg(1)` and `opcmsg(3)`, monitored objects, and SNMP traps. *See also* message source template; template groups; time template.

**template groups** Logical group of templates sharing common characteristics. Administrators create groups and hierarchies to simplify the management of templates, and to simplify the assignment of templates to managed nodes or node groups. *See also* template.

**threshold monitoring** Monitoring the thresholds of an object to detect problems in the early stages of development. If an object exceeds a threshold for a specified period of time, a message can be sent to the operator. This message enables the operator to resolve the problem before it affects the functionality of the system and the work of end users. *See also* monitor agent.

**time template** Set of rules or conditions governing time. These rules or conditions are part of message-target conditions. HPOM uses the rules to determine which messages should be sent, at what time, and to which management server. The system administrator creates the time conditions and saves them in a template. *See also* template.

**topology submaps** *See IP submaps.*

## U

**unacknowledgement** *See message unacknowledgement.*

**unbuffering message** Moving a message from the filtered pending messages browser to the filtered active messages window, where it may be modified. *See also* pending message; object pane; service hours.

**unmatched message** Message that does not match message or suppress conditions. These messages can be logged locally, or forwarded to the management server. *See also* pattern matching.

**user name** Identifier that is unique to the HPOM application and has no relation to the operating system. A valid HPOM user name and password is required to enter the HPOM GUI. HPOM assigns the unique identifiers `opc_admin` and `opc_op` to the HPOM administrator and operator. These names cannot be changed. Other identifiers can be up to eight characters long. All operating system restrictions apply. *See also* `opc_admin`; `opc_op`; password.

**user profile** Profile that defines the configuration of a virtual HPOM user. The configuration of real HPOM users can be derived from one or more predefined profiles. *See also* operators; HPOM administrator.

## V

**view** Display that you configure for a particular database or system. For example, you may use filters to define a display of messages in the message browser. The messages that meet your conditions are displayed in the filtered active message browser.

**virtual console** *See virtual terminal.*

**virtual terminal** Terminal window opened on a remote machine across a network, rather than through a direct physical connection. HPOM lets you connect to a such a remote terminal with a preconfigured or customized user name and password. *See also* remote logon; physical terminal.

**HPOM administrator** Administrator responsible for installing and configuring HPOM software, setting and maintaining operating policies, maintaining non-HPOM software, and configuring operator workspaces and scripts. The administrator can access all functions of the HPOM operator interface. The administrator can create a fully customizable working environment for each operator, according to the individual management tasks and responsibilities of that operator. *See also* `opc_admin`; operators; user profile.

**HPOM application** Application that has been integrated into HPOM. *See also* application; HP application; HP service; HPOM internal application.

**HPOM internal application** Application of the type Broadcast or Virtual Terminal.

*See also* application; HP application; HP service; HPOM application.

### **HPOM Installation Manager**

Management server from which the HP Operations agent software has been installed on the managed node. By default, this management server monitors the heartbeat of the agent and counts the licensing. *See also* action-allowed manager; primary manager.

**HPOM operators** *See operators.*

**HPOM password** *See password.*

## **W**

**workspace** Tabs in the workspace pane defined by operators for specific tasks. Normal workspaces can contain message browsers, charts, history lava lamps, application outputs, service graphs and non-ActiveX web browsers. ActiveX workspaces can contain only ActiveX web browsers. *See also* workspace pane.

**workspace pane** Third pane at the top of the Java GUI that includes operator-defined workspaces. Each workspace can contain message browsers, application output windows, graphs and charts, or web browsers. *See also* Java GUI; workspace.