NORTEL NETWORKS

Preside Multiservice Data Manager

Fault Management

User Guide

241-6001-011

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Fault Management

User Guide

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15.1 RSUP Standard
Commercial availability except for MPE support which will be available in a future release.

Contents

About this document

The following topics are discussed in this section:

Who should read this document and why

This document is for system administrators and network operators who are responsible for network management. This document describes how to use the Preside Multiservice Data Manager (MDM) Fault Management toolset.

What you need to know

This document assumes an understanding of network management. Also, you need to be familiar with

- the Sun workstation
- the UNIX operating system
- a UNIX text editor, for example, vi
- elements in your network, for example, DPN and Passport devices

To access the MDM Fault Management tools, you need to have a valid capability ID and a password.

What's new in this document

The following features were added to this document:

- "VPN Monitor" (page 26)
- "Fault Applications Java Desktop" (page 26)
- "Nortel Networks Multiservice Provider Edge 9500 (MPE 9500) support" (page 26)

VPN Monitor

The VPN Monitor chapter has been revised to reflect the support for the following access types for RFC 2547 VPNs:

- Local ATM

For details, see "RFC 2547 basic service components" (page 288).

Fault Applications Java Desktop

This feature involves the implementation of the Operator Client application. The following sections are updated:

- Network Browser
- Alarm Display
- Component Information Viewer
- Network Status Bar
- Shelf View

Nortel Networks Multiservice Provider Edge 9500 (MPE 9500) support

MPE 9500 is supported in fault management tools. The following sections are updated:

- Network Browser
- Alarm Display
- Component Information Viewer
- Shelf View

Text conventions

This document uses the following text conventions:

- `nonproportional spaced plain type`

  Nonproportional spaced plain type represents system generated text or text that appears on your screen.

- **nonproportional spaced bold type**

  Nonproportional spaced bold type represents words that you should type or that you should select on the screen.

- *italics*

  Statements that appear in italics in a procedure explain the results of a particular step and appear immediately following the step.

  Words that appear in italics in text are for naming.

- `[optional_parameter]`

  Words in square brackets represent optional parameters. The command can be entered with or without the words in the square brackets.

- `<general_term>`

  Words in angle brackets represent variables which are to be replaced with specific values.

- UPPERCASE, lowercase

  In MDM, uppercase and lowercase letters that appear in UNIX commands and parameters must be matched exactly. The system matches upper and lowercase characters differently.

- ->

  A right-pointing arrow in a procedure indicates that a menu item has submenus from which you must choose. The appropriate submenu selection is shown immediately after the arrow.

- |

  This symbol separates items from which you may select one; for example, ON|OFF indicates that you may specify ON or OFF. If you do not make a choice, a default ON is assumed.

- ...

  Three dots in a command indicate that the parameter may be repeated more than once in succession.

The term absolute pathname refers to the full specification of a path starting from the root directory. Absolute pathnames always begin with the slash (/) symbol. A relative pathname takes the current directory as its starting point, and starts with any alphanumeric character (other than /).

Year representation

There are occurrences in this document where years are expressed as two digits rather than four, for example, 97 rather than 1997. To avoid ambiguity with the use of two-digit years, the following convention is used in this document. Years 91 to 99 (inclusive) represent the twentieth century, for example, 97 represents 1997; years 00 to 90 (inclusive) represent the twenty-first century, for example, 01 represents 2001.

Related documents

See the following documents for related information:

- 241-1001-303 *DPN-100 Operator Commands and Responses*
- 241-2001-351 *DPN-100 Network Control System Operations and Maintenance*
- *NN10600-060 Nortel Networks Multiservice Switch 7400/15000/20000 Component Reference*
- 241-6001-012 *Preside MDM Configuration Management for DPN User Guide*
- 241-6001-015 *Preside MDM Network Model Administrator Guide*
- 241-6001-023 *Preside MDM Configuration Management for Passport User Guide*

- 241-6001-203 *Preside MDM Alarm and Status API Reference Guide*
- 241-6001-301 *Preside MDM Customization Administrator Guide*
- 241-6001-303 *Preside MDM Administrator Guide*
- 241-6001-804 *Preside MDM Workstation Utilities User Guide*
- NN10600-050 *Nortel Networks Multiservice Switch 7400/15000/20000 Command Reference*
- NN10600-060 *Nortel Networks Multiservice Switch 7400/15000/20000 Component Reference*

Chapter 1
Fault Management Tools Overview

The Fault Management tool is available through both the MDM Toolset and Operator Client environments. For details about these MDM environments, see 241-6001-801 *Preside MDM Overview*.

Preside Multiservice Data Manager (MDM) supports both state-based and alarm-based surveillance. State-based surveillance is used by the Network Viewer and Component Status Display tools. Alarm-based surveillance is used by the Alarm Display tool. For an overview of MDM surveillance, see the figure "Fault management architecture" (page 33).

By using the monitoring tools that correspond with your preferred surveillance models, you can receive information about network element faults, their impact (through the Network Viewer and Component Status Display tools), and their cause (through the Alarm Display). High-level monitoring of the network is also available through the Network Status Bar. Diagnostic tools such as the Component Information Viewer, the DPN Performance Viewer, and the Data Viewer provide more information about the fault, its impact, its cause, and its history. After the fault is properly identified, you can perform the following actions:

- Mask the fault using the network model's acknowledge and maintenance states.
- Clear the alarm through Alarm Display or Component Information Viewer. You can also issue commands to the element through the Command Console utility or one of the remote access tools. For details

about the Command Console and Remote Access utilities, see the Command Console section in 241-6001-804 *Preside MDM Workstation Utilities User Guide*

- Correct some configuration parameters using the configuration tools.
- Acknowledge the alarm through the Alarm Display or the Component Information Viewer to indicate to other network operators that the fault causing the alarm is currently being investigated.

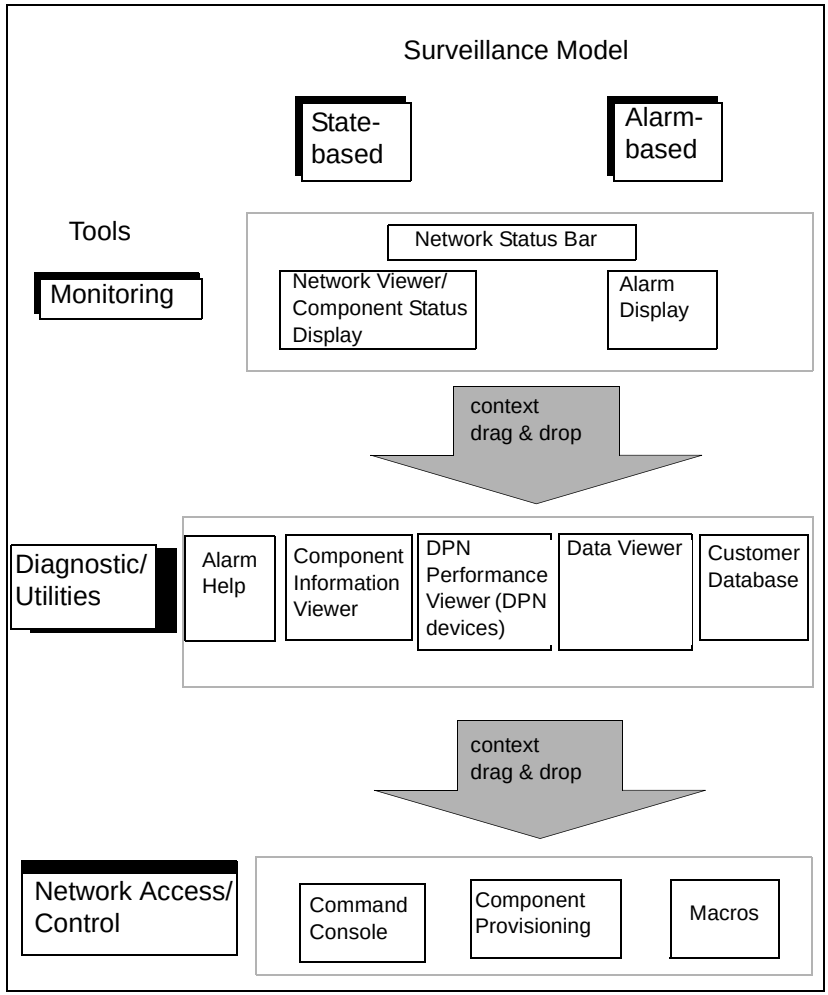
Acknowledging all active alarms against a component causes the component state to become acknowledged. The component state is then masked as though it was directly acknowledged with a state-based surveillance application such as Network Viewer.

Communication between these tools is simplified through cut and paste, and automatic context transfers.

Surveillance draws its information from the network model. For a description on how the network model works and the interactions among the surveillance tools, see 241-6001-015 *Preside MDM Network Model Administrator Guide*.

When used with the SNMP Surveillance Adapter, MDM can also manage other devices on the network. For information on how this works, see 241-6001-118 *Preside MDM SNMP Surveillance Adapter Guide.*

Figure 1
Fault management architecture



Navigation

- "Network Viewer in the MDM Toolset" (page 37) describes the Network Viewer tool for monitoring a network.

- "Network Browser for Operator Client" (page 173) describes the Network Browser hierarchical representation of the network down to the node level.
- "Shelf View" (page 179) provides a graphical view of the Passport shelf that can be used to assist in troubleshooting network problems in real-time.
- "VPN Monitor" (page 253) provides fault management capabilities for Passport Internet Protocol (IP) Virtual Private Network (VPN) services.
- "Alarm Display" (page 303) alerts to fault conditions in network components, indicating the severity of the fault, the type of fault, and additional information on the cause or current situation.
- "Alarm Help" (page 371) provides alarm code descriptions for DPN, Passport, MPE 9500, integrated SNMP device, and MDM proxy alarms.
- "Alarm acknowledgement and unacknowledgement" (page 381) describes the Acknowledge Alarm and Unacknowledge Alarms tools for informing other operators that you are currently investigating an active alarm problem.
- "Network Status Bar" (page 397) provides a high-level view of the state of the network. As well, it monitors network health by means of global statistics.
- "Component Information Viewer" (page 415) performs diagnostic analysis of components identified by the first-alert surveillance tools.
- "Query Historical Alarms" (page 505) describes the short-term historical alarm search tool for displaying short-term historical alarms and provides procedures for using this tool
- "Component Status Display" (page 519) performs first-alert surveillance of the network, indicating the current state or criticality of the network model components.
- "IP Discovery" (page 553) enables you to discover Simple Network Management Protocol (SNMP) devices by hostname or IP address using direct discovery or route-based discovery.
- "Circuit Viewer" (page 599) provides the ability to view on-switch and off-switch circuit information stored in the Administration Database. Circuit Viewer also provides service diagnostic information.

- “HP OpenView NNM desktop” (page 655) is an optional tool that provides access to the HP OpenView platform.
- “Common surveillance tasks” (page 671) provides information on monitoring the network for faults, diagnosing the cause of the faults and its impacts, and taking remedial actions.
- “LPDA-2 modem management” (page 681) describes how you can manage LPDA-2 modems
- “Common alarm format” (page 685) describes the common alarm format parameters.

Chapter 2
Network Viewer in the MDM Toolset

This section describes the Network Viewer and provides you with instructions on how to use this tool. The following information is included:

Network Viewer overview

The Network Viewer is a network component state surveillance tool used for the detection of faults for DPN, Passport, MPE 9500, and selected SNMP devices in the network. The Network Viewer displays state and topology information for the physical and organizational components that make up the network.

Network Viewer capabilities

The Network Viewer allows you to perform the following functions:

- use advanced navigational capabilities to locate components and alter the display of the network with great flexibility
- display module subcomponents down to the port level to trace a high-level problem down to its source at the subcomponent level
- display different organizational levels of the network at the same time (for example, a mixed display of regions, sites, and modules)
- display a defined map in the background of the Network Viewer display
- put both modules and subcomponents into maintenance state or acknowledged state
- save a Network Viewer display configuration so that you can retrieve it and display it again later
- use filtering to make state surveillance more efficient
- customize such items as tools menus, alarms, and the use of color for states
- edit the contents and structure of the network model. For details, see 241-6001-015 *Preside MDM Network Model Administrator Guide*.
- save a number of user-specific preference settings and re-apply them automatically when the Network Viewer is restarted.

Network Viewer modes

The Network Viewer operates in two modes:

- surveillance
- edit

Surveillance mode

In surveillance mode, the Network Viewer enables you to navigate the network and to monitor the states of network components.

Edit mode

In edit mode, the Network Viewer enables the administrator to monitor network element states and allows you to edit the network model. For more information on how to edit the model with Network Viewer, see 241-6001-015 *Preside MDM Network Model Administrator Guide*.

Using the Network Viewer tool

This section provides basic procedures for using the Network Viewer.

Navigation

- "Starting Network Viewer" (page 39)
- "Using the Network Viewer Icon Bar" (page 41)
- "Interacting with other tools" (page 42)
- "Exiting the Network Viewer" (page 45)

Starting Network Viewer

The Network Viewer connects to the network model server referred to by current service selection. If the service selection changes, you are prompted for confirmation of the change. For additional information, see the section on using the Service Selection tool in 241-6001-303 *Preside MDM Administrator Guide*.

Note: Your workstation may be set up so that the Network Viewer window opens when you log on. Your system administrator can set this option.

Procedures

1 In the Preside MDM window, select Fault ->Network Viewer.

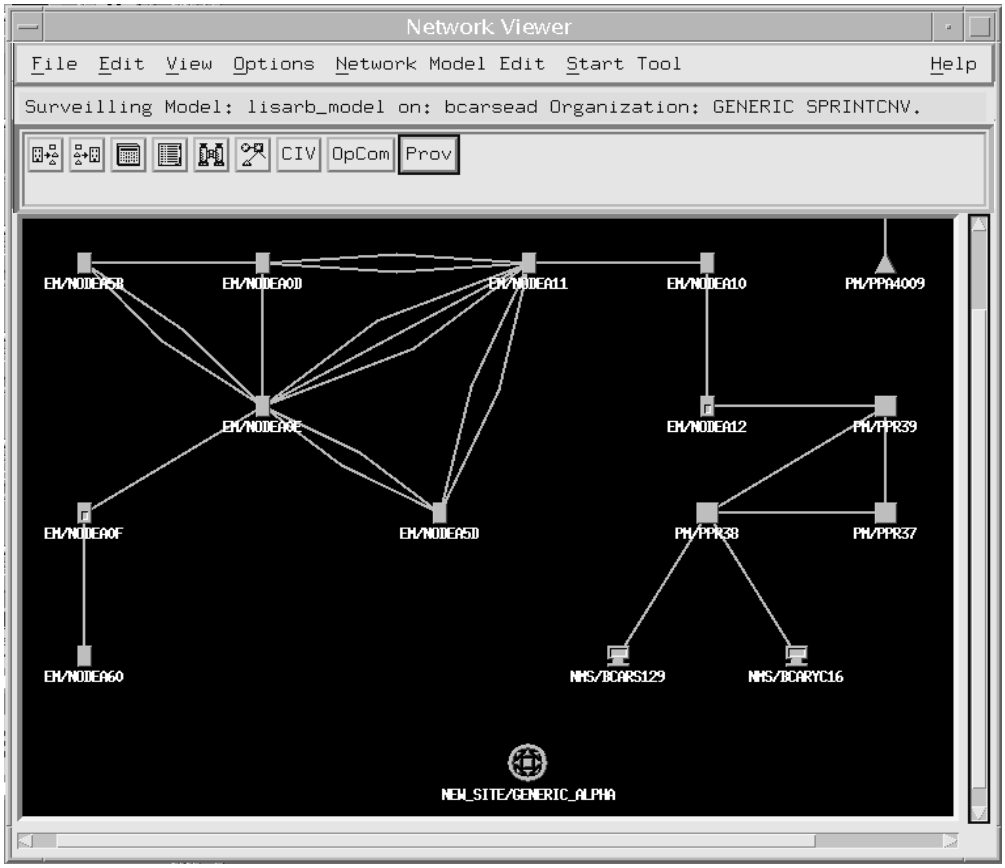
The Network Viewer window opens.

2 If more than one organization is defined, the organizational icons display. Go to step 3. If only one organization is defined, Network Viewer opens with the view of that organization. Go to step 3.

3 To open the display of an organization, double-click on the organization you want to view.

The first level components of the selected organization display in the Network Viewer window.

General operations are available from these menus positioned in the Network Viewer menu bar: *File, Edit, View,* and *Options*. Another menu provides access to the network model edit mode and options. See the online help available from each menu for an explanation of the menu items.



Using the Network Viewer Icon Bar

The Network Viewer supports an icon bar that consists of a selection of buttons. These buttons provide quick access to frequently used commands and tools. When you position the mouse pointer over a button, the Network Viewer displays a tooltip below that button. This tooltip contains the name of the command represented by the button.

By clicking on a button in the icon bar, you can:

- operate a range of expand and compress view options
- select components and organizations to view
- start other tools and utilities
- pass component IDs to invoked tools
- view context-sensitive help information about individual items from the icon bar

The mode of operation of the Network Viewer determines which buttons appear in the icon bar. Some buttons appear only in edit mode or only in surveillance mode. Other buttons appear in both modes.

You can show or hide the icon bar. If you hide the icon bar, the tool commands contained in it are still available. Access other tools using the Network Viewer pop-up menu and selecting the *Start Tool* command. By default, the tools available from the Network Viewer *Start Tool* menu are the same as those that appear in the icon bar.

You can customize the Network Viewer icon bar (NDIconBar.menu) and the Network Model Edit icon bar (NDIconBarEdit.menu). For details, see 241-6001-301 *Preside MDM Customization Administrator Guide*.

Showing the icon bar

1 From the Options menu, select Show Icon Bar.

The icon bar appears.

Hiding the icon bar

1 From the Options menu, select Hide Icon Bar.

The icon bar disappears.

Note 1: Alternatively, use the Preferences Dialog to control the visibility of the Icon Bar. See “Using the Preferences dialog” (page 83) for more information.

Note 2: Icon bar contents can be customized. For details on customizing an icon bar, see the section on customizing toolsets and start tool menus in 241-6001-301 *Preside MDM Customization Administrator Guide*.

Interacting with other tools

There are two methods that you can use to access component information available in other tools but not stored in the Network Viewer:

- “Context” (page 42)
- “Start Tool menus” (page 42)

Context

Context commands allow component identifiers to be passed quickly from one tool to another. For example, the identifier of any node, link, or subcomponent can be put into context by Network Viewer and picked up by the Component Information Viewer to display detailed information for the component. To put an identifier into context, press the *Select* mouse button to ensure that the node, link, or subcomponent is selected.

Start Tool menus

The Start Tool command supports a Start Tool menu that has a selection of tools and utilities that you can launch from the Network Viewer. Unlike other surveillance tools, the Network Viewer offers more than one type of Start Tool menu. You can access Start Tools from the following locations within the Network Viewer:

- surveillance mode icon bar
- model edit mode icon bar
- Start Tool menu
- Network Viewer pop-up menu
- Node pop-up menu
- Link pop-up menu
- Subcomponent pop-up menu

Surveillance mode icon bar

The surveillance mode icon bar contains a series of icons that let you start other tools and utilities. In surveillance mode, the Start Tool submenu in the Network Viewer pop-up menu is a textual representation of the same tools shown graphically in the icon bar. You can customize the content of the surveillance icon bar. Any modifications that you make apply only to the surveillance icon bar and the Start Tool menu in the menu bar and in the Network Viewer pop-up menu. For details on customizing the surveillance icon bar, see the section on customizing toolsets and start tool menus in 241-6001-301 *Preside MDM Customization Administrator Guide*.

Model edit mode icon bar

The model edit mode icon bar contains a series of icons that let you start other tools and utilities. In edit mode, the Start Tool submenu in the Network Viewer pop-up menu is a textual representation of the same tools shown graphically in the icon bar. You can customize the content of the edit mode icon bar. Any modifications that you make apply only to the edit mode icon bar and the Start Tool menu in the menu bar and in Network Viewer pop-up menu. For details on customizing the edit mode icon bar, see the section on customizing toolsets and start tool menus in 241-6001-301 *Preside MDM Customization Administrator Guide*.

Start Tool menu

Use the Start Tool menu in the menu bar to launch other tools and utilities. The tools and utilities in the Start Tool menu are the same as those in the icon bar. Similar to the icon bar, the Start Tool menu in the menu bar changes content based on the mode of the Network Viewer. You can customize the content of the Start Tool menu. For details, the section on customizing toolsets and start tool menus in 241-6001-301 *Preside MDM Customization Administrator Guide*. The following list details the default Start Tool menu options and the mode in which they are available:

Expand in Place	Edit & Surveillance
Expand in New Window	Edit & Surveillance
Compress	Edit & Surveillance
Open Shelf Dialog	Edit & Surveillance

Open (Troubled) Subcomponent Dialog	Edit & Surveillance
Find	Edit & Surveillance
Select New Organization	Edit & Surveillance
Load/View Network Model File	Edit
Save Network Model	Edit
Collect Configuration Data	Edit
Apply/View Collection Files	Edit
Create/Edit Node	Edit
Create/Edit Link	Edit
Delete Selected Components	Edit
CIV (Component Information Viewer)	Surveillance
OpCom (Operator Commands)	Edit & Surveillance
Config	Edit & Surveillance
PP4400	Edit & Surveillance

If the corresponding software is installed, the Start Tool menu also displays the following tools:

Ct Viewer (Circuit Viewer)	Surveillance

Network Viewer pop-up menu

You can access the Network Viewer pop-up menu by positioning the mouse pointer on the Network Viewer background and pressing the mouse menu button.

The Network Viewer pop-up menu contains a Start Tool command that opens a Start Tool submenu. The content of the Start tool submenu changes depending on whether the Network Viewer is in surveillance mode or model edit mode. If you customize a Network Viewer icon bar, the changes are reflected in the Start Tool submenu.

Node pop-up menu

You access the Node pop-up menu by positioning the mouse pointer on a single or multiple nodes and pressing the mouse menu button. The Node pop-up menu contains a Start Tool command that opens a Start Tool menu.

Link pop-up menu

You access the Link pop-up menu by positioning the mouse pointer on a link and pressing the mouse menu button. The Link pop-up menu contains a Start Tool command that opens a Start Tool menu.

Subcomponent pop-up menu

Access the Subcomponent menu using the following procedure:

1. Position the mouse pointer on a node and press the mouse menu button.

   A Node pop-up menu opens.

2. From the pop-up menu, select the Show Subcomponents command.

   The dialog opens displaying a list of subcomponents.

3. Position the mouse pointer on a specific subcomponent in the list and press the mouse menu button.

   The Subcomponent pop-up menu opens.

The Subcomponent pop-up menu contains the Start Tool command that opens a Start Tool menu.

Exiting the Network Viewer

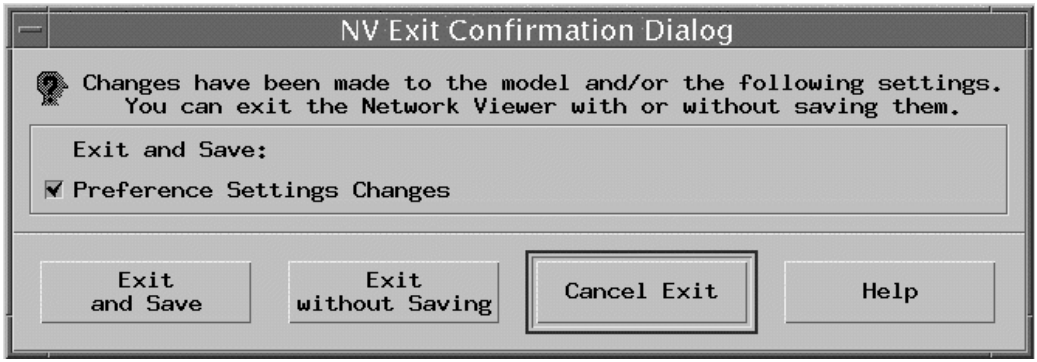
To exit the Network Viewer, select *Exit* from the File menu.

If you have not modified any Filter or Preference Settings, an NV Exit Confirmation Dialog opens. Select *Exit Application* if you want to exit or *Cancel Exit* if you want to remain in Network Viewer.

If you modify any Filter or Preference Settings and do not save them to your user-specific file, Network Viewer asks if you want to do so before exiting. The *NV Exit Confirmation Dialog* allows you to save the modified settings and exit Network Viewer, exit Network Viewer without saving, or cancel the exit and return to the Network Viewer main window.

The figure "NV Exit Confirmation Dialog" (page 46) shows a sample dialog that displays when you exit the Network Viewer.

Figure 2
NV Exit Confirmation Dialog



Note: This dialog appears only if the filter settings are changed or if the *confirmExit* resource is set to the default *True.*

For the instructions to set this resource, see the section on customizing toolsets and start tool menus in 241-6001-301 *Preside MDM Customization Administrator Guide*.

Canceling exit

1 If you do not want to exit, select the Cancel Exit button from the dialog.

The exit dialog disappears and you are returned to the Network Viewer main window.

Exiting and saving settings

1 Select the *Exit and Save* button from the dialog.

The filter or Preference settings (or both) that you create are saved to your user-specific file, and you exit the Network Viewer.

Exiting without saving settings

1 Select the *Exit without Saving* button from the dialog.

The modified filter or Preference settings (or both) are not saved and you exit the Network Viewer.

Understanding the network display

Two basic kinds of components are displayed by Network Viewer—nodes and links. Nodes include physical nodes and organizational nodes. Links include physical links and organizational links. Each component (node or link) has an object menu from which operations specific to the component are available.

The Network Viewer display can have background maps assigned to organizations, and nodes and link bendpoints can be assigned. Network Viewer display configuration is part of the overall task of network model configuration. This is handled by the Network Viewer in edit mode. See 241-6001-015 *Preside MDM Network Model Administrator Guide* for details on network model configuration.

If node positions are not configured in the Network Viewer, the nodes are displayed with a *grid cyclic* policy; that is, they are placed side by side, a row at a time, along an imaginary grid. The grid starts at the upper left corner of the map and works its way from left to right, top to bottom, to the lower right corner of the map. When the grid is filled, the procedure starts over at the upper left corner, placing nodes one on top of the other.

This section describes how to

- display Network Viewer legend
- display Nodes
- display Node labels
- control Node positioning
- display Links
- display Nodes and Links owned by a site or region
- display subcomponents as shelf icons
- display subcomponents in a textual list

- display component states

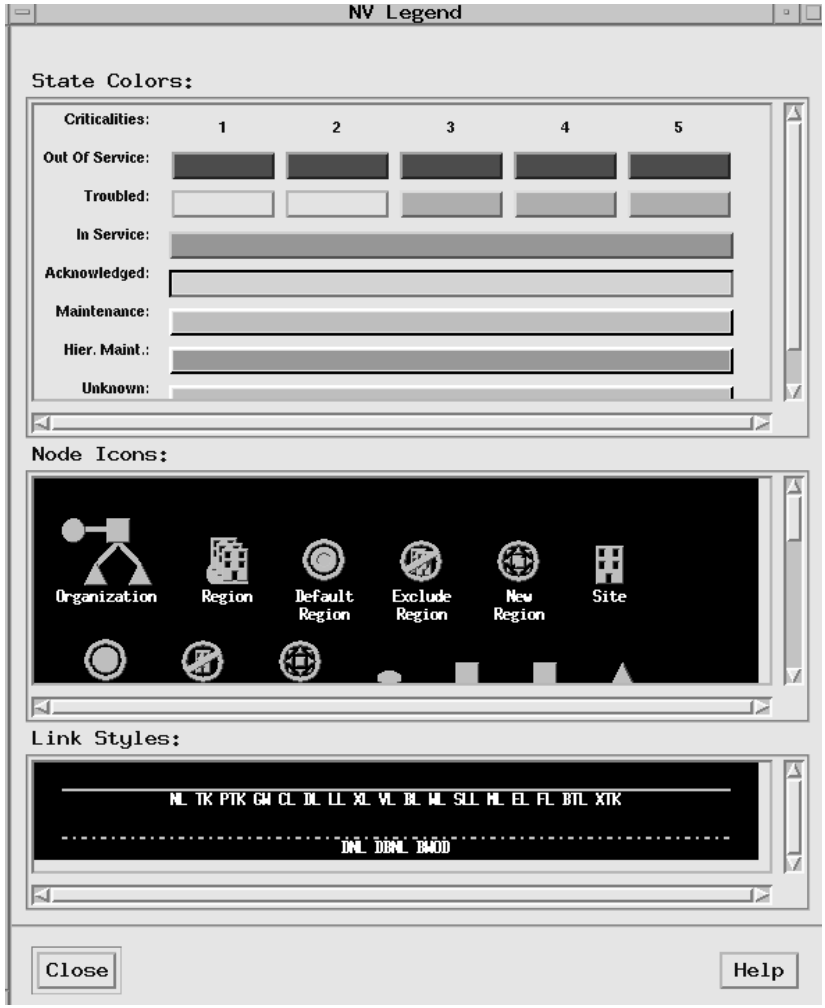
Displaying the Network Viewer legend

The Network Viewer legend shows the colors associated with state values and conditions. It also shows the meaning of icons and link styles.

Displaying the Network Viewer legend

1 From the Options menu, select Legend.

The Network Viewer legend opens.



You can leave the legend open for reference or collapse it to an icon.

Displaying nodes

Nodes are represented by icons positioned on a background map of the organization displayed in the main Network Viewer window. The node type is indicated by the shape of the icon. Nodes can be these types of icons:

- Polygon (or Type)

- Shelf

Note: You can display a label with the node name under the icon.

The Network Viewer Legend shows the meaning of these icons. See "Displaying the Network Viewer legend" (page 48).

Polygon icons

Polygon or *Type* icons identify the node type by their shape. Polygon icons are simple geometric shapes representing the component type. There are polygon icons for all the network model node types. In addition, a default polygon icon is available for any type not in this set.

Note: Polygon icons are full color pixmaps of any size, shape, and detail.

Shelf icons

Shelf icons are displayed only for certain node types in a separate dialog. Shelf icons usually represent physical components housed in a shelf. The exception to this is the Passport icon, which displays the node's logical processors.

Node types in the Network Viewer and the network model

The set of node types that are distinguished by different polygon icons in the Network Viewer differs slightly from the set of node types that are defined in the network model. For example, the Network Viewer has distinct icons for each of AM, RM, DPN-100/1, MAS, LDM, and DPN-100/5, which are all defined as type *PM* in the network model. Network Viewer distinguishes between these module types using attribute information stored in the network model. The set of node types distinguished by the Network Viewer and the corresponding network model node types are shown in the table "Node types and description" (page 51).

Note: By default the icon displayed for all MPE 9500 devices is the MPE 9500 icon shape. To have differentiated MPE 9500 icons requires a manual editing.

Note: Many other nodes are distinguished by customer-specific icons.

Table 1
Node types and description

Network Viewer node type	Network Model node type	Description	Shelf dialog available
AM	PM	DPN Access Module (Default for PM components)	yes
RM	PM	DPN Resource Module	yes
DPN-100/1	PM	DPN-100/1 and Downloadable DPN-100/1	yes
MAS	PM	Magellan Access Switch (same icon as DPN-100/5)	yes
DPN-100/5	PM	DPN-100/5	yes
PP4100	PM	Passport 4100	yes
NM	NM	DPN Network Module	no
OA	OA	NCS Operations Agent	no
EM	EM	Enterprise Module (Passport 16-slot)	yes
EM3	EM	Passport 3-slot	yes
EM5	EM	Passport 5-slot	yes
EM8	EM	Meridian Passport	yes
EMT	EM	Passport 15000	yes
EMN	EM	Passport 20000	yes
EMX	EM	Passport with unspecified shelf type	yes
MPA	MPA	Passport 4400 Access Device	yes
MPAX	MPA	Passport 4400 with unknown shelf type	no
LDM	MPA	Legacy Data Module	no
PA	PA	Passport Access Module	no
RBSE	RBSE	Radio Base Station Equipment (NNE)	yes
RCPE	RCPE	Radio Customer Premise Equipment (NIU)	yes

(Sheet 1 of 2)

Table 1 (Continued)
Node types and description

Network Viewer node type	Network Model node type	Description	Shelf dialog available
M1	M1	Meridian-1 Module	no
M1_11	M1	Meridian-1 Option 11 Module	no
SLAN	SLAN	Local area network (LAN) managed through SNMP	no
E_RTR	E_RTR	MAS embedded router	no
RTR/HUB/BR	RTR, HUB, BR	Router, hub, bridge, managed through SNMP	no
HOST	HOST	Host	no
FNMOD	FNMOD	Foreign Network Module (gateways)	no
NMS	NMS	generic network management system	no
BB	BB	Backbone Module	no
SITE	Organization node	Site node	no
REGION	Organization node	Region node	no
Organization	Organization node	Network model organizational hierarchy	no

(Sheet 2 of 2)

Displaying the node labels

You can show or hide node labels independently of one another.

Displaying node labels

1. To have all nodes show or hide their labels, choose *Show all node labels* or *Hide all node labels* from the options menu.
2. To have a single node show or hide its label, choose *Show label* or *Hide label* from its pop-up menu.

   The nodes either show or hide their labels depending on which option you chose.

Note: Use the Preferences Dialog to control the appearance of the nodes. See “Using the Preferences dialog” (page 83).

Positioning the nodes

You can use the mouse to position nodes in the Network Viewer display. If the Network Viewer is currently in Editing mode, these position changes are permanent in the network model and, therefore, available to all instances of Network Viewer monitoring this network. Otherwise, these changes are temporary and are known only to the current Network Viewer session.

Nodes are recorded in the network model exactly where you position them in the display. Cluster and pin options are available to help you position legibly and efficiently.

The Network Viewer allows you to enable/disable an invisible grid to run in the background. If the grid is enabled, nodes and bendpoints snap to it as they are moved. This helps to position nodes and bendpoints accurately.

Note: The various node positioning and clustering options described here are also controlled through the Preferences Dialog. See “Using the Preferences dialog” (page 83).

Enabling the grid

1 On the *View* menu, choose *Snap to Grid.*

The invisible grid is enabled. Nodes and bendpoints snap to the grid as they are moved.

Disabling the grid

1 On the *View* menu, choose *Do Not Snap to Grid.*

The invisible grid stops running in the background. Nodes and bendpoints, when moved, need to be aligned more carefully since they do not snap to a grid.

Positioning a single node

1 To move a single node, press and hold the left mouse button and move the node to the position in the display you want it to occupy.

An outline of the node follows the cursor.

2 Release the left mouse button to position the node in the display.

The new node location appears in the Network Viewer display and is recorded in the network model.

Positioning multiple nodes

1 To select several nodes, draw a rubber band around them; or press and hold the *Shift* key, and use the left mouse button to select nodes and links.

Note: To remove a node from the set of selected nodes, press and hold the *Control* key and click with the left mouse button.

2 Position the cursor on one of the selected nodes, and press the *Shift* key and the left mouse button.

When you start the move, a rectangle outlines the group.

3 Move the group to a chosen position and release the left mouse button.

Nodes are repositioned in the Network Viewer display and are recorded in the network model. Selected links with end points are also moved.

Using the cluster and pin options

1 If you do not want to move certain nodes, invoke the *Node* pop-up menu, and select the *Pin* option from the *Edit* cascade menu.

Selected nodes are pinned to their positions in the display and are not affected by cluster commands.

2 Select a node with the left mouse button, and invoke the *Node* pop-up menu using the right mouse button.

3 On the *Edit* cascade menu, select *Cluster Connected Nodes* or *Cluster Child Nodes*.

Cluster Connected Nodes positions all nodes that connect to the selected node in a circle around the selected node; Cluster Child Nodes expands the selected node, and positions all subordinate nodes in a grid around the expanded node's original position.

Note: Nodes are never allowed to be positioned outside the map or viewspace boundaries, and will be automatically forced on if needed.

Positioning a node to its previous or original position

1 Select the node with the left mouse button, and invoke the *Node* pop-up menu using the right mouse button.

2 To position the node to its previous position, select *Move to Previous Position* from the *Node* pop-up menu.

The node is repositioned to its previous position.

3 To position the node to its original position, select *Move to Original Position* from the *Node* pop-up menu.

The node is repositioned to its original position.

Reverting all nodes to their current network model location

1 To revert all nodes to their current network model location, on the *View* menu choose *Set Shared Model Positions for all Nodes and Links*.

To revert *selected* nodes to their current network model location, on the *View* menu, choose *Set Shared Model Positions for Selected Nodes and Links*.

The nodes revert to their current network model location.

Aligning and distributing nodes

1 To align and distribute selected nodes, on the View menu, choose *Align and Distribute Selected Nodes*.

Displaying links

A link is displayed as a sequence of lines connecting the two link endpoints. Network links, trunks, gateways, and organizational links all appear as simple solid lines. Dial back-up network links (DBNL) are distinguished from other types of links through the use of a different line pattern. The line patterns are shown in the Network Viewer legend. For details, see "Displaying the Network Viewer legend" (page 48).

The link type for any link can be determined from the link identifier that appears in the link's object menu. A link identifier has this format:

```
<-link type-> end1ID <-> end2ID
```

For example, the link identifier for a DPN network link might look like this:

```
<-NL-> PM/A15 PE/1 /PI/1 PO/4 <-> PM/R72 PE/3 PI/3 PO/5
```

A link identifier for a Passport to Passport trunk looks like this:

```
<-PTK-> EM/PASS1 TRK/20 <-> EM/PASS2 TRK/21
```

Accessing the link menu

1 Move the pointer over the link you want to work with, and press *menu* to display the link menu selections.

2 Choose an action from the menu.

See online help for a full explanation of the menu selections.

Link bendpoints

You may add bendpoints to a link to separate it from other links that may be superimposed over one another. Bendpoints are the points where the lines meet.

Link menus contain commands to show and hide bendpoint handles. Bendpoint handles must be visible to move or delete single bendpoints. You can access a bendpoint menu to perform bendpoint-related activities.

Overlapping links between two nodes can also be spread out by the automatic insertion of bendpoints.

For an example of bendpoints, see the figure "Link with bendpoints" (page 56). For an example of bendpoint handles, see the figure "Link with bendpoints and handles" (page 56).

Figure 3
Link with bendpoints

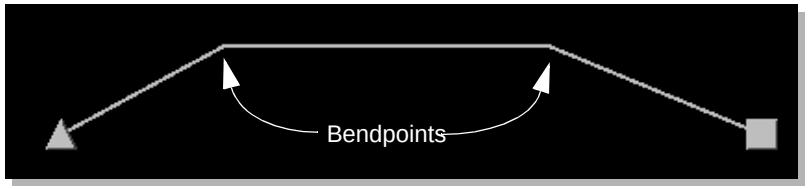


Figure 4
Link with bendpoints and handles

Accessing the bendpoint menu

1 Move the pointer over the link whose bendpoints you want to work with, press *menu*, and choose *Show Bendpoint Handles*.

Note: If the bendpoint handles are already showing, skip this step and proceed to step 2.

2 Move the pointer over the bendpoint handle you want to work with, and press *menu* to display the bendpoint menu selections.

3 Choose an action from the bendpoint menu.

Automatically spreading the overlapping links

Note: This is available only if more than one link exists between two given nodes.

1 Spread the links using the *Link* pop-up menu. Use the Spread Links command, or double-click on the link.

All previous bendpoints are removed. New bendpoints are inserted at midsection to spread the links evenly.

Note: Use the Preferences Dialog to control the Link Spreading distance. See “Using the Preferences dialog” (page 83) for more information.

Displaying nodes and links owned by a site or region

Nodes and links directly owned by a site or region can be displayed within a dialog. The dialog contains a list of components and an option button that enables you to toggle between the *All Components* and the *Filtered Components Only* view. In Filtered mode, only the nodes and links matching the current filter settings of the main window are displayed.

The nodes in the list support the standard Node pop-up menu, where all graphical commands are disabled. Similarly, the links in the list support the standard Link pop-up menu. Nodes and links also support the same double-click actions as in the main window. The components in the list can also be used as a drag source.

The Components Dialog can be invoked from the Node pop-up menu. For Organizational Nodes, the *Show Subcomponents…* command is replaced by *Show Children…*. The Icon Bar command for *Show Subcomponents* can also be used if the selected node is an organizational node.

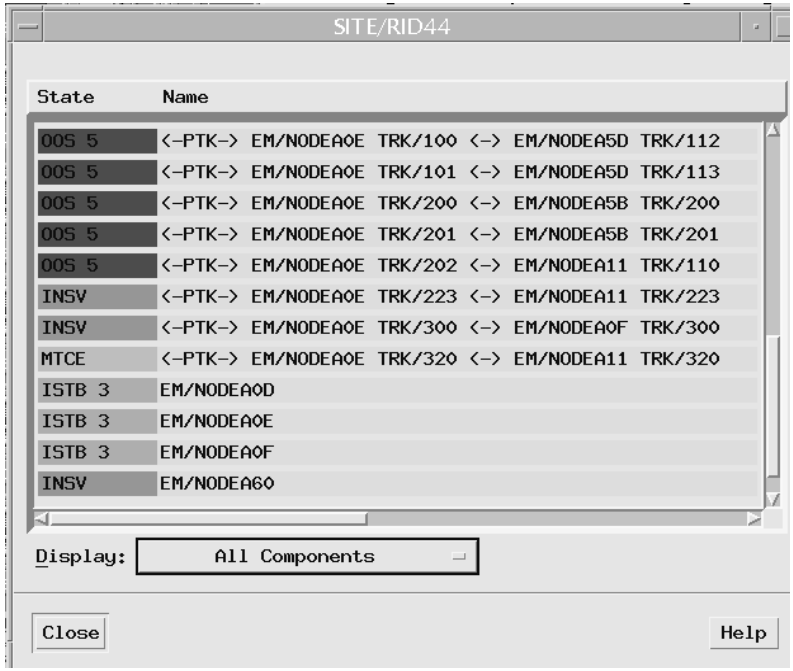
Displaying nodes and links owned by a site or region

1 Move the pointer over the site or region that contains the nodes and links you want to view.

2 Press *menu* to display the nodes and links.

3 Choose *Show Subcomponents…* from the cascade menu or, for Organizational nodes, choose *Show Children*.

A dialog containing the nodes and links is displayed.



Displaying shelf views

You can display the logical shelf view for DPN devices or the logical and physical views for Passport multiservice devices and Nortel Networks Multiservice Provider Edge 9500 devices.

If you select a DPN device and then select the Shelf View command, the DPN logical shelf view displays as a shelf icon within the Network Viewer tool. If you select a Passport device and then select the Shelf View command, the Passport Surveillance Shelf View tool opens and display the logical and physical views of the Passport device. For details about the Passport Surveillance Shelf View tool, see “Shelf View” (page 179).

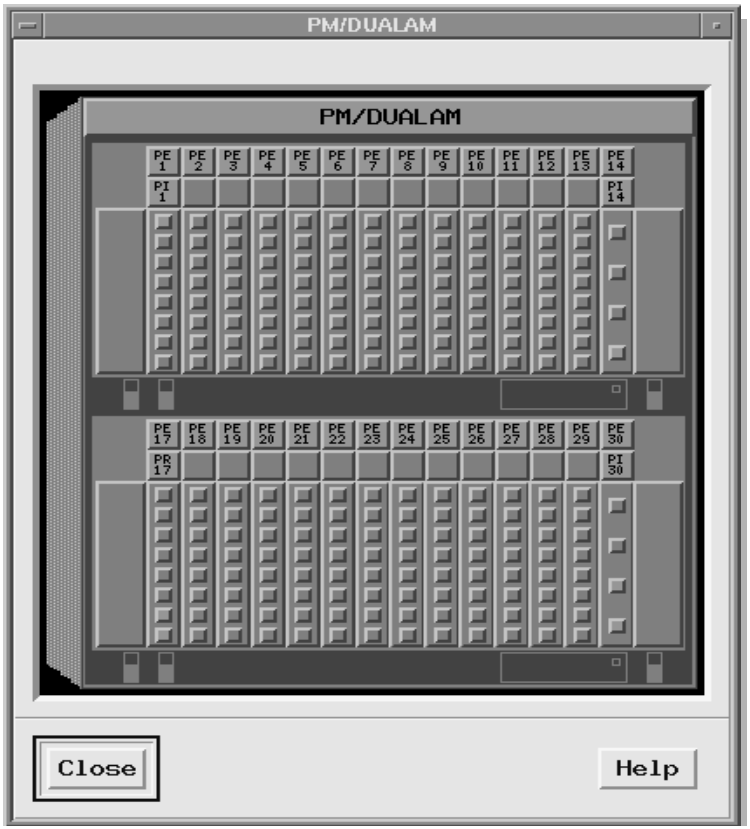
Each icon is configured according to the subcomponent information contained in the network model for the node. If the *Network Viewer* cannot determine the exact shelf type for a PM module, it uses an AM dual-shelf layout by default.

Displaying the DPN shelf icon

1. Move the pointer over the node that contains the subcomponents you want to view.
2. Right-click on the node to display the Node pop-up menu.
3. From the Node pop-up menu, select **Show Menu**.

   Note: The default display for a dual AM or dual RM shelf dialog has Shelf 0 on the top and Shelf 1 on the bottom. However, you can customize Network Viewer to display a dual AM or dual RM shelf dialog with Shelf 1 on the top and Shelf 0 on the bottom by entering NV*reverseShelf:True in your*.Xdefaults* file.

   A dialog containing the shelf icon for the node is displayed. The icon is colored according to its state. See “Displaying the Network Viewer legend” (page 48) in this guide and the section on network model states in 241-6001-015 *Preside MDM Network Model Administrator Guide*, for information on component states.



You can view pop-up menus for the node and its subcomponents by right-clicking a button in the shelf icon. See the menu's online help for a description of its commands.

Displaying subcomponents in a textual list

Not all subcomponents of a node are displayed as part of a shelf icon. To see all subcomponents, use the Subcomponent dialog.

The Subcomponent dialog displays subcomponents in one of two modes: *All Subcomponents* or *Troubled Subcomponents Only*. The *All Subcomponents* mode displays all subcomponents. The *Troubled Subcomponents Only* mode displays only those subcomponents whose raw state is in-service—troubled (ISTB) or out of service (OOS). Components whose states are propagated as

ISTB or OOS are not included in the list. In *Troubled Subcomponents Only* mode, components are sorted so that troubled components appear first, components in Acknowledged state are shown second, and components in Maintenance state appear last. These categories are separated by labels. An option menu at the bottom of the dialog lets you change the display mode.

You can also reduce the number of subcomponents that are fetched and displayed by setting a criticality cutoff in the Preference Dialog (see "Using the Preferences dialog" (page 83)). Only subcomponents whose criticality is greater or equal to the specified criticality cutoff value are initially fetched (the default value is 1, indicating that all subcomponents should be displayed). Note that subcomponent notifications received for the node displayed in the dialog are added to the list regardless of their criticality value.

When the Subcomponent is displaying subcomponents with a criticality cutoff higher than 1, a label at the top of the dialog indicates this fact. An action button (*Load All*) is added to force all the remaining subcomponents to be loaded.

Displaying the subcomponent text dialog

1 Move the pointer over the node that contains the subcomponents you want to view.

2 To open the *Subcomponent* dialog in the troubled mode, double-click the *Select* mouse button on the node icon, **or** press *menu* to display the Node object menu

3 Choose *Show Subcomponent Dialog…* from the menu.

The text dialog opens and displays the subcomponents belonging to the node. States of the subcomponents are also listed in this dialog. See "Displaying the Network Viewer legend" (page 48) in this guide and the section on network model states in 241-6001-015 *Preside MDM Network Model Administrator Guide*, for information on component states. Multiple subcomponent dialogs for different components may be displayed at the same time.

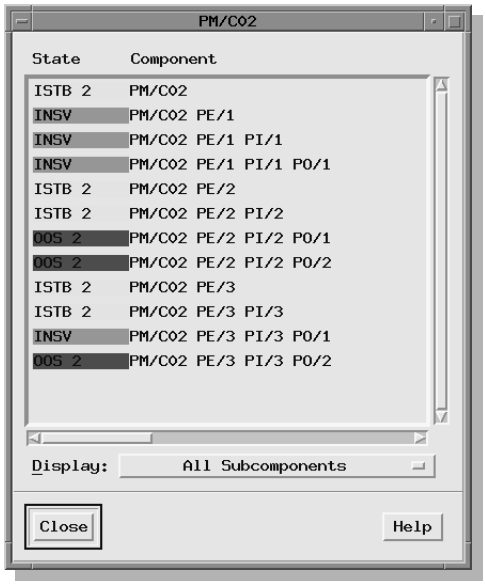
Object menus for the node and its subcomponents are accessible by pressing the *menu* button on their state or name fields. See the menu's online help for a description of its commands.

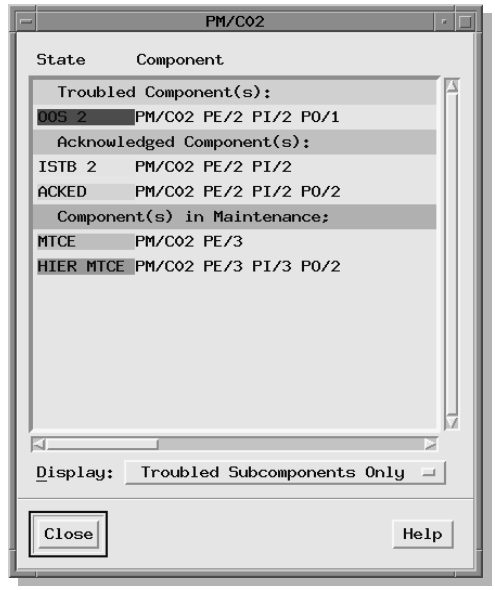
Changing the display mode of the subcomponent dialog

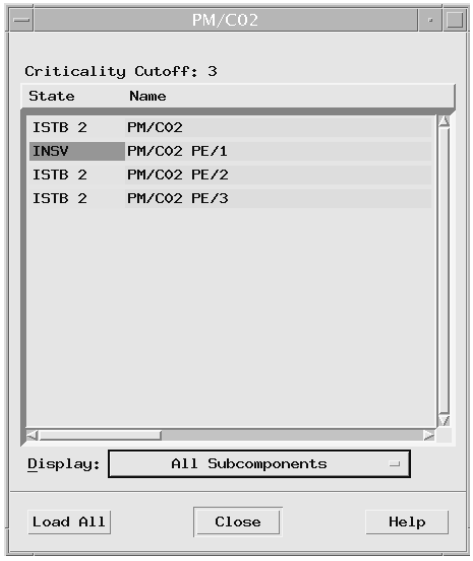
1 Press the *menu* option button in the *Display* area.

2 Select the *All Subcomponents* or *Troubled Subcomponents Only* option.

Note: You can use the accelerators CTRL-a and CTRL-t from the dialog to change to the *All Subcomponents* or *Troubled Subcomponents Only* option respectively.


PM/C02
State Component
ISTB 2 PM/C02
INSV PM/C02 PE/1
INSV PM/C02 PE/1 PI/1
INSV PM/C02 PE/1 PI/1 PO/1
ISTB 2 PM/C02 PE/2
ISTB 2 PM/C02 PE/2 PI/2
OOS 2 PM/C02 PE/2 PI/2 PO/1
OOS 2 PM/C02 PE/2 PI/2 PO/2
ISTB 2 PM/C02 PE/3
ISTB 2 PM/C02 PE/3 PI/3
INSV PM/C02 PE/3 PI/3 PO/1
OOS 2 PM/C02 PE/3 PI/3 PO/2
Display: All Subcomponents
Close
Help


PM/C02
State Component
Troubled Component(s):
OOS 2 PM/C02 PE/2 PI/2 PO/1
Acknowledged Component(s):
ISTB 2 PM/C02 PE/2 PI/2
ACKED PM/C02 PE/2 PI/2 PO/2
Component(s) in Maintenance:
MTCE PM/C02 PE/3
HIER MTCE PM/C02 PE/3 PI/3 PO/2
Display: Troubled Subcomponents Only
Close
Help


PM/C02
Criticality Cutoff: 3
State Name
ISTB 2 PM/C02
INSV PM/C02 PE/1
ISTB 2 PM/C02 PE/2
ISTB 2 PM/C02 PE/3
Display: All Subcomponents
Load All
Close
Help

Displaying component states

Component states are shown by colors. The Network Viewer Legend shows the meaning of these icons. See “Displaying the Network Viewer legend” (page 48).

Component states are managed by the Surveillance Network Model Updater, which is responsible for computing states and storing them in the network model. For more details on how component states are computed, see 241-6001-015 *Preside MDM Network Model Administrator Guide*. The Network Viewer is notified by the network model server whenever a component changes state. The Network Viewer responds to this notification by updating the network display.

The state displayed for a component is computed from the following factors:

- the network state of the component as determined from network data (alarms or status records, or both, depending on the type of component). The possible values for network state are described in the table “Component States” (page 64). The network states common to all component types.

Table 2
Component States

State	Description
Unknown	No alarms or status records have been received for the component.
In-service	The component is functioning normally.
In-service-troubled	The component is functioning, but is experiencing some problem.
Out-of-service	The component or one of its parents is not functioning.

Table 2 (Continued)
Component States

State	Description
Maintenance / Hierarchic Maintenance	The component's real state and that of its subcomponents is masked pending corrective action.
Acknowledged	The component's real state is temporarily masked. If the real state changes, the acknowledgment is automatically removed.

- the criticality of the component: a number reflecting the importance of the component ranging from 1 (low importance) to 5 (high importance). Each component type has a default criticality that may be redefined during network model population. The criticality assigned to a component may be viewed in both the Component Information Viewer and the Network Viewer in edit mode.
- the states of related components. For more information on state and state propagation, see 241-6001-015 *Preside MDM Network Model Administrator Guide*.

A legend showing the state-color mapping is available from the Network Viewer *Options* menu. See "Displaying the Network Viewer legend" (page 48) to display the legend.

Node state display

An icon is colored according to its state. If the shelf dialog is being displayed, a stripe across its shelf icon is colored to display the overall node state. The individual shelf components are colored to display the subcomponent states.

Link state display

The line representing the link is colored according to the state.

Maintenance state

Maintenance state hides a component's current state and any subsequent state changes. If you perceive a problem on a component, you can put the component into Maintenance state when you do not want to be distracted by the state display.

Putting components into the Maintenance state

1. Move the pointer over the component to be put into the Maintenance state.
2. Press *menu* and choose *Set Maintenance On* from the menu.

   The request is sent to the network model and, if accepted, the state of the component is changed to Maintenance state. See 241-6001-015 *Preside MDM Network Model Administrator Guide*, for more information on the Maintenance state.

Taking components out of the Maintenance state

1. Move the pointer over the component to be taken out of the Maintenance state.
2. Press *menu* and choose *Set Maintenance Off* from the menu.

   The component is taken out of the Maintenance state. The Network Model Updater recomputes the component's state based on its state when received from the network and on the states of its related components.

Acknowledged state

Acknowledged state temporarily hides a component's current Troubled state (indicated by the network). As soon as the component changes state, the acknowledgment is automatically removed and the component's real state shows. When a component is acknowledged, it acts as though it is in an *In Service* state. That is, if a lower subcomponent is also troubled, it is reflected on the Acknowledged state through the usual propagation mechanisms—thus showing hidden faults. The only difference is that, if no other related components are troubled, the acknowledged component displays a state of *Acked* instead of *In Service*. Only troubled modules and subcomponents (from the network) can be acknowledged.

Putting components into the Acknowledged state

1. Move the pointer over the component to be put into the Acknowledged state.
2. Press *menu* and choose *Set Acknowledged State On* from the menu.

   The request is sent to the network model and, if accepted, the state of the component is changed.

   Note: You can also acknowledge all active alarms against the component by using the corresponding *Start Tool* menu option.

Taking components out of the Acknowledged state

1. Move the pointer over the component to be taken out of the Acknowledged state.
2. Press *menu* and choose *Set Acknowledged State Off* from the menu.

   The component is taken out of the Acknowledged state. The Network Model Updater recomputes the component's state based on its state when received from the network and on the states of its related components.

   Note: You can also unacknowledge all active alarms against the component using the corresponding *Start Tool* menu option.

Navigating the network display

For large networks, it is generally neither feasible nor desirable to view the entire network at once in the Network Viewer display window. These kinds of navigation are provided by the Network Viewer:

- Component Finder
- Organization navigation
- Background navigation
- Double-click actions

Using the Component Finder

The Component Finder is the main navigational tool. It allows you to quickly locate components and to change the main window display to bring different components into view. The Component Finder Dialog contains a *mini map* representing the entire Network Viewer background. A rectangle, called the *mini view window*, indicates the part of the background that is currently displayed in the Network Viewer window (especially when zoom is used). This gives you a sense of where you are in the overall network display. The bitmap being displayed (if any) is not visible in the mini map.

When the finder locates a specific node, it displays this found node as a *mini node* in the mini map. Like the real node, the mini node can be selected by dragging the mouse pointer over it while pressing the *Select* button, or by double-clicking the *Select* button while the mouse pointer is on it. After the mini node is selected, you can access a pop-up menu from which you can issue actions such as expanding and opening dialogs.

The Component Finder provides an input field where you can enter the identifier of the component you want to find. The identifier may be selected from a list of components, typed in directly, or retrieved from context. The contents of the Component Selection List are determined by the selection in the Level Selection List, which lists the levels of the organization. For standard organizations, the levels are region, site, and module. Components below the module level are not listed since they do not have individual locations on a map. However, they are displayed as icons that are accessible from the module.

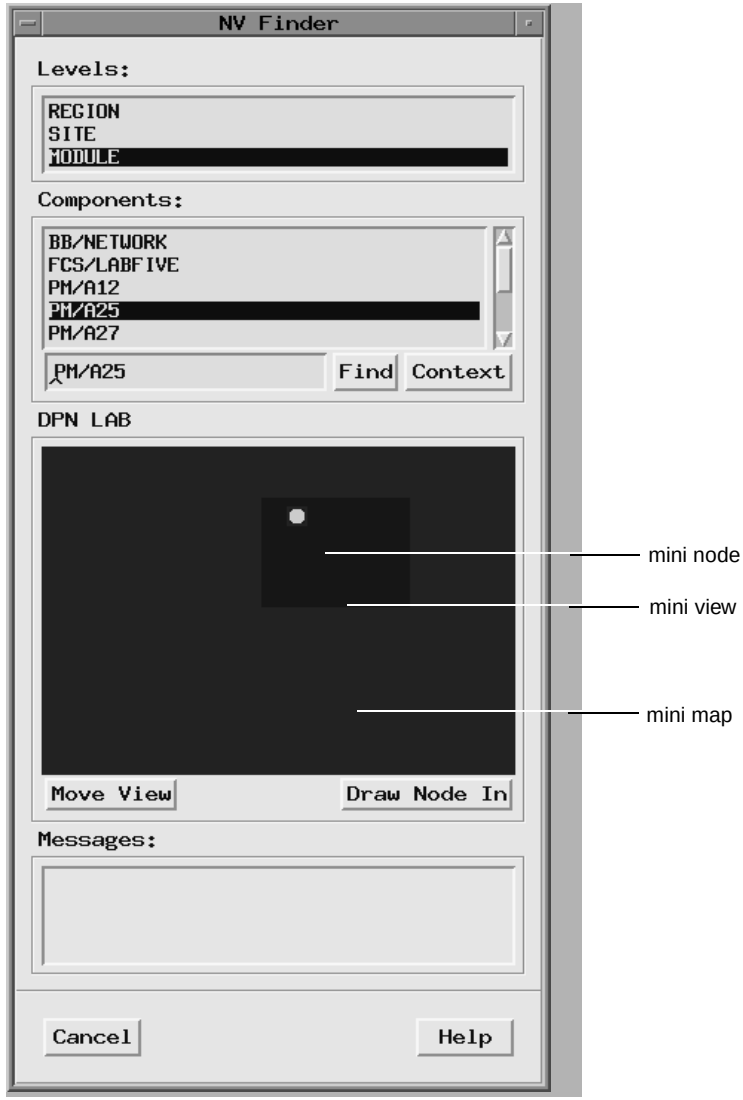
Finding a component using the Component Finder

1 Press *menu* with the pointer over *View* in the Network Viewer menu bar.

2 Choose *Find* from the cascade menu.

The Component Finder Dialog opens.

Note: You can search for only one component at a time.



3 Type a component ID in the *component ID field*, retrieve it from context, or select an item in the Components List.

4 Select *Find*.

The location of the module is shown in the mini map.

If the specified component is not found in the model, is an already un-expanded node, is not part of the currently displayed organization, or is invisible due to some exclusive expansions, a message indicating this is displayed in the message area. If the node is not available for filtering, a message appears indicating this.

If the specified component is found in the current display, the finder indicates its location by displaying a circle in the mini map. The component is highlighted in the Network Viewer display window. The component remains highlighted until the next selection is made, or the component is deselected in the main navigation window (which also removes the tracking of the node in the finder dialog). If the component is found in compressed state, the mini node is displayed as a slightly larger square. The larger square represents the organizational node that needs to be expanded to display the component (which can be done by double-clicking the mini node).

If the circle is outside the rectangle, you can move the current window view to include the component, or move the component into the current window view.

Note 1: When a component is retrieved from context, this step is performed automatically.

Note 2: If an item in the Components List is double-clicked instead of just single-clicked, this step is performed automatically.

Changing the window view to include the target component

1 Repeat steps 1 to 4 of “Finding a component using the Component Finder” (page 68).

2 Drag the mini view window over the indicated component, or select the *Move View* button located under the mini map.

This automatically moves the window over to the indicated component so that it is just inside the view. The Network Viewer window view changes correspondingly.

Note: Dragging the mini view window may be done only if the view area is not the entire map background (possible due to zooming in on a particular area of interest). If the view area is the entire map, then the mini view window fills the entire mini map space in the finder.

Moving a component into the current view

1 Repeat steps 1 to 4 of “Finding a component using the Component Finder” (page 68).

2 Drag the mini view window over the indicated component, or select the *Draw Node In* button located under the mini map.

The component moves to the interior of the window rectangle. The component icon is correspondingly moved into the Network Viewer window view.

Note: To move the component back to its previous or original position, select *Undo Last Move* or *Undo All Moves* from its object menu. See "Positioning the nodes" (page 53).

Using organization navigation

Organization navigation allows you to navigate through the network organizational hierarchy, expand nodes to show their subcomponents or compress subcomponents into their higher level parents.

Note: An organizational component and the components it contains are never displayed simultaneously.

You can expand a node by the following methods:

- in-place
- exclusive
- in a new window

Expanding in place

Expanding in place replaces any selected organizational node with its children while leaving the display of unselected nodes unchanged. Links between the newly shown nodes and other organizations are visible.

Expanding in place to the next lower level

1 Move the pointer over the component that you want to expand to the next lower level.

2 Double-click the *Select* mouse button. Alternatively, press the *Menu* mouse button and choose *Expand In Place*.

The selected component is replaced with the next level of subcomponents.

Note: Only the selected component is expanded; all other components in the display remain unchanged.

Expanding in place to the lowest level

1

2 Move the pointer over the component that you want to expand to the lowest level.

3 While holding down the Shift key, double-click the *Select* mouse button. Alternatively, press the mouse *Menu* button and choose *Full Expand In Place.*

The selected component is replaced with a view of all its subcomponents (if any) down to the module level.

The figure "Before in-place expansion to the lowest level" (page 73) illustrates the network view before in-place expansion for REGION 4.

The figure "After in-place expansion to the lowest level" (page 74) illustrates the view after REGION 4 is expanded down to its module level. The single link between REGION 3 and REGION 4 is expanded to two physical links—one to PM A1 and the other to PM A2.

Figure 5
Before in-place expansion to the lowest level

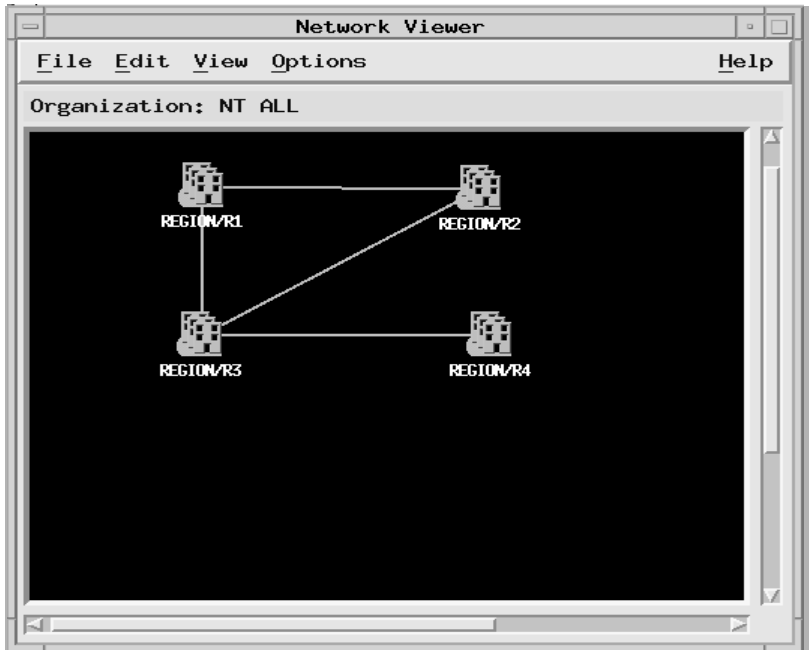
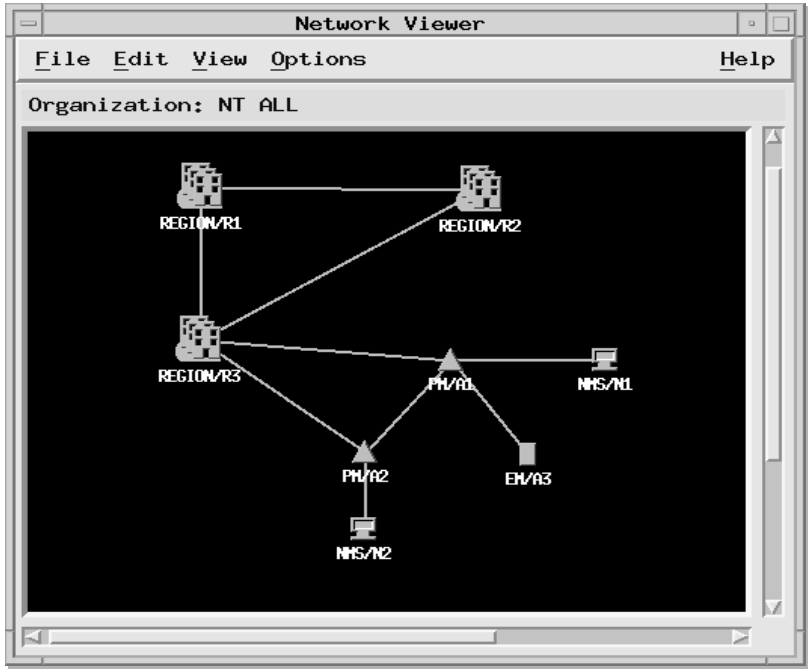


Figure 6
After in-place expansion to the lowest level



Compressing a component back to the parent level

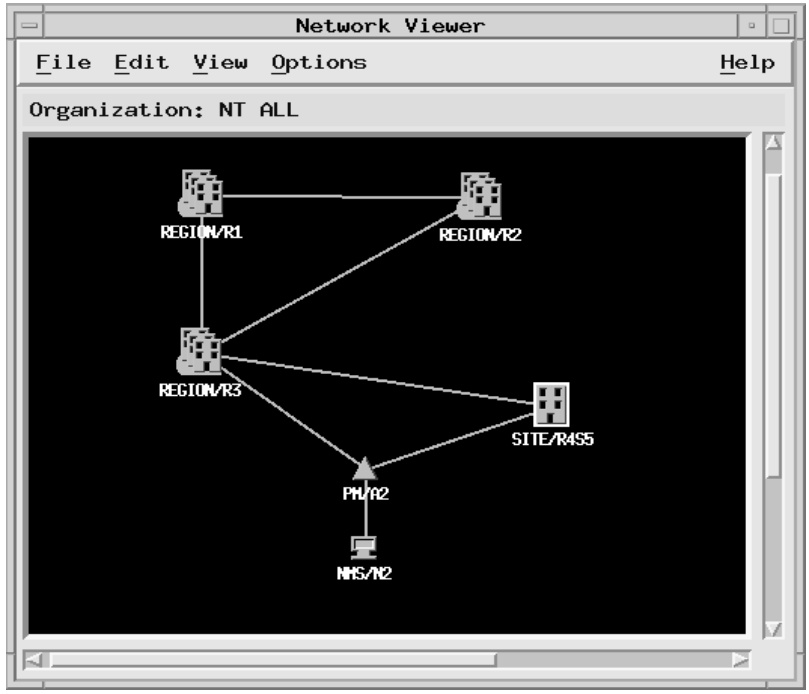
1 Move the pointer over the component whose parent you want to view.

2 While holding the Control key, double-click the *Select* mouse button. **Alternatively,** press the mouse *Menu* button and choose *Compress In Place*.

The selected component and all other components having the same immediate parent component are replaced by the parent component.

The figure "After in-place expansion to the lowest level" (page 74) illustrates the network view after SITE 5 is compressed in place. EM A3 and all other modules in SITE 5 are replaced by the SITE 5 icon.

Figure 7
Compressing a component to its parent level



Expanding exclusively

Exclusive expansion replaces any selected organizational node with its children and hides the display of other unselected and unexpanded nodes. Links between the visible nodes and other organizations are not visible. When nodes are hidden due to exclusive expansions, the word *Partial* appears in the status label.

Expanding exclusively to the next lower level

1 Move the pointer over the component that you want to exclusively expand to the next lower level.

2 Press the *Menu* mouse button and choose *Expand Exclusively*.

The selected component is replaced with the next level of subcomponents. All other nodes are hidden.

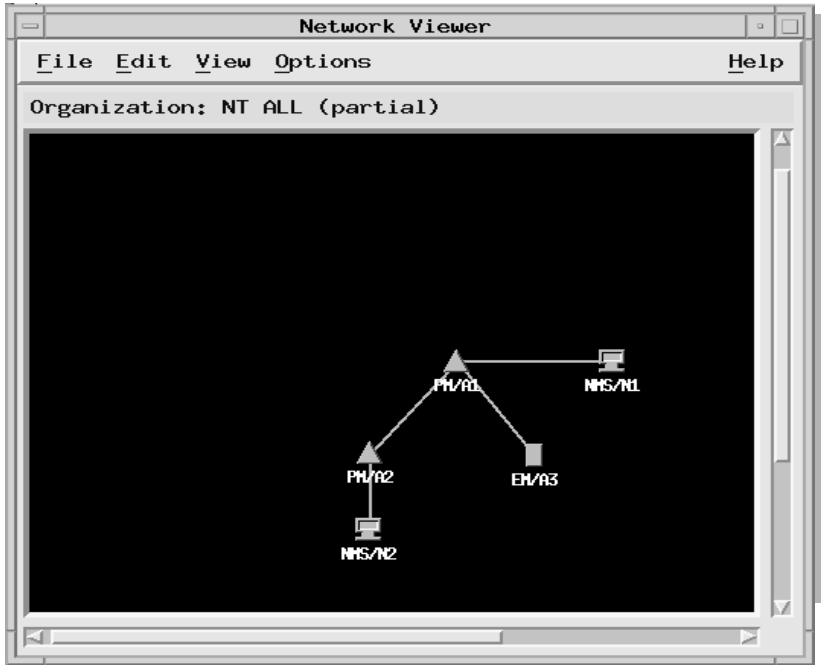
Expanding exclusively to the lowest level

1. Move the pointer over the component that you want to exclusively expand to the lowest level.
2. Press the *Menu* mouse button and choose *Full Expand Exclusively*.

   The selected component is replaced with a view of all its subcomponents (if any) down to the module level. All other nodes are hidden.

In this example SITE 5, as shown in the figure "Exclusive expansion to the lowest level" (page 76), is exclusively expanded to the lowest level.

Figure 8
Exclusive expansion to the lowest level



Expanding in a new window

Expanding in a new window provides exclusive expansion of organizational nodes into new subwindows. These subwindows provide functionality similar to that of the main window. You can distinguish subwindows by their title bar.

A node or link cannot appear in more than one window at any one time. As a result, non-organizational nodes cannot be included in subwindows during expansion as this would result in the same node being displayed in two windows.

Expanding to the next lower level in a new window

1 Select one or more regions or sites, or both.

2 From the View menu or the Node pop-up menu, choose *Expand in New Window*.

A new subwindow opens displaying the next lower level for each selected organizational node.

Expanding to the lowest level in a new window

1 Select one or more regions or sites, or both.

2 From the View menu or the Node pop-up menu, choose *Full Expand in New Window*.

A new subwindow opens displaying the lowest level for each selected organizational node.

Closing a subwindow

1 From the File menu, select *Compress parent node which closes this window and its subwindows*. Alternatively, you can use the Network Viewer pop-up menu. From this pop-up menu, point to *File* and select *Compress parent node which closes this window and its subwindows.*

The subwindow closes.

Using background navigation

Background navigation allows you to change the visible part of the map. You can use the scroll bars across the bottom and along the right side of the Network Viewer display window to change the area displayed. You can also zoom the display.

Zooming in on the display

1 Move the pointer over the *View* button in the menu bar and press *menu*.

2 Choose *Zoom*.

A cascade menu appears listing the available magnification factors.

3 Choose a magnification factor.

The display is zoomed around the current center point to the selected magnification factor.

Zooming out

1. Move the pointer over the *View* button in the menu bar and press *menu*.
2. Choose Zoom.

   A cascade menu appears listing the available magnification factors.
3. Choose a lower magnification factor than the current setting.

Using double-clicking actions

You can double-click the *Select* mouse button and use it with the *Shift*, *Control*, or *Meta* keyboard keys to act on nodes, links, and subcomponents in the Network Viewer. The table "Default double-clicking actions" (page 78) lists the default actions for Network Viewer. These actions can be customized.

Table 3
Default double-clicking actions

Node type	Key held down	Default action
Organizational root node	none	Opens the organization
Organizational node	none	Same as *Expand In Place* pop-up menu command
Organizational node	Shift	Same as *Full Expand In Place* pop-up menu command
Organizational node	Ctrl	Same as *Compress* pop-up menu command
Organizational node	Meta	Starts CIV tool
Module node	none	Same as *Open Subcomponent Dialog* pop-up menu command, but in Troubled mode
Module node	Shift	Same as *Open Shelf Dialog* pop-up menu command

Table 3 (Continued)
Default double-clicking actions

Node type	Key held down	Default action
Module node	Ctrl	Same as *Compress* pop-up menu command
Module node	Shift + Meta	Same as *Expand in New Window*
Module node	Meta	Starts CIV tool
Subcomponent	Meta	Starts CIV tool
Link	Meta	Starts CIV tool
Link	none	spreads overlapping links

Controlling the network display

You can control the network display by

- setting Component filtering using the Network Viewer Filter Settings Dialog. For more information, see “Using the NV Filter Settings Dialog” (page 79).
- setting node, cluster and positioning, and other preferences using the Preferences Dialog. For more information, see “Using the Preferences dialog” (page 83).
- setting various Views of the network. For more information, see “Using Views of the network” (page 85).

Using the NV Filter Settings Dialog

Network Viewer component filtering enhances state surveillance by

- showing only the modules and links that require attention
- minimizing the display clutter by hiding irrelevant nodes and links
- speeding up display operations by reducing the number of displayed modules

The *NV Filter Settings Dialog* allows you to tailor the NV Component Filter to your own preferences. With the *NV Filter Settings Dialog*, you can select active filtering options. You can also *Save to file* or *Restore from file* the settings and *Apply* the defined settings to the main Network Viewer display.

Whether Component filtering is enabled or not when the Network Viewer starts is controlled by the Preference Dialog. See "Using the Preferences dialog" (page 83) for more information.

> ***Note:*** Filtering is turned off by default; however, you can change this default by setting the *ND* compFilteringOn* resource to *True* in your user specific file: *${HOME}/MagellanNMS/.Xdefaults*. If you set this resource, the saved preferences are automatically restored the next time the Network Viewer is started.

The Network Viewer supports filtering on component states and overriding conditions. After you select the node states and link states that you want filtered, you have the option of overriding these state filters by

- hiding DPN-100/1 nodes
- hiding Magellan Access switches (MAS)
- hiding cross-level links (links from a node to a site or from a site to a region in the context of Network Viewer's in-place expansions)
- showing DNLs and DBNLs

  Note: This override does not apply to BWODs. BWODs are not considered to be DBNLs or DNLs for filtering purposes; they are filtered like NLs.

- showing backbone components (RM, Passports, TKs, and PTKs by default)
- hiding Passport trunks
- hiding ATM links

Changing the filtering of the states of nodes and links

1 Ensure that the *Set filtering* option under the *View* menu in the Network Viewer main window is turned to On.

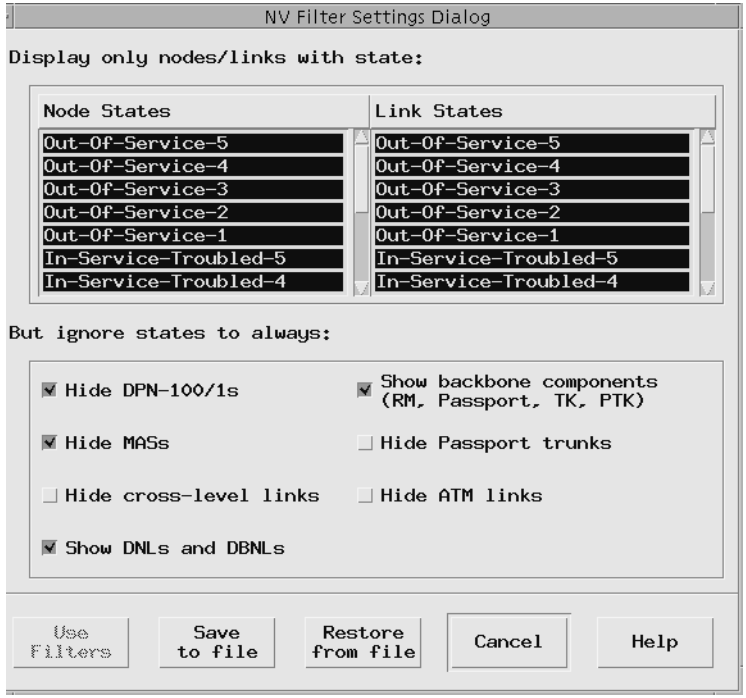
See “Activating and deactivating filter settings from the Network Viewer main window” (page 82) for more information.

2 Open the NV Filter Settings Dialog:

a. From the Network Viewer main window menu bar, select *Options*.

b. From the *Options* menu, select *Change filter settings.*

The NV Filter Setting Dialog opens.



1 Select the node states you want to filter from the *Node States* column.

2 Select the link states you want to filter from the *Link States* column.

3 Select the overriding conditions from the *But ignore states to always* list.

Note: These overrides function only if the network model is properly populated with the information necessary to identify these components.

4 Save the settings:

If you want to save the settings to the *NDFilter.cfg* file in your *$HOME/MagellanNMS* directory, select *Save to File*.

If you want to save the settings to the Network Viewer main window, select *Apply*.

Note: The settings are applied to the Network Viewer main window only if the *Set filtering* option under the *View* menu in the Network Viewer main window is set to *On*. See "Activating and deactivating filter settings from the Network Viewer main window" (page 82) for more information.

5 Close the NV Filter Settings DIalog by selecting *Close*.

The NV Filter Settings Dialog closes.

Activating and deactivating filter settings from the Network Viewer main window

The *Set Filtering On* option under the *View* menu in the Network Viewer main window enables the filter parameters set in the *NV Filter Settings Dialog* to be applied to the Network Viewer main window.

1 Press *Select* on the *View* menu in the Network Viewer main window.

2 Choose *Set Filtering On* to activate the filter parameters or *Set Filtering Off* to deactivate them.

The Preference Dialog enables and disables the Component filtering when Network Viewer starts. See "Using the Preferences dialog" (page 83) for more information.

Using previously saved filter settings

You can retrieve and apply previously filter settings saved to the *NDFilter.cfg* file in your *$HOME/MagellanNMS* directory.

Restoring previously saved filter settings

1 Open the NV Filter Settings Dialog:

a. From the Network Viewer main window menu bar, select *Options*.

b. From the *Options* menu, select *Change filter settings.*

The NV Filter Setting Dialog opens.

2 Select *Restore from file*. to apply the filter settings saved to the *NDFilter.cfg* file.

The restored filter settings are displayed in the dialog.

3 Select *Apply* to save the filter settings to the Network Viewer main window.

Using the Preferences dialog

The NV Preferences dialog allows you to modify a number of display and behavioral settings for the Network Viewer. You can save these settings so they can be automatically restored and applied whenever the Network Viewer is invoked. The Preference Settings come in the following categories:

- Node Display
- Clustering and Positioning
- Miscellaneous

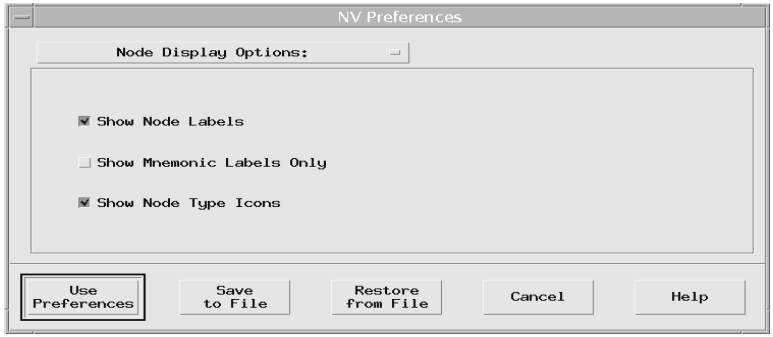
Some of the settings, including Snap to Grid, are also available from other Network Viewer menus.

Changing the display options for Network Viewer

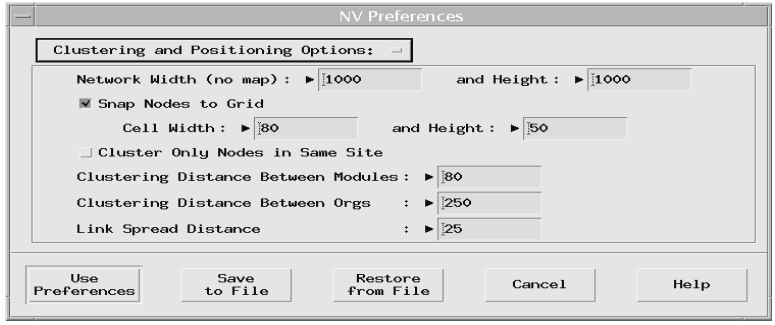
1 Press *menu* on *Options* in the Network Viewer main window menu bar.

2 Choose *Change Preferences* from the menu.

The NV Preferences dialog window opens.



3 Select the option you wish to use from the *Node Display Options* button.



4 Select *Save to File* if you want to save these filter settings to the *NVFilter.cfg* file in your *$HOME/MagellanNMS* directory.

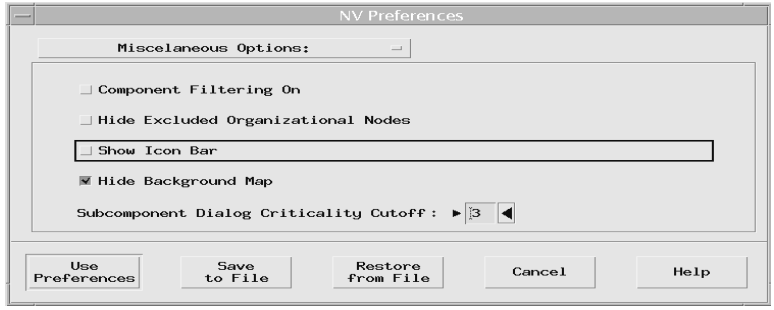
The settings made in the dialog are saved. The changes are not applied and the dialog remains open.

5 Select *Apply* to apply these settings to the Network Viewer main window.

Note: These settings are applied only if the *Set filtering* option under the *View* menu in the Network Viewer main window is set to *On*. See "Activating and deactivating filter settings from the Network Viewer main window" (page 82) for more information.

6 Select *Close* to close the dialog window.

The NV Filter Settings Dialog closes.



Using Views of the network

You can save a *view* that is used often under a view *name* to quickly retrieve and display it. By saving the view under a view name, you can store key portions of the network and switch very rapidly to different views. A named view stores the following information:

- organization that is displayed
- coordinates and zoom factor of the visible section of the organization's map
- components that are expanded in the view
- visibility of node labels
- visibility of link bendpoint handles
- modified node and bendpoint positions (optional)
- snap-to-grid state
- the network dimensions (without map if they are changed in the Preferences Dialog)

Saving a view

1 Have your network display in the format you want to save.

2 Press *menu* on *File* in the menu bar.

3 Choose *Save View* from the menu.

The current view is saved to its file.

You can also choose *Save View As* from the menu.

A dialog opens, enabling you to save the view under a specified name.

4 If you chose to save the view under a specified name, enter the filename, or select the name if it appears on the menu.

5 To save the positions of nodes and bendpoints that are changed in the view, ensure that *Save Node Positions in View* is enabled on the toggle button.

If enabled, a checkmark appears on the left. Modified node positions are saved in the view.

If you do not want to save modified node positions in the view, deselect the toggle button.

The checkmark disappears and nodes are not saved in view.

Restoring a view

1. Press *menu* on *File* in the menu bar.
2. Choose *Restore View…* from the menu.

   A file selection dialog that contains a list of the names of all saved views is displayed.
3. Select the view you want to display in the window.

   Note: For instructions on setting a default view for Network Viewer, see "Selecting the default view" (page 88).
4. To restore modified node positions that are saved in the view, ensure that *Restore Node Positions in View* is enabled on the toggle button.

   If enabled, a checkmark appears on the left. Saved node positions are restored from the view.

   If you do not want to restore saved node positions from the view, deselect the toggle button.

   The checkmark disappears and saved node positions are not restored from the view.

Customizing the Network Viewer display

You can perform the following types of customization on the Network Viewer:

- select the background pixmap image
- select the default view
- select the color and display options
- modify the Start Tool menus and icon bars

Selecting the background pixmap image

The Network Viewer uses XPM3 format pixmaps for the background. This is a widely supported format. Various public- and commercial-domain tools allow you to create in, or convert other images to, this format. The *Solaris Common Desktop Environment (CDE)* software provides a pixmap editor that you can use for modifying pixmaps. This editor is located in the file */usr/dt/bin/dticon*. For instructions on how to use this pixmap editor, see the Help menu in the tool itself.

Note: The dticon editor is limited to relatively small pixmaps (256x256). To edit larger pixmaps, use a commercial tool or, if preferred, a public domain tool (such as xpaint, which is available from the MIT ftp site ftp.x.org).

The pixmap files used by Network Viewer are stored in the directory */opt/MagellanNMS/lib/nds/pixmaps.*

You can use the pixmaps stored in this directory as a starting point, and edit them with a pixmap editor; or you can import your own pixmaps. Store any pixmaps that you edit or create in the directory */opt/MagellanNMS/cfg/nds/pixmaps*. After your custom pixmaps are stored there, they are available to the Network Organization Populator through the Set organization map dialog. For more information, see 241-6001-015 *Preside MDM Network Model Administrator Guide*.

Additional geographical area pixmaps are available from the Preside Multiservice Data Manager (MDM) CD ROM in the directory */cdrom/cdrom0/NVMaps*. Use the *installmap* tool on the CD ROM to install these pixmaps.

Changing node icon pixmap images

Network Viewer uses XPM3 pixmaps to define the appearance of node icons. The pixmaps for all Network Viewer node icons can be found in the directory */opt/MagellanNMS/lib/nds/pixmaps*.

To change these pixmaps, use any available tool (commercial or otherwise) capable of editing XPM format images. The Icon Editor that comes with CDE is ideal for these pixmaps. When editing node icon pixmaps, keep the following points in mind:

- Define the bulk of the image using the symbolic colors Background, TopShadow, BottomShadow, and Select. The symbolic color Background is replaced by the appropriate color for the node's current state. TopShadow and BottomShadow are dynamically calculated based on the current Background color. The Select color is defined as a Network Viewer (ND) resource. Set any area of the image that should never be filled with any color to the symbolic color Transparent.

- Use TopShadow and BottomShadow symbolic colors to give your icon a 3D effect.
- Use Static Colors and Static Grays only to add details and accents to the image. Use them sparingly to prevent confusion with state colors.
- Keep the node pixmaps small to conserve screen real estate (20X20 is a good average size).
- If you create new node pixmaps (as opposed to editing existing filenames), be sure to update the ND resource file appropriately.

Selecting the default view

You can set a default view that is restored automatically whenever Network Viewer is started. To do so, create the new default view in the standard directory (/opt/MagellanNMS/data/nvs/views) and name it DEFAULT_VIEW. Alternatively, you can set the defaultViewName resource for Network Viewer to the full path name of the view description file to use as default. For more details, see the section on customizing the toolsets and start tools menus in 241-6001-301 *Preside MDM Customization Administrator Guide*.

Modifying the Start Tool menus and icon bars

You can customize the Start Tool menus and icon bars. For details on the available Network Viewer Start Tool menus, see "Start Tool menus" on page 42.

For details on customizing the Start Tool menus and icon bars, see the section on customizing the toolsets and start tools menu in 241-6001-301 *Preside MDM Customization Administrator Guide*.

When you modify the Start Tools menu file, use one of the following substitution variables on the command line:

- $COMP: the selected component ID in API format (for example, EM TORONTO LP 1 PO 1)
- $COMP2: the second selected component ID in API format
- $DCOMP: the selected component ID in display format (for example, EM/TORONTO LP/1 PO/1)
- $DCOMP2: the second selected component ID in display format

- $NMHOST: the current host from the Server Selection tool
- $DNAME: the module name only from the selected component ID in display format
- $DNAME2: the module name only from the second selected component ID in display format
- $SNAMES: the module names only from the selected component IDs in API format
- $SDNAMES: the module names only from the selected component IDs in display format

Customizing Network Viewer resources

The *Network Viewer* tool uses resources to describe certain functional and appearance aspects. You can customize some of these aspects. Others cannot be changed without affecting the functionality of Network Viewer.

CAUTION

Risk of altering the functionality of the Network Viewer

Do not modify resources that are not listed in the following table. Changing unlisted resources may negatively affect Network Viewer's appearance and functionality

The Network Viewer resource files are */opt/MagellanNMS/lib/app-defaults/C/ND* and */opt/MagellanNMS/lib/app-defaults/C/NDIcons*.

The table "Resources that you can customize in the Network Viewer" (page 90) lists the Network Viewer resources that you can customize. Note that the application classname of the Network Viewer applications is actually ND.

Table 4
Resources that you can customize in the Network Viewer

Resource	Description	Legal values
ND*stateINVALID ND*stateUNKNOWN ND*stateINSV ND*stateINSV ND*stateISTB_1 ND*stateISTB_2 ND*stateISTB_3 ND*stateISTB_4 ND*stateISTB_5 ND*stateOOS_1 ND*stateOOS_2 ND*stateOOS_3 ND*stateOOS_4 ND*stateOOS_5 ND*stateMTCE ND*stateHIER_MTCE ND*stateACKED ND*stateModuleUNKNOWN	These resources specify the state-to-color mapping used to indicate the current state of components in ND.	Any X windows color name specification, for example, gray98. See */usr/lib/X11/rgb.txt* for a list of X11 color names.
ND*differentModuleUnknownColor	If differentModuleUnknownColor is true, then the unknown color for the node at the module level is different from the default unknown color.	True or False
ND*nmsNodeStates*nvmColors ND*nmsNodeStates*xpmBgColor <n>	These resources specify the colors that represent the various node states. <n> ranges from zero to (numColors -1). Each unique color needs to be defined in this list only once (even if the same color is used for more than one state).	

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Table 4 (Continued)
Resources that you can customize in the Network Viewer

Resource	Description	Legal values
ND*nmsNodeStates*nvmImages ND*nmsNodeStates*xpm Image<n>	These resources specify all the unique XPM3 pixmaps that represent the various node types. <n> ranges from zero to (numImages -1). Each unique pixmap needs to be defined in this list only once (even if the same pixmap is used for more than one node type).	
ND*nmsLinkStates*nvmLinkColors ND*nmsLinkStates*linkColor<n>	These resources specify the colors that represent the various link states. <n> ranges from zero to (numLinkColors -1). Each unique color needs to be defined in this list only once (even if the same color is used for more than one state).	
ND*nmsLinkStates*nvmLinkStyles ND*nmsLinkStates*LinkStyleName<n> ND*nmsLinkStates*LinkStyleWidth<n> ND*nmsLinkStates*LinkStyleStyle<n> ND*nmsLinkStates*LinkStyleDashOffset<n> ND*nmsLinkStates*LinkStyleDashes<n>	These resources specify all the unique line styles that represent link types. <n> ranges from zero to (numLinkStyles -1). Each style needs to be defined only once. LinkStyleName is arbitrary. LinkStyleWidth can be any whole number. LinkStyleStyle must be zero for solid lines, and one or two for dashed lines. See X Window System graphics context documentation for explanations of LinkStyleDashOffset and LinkStyleDashes.	

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Table 4 (Continued)
Resources that you can customize in the Network Viewer

Resource	Description	Legal values
ND*numNodeTypes ND*nodeTypeName<n> ND*nodeTypeImageIndex<n>	These resources specify the mapping of node types to node images defined by the ND*nmsNodeStates*xpmImage resources. <n> ranges from zero to (numNodeTypes -1). The nodeTypeName must match the node type string defined by the network model. The nodeTypeImageIndex specifies (by index) which image to use for this node type.	
ND*numStateNames ND*stateName<n> ND*stateColorIndex<n>	These resources specify the mapping of node state names to the colors defined by the ND*nmsNodeStates*xpmBgColor resources. <n> ranges from zero to (numStateNames -1). The stateName strings must match the state names defined by the network model. The stateColorIndex values specify (by index) which color to use for this node state.	
ND*numLinkTypes ND*linkTypeName<n> ND*linkTypeStyleIndex<n>	These resources specify the mapping of link types to link styles defined by the ND*nmsLinkStates*linkStyle resources. <n> ranges from zero to (numLinkTypes -1). The linkTypeName must match the link type string defined by the network model. The linkTypeStyleIndex specifies (by index) which line style to use for this link type.	

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Table 4 (Continued)
Resources that you can customize in the Network Viewer

Resource	Description	Legal values
ND*numLinkStateName ND*linkStateName<n> ND*linkStateColorIndex<n>	These resources specify the mapping of link state names to the colors defined by the ND*nmsLinkStates*linkColor resources. <n> ranges from zero to (numLinkStateNames - 1). The linkStateName strings must match the state names defined by the network model. The linkStateColorIndex values specify (by index) which color to use for this link state.	
ND*nmsLinkStates*linkSelectColor	This resource specifies the color of the lines that bound a selected link to show that it is selected.	
ND*nmsLinkStates*linkSelectWidth	This resource specifies the width (in pixels) of the selection lines on either side of a selected link.	
ND*nmsLinkStates*solidSelectionLines	This boolean resource specifies whether or not the selection lines follow the style pattern of the link, or if they are always drawn as solid lines.	
ND*nmsNodeStates*selectColor	This resource specifies the color of the “halo” that surrounds selected nodes.	
ND*labelOffset	This integer resource specifies the distance (in pixels) from the bottom of a node icon to the top of its label.	
ND*labelFontList	This resource specifies the X Window System font to be used for node labels.	

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Table 4 (Continued)
Resources that you can customize in the Network Viewer

Resource	Description	Legal values
ND*restrictClusterToSite	This resource indicates if Network Viewer needs to consider only connected nodes in the same parent Organizational Node when *Cluster Connected Nodes* is invoked on a node. This setting is now controlled by the Preferences Dialog.	False
ND*clusterModuleSpacing ND*clusterOrgNodeSpacing	These resources indicate the distance left between nodes when the Cluster Child Nodes or Cluster Connected Nodes commands are applied. For Cluster Connected Nodes, these values are implicitly majored by an increment based on the number of connected nodes. This setting is now controlled by the Preferences Dialog.	If the target node is a module, the value is 80. If the target node is an Organizational Node, the value is 250.
ND*drawAreaBackgroundColor	This resource specifies the color of the background when no map is assigned (for example, the background when the organization roots are being displayed)	Any X windows color name or numerical specification
ND*worldMinX ND*worldMinY ND*worldMaxX ND*worldMaxY	These resources specify the dimension of the network when no map is assigned. Any node lying outside this area is forced within to ensure that it is visible. This setting is now controlled by the Preferences Dialog.	X or Y coordinates in pixels
ND*rubberbandColor	This resource specifies the color of the selection rectangle and the rubber band when positioning links. If you modify the background colors, you may also need to change these colors to get a better contrast.	Any X windows color name or numerical specification

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Table 4 (Continued)
Resources that you can customize in the Network Viewer

Resource	Description	Legal values
ND*linkSelectionSensitivity	These resources specify the number of pixels to either side of a link's drawn line. If the mouse is clicked inside this margin, the link is selected. When set to zero, links can only be selected when the mouse is directly over the line (which can be tricky when trying to select a diagonal line).	
ND*displacementInertia	These resources pacify the number of pixels a node or bendpoint needs to be displaced before Network Viewer considers the object as moved. This helps to prevent accidental moves when selecting nodes.	
ND*bendpointDimension	This resource specifies the width and height of the bendpoint handles in pixels.	
ND*labelForeground ND*labelBackground	These resources specify the color of the node and link labels. If you changed the background color, you may also need to change these colors to get a better contrast.	Any X windows color name or numerical specification
ND*autoManageOrgs ND*organizationName	If autoManageOrgs is True (default), Network Viewer automatically tries to open an organization when it starts (no default view is specified). If organizationName is specified (commented out by default), it can hold the name of the organization that it is opening. If not specified, Network Viewer opens the DEFAULT ALL view if it is the only one or it opens the non DEFAULT one if only two organizations exist.	True or False Organization name

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Table 4 (Continued)
Resources that you can customize in the Network Viewer

Resource	Description	Legal values
ND*defaultViewName	If it is specified (commented out by default), this resource indicates the full path name of the view description file to restore automatically when Network Viewer starts.	A view description file full path name
ND.geometry	This resource specifies the default size of the Network Viewer window in terms of X geometry.	Standard X windows geometry specification
ND*mainWindow.width ND*mainWindow.height	These resources specify the default size of the Network Viewer window in terms of width and height (defaults to 750x649)	Width and height in pixels
ND*showAllLabels	If True, Network Viewer displays all node labels by default. Default is False. This setting is now controlled by the Preferences Dialog.	True or False
ND*reverseShelf	If True, displays DPN 100 shelf 0 at the bottom of the display. If False, displays DPN 100 shelf 0 at the top of the display.	True or False
ND*confirmExit	If True (default), Network Viewer prompts with a confirmation dialog when Exit is selected. If False, Network Viewer directly exits.	True or False
*fontList	If a fontList resource is added to Network Viewer's resource file, or your.*Xdefaults* file (NV.*fontList) and the default font is set to "Default" in MSM's font menu, the specified font is used by Network Viewer (usually not specified).	Available font name

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Table 4 (Continued)
Resources that you can customize in the Network Viewer

Resource	Description	Legal values
*multiClickTime	This resource specifies the maximum time (in milliseconds) between two consecutive mouse clicks to recognize a double click.	Time in milliseconds
ND*orgDblClickAction ND*orgShiftDblClickAction ND*orgMetaDblClickAction . . .	These resources control what happens when you double-click on a node, a link, or a subcomponent in the Network Viewer tool while the Shift key is pressed, the Control key is pressed, the Meta key is pressed, or no key is pressed.	See the description in resource file Network Viewer.
ND*showIconBar	If True, the command icon bar is displayed in the main Network Viewer window. If False, the command icon bar is not displayed. This setting is now controlled by the Preferences Dialog.	True or False
ND*allowViewPositions	This resource indicates if Network Viewer displays the toggle button in the *Save* and *Restore view* dialogs, allowing you to save/restore the modified node/bendpoint positions to/from the view.	True or False
ND*preferViewPositions	This resource indicates if *view* positions are preferred. This results in the default value of the toggle button in the *Save* and *Restore view* dialogs. It also determines if positions should be restored when the default view is restored at startup and when a view is opened through the icon bar.	True or False

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Table 4 (Continued)
Resources that you can customize in the Network Viewer

Resource	Description	Legal values
ND*gridOn	This resource indicates if the Positioning Grid is enabled by default. This setting is now controlled by the Preferences Dialog.	False
ND*gridWidth	This resource indicates the width of the Positioning Grid cells. This setting is now controlled by the Preferences Dialog.	80
ND*gridHeight	This resource indicates the height of the Positioning Grid cells. This setting is now controlled by the Preferences Dialog.	50

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Customizing color and display attributes

Your Preside Multiservice Data Manager (MDM) system administrator can customize the following display attributes for you. See the section on customizing the toolsets and start tools menus in 241-6001-301 *Preside MDM Customization Administrator Guide*.

- color
  - — state color mappings for nodes and links
  - — background color when no maps are used
  - — rubber band and label colors
- double-clicking actions
- initial size of Network Viewer display window
- view space dimensions (when no background maps are used)
- initial organization or named view
- initial component label display state
- double-click speed

- backbone definition and custom override definition for component filtering

Troubleshooting

While Network Viewer is running, the network model may be edited either manually through the NetworkViewer in edit mode, or automatically. Network Viewer is informed of network model changes of the types listed in the table "Network model actions and results" (page 99) and updates its display.

Table 5
Network model actions and results

Network model action	Network Viewer result
Link Deleted	If the link is currently displayed, it is removed from the display.
Node Deleted	If the node is currently displayed, it and any attached links are removed from the display. If a Subcomponent or Shelf dialog is currently up for this node, they are removed.
Subcomponent Deleted	If the subcomponent is currently displayed in a shelf dialog, its state is set to INVALID. If the subcomponent is currently displayed in its parent node's subcomponent dialog, the component is removed from the dialog's component list.
Link Created	If both endpoints of the link are currently displayed, the link is added to the display. The link is drawn with any bendpoints that are defined for the link. (If either of the link's endpoints are not defined in Network Viewer, the link is ignored.)
Node Created	If the parent of the new node is currently expanded on the display, the node is added to the display. If coordinates are defined, the node appears in the defined position; otherwise, it appears in the top left-hand corner of the Network Viewer display. If created manually, it appears with a *grid cyclic* policy.

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Table 5
Network model actions and results

Network model action	Network Viewer result
Subcomponent Created	If the subcomponent has a shelf location and the shelf is currently displayed, the state display of the subcomponent changes from INVALID to the subcomponent's reported state. If the parent node's subcomponent dialog is currently displayed, the subcomponent is added to the dialog's component list.
Node Reassigned	If the node is currently displayed and the new parent is not currently expanded, the node is removed from the display. If the node is not currently displayed and the new parent is currently expanded, the node is displayed.
Model Locked	Network Viewer displays a *lock* icon indicating that no surveillance information is available until further notice.
Model Unlocked	If no submessage indicates the change that was made to the model while it was locked, Network Viewer removes the *lock* icon, indicating that surveillance information is now available.
	New Model A new model is loaded into shared memory. Network Viewer displays a dialog indicating this, explaining that the Network Viewer display needs to be re-initialized from the network model. You may either confirm the reinitialization (Load new model) or terminate Network Viewer (Exit Application). If you confirm, Network Viewer clears the display and reinitializes its internal model. After initialization is complete, it displays the top level organization nodes of the new model.
Model in Editing mode	Either this Network Viewer or another Network Viewer is used to edit the model. A caution icon is displayed at the right of the status label.

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Table 5
Network model actions and results

Network model action	Network Viewer result
Node or bendpoint position changes	If a node or bendpoint position is changed by another Network Viewer in edit mode, the new positions are received, but are displayed only if the *Set Shared Model Positions for All Nodes and Links*, or the *Set Shared Model Positions for Selected Nodes and Links* command is invoked from the *View* menu.
CDF (Component Data File) loaded in the model	You can make these changes. Effects on the model are indicated in the changes described in this section.
PI or card type is changed	If the shelf dialog is up, the shelf is redisplayed to match the new information.
Module or shelf type changes	The node is destroyed and reconstructed to match the new type. If the shelf or subcomponent dialogs are up, they are brought down and need to be re-invoked manually.
(Sheet 3 of 3)	

If the connection to the network model is lost or the network model becomes inconsistent, a dialog is displayed to indicate this problem. It allows you to exit the Network Viewer application since the network model is crucial to its operation. Restarting the Network Viewer usually solves the problem; otherwise, contact your Preside Multiservice Data Manager (MDM) system administrator.

Network Viewer interface

Network Viewer is a network component state surveillance tool that displays the network topology in a graphical format. Network Viewer is used for the detection of faults in a DPN/Passport/MPE 9500 network.

Table 6
Network Viewer features

Feature	Description
Graphical view	View the network down to the port level. View different organizational levels of the network at the same time. Display a defined map in the background
Textual view	Textually display all subcomponents.
Component state	Indicated by the color of the component icon or link line. Color is also used in the textual view. Put components into maintenance or acknowledged modes.
Look and feel	Customize your view of the network. Display subcomponents by a shelf icon or textual list. Temporarily position nodes and links on the screen. Zoom in and view different areas of the network.
Navigation	Use the Component Finder. Move through the levels of the organization using organization or background navigation.

(Sheet 1 of 2)

Table 6 (Continued)
Network Viewer features

Feature	Description
Access	Directly access the Component Information Viewer. Access your tools and macros.
Edit the network	Edit and organize the network through the Network Viewer editor.
(Sheet 2 of 2)	

Network Viewer collects information about the network from the MDM Network Model Server (nmserver), to build a color graphics representation of the active network model. State changes are received asynchronously from the nmserver and are displayed in the Network Viewer. State changes are indicated by network component color changes. See “About component states and colors” (page 105) for more information about state representation.

Users can interact with the network diagram using the various menus and dialogs built into the Network Viewer tool.

Network Viewer supports the following modes of operation:

- surveillance - to monitor network element states and navigate the node
- edit - to edit and organize the network node itself

Network models are organized such that nodes are collected into organizational groups called sites. Sites, in turn, are grouped into regions. Sites and regions are represented in the network model by logical (rather than physical) nodes. These organizational nodes allow a group of nodes to be monitored for a fault by monitoring just one organizational node rather than a multitude of physical nodes. When a fault is reported for an organizational node (for example, a region), the user can then navigate the network model organization to reach the actual component that is experiencing the fault. For more information on network models, see 241-6001-015 *Preside MDM Network Model Administrator Guide*.

Note: This method of fault monitoring is not mandatory. If you prefer, and your network model is manageable in terms of the overall number of components, you can immediately expand the entire network so that all physical nodes are being directly monitored.

For more information on the Network Viewer, see 241-6001-011 *Preside MDM Fault Management User Guide*.

Navigating the network model

Navigating the network model can be done by using the following:

- expansion and compression operations
- textual display of regions and sites
- NV Finder
- component filtering

Expansion and compression

The Network Viewer navigates the network model component hierarchy by expansion and compression. Expansion replaces the organizational node with the contents of that node one level down the model hierarchy. Compression is the reverse operation of expansion; the contents of the organizational node are replaced by the organizational node itself.

Using the expansion and compression operations, you can navigate the model by the following methods:

- in-place
- exclusive
- in a new window

Regions and sites can be expanded and compressed without changing the background on which the diagram is drawn. Since the background map is not changed during these operations, expand and compress are referred to as being performed in-place.

Exclusive expansion displays only those nodes and links contained in the expanded organizational node, hiding all other nodes.

Expanding in a new window provides an exclusive expansion in a new subwindow.

Textual display of regions and sites

Regions and sites can be opened as a textual dialog, showing the name and state of its child nodes and links. Module nodes themselves can be opened to show their subcomponents (name and states) textually. Some module types also support a graphic shelf display of their subcomponents.

NV Finder

The Network Viewer provides a component finder that changes the network display area of the current window so that it immediately displays the desired. For more information on the Finder, from the View menu, select *Find*. A NV Finder dialogue is displayed. Click the Help button in this dialog.

Component filtering

Network Viewer supports component filtering in order to route the number of nodes and links being displayed at once to those matching a number of filtering options including state and various types of overrides. This filtering can also be applied to textual dialog of regions and site nodes.

About component states and colors

A component in the network model is assigned a raw state value that describes its current operating condition. Components can be in one of the following raw states:

- in-service (INSV) which indicates the component is fully functional
- in-service—troubled (INST) which indicates the component is operating in a degraded or impaired manner
- out-of-service (OOS) which indicates the component is not operational
- unknown (UNK) which indicates the component is in-service but is not known to the MDM

In addition to pure state information, network model components are assigned a value ranging from 1 to 5. These numeric values reflect the criticality of the component to the overall network. To make state information readily discernible, the Network Viewer also assigns a range of colors to the troubled and out-of-service states.

The mapping of state and criticality to colors is shown in the NV Legend dialog. To open this dialog, from the Options menu, select *Legend*. When a node, link, or subcomponent is selected in Network Viewer, its corresponding state-color mapping is highlighted in the NV Legend dialog.

Network Viewer main window

The Network Viewer main window is composed of three areas:

Item	Description
Menu bar	Contains many commands for interacting with the Network Viewer. These commands are described in the Menu Bar Commands heading. Menu bars can be hidden or displayed using the corresponding command in the Options menu. When a menu bar is hidden, the Options menu can be accessed using the background Network Viewer popup menu.
Icon bar	Contains a selection of push-buttons that start the most common Network Viewer commands and external tools. To start a tool or action item, select the target nodes or links and then select the appropriate push-button in the icon bar.

Item	Description
	There are in fact two icon bars, one for surveillance mode and another for edit mode. The default surveillance-mode icon bar offers internal actions like *Expand*, *Compress*, *Open Shelf* and *Open Subcomponent.* The edit-mode icon bar adds access to the most common model editing commands. The icon bar can be hidden or displayed using the corresponding command in the Options menu. When the icon bar is hidden, the non internal items it contains may be invoked through the Start Tool menu. By default, the Start Tool menu and the icon bar contain the same list of tools Note that the contents of the icon bar can be customized similar to the various tool menus available for nodes, links, and subcomponents.
Network display	Provides a graphical representation of the network that consists of nodes and trunks. Nodes are represented by icons; trunks are represented by lines between nodes. The entire network diagram may, or may not, be visible in the display area. What appears in the display area depends on the dimensions of the current network diagram as defined in the network model, the amount of zooming that has already been performed, and the size of the Network Viewer window. If needed, you can scroll the image in the display area.

Menu Bar Commands

The menu bar organizes commands into the following groups:

File menu	Provides commands related to files and a means to exit the Network Viewer tool.
Edit menu	Provides selection and de-selection commands.
View menu	Provides a means to control which nodes are shown in the network display area. Network model navigation and background zooming can also be performed with these commands.
Options menu	Allows you to control the display of menu bars, icons bars, node labels, background maps, and legends. It also enables you to set preferences and filters.
Network model editing menu	Allows you to enter the edit mode and access the various editing commands or exit edit mode.
Start tool menu	Allows you to launch other selected tools from within Network Viewer.
Help menu	Displays online help about the Network Viewer.

Additional information for the File, Edit, View, and Options menus is available from the Help menu.

Network Viewer popup menu

If you hide the display of the menu bar, you can continue to access menu bar commands by using the background Network Viewer popup menu. This popup menu contains the same commands as those available from the Menu bar. To access the Network Viewer popup menu, move the pointer onto the background of any network display area and press the mouse *Menu* button.

Network Viewer File Menu

The File menu contains commands that perform actions on files as well as actions on the application as a whole. The Network Viewer File contains the following commands:

Save View	Stores a description of the current Network Viewer view in its file if a current view is known. Otherwise, it is equivalent to the *Save View as…* command.
Save View as…	Opens a Save View dialog that allows you to specify a file to store the current Network Viewer view description. This view description contains information that includes the current map node, displayed map, current view and zoom on the map, current positioning grid parameters, visible nodes that show their labels, nodes that are expanded in place, and nodes that are expanded in subwindows. Views may optionally store positions for nodes that have been moved. Note that the current component filtering state (on or off) is not saved in the view description. Optionally, the current filter setting may be saved with the view. If allowed by customized resources, the node positions are also saved.
Restore View…	Opens a Restore View dialog that allows you to specify a file from which a Network Viewer view description will be restored and made current. If allowed by customized resources, node positions are also restored. If you have subwindows open as a result of the *Expand in New Window* command and if customized resources permit, a dialog prompting for confirmation opens to prevent accidental closures.
Reload Model…	Enables you to force reload the network model into the Viewer. This may be needed if you have chosen to ignore network increment notifications and you now want to synchronize the Viewer with the model.

Compress parent node which closes this window and its subwindows	This command replaces *Exit* in subwindows created by the *Expand in New Window* command and closes the current subwindow. If the subwindow is a region containing sites that have also been expanded in new windows, those site windows are also closed. All other windows remain open.
Exit	Causes the Network Viewer to exit. All windows associated with the Network Viewer tool are removed from the workstation screen. A dialog appears prompting you for confirmation and, if applicable, to save any modified component filter settings.

Network Viewer Edit Menu

The Edit menu contains commands for performing actions on the current data of the application. This includes selecting and deselecting all the visible nodes and trunks, as well as placing selected nodes and trunks into context. The Network Viewer Edit menu contains the following commands:

Select all Nodes and Links	Selects all of the displayed nodes and trunks.
Deselect all Nodes and Links	Deselects all of the displayed nodes and trunks.
Put Selected Nodes and Links in Context	Places the currently selected nodes and trunks into context.

Network Viewer View Menu

The View menu contains commands that change the view of the application data. In the Network Viewer, this includes commands for navigating the network model, zooming on the background, opening the Finder, and controlling the component filtering state. Also refer to the *Save View…* and *Restore View…* commands of the File menu. The Network Viewer View menu contains the following commands:

Find…	Opens the NV Finder dialog. The finder operates across all display windows. The window containing the found node is brought to the front.
Set Filtering on	Enables component filtering. Filter settings apply across all display windows. The network is redisplayed with only the components (nodes and links) that pass the current active filter settings. To change filter settings, from the Options menu, select *Change Filter Settings…*. This setting is also controlled and saved along with the Network Viewer preferences through the Preferences dialog. *Set Filtering on* is available only when filtering is already off.
Set Filtering off	Disables component filtering and reverts the display to show all visible nodes and links. Filter settings apply across all display windows. This setting is also controlled and saved along with the Network Viewer preferences through the Preferences dialog. *Set Filtering off* is available only when filtering is already on.
Show Excluded Organizational Nodes	Displays the excluded organizational nodes for the current organization (EXCL_REGION and EXCL_SITE). By default, these nodes are hidden. This filter effect normally applies to just the main window. However, if EXCL_REGION and EXCL_SITE are shown and are expanded in one or more new windows, hiding the excluded nodes closes those windows. It is also controlled and saved along with the Network Viewer preferences through the Preferences dialog. *Show Excluded Organizational Nodes* is available only when excluded nodes are already hidden.
Hide Excluded Organizational Nodes	Hides the excluded organizational nodes for the current organization (EXCL_REGION, EXCL_SITE). It is also controlled and saved along with the Network Viewer preferences through the Preferences dialog. *Hide Excluded Organizational Nodes* is available only when excluded nodes are already shown.

Open Selected Organization	Shows the first level organizational nodes of the selected network model organization. This command is available only when viewing the organizations of the network model. If no organizational nodes are selected, this command does nothing. If more than one organizational node is selected, this command operates on the first node in the select list. You can also open an organization from the Node popup menu by selecting *Open Organization,* or you can double-click on the organizational icon.
Expand Selected Nodes in Place	Expands the selected nodes to show their child nodes. The background is not changed and the only nodes removed from the display are the nodes that were expanded. You can also expand organizational nodes from the Node popup menu by selecting *Expand in Place*, or you can double-click on the organization icon.
Full Expand Selected Nodes in Place	Works much like the *Expand Selected Nodes in Place* command except that if there is more than one organizational levels of nodes below the nodes that are to be expanded, they are also expanded. This command provides quick access to physical level nodes. You can also fully expand organizational nodes from the Node popup menu by selecting *Full Expand in Place,* or you can double-click organizational node icons while holding the Shift key.
Expand Selected Nodes Exclusively	Expands selected nodes to the next lower level and removes all other nodes from the display. Unexpanded nodes remain hidden until all lower level nodes are compressed.
Full Expand Selected Nodes Exclusively	Expands selected nodes to their lowest level and removes all other nodes from the display. Unexpanded nodes remain hidden until all lower level are compressed.

Expand Selected Nodes in New Window	Expands a selected organizational node to its next lower level in a new window (that is, a subwindow of the main Network Viewer window).
Full Expand Selected Nodes in New Window	Expands a selected organizational node to its lowest level in a new window (that is, a subwindow of the main Network Viewer window).
Compress Selected Nodes in Place	Is the complement operation of *Expand Selected Nodes in Place*. This command replaces selected nodes and their sibling nodes with the parent or organizational node. If the compressed nodes are the last visible nodes of a given level (i.e. modules or sites), all hidden nodes of the next level up are made visible. You can also compress selected nodes from the Node popup menu by selecting *Compress Node in Place*, or you can double-click organizational icons while holding down the Control key.
Select a New Organization to View	Causes the network model organizations to be displayed so that one can be selected for viewing. A confirmation dialog is displayed if one or more subwindows have been opened using *Expand in New Window*. If this operation is confirmed, all subwindows are closed.
Snap to Grid	Causes the Network Viewer to position nodes and bendpoints to the nearest intersection of an invisible grid when the node or bendpoint is moved, therefore achieving a neat layout. This setting applies across all display windows. It is also controlled and saved along with the Network Viewer preferences through the Preferences dialog. *Snap to Grid* is available only when the grid is already disabled.

Do not Snap to Grid	Prevents the Network Viewer from calling nodes and bendpoints to the invisible grid when they are moved. This setting applies across all display windows. It is also controlled and saved along with the Network Viewer preferences through the Preferences dialog. *Do not Snap to Grid* is available only when the grid is already enabled.
Set Shared Model Positions for All Nodes and Links	Causes all node positions and link bendpoints to change back to their network model values (which may have changed). This operation applies across all windows.
Set Shared Model Positions for Selected Nodes and Links	Causes selected node positions and link bendpoints to change back to their network model values (which may have changed). This operation applies to the current window only.
Align and Distribute Selected Nodes	Aligns all selected nodes with the top left node and spaces them according to the Node Spread value in the NV Preferences dialog.
Zoom	Allows the user to fit a view to a window or to change the magnification of the current network view. When you select the Zoom command, a submenu opens containing the Fit to Window command, the No Zoom command, and various magnification values. The Fit to Window command scales the Network Viewer display so that the entire network graph is visible in the current window size. The No Zoom command removes any existing magnification from the current window. When you select a magnification value, the center of the newly magnified display remains the same as that of the previous display

Network Viewer Options Menu

The Options menu contains commands that allow you to customize the application. In the Network Viewer, commands are provided to control the display of menu bars, icon bars, node labels, background maps and legends; to set preferences and filters. The Network Viewer Options menu contains the following commands:

Show Menu Bar	Displays the menu bar, if already hidden. You can access this command from the background Network Viewer popup menu by selecting Options *--> Show Menu Bar*.
Hide Menu Bar	Hides the display of the menu bar in the current window. To restore the display of the number, from the Network Viewer popup menu, select *Options --> Show Menu Bar.*
Show Icon Bar	Displays the icon bar visible in the current window. This setting is also controlled and saved along with the Network Viewer preferences through the Preferences dialog. *Show Icon Bar* is available only when the icon bar is already hidden.
Hide Icon Bar	Hides the display of the icon bar in the current window. This setting is also controlled and saved along with the Network Viewer preferences through the Preferences dialog. *Hide Icon Bar* is available only when the icon bar is already visible.
Show all Menu Bars	Displays the menu bars in all windows, if already hidden. You can access this command from the background Network Viewer popup menu by selecting Options *--> Show all Menu Bars*.
Hide all Menu Bars	Hides the display of menu bars in all windows. To restore the display of menu bars, from the Network Viewer popup menu, select *Options --> Show all Menu Bars.* This setting is available only when subwindows have been opened as a result of *Expand in New Window*.

Show all Icon Bars	Displays icon bars in all windows. This setting is available only when subwindows are open as a result of *Expand in New Window* and icon bars are already hidden.
Hide all Icon Bars	Hides the display of icon bars in all windows. To restore the display of icon bars, from the background Network Viewer popup menu, select *Options --> Show all Icon Bars.* This setting is available only when subwindows are open as a result of *Expand in New Window* and icon bars are already shown.
Show all Node Labels	Displays the node ID immediately below all nodes that are showing the polygon icon in the current window. This setting is also controlled and saved along with the Network Viewer preferences through the Preferences dialog. *Show all Node Labels* is available only when nodes already hide their labels.
Hide all Node Labels	Hides the display of node IDs. This setting is also controlled and saved along with the Network Viewer preferences through the Preferences dialog. *Hide all Node Labels* is available only when nodes already show their labels.
Show Map	Displays the graphic details of the current background map in the window. This setting is also controlled and saved along with the NV preferences through the Preferences dialog. *Show Map* is available only when the background map is already hidden.
Hide Map	Hides the display of the current background map. It is also controlled and saved along with the NV preferences through the Preferences dialog. *Hide Map* is available only when background map is already displayed.

Show all Maps	Displays maps in all windows. This setting is available only when subwindows are open as a result of *Expand in New Window* and maps are already hidden.
Hide all Maps	Hides the display of all maps. This setting is available only when subwindows are open as a result of *Expand in New Window* and maps are currently displayed.
Change Preferences…	Opens the NV Preferences dialog. Preferences apply across all windows.
Change Filter Settings…	Opens the NV Filter Settings dialog. Filter settings apply across all windows.
Legend…	Opens the NV Legend dialog.

Network Model Edit Menu

The Editing menu provides commands that let you edit the network model. The Network Viewer has two modes of operation: surveillance mode and edit mode. Use the commands in the Network Model Edit menu to open and close an edit session and to make modifications to the network model. The Network Model Edit menu contains the following commands:

Enable Network Model Editing…	Opens a network model editing session. (This command is available only if Network Viewer is in surveillance mode.) If a password is specified to the targeted Network Model Editing Server, a dialog appears asking you to provide it. If another administrator is already editing the model or if an error occurs, an error dialog is displayed. If nodes were moved since the Network Viewer was started, a dialog appears asking if the Model should be synchronized to the Network Viewer positions or vice versa.
Leave Network Model Editing…	Allows you to return from editing mode into the surveillance mode. A dialog appears offering to save the model before leaving the editing mode.

Create New Network Model…	Opens the Create New Model confirmation dialog. If confirmed, the current model is cleared out and an “empty” one is created.
Load/Change Network Model File…	Opens the Network Model File Manager dialog, which allows you to load, delete, or rename network model files. This command is available from the Icon Bar.
Apply/Change Network Model Collections…	Opens the Collection Manager dialog, which enables you to control the collection and application activities as well as remove or delete them. This command is available from the Icon Bar.
Save Network Model…	Opens the Network Model File Save dialog, allowing you to save the current model to file and possibly commit it. This command is available from the Icon Bar.
Show Warnings…	Opens the Warning Messages dialog to display warning messages from the model loading, if any.
Create Organizations…	Opens the Create Organization dialog, which enables you to create a new organization structure. This command is available only when the Network Viewer’s main window is currently displaying the Organization Structure root nodes.
Delete Selected Organizations…	Opens the Component Delete dialog, which enables you to delete the selected organization structures if confirmed. This command is available only when the Network Viewer’s main window is currently displaying the Organization Structure root nodes.
Create/Edit Node…	Opens the Create/Edit Component dialog, which enables you to create or edit a node or subcomponent. If a single node is currently selected, the dialog will already contain its description. This command is also available from the Icon Bar.

Create/Edit Link…	Opens the Create/Edit Link dialog, which enables you to create or edit a link. If a single link is currently selected, the dialog will already contain its description. This command is also available from the Icon Bar.
Delete Selected Components…	Opens the Component Delete dialog, which enables you to delete all selected components in the Network Viewer's main window if confirmed.
Collect Data for Module Group…	Opens the Data Collection dialog, which enables you to collect configuration data on a node or group of nodes (OA, Passport Group, or Passport 4400, MPE 9500 Group).
Save Components...	Opens the Components Save dialog. This dialog lets you save any or all components from the model being edited to a collection data file (CDF). Optionally, you can save related links and organizations in the CDF.
Set Organization Map…	Opens the Set Map dialog, which enables you to indicate the background pixmap file (XPM3 format) to associate with the current organizational structure.
Detach Organization Map	Detaches the current organization structure background map.
Select new Modules	Automatically expands in place the NEW_REGION and NEW_SITE organization node and selects all the contained nodes. This is useful to organize new nodes.
Deselect New Modules	Deselects all selected new modules (modules part of the NEW_SITE organizational node).

Show New Modules…	Opens the Component List dialog with the names of all the nodes part of the DEFAULT_SITE organizational node.
Show Excluded Modules…	Opens the Component List dialog with the names of all the nodes which are part of the EXCL_SITE organizational node and therefore not usually visible in the display.

Network Viewer Node

Network Viewer nodes reflect the type and state of network model nodes, both organizational and physical, using graphical icons. DPN and Passport nodes also support another icon called “shelf” (note that the shelf icon is only available as a dialog; shelf icons are too large and detailed to be opened in the network display area of the Network Viewer).

When they are selected, the nodes’ component IDs are put in Context. Nodes also support a drag operation to transfer their component IDs to other tools and dialogs.

Select the nodes you want to move, then drag them while holding the shift key. When you move nodes, they snap to a grid if the grid is enabled. If you select and move a group, then the whole group snaps to grid if the grid is enabled.

Node editing

For node editing, use the following commands:

Edit	This submenu contains commands that are available only in Model Editing mode. These commands are: Change… Opens the Create/Edit Component dialog, which enables you to edit the node. The dialog is prefilled with the node’s description.

	Delete… Opens the Delete Components dialog, which enables you to delete the node if confirmed.
	Collect Data… Opens the Data Collection dialog, which enables you to start a configuration data collection for the node.
	Add Subcomponent… Opens the Create/Edit Component dialog, which enables you to add subcomponents to the node.
	Add Links… Opens the Create/Edit Link dialog, which enables you to add links to the node.
	Show Related Links… Opens a Component List dialog containing the names of all links terminating on the node or its subcomponents.
Show Shelf…	For DPN devices, opens a separate dialog containing the node's shelf icon; for Passport multiservice devices, opens the Passport Surveillance Shelf View tool.

Show Subcomponents…	Opens a dialog window containing a list of all the node's subcomponents. When this command is selected, there may be a short delay while the subcomponent information is retrieved from the network model. If the node does not support subcomponents, this command is not available for that node. If the subcomponent dialog is already open, selecting this command a second time raises the subcomponent dialog window. If the subcomponent dialog is being invoked for the first time, then it is opened in All Subcomponents mode by default. Alternatively, the subcomponent dialog may be invoked by double-clicking the node icon. In this case, the dialog will be opened in Troubled Subcomponent mode. In all cases, only the components with criticality equal or greater to the Criticality Cutoff Preference value (see Set Preferences in the Options menu) are fetched and initially displayed.
Show Children	Available in region and site nodes, this command opens a textual dialog similar to that of Show Subcomponents, but showing the nodes and links contained in the region or site. This command invokes the Components Dialog for the current node to show in a textual fashion all its children nodes and links. This command is available only if the current node is an Organizational Node.
Open Organization	Clears the current network display area and displays the first level of organizational nodes in the network model organization represented by the node. This command is available only for organizations of network models. It is disabled for all other node types. Alternatively, an organization may be opened by double-clicking its icon.
Expand in Place	Replaces the node for which the menu was popped up with its subordinate nodes. The background is not changed. If the node does not have any subordinate nodes the command is not available. Alternatively, an organizational node may be expanded by double-clicking its icon.

Full Expand in Place	Operates exactly like the previous “Expand in Place” command except that it ensures expansion continues to the lowest level (i.e., physical) of the network model. Alternatively, an organizational node may be full expanded by double-click its icon while holding the SHIFT key.
Expand Exclusively	Replaces the node for which the menu was popped up just like “Expand in Place” but only the expanded nodes will be left visible on screen. All unexpanded nodes are hidden until compressed.
Full Expand Exclusively	Acts just like “Full Expand in Place” except that only the expanded nodes are left visible on screen. All unexpanded nodes are hidden until compressed.
Expand in New Window	Performs an exclusive expansion of an organizational node to the next lower level in a new window (that is, a subwindow of the Network Viewer main window).
Full Expand in New Window	Performs an exclusive expansion of an organizational node to the lowest level in a new window (that is, a subwindow of the Network Viewer main window).
Compress in Place	This command is the complement operation of the *Expand in Place* command. It removes selected nodes and any organizational siblings from the display and replaces them with parent nodes. If the compressed node is the last visible node of a given level (i.e. modules or sites), all hidden nodes of the next up level (due to a previous Expand Exclusive) are made visible. Alternatively, you can compress a node by double clicking its icon while holding down the CONTROL key.
Show Label	Display’s the node’s identifier below the icon. This command appears only if the node is not already showing its label. This command is available only when the node is showing its polygon icon.

Hide Label	Removes the node's identifier from below the icon. This command appears only if the node is already showing its label. This command is available only when the node is showing its polygon icon.
Cluster Connected Nodes…	Repositions all (unpinned) nodes connected to this node so that they neatly surround it.
Cluster Child Nodes…	Available only on organization nodes, this command expands the node and automatically repositions all its (unpinned) child nodes so they are neatly located around the position where the node was before it was expanded.
Pin	Available only on unpinned nodes, this command pins the node in its current position. The cluster operations described above will not alter its current location. It is still possible to move the node with the Select mouse button.
Unpin	Available only on pinned nodes, this command removes the relocation restriction so that further Cluster operations may affect its current position.
Move to Previous Position	Moves a node to the position it last occupied before it was moved. If the node has not been moved since Network Viewer was started, this command is not available.
Move to Shared Model Position	Moves a node to the position it first occupied when the network model was initially loaded into the Network Viewer regardless of how many times the node has been moved since then. If the node has not been moved since Network Viewer was started, this command is not available.

Set Acknowledged State on/off	Enables you to put a node into acknowledged state, temporarily masking its current state (contrary to “Set Maintenance State” describe below which masks it permanently, the acknowledgment is automatically removed when the state changes). Activating “Set Acknowledged State off” on the node which was target of the original acknowledge state, will re-instate the its current state.
Set Maintenance State on/off	Enables you to put a node into maintenance state, permanently masking its current state. Activating “Set Maintenance State off” on the node which was target of the original maintenance state, will re-instate the its current state.
Start Tool	Allows you to access various tools that may be started for the node. You can customize the Start tool menu. For details, see 241-6001-301 *Preside MDM Customization Administrator Guide*.

Network Viewer Node Subcomponent

Currently, all node subcomponents in Network Viewer support the same set of commands.

When a subcomponent is selected, its component ID is put in Context. Subcomponents all support a drag operation to transfer their component IDs onto other tools and dialogs.

Network Viewer Node Subcomponent supports the following commands:

Edit	Contains commands that are available only in Model Editing mode (NVEd). These commands are: Change Invokes the Create/Edit Component dialog, which enables you to edit the subcomponent. The dialog is prefilled with the subcomponent's description. Delete Invokes NVEd's Delete Components dialog, which enables you to delete the subcomponent if confirmed. Add Subcomponent Invokes the Create/Edit Component dialog, which enables you to add subcomponents to the subcomponent Show Related Links Invokes a Component List dialog containing the names of all links terminating on the subcomponent or its subcomponents.
Set Acknowledged State on/off	Enables you to put a subcomponent into acknowledged state, temporarily masking its current state (contrary to "Set Maintenance State" describe below which masks it permanently, the acknowledgment is automatically removed when the state changes). Activating "Set Acknowledged State off" on the subcomponent which was the target of the original acknowledged state, will re-instate the subcomponent to its current state.

Set Maintenance State on/off	Enables you to put a subcomponent into maintenance state permanently masking its current state. Activating “Set Maintenance State off” on the subcomponent which was the target of the original maintenance state, will re-instate the its current state.
Start Tool	Allows you to access various tools that may be started for the subcomponent. You can customize the Start tool menu. For details, see 241-6001-301 *Preside MDM Customization Administrator Guide*.

Network Viewer Trunks/Links

Network Viewer Trunks/Links reflect the state of network model links according to their color. DNL and DBNL links are also shown using a dashed line. All other link types are drawn with a solid line.

When links are selected, their component ID is put in Context. Links support the drag operation to transfer their component IDs onto other tools and dialogs.

Network Viewer Trunks/Links support the addition, deletion, and repositioning of bendpoints.

Commands

Network Viewer Trunks/Links supports the following commands:

Edit	Contains commands that are available only in Model Editing mode (NVEd). These commands are: Change Invokes the Create/Edit Link dialog, which enables you to edit the node. The dialog is prefilled with the link’s description.

	Delete Invokes NVEd's Delete Components dialog, which enables you to delete the link if confirmed.
Spread Links	Distributes all links evenly between this link's endpoint nodes for better legibility. This is done by setting a bendpoint at the center of each link and spreading them on either side of the midline between the two nodes. The spread links' existing endpoints, if any, are lost. This option is available only if there is more than one link between the two. This can also be done by double-clicking on the overlapping links.
Add a Bendpoint	Adds a new bendpoint to the trunk for which the object menu was popped up. If the trunk already has one or more bendpoints, the new bendpoint divides the segment of the trunk for which the object menu was popped up. The user is required to position the bendpoint before the command completes. Bendpoints will be positions in accordance with the current grid settings.
Show Bendpoint Handles	Places a small rectangle, called a "handle", over each bendpoint in the trunk so that bendpoints can be moved or individually removed. This command is not shown if the bendpoint handles are already being shown.
Hide Bendpoint Handles	Removes the handles from each bendpoint in the trunk. This command is not shown if the bendpoint handles are not currently visible.
Delete all Bendpoints	Deletes all of the bendpoints from the current trunk. This command is not available if the trunk has no bendpoints.

Set Shared Model Bendpoints	Available only if the bendpoints have changed, this command removes the current link bendpoints and replaces them by bendpoints positioned according to the shared model contents.
Start Tool	Allows you to access various tools that may be started for the subcomponent. You can customize the Start tool menu. For details, see 241-6001-301 *Preside MDM Customization Administrator Guide*.

Network Viewer Bendpoint

Bendpoints allow multiple links between a pair of nodes to all be viewed simultaneously. When a pair of nodes has multiple links between them, each link is drawn on top of the other, so that only the topmost link is actually visible. By adding bendpoints to these links, they can all be monitored.

Bendpoints can also be used to route a link through the network diagram rather than have it draw a straight line between its endpoint nodes.

Bendpoints are displayed in one of two ways:

- with handles—a small rectangle is drawn over top of the bendpoint so that users can interact with them.
- without handles—the bendpoint only appears as a bend in the trunk providing a less cluttered display.

You can move the handle around to move the bendpoint. It will snap to the grid if the grid is enabled. If the entire link is selected, its bendpoints will move along with other selected nodes during a group move.

Commands

The following commands are available to operate on bendpoints:

Hide all Bendpoint Handles	Removes all handles from all bendpoints in the link.
Delete this Bendpoint	Deletes the bendpoint from the trunk. The segments on either side of the bendpoint are merged into one.

Network Viewer Legend

The NV Legend dialog provides an on-line reference for Network Viewer users to look up state-color mappings, node type icon shapes, and link line styles.

It is a “passive” dialog in that there are no operations available in the dialog that can affect the operation of the Network Viewer tool.

Dialog Layout

The NV Legend dialog is divided into four sections, as follows:

State-Color Mappings

This table lists DPN-MDM Network Model states in the table rows and DPN-MDM Network Model component criticality values in the table columns. Each entry in the table shows the color associated with a component of a given criticality when it is in any one of the valid states. When a node link or sub-component is selected in Network Viewer, its corresponding state-color entry is highlighted in the Legend dialog

This area of the dialog shows the icon for each type of node supported in MDM Network Models. Scroll bars are provided to enable viewing of all the nodes if there are more nodes than can fit in the scrolled window.

Link Type Line Styles

This area of the dialog shows the line drawing style used for the various link types supported by the MDM Network Model. Scroll bars are provided to enable viewing of all the links if there are more links than can fit in the scrolled window.

Dialog Buttons

This area of the dialog provides a set of buttons which operate on the dialog. For details of these buttons, refer to the “Commands” section of this help panel.

Commands

The NV Legend Dialog provides the following commands from the dialog buttons at the bottom of the dialog:

Close	Closes the NV Legend dialog.
Help	Displays online help.

Network Viewer Shelf Dialog

The NV Shelf Dialog provides an means of displaying a node’s shelf icon.

Selecting a valid subcomponent with the Select mouse button, will put its name in the Context and highlight its state-color mapping in the Legend Dialog. The valid subcomponents of the shelf support the subcomponent menu.

The Shelf Dialog cannot be resized.

Commands

The following commands are available for the NV Shelf Dialog:

Close	Closes the dialog.
Help	Displays online help.

Network Viewer Component Dialog

The NV Component Dialog provides a display of a child’s nodes/links in a textual form. It will notably display all the node components known to the network model, not just those displayed by the Shelf Dialog. The Component Dialog supports two display modes: All Components, or Filtered Components only that can be changed using the option menu items of the

same name in the dialog. In All Components mode, all the components are displayed. This is the default when invoking the dialog from the popup menu. In Filtered Components only mode, only the components that are accepted by the current filter settings of the main window. This is the default mode when the dialog is invoked from the icon bar.

The name of the components and their current state are displayed in a scrollable list. The state itself is displayed both by name and by color. Selecting a component or its state will display a frame around the line, put its name in the Context, and highlight its state-color mapping in the Legend Dialog.

The components are displayed in alphanumerical order. Links and nodes in the list support the same popup menus as in the main window. The same double click actions are also supported.

Commands

The following commands are available for the NV Component Dialog:

Close	Closes the dialog.
Help	Displays online help.
All Components	Puts the dialog in All Components mode.
Filtered Components only	Puts the dialog in Filtered Components only mode.

NV Component List

The Excluded modules Dialog is a drop site for modules. The whole dialog acts as a drop site representing the excluded site node icon. Dropping modules on that dialog exclude them from the current organization.

The New module Dialog is a drop site for modules. The whole dialog acts as a drop site representing the new site node icon. Dropping modules on that dialog will make them new modules for the current organization.

NV Subcomponent Dialog

The NV Subcomponent Dialog provides a display of a node's subcomponents in a textual form. It will notably display all the node subcomponents known to the network model, not just those displayed by the Shelf Dialog. The Subcomponent Dialog supports two display modes: All Subcomponents, or Troubled Subcomponents that can be changed using the options menu items of the same name in the dialog. In All Subcomponents mode, all the subcomponents are displayed. This is the default when invoking the dialog from the popup menu. In Troubled Subcomponents mode, only the subcomponents that currently have a troubled raw state indicated by the network (through alarms, status, state change notifications) are displayed even if they currently are in maintenance or acknowledged state. This is the default mode when the dialog is invoked by double-clicking the node, or from the Icon Bar.

When the dialog is initially invoked, only subcomponents with a criticality greater or equal to the Criticality Cutoff Preference value (see Set Preferences in the Options menu) are fetched from the model and displayed. If this value is set greater than 1 (the lowest possible value) a label is displayed at the top of the dialog indicating the cutoff. A command button, Load All, is also added to force load the missing components.

The name of the subcomponents and their current state are displayed in a scrollable list. The state itself is displayed both by name and by color. Selecting a subcomponent or its state will display a frame around the line, put its name in the Context, and highlight its state-color mapping in the Legend Dialog.

In All Subcomponents mode, the subcomponents are displayed in alphanumerical order. In Troubled Subcomponent mode, they are also sorted by name but they are displayed so the component that are not in maintenance nor acknowledged state appear first, followed by the acknowledged subcomponents and finally the maintenance subcomponents.

A menu is available from each subcomponent to invoke the applicable actions.

Commands

The following commands are available for the Network Viewer Subcomponent Dialog:

Load All	Loads all components. This command is only available if the dialog was invoked with a Criticality Cutoff Preference greater than one.
Close	Closes the dialog.
Help	Displays online help.
All Subcomponents	Puts the dialog in All Subcomponents mode.
Troubled Subcomponents	Puts the dialog in Troubled Subcomponents mode.

NV Finder Dialog

This dialog provides a way for a user to locate a particular node in the network. The finder dialog displays a simple representation of the current navigator, with the entire map space visible. The visible view space within the navigator window, which may be the entire map space if no zooming actions have been performed, is represented as a smaller rectangle within the finder's mini map of the network user space. Finally, when the user enters a node name which is to be searched for, a very small circle will appear in the finder's mini map representing the node and its position in the main navigator window.

The user may use the finder to move the node, or scroll the navigator view space in order to better see the desired node. Movement may be accomplished by clicking on the representation of the node (the little circle), holding the mouse button down, and dragging the cursor to the desired position. Releasing the mouse button completes the movement operation. Similarly, the navigator's view space may be scrolled using the finder by clicking and dragging the rectangle within the finder's map. Note that this last operation may only make sense if there has been some zoom operations in the navigator which create a view space smaller than the map itself. Otherwise, the user will not be able to see the small rectangle within the finder's map, since it will fill the entire map itself.

The Finder Dialog cannot be resized.

Commands

Clicking on an entry in the “Level Selection List” will cause the “Component Selection List” to be updated. The list is updated with all nodes matching the organizational level which was clicked on.

Clicking on an entry in the “Component Selection List” causes the text in the component ID field to be replaced with the text of the item which the user clicked on. Double clicking on an entry in the “Component Selection List” causes the component ID text to change and a “Find” operation to be done automatically.

The following commands are available for the NV Finder Dialog:

Find	Performs a find using the node name specified in the component ID field (which the user may enter by hand, or automatically through lists or context). If the node is not in the navigator, then the node’s parent or grandparent will be searched for instead. Expanding the parent in the navigator, will then automatically cause the finder to indicate the position of the child node. If neither the node or any ancestor is displayed in the navigator, then a message saying “<node> <some error message>” will be displayed near the top of the finder dialog. (This may result from an incorrect name, the node not being part of the present organization, or an organizational node having been expanded on the map thus leaving only its children visible.)
Get Context	Takes the name of the node in context, and puts in the component ID field. A “find” command is automatically done to locate the node in context.
Close	Closes the finder dialog.

Move View	Causes the view space to scroll so that the node comes within the visible display. This command is available if a node is presently being tracked. If the node is already well within the visible command, this command does nothing.
Move Node	Causes the node to move its position automatically so that it comes within the present visible display. This command is available if a node is presently being tracked. If the node is already well within the visible display, this command does nothing.
Help	Invokes help for the NV Finder Dialog.

NV Filter Settings Dialog

The NV Filter Settings Dialog allows you to modify the parameters used by Network Viewer's Component Filtering. The dialog determines the nodes and links settings to be displayed in the Network Viewer main window.

> ***Note:*** The Component Filtering must be on before using filter settings. For information on setting the Component Filtering to on, see "Network Viewer View Menu" (page 110).

The NV Filter Settings Dialog consists of the following areas:

- Node and Link States
- Special Overrides

At the top of the NV Filter Settings Dialog, there is a *Node States* area and a *Link States* area where you can select the Propagated States that a node or link must have to be displayed. For example, selecting node states of In-Service-Troubled-3, 4, and 5 displays nodes having troubled components of at least criticality 3 (typically PEs).

At the middle of the NV Filter Settings Dialog, there is a *But Ignore states to always* area where you select filter settings to override the effect of the state filter.

The following overrides are available in the *But ignore states to always* area:

Hide DPN-100/1s	Hides all DPN-100/1 nodes whatever their state
Hide MASs	Hides all MAS nodes whatever their state
Hide cross-level links	Hides all links crossing organizational levels (e.g. module-to-site, site-to-region, module-to-region) that are kept with In-Place Expansions whatever their state. NOTE: this filter has precedence over the other link type filters except for DNL/DBNLs. That is, if selected, cross-level links are always hidden even if they are backbone links or accepted by the Custom Filter but DNL/DBNLs are not affected and will be shown if the appropriate setting is selected).
Show DNL and DBNLs	Shows all DNL DBNL links whatever their state. Cross-level DNLs and DBNLs are always shown even if Hide cross-level links is selected. This override does mot apply to BWODs. BWODS are filtered like NLs.
Show backbone components	Shows backbone components (RMs, Passports, TKs and PTKs) whatever their state (the backbone node and link types can be customized through resources). Cross-level backbone links will not be shown if Hide cross-level links is selected.
Hide Passport trunks	Hides Passport trunks, regardless of their states.
Hide ATM links	Hides ATM links, regardless of their states.

You can apply the filter settings to the main Network Viewer display or save the filter settings to a user specific file (*${HOME}/MagellanNMS/NVFilter.cfg*) that can be used at a later time.

Commands & Controls

The NV Filter Settings Dialog provides the following controls, which take effect immediately:

Node States	Provides a multi-select list (range selection discipline), which enables you to select the Propagated States a node must have to be displayed.
Link States	Provides a multi-select list (range selection discipline), which enables you to select the Propagated States a link must have to be displayed.
Hide DPN-100/1s	Enables you to specify whether DPN-100/1 nodes should always be hidden regardless of their state.
Hide MASs	Enables you to specify whether MAS nodes should always be hidden regardless of their state.
Hide cross-level links	Enables you to specify whether cross-level links should always be hidden regardless of their state.
Show DNL and DBNLs	Enables you to specify whether DNL and DBNL links should always be shown regardless of their state.
Show backbone components	Enables you to specify whether backbone components should always be shown regardless of their state. By default, backbone components are RMs, Passports, TKs, and PTKs.
Hide Passport trunks	Hides Passport trunks, regardless of their state.
Hide ATM links	Hides ATM links, regardless of their state.

The NV Filter Settings Dialog provides the following commands:

Use Filters	Applies the current filter settings to the main Network Viewer display and closes the dialog. You are prompted to save the modified settings when exiting Network Viewer.
Save to File	Saves the current filter settings to a user specific file (*${HOME}/MagellanNMS/NVFilter.cfg*). Save to File does not apply the current filter settings to the main Network Viewer display.
Restore from File	Restores the current filter settings from the user specific file (*${HOME}/MagellanNMS/NVFilter.cfg*) to the dialog. Restore from File does not apply the restored filter settings to the main Network Viewer display.
Cancel	Closes the dialog without applying the filter setting changes to the Network Viewer main display.
Help	Opens the help dialog on the Component Filter Settings dialog.

NV Preferences Dialog

This dialog allows one to modify a number of display and behavioral settings for Network Viewer. These settings can be saved so they will be automatically restored and applied whenever Network Viewer is invoked. The Preference Settings come in three large categories: Node Display, Clustering and Positioning, and Miscellaneous. Some of the settings (e.g. Snap to Grid) are also available from other Network Viewer menus.

The Node Display settings pertain to how nodes are represented in the main Network Viewer window (with or without label and with full or mnemonic label. The Clustering and Positioning settings provide control on various network display geometry parameters (network dimensions, snapping cell dimensions, clustering and spreading distances). Finally, the Miscellaneous parameters control other Network Viewer options (filtering state, Excluded Organizational node display, Icon Bar display and Background map display).

The controls for these options are grouped in three overlay panels whose visibility is controlled by a option menu,

Commands & Controls

The following controls are provided by this dialog:

Options Menu button	This Option Menu button controls which of the three controls panels is displayed. Its three possible values are; “Node Display Options”, “Clustering and positioning Options”, and “Miscellaneous Options”.

Node Display Options

Show Node Labels	This toggle controls whether nodes in the main NV window display their name label (on) or not (off). Individual nodes may override this setting through their popup menu. The Options pull-down menu also has a control for this option.
Show Mnemonic Labels Only	This toggle controls whether the name label displayed by the nodes in the main NV window (see Show Node Labels) contains both the node’s type and mnemonic (off) or the mnemonic only (on).

Clustering and Positioning Options

Network Width (no map) … and HeightThese two entry fields let you control the dimensions of the network space (in pixels) for the main Network Viewer window. These are not the dimensions of the window but the dimensions of the network onto which the window is a viewport (i.e. the window may be smaller than the network in which case the scroll bars may be used to display the invisible sections, or larger in which case the network display is automatically zoomed). The network dimensions may not be set smaller than 100 in either direction. These dimensions do not apply to when organizational structures that define a background map are being displayed (even if the map is hidden) as the maps provide their own dimensions

Snap Nodes to Grid	This toggle controls whether nodes (and bendpoints) are repositioned to the nearest grid corner when they are moved (on) or not (off). The View pull-down menu also contains a control for this option.
Cell Width… and Height	These two entry fields let you control the dimensions of the Snap to Grid cells (in pixels).
Cluster Only Nodes in Same Site	This toggle controls whether, when Cluster Connected Nodes is invoked on a target node, all the connected nodes (off) or only those in the same parent organizational node (on) are re-positioned.
Clustering Distance Between Modules	This entry field controls the distance in pixels left between clustered nodes (Cluster Connected Nodes or Cluster Child Nodes).
Clustering Distance between Orgs	This entry field controls the distance in pixels left between clustered organizational nodes (Cluster Connected Nodes and Cluster Child Nodes).
Link Spread Distance	This entry field controls the distance left between the bendpoints of links spread with Spread Links.

Miscellaneous Options

Component Filtering On	This toggle controls whether component filtering is activated (on) or not (off) in the main Network Viewer window. The View pull-down menu also contains a control for this option.
Hide Excluded Organizational Nodes	This toggle controls whether the Excluded Region and Site nodes are displayed (off) or not (on). The View pulldown menu also contains a control for this option.
Show Icon Bar	This toggle controls whether the Icon Bar is visible (on) or not (off) in the main Network Viewer window. The Options pulldown menu also contains a control for this option.

Hide Background Map	This toggle controls whether the Background map is visible (off) or not (on) for organization structure that provide one.
Criticality Cutoff	This Option Menu provides choices between 1 and 5 for the current Criticality Cutoff. When opening a Subcomponent Dialog, only components with criticality greater of equal to the specified value are initial fetched. 1 is the lowest criticality and therefore calls for the display of all subcomponents.

The following commands can be issued:

Use Preferences	Applies the current selections to the main Network Viewer display and pops down the dialog. The modified settings are not save to file and you will be prompted upon exiting Network Viewer to save them.
Save to File	Saves the current selections to a user specific file (*${HOME}/MagellanNMS/NVPrefs.cfg*) so they can be re-activated in a subsequent Network Viewer session. Saved settings are not automatically applied to the main Network Viewer display, use Use Preferences to do so.
Restore from File	Restores the current settings from the user specific file (*${HOME}/MagellanNMS/NVPrefs.cfg*) if any. Restored settings are not automatically applied to the main Network Viewer display, use Use Preferences to do so.
Close	Closes the dialog without applying the modified settings which are simply forgotten.
Help	Invokes help on the Preferences dialog.

Network Viewer Save View Dialog

This dialog is a File Selection Dialog to select the directory and file name onto which a description of the current view will be saved. The Directory list allows the selection of the destination directory simply by clicking. The File list does the same for the selection of existing file names. Alternatively, both the directory path of the file name may be entered or modified by typing in the Selection text. To save the view description to a new file in the default directory (shared by all Viewer users), just append the file name to the contents of the text entry item. If no view was already restored or saved by the Viewer, the default directory where view description files may be saved is */opt/MagellanNMS/data/nvs/views*. This directory is shared by all users of Network Viewer so a view description file saved there may be restored by other users. To save the view to a private directory, just select a new directory from the Directory list or type the full path name in the Selection text. To overwrite an existing view description file, just select its name from the File list.

A toggle button is provided to indicate if the positions of nodes and bendpoints that were moved from their original location should be saved in the view.

Commands

Clicking on a name in the Directory list will selected the specified directory name. Selecting the “Change Directory” command then will update the File list to show the files contained in that directory and display the directory name in the Selection text. Clicking on a name in the File list will put the full path name of the specified file in the Selection text. Double-clicking on a list item (Directory or File) invokes the command of the current default button (“Change Directory” or “Save”).

The following commands are available for the Save View Dialog:

Save Node Positions	If set, saves the changed node and bendpoint positions along with the rest of this View information.
Save	Closes the dialog and selects the current contents of the Selection text as the name of the destination View description file. This command can also be invoked by double-clicking on a name in the File list. If the file already exists, you will be prompted to confirm the overwrite.
Change Directory	Displays the currently selected directory name in the Selection text and displays the files it contains in the File list. This command can also be invoked by double-clicking on a name in the Directory list.
Cancel	Closes the dialog without any file name selection and aborts the Save View operation.
Help	Displays online help.

Network Viewer Restore View Dialog

This dialog is a File Selection Dialog to select the directory and name of a file containing an Network Viewer view description to be loaded and made current. The Directory list allows the selection of the destination directory simply by clicking. The File list does the same for the selection of file names. Alternatively, both the directory path of the file name may be entered or modified by typing in the Selection text. To restore a view description from the default directory (shared by all Viewer users), just select its name from the File list. If no view was already restored or saved by the Viewer, the default directory from where view description files may be restored is */opt/MagellanNMS/data/nvs/views*. This directory is shared by all users of Network Viewer so a view description file saved there may be restored by other users. To restore a view from a private directory, just select a new directory from the Directory list and file name from the File list or type the full path name in the Selection text.

A toggle button is provided to indicate whether the node and bendpoint positions saved in the view should be restored. Note that restoring view positions while in editing mode will make these new positions the default (actual) ones.

Commands

Clicking on a name in the Directory list will selected the specified directory name in the Selection text. Selecting the “Change Directory” command then will update the File list to show the files contained in that directory. Clicking on a name in the File list will put the full path name of the specified file in the Selection text. Double-clicking on a list item (Directory or File) invokes the command of the current default button (“Change Directory” or “Restore”).

The following commands are available for the Restore View Dialog:

Restore Node Positions	If set, restores the saved node and bendpoint positions along with the rest of this View information.
Restore	Closes the dialog and selects the current contents of the Selection text as the name of the source View description file. This command can also be invoked by double-clicking on a name in the File list.
Change Directory	Displays the currently selected directory name in the Selection text and displays the files it contains in the File list. This command can also be invoked by double-clicking on a name in the Directory list.
Cancel	Closes the dialog without any file name selection and aborts the Restore View operation.
Help	Displays this help panel.

Network Viewer Confirm Dialog

This dialog appears when an attempt is made to save a view description on top of an existing file. Select the “Ok” command to save the view or “Cancel” to abort the operation.

Commands

Ok	Replaces the existing file with the view description.
Cancel	Stops the Save View operation.
Help	Displays online help.

NV New Model Question Dialog

The NV New Model Question Dialog is popped up whenever someone loads a new network model as the active network model on the workstation from which Network Viewer is collecting its data.

Given that this has already happened, there are only two alternatives that you can take at this point:

- Wait while the new network model is loaded into Network Viewer. This takes approximately as long as the initial startup of the application (depending on the size of the new network model).
- Exit Network Viewer.

NV Reload Model Question Dialog

This dialog is raised to allow you to confirm the “Reload Model” command.

Since this will cause the reconstruction of the whole model, this may be a lengthy operation. You can confirm the model load or cancel it and return to the Network Viewer.

NV Model Increment Question Dialog

The NV Model Increment Question Dialog is popped up whenever someone increments the active network model with new data (such as merging a new CDF) on the workstation from which Network Viewer is collecting its data.

Given that this has already happened, there are only two alternatives that you can take at this point:

- Wait while the network model increment is loaded into Network Viewer.

- Ignore the network model increment and continue with the existing display.

NV Exit Confirmation Dialog

This dialog allows you to confirm or abort an Exit operation. If there are any un-saved modified Component Filter or Preference Settings, this dialog also offers you to save them before exiting.

Commands

The following commands are supported depending on the current context:

Exit and Save: Preference Settings Changes	Select this toggle to enable the saving of the modified Preference Settings. This control is only visible if the Preference settings were modified but not saved.
Exit and Save: Component Filter Changes	Select this toggle to enable the saving of the modified Component Filter Settings. This control is only visible if the Component Filter settings were modified but not saved.
Exit Application	Closes all NV displays and dialogs and terminates the application. This command is not available if there were some un-saved modified Component Filter or Preference Settings.
Cancel Exit	Closes the Exit Confirmation Dialog and returns to the NV main display without terminating the application.
Exit and Save	Saves the modified Component Filter Settings to their user specific file (*${HOME}/MagellanNMS/NVFilter.cfg* and *${HOME}/MagellanNMS/NVPrefs.cfg*) and terminates the application. This command is only available if there were un-saved modified Component Filter or Preference Settings.

Exit without Saving	Terminates Network Viewer but does not attempt to save the modified Component Filter or Preference Settings. This command is only available if there were un-saved modified Component Filter or Preference Settings.
Help	Displays online help.

NV Bad View Name Error

This error dialog indicates that an invalid file name was specified in the Network Viewer Save or Restore View dialogs when the action command was selected. Please re-issue the original view operation from the File menu to try again.

Commands

Ok	Closes the dialog and returns you to the View dialog.
Help	Displays online help.

NV Bad View File Error

This error dialog indicates that an invalid file was specified by the Network Viewer Save or Restore View dialogs. In the case of the Save View operations, this is due to the named file or its directory not being writable. For the Restore View operation, this is due to the named file not existing or being readable. Please change the protections of the specified file and re-issue the original view operation from the File menu or select another one.

Commands

Ok	Closes the dialog and returns you to the View dialog.
Help	Displays online help.

NV View Save Error

This error dialog indicates that a Save View operation has failed. This is currently impossible.

Commands

Ok	Closes the dialog and returns you to Network Viewer's network display.
Help	Displays online help.

NV View Restore Error

This error dialog indicates that a Restore View operation has failed. The possible reasons for this are:

- the file to restore is not a valid NV View Description file, or
- the organization to restore or the map node do not exist in the current model

Please re-issue the original view operation from the File menu to try restoring another View Description file.

Commands

Ok	Closes the dialog and returns you to the network display.
Help	Displays online help.

NV Model Loading Error

This dialog indicates that an error occurred while loading topology or subcomponent information from the Network Model. This is probably caused by a locked, inactive, or invalid Network Model. If this error is the result of opening a Subcomponent or Shelf dialog, you may want to close it and try again. If this error occurs while loading the network model, you should exit Network Viewer, verify the Network Model's integrity, and restart Network Viewer.

Commands

Ok	Closes the dialog and returns you to the network display.
Help	Displays online help.

NV Model Action Error

This dialog indicates that an error occurred while asking the Network Model to put a component in Maintenance State. This could be caused by the component not existing or already being in Maintenance or Hierarchical Maintenance state. Please verify the state of the component and re-issue the command if need be.

Commands

Ok	Closes the dialog and returns you to the network display.
Help	Displays online help.

NV Model Lock Error

This dialog indicates that the Network Model is locked and a query necessary to the completion of command could not be performed. Please try again when the model is unlocked. Look for the “padlock” icon on the status bar to go away indicating that the model was unlocked.

Commands

Ok	Closes the dialog and returns you to the network display.
Help	Displays online help.

NV Model Not Ready Question

This dialog is displayed when an attempt at loading the Network Model fails. This is probably caused by the fact that the model is currently locked by another application or is not available yet. It is possible to retry the model load or exit the application.

Commands

Retry Model Load	Re-attempts the model load into Network Viewer. If the model is still not available, the dialog will reappear.
Exit Application	Causes Network Viewer to terminate.

NV Fatal Error

This dialog is displayed whenever a fatal error has occurred, for example when the connection to the Network Model Server is lost. When this occurs the Network Viewer Application cannot perform its task correctly and this dialog is brought up to indicate to the user that the application must be exited.

Commands

Exit Application	This will cause Network Viewer to terminate.

NV Filter Save Error

This error dialog indicates that a Filter Settings Save operation has failed. The possible reasons for this are:

- there is an *NVFilter.cfg* file in your *${Home}/MagellanNMS/ directory* but it is write protected
- there is no *NVFilter.cfg* in your *${Home}/MagellanNMS/ directory* but the directory is write protected

Please correct the file or directory access mode and retry the Save.

Commands

Ok	Closes the dialog and return you to the Filter Settings dialog.
Help	Displays online help.

NV Filter Restore Error

This error dialog indicates that a Filter Settings Restore operation has failed. The possible reasons for this are:

- the file to restore is not a valid NV Filter Settings file, or
- there is no *NVFilter.cfg* file in your *${Home}/MagellanNMS/ directory* or the file cannot be opened.

Please correct the file or its access mode and retry the Restore or re-create and Save the Filter Settings.

Commands

Ok	Closes the dialog and returns you to the Filter Settings dialog.
Help	Displays online help.

NV Network Model Edit Error

This dialog indicates that an internal error has occurred while editing the network model. The edit session has been terminated.

Commands

Ok	Closes the dialog.
Help	Displays online help.

NV Network Model Edit Startup Error

The Editing session could not be established as the Viewer was not able to connect to the Editing Dialog Manager process.

Commands

Ok	Closes the dialog.
Help	Displays online help.

NV Editing Unavailable

This indicates that the Network Viewer is connected to a Network Model Server that does not support Editing functions (probably on a previous release). The editing functions are not available but the Viewer can still be used for Network Surveillance.

Commands

Ok	Closes the dialog.
Help	Displays online help.

NV Preference Save Error

This dialog indicates that an internal error has occurred while saving the Network Viewer Preference settings to the *$HOME/MagellanNMS/NVPrefs.cfg* file. Check the file protection and retry.

Commands

Ok	Closes the dialog.
Help	Displays online help.

NV Preference Restore Error

This dialog indicates that an internal error has occurred while restoring the Network Viewer Preference settings from the *$HOME/MagellanNMS/NVPrefs.cfg* file. Check the file existence and protection and retry.

Commands

Ok	Closes the dialog.
Help	Displays online help.

NV Network Model Service Selection

Service Selection for the Network Model has just occurred. You can either accept the selection and the Viewer will reload the model from the new destination or ignore the selection.

Commands

Connect to new destination	Causes the Network Viewer to destroy the current View and attempt to load the model from the newly selected destination.
Ignore Service Selection	Causes the selection to be ignored. The Viewer keeps the model from the current destination. To load the model from the new destination later you must either reload the model manually or re-do the Service Selection.
Help	Displays online help.

NV Network Model Service Selection Refused

Service Selection for the Network Model has occurred while the Network Viewer is in Editing mode. The Viewer cannot reload the model in this context. To follow the new Service Selection, you must first leave editing mode and then either reload the model manually or re-do the Service Selection.

Commands

Ok	Closes the dialog.
Help	Displays online help.

Network Viewer Help

The Help menu contains the following commands:

- **Help on Window** displays descriptive information about the Network Viewer window components.
- **What's This?** displays information about a selected area of the Network Viewer window.

Network Viewer Keys

Network Viewer is built using the Motif user interface library.

In a dialog, there may be a default action button. This button is visually distinguished by an extra box around it. If you press the Return key anywhere in the dialog, Motif will activate the default button. Not all dialogs have a default action button.

Mnemonics

Mnemonics are available only from the menu bar menus. They are single characters. The characters are identified by an underscore. To use mnemonics, you must first press either F10 (from which menus can be opened using the mnemonics) or hold down the Meta key and press the mnemonic for the menu bar menu you wish to open. From there, the mnemonic of the specific command on the open menu can be pressed (once the Meta key has been released). For example, the following key sequence causes the Network Viewer tool to exit: “Meta-F E”. As does: “F10 F E”.

Command Shortcuts

Command shortcuts can be used by experienced users of Network Viewer to save them from using the mouse to select commands from menus.

Command shortcuts use combinations of various modifier keys with regular character keys. Modifier keys are Shift, Control, and Meta.

The shortcut for any particular command is shown on the menu itself. As users become familiar with the command they learn to remember the shortcut and can then invoke that command directly from the keyboard without having to pull down menus.

Double Clicks

Certain actions (mostly navigation) can be triggered by double clicking the Select mouse button on a node, link, or subcomponent with or without the Shift, Control, or Meta key being held down. These actions can be customized but they are by default

On Organization Root Nodes	Opens the organization, as if Open Organization had been selected from its popup menu.
On Organizational Nodes	Without modifier keys, expands the node, as in “Expand in Place”. With the Shift key pressed, the node is expanded as in “Full Expand in Place”. With the Control key pressed, the node is compressed as in “Compress in Place”. With the Meta key pressed, the CIV tool is invoked for the node.
On Module Level Nodes	Without modifier keys, opens the Subcomponent Dialog in Troubled mode. With the Shift key pressed, the Shelf Dialog is opened. With the Control key pressed, the node is compressed as in “Compress in Place”. With the Meta key pressed, the CIV tool is invoked for the node.
On Links	Without modifiers and if there is more than one link between the two nodes, removes all their bond points and inserts new ones, in order to spread the links evenly. With the Meta key pressed, the CIV tool is invoked for the link.
On Subcomponents	With the Meta key pressed, invokes the CIV tool for the subcomponent. (Subcomponents in either the Subcomponent Dialog or the Shelf Dialog.)

Double click actions also apply to nodes and links in the textual components dialog.

Network Viewer Icon Bar Help

The Network Viewer supports two icon bars—one for surveillance mode and one for model edit mode. From an icon bar you can start other tools and utilities.

You can display the function of each icon. As you place the mouse pointer over an icon, the command represented by that icon is displayed.

To execute the command represented by an icon, click on that icon.

You can show or hide the icon bar. To show a hidden icon bar, from the Options menu, select *Show Icon Bar.* To hide an icon bar, from the Options menu, select *Hide Icon Bar*. Commands and tools in the hidden icon bar are also available from the menu bar.

Network Viewer Editor interface

The Network Viewer Editor is a subset of Network Viewer which allows the user to create, supplement, and change a network model.

All basic editing commands may be accessed through the main Network Viewer menu, "Network Model Edit", and through the "Edit" cascade options from component pull-down menus. In addition, many editing commands may be carried out through the use of the "drag and drop" interface using the middle mouse button.

Add Node dialog

This dialog is used to create new nodes and subcomponents, including regions and sites. It is also used to edit existing nodes and subcomponents. In addition, nodes may be organized hierarchically using this dialog, by selecting their parent.

Table 7
Add Node dialog commands

Add	Adds the new node or subcomponent you described to the network model. It will contain the attribute information listed in the attribute area, and be assigned a parent node listed in the parent area. This button is only active if "Refresh" is pressed and the component name does not already currently exist in the network model.
Change	Causes the edited existing node or subcomponent you changed to be updated in the network model. It will contain the attribute information listed in the attribute area, and be assigned a parent node listed in the parent area. This button is only active if "Refresh" is pressed and the component name already exists in the network model.

(Sheet 1 of 3)

Table 7 (Continued)
Add Node dialog commands

Close	Closes the dialog.
Help	Invokes online help.
Use Defaults	Places default values for attributes in the attribute area. The defaults are based on the component type.
Node name	Enables you to specify the component name to add or update. A selector field to the right of the name display the following choices: Show Legal Types - to list all valid child component types for this component. Selecting a type will add this type to the end of the component name. This may be used to build up a component name one step at a time. Get Context - to place a component name from context into the name field. If nothing is in context, the name field will be erased. Show Legal Names - to display a dialog describing the syntax of the current component type.

(Sheet 2 of 3)

Table 7 (Continued)
Add Node dialog commands

Parent list	Contains all the possible parents for the current node, and selecting a different parent (and pressing Add or Change) will cause the node to move to the new site or region. If a component is a module or site, it must be assigned to a parent node.
Attributes	Provides a list of all the attributes supported by this component type. Each attribute is a text field, which may be filled in manually. Another way of filling attributes which are small finite sets of strings is to use the attribute menu selector, to the right of the attribute field. Pulling down the attribute menu lists at least one entry, "Display Information". Selecting this displays a brief description of the attribute. Another menu entry might be a range indicator. This is simply to let the user know the attribute must be within a numeric range. If the menu contains several values, these may be selected. The result is that the attribute is set to the selected string. The full range of possible strings is listed in the menu
(Sheet 3 of 3)	

NV Network Model Edit Node Position Dialog

When you change the position of nodes in surveillance mode, these changes remain in effect until you reposition them or until you exit Network Viewer. Unlike surveillance mode, when you change the position of nodes in edit mode, these changes are saved in the network model and are available to all instances of Network Viewer monitoring this network. The NV Network Model Edit Node Position Dialog opens when you make changes to node positions in surveillance mode and then change to edit mode. The dialog confirms whether or not you want to save the node positions that you made in surveillance mode before edit mode opens.

Add Link Dialog

This dialog is used to create new links, and to edit existing links.

Table 8
Add Link dialog commands

Add	Adds the new link you described to the network model. It will contain the attribute information listed in the attribute area. (Usually just the criticality.) This button is only active if the link is "Refreshed" and the link name does not already currently exist in the network model. If you add a link to the model in which one link end is already involved in a connection, the previous link will be deleted.
Change	Causes the edited existing link you changed to be updated in the network model. It will contain the attribute information listed in the attribute area. (Usually just the criticality.) This button is only active if the link is "Refreshed" and the link name already exists in the network model.
Close	Closes the dialog.
Help	Invokes online help.
Use Defaults	Places default values for attributes in the attribute area. The defaults are based on the link type.
Name	Enables you to specify the link name to add or update. The link name is not normally entered directly into this field, but rather using the endpoint lists to build the name.

(Sheet 1 of 2)

Table 8 (Continued)
Add Link dialog commands

Component Endpoint Lists	Provides three lists, which will automatically update the link name when items in the list are chosen. One of the lists is the link type, the other two are the endpoint lists. The endpoint lists contain a list of all connectable subcomponents which are children of the parent component identified in the "Component" field. A user may update this component name by typing, or by drag-and-drop of a node from Network Viewer's display or subcomponent list. Ports already involved in another link connection are shown with a connected 2-node bitmap to their left, unused ports are shown with a 1-node bitmap. By selecting two endpoints, plus a link type, the link name is built.
Attributes	Provides a list of all the attributes supported by this link type. Each attribute is a text field, which may be filled in manually. Another way of filling attributes which are small finite sets of strings is to use the attribute menu selector, to the right of the attribute field. Normally, the only link attribute the criticality, which is a numeric range from 1 to 5. Pulling down the attribute menu lists at least one entry, "Display Information". Selecting this displays a brief description of the attribute. Another menu entry might be a range indicator. This is simply to let the user know the attribute must be within a numeric range. The link criticality is a range attribute. If the menu contains several values, these may be selected. The result is that the attribute is set to the selected string. The full range of possible strings is listed in the menu.
(Sheet 2 of 2)	

Enter Edit dialog

Use this dialog to enter the authentication password for network model editing. Once authentication is complete, editing mode will be enabled.

Editing may be refused for several reasons: there may be no network model on the remote (or local) machine. You must LAN select to an appropriate workstation. If another user is already editing the network model, you will be denied access. Finally, if the remote model has stipulated local editing only, you will not be able to connect remotely.

The password may or may not be required, depending if the network model enforces one.

Table 9
Enter Edit dialog commands

OK	Attempts to enter network model editing mode.
Cancel	Closes the dialog and returns you to Network Viewer's display.
Help	Invokes online help.

Leave Edit dialog

This dialog is displayed when the user requests to leave edit mode. This dialog permits a model save option before quitting editing mode. The user is given the option to save the model or to ignore it.

Table 10
Leave Edit dialog commands

Save	Saves and exits edit mode.
Exit without Saving	Discards the outstanding unsaved network model changes, and leaves edit mode. You can always re-enter edit mode and save.
Cancel	Closes the dialog and returns you to the editor's display.
Help	Invokes online help.

Create Organization

This dialog allows the user to create a organization. The type of organization and a unique name must be specified.

Table 11
Create Organization commands

OK	Creates the new organization that was specified.
Close	Closes the dialog and returns you to the editor's display.
Help	Invokes online help.

Delete Components dialog

This dialog is a verification dialog, allowing the user to confirm the deletion of one or more components. Initially, all chosen components are selected in the dialog's list, but the user may choose to unselect some of these so he may delete only some of the components.

Table 12
Delete Components dialog commands

Delete	Deletes all the selected components listed in the dialog from the network model.
Cancel	Closes the dialog and returns you to the editor's display. No components will be deleted.
Help	Invokes online help.

NMF Manager dialog

This dialog lists all the network model files stored on the machine running the network model editor server. You may load one of these files into the model, replacing the existing one. You may also rename and delete files. These commands are accessible via a pull down menu from the NMF list items, or from dialog buttons (delete and rename are available from the pull down menu only).

A NMF file item must be selected before an operation can be done.

After loading a model, the "Show all warnings" button may become enabled. In this case, pressing it will pop up a dialog listing warnings or errors detected during the load process.

Table 13
NMF Manager dialog commands

Load	Loads the new network model. The user is first prompted.
Rename...	Enables you to specify a new name for the network model file. A dialog pops up to specify the new name.
Delete...	Enables you to delete a network model file. A confirmation dialog pops up to verify this command.
Close	Closes the dialog and returns you to the editor's display.
Help	Invokes online help.

Rename NMF dialog

This dialog asks the user to specify a new name for the selected network model file.

Table 14
Rename NMF dialog commands

Accept New Name	Changes the name of the network model file to the name which the user typed.
Cancel	Closes the dialog and returns you to the editor's display. The network model file is not renamed.
Help	Displays online help.

NMF Save dialog

This dialog allows the user to save the current network model to a file. A file name must be entered, or chosen from a list of existing files (in which case the model will overwrite the existing file).

The model can be saved as a binary image (for quick loading), or an ASCII file (for portability between Preside Multiservice Data Manager releases).

If you wish to have this model start up automatically after a reboot, then choose the option "Make this model the default on startup".

Table 15
NMF Save dialog commands

Save	Saves the network model to a file on the network model editing server machine. The file name is specified in the "File name" field. If the file already exists, the user will be prompted to overwrite it.
Close	Closes the dialog and returns you to the editor's display. The dialog will close automatically after the save is completed.
Help	Displays online help.

Replace NMF dialog

This dialog is present if a network model save operation is about to overwrite an existing network model file.

Table 16
Replace NMF dialog commands

Replace NM File	Saves the network model to the file, overwriting the old file.
Cancel	Closes the dialog. The network model is not saved.
Help	Displays online help.

New Model

Erases the current network model, and creates a new model. The only organization present will be DEFAULT_ALL. All the modules will be stored in NEW_SITE/DEFAULT_ALL.

Table 17
New Mode commands

Yes	Creates the new model.
No	Closes the dialog and returns you to the editor's display. No new model is created.
Help	Displays online help.

Detach Map

Removes the map file currently associated with the present organization.

Table 18
Detach Map commands

Yes	Detaches the map, and removes it from Network Viewer's display.
No	Closes the dialog and returns you to the editor's display. No changes are made.
Help	Displays online help.

Set Map dialog

This file selection dialog allows the user to specify a bitmap file to be displayed in the background of the current organization. Note that the file selection is done on files local to the user's machine, and not necessarily the machine running the network model server. No checking of a valid file format is done.

Table 19
Set Map dialog commands

Set Map	Associates the file with a bitmap of the current organization's background. If the file is a valid bitmap, Network Viewer will display it.

(Sheet 1 of 2)

Table 19 (Continued)
Set Map dialog commands

Cancel	Closes the dialog and returns you to the editor's display.
Help	Displays online help.
(Sheet 2 of 2)	

Warning Messages

This dialog displays information messages to the user. It may be dismissed after viewing.

Table 20
Warning Messages commands

Close	Closes the dialog and returns you to the editor's display.
Help	Displays online help.

EDM Exit Warning dialog

This dialog will terminate the editing session.

Table 21
EDM Exit Warning dialog commands

Yes, exit Network Viewer Editor	Exits editing mode.
No, cancel exit	Closes the dialog and returns you to the editor's display.
Help	Displays online help.

Delete NMF Warning dialog

This dialog is a confirmation dialog for when the user requests deleting a network model file from the server machine.

Table 22
Delete NMF Warning dialog commands

Yes, delete the remote file	Deletes the network model file from disk.
No	Closes the dialog without deleting the file.
Help	Displays online help.

Rename Collection dialog

This dialog asks the user to specify a new name for the selected component data file.

Table 23
Rename Collection dialog commands

Accept New Name	Changes the name of the component data file to the name specified by the user.
Cancel	Closes the dialog and returns you to the editor's display. The component data file is not renamed.
Help	Displays online help.

Data Collection dialog

This dialog allows the user to collect data from the network, for use with the network model.

A collection name must be specified; it may be any name the user wishes, so long as it is unique. The equipment type specifies whether you are collecting DPN components, Passport components, or Passport 4400 (PP4400) components. For DPN and Passport, a destination, capability, and password must be supplied.

You can "Collect all Modules under <destination>", which will collect information for everything managed by that OA, group, or Passport 4400. Or you can "Collect only the following Modules", which will collect just the specified set of modules under that OA, group, or Passport 4400. The list is

created by either a drag and drop of modules, or by typing names in the text field and pressing "Add". Modules are deleted by selecting them one at a time, and pressing "Delete", or by pressing “Delete All”.

For DPN and Passport, you can specify a "Backbone Collection", which will collect only module and link information or a "Complete Collection", which will collect all subcomponent information as well.

If "Notify Upon Completion" is selected, a notification dialog is displayed when the collection is finished.

Table 24
Data Collection dialog commands

Collect Data	Starts the collection. If it is a large collection, it may take a while.
Close	Closes the dialog and returns you to the editor's display. No collection is started.
Help	Displays online help.

Collection Manager dialog

Use the Collection Manager dialog to manage and apply collection files to the current network model. This dialog supports a pop-up menu of commands to manage and apply collection files, a series of check boxes to select various options, and command buttons for additional tasks.

Commands

To open the pop-up menu, right-click on an entry in the list of collections. The pop-up menu contains the following commands:

- **Stop Data Collections** stops the current data collection process.
- **Show Data Collection Errors and Warnings** displays a log of problems that occur during data collection.
- **Show Data Collection Parameters…** opens the Data Collection dialog containing the parameters used to create the collection. This command is available only if the collection was created during the current edit session.v

- **Apply Collected Data to Network Model** applies the selected collections to the network model. The files are applied sequentially and alphabetically.
- **Show Model Increment Errors and Warnings…** displays a log of problems that occur during application to the network model.
- **Rename Collection…** renames the selected collection.
- **Delete Collections** deletes selected collections from the server.

Options

The Collection Manager dialog contains a selection of options. Select or clear a checkbox to turn the option on or off. The dialog contains the following options:

- **Delete Collections Upon Successful Application** deletes collection files if they have been successfully applied to the network model.
- **Destroy old sub-components Upon Application** deletes old module subcomponents in the collection file before applying the collection to the network model.
- **Load Organizational Structure Upon Application** restores the organizational structure (parentage and positions) of the components in the collection file when the collection is applied to the network model.

Buttons

The Collection Manager dialog contains the following buttons:

- **Apply Collected Data to Network Model** applies the selected collections to the network model. The files are applied sequentially and alphabetically.
- **Close** closes the Collection Manager dialog.
- **Help** displays online help about the Collection Manager dialog.

Delete Collection

This Delete Collection enables you to open a confirmation dialog to delete a selected CDF file from the list, using the CDF popup menu.

CDF Notification dialog

This dialog pops up automatically when a collection is complete. It is just to inform the user that he may now use it via the CDF manager.

Table 25
CDF Notification dialog commands

Acknowledge All	Closes the dialog and will not display the current list of completed CDFs again.
Close	Closes the dialog but will display the current list of completed CDFs again the next time it pops up.
Help	Displays online help.

Warning dialog

This dialog pops up with various warning messages for the user.

Table 26
Warning dialog commands

OK	Closes the dialog.
Help	Displays online help.

Components Save dialog

The Components Save Dialog lets you save a selected set of current network modules and their components to disk in portable collection information files.

The Components Save Dialog lets you perform the following save operations:

- You can choose which modules will be saved by specifying module naming patterns.
- You can choose to save the current organizational context (parentage and positions) of the selected modules.

- You can choose to save all the links related to the selected modules. The standard load collection capability of Network Viewer may be used to increment a current model with the saved components, links and organizational structures.

Items in the dialog are as follows:

- Collection Name displays the name of the collection file. A default is provided and is used unless you enter an alternate name.
- The Components List Area displays a list of all the modules in the collection. You can select modules in this area by clicking on the name of a module displayed in the area.
- The Current Component Area displays the name of a module selected on the Components List Area, or the name of an existing module that you enter at the keyboard. You can enter wildcard (*) characters in this Area. For example, if you enter EM A* then click Save Components, you can save all modules to the collection whose names begin with EM A.
- Add lets you add a module whose name you entered in the Current Component Area to the collection.
- Delete removes the module whose name appears in the Current Component Area from the collection.
- Delete All removes all modules from the collection.
- Save Related Links saves all links related to the select modules.
- Save Organizations saves all the organizational structures related to the selected modules.Saving the organizational structures also saves the positions of the modules and of their related links
- Save Components saves changes you make to the collection.
- Close closes the dialog.

Chapter 3
Network Browser for Operator Client

The Network Browser provides a hierarchical representation of the network down to the node level. You can navigate through the levels to view the states of modeled objects.

Navigation

- “Network Browser procedures”
- “Network Browser fundamentals”
- “Network Browser interface”

Network Browser procedures

Starting and exiting

- “Starting Network Browser”
- “Exiting Network Browser”

Starting Network Browser

Start Network Browser to view state changes and updates in the network.

Procedure steps

1 From the Fault menu, select **Network Browser**.

The **Network Browser** window opens.

Exiting Network Browser

Exit Network Browser when you are finished viewing network state changes and updates.

Procedure steps

1 From the Network Browser window, click **File** and then **Exit**.

Network Browser fundamentals

Network Browser detects state changes in the network model and updates the display with new state information on an on-going basis. Network Browser enables you to view network model objects down to the node level. To view objects below the node level, use the Component Information Viewer tool. See “Component Information Viewer” (page 415) for information about using Component Information Viewer tool.

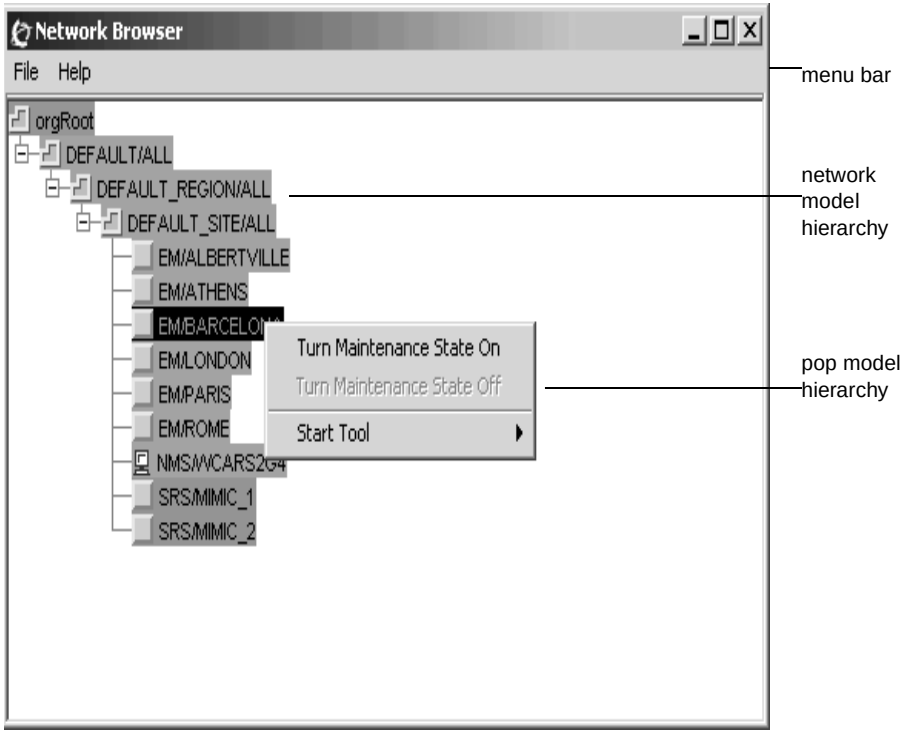
Network Browser interface

The Network Browser window displays network model components down to the node level. The main window and the overall interface of the Network Browser is made up of the following parts:

- “Menu bar” (page 175)
- “Network model hierarchy” (page 176)
- “Network Browser pop-up menu” (page 176)

Figure “Network Browser interface” (page 175) displays the parts of the Network Browser interface.

Figure 9
Network Browser interface



Menu bar

The Network Browser provides the following menus:

- "File"
- "Help"

File

The following commands are available from the File menu:

Command	Description
Reload Network Model	Refreshes the network browser, capturing any additions or deletions to network model components.
Exit	Closes the Network Browser window.

Help

The following commands are available from the Help menu:

Command	Description
Help on Window	Provides help on the Network Browser window.
What's This?	Displays information about a selected area of the Network Browser window.

Network model hierarchy

The Network model hierarchy displays a hierarchical view of all the network components down to the node level.

Network Browser pop-up menu

The Network Browser pop-up menu which is accessed by right-clicking on the components in the Network model hierarchy contains the following commands:

Table 27
Network Browser pop-up menu commands

Command	Description
Turn Maintenance State On	Puts a component in a maintenance state. The maintenance state is propagated down to all the component's subcomponents. A component's state is shown as MTCE. The default color for this state is light blue. The components remain in this state until you turn it off. You can also access this command from the pop-up menu in the Component Information Viewer.
Turn Maintenance State Off	Takes a component out of a maintenance state. You can also access this command from the pop-up menu in the Component Information Viewer.
Start Tool	Displays a list of other MDM tools that you can start from Network Browser. The content of the list varies depending on component context and access control. For a description of the pop-up menu commands, see the section about the Start Tool in 241-6001-122 *Preside MDM Using MDM Toolset and Operator Client Interfaces*.

Chapter 4
Shelf View

Shelf View is part of the Preside Multiservice Data Manager (MDM) set of fault management tools. This tool provides a graphical view of the device shelf that can be used to assist in troubleshooting network problems in real-time:

Shelf View supports Passport and Nortel Networks Multiservice Provider Edge 9500 network elements. Shelf View is available through both the MDM Toolset and Operator Client environments. For details about these MDM environments, see 241-6001-801 *Preside MDM Overview*.

Navigation

Shelf View procedures

The Shelf View tool lets you monitor, diagnose, and correct network faults. The tool monitors the device and returns component state values. Based on these state values, you can further diagnose problems and take corrective action. This section contains the following Shelf View procedures:

Starting and stopping the Shelf View tool

Displaying online help

Modifying the Shelf View window

Working with components

Working with related components

- “Displaying related components” (page 199)
- “Sorting related components” (page 200)
- “Setting filters for related components” (page 201)
- “Setting an automatic refresh interval for related components” (page 202)
- “Displaying component attributes” (page 203)

Working with alarms

- “Displaying alarms” (page 204)
- “Sorting alarms” (page 205)
- “Setting an automatic refresh interval for alarms” (page 206)
- “Acknowledging an alarm” (page 207)
- “Acknowledging all active alarms on a component in MDM Toolset” (page 208)
- “Unacknowledging an alarm” (page 209)
- “Unacknowledging all active alarms on a component” (page 210)
- “Clearing local alarms on Passport” (page 211)
- “Clearing global alarms on Passport” (page 212)

Making provisioning changes

- “Making provisioning changes to components and services” (page 213)

Starting other MDM tools

- “Starting other MDM tools from Shelf View in MDM Toolset” (page 214)
- “Starting other MDM tools from Shelf View in Operator Client” (page 216)

Starting Shelf View from the MDM toolset and Operator Client

Use Shelf View to display the device's physical and logical views to perform a selection of surveillance and nodal provisioning tasks.

Prerequisite

Before you can start the Shelf View tool, you need to authenticate to a device or device group. If you have not already authenticated during your current MDM session and try to start Shelf View, a Connection Management dialog automatically opens and prompts for authentication information.

Procedure steps

1 Select one of the following actions, depending on the device you want to view.

For...	On the MDM Toolset or Operator Client window...
Passport	Click **Fault menu**, and then **Passport Shelf View**.
MPE 9500	Click **Fault menu**, and then **MPE Shelf View**.

If you have already authenticated, the **Shelf View** window opens and you have completed the procedure.

If you have not already authenticated, the **Shelf View -Device Selection** dialog box opens. All devices in the selected destination group display in the **device** list. You need to complete the remaining steps in this procedure to start the Shelf View.

2 Select a device from the **Shelf View-Device Selection** dialog and click **OK.**

3 In the **Group Authentication dialog**, complete the following fields and click **OK**:

- In the Group name field, select a group name.
- In the User Id field, type a valid user ID.
- In the device field, type the password associated with the specified user ID.

The **Shelf View Authentication** dialog box closes and the **Shelf View** window opens.

Starting Shelf View from the UNIX command line

Using Shelf View, you can display the device's physical and logical views to perform a selection of surveillance and nodal provisioning tasks.

Prerequisite

Before you can start the Shelf View tool, you need to authenticate to a device or device group. If you have not already authenticated during your current MDM session and try to start Shelf View, a Connection Management dialog automatically opens and prompts for authentication information.

Procedure steps

1 From the UNIX command line, type the following command:

For...	Use the command..
Passport	`/opt/Magellan/bin/shelfview -type EM`
MPE 9500	`/opt/Magellan/bin/shelfview -type SRS`

If you have already authenticated, the **Shelf View** window opens and you have completed the procedure.

If you have not already authenticated, the **Shelf View -Device Selection** dialog box opens. All devices in the selected destination group display in the **device** list. You need to complete the remaining steps in this procedure to start the Shelf View.

2 Select a device from the **Shelf View-Device Selection** dialog and click **OK.**

3 In the **Group Authentication dialog**, complete the following fields and click **OK**:

- In the Group name field, select a group name.
- In the User Id field, type a valid user ID.
- In the device field, type the password associated with the specified user ID.

The **Shelf View Authentication** dialog box closes and the **Shelf View** window opens.

Starting Shelf View from other MDM tools

Using Shelf View you can display device's physical and logical views and perform a selection of surveillance and nodal provisioning tasks. You can start the Shelf View tool from other MDM tools by using component context or by using the MDM Start Tool menu.

Procedure steps

1 If you are using component context, use the following steps:

a. From any Preside MDM tool that supports context, select a device to put it into context. Generally, selecting a component puts that component into context. Some MDM tools may support a component popup menu that contains a **Put Context** command.

b. In the Preside Multiservice Data Manager window, select **Fault** and then **Shelf View**.

2 If you are using the Start Tool menu, use the following steps:

a. From any MDM tool that supports a Start Tool menu, open the Start Tool menu. Generally, this step is done by right-clicking on a component to open a pop-up menu.

b. On the **Start Tool** pop-up menu, point to **Fault** and then select **Shelf View**.

If you have already authenticated, the Shelf View window opens and you have completed the procedure

If you have not already authenticated, the **Shelf View -Device Selection** dialog box opens. All devices in the selected destination group display in the **device** list. You need to complete the remaining steps in this procedure to start the Shelf View.

3 In the **Group Authentication dialog**, complete the following fields and click **OK**:

- In the Group name field, select a group name.
- In the User Id field, type a valid user ID.
- In the Password field, type the password associated with the specified user ID.

The **Group Authentication** dialog box closes and the **Shelf View** window opens.

Quitting Shelf View

Use this procedure to quit the Shelf View tool.

Procedure steps

1 From the **File** menu, select **Exit**

The **Shelf View** window closes.

Displaying Shelf View online help

Use this procedure to view online help for the Shelf View tool. You can display various types of online help.

Procedure steps

Help on Window

Help on Window provides a description of the elements of the Shelf View window.

1 From the **Help** menu, select **Help on Window**.

The online help window opens with a description of the Shelf View window.

What's This?

What's This displays online information about a specific area of the Shelf View window.

1 From the **Help** menu, select **What's This?**

The mouse pointer changes to a question mark (?).

2 Move the mouse pointer onto an area of the window for which you want help and click the mouse button.

The online help window opens with information specific to the area you selected.

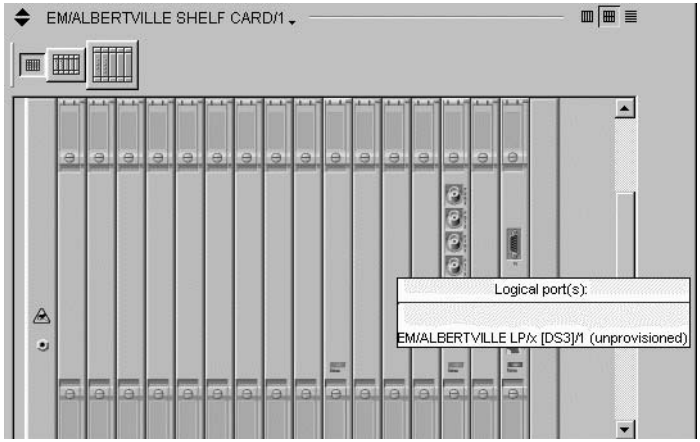
Displaying tool tips

The Shelf View tool supports tool tips. Tool tips are pop-up text boxes that provide additional information. The contents of the tool tip depends on the mouse pointer location. Tool tips provide such information as full component ID and sparing scenarios for logical processors and cards. Use the following procedure to display tool tips.

Procedure steps

1 Move the mouse pointer over a provisioned component for a few seconds.

The tool tip for that component opens. The following figure shows a sample card tool tip.



Opening pop-up menus

Pop-up menus are visible when you right-click on components in the Shelf View window. These pop-up menus provide additional commands that are specific to the selected area of the window. Use this procedure to open a pop-up menu.

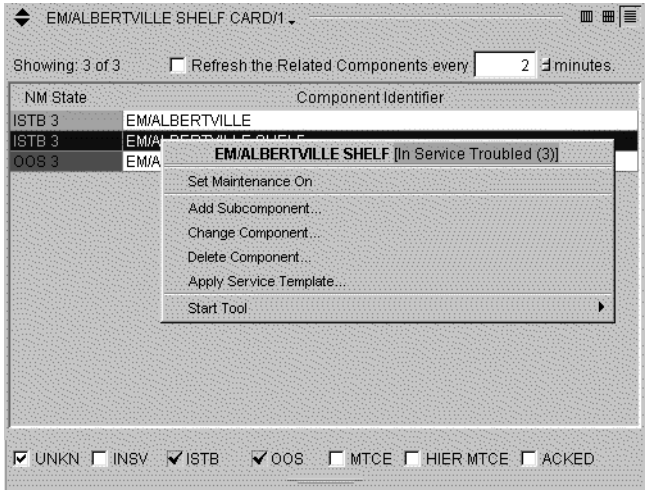
Procedure steps

1 Right-click on any provisioned (colored) component in any of the panels.

A pop-up menu opens.

2 Select a command from the pop-up menu.

The command executes and the pop-up menu closes.

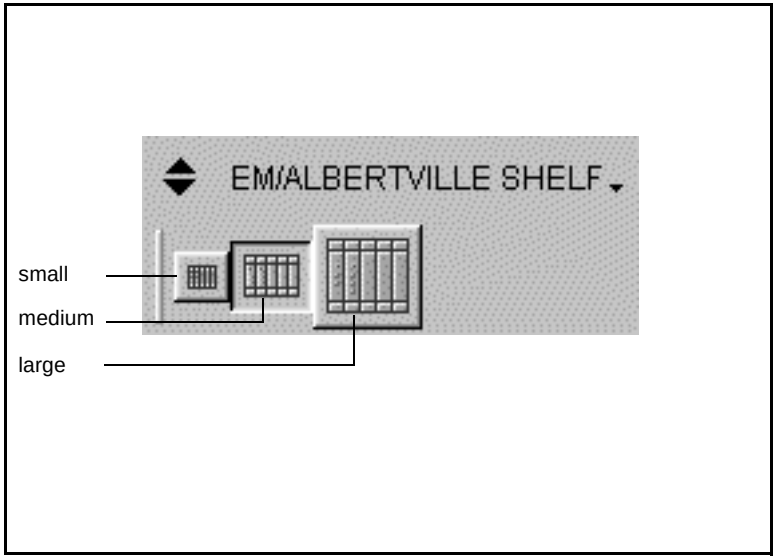


Adjusting the image size of the Passport Physical Shelf

The Passport Physical Shelf supports three image sizes: small, medium, and large. When the Passport Shelf View tool opens, the Physical Shelf uses the medium image as its default. Use this procedure to change the physical shelf size image.

Procedure steps

1. Click the **Physical Shelf** icon to select it.
2. Click one of the small, medium, or large image size icons.



The Physical Shelf increases or decreases in size, depending on your selection.

Adjusting the image size of the MPE 9500 Physical Shelf

The MPE 9500 Physical Shelf supports zoom controls. Use this procedure to adjust the physical shelf size image.

Procedure steps

1 Click the **Front or Rear graphical view** icon to select it.

2 Use one of the following icons to adjust the image size of the view. The icons are described in the order that they appear in the diagram below.:

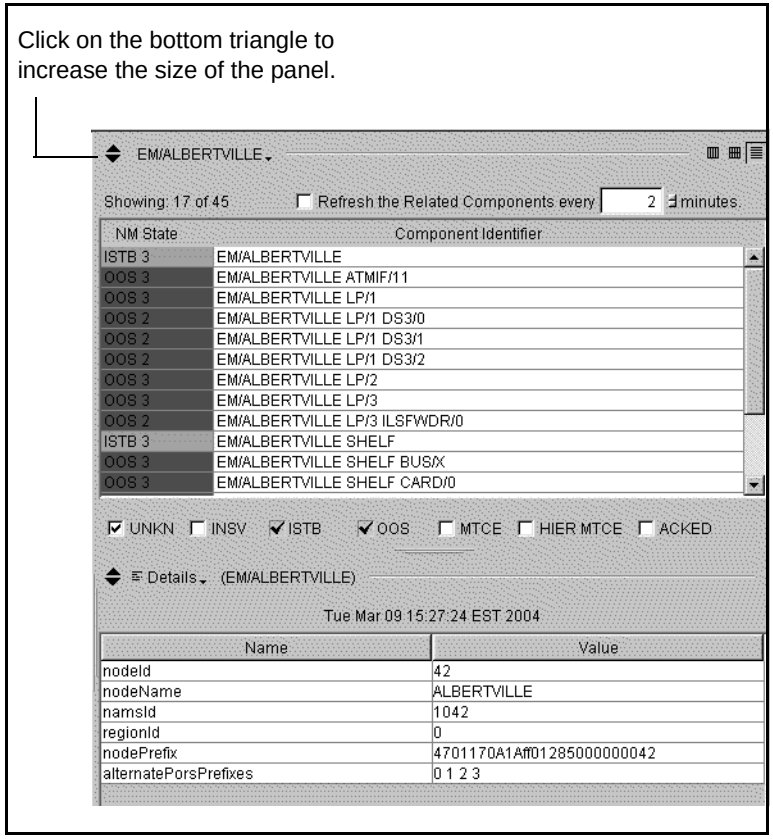
- Selection - allows the user to select cards and ports
- Pan - allows the user to grab the image and move it around (alternative to scroll bars)
- Zoom In - zooms in x2 and maintains the center point
- Zoom Out - zooms out x 1/2 and maintains the center point
- Reset Zoom - returns to 1:1 zoom scale
- Fit to Window - makes entire image fit in the current window
- Zoom to Rectangle - user selects a rectangle and the selected image zooms to fill the viewing area (best fit).

Adjusting panel sizes

The Examination area contains various panes. You can adjust these panel sizes. Any adjustments that you make remain in effect until you readjust the settings or until you close the window. Use this procedure to adjust the sizes of these panes

Procedure steps

1. To adjust the height of a panel, click on the bottom triangle to expand the window vertically.
2. To return to the normal view, click on the top triangle to decrease the height of the panel.

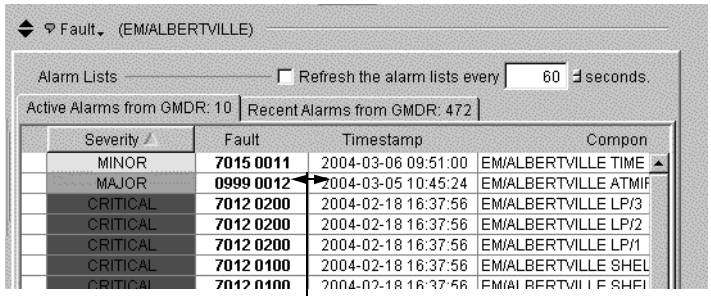


Adjusting column widths

You can change the default column width in tables located in the Examination Area and Details Area.

Procedure steps

1 In a panel, drag the boundary on the right side of the column heading until the column is the size you want.



When you move the mouse pointer to the boundary of the column heading, the pointer changes to a double-pointing arrow and the header boundary displays.

Navigating the device component tree structure

The Navigation area represents the hierarchical component structure of the device. You can navigate down the component tree to explore the component architecture. You can also navigate across the logical Passport component branches through links to explore relationships between components. Use this procedure to navigate the component tree structure.

Initially, all first level components in the Navigation area are displayed with a plus (+) sign in the folder icon, whether or not there are subcomponents. If you try to expand a first-level component that has no subcomponents, the component remains in the list but the folder and plus sign are removed.

Procedure steps

1. From the **Navigation area**, expand a component by clicking the plus sign (+) adjacent to the component you want to expand.

   When the component expands, the plus sign changes to a minus sign (-). Expanding a component in the tree requires communication with the device. A short delay may be incurred during such expansion operations.

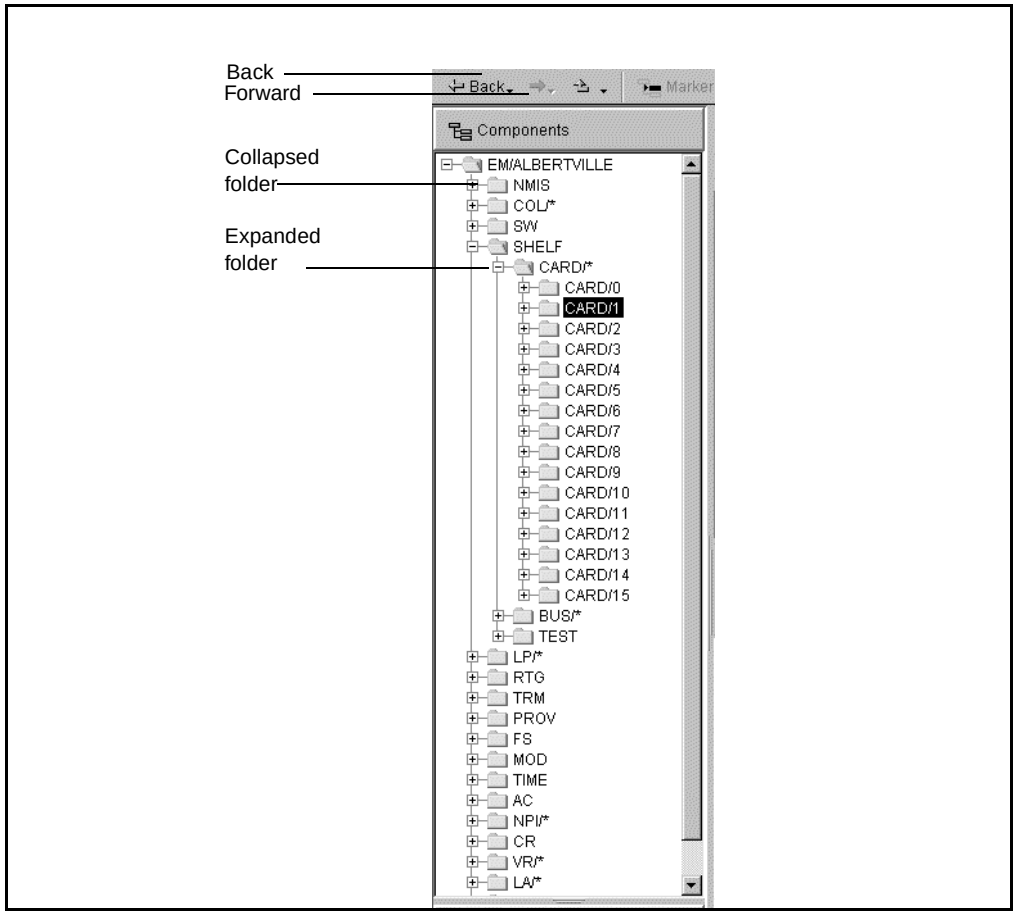
2. To compress subcomponents, click the minus sign (-) adjacent to the parent component.

3. To navigate across the component tree, you need to use links. In the Component Navigator, links are colored blue. Move the mouse pointer over the link until the pointer changes to the figure of a hand and then click.

   The Navigator panel refreshes with the linked component at the top level of the component hierarchy.

4. To return the node to the top level of the component hierarchy, click the Home button.

5 To move forward or backward through the link history, click the back and forward buttons.



Setting the maintenance state for a component

Use this procedure to set the maintenance state for a component on or off. Setting the maintenance state permanently hides the current troubled state of a component. Any children of the selected component are also put into maintenance state. For more information on maintenance state, see 241-6001-015 *Preside MDM Network Model Administrator Guide*.

Procedure steps

1 To set the maintenance state, right-click on a provisioned component and then from the resulting pop-up menu, select either **Set Maintenance State On** or **Set Maintenance State Off**.

When maintenance state is on, the selected component has a blue background. When maintenance state is off, the selected component displays a color that reflects its current MDM state.

Locking a logical port on a Passport

Locking an LP prevents it from providing services. When an LP is in the process of locking, its OSI administration state (adminState) changes to shutting down. In this state, the component continues to provide services to existing clients but does not accept any new requests for services. When the lock process completes, the adminState changes to locked and the LP no longer provides any services.

Prerequisite

When Shelf View opens, you need to authenticate to a device group. If you want to use the lock and unlock commands, you need to authenticate with a user ID that has the following administration capabilities:

- impact = service
- scope = network
- customer ID = 0

Procedure steps

1 Use one of the following steps on an unlocked LP:

- In the **Logical Processor summary** panel, right-click on an LP to open its pop-up menu.
- In the **Physical View** panel, right-click on a connector to list the associated LPs and then select an LP from the list to open the pop-up menu.

2 On the pop-up menu, select **Lock**.

The **Confirm Lock Request** dialog opens and prompts for confirmation.

3 On the **Confirm Lock Request** dialog, select one of the following options:

- **Lock** to lock the LP
- **Lock -force** to immediately lock a component and skip the shutting down state
- **Cancel** closes the dialog

Passport Shelf View replaces the LP instance in the LP Summary with a padlock icon for locked ports and a downward arrow for LPs that are shutting down. These icons also display in the LP label, menu, and tooltip.

Unlocking a logical port on a Passport

Unlocking a currently locked LP allows it to provide services. Unlocking an LP changes its administration state (adminState) to unlocked.

Prerequisite

When Shelf View opens, you need to authenticate to a device group. If you want to use the lock and unlock commands, you need to authenticate with a user ID that has the following administration capabilities:

- impact = service
- scope = network
- customer ID = 0

Procedure steps

1 Use one of the following steps on an LP that is locked or shutting down:

- On the **Logical Processor summary** panel, right-click on an LP to open its pop-up menu.
- On the **Physical View** panel, right-click on a connector to list the associated LPs and then select an LP from the list to open the pop-up menu.

2 On the pop-up menu, select **Unlock**.

The **Confirm Unlock Request** dialog opens and prompts for confirmation.

3 On the **Confirm Lock Request** dialog, click OK.

Passport Shelf View replaces the locked or shutting down icon with the LP instance in the LP Summary. These icons are also removed from the LP label, menu, and tooltip.

Displaying related components

Use this procedure to populate the related component list or to refresh the contents with related information for another component.

Procedure Steps

1 Select a component in any of the panels in the Shelf View window.

2 There are two ways to display related components:

- From the **View** menu, select **Related Components**.
- Click on the **Related Components** icon.

The **Related Components** panel opens.

3 To update the list with current information, click **Retrieve**.

The Related Components List refreshes with related component information.

Sorting related components

The related component panel displays related component information in tabular format. By default, the table sorts the related components by their component identifier. Use this procedure to change the sort order.

Procedure steps

1. Click the **Related components icon**.
2. To sort the table on a specific column, click its column header.

   The header of the current sort column displays a border and an arrowhead. An upward pointing arrowhead indicates ascending order and a downward pointing arrowhead indicates descending order.
3. To reverse the order of the current sort column, click the column header.

   The arrowhead in the column header reverses order. For example, when the column is in ascending order, clicking the column header reverses the order to descending.

Setting filters for related components

The Related component panel in the Examination area supports filters. Filters reduce the amount of information to let you focus on what is relevant. Use this procedure to display a subset of related components based on their network model component state.

Procedure steps

1 Click the **Related components icon**.

2 In the Related component panel, select any of the filter check boxes, as required. The ISTB and OOS filters have criticality levels ranging from a low of 1 to a high of 5. By default, all levels display. If required, you can change the criticality levels.

- **UNKN** displays related components whose state is unknown.
- **INSV** displays related components whose state is in-service.
- **ISTB** displays related components whose state is in-service—troubled. If required, change the criticality levels by selecting from the associated drop-down list.
- **OOS** displays related components whose state is out-of-service. If required, change the criticality levels by selecting from the associated drop-down list.
- **MTCE** displays related components whose state is maintenance.
- **HIER MTCE** displays related components whose state is hierarchical maintenance.
- **ACKED** displays related components whose state is acknowledged.

The related component list refreshes, based on the selected filters.

Setting an automatic refresh interval for related components

You can control whether or not the related component list refreshes and the frequency of refreshes. Use this procedure to establish or change the automatic refresh settings.

Procedure steps

1. Click the **Related components icon**.
2. In the related component panel, type a value in the **minute** box or use the arrows to increase or decrease the current number of minutes. The minimum value is 2 minutes.
3. To set the automatic refresh value, select the **Refresh the Related Components** check box.

   The related component list automatically refreshes at the specified time interval.
4. To stop automatic refreshes, clear the **Refresh the Related Components** check box.

Displaying component attributes

You can display attributes and their associated values for device components. The Shelf View retrieves these attributes directly from the device. Use this procedure to display component attributes.

Procedure steps

1. Click on a component.
2. In the **Details area**, select Details from the Details panel selector.

   Note: Select an actual component instance from the component tree, not a entry that has a wildcard (*). For example, you can display component attributes for CARD/2, but you cannot display attributes for CARD/*. CARD/* represents a category of components, not an actual component instance.
3. To update the list with current information, click **Refresh**.

Displaying alarms

Use this procedure to display detailed alarm information for a component.

Procedure Steps

1 In the **Details area**, select **Fault** from the **Details panel** selector.

2 To display alarms on a component, click on a component in the Related components area.

Note: Select an actual component instance from the component tree, not a entry that has a wildcard (*). For example, you can display component attributes for CARD/2, but you cannot display attributes for CARD/*. CARD/* represents a category of components, not an actual component instance.

The fault panel refreshes with the information for the selected component.

Sorting alarms

The Component Information tab displays alarm information in tabular format. By default, the alarm table sorts alarms by the order in which they are received by the General Management Data Router (GMDR). You can sort on multiple columns. You also can change the order from ascending to descending chronological order and you can change the column on which the table is sorted. The direction of the sorting arrows indicates whether the column is sorted in ascending or descending order. The arrows change direction each time they are selected.Use this procedure to sort alarms.

Procedure steps

1 In the **Details area**, select **Fault** from the **Details panel** selector.

2 To sort the alarm table on a specific column, click its column header.

The header of the current sort column displays a border and an arrowhead. An upward pointing arrowhead indicates ascending order and a downward pointing arrowhead indicates descending order. This column becomes the first sort column and the arrowhead is labeled 1.

3 To reverse the order of the current sort column, click the column header.

The arrowhead in the column header reverses order. For example, when the column is in ascending order, clicking the column header reverses the order to descending.

4 To sort the alarm table on multiple columns, click the first column header. Then press SHIFT and click a second column. Press SHIFT and click a third column.

As columns are selected for sorting, a triangular marker is displayed in the header, and the columns are labeled 1, 2, and 3 respectively. For example, if severity, CompId, and time are selected, and labeled 1,2, and 3 respectively, then the alarm list is sorted first by alarm severity, then within each severity part of the list, the alarms are sorted by CompId, and for each CompId of each severity grouping, the alarms are sorted by time.

Setting an automatic refresh interval for alarms

You can control whether or not the alarm list refreshes and the frequency of refreshes. Use this procedure to establish or change the automatic refresh settings.

Procedure steps

1. In the **Details area**, select **Fault** from the **Details** panel selector.
2. In the **Fault** panel, type a value in the **seconds** box or use the arrows to increase or decrease the current number of seconds. The minimum value is 10 seconds.
3. To set the automatic refresh value, select the **Refresh the alarm lists** check box.

   The alarm list automatically refreshes at the specified time interval.
4. To stop automatic refreshes, clear the **Refresh the alarm lists** check box.

Acknowledging an alarm

Acknowledging an alarm indicates that you are currently investigating the problem associated with the alarm. Use this procedure to acknowledge a selected alarm.

Procedure steps

1. In the **Details area**, select **Fault** from the **Details panel** selector.
2. In the **Active Alarms from GMDR** list, right-click on an alarm.

   A pop-up menu opens.
3. From the pop-up menu, select **Acknowledge Alarm...**.

   An **Input** dialog opens and prompts for the acknowledgement reason.
4. In the **Input** dialog, type the reason for alarm acknowledgement and click **OK**.

   The **Input** dialog closes.
5. To view the acknowledgement, the alarm list need refreshing. Use one of the following methods:

   - Click **Retrieve.**
   - If you have set an automatic refresh interval set up, wait for the list to update automatically.

Acknowledging all active alarms on a component in MDM Toolset

You can acknowledge all active alarms on a component. Acknowledging the alarms indicates that you are currently investigating the problems associated with the component. Use this procedure to acknowledge all active alarms for a selected component.

Procedure steps

1. Position the mouse pointer on any provisioned (colored) component in the Shelf View window and right-click.

   A pop-up menu opens.

2. From the pop-up menu, select **Start Tool->Fault -> Acknowledge Alarms on Component...**.

   The **Acknowledge Alarm(s) Dialog** opens.

3. In the **Acknowledge Alarm(s) Dialog**, type a reason for the alarm acknowledgement.

4. Optionally, to acknowledge all alarms for related subcomponents, select the **Also ack all alarms on related sub-components** check box.

5. Click **Ack Alarm(s)**.

   The dialog closes.

6. Alarm acknowledgement displays in the alarm list after the specified refresh interval. To immediately view the acknowledgement, click **Refresh**.

Unacknowledging an alarm

If an alarm has been acknowledged, you can turn off the acknowledgement when required. Use this procedure to unacknowledge an alarm.

Procedure steps

1. In the **Details area**, select **Fault** from the **Details panel** selector.
2. In the **Active Alarms from GMDR** list, right-click on an alarm that is currently acknowledged.

   A pop-up menu opens.
3. From the pop-up menu, select **Unacknowledge Alarm...**.

   An **Input** dialog opens and prompts for the unacknowledgement reason.
4. In the **Input** dialog, type the reason for alarm unacknowledgement and click **OK**.

   The **Input** dialog closes.
5. To view the unacknowledgement, the alarm list need refreshing. Use one of the following methods:

   - Click **Retrieve.**
   - If you have set an automatic refresh interval set up, wait for the list to update automatically.
6. Alarm unacknowledgement displays in the alarm list after the specified refresh interval. To immediately view the unacknowledgement, click **Refresh**.

Unacknowledging all active alarms on a component

If you have acknowledged all alarms for a component, you can turn off this acknowledgement when required. Use this procedure to unacknowledge all active alarms for a selected component.

Procedure steps

1. Position the mouse pointer on any provisioned (colored) component in the Shelf View window and right-click.

   A pop-up menu opens.

2. From the pop-up menu, select **Start Tool-> Fault -> Unacknowledge Alarms on Component...**.

   The **Unacknowledge Alarm(s) Dialog** opens.

3. In the **Unacknowledge Alarm(s) Dialog**, type a reason for the alarm unacknowledgement.

4. Optionally, to unacknowledge all alarms for related subcomponents, select the **Also unack all alarms on related sub-components** check box.

5. Click **Unack Alarm(s)**.

   The dialog closes and the active alarms for the selected component are unacknowledged.

6. Alarm unacknowledgement displays in the alarm list after the specified refresh interval. To immediately view the unacknowledgement, click **Refresh**.

Clearing local alarms on Passport

You can clear active alarms from the workstation's fault stack. This action clears the alarms from Preside Multiservice Data Manager only, not from the on-switch active alarm list.

Procedure steps

1. In the **Details area**, select **Fault** from the **Details panel** selector.
2. In the **Active Alarms from GMDR** list, right-click on an alarm.

   A pop-up menu opens.
3. From the pop-up menu, select **Local Clear**.
4. In the **Component details for** field, click **Retrieve** to refresh the alarm list.

   The selected alarm is removed from the active alarm list.

Clearing global alarms on Passport

You can clear active alarms from the workstation's fault stack and the on-switch active alarm list. Use this procedure to globally clear alarms.

Prerequisite

The ability to clear global alarms is available in Passport releases PCR 4.2 and above.

Procedure steps

1. In the **Details area**, select **Fault** from the **Details panel** selector.
2. In the **Active Alarms from GMDR** list, right-click on an alarm.

   A pop-up menu opens.
3. From the pop-up menu, select **Global Clear** or **Global Clear of Alarm**.
4. In the **Component details for** field, click **Retrieve** to refresh the alarm list.

   The selected alarm is removed from the active alarm list.

Making provisioning changes to components and services

You can perform component and service provisioning tasks from the Shelf View tool using the Embedded Nodal Provisioning tool.

Limitations

The Embedded Nodal Provisioning tool lets you perform a selection of provisioning tasks to a small number of components in the current active view. To navigate and provision large numbers of device components in a variety of device views, use Nodal Provisioning rather than Embedded Nodal Provisioning.

References

For details about the Embedded Nodal Provisioning tool, see the embedded nodal provisioning section in 241-6001-610 *Preside MDM Nodal Provisioning User Guide.*

Procedure steps

1 To open the component pop-up menu, from any tabbed page right-click on the component you want to provision.

2 To enable Embedded Nodal Provisioning from the component pop-up menu, select one of the following provisioning tasks:

- **Add Subcomponent…**
- **Change Component…**
- **Delete Component…**
- **Apply Service Template…**

The Embedded Nodal Provisioning tool opens.

3 To enable Nodal Provisioning from the component pop-up menu, select **Start tool, Configuration,** and then **Nodal Provisioning.**

The Nodal Provisioning tool opens.

Starting other MDM tools from Shelf View in MDM Toolset

The Shelf View tool provides a selection of fault and configuration capabilities. To perform additional fault, configuration, and performance tasks, you can start other tools from the Shelf View. Use this procedure to start other MDM tools with component context from device Shelf View.

Procedure steps

1 From any of the panes in the Shelf View window, right-click on the component that you want to put into context.

A component pop-up menu opens.

2 From the component pop-up menu, select Start Tool, followed by one of **Fault**, **Configuration**, **Performance** or **System** from the resulting submenu select the tool you want to start.

The table “Tools you can start from device Shelf View in MDM Toolset” (page 214) provides references to further information.

Table 28
Tools you can start from device Shelf View in MDM Toolset

Start Tool	Related Information
Fault:	
Component Information Viewer	“Component Information Viewer” (page 415)
Passport or MPE Shelf View	
Acknowledge Alarms on Component	“Alarm acknowledgement and unacknowledgement” (page 381)
Unacknowledge Alarms on Component	“Alarm acknowledgement and unacknowledgement” (page 381)
Circuit Viewer	“Circuit Viewer” (page 599)
Configuration: Passport or MPE Nodal Provisioning	Embedded Nodal Provisioning in 241-6001-610 *Preside MDM Nodal Provisioning User Guide*

(Sheet 1 of 2)

Table 28 (Continued)
Tools you can start from device Shelf View in MDM Toolset

Start Tool	Related Information
Performance: Datal Viewer	Data Viewer in 241-6001-031 *Preside MDM Performance Management User Guide*
System: Operational Commands	
(Sheet 2 of 2)	

Starting other MDM tools from Shelf View in Operator Client

The Shelf View tool provides a selection of fault and configuration capabilities. To perform additional fault, configuration, and performance tasks, you can start other tools from the Shelf View. Use this procedure to start other MDM tools with component context from Shelf View.

Procedure steps

1. From any of the panes in the Shelf View window, right-click on the component that you want to put into context.

   A component pop-up menu opens.

2. From the component pop-up menu, select Start Tool, followed by one of **Fault**, **Configuration**, **Performance** or **System** and from the resulting submenu select the tool you want to start.

   The table “Tools you can start from the device Shelf View in Operator Client” (page 216) provides references to further information.

Table 29
Tools you can start from the device Shelf View in Operator Client

Start Tool	Related Information
Fault:	
Component Information Viewer	“Component Information Viewer” (page 415)
Passport or MPE Shelf View	
Configuration: Passport or MPE Nodal Provisioning	Embedded Nodal Provisioning in 241-6001-610 *Preside MDM Nodal Provisioning User Guide*
Performance: Datal Viewer	Data Viewer in 241-6001-031 *Preside MDM Performance Management User Guide*
System Utilities:	
Operational Commands	

(Sheet 1 of 2)

Table 29 (Continued)
Tools you can start from the device Shelf View in Operator Client

Start Tool	Related Information
Command Console	
Telnet Access	

(Sheet 2 of 2)

Tool fundamentals

Shelf View is a Preside Multiservice Data Manager (MDM) tool that communicates directly with a device to assist in troubleshooting network problems in real time. The Passport Shelf View window displays both physical and logical shelf views. The MPE 9500 Shelf View window displays two graphical views: the rear and the front of the MPE 9500. Both the Passport and MPE 9500 Shelf Views show related component information and associated alarms. The tool also supports a selection of nodal surveillance and provisioning activities.

The Shelf View tool uses the psvagent server to collect its required data. For details about this server, see the section on psvagent in 241-6001-310 *Preside MDM Server Reference Guide*.

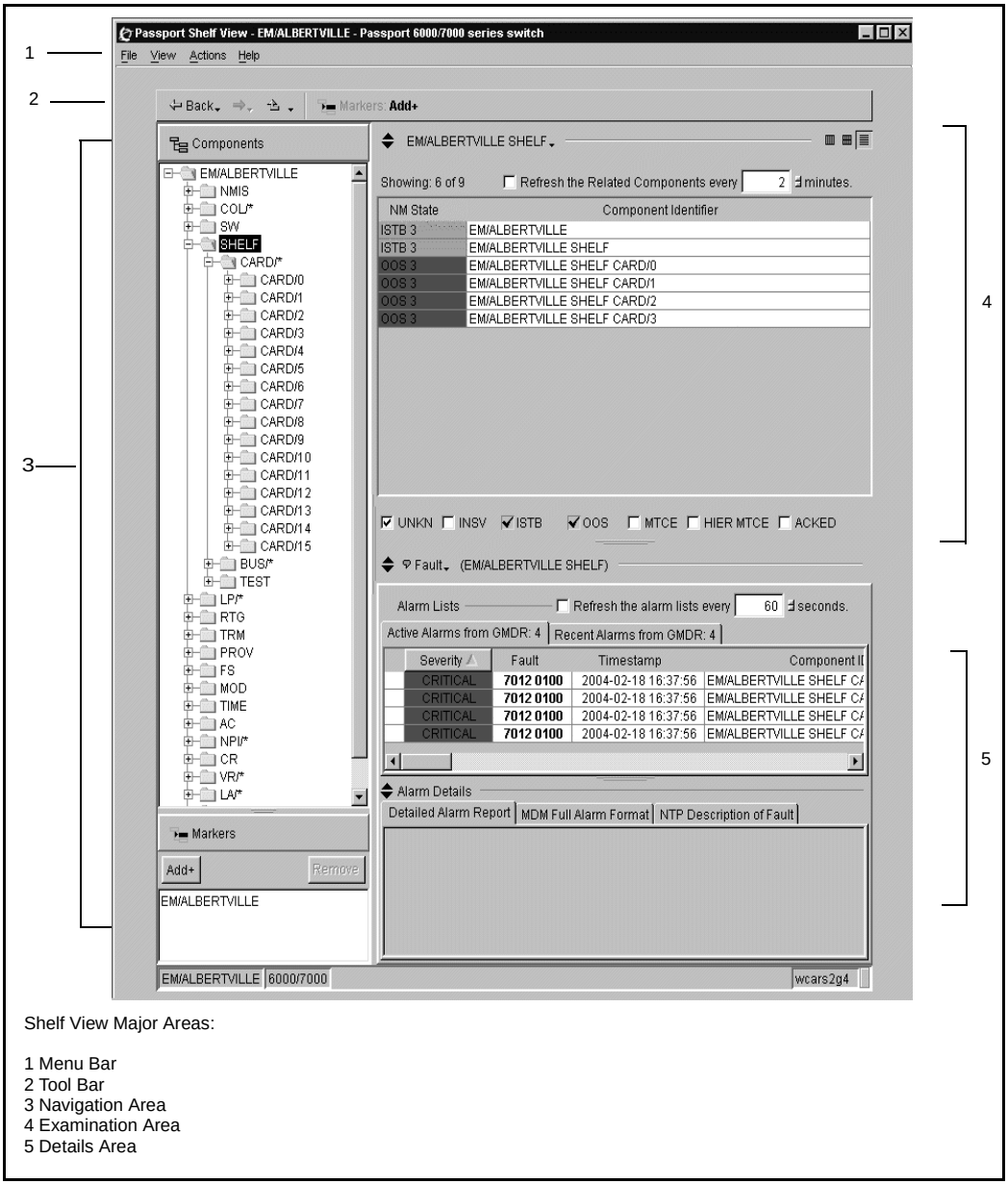
For more details about Shelf View, see the following topics:

Shelf View user interface

The Shelf View can be launched from the MDM toolset or Operator Client. See “Passport Shelf View” (page 220). The five major areas of the Shelf View graphical user interface are:

- “Menu bar” (page 221)
- “Tool bar” (page 227)
- “Navigation area” (page 228)
- “Examination area” (page 232)
- “Details area” (page 244)

Figure 10
Passport Shelf View



Shelf View Major Areas:

1 Menu Bar
2 Tool Bar
3 Navigation Area
4 Examination Area
5 Details Area

Menu bar

The menu bar contains the following menus:

- “File” (page 221)
- “View menu” (page 222)
- “Actions” (page 224)
- “Help” (page 225)

File

The **File** menu contains the following command:

- **Exit** closes the window and exits the tool. See the procedure “Quitting Shelf View” (page 185).

View menu

The **View** menu for the Shelf View contains the following commands:

Table 30
View menu commands

Area	Description
Back	provides a drop-down list of context changes that have preceded the current context
Forward	provides a drop-down list of context changes that have followed the current context.
Up one level	changes context to the current context's parent component regardless of whether or not that component appears in the Back or Forward lists. The button also provides a drop-down menu containing all parent components in the hierarchy, up to the root device component. This button is enabled only when the current context value is not the device name.
Logical processor (Passport only)	displays information about logical processors (LPs) and cards. It also provides sparing information for logical processors and cards.
Physical shelf (Passport only)	shows the device as it is currently equipped, including components that are present but not yet active. This view includes the shelf, card cages, card faceplates, frames and other hardware of the selected device.
Chassis Front (MPE 9500 only)	displays the front of the MPE 9500 with the xSC cards. All provisioned ports are shown on each card according to the card type.
Chassis Rear (MPE 9500 only)	displays the back of the MPE 9500 with the IOC cards (both half-height and full-height cards).
Related components	displays parents, children, and related links of selected components.

(Sheet 1 of 2)

Table 30
View menu commands (Continued)

Area	Description
Details	displays a tabular report of all available attributes of the components in the details context.
Fault	provides alarm information for a specific component, both active and recent alarms.
(Sheet 2 of 2)	

Actions

The Actions menu contains the same menu items as the component pop-up menu. To open the component pop-up menu, right-click on any component in the Shelf View. See the “Components pop-up menu” (page 226) for more information.

Help

The Help menu contains the following commands:

Table 31
Help menu commands

Area	Description
Help on Window	displays descriptive information about the device Shelf View window components.
What's This?	displays information about a selected area of the device Shelf View window.

Components pop-up menu

The Shelf View provides a components pop-up menu. This menu is opened by right-clicking on any component ID shown in any area panel of the application (text or graphic).

The components pop-up menu has two parts: an internal menu and an external menu. The external menu appears at the end of the internal pop-up menu.

The components pop-up menu is a duplicate of the **Actions** menu. The external pop-up menu, defined under the Start Tools menu, launches other applications and is compliant with the Start Tool Filter that is defined in Operator Client.

When a user right clicks on a component ID, the components pop-up menu is displayed.

Tool bar

The Context Browser Toolbar provides three buttons, similar to web-browser buttons.

Figure 11
Context tool bar

Table 32
Context tool bar commands

Area	Description
Back	provides a drop-down list of context changes that have preceded the current context
Forward	provides a drop-down list of context changes that have followed the current context.
Up	changes context to the current context's parent component regardless of whether or not that component appears in the Back or Forward lists. The button also provides a drop-down menu containing all parent components in the hierarchy, up to the root device component. This button is enabled only when the current context value is not the device name.

Navigation area

The Navigation area provides a set of panels that aid the user in locating specific components. The panels included in this area are

- A tree list of components from which the user can select a component as the target for examination in the Examination area.
- A Markers list of components to which the user may add and remove component ID markers. This list is similar to a web-browser Bookmarks or Favorites list.

Navigation tree

The tree hierarchy is the left panel of the Shelf View main window. When the Shelf View is opened, the hierarchical component structure of the device is displayed.

The Navigation tree displays a tree list of component IDs showing the component structure of the network element. This panel is used to locate specific device components.

When an item in the tree hierarchy has sub-items, a plus (+) sign displays to the left of the item name. You click the + sign to expand or collapse the sub-items.

Selecting and right-clicking on items and sub-items in the tree hierarchy displays a popup menu with options to allow to perform configuration tasks and access help information.

A specific item is put into context when you select it. It is shown as selected in the tree list and notification of the context change is propagated throughout the application so that the panels in the Examination area and Details Area are automatically updated.

When a selected component is the device itself, its chassis, or any of the physical components under the chassis, the Physical View is automatically selected in the Examination area. When the selected component is the LP component, the LP component is automatically selected in the Examination area. For any other selected component, the Related Components is automatically shown in the Examination area.

Provisioning activities are made possible from the Shelf View by an embedded interface to the key elements of the Nodal Provisioning application. This embedded interface is called Embedded Nodal Provisioning. Embedded Nodal Provisioning lets you create, modify, and delete components and apply service templates to the current view. Embedded Nodal Provisioning only supports a subset of changes to a small number of components in the current active device view. To navigate and provision large numbers of device components in a variety of device views, you need to use the Nodal Provisioning tool. For a description of Embedded Nodal Provisioning and how to use it, see the Embedded Nodal Provisioning

section in 241-6001-023 *Preside MDM Configuration Management for Passport User Guide*. For details about the Nodal Provisioning, see 241-6001-610 *Preside MDM Nodal Provisioning User Guide*.

Markers list

The Markers list is a user-specific list of component IDs. This is similar to a web-browser Bookmarks or Favorites list. Only component IDs specific to the current device instance are shown. The Markers list is initially not shown by default.

The panel contains two controls for the maintenance of markers: Add and Remove. The Add + button adds the component ID currently in the application context to the list. The Remove button is enabled only when a marker is selected. It deletes the selected marker from the list.

Double-clicking on a marker re-establishes it as the current context value.

A duplicate Add control is available from the application tool bar to provide easy access to this function even when the Markers panel in the Navigation area is minimized or not visible.

Figure 12
Markers list

Examination area

The Examination area shows the selected component IDs within the context of other nodal components, either graphically or textually. The View selectors allow the user to switch between the graphical and text view, and the Context history lets the user view previous context changes.

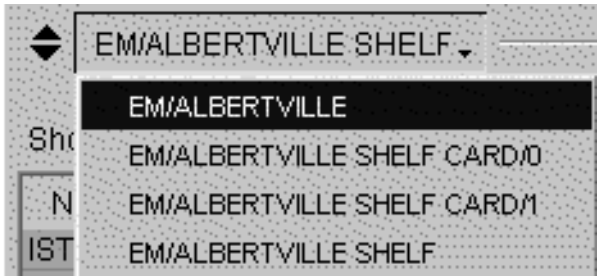
When a component is selected, either in the Graphical or Related Components of the Examination area, the Navigator tree is automatically updated to reflect that component ID throughout the application.

The split panel containing the Examination and Details area is designed so that one-touch control can be used to minimized the top or bottom area. The header line always remains visible.

Context history

The context history provides a drop-down menu showing the last ten unique context changes performed in the Examination area.

Figure 13
Context history



Duplicate entries in this list are not permitted. If a user toggles back and forth between two context values, it does not fill the list each time a value is selected.

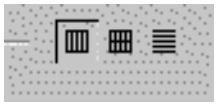
When a component is selected form the drop down menu, if that component is the device itself, its chassis, or any of the physical components under the chassis, the Graphical view is automatically selected in the Examination area. For Passport, the LP Summary panel is displayed when you select an LP component.

For any other components, the Related Components is used. The user can always change to another view after the default is displayed using the icons buttons in the Examination Area header bar.

View selector icons

In the right-hand corner of the Examination area, there are three icons that allow you to choose the view. For Passport, the left button activates the Logical Processor Summary, the middle button, the Physical View. For MPE 9500, the left button displays the Front Chassis (Input/Output cards) and the middle button displays the Back Chassis (Service cards). For both devices, the right button activates the Related Components.

Figure 14
View selector icons



When the user selects components in the Navigator tree, the Examination area is automatically updated with the newly selected context.

If the selected component ID defines a component that appears in the physical graphics, for example, a card or port, then the Graphical view is automatically made visible and the graphical image of that component is shown as selected. If the component ID defines a logical component, for example, a controller or interface, the Related Components is automatically made visible and the specified component is shown as selected.

The user can toggle between the two views, but if the component in context does not appear in the Physical View, the selection is not indicated.

Related Components

The Related Components List shows the MDM-related components list for the component ID in context. The list is retrieved from the MDM Network Model Server (nmserver) whenever the application context changes or every time an active refresh cycle is triggered.

The Related Components List displays parents, children, and related links of a selected component. Each entry in the list displays with a background color to indicate the state value. For details about colors and their associated states, see the table “MDM state color conventions” (page 249).

The list also displays component states and full component IDs. Components with a state of in-service—troubled (ISTB) or out-of-service (OOS) display with an MDM network model component criticality factor, ranging from a low of 1 to a high of 5. You can control whether or not the related component list refreshes and the frequency of refreshes. You can also sort the list so that it is organized by severity of network model state or by component identifier.

The Related component panel supports filtering so that you can limit the amount of information that displays in the list. A selection of check boxes in this panel lets you filter components based on the network model (NM) state.

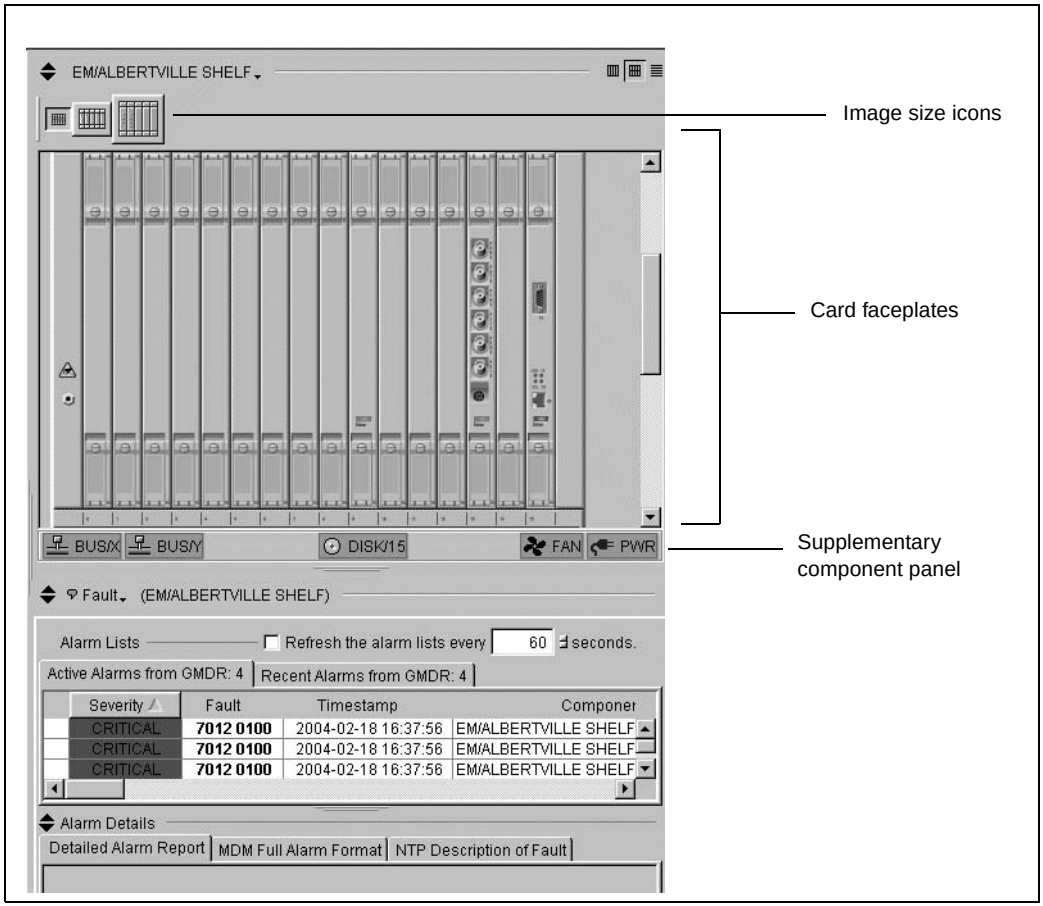
This panel also displays the total number of related components in the list. When you select any of the filter check boxes, the panel displays both the number of items in the filtered list and the total number of related components.

To change the value in the Related component field, double-click on a component in the list. The list refreshes the display of related components for the selected component. As well, the Component details panel refreshes its display with information about the selected component.

Physical Shelf for the Passport

The Passport Physical Shelf view represents the Passport device as it is currently equipped, including components that are present but not yet active. This view includes the shelf, card cages, card faceplates, frames and other hardware of the selected Passport device. Entire Passport 15000 and 20000 series frames do not display because the Passport Shelf View tool cannot determine whether a shelf is mounted in the upper or lower half of the frame. For this reason, a small separation appears between the breaker interface panel (BIP) and the shelf in the Physical Shelf view. The figure "Passport Shelf View: Physical Shelf" (page 237) shows a sample Passport Shelf View window with the Physical Shelf tab selected. You can use the image size icons to increase or decrease the shelf view display. See "Adjusting the image size of the Passport Physical Shelf" (page 189).

Figure 15
Passport Shelf View: Physical Shelf



The Passport Shelf View window automatically refreshes to capture changes to components or states as they occur. The color of the card LED in the Passport Shelf View reflects the state of the card as assigned by MDM network model, not the actual physical LED. As a result, in some instances the derived Passport Shelf View LED color may differ from the actual LED.

To assist in troubleshooting, when you select a port in the Logical Processor Summary panel, the physical connector associated with that port is highlighted in the Physical Shelf panel.

When you select a card in the Physical Shelf, its associated LPs display with colored borders in the Logical Processor Summary panel. LPs associated with a main card have a thick magenta border; LP's associated with the spare card have a thin grey border.

The Physical Shelf panel consists of the following components:

- "Card faceplates" (page 238)
- "Supplementary component bar" (page 238)

Card faceplates

In the physical view, only the cards represent modelled Passport components. Connectors may map to multiple connectors, each according to its card type. Cards, card LEDs, and port connectors are the only interactive portions of the physical view. The color of the LEDs on the faceplates indicate the state of the card. The color overlay on the physical connectors is in accordance with MDM state hierarchical propagation rules and represent a composite of the states of all the logical ports that map to the connector.

Supplementary component bar

The supplementary component bar provides MDM state information for some additional components. This bar includes states for the following Passport components:

- BUS/X and BUS/Y (for Passport 6000 and 7000 series) or FABRICCARD/X and FACRICCARD/Y (for Passport 15000 and 20000 series)
- DISK/0
- DISK/1 if configured (for Passport 15000 and 20000 series)
- DISK/15 if configured (16-slot Passport 6000 and 7000 series)
- FAN
- PWR (power supply)

The FAN and PWR components are not MDM modelled component types. The states for these components are simulated by monitoring the Passport device for specific alarms and are presented in the Passport Shelf View window to further assist in fault detection.

Application status bar

The application status bar is common to all application views and provides information about the status of the application as a whole. The following information is available from the application status bar:

- the name of the Passport node
- the type of Passport device including
  - — 6000/7000 (for all 6000 and 7000 series Passport devices)
  - — 15000 (for Passport 15000 only)
  - — 20000 (for Passport 20000 only)

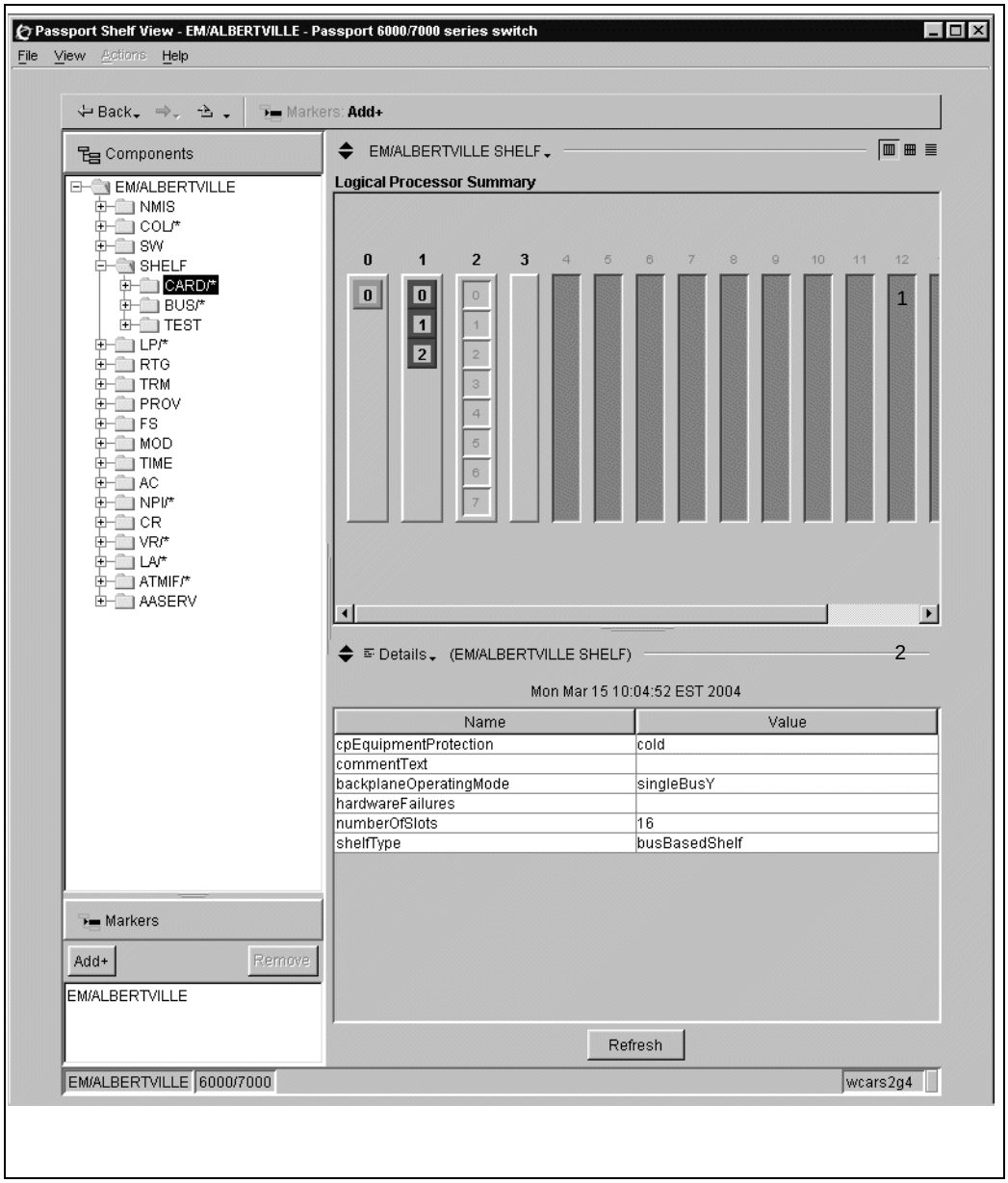
Logical Processor Summary

The Logical Processor Summary icon displays summary state information for logical processors (LP) and cards. It also provides sparing information for logical processors and cards. The figure “Passport Shelf View: Logical Processor Summary” (page 240) shows a sample Shelf View window with the Logical Processor Summary tab selected.

The Logical Processor Summary panel contains the following items:

- “Logical Processor Summary panel” (page 241)

Figure 16
Passport Shelf View: Logical Processor Summary



Logical Processor Summary panel

The Logical Processor Summary panel provides information about the architecture for logical processors (LP) and their associated ports. This panel also provides sparing relationships, port to physical connector mappings, and access to LP subcomponent information.

LP physical representation

The Logical Processor Summary panel displays 16 LP slots (0 to 15) and their ports. For Passport Shelf View, an LP slot refers to the physical representation of the collection of logical ports associated with an LP, not the physical card cage slots in the Passport. Ports display in columns of eight. If an LP has more than eight ports, multiple columns display. The number of logical port buttons in a slot depends on the LP's associated card type.

LPs and ports that are not provisioned appear recessed; provisioned LPs and ports appear raised. If a port is predefined as not being able to be provisioned, then that port is labelled with a X rather than a port instance number. Ports for Passport 6000 and 7000 series display in ascending order; ports for Passport 15000 and 20000 series display in descending order.

LP to connector mapping

To help map logical ports to the physical connectors of the card faceplate, when you select a port in the LP Summary panel, the physical connector associated with that port is highlighted in the physical view.

Subcomponent information

To view the subcomponents of any component on the Logical Processor Summary panel, click on that component. The Navigation tree is updated with selected component at the top level of the Navigator panel and, if applicable, all subcomponents underneath.

Sparing relationships

When you select a component in the Logical Processor Summary panel, any provisioned sparing relationship for that object automatically displays. For a list of sparing types, see the table "Shelf View supported sparing types" (page 242).

Table 33
Shelf View supported sparing types

Sparing type	View from	Indicators
LP/CARD (logical processor/card)	Logical Processor Summary and Physical Shelf.	When you select an LP or port, the associated main and spare cards display with colored borders. A magenta border surrounds the main card; a grey border surrounds the spare card.
LAPS/APS (line automatic protection switching/automatic protection switching)	Logical Processor Summary panel	A dashed line connects the spared ports. **W** indicates the working line end, **P** indicates the protection line end, and **A** indicates the currently active end.
DLEP	Logical Processor Summary panel	A dashed line connects the spared ports. **M** indicates the main LP end, **S** indicates the spare LP end, and **A** indicates the currently active end.
MLEP	Logical Processor Summary panel	A dashed line connects the spared LPs. **A** indicates the currently active LP.
PBG (port bridge group)	Logical Processor Summary panel	A dashed line connects the spared ports. **W** indicates the working line end, **B** indicates the bridge end.

Physical shelf for Nortel Networks Multiservice Provider Edge 9500

The MPE 9500 physical shelf view is comprised of two graphical views: the rear of the device (Rear Chassis) and the front of the device (Front Chassis).

The rear graphical view displays the Service cards. Service cards fall into two categories: switched service cards (XSCs) and processing service cards (CSCs and DSCs). All service cards are installed in the rear of the shelf and have no external port interfaces.

The front graphical view displays the input/output cards (IOCs) that house the physical port interfaces that provide external connectivity for the MPE 9500. IOCs are installed at the front of the shelf in vertical slots that accommodate one full-height or two half-height IOCs. All provisioned ports are shown on each card according to card type.

The LEDs of the cards are neutral grey. MDM states are shown for ports by coloring the entire port graphic background with the appropriate color for the MDM state according to the current conventions (see “MDM state color conventions” (page 249)). Cards show the MDM states with an outline around the card. This maximizes the card-state visibility when the user zooms in, pans, and scrolls.

In addition to cards and ports, these graphics also represent fans and power supplies as well as the shelf chassis itself. The availability of these additional components depend on their availability through the fault stack and from the device itself.

When a component is selected in the Navigator tree, and the component is represented in either the rear or front chassis, then that view panel is automatically shown. Selecting a card or a port in the graphical view updates the contents of the Details area.

Graphical zoom controls are provided within this panel. These controls include zoom in, zoom out, restore previous zoom, restore original zoom, and zoom to a selection rectangle. There are additional controls for panning the display and for selecting objects. For more information, see “Adjusting the image size of the MPE 9500 Physical Shelf” (page 190).

Details area

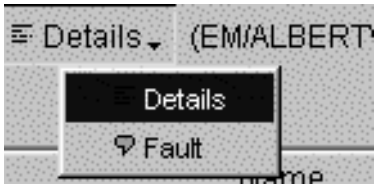
The Details Area shows specific information for the currently selected component in the Examination area. The user can switch between various panels of relevant information specific to the selected component.

Details panel selector

The Details Panel selector provides a drop-down menu with the following entries:

- Details
- Fault

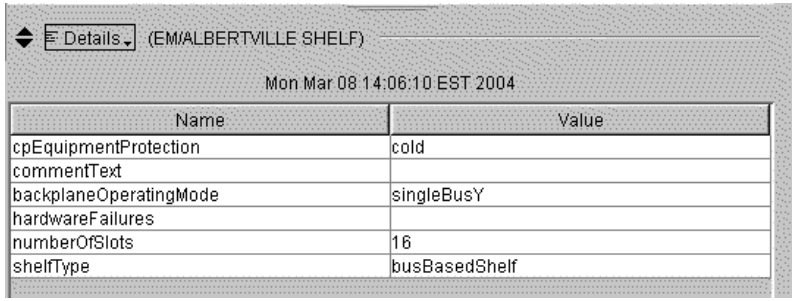
Figure 17
Details panel selector



Details panel

The Details panel displays a tabular report of all available attributes of the components in the details context. These attribute values are retrieved directly from the device NE itself.

Figure 18
Attribute details panel

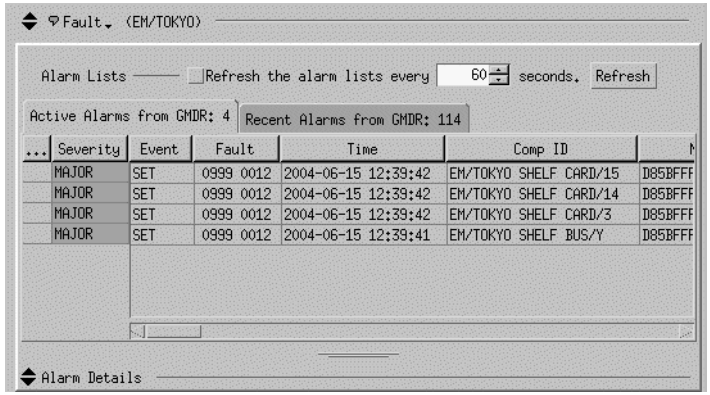


This panel also provides a refresh button to re-retrieve the attributes and updates the table with fresh values.

Fault panel

This panel lists the faults (alarms) associated with the component in context. The faults are retrieved from the GMDR server whenever the application component ID context is changed or active refresh cycle occurs, if any.

Figure 19
Fault details panel



The two left-most columns, the Ack State icon and the alarm Severity column are fixed, and do not scroll horizontally. The horizontal scroll bar starts under the Event or CompId column (recent or active alarm lists) instead of underlining the entire table. When the user scrolls using the horizontal scroll bar, the Ack icon and Severity column stay in place while the rest of the columns scroll through the remaining available area on the right side of the fixed columns.

The Fault panel consists of the following functionality described in the table “Fault details panel” (page 246).

Table 34
Fault details

Area	Description
Refresh Cycle Control	a toggle button to activate/deactivate the refresh cycle. The default is off.
Active Fault Tab with counter	contains a table listing all the active alarms buffered by GMDR for the selected component only. The label in the tab shows a count of the number of active alarms.
Recent Fault Tab with counter	contains a table listing all the recent alarms buffered by GMDR for the selected component and its subcomponents. The label in the tab shows a count of the number of alarms in the list.
Detailed Alarm Report	includes detailed information related to the alarm
MDM Full Alarm Format	presents the selected alarm record formatted as the alarm would appear in the MDM Fault Alarm Display.
NTP Description of Fault	provides the documentation for the selected alarm's fault code.

The Fault details panel provides alarm information for a specific device component. It provides both an active and recent alarms list. The tab labels for these alarm types indicates the number of alarms in its list. The Active Alarms tab displays only uncleared SET alarms. The Recent Alarms tab shows all alarms in the GMDR buffer, including SET and CLEAR, for the selected component and its subcomponents.

Both active and recent alarms display all alarm record fields in tabular format. A horizontal scroll bar lets you view all fields in the window. By default, the alarm tables are sorted by the order in which they are received by GMDR. However, you can sort the table based on other columns. You can also control whether or not the alarms refresh and the frequency of refreshes.

The alarm details display in a series of tabbed panes. Clicking an alarm in the alarm list populates the alarm details panel. In the details panel, both the alarm code and component ID are hypertext links. Clicking the alarm code in the Detailed Alarm Report tab displays NTP Description of Fault tab which contains the alarm help information. Clicking the component ID in the Detailed Alarm Report refocuses the Component Details panel on that component ID.

MDM state color conventions

The Shelf View tool uses standard MDM color conventions to indicate the network model states of components. Provisioned components display with a background color. For a description of the colors and their meaning, see the table “MDM state color conventions” (page 249).

Table 35
MDM state color conventions

If the background color is...	Then the component state is...	And its description is...
Green	INSV	In-service
Yellow/orange	ISTB	In-service—troubled
Red	OOS	Out-of-service
Grey	UNK	Unknown
Light Blue	MTCE	Maintenance
	HIER_MTCE	Hierarchical maintenance
Aqua	ACK	Acknowledged
No color	UNDEF	Undefined. The component has not been given a state by the Network Model Server.

Shelf View displays alarms in tabular format. The entries in the alarm severity column display with colored backgrounds, with different colors representing different alarm severities. In addition, the column indicating raw state displays its text in color.

Errors and warnings

The Shelf View provides the following error and warning messages to help you take corrective action:

Non-device Context

Message MDM's current context does not refer to a Passport or MPE. Unable to launch the device Shelf View.

Cause: The device Shelf View has tried to start with a component in context that is not a Passport or MPE device.

Action: Acknowledge the message to close device Shelf View. Put a device in context and then start the device Shelf View.

Unknown Device

Message: MDM does not recognize the device <Device Name>. Verify that the device is accessible and that it belongs to a device group.

Cause: HGDS cannot find the specified device. The node may be in the network model but Service Selection might be focused on a host that does not support connections to that host.

Cannot connect to psvagent

Message: The connection to the psvagent has been lost. Verify the server is running, and restart the application.

Cause: The socket connection between the client and the Shelf View tool is no longer available. The cause is usually that the server is stopped. This error causes the client to exit.

Cannot Connect To Server

Message: A connection to the server could not be made. Verify the server is running, and restart the application.

Cause: The client has started but it cannot connect to the psvagent. The cause is usually an error during startup of the psvagent. This error causes the client to exit.

Action: Refer to the MDM System Log for details about the error encountered by the psvagent and verify that the Shelf View ApplicationServer is reachable.

Cannot Connect To mnsdagent

Message: A connection to the mnsdagent could not be made. Verify that the mnsdagent is running, and restart the application.

Cause: The client has started but it cannot connect to the mnsdagent. If the error occurs when the client is accessing context, the client exits. If the error occurs when the client is setting context to launch another tool, the client continues but the tool launches without context.

Invalid or Missing Definition File

Message: The file <filename> is missing or contains an invalid definition.

Cause: The client has encountered errors reading or parsing shelf, card, or port definition files.

Chapter 5
VPN Monitor

The VPN Monitor tool provides fault management capabilities for Passport Internet Protocol (IP) Virtual Private Network (VPN) services. Using VPN Monitor, you can detect and diagnose faults in the components that comprise the VPN. You can also start other MDM tools to further diagnose and take corrective action.

VPN Monitor supports the following types of Passport VPNs:

- "RFC 2764" (page 278)
- "RFC 2547" (page 287)
- "Direct virtual router to virtual router" (page 294)

ATTENTION	Passport 6000 nodes with P7.0.x software release do not support the VPN ID attribute so the virtual routers are not loaded into the MDM Administration Database. Consequently, the VPN management tools introduced in MDM 14.3, including IP VPN Service Provisioning and VPN Monitor cannot be used.

Navigation

Prerequisites to using the VPN Monitor tool

- The MDM Administration Database must be configured and running. For details, see 241-6001-400 *Preside MDM Administration Database User Guide*.
- The VPN Monitor Extractor and VPN Monitor servers must be configured and running. For details, see 241-6001-310 *Preside MDM Server Reference Guide*.

Procedures

The VPN Monitor tool lets you monitor Passport IP VPN services. The tool monitors, calculates, and displays the status of basic services. Based on these state values, you can further diagnose problems and take corrective action. This section contains the following VPN Monitor procedures:

Starting and stopping the VPN Monitor tool

Getting online help

Modifying the VPN Monitor window

Working with basic services and service clusters

Starting other MDM tools

Starting VPN Monitor from the MDM toolset

VPN Monitor lets you monitor Passport IP virtual private network (VPN) services.

When the VPN Monitor client starts, it uses the server on the host specified in the Service Selection dialog box. For situations where you need to restart VPN Monitor, ensure the appropriate host is specified in the Server Selection dialog box before you start VPN Monitor.

Prerequisites

Before you can start VPN Monitor, the following items must be up and running:

- MDM Administration Database
  For details, see 241-6001-400 *Preside MDM Administration Database User Guide*.
- VPN Monitor Extractor
  For details, see 241-6001-310 *Preside MDM Server Reference Guide*.
- VPN Monitor Server
  For details, see 241-6001-310 *Preside MDM Server Reference Guide*.

Procedure steps

1 On the Preside Multiservice Data Manager window, select **Fault** and then **VPN Monitor**.

The **Configuration Synchronizing** dialog box opens and displays the status of the configuration loading process.

2 When the **Configuration Synchronizing** dialog box indicates that the configuration has finished loading (configuration loaded), click **OK**.

The dialog box closes and the **VPN Monitor** window is populated with VPN information.

Starting VPN Monitor from the command line

VPN Monitor lets you monitor Passport IP virtual private network (VPN) services.

When the VPN Monitor client starts, it uses the server on the host specified in the Service Selection dialog box. For situations where you need to restart VPN Monitor, ensure the appropriate host is specified in the Server Selection dialog box before you start VPN Monitor.

Prerequisites

Before you can start VPN Monitor, the following items must be up and running:

- MDM Administration Database|
  For details, see 241-6001-400 *Preside MDM Administration Database User Guide*.
- VPN Monitor Extractor
  For details, see 241-6001-310 *Preside MDM Server Reference Guide*.
- VPN Monitor Server
  For details, see 241-6001-310 *Preside MDM Server Reference Guide*.

Procedure steps

1 From the UNIX command line, type the following command:

`/opt/MagellanNMS/bin/VPNMonitorClient`

The Configuration Synchronizing dialog box opens and displays the status of the configuration loading.

2 When the **Configuration Synchronizing** dialog box indicates that the configuration has finished loading (configuration loaded), click **OK**.

The dialog box closes and the **VPN Monitor** window is populated with VPN information.

Quitting VPN Monitor

Use this procedure to quit the VPN Monitor tool.

Procedure steps

1 On the **File** menu, click **Exit**.

The VPN Monitor window closes.

Displaying VPN Monitor online help

Use this procedure to view online help for the VPN Monitor tool. You can display various types of online help. Help on Window provides a description of the elements of the VPN Monitor window. What's This? displays online information about a specific area of the VPN Monitor window.

Procedure steps

Help on Window

1 On the **Help** menu, click **Help on Window**.

The online help window opens with a description of the VPN Monitor window.

What's This?

1 On the **Help** menu, click **What's This?**

The mouse pointer changes to a question mark (?).

2 Move the mouse pointer onto an area of the window for which you want help and click the mouse button.

The online help window opens with information specific to the area you selected.

Opening pop-up menus

Pop-up menus are visible when you right-click on services or service clusters in the VPN Monitor window. These pop-up menus provide additional commands that are specific to the selected area of the window. Use this procedure to open a pop-up menu.

Procedure steps

1. Right-click any basic service or service cluster in the navigation, status, or recent events pane.

   A pop-up menu opens.

2. Select a command from the pop-up menu.

   The command executes and the pop-up menu closes.

Adjusting pane sizes

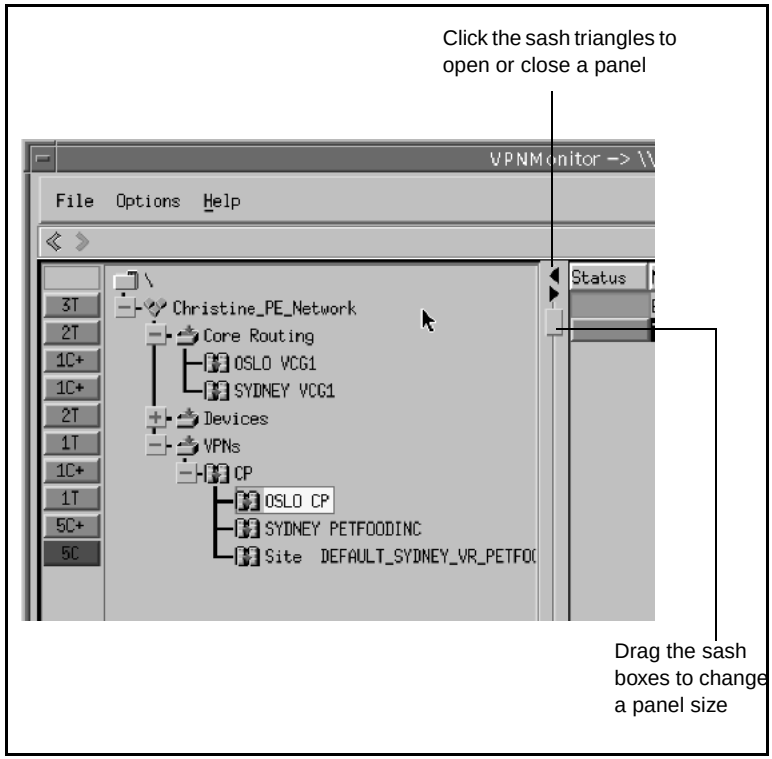
The VPN Monitor contains various panes. You can adjust these pane sizes. Any adjustments that you make remain in effect until you readjust the settings or until you close the window. Use this procedure to adjust the sizes of these panes

Procedure steps

1 To adjust the height or width of a pane, drag the box in the sash to the desired location.

When you move a sash to increase the amount of space in one pane, the space for the other panes decreases correspondingly.

2 To open or close a pane, click the triangles in the sash.



Displaying or hiding the tool bar

You can display or hide the VPN Monitor tool bar.

Procedure steps

1 Use one of the following methods:

- To hide the tool bar, on the **Options** menu, click to select the **Standard Tool bar** option.
- To display the hidden tool bar, on the **Options** menu, click to clear the **Standard Tool bar** option.

Displaying or hiding subcomponents

The navigation pane represents the hierarchical structure of the VPN. Use this procedure to display or hide subcomponents within the hierarchy. All components in the navigator pane that are not expanded display with a plus (+) sign. Components that are fully expanded display with a minus sign (-).

Procedure steps

1. To expand the component, click the plus sign (+) adjacent to the component you want to expand or double-click a component.

   When the component expands, the plus sign changes to a minus sign.

2. To compress subcomponents, click the minus sign adjacent to the parent component.

   When the component compresses, the minus sign changes to a plus sign.

Displaying service view components

You can display the status of views, service clusters, and basic services.

Procedure steps

1 Select an entry in the navigation panel.

The states of the selected entry and its associated subcomponents display in the status pane.

If you select from the navigation panel...	Then the status panel is populated with information about...
a core network	views that comprise the core network
a view	service clusters that comprise the views
a service cluster	basic services that comprise the service clusters

Displaying basic service components

You can display the Passport components that comprise a basic service.

Procedure steps

1. Select an entry from the navigation panel that displays basic services in the status pane.
2. In the status pane, right-click the basic service for which you want to display Passport components and then click **Show Components**.

   The Components dialog box opens and displays the Passport components that comprise the basic service as well as the state of each component.
3. If required, to update the state of basic service components, click **Refresh**.

Finding basic services or service clusters in the provider edge network

You can search for all occurrences of a specific basic service or service cluster in the provider edge (PE) network.

Procedure steps

1. Use any of the following methods:
   - In the navigation pane, right-click any entry in the core routing, devices, or VPNs service view.
   - In the status pane, right-click a basic or service cluster.
   - In the recent event pane, right-click a basic service.

   A pop-up menu opens.
2. On the pop-up menu, click **Find**.

   The **Find** dialog box opens and displays the selected service name, the scope, and all occurrences of the selected service in the PE network
3. Optionally, you can search another PE network or search all PE networks by selecting an entry from the **Scope** list.

Starting other MDM tools from VPN Monitor

The VPN Monitor tool provides a selection of fault capabilities. To perform additional fault, configuration, and performance tasks, you can start other tools from VPN Monitor.

Procedure steps

1. In the navigation panel, select an entry that displays basic services in the status pane.
2. Right-click a basic service entry in the status pane and then click **Show Components**.

   The **Components** dialog box opens and displays a list of the basic service components.
3. Right-click an entry in the **Components** dialog box and then select an MDM fault, performance, or system tool.

   The MDM tool opens in the context of the selected component.

VPN Monitor interface

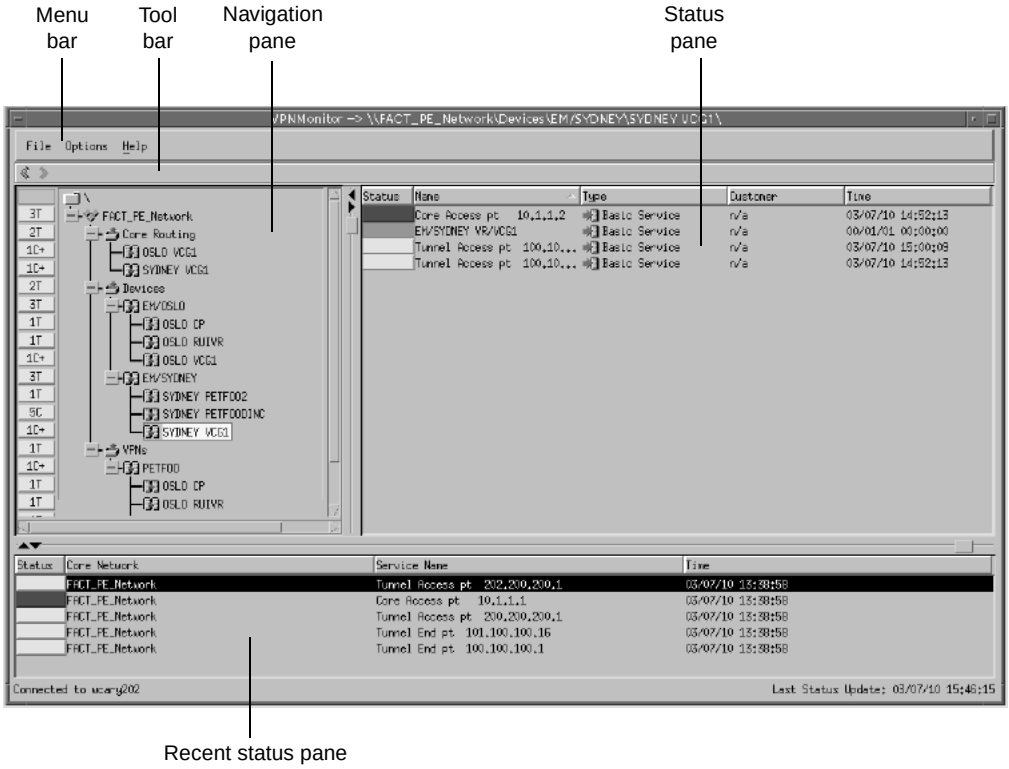
The VPN Monitor tool displays VPN services and the status of those services in a single window. VPN Monitor facilitates the diagnosis of IP VPN services and components in the Passport network.

See the following topics for details about the VPN Monitor interface:

- "Menu bar" (page 269)
- "Tool bar" (page 270)
- "Navigation pane" (page 270)
- "Status pane" (page 272)
- "Recent status pane" (page 272)
- "VPN Monitor dialog boxes" (page 272)

The figure "VPN Monitor window" (page 269) shows a sample VPN Monitor window with an RFC 2764 VPN network.

Figure 20
VPN Monitor window



Menu bar

The menu bar contains the following menus:

- “File” (page 270)
- “Options” (page 270)
- “Help” (page 270)

File

The File menu contains the following command:

- **Exit** closes the window and exits the tool. See the procedure “Quitting VPN Monitor” (page 258).

Options

The Options menu contains the following command:

- **StandardToolbar** displays or hides the standard tool bar. See the procedure “Displaying or hiding the tool bar” (page 262).

Help

The Help menu contains the following commands:

- **Help On Window** displays descriptive information about the VPN Monitor window components. See the procedure “Displaying VPN Monitor online help” (page 259).
- **What’s This?** changes the pointer to a question mark (?). While the cursor is a question mark, you can display help for various parts of the window. See the procedure “Displaying VPN Monitor online help” (page 259).

Tool bar

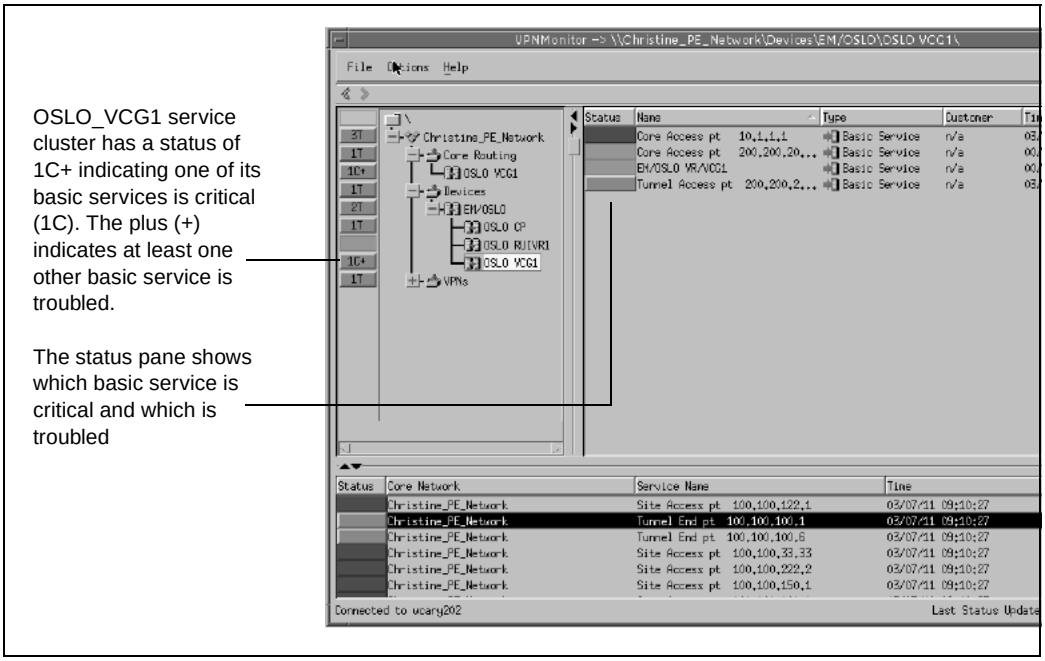
The standard tool bar contains icons that let you move backward or forward through the selections in the navigation pane. Selecting the back icon (<) changes the display in the navigation pane to the previous selection. VPN Monitor keeps a history of the previous 10 selections in the tree. Selecting the forward icon (>) changes the display to the next most recent selection in the navigation pane.

Navigation pane

The navigation pane displays core networks and their associated views. This pane contains 2 columns. The first column indicates the computed state of all items in the navigation tree. For details about how the state is derived, see “VPN state color conventions” (page 299). As well as the state color indicator, the column also displays the number of critical or troubled subcomponents. See the figure “VPN Monitor states” (page 271).

The second column displays the navigation tree which defines the hierarchical structure of VPN provider edge (PE) networks and their associated views. For RFC 2764 and RFC 2547, the top level of the VPN hierarchy in the navigation pane is the PE network. This PE network element corresponds to the PE network entity in the MDM. The next level shows the service views—core routing, devices, and VPNs.

Figure 21
VPN Monitor states



For direct VR-VR VPNs, the top level of the VPN hierarchy is direct VR-VR This entity is created in VPN Monitor. The next level shows the service views —VPNs and devices.

The navigation pane supports a pop-up menu. Right-clicking a service cluster in the navigation pane opens a pop-up menu that lets you search for all occurrences of the selected service in the Provider Edge (PE) network. See the procedure “Finding basic services or service clusters in the provider edge network” (page 266).

Status pane

The contents of the status pane depend on what you select in the navigation pane. When you make a selection in the navigation pane, the status pane displays the components that make up the selected service. For each component, the status pane also displays the associated status, service type, customer name, and status time stamp.

The status pane supports pop-up menus. For basic services and service clusters the pop-up menu lets you search for all occurrences of the selected service in the provider edge network. See the procedure "Finding basic services or service clusters in the provider edge network" (page 266). The pop-up menu for basic services also lets you show all components of the selected service. See "Displaying basic service components" (page 265).

Recent status pane

The recent status pane displays basic service status changes generated by the VPN Monitor Server. Events display in chronological order.

The recent event pane supports pop-up menus. For basic services the pop-up menu lets you search for all occurrences of the selected service in the provider edge network. See the procedure "Finding basic services or service clusters in the provider edge network" (page 266). The pop-up menu also lets you show all components of the selected service. See "Displaying basic service components" (page 265).

VPN Monitor dialog boxes

VPN Monitor also contains the following dialog boxes:

- "Find" (page 272)
- "Component" (page 273)

Find

Use the Find dialog box to display all occurrences of a specific basic service or service cluster in the provider edge (PE) network.

The Find dialog box contains the following fields:

- **Service Name** displays the selected basic service or service cluster.

- **Scope** indicates the PE network of the selected component. By using the associated drop-down menu, you can extend the scope to another PE network or all available PE networks.
- **Matches** lists all occurrences of the selected VPN service. If you select a specific entry from this list, the associated container expands in the navigation pane and the item is made available in the status pane.

The Find dialog box also contains the following buttons:

- **Close** closes the dialog box.
- **Help** displays online help for the Find dialog box.

Component

The Component dialog box displays the selection of Passport components that make up the selected basic service and the state of each of those components.

The Component dialog box contains the following fields:

- **State** displays the state of each component as it is computed and propagated by the VPN Monitor Server. The VPN Monitor Server maintains the propagated states for basic service components using the NDAM state of the component and any parent components.
- **Component Name** displays the components of the selected basic service.

The Component dialog box also contains the following buttons:

- **Close** closes the dialog box.
- **Refresh** updates the state of basic service components.
- **Help** displays online help for the Component dialog box.

Selecting a component in this dialog box puts the component in context for use with other MDM tools that also support context.

Right-clicking a component opens a pop-up menu that lets you start other MDM fault, performance, and system tools in context of the selected component.

Tool fundamentals

The VPN Monitor tool monitors network components that make up the VPN services so that you can detect and correct troubled elements within the service. VPN Monitor displays VPN topology along with state information so that you can easily identify and navigate troubled areas. From VPN Monitor, you can also start other MDM fault management tools to further investigate and correct faults.

For tool fundamental details, see the following topics:

Capabilities

The VPN Monitor tools provides the following capabilities:

- monitoring of Passport VPNs based on RFC 2764, RFC 2547, and direct VR-to-VR VPNs
- displaying fault and state information for components that comprise a service
- displaying core routing service views for RFC 2764 and RFC 2547
- displaying VPNs service views on IP-enabled Passport network elements
- displaying device service views on IP-enabled Passport network elements
- polling the MDM Administration Database on a periodic basis to updated the client views
- launching other tools to further diagnose or correct faults in the VPN

Service selection

Service selection is used to define which workstation is to be used to run a set of servers for selected MDM applications. System-wide settings are determined by the network administrator, but you can set a user-specific service selection for the duration of your MDM session. For details about service selection, see the section about using the Service Selection tool in 241-6001-303 *Preside MDM Administrator Guide*.

If a service selection change occurs during your VPN Monitor session, VPN Monitor retains its communication with the original workstation. The next time you start VPN Monitor, the new service selection host is used.

Service views

The VPN Monitor tool extracts VPN-related information from the MDM Administration Database and creates service-level views of VPNs. VPN Monitor displays these views as basic services or service clusters.

Basic services

Basic services are logical representations of network services. These services are an aggregation of components, some of which have state values. The basic service state is derived from the actual state of the components it contains. An example of a basic service is the router element which represents the Passport software entity that emulates a physical router.

For details about basic services, see the following topics:

- "RFC 2764 basic services" (page 278)
- "RFC 2547 basic services" (page 287)
- "Direct VR-VR basic services" (page 294)

Service clusters

Service clusters represent an aggregation of basic services or an aggregation of other service clusters. These aggregations create the following service types: VPN, site, core router, and customer router. Service cluster states are derived from the state of its constituent service clusters or basic services. An example of a service cluster is the VPN cluster which represents the collection of basic services of the whole customer VPN.

For details about service clusters, see the following topics:

- "RFC 2764 service clusters" (page 282)
- "RFC 2547 service clusters" (page 290)
- "Direct VR-VR service clusters" (page 297)

VPN Monitor architecture

VPN Monitor provides a client-server based monitoring system for VPNs and consists of the following components:

- VPN Monitor extractor
- VPN Monitor server

- VPN Monitor client

The VPN Monitor extractor collects VPN configuration data from the MDM Administration Database and delivers this data to the VPN Monitor server and client. For details, see the section on the VPN Monitor Extractor section in 241-6001-310 *Preside MDM Server Reference Guide*.

The VPN Monitor server collects fault data consisting of raw state and state change notifications for basic service components, calculates the overall state of each VPN basic service, and passes this information to the VPN Monitor client. For details, see the section on the VPN Monitor Server section in 241-6001-310 *Preside MDM Server Reference Guide*.

The VPN Monitor client displays the VPN services and the status of those services. From the client, you can start other MDM fault, configuration, and performance management tools.

RFC 2764

For a description of RFC 2764 VPNs, see the following topics:

- "RFC 2764 basic services" (page 278)
- "RFC 2764 service clusters" (page 282)
- "RFC 2764 provider edge network service views" (page 284)

RFC 2764 basic services

The table "RFC 2764 basic service descriptions" (page 278) lists the RFC 2764 basic services and their descriptions.

Table 36
RFC 2764 basic service descriptions

Basic service	Description
Router element	represents the Passport software entity that emulates a physical router or a virtual common gateway.
Core access point	represents the access to the backbone that interconnects the virtual common gateways.
Tunnel end point	represents the point-to-multipoint (PTMP) tunnel end point at the router element and corresponds to a private address.
Tunnel access point	represents the PTMP tunnel aggregation of the router elements on the core router and corresponds to a public address.
Site access point	represents an instance of customer access to a router element on the Passport device.

Basic service creation conventions

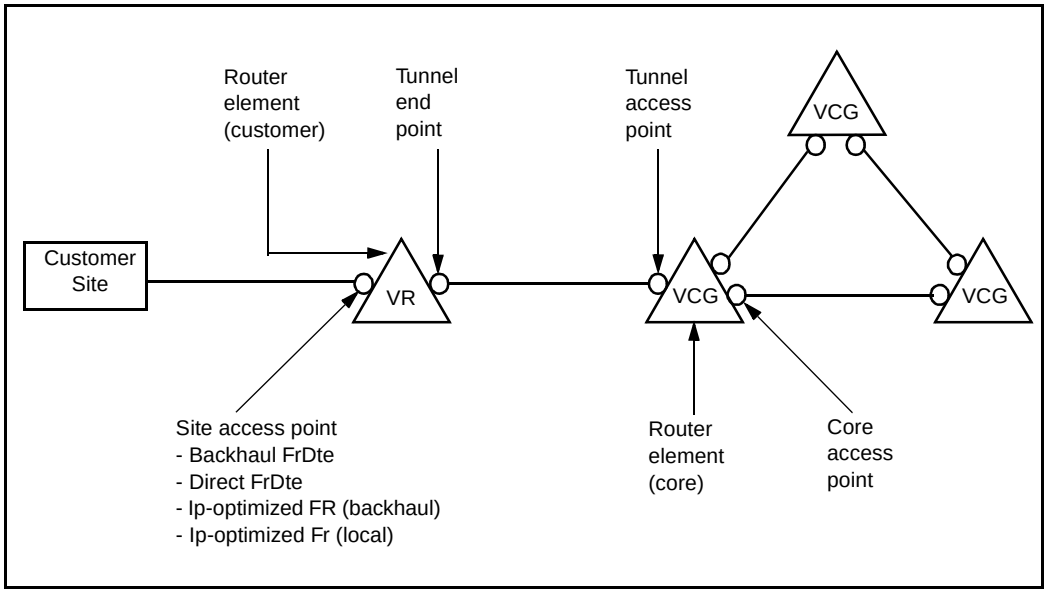
During the creation of a tunnel access point when you have created a logical interface on a core router but have not yet linked this interface to a customer VR, VPN Monitor associates a basic service of core access point with this logical interface. When you link a customer VR to the logical interface, VPN Monitor changes the association to tunnel access point.

If a loopback logical interface for IP routing is present on the VR (for example, when using BGP), then VPN Monitor associates a basic service of core access point with the interface.

Basic service schema

The figure “RFC 2764 basic service schema” (page 279) shows these basic services in an RFC 2764 IP VPN.

Figure 22
RFC 2764 basic service schema



Basic service components

The table “RFC 2764 basic service components” (page 280) details the Passport components that comprise each of the basic service.

Table 37
RFC 2764 basic service components

Basic services	Components
Router element	
Customer	EM/ Vr/ EM/ Vr/ Ip EM/ Vr/ Ip Tunnel
Core	EM/ Vr/ EM/ Vr/ Ip
Core access point	EM/ Vr/ Pp/ EM/ Vr/ Pp/ IpPort EM/ Vr/ Pp/ IpPort LogicalIf/ EM/ <media component>/ [1]
Tunnel end point	EM/ Vr/ Pp/ EM/ Vr/ Pp/ IpPort EM/ Vr/ Pp/ IpPort LogicalIf/ EM/ Vr/ Ip Tunnel
Tunnel access point	EM/ Vr/ Pp/ EM/ Vr/ Pp/ IpPort EM/ Vr/ Pp/ IpPort LogicalIf/ EM/ Vm/ If/
Site access point	
Backhaul FrDte	at the Fruni connection end point node: EM/A Fruni/x EM/A Fruni/ xFramer EM/A Fruni/ xLMI EM/A Fruni/ xDlci/ [2] at the IP service node where the router element resides: EM/B Fruni/y EM/B FrDte/y EM/B FrDte/ RemoteGroup/ EM/B Vr/ Pp/ EM/B Vr/ Pp/ IpPort EM/B Vr/ Pp/ IpPort LogicalIf/

(Sheet 1 of 2)

Table 37 (Continued)
RFC 2764 basic service components

Basic services	Components
Direct FrDte	EM/ Fruni/x EM/ Fruni/ Framer EM/ Fruni/ Lmi EM/ Fruni/ Dlci/x [2] EM/ Fruni/x EM/ FrDte/x EM/ FrDte/ Remote Group/ EM/ Vr/ Pp EM/ Vr/ Pp/ IpPort EM/ Vr/ Pp/ IpPort LogicalIf/
IP-optimized FR (backhaul)	at the Fruni connection end point node: EM/A Fruni/x EM/A Fruni/ LMI EM/A Fruni/ Framer EM/A Fruni/ Dlci/x [2] at the IP service node where the virtual router resides: EM/B Fruni/y EM/B Vr/ Pp/ EM/B Vr/ Pp/ IpPort EM/B Vr/ Pp/ IpPort LogicalIf/ EM/B IpDlciGroup/
IP-optimized FR (local)	EM/ Fruni/x EM/ Fruni/ Framer EM/ Fruni/ Lmi EM/ Fruni/ Dlci/ [2] EM/ Vr/ Pp/ EM/ Vr/ Pp/ IpPort EM/ Vr/ Pp/ IpPort LogicalIf/ EM/ IpDlciGroup/

[1] Media component may change depending on the backbone.
[2] One for each IPCos.

Note: Where applicable, Fruni can be replaced by Frnni.

Note: For backhaul scenarios, there may be more than one Fruni with Dlcis. In this case, these Frunis and their associated Dlci, Lmi. and Framer components are included in the basic service.

(Sheet 2 of 2)

Basic service state after component deletion

When you delete components of a basic service, the basic service state, as shown in VPN Monitor, remains as is until the following events occur:

- the MDM Administration Database is updated to reflect the component changes
- the VPN Monitor Extractor detects the changes when it automatically polls the MDM Administration Database or the administrator manually polls for database changes using the VPNMonitorExtractor.kick script

After VPN Monitor receives these component changes through polling, it determines the new state of the basic service.

Basic service initial timestamp

When the VPN Monitor Server starts, it collects and calculates the state of each basic service, based on the state of the service's components. If there are no faults against a basic service's components, the basic service is given a state of in-service. To maintain the integrity of performance and scalability, when VPN Monitor starts, the client retrieves the states for all basic services which are not currently in-service. As a result, the initial time stamp for services that are in-service is "00/01/01 00:00:00". The initial time stamp remains until a state change occurs.

RFC 2764 service clusters

The table "RFC 2764 service cluster descriptions" (page 282) lists RFC 2764 service clusters and their description. The figure "RFC 2764 service clusters" (page 284) shows sample service clusters.

Table 38
RFC 2764 service cluster descriptions

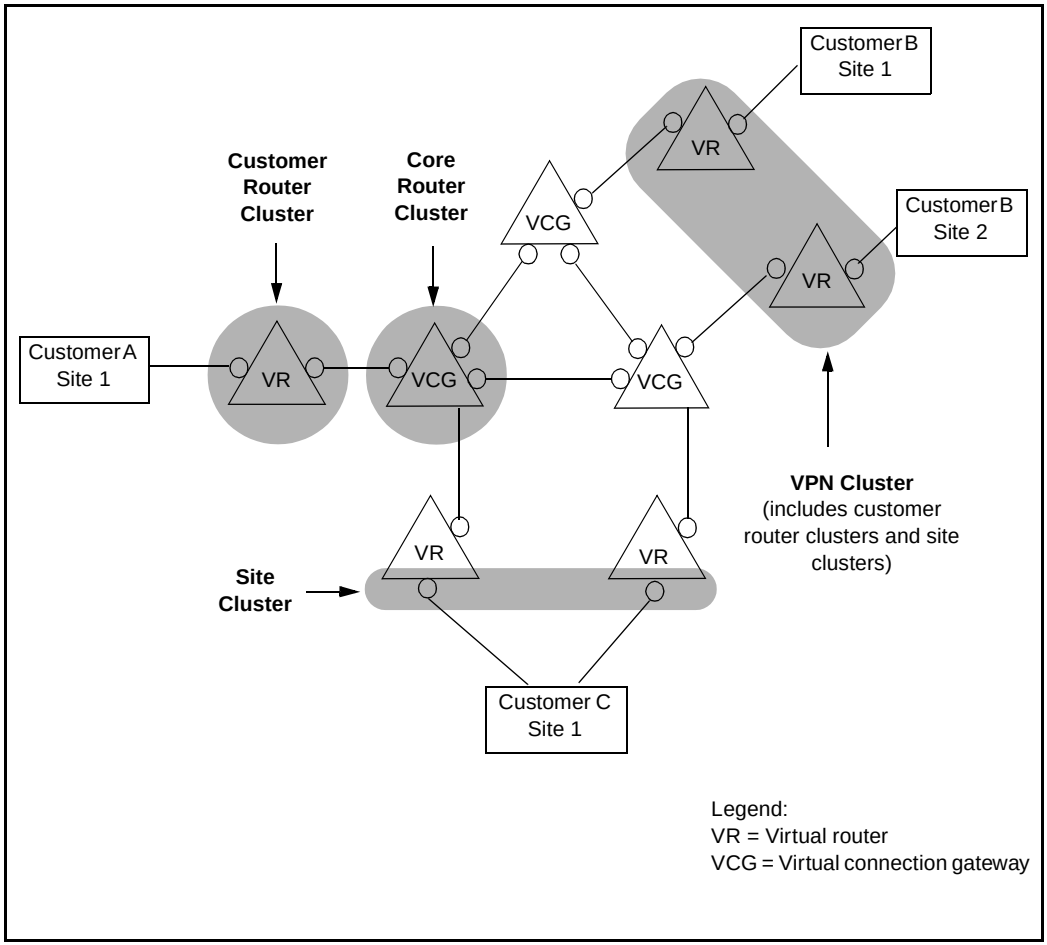
Service cluster	Description
Core router	represents the core router element and its access points to tunnels and the backbone connection.
Customer router	represents the router element and its access point to the tunnel and its customer interfaces.
(Sheet 1 of 2)	

Table 38 (Continued)
RFC 2764 service cluster descriptions

Service cluster	Description
Site	represents a collection of customer site access points to one or more router elements.
VPN	represents the entire customer VPN and includes all associated customer routers and sites.

(Sheet 2 of 2)

Figure 23
RFC 2764 service clusters



RFC 2764 provider edge network service views

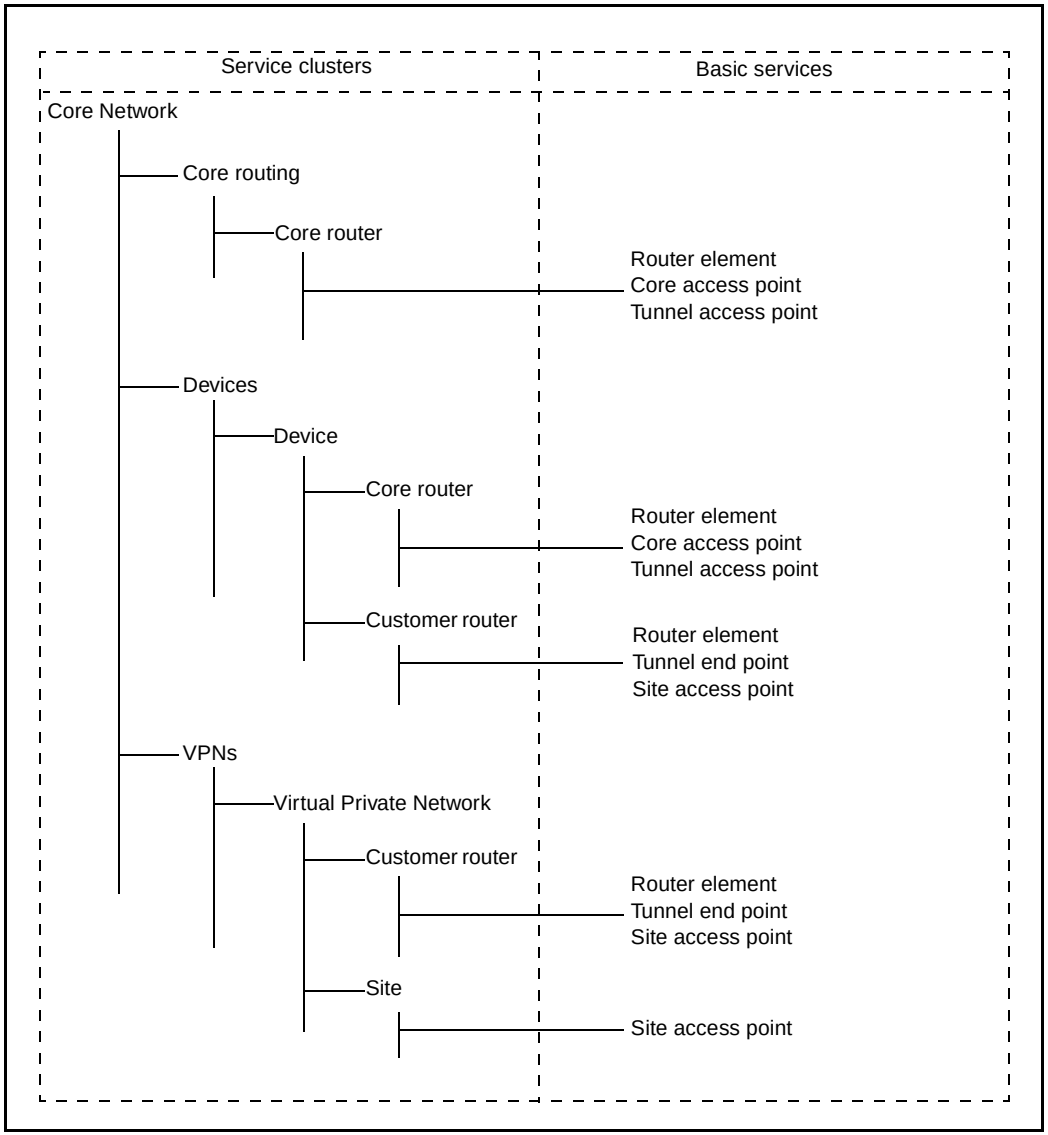
VPN Monitor uses basic service and service cluster data to construct and display VPN information in an hierarchical, or service view, arrangement. RFC 2764 has the following service views:

- **Core Routing** for views of the VCGs on IP-enabled Passport devices
- **Devices** for views of both VCGs and VRs on IP-enabled Passport devices

- **VPNs** for views of the VPNs currently defined on IP-enabled Passport devices

For details about service views, see “RFC 2764 provider edge network service views” (page 286).

Figure 24
RFC 2764 provider edge network service views



RFC 2547

VPN Monitor supports RFC 2547. For details, see the following sections:

- "RFC 2547 basic services" (page 287)
- "RFC 2547 service clusters" (page 290)
- "RFC 2547 provider edge network service views" (page 291)

RFC 2547 basic services

The table "RFC 2547 basic service descriptions" (page 287) lists RFC 2547 basic services and their description. The figure "RFC 2547 basic service schema" (page 288) shows these basic services in an RFC 2547 IP VPN.

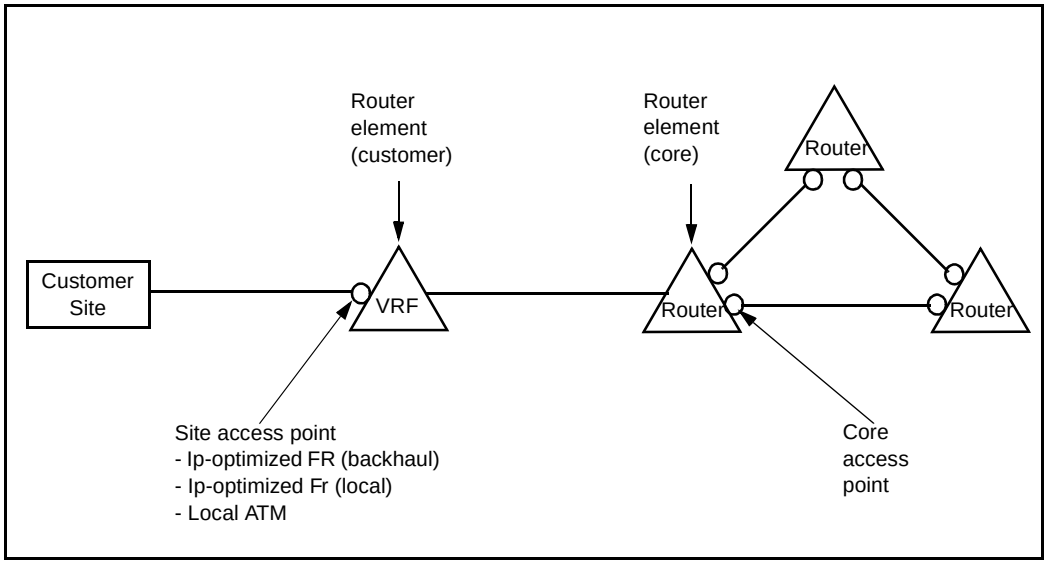
Table 39
RFC 2547 basic service descriptions

Basic service	Description
Router element	represents a Passport router or a VPN routing function.
Core access point	represents the access to the backbone that interconnects router elements.
Site access point	represents an instance of customer access to a customer router element on the Passport device.

Basic service creation conventions

Logical interfaces associated with a loopback address (for example, Rtr/ If/ lb) have a basic service type of core access point.

Figure 25
RFC 2547 basic service schema



The table “RFC 2547 basic service components” (page 288) details the Passport components that comprise each of the basic services.

Table 40
RFC 2547 basic service components

Basic services	Components
Router element	
Customer	EM/ Rtr/ Vrf/
Core	EM/ Rtr/
Core access point	EM/ Rtr/ If/ EM/ Rtr/ If/ <Media component> [2] EM/ Rtr/ If/ <MPLS signalling component> [3]

(Sheet 1 of 2)

Table 40 (Continued)
RFC 2547 basic service components

Basic services	Components
Site access point	
IP-optimized FR (backhaul)	at the Fruni connection end point node: EM/A Fruni/ EM/A Fruni/ Lmi EM/A Fruni/ Framer EM/A Fruni/ Dlci/ [4] at the router node: EM/B Fruni/x EM/B Fruni/y EM/B Rtr/ Vrf/ If/ EM/B Rtr/ Vrf/ If/ IpODlci
IP-optimized FR (local)	EM/ Fruni/ EM/ Fruni/ Framer EM/ Fruni/ Lmi EM/ Fruni/ Dlci/ [4] EM/ Rtr/ Vrf/ If/ EM/ Rtr/ Vrf/ If/ IpODlci
Local ATM	EM/ AtmIf/ EM/ AtmIf/ Vcc/[4] EM/ Rtr/ Vrf/ If/ EM/ Rtr/ Vrf/ If/ AtmMpe EM/ Rtr/ Vrf/ If/ AtmMpe Ac/[4]

1 May differ depending on MPLS type.
2 The media component may change depending on the backbone.
3 An optional component that depends on an EM/ Rtr/ If subcomponent representing the MPLS signalling protocol on the interface, for example, LdpIf.
4 One for each IPCos.

Note: Where applicable, Fruni can be replaced by Frnni.

Note: For backhaul scenarios, there may be more than one Fruni with Dlcis. In this case, these Frunis and their associated Dlci, Lmi. and Framer components are included in the basic service

(Sheet 2 of 2)

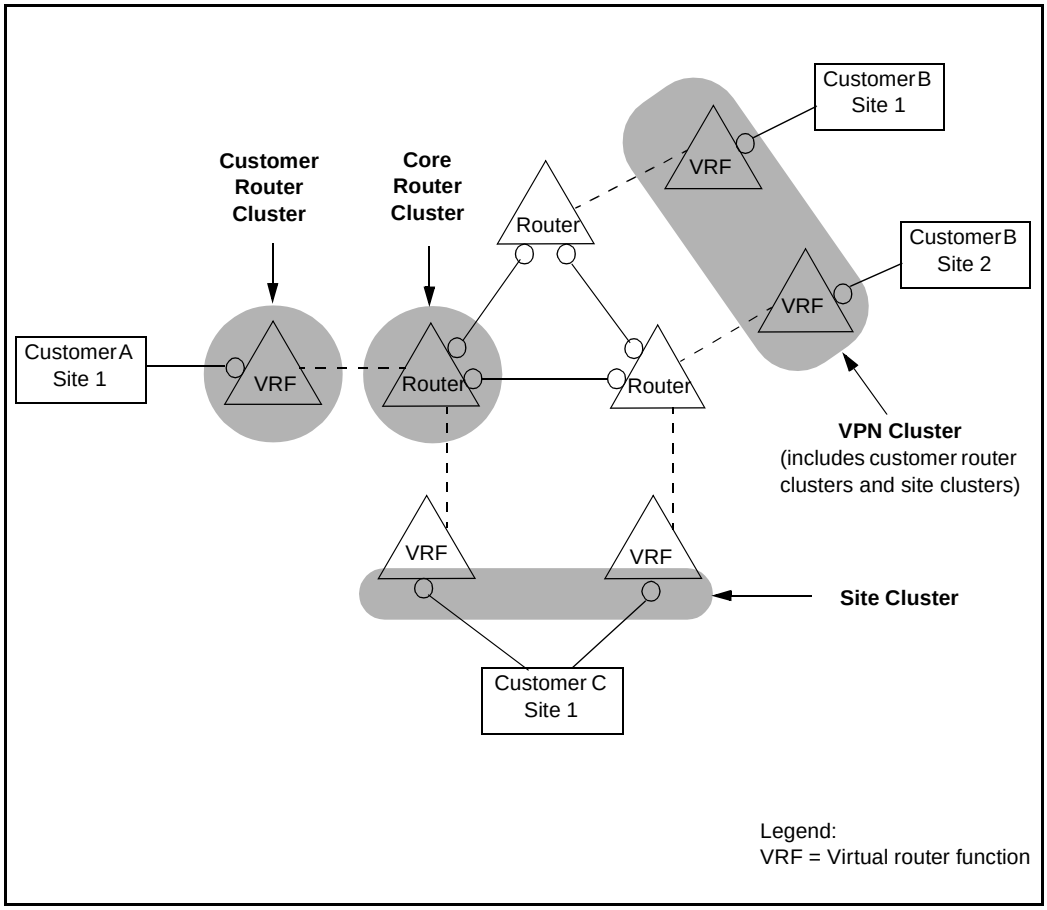
RFC 2547 service clusters

The table “RFC 2547 service cluster descriptions” (page 290) lists RFC 2547 service clusters and their descriptions. The figure “RFC 2547 service clusters” (page 291) shows sample service clusters.

Table 41
RFC 2547 service cluster descriptions

Service cluster	Description
Core router	represents the router and its interfaces to the backbone.
Customer router	represents the VPN routing function and its customer site access points.
Site	represents a collection of customer site access points to one or more virtual routers.
VPN	represents the entire customer VPN and includes VPN routing functions on different Passports and all of their corresponding site access points.

Figure 26
RFC 2547 service clusters



RFC 2547 provider edge network service views

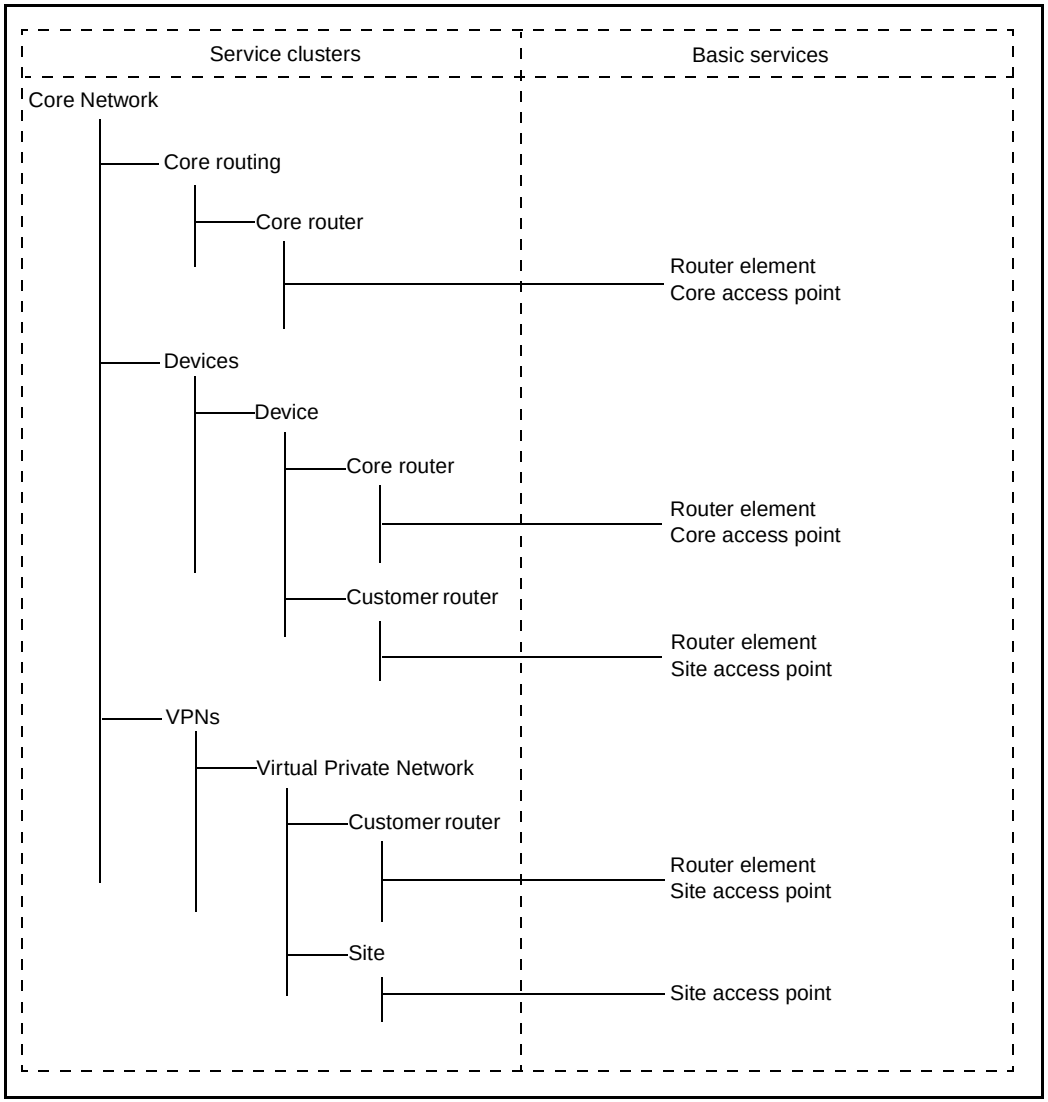
The VPN Monitor uses basic service and service cluster data to construct and display VPN information in an hierarchical, or service view, arrangement. RFC 2547 has the following service views:

- **Core Routing** for views of the routers on IP-enabled Passport devices.
- **Devices** for views of both the routers and VRFs on IP-enabled Passport devices.

- **VPNs** for views of the VPNs currently defined on IP-enabled Passport devices.

For details about service views, see “RFC 2547 provider edge network service views” (page 293).

Figure 27
RFC 2547 provider edge network service views



Direct virtual router to virtual router

VPN Monitor supports direct virtual router to virtual router (VR-VR) VPNs. For details, see the following sections:

- "Direct VR-VR basic services" (page 294)
- "Direct VR-VR service clusters" (page 297)
- "Direct VR-VR VPN views" (page 298)

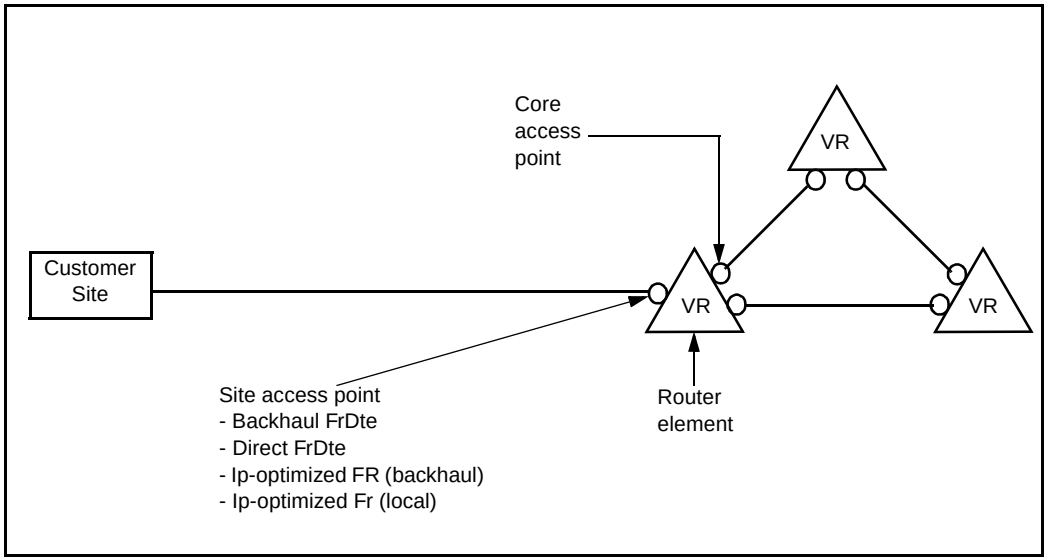
Direct VR-VR basic services

The table "Direct VR-VR basic service descriptions" (page 294) lists direct VR-VR basic services and their description. The figure "Direct VR-VR VPN schema" (page 295) details the Passport components that comprise each of the basic services.

Table 42
Direct VR-VR basic service descriptions

Basic service	Description
Router element	represents the Passport software entity that emulates a physical router and is used for a virtual router.
Core access point	represents the access to the backbone that interconnects router elements and is a peer to other core access points on other router elements in the VPN.
Site access point	represents an instance of customer access to a router element on the Passport device.

Figure 28
Direct VR-VR VPN schema



The table “Direct VR-VR VPN basic service components” (page 295) details the Passport components that comprise each of the basic services.

Table 43
Direct VR-VR VPN basic service components

Basic services	Components
Router element	EM/ Vr/ EM/ Vr/ Ip/
Core access point	EM/ Vr/ Pp/ EM/ Vr/ Pp/ IpPort EM/ Vr/ Pp/ IpPort LogicalIf/ EM/ AtmMpe/

(Sheet 1 of 3)

Table 43 (Continued)
Direct VR-VR VPN basic service components

Basic services	Components
Site access point	
Backhaul FrDte	at the Fruni connection end point node: EM/A Fruni/x EM/A Fruni/ xFramer EM/A Fruni/ xLMI EM/A Fruni/ xDlci/ [1] at the IP service node where the router element resides: EM/B Fruni/y EM/B FrDte/y EM/B FrDte/ RemoteGroup/ EM/B Vr/ Pp/ EM/B Vr/ Pp/ IpPort EM/B Vr/ Pp/ IpPort LogicalIf/
Direct FrDte	EM/ Fruni/x EM/ Fruni/ Framer EM/ Fruni/ Lmi EM/ Fruni/ Dlci/x [1] EM/ Fruni/x EM/ FrDte/x EM/ FrDte/ Remote Group/ EM/ Vr/ Pp/ EM/ Vr/ Pp/ IpPort EM/ Vr/ Pp/ IpPort LogicalIf/
IP-optimized FR (backhaul)	at the Fruni connection end point node: EM/A Fruni/x EM/A Fruni/ LMI EM/A Fruni/ Framer EM/A Fruni/ Dlci/ [1] at the IP service node where the virtual router resides: EM/B Fruni/y EM/B Vr/ Pp/ EM/B Vr/ Pp/ IpPort EM/B Vr/ Pp/ IpPort LogicalIf/ EM/B IpDlciGroup/

(Sheet 2 of 3)

Table 43 (Continued)
Direct VR-VR VPN basic service components

Basic services	Components
IP-optimized FR (local)	EM/ Fruni/x EM/ Fruni/ Framer EM/ Fruni/ Lmi EM/ Fruni/ Dlci/ [1] EM/ Vr/ Pp/ EM/ Vr/ Pp/ IpPort EM/ Vr/ Pp/ IpPort LogicalIf/ EM/ IpDlciGroup/
[1] One for each IPCos.	
Note: Where applicable, Fruni can be replaced by Frnni.	
Note: For backhaul scenarios, there may be more than one Fruni with Dlcis. In this case, these Frunis and their associated Dlci, Lmi. and Framer components are included in the basic service.	
(Sheet 3 of 3)	

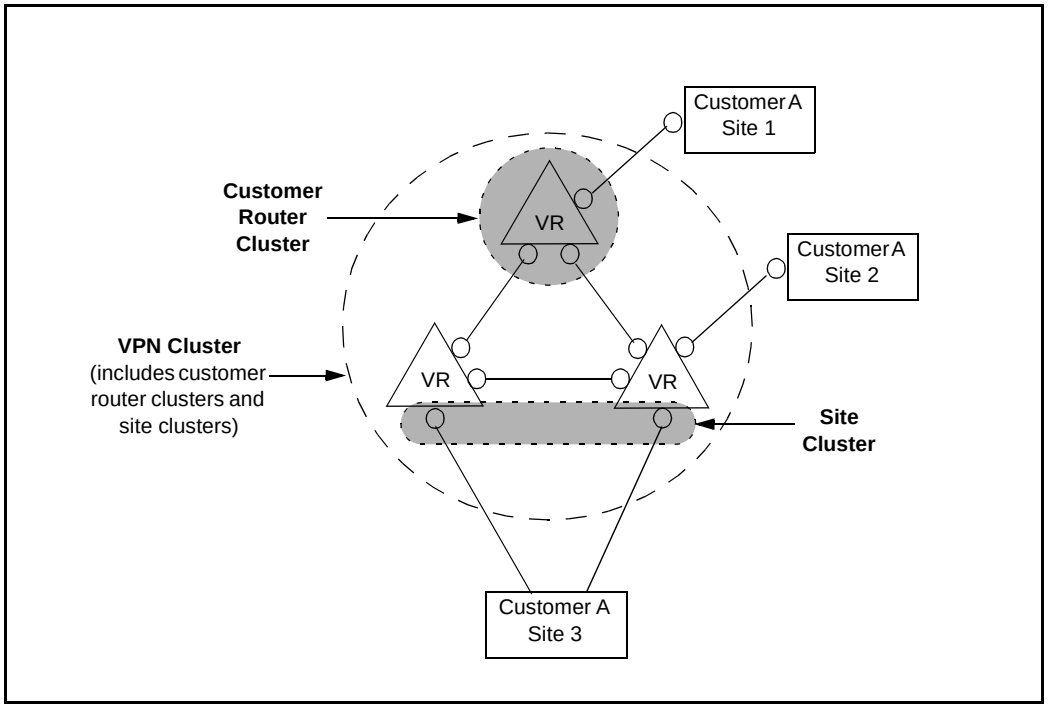
Direct VR-VR service clusters

The table “Direct VR-VR service descriptions” (page 297) lists direct VR-VR basic services and their description. The figure “Direct VR-VR service clusters” (page 298) shows sample service clusters.

Table 44
Direct VR-VR service descriptions

Basic service	Description
Customer router	represents a virtual router and its interfaces.
Site	represents a collection of customer site access points to one or more virtual routers.
VPN	represents the entire customer VPN and includes customer virtual routers on different Passports, the core access points that connect to these virtual routers, and all site access points.

Figure 29
Direct VR-VR service clusters



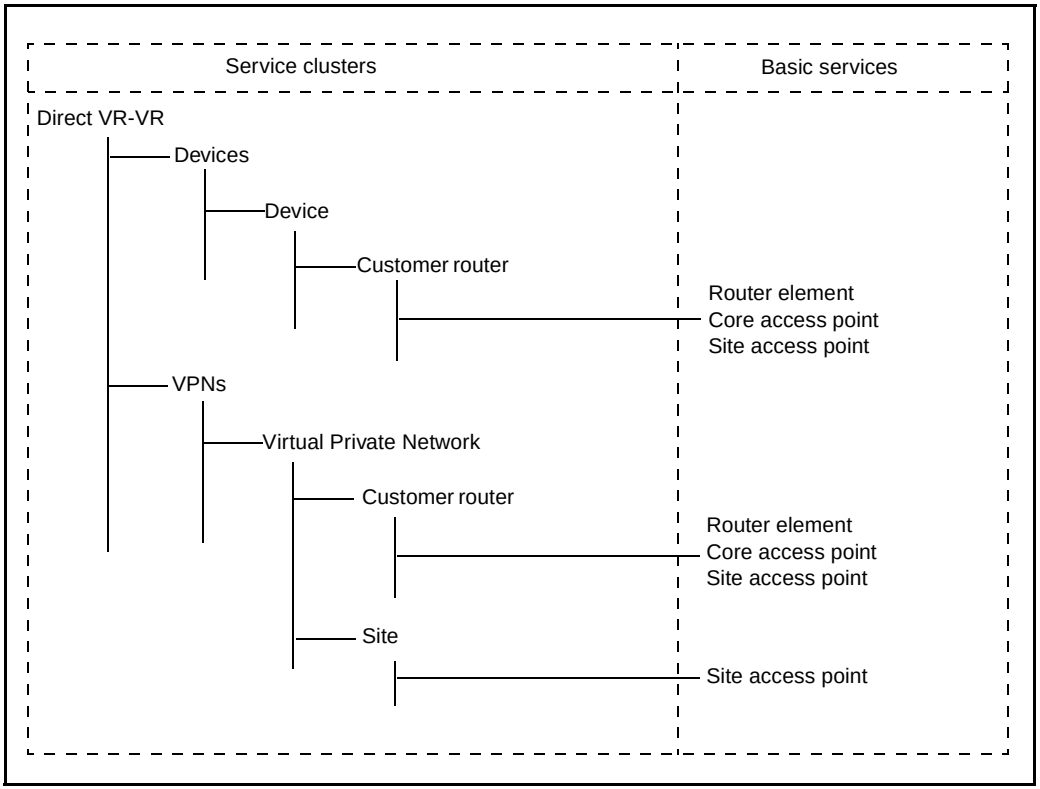
Direct VR-VR VPN views

The VPN Monitor uses basic service and service cluster data to construct and display VPN information in an hierarchical, or service view, arrangement. Direct VR-VR has the following views:

- **Devices** for views of VRs on IP-enabled Passport devices.
- **VPNs** for views of the direct VR-to-VR IP VPNs currently defined on IP-enabled Passport devices.

For details about service views, see “Direct VR-VR VPN views” (page 299).

Figure 30
Direct VR-VR VPN views



VPN state color conventions

The VPN Monitor tool uses standard MDM color conventions to indicate the network model states of components. For a description of the default MDM state colors and their meaning, see the following tables:

- “Basic service states” (page 300)
- “Service cluster states” (page 300)
- “Core networks and view states” (page 301)

These tables list MDM states from the most severe (critical) to the least severe (normal).

Basic service states

VPN Monitor computes the state of a basic service based on the states of its components. The table “Basic service states” (page 300) lists basic service colors, their associated MDM states, and rules for state determination.

Table 45
Basic service states

Background color	MDM state	Description
Red	Critical	At least one component is out-of-service (OOS).
Grey	Unmanaged	The current status of all components is unknown (UNK). This state may occur during server startup when the server has not fully retrieved its data.
Yellow	Troubled	The service is up but has an event against it.
Green	Normal	The service has a normal state.

Service cluster states

The states of service clusters are based on the states of basic services or other service clusters that comprise the service clusters. The table “Service cluster states” (page 301) lists service cluster colors, their associated MDM states, and rules for state determination.

Table 46
Service cluster states

Background color	MDM state	Description
Red	Critical	All basic services and service clusters have a critical state.
Yellow	Troubled	At least one basic service or service clusters is troubled, critical, or unmanaged.
Green	Normal	All basic services and service clusters have a normal state.

Core networks and view states

The states of provider edge (PE) networks and views are based on the most severe status of the service clusters that comprise the PE networks or views. The order of severity is critical, unmanaged, troubled, and normal. The table “Service cluster states” (page 301) lists PE network and view state colors, their associated MDM states, and rules for state determination.

Table 47
Core network and view states

Background color	MDM state	Description
Red	Critical	One or more clusters are critical.
Yellow	Troubled	One or more clusters are troubled. Other clusters may be normal.
Green	Normal	All service clusters are normal.

Chapter 6
Alarm Display

The Alarm Display tool allows you to view and manage logs and active alarms in your network.

Alarm Display basic procedures

Use Alarm Display to acknowledge alarms, filter alarms and clear alarms. The Alarm Display also supports other basic procedures related to changing display properties and setting effects.

Navigation

Starting and exiting

Changing the alarm display

- "Setting the auto-refresh interval in MDM Toolset" (page 315)
- "Sorting the alarm list by component Id in MDM Toolset" (page 319)
- "Sorting the alarm list by time in MDM Toolset" (page 319)

Setting effects

- "Setting alarm effects" (page 308)

Setting and changing alarm display filters

- "Setting alarm filters in MDM Toolset" (page 309)
- "Setting a simple filter in MDM Operator Client" (page 311)
- "Setting an advanced filter in MDM Operator Client" (page 312)
- "Changing filters in MDM Toolset" (page 313)
- "Changing an advanced filter in MDM Operator Client" (page 314)

Sorting alarms

- "Sorting the alarm list by component Id in MDM Toolset" (page 319)
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Clearing alarms

- "Clearing alarms locally" (page 316)
- "Clearing alarms globally" (page 317)
- "Clearing an alarm globally using the Global Clear tool in MDM Toolset" (page 318)

Working with a customer database

- "Setting customer database preferences in MDM Toolset" (page 320)
- "Restoring customer database preferences in MDM Toolset" (page 321)
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Working with log files

- “Saving alarm information to a log file in MDM Toolset” (page 322)
- “Saving alarm information to a log file in MDM Operator Client” (page 322)
- “Viewing a log file in MDM Toolset” (page 323)
- “Viewing a log file in MDM Operator Client” (page 323)

Starting Alarm Display

Start the Alarm Display tool to view alarms and logs and perform actions such as alarm filter, alarm acknowledgement, and alarm clearing.

Procedure steps

1 From the **Fault** menu,

if running...	select...	to..
MDM Toolset	Alarm Display: Active	start Alarm Display in active mode
	Alarm Display: Log	start Alarm Display in log mode
MDM Operator Client	Alarm Display	start Alarm Display. You can switch modes from the main window.

Exiting Alarm Display

Exit the Alarm Display tool when you are finished viewing and working with alarms.

Procedure steps

1. In the Alarm Display window, select **File** and then **Exit**.

   If you are running Operator Client, a confirmation dialog box opens.

Starting other tools from Alarm Display

Start other tools when you need to perform procedures and access data from other tools while working in Alarm Display. For details on the Start Tool menu, see the section about the Start Tool in 241-6001-122 *Preside MDM Using MDM Toolset and Operator Client Interfaces*. The content of the list varies depending on component context and access control. Start tool menus can be customized. For information about customizing start tools, see the section on customizing the toolsets and Start Tool menu in 241-6001-301 *Preside MDM Customization Administrator Guide*.

Procedure steps

1. Click on an alarm in the alarm list.
2. Select **Start Tool**, **<category>**, and then **<tool>**.

Changing alarm display modes in MDM Toolset

When the Alarm Display tool is open, you can easily change from one mode to another to display different data. Active mode displays only active alarms. Log mode displays all alarms (set, clear, message, and warning) that come into gmdr from the time that you change to log mode. Historical mode shows all alarms in the gmdr database (inactive set, clear, and message) and all incoming alarms.

Procedure steps

1 Select View and then **<menu command>**.

Select menu command...	**to...**
Select Active Alarm Mode	change the display from log mode to active mode
Select Log Mode	change the display from active mode to log mode

Changing alarm display modes in MDM Operator Client

When the Alarm Display tool is open, you can easily change from one mode to another to display different data. Active mode displays only active alarms. Log mode displays all alarms (set, clear, message, and warning) that come into gmdr from the time that you change to log mode. Historical mode shows all alarms in the gmdr database (inactive set, clear, and message) and all incoming alarms (For example: log mode).

Procedure steps

1 From the Alarm Display window, select a mode from the **Alarm mode** list box. The choices are as follows: **Active Alarms**, **Alarm Log**, and **Alarm History**.

It may take a few seconds for the display to change, but the status bar at the bottom of the window will indicate that the tool is actively retrieving the necessary information.

Changing alarm display formats in MDM Toolset

Change the format in which alarm information is displayed to see certain alarm attributes and details and to control the amount of information that you see. Three display formats are available in Alarm Display: terse, normal and full. See “Format toggle button” on page 332 for a description of the attributes and details that are included in each format.

Procedure steps

1. From the Format toggle button on the Alarm Display window, select **Terse**, **Normal**, or **Full**.

Setting alarm effects

Set effects to apply sound and color effects to specific alarm conditions. In active mode, effect settings are applied to both existing and incoming set alarms. In log mode, effects are applied only to incoming set alarms.

Procedure steps

1. From the Alarm Display menu bar, select **Options** and then **Set Effects**.
2. Set the values required for an alarm to sound the bell. The bell selector is not available active mode.
3. Set the values required to have an alarm displayed with a colored background.
4. Click **Save to File**.
5. Click **Set Effects**.
6. Select **View**-->**Turn Bell On** to activate effects that you have set.
7. Select **View**-->**Turn Highlight On** to activate any color effects that you have set.

Setting alarm filters in MDM Toolset

You can set alarm filters according to severity, component ID, fault code, and customer ID. Filter action is defined as either Accept or Reject. Alarms are reported through Accept filters if they meet defined criteria; Reject filters block the display of alarms having the characteristics you define. For example, you can filter the Alarm Display main display by accepting critical and major alarms from component PM/R66, and rejecting minor and cleared alarms from this component or other specified components. You can combine up to 10 accept and reject filters to screen alarms.

Prerequisites

- The user of wildcards is valid for specifying some filter attributes. See “Pattern matching using wildcards” on page 369.
- To set filters, you must be familiar with how the Set Filter Dialog box operates. See “Set Filter Dialog box” on page 335.

Procedure steps

1. From the Alarm Display window, click **Options** and then **Set Filter**.

   The Set Filter Dialog box opens.

2. Enter a filter name in In the **Filter Name** field.
3. Select an action in the **Filter Action** area.
4. Select an acknowledge status in the Ack State area.
5. Select alarm severities in the Severity area.
6. Enter a component identifier (ID) in the **Components** area and click **Add** to add it to the components list.
7. Enter a fault code name in the **Fault Codes** field and click **Add** to add it to the to the fault codes list.
8. Enter a customer ID in the **Customer Ids** field and click **Add** to add a it to the customer Ids list.

   Note: You can use up to 40 numbers in the *Customer Ids* list. To set this maximum, change the following resource in your resource file: *AD*maxNumberOfCustomerIdNumbersPerFilter*.

9. Enter a userid in the **Ack Userid** field and click **Add** add it to the Ack Userid list.

10 Optionally, enter patterns in the **Comment Data** and **Customer Data** fields. Wild cards are valid for these fields. All other fields in the **Set Filter Dialog** box are mandatory.

11 Click **Add Filter**.

The new filter name appears in the **Inactive Filters** list area.

12 Click **Save to File**.

13 Select the filter in the **Inactive Filters** list area and click the up transfer arrow to move the filter to the **Active Filters** list area.

14 Click **Set Filters** to close the dialog box and apply the filter.

If the **Filter On** option is enabled in the **Alarm Display** main window, the filter settings are applied.

Setting a simple filter in MDM Operator Client

A simple filter filters the display of alarms based on severity. To apply a simple filter, Simple must be selected in the Filter list box. Because simple filters perform filtering based on only one attribute (severity) only one simple filter can be applied at a time. To change the settings of a simple filter, you enable or disable the appropriate check boxes.

Procedure steps

1. From the Alarm Display window, select **Simple** from the **Filter Option** list box.

   The check boxes in the **Simple Filter** area are enabled.

2. Click the check boxes to indicate the severity levels that you want to filter. You can enable more than one severity level at a time. When you are in active mode, the **Cleared** check box is disabled.

3. Click **Save**.

   A **Message box is displayed stating that your selections are saved**.

Setting an advanced filter in MDM Operator Client

An advanced filter filters the display of alarms based settings for the following attributes: component id, fault code, acknowledgement state, event, timestamp, comment data and customer id. You can apply one, all, or any combination of the available attributes.

Prerequisites

To set advance filters you must be familiar with how the Advanced Filter dialog box operate. See “Advanced Filter dialog box” on page 357.

Procedure steps

1. From the Alarm Display window, select **Advanced** from the **Filter Option** list box.

   The **Settings** and **Save** buttons in the **Advanced Filter** area are enabled.

2. Click **Settings** in the **Advanced Filter** area.

   The **Advanced Filter** dialog opens.

3. Select an attribute from the attributes list box.

4. Select an option from the options list box.

5. Enter the ID of the component that you want to filter in the target value field.

6. Click **Add**.

   The filter is added to the filter list.

7. Click **OK**.

   The filter is applied, and the dialog box closes. The result of the applied filter is shown in the alarm list area of the Alarm Display window.

8. Click **Save** to save the advanced filter.

Changing filters in MDM Toolset

You can make changes to either inactive or active filters. If you change an active filter, the changes are applied to this session. If you change an inactive filter, the changes are not applied to this session. An inactive filter is not used by the Alarm Display when the filtering option is enabled.

Procedure steps

1. From the Alarm Display window, click **Options** and then **Set Filter**.

   The **Set Filter Dialog** opens.

2. Select a filter. You can select and active or inactive filter.

   The **Filter Name** field updates with the name of the selected filter an the corresponding filter attributes are displayed

3. Change filter attributes.
4. Click **Change Filter**.
5. Click **Set Filters**.
6. Click **Save to File**.

   All filters are saved to a file. The next time the **Alarm Display** is started, alarms are filtered accordingly.

Changing an advanced filter in MDM Operator Client

You can make changes to an advanced filter and apply them to the alarms list in the Alarm Display.

Prerequisites

- To change advanced filters you must be familiar with how the Advanced Filter dialog box operates. See “Advanced Filter dialog box” on page 357.

Procedure steps

1. From the Alarm Display window, select **Advanced** from the **Filter** Option list box.

   The **Settings** and **Save** buttons in the **Advanced Filter** area are enabled.

2. Click **Settings** in the **Advanced Filter** area.
3. Select a filter from the list.
4. Change the attribute settings as required.
5. Change the value in the target value field, if required.
6. Click **Change**.

   The filter is changed in the filter list.

7. Click **OK**.

   The filter changes are applied, and the dialog box closes. The result of the changed filter is shown in the alarm list area of the Alarm Display window.

8. Click **Save** to save the changes.

Setting the auto-refresh interval in MDM Toolset

In the active mode you can set the interval between display refreshes. This setting controls the time when new, active alarms are inserted or cleared alarms are removed from the display.

Procedure steps

1. From the Alarm Display window, click **Options** and then **Set Auto-Refresh Interval**.
2. Use the slider to set the interval.
3. Click **OK**.

   The **Set Auto-Refresh Interval** dialog box closes.
4. Set the **Auto-Refresh** toggle button to **On**.

Clearing alarms locally

Clear alarms locally to remove them from the alarm list in Alarm Display and from MDM server databases. When you clear an alarm locally, your userID, hostname, and the "DISPLAY" environment variable value are displayed in the comment data.

Note: When re-synchronized with devices that have an active alarm list, the locally cleared alarm may be re-introduced in the servers databases.

Prerequisites

- The GMDR server must be running.
- Alarm Display must be running in active mode.

Procedure steps

1. From the Alarm Display window, click the alarm or alarms that you want to clear from the alarm list. To select multiple alarms, hold down the *Control* key while you click the alarms.
2. Right-click on the selected alarm(s).
3. Select **Local Clear** from the **Alarm Menu** pop-up menu.
4. In the confirmation dialog, click **Yes** to clear the alarms.
5. Click **Refresh** or wait for the next refresh period to have the cleared alarm removed from the alarm list.

   If one or more requests failed, a dialog box opens with the error messages.

Clearing alarms globally

Clear alarms globally to remove them from the alarm list in Alarm Display, from MDM server databases and from component databases. When you clear an alarm globally, your userID, hostname, and the “DISPLAY” environment variable value will be displayed in the comment data.

This procedure can only be used to globally clear Passport an DPN alarms..

Prerequisites

- GMDR server must be running.
- To clear alarms globally, global alarm clearing must be configured on the DMA server and the GMDR server must be able to access the DMA server.
- Alarm Display must be running in active mode.

Procedure steps

1. From the Alarm Display window, click the alarm that you want to clear from the alarm list. To select multiple alarms, hold down the *Control* key while you click the alarms.
2. Right-click on the selected alarm.
3. Click **Global Clear**.
4. Click **Refresh** or wait for the next refresh period and the cleared alarm will be removed from the alarm list.

   If one or more requests failed, a dialog box opens with the error messages.

Clearing an alarm globally using the Global Clear tool in MDM Toolset

Clear an alarm using the Global Clear tool to remove it from the alarm list in Alarm Display, MDM server databases, and the alarm database. When you clear an alarm globally, your userID, hostname, and the "DISPLAY" environment variable value will be displayed in the comment data.

This procedure requires that the MDM operator set up connection authentication first. Only one alarm can be cleared at a time.

This procedure cannot be used for MPE 9500 alarms. Use the procedure "Clearing alarms locally" (page 316).

Prerequisites

- You must have an authenticated connection to the target switch.
- The Host Group Directory Services (HGDS) server and the Passport Comms Mgr server (FDTM) must be up and running.
- You must be running Alarm Display in active mode.

Procedure steps

1. From the Alarm Display window, right-click the alarm you want to clear.
2. Click **Start Tool, Fault and then Global Clear of Alarm**.

   The **Connection Console** dialog box opens and displays the first group to which the node belongs. The **Connection Console** dialog box does not display if you are already connected to a group that contains the Passport.
3. Connect to a destination. Use the default selected destination or select another destination.
4. Type a valid user ID in the **User Id** field.
5. Type a valid password in the **Password** field.

   Repeat steps 5-7 as often as needed.
6. Click **Connect**.
7. Select a connected network destination in the **Destination** list and then click **Select**.

Wild cards are also valid. Wild cards allow you to direct commands to nodes in any of the connected groups without having to know which group the node belongs to.

If the request failed, a dialog box opens with the error message.

Sorting the alarm list by component Id in MDM Toolset

Sort the alarm list by component Id to see the list ordered by component id with the new incoming alarms at the top.

Procedure steps

1. From the Alarm Display window, Click **View and then Sort by Component Id**.

Sorting the alarm list by time in MDM Toolset

Sort the alarm list by time to see the most recent alarms at the bottom of the list. After the initial sorting, new alarms are simply appended at the bottom of the list with no sorting. You can resort the alarms in time order.

Procedure steps

1. From the Alarm Display window, click **View and then Sort by Time**.
2. Click **View and then Resort Displayed Alarms** to resort the alarms by time after the initial sort was performed.

Sorting the alarm list in MDM Operator Client

Sort the alarm list to see the alarms ordered based on the column header. After the initial sorting, new alarms are simply appended at the bottom of the list with no sorting.

Procedure steps

1. From the Alarm Display window, click the column header.

   The alarms become sorted based on the header.

Setting customer database preferences in MDM Toolset

Set customer database preferences to determine the database and host settings that will be used by Alarm Display.

Procedure steps

1. From the Alarm Display window, Click **Options** and then **Set CDB Preferences**.

   The **Set CDB Preferences Dialog** box opens.

2. Click **Insert matching data from CDB server** check box.

   The **Database name** and **Server host** fields are enabled.

3. If you have enabled support for alias substitution, an additional check box displays in the dialog—Display component ID alias from CDB server. Select the checkbooks to turn on the alias function. To turn off the alias function, click to clear the checkbooks.

4. Enter a customer database name in the **Database name** field.

5. Enter a server host name in the **Server host** field.

6. Click **Save to File** to preserve the CDB preferences for later use.

   The Alarm Display saves the settings to the file *$HOME/MagellanNMS/IADCdbPrefs.cfg*.

   The next time Alarm Display is started, these settings will be used.

7. Click **Set CDB Preferences** to activate the preferences.

   The Set CDB Preference Dialog closes and the Alarm Display activates the preferences. If you have enabled the display of customer database information and the Alarm Display is able to communicate with the server, the Alarm Display displays the database name and host in the Alarm Display's connection status field.

Restoring customer database preferences in MDM Toolset

If you have previously saved your preferences in a file, you can restore them for later use.

Procedure steps

1. From the Alarm Display window, Click **Options** and then **Set CDB Preferences**.

   The **Set CDB Preferences Dialog** box opens.

2. Click **Restore from File**.

   The Alarm Display restores the last saved preferences from the file *$HOME/MagellanNMS/IADCdbPrefs.cfg*.

3. Click **Set CDB Preferences** to activate the preferences.

   The Set CDB Preference Dialog closes and the Alarm Display activates the preferences. If you have enabled the display of customer database information and the Alarm Display is able to communicate with the server, the Alarm Display displays the database name and host in the Alarm Display's connection status field.

Resetting the customer database information cache in MDM Toolset

To reduce the communication costs with the Customer Database server, the Alarm Display maintains a cache of the latest information fetched. This cache may need to be reset if, for example, the Customer Database has been updated with new information.

Procedure steps

1. From the Alarm Display window, Click **Options** and then **Set CDB Preferences**.

   The **Set CDB Preferences Dialog** box opens.

2. Click Reset CDB Cache to reset the customer database information cache.

Saving alarm information to a log file in MDM Toolset

Save alarm information to a file so that you can view it later.

Procedure steps

1. From the Alarm Display window, click **File** and then **Save Active Alarms to a File**.

   The Save Active Alarms to a File Dialog box opens.

2. Select a directory and file from the lists in the Directories dialog box, or type a filename in the Selection field.

3. Click **Save Active Alarms to File**.

Saving alarm information to a log file in MDM Operator Client

Save alarm information to a file so that you can view it later.

Procedure steps

1. From the Alarm Display window, click **Options** and then **Log Alarms to File**.

   The Open dialog box opens.

2. Specify the name of the file in which you want to save the alarm information.

3. Click **Save**.

Viewing a log file in MDM Toolset

You can view the files of alarm information that you have previously saved to a log file.

Procedure steps

1. Select **File** and then **View Log File**.
2. Select the appropriate directory and file name from the lists, or type the complete path name in the **Selection** field.
3. Click **View Log File**.

   The **Log Browser Dialog** opens.
4. To pause the display of incoming alarms, click **Pause**.

   A red outline surrounds the log information and the label on the **Pause** button changes to **Resume**.
5. To resume the display of paused alarms, click **Resume**.
6. To refresh the display of alarms with the current content of the log file, click **Show**.

Viewing a log file in MDM Operator Client

You can view the files of alarm information that you have previously saved to a log file in MDM Operator Client using any text editor.

Customizing Alarm Display Start Tool submenus

You can customize the contents of the Start Tool menu in the active and log mode. For procedures on customizing the Start Tool menu, see the section on customizing the toolsets and Start Tool menus section in 241-6001-301 *Preside MDM Customization Administrator Guide*.

When you modify the Start Tool menu file, use one of the following substitution variables in the command line:

- $COMP: the component's internal representation
- $DCOMP: the component's display name
- $SEVERITY: the Common severity, which can be UNKNOWN, CRITICAL, MAJOR, MINOR, WARNING, or CLEARED
- $DPNSEV: the DPN severity, which can be DEGRADE, OVERLOAD, MINOR, MAJOR, WILDCARD, CRITICAL, or OTHER
- $EVENT: CLEAR, SET, or MSG
- $DPNMNEM: the Network Control System (NCS) condition mnemonic, which can be TRAPDATA, ACTIVATE, INVALID, MISSING, DUPLICAT, MEMORY, CONJEST, FAILED, REFUSED, TIME_OUT, CRITICAL, OOS, THRESHLD, ENABLED, DISABLED, PROBE, CALL_BLK, or DISCARD
- $DPNACTION: the NCS action value, which can be ncsServiceData, ncsHardwareFault, ncsSoftwareFault, ncsSecurityViolation, ncsProtocolViolation, ncsDebugInfo, ncsNetwork, ncsEngineering, ncsUnclassified, or ncsOperations. This value is an empty string for Passport-originated alarms.
- $FCODE: the alarm fault code. The fault code is an 8-digit code used to specify the alarm. The first 4 digits are used to identify the source of the alarm, and the last 4 digits are used to identify the alarm.
- $DATE: the date information in the format 'year:month:day'
- $TIME: the time information in the format 'hour:min:sec'
- $DTYPE: the DPN device type. This value is an empty string for Passport-originated alarms.

- $FORMAT: the present format of an alarm, which can be TERSE, NORMAL, or FULL
- $RAWSTATE: the Raw state, which can be insv, oos, trb, unk, nex, or nea. This value is an empty string for DPN-originated alarms.
- $TYPE: the alarm type, which can be communications, qualityOfService, processing, equipment, environment, security, operator, debug, or unknown. This value gives a general explanation of the cause of the alarm.
- $CMT: the operator comment data text
- $OPER: the operator data text

Example:

If you want to invoke the tool called Customer Tool Kit Script with the component id and the fault code contained in the alarm, add the following two lines to the */opt/MagellanNMS/IADAlarm.menu* file. The CustomerToolKitScript script is called with this information when you use the Start Tool submenu and select the Customer Tool Kit Script:

- labelString: Customer Tool Kit
- tMCommandLine: CustomerToolKitScript COMP:”$COMP” DCOMP:” FAULTCODE:”$FCODE”

Customizing resources

You can customize the resources to control the colors of the alarm format by severity. You can also customize the resources to control whether the problem states are shown in the related components list, and to control whether the bell rings upon error.

The table “Resources for color control of common alarm formats by Alarm Display” (page 326) lists the resources you use to control the colors associated with the common alarm format severity displayed by the Alarm Display components.

Table 48
Resources for color control of common alarm formats by Alarm Display

Resource	Description	Legal value
*BackgroundColorUnknown *ForegroundColorUnknown *BackgroundColorCritical *ForegroundColorCritical *BackgorundColorMajor *ForegroundColorMajor *ForegroundColorMinor *BackgroundColorMinor *BackgroundColorWarning *ForegroundColorWarning *BackgroundColorCleared *ForegroundColorCleared *BackgroundColorDefault *ForegroundColorDefault	Specifies the background and foreground color-to-severity mappings for the common alarm formats.	Any legal X windows color or specification. See 241-6001-301 *Preside MDM Customization Administrator Guide*.
IAD*cdbSupportAlias	Enables support for Customer Database component name aliasing.	True to enable alias support, False (default) to prevent alias support

The table “Resources for customizing the Acknowledge/Unacknowledge Alarms Dialog” (page 327) lists the resources you use to customize the *Acknowledge Alarms* Dialog and the *Unacknowledge Alarms* Dialog.

Table 49
Resources for customizing the Acknowledge/Unacknowledge Alarms Dialog

Resource	Description	Legal value
*AckAlarmDlog*userIdFieldField.editable	If True, the *User* field in the dialog used for acknowledging or unacknowledging alarms can be modified. The default is False.	True or False
*AckAlarmDlog*commentData.maxLength	The maximum length of *Reason* text that can be specified when acknowledging or unacknowledging alarms. The default length is 256.	Any legal *Motif* value associated with the *MaxLength* resource.

Alarm Display interface in the MDM Toolset

In the MDM Toolset environment, the Alarm Display tool can be opened in Active mode or Log mode. Some parts of the interface are only available in Active mode or Log mode. The main window and overall interface of the Alarm Display tool in the MDM Toolset environment is made up of the following parts:

- "Menu bar" (page 328)
- "List area" (page 331)
- pop-up menus
- dialog boxes

You may also want to view the following Alarm Display information:

- "Alarm Display basic procedures" on page 303
- "Alarm Display fundamentals" on page 361

Menu bar

The Alarm Display provides the following menus:

- "File" (page 329)
- "Edit" (page 329)
- "View" (page 330)
- "Options" (page 331)

The command description specifies when a command is available exclusively in active or log mode.

File

Table 50
File menu commands

Command	Description
Save Active Alarms to File	Opens the Save Active Alarms to File dialog box. This dialog box allows you to specify the name of the file where you want to save the list of active alarms. This command is available in active mode.
View Active Alarms File	Opens the View Active Alarms File dialog box. This dialog box allows you to select the name of the file you want to view. This command is available in active mode.
Log to File	Opens the Log to File dialog box. This dialog box allows you to select the name of the file where new logs and possibly the current set of logs would be written. This command is available log mode.
View Log File	Opens the View Log File dialog box. This dialog box allows you to select the file that you want to view. This command is available in log mode.
Exit	Closes the tool and windows. You are warned if any setting have been changed but not saved.

Edit

Table 51
Edit menu commands

Command	Description
Copy	Copies the selected alarms so that you can paste them later.
Select All	Selects all logs or active alarms.
Deselect All	Deselects all logs or active alarms.

View

Table 52
View menu commands

Command	Description
Select Log Mode	Sets the Alarm Display mode to Log. The alarm list is refreshed and the incoming logs are displayed as they are received (subject to filtering). This command is available in active mode.
Sort by Time	Sorts active alarms by time with the most recent at the bottom. This command is available in active mode.
Sort by Component	Sorts active alarms by their component IDs. This command is available in active mode when the Sort by Time setting is enabled.
Resort Displayed Alarms	Resorts the active alarms by time. This command is available in active mode when the Sort by Time setting is enabled.
Turn Highlight Off/On	Enables or disables highlighting (background coloring). When Alarm Display in active mode, all alarms are highlighted. When Alarm Display in log mode, new alarms are highlighted.
Select Active Alarm Mode	Sets the Alarm Display mode to Active. The alarm list is refreshed and the active alarms are displayed (subject to filtering). This command is available in active mode
Turn Bell Off/On	Turns bell sounds on or off for certain types of alarms based on the settings enabled in the Set Effects dialog box. This command is available in log mode.

Options

Table 53
Options menu commands

Command	Description
Set Filter	Opens the Set Filter dialog box. This dialog box allows you to set and modify filters.
Set Effects	Opens the Set Effects dialog box. This dialog box allows you to set and modify effects such as highlighting and bell sounds.
Set CDB Preferences	Opens the Set CDB Preferences dialog box. This dialog box allows you to modify the display of customer database information.
Set Auto-Refresh Interval	Opens the Set Auto-Refresh dialog box. This dialog box allows you to modify the auto-refresh interval. This command is available in active mode.

List area

The list area displays information on alarms in the network. The amount and format of the information displayed can be changed using the “Format toggle button” (page 332) toggle button.

Pause toggle button

The Pause toggle button allows you to pause the addition of new alarms to the display. When you select Off, any new alarms that are received are displayed at the bottom of the alarm list and the list automatically scrolls to the bottom. If the list contains the maximum number of alarms when a new alarm is received, the oldest alarm is removed. When you select On, the display of incoming alarms is stopped and they are buffered. If more than 500 alarms are received in the buffer, Pause is automatically reset to Off.

Auto-Refresh toggle button

The Auto-Refresh button allow you to the automatic refreshing of the display on or off. When you select On, the display is refreshed at a default rate of once per minute.When the display is refreshed, the SET alarms that were cleared are removed and the new SET alarms are inserted. When you select Off, the

display is not refreshed and new SET alarms are buffered. If more than 500 SET alarms are received in the buffer, Auto-Refresh is automatically reset to On. When Auto-Refresh is turned On, a refresh occurs immediately.

Format toggle button

The Format toggle button allows you to choose the format for displaying alarm information. The different formats vary in the amount of information that is displayed. The available formats are:

- Terse

  Terse format displays alarm information on a single line. Long component identifiers are truncated to fit on the single line. Terse format contains the following details: severity, event, fault code, date, time and component ID. The following is an example of alarm details in terse format:

  CRITICAL SET 09990001 98-03-03 16:57:16 EM/NODER8.

- Normal

  Normal format displays alarm information on multiple lines. Normal format contains the same details as terse format as well as the notification ID, alarm type and probably cause of the alarm. In normal syntax long component identifiers are not truncated. Depending on availability, normal format can also contain labeled comment data and the operator data details.The following is an example of alarm details in normal format:

  CRITICAL SET 09990001 98-03-03 16:57:16 EM/NODER8
  ID: FFFFFFFF TYPE:equipment CAUSE: equipmentFailure
  CO: NMS:bcary9b0 has lost connectivity to this node.

- Full

- Alarm details are not truncated in full format, so the information can occupy more that one line. Full format contains all of the same details as normal format as well as some additional information that is displayed in labeled fields (when applicable). The following is and example of alarm details in full format:

  CRITICAL SET 09990001 98-03-03 16:57:16 EM/NODER8
  ID: FFFFFFFF TYPE:equipment CAUSE: equipmentFailure
  CO: NMS:bcary9b0 has lost connectivity to this node.
  RAW:unk ADMIN:unlocked OPER:disable USAGE:idle
  AVAIL: PROC: CNTRL:
  ALARM: STBY:notSet UNKNW:
  INT: ;;;;

Filter toggle button

The Filter toggle button allows you to turn alarm filter on or off. The effect of the filters depends on the operational mode (log or active).

In log mode, selecting On starts the filtering of incoming alarms based on the current filter settings. Selecting Off stops the filtering of incoming alarms. In active mode, selecting the On refreshes the display of alarms based on the current filter settings. Selecting Off causes all active alarms to be displayed.

Print toggle button

The Print toggle button allows you to turn the printing of alarms on or off. When you select On, incoming alarms are sent to the printer. Before sending the alarms to the printer, the environment is checked to see if a variable named PRINTER is defined. If so, its value is assumed to be the name of the desired printer. If this fails, the printing job is sent to the system wide default printer.

Refresh toggle button

Pressing this button manually refreshes the Active Alarm display. When the display is refreshed, the SET alarms that were cleared are removed and the new SET alarms are inserted. When the display is refreshed, the SET alarms that were cleared are removed and the new SET alarms are inserted.

Log Menu pop-up menu

The Log Menu is a pop-up menu that opens when you right click on a log in the list area. You must be operating in log mode to open the Log Menu. The Log Menu contains the following commands:

Table 54
Log Menu commands

Command	Description
Copy	Copies all the selected logs so that they can be pasted later.
Select All	Selects all the logs.
Deselect All	Deselects all the logs.
Set Terse Format	Displays the selected logs in terse format.
Set Normal Format	Displays the selected logs in normal format.
Set Full Format	Displays the selected logs in full format.
Start Tool	Allows you to access various tools.

Alarm Menu pop-up menu

The Alarm Menu is a pop-up menu that opens when you right click on an alarm in the list area. You must be operating in active mode to open the Alarm Menu. The Alarm Menu contains the following commands:

Table 55
Alarm menu commands

Command	Description
Copy	Copies all the selected alarms so that they can be pasted later.
Select All	Selects all the logs.
Deselect All	Deselects all the logs.
Set Terse Format	Displays the selected logs in terse format.
Set Normal Format	Displays the selected logs in normal format.

Table 55
Alarm menu commands

Command	Description
Set Full Format	Displays the selected logs in full format.
Start Tool	Allows you to access various tools. For details on the Start Tool menu, see the section about the Start Tool in 241-6001-122 *Preside MDM Using MDM Toolset and Operator Client Interfaces*. Start tool menus can be customized. For information about customizing start tools, see the section on customizing the toolsets and Start Tools menu in 241-6001-301 Preside MDM Customization Administrator Guide.
Acknowledge Alarms	Opens the Acknowledge Alarms dialog box. This dialog box allows you to select and acknowledge alarms.
Unacknowledge Alarms	Opens the Unacknowledge Alarms dialog box. This dialog box allows you to select and unacknowledge alarms.
Local Clear	Removes the selected alarms from the SDM, NMDR, or GMDR local database. The selected alarm is not removed from the Alarm Display alarm list until a Clear is received from SDM, NMDR, or GMDR.
Global Clear	Removes the selected alarm from the NCS active alarm list. The selected alarms are not removed from the Alarm Display alarm list until a Clear is received from NCS. (This selection is only available for DPN alarms). Global Clear is disabled for proxy alarms.

Set Filter Dialog box

The Set Filter Dialog box allows you to set the conditions that an alarm must meet to be listed in the display area.

Dialog Layout

The dialog contains the following major areas:

Active Filters List	Displays a single select list which contains the names of the filters that will be used if the filtering option is on. When an item is selected the right part of the dialog is refreshed with the content of the selected filter. The arrow button at the right of the Transfer label is also enabled. The default maximum number of Active filters is 10. You can change the default by setting the AD.ad resource. By default, the Active Filter List contains no filter. You can remove a filter from the list by clicking Delete at the bottom of the Active Filters list.
Inactive Filters List	Displays a list that contains the names of the filters that will not be used if the filtering option is on. When you select an item, the right part of the dialog refreshes with the content of the selected filter. The arrow button at the left of the Transfer label is also enabled. You can remove a filter from the list by clicking Delete at the bottom of the Inactive Filters list.
Transfer Arrow Buttons	Transfers a selected item from the Active Filter List to the Inactive Filter List or to move an item from the Inactive Filter List to the Active Filter List. The arrows are enabled when items are selected from the Active Filter List or Inactive Filter List.
Name Text Field	Displays an editable field used to name a filter. If you type a name which already exists in one of the filter lists, the Change Filter push button is enabled and the Add Filter push button is disabled. The corresponding item in the Active Filter List or Inactive Filter List is selected but the content of the filter selectors is NOT updated until you press Restore Values. If you type a name that does not exist, the Add Filter push button is enabled and the Change push button is disabled.

Action Selector	Indicates whether the named filter will be used to accept or reject alarms matching the values defined in the severity, component, fault code and customer id selector. Accept passes alarms matching the criteria you specify to other control areas of this dialog. Reject blocks the display of alarms matching the criteria you specify.
Severity Selector	Specifies the severity values that will be used by the named filter to filter the alarms.
Component Selector	Specifies the component id expressions that will be used by the named Filter to filter the alarms. The maximum is set by default to 40 but can be changed. Both the "*" and "?" characters can be used as pattern matching characters. The component selector contains a scrollable list of component patterns, a component pattern text entry field and two push buttons (Add and Delete). When the user selects an entry in the list, it is automatically displayed in the text entry field. The text entry field is used to type a component pattern for addition to the list. The component pattern must be specified by using a valid combination of pattern matching characters (* and ?) and category/name pairs. Entries are case-sensitive.

Fault Code Selector	Specifies the fault code expressions that will be used by the named Filter to filter the alarms. The maximum is set by default to 40 but can be changed. Both the "*" and "?" characters can be used as pattern matching characters. The Fault Code selector contains a scrollable list of fault code patterns, a fault code pattern text entry field and two push buttons (Add and Delete). When the user selects an entry in the list, it is automatically displayed in the text entry field. The text entry field is used to type a fault code pattern for addition to the list. The fault code pattern must be specified by using a valid combination of pattern matching characters (* and?) and hexadecimal digits.
Customer Id Selector	Specifies the customer id numbers that will be used by the named Filter to filter the alarms. The Customer Id selector contains a scrollable list of customer id numbers, a customer id text entry field and two push buttons (Add and Delete). When the user selects an entry in the list, it is automatically displayed in the text entry field. The text entry field is used to type a customer id number for addition to the list. The customer id number must be specified by using an integer.
Ack State Selector	Specifies whether ack'ed alarms, unack'ed alarms or alarms which have never been ack'ed (or any combination of the three) will be used by the named filter to filter the alarms.
Ack Userid Selector	Specifies the ack userid expressions that will be used by the named filter to filter the alarms. The default maximum number of patterns is 40, but you can change this setting. You can use both the * and the ? characters as pattern matching characters.

Comment Data Selector	Specifies the comment text expressions that will be used by the named filter to filter the alarms. The default maximum number of patterns is 40, but you can change this setting. You can use both the * and the ? characters as pattern matching characters. The comment data selector contains a scrollable list of patterns, a pattern text entry field, an Add button, and a Delete button. When you select an entry in the list, it is automatically displayed in the text entry field. The text entry field is used to type a pattern for addition to the list. Specify a pattern by using a valid combination of the pattern matching characters * and ?.
Customer Data Selector	Specifies the customer data expressions that will be used by the named Filter to filter the alarms. The default maximum number of patterns is 40 but you can change this setting. You can use both the "*" and "?" characters as pattern matching characters. The customer data selector contains a scrollable list of patterns, a pattern text entry field, an Add button, and a Delete button. When the user selects an entry in the list, it is automatically displayed in the text entry field. The text entry field is used to type a pattern for addition to the list. Specify a pattern by using a valid combination of the pattern matching characters * and ?.
Dialog Buttons	Provides a set of buttons that operate on the dialog. For details of these buttons, refer to the "Commands" section of this help panel.

Commands

Add (Component	Adds the content of the Component text entry to the Component list.
Delete (Component)	Removes the item matching the content of the Component text entry from the Component list.
Add (Fault Code)	Adds the content of the Fault Code text entry to the Fault Code list.
Delete (Fault Code)	Removes the item matching the content of the Fault Code text entry from the Fault Code list.
Add (Customer Id)	Adds the content of the Customer Id text entry to the Customer Id list.
Delete (Customer Id)	Removes the item matching the content of the Customer Id text entry from the Customer Id list.
Delete (Filter Lists)	Removes the above selected named filter from the Inactive or Active Filter lists.
Arrow Up	Moves the filter selected in the Inactive Filter List to the Active Filter List.
Arrow Down	Moves the filter selected in the Active Filter List to the Inactive Filter List.
Change Filter	Updates the content of the named filter with the content of the activity, severity, component, fault code and customer id selectors.
Add Filter	Creates a new inactive named filter with the content of the activity, severity, component, fault code and customer id selectors. The new filter name is added to the Inactive Filter List.
Restore Values	Updates the content of the selectors with the previous values of the named filter. This button is only enabled when you change an existing filter.

Use Defaults	Selects all the severities and removes all the items from the component, fault code and customer id selection lists. The Filter Action is also set to Accept Alarms. The name of the filter is not changed.
Set Filters	Closes the dialog. If the Filter On button in the main window is selected, the filter settings are applied. The filter settings are applied as follows: In the Log mode the activity, severity, fault code component and customer id selections of each active named filter are applied to the incoming alarms. Previously displayed alarms are unaffected. In the Active Alarm mode previously displayed alarms are removed and then alarms are displayed according to the new activity, severity, fault code, component and customer id selections of each active named filter.
Save to File	Saves the current filter settings for this operational mode (Log or Active Alarm). Saving the changes does not dismiss the window or apply the changes for the current session.
Restore from File	Updates the dialog with the currently saved settings.
Cancel	Dismisses the dialog. Any changes made to the filter settings are lost.
Help	Displays online help about the Filter Dialog.

Set Effects Dialog box

Dialog Layout

The dialog contains the following elements:

Bell Selector	Indicates whether a bell should ring when an alarm with a specific severity is displayed. You can choose the severity the alarm must have for the bell to ring by checking the appropriate check buttons.
Highlight Selector	Specifies when a special background color should be used to display alarms having specific severities. You can choose the severity for which the special background will be drawn by checking the appropriate cheekbones.
Push buttons	Enable you to apply, save, restore, or cancel the changes made in the dialog.

Commands

Set Effects	Applies the effects settings for the current session and dismisses the dialog. If the Bell On and/or the Highlight On are enabled (Set Effects Dialog), the new selections are in effect.
Save to File	Saves the effect settings permanently for the current application mode (Log or Active Alarm). Saving the changes does not dismiss the window or apply the changes to the current session.
Restore from File	Updates the dialog with the last saved effect settings for the current application mode.
Cancel	Dismisses the dialog. Any changes made to the effect settings are lost.
Help	Displays online help for the Set Effects Dialog.

Log to File Dialog box

Use this dialog to select the directory and file name into which the new incoming logs and possibly the current ones will be saved. The Directory list allows the selection of the destination directory simply by clicking. The File list does the same for the selection of existing file names. Alternatively, both the directory path and the file name can be entered or modified by typing in

the Selection text. To record the logs to a new file in the default directory (shared by all Alarm Display users), just append the file name to the contents of the text entry item. To record the logs to a private directory, just select a new directory from the Directory list or type the full path name in the Selection area. To overwrite an existing file, just select its name from the File list.

Commands

Clicking on a name in the Directory list will select that specified directory name. Selecting the "Change Directory" command then will update the File list to show the files contained in that directory and display the directory name in the Selection text. Clicking on a name in the File list will put the full path name of the specified file in the Selection area. Double-clicking on a list item (Directory or File) invokes the command of the current default button ("Change Directory" or "Log to File").

The following commands are available for the Alarm Display Log to File Selection Dialog:

Include Current Logs	Appends the current logs to your file.
Log to File	Closes the dialog and selects the current contents of the Selection text as the name of the destination for the logs. This command can also be invoked by double- clicking on a name in the File list. If the file already exists, you will be prompted to confirm the overwrite.
Change Directory	Displays the currently selected directory name in the Selection area and displays the files it contains in the File list. This command can also be invoked by double-clicking on a name in the Directory list.
Cancel	Closes the dialog without any file name selection and aborts the Log to File operation.
Help	Displays online help.

Save Active Alarms to File Dialog box

This dialog is a File Selection Dialog used to select the directory and file name into which the set of alarms displayed on the screen will be saved. The Directory list allows the selection of the destination directory simply by clicking. The File list does the same for the selection of existing file names. Alternatively, both the directory path and the file name can be entered or modified by typing in the Selection area. To save the alarms to a new file in the default directory (shared by all Alarm Display users), just append the file name to the contents of the text entry item. To save the alarms to a private directory, just select a new directory from the Directory list or type the full path name in the Selection area. To overwrite an existing file, just select its name from the File list.

Commands

Clicking on a name in the Directory list will select the specified directory name in the Selection area. Selecting the "Change Directory" command will update the File list to show the files contained in that directory. Clicking on a name in the File list will put the full path name of the specified file in the Selection area. Double-clicking on a list item (Directory or File) invokes the command of the current default button ("Change Directory" or "Save Alarms").

The following commands are available for the Alarm Display Save Active Alarms to File Selection Dialog:

Save Active Alarms to File	Closes the dialog and selects the current contents of the Selection area as the name of the destination for the active alarms. This command can also be invoked by double-clicking on a name in the File list. If the file already exists, you will be prompted to confirm the overwrite.
Change Directory	Displays the currently selected directory name in the Selection area and displays the files it contains in the File list. This command can also be invoked by double-clicking on a name in the Directory list.

Cancel	Closes the dialog without any file name selection and aborts the Save Active Alarm operation.
Help	Displays online help.

Set Auto-Refresh Interval Dialog box

This dialog is used to set the interval between list refreshes, that is the interval before new active alarms are inserted and active alarms that were cleared are removed. Use the slider to set the interval.

Commands

OK	Closes the dialog and uses the Auto-Refresh interval set on the slider.
Cancel	Closes the dialog without changing the Auto-Refresh interval.
Help	Displays online help.

Set CDB Preferences Dialog box

This dialog controls the Customer Database information display capabilities. You can choose to display matching Customer Database information in each alarm (displayed in Common Full format) and the Customer Database (by database name and server hostname) from which the information will come. You can reset the Customer Database Information cache, in case the database has been reset. Finally, you can save your CDB preferences to file or restore them.

Commands

Reset CDB Cache	Resets the Customer Database information cache.
Set CDB Preferences	Closes the dialog and uses the CDB settings specified in the dialog.
Save to File	Saves the dialog's settings to file. The settings are automatically restored when the Alarm Display starts.

Restore from File	Resets the dialog's settings to those last saved to file.
Cancel	Closes the dialog without changing the preference settings.
Help	Displays online help.

View Log File Dialog box

Use this dialog to select the directory and file name that you want to browse.

The Directory list allows the selection of the destination directory simply by clicking. The File list does the same for the selection of existing file names. Alternatively, both the directory path and the file name may be entered or modified by typing in the Selection area.

Commands

Clicking on a name in the Directory list will select the specified directory name in the Selection area. Selecting the "Change Directory" command will then update the File list to show the files contained in that directory. Clicking on a name in the File list will put the full path name of the specified file in the Selection area. Double-clicking on a list item (Directory or File) invokes the command of the current default button ("Change Directory" or "View Log File").

The following commands are available for the View Log File Dialog:

View Log File	Closes the dialog and starts the Browser dialog on the current contents of the Selection area. This command can also be invoked by double-clicking on a name in the File list.
Change Directory	Displays the currently selected directory name in the Selection area and displays the files it contains in the File list. This command can also be invoked by double-clicking on a name in the Directory list.

Cancel	Closes the dialog without any file name selection.
Help	Displays online help.

View Active Alarms File Dialog box

This dialog is a File Selection Dialog used to select the directory and file name that you want to browse.

The Directory list allows the selection of the destination directory simply by clicking. The File list does the same for the selection of existing file names. Alternatively, both the directory path and the file name may be entered or modified by typing in the Selection area.

Commands

Clicking on a name in the Directory list will select the specified directory name in the Selection area. Selecting the "Change Directory" command will then update the File list to show the files contained in that directory. Clicking on a name in the File list will put the full path name of the specified file in the Selection area. Double-clicking on a list item (Directory or File) invokes the command of the current default button ("Change Directory" or "View Active Alarms File").

The following commands are available for the View Log File Dialog:

View Active Alarms File	Closes the dialog and starts the Browser dialog on the current contents of the Selection area. This command can also be invoked by double-clicking on a name in the File list.
Change Directory	Displays the currently selected directory name in the Selection area and displays the files it contains in the File list. This command can also be invoked by double-clicking on a name in the Directory list.
Cancel	Closes the dialog without any file name selection.
Help	Displays online help.

Alarm Browser Dialog box

The browser dialog displays the contents of the alarms as they are logged to a file. Depending on the Alarm Display mode, you can view active mode alarms or log mode alarms.

The Show button refreshes the contents of the dialog with the current content of the specified alarm file.

The Pause button lets you pause the display of incoming alarms. When the display has been paused, a red border surrounds the alarm information and the label on the button changes to Resume. Clicking the Resume button removes the red border and resumes the display the incoming alarms.

The Close button closes the dialog.

File Exist Warning Dialog box

The file you picked to dump the Alarm Display log to, already exists. You can overwrite the file, but any data it contained will be lost. If you do not wish to kill this file, press "No, keep the file", select "Log to File..." or "Save Active Alarms to File", and specify a different file name.

Commands

Overwrite	Starts a new log and overwrites the existing file.
Cancel	Stops the start log operation.
Help	Displays online help.

Alarm Display - Help

There is one set of help information which describes the Alarm Display anchor window. It gives a brief overview of the Alarm Display tool. It has sub-sections that describe key parts of the main window. You can view it by pulling down the Help menu and selecting the On Window option.

There is also help for each menu. It is available from the last entry on each menu, appropriately labeled "Help".

There is also one set of help information for each major dialog of the user interface. You can view the help for a dialog by clicking on the "Help" button on that dialog. This includes dialogs.

Alarm Display - Keys

The Alarm Display is built using the Motif user interface library.

There can be a default action button in a dialog. This button is visually distinguished by an extra box around it. If you press the Return key anywhere in the dialog, Motif will activate the default button. Not all dialogs have a default action button.

Mnemonics are available only from menu bar menus. They are single characters. The characters are identified by an underscore. To use mnemonics, you must first press either F10 (from which menus can be opened using mnemonics) or hold down the Meta key and press the mnemonic for the menu bar menu you wish to open. From there, the mnemonic of the specific command on the open menu can be pressed (once the Meta key has been released). For example, the following key sequence causes the Alarm Display tool to exit: "Meta-F E". As does: "F10 F E".

Command shortcuts can be used by experienced users of Alarm Display instead of using the mouse to select commands from menus.

Command shortcuts use combinations of various modifier keys with regular character keys. Modifier keys are Shift, Control, and Meta.

As users become familiar with the commands, they remember the shortcut and can invoke that command directly from the keyboard without having to pull down menus.

Useful Shortcuts

Some useful shortcuts are:

Ctrl+Y : Set Filter to On
Ctrl+N : Set Filter to Off
Ctrl+P : Set Print to On
Ctrl+O : Set Print to Off
Ctrl+T : Set Format to Terse

Ctrl+M : Set Format to Normal
Ctrl+U : Set Format to Full
Ctrl+S : Set Auto-Refresh to Off
Ctrl+Q : Set Auto-Refresh to On
Ctrl+S : Set Pause to On
Ctrl+Q : Set Pause to Off

Keyboard shortcuts

The table “Accelerator keys” (page 351) lists the accelerator keys for the Alarm Display.

Table 56
Accelerator keys

Mode	Function			
Logs Mode	Pause	Format	Filter	Print
	Ctrl+s (on)	Ctrl+t (terse)	Ctrl+y (on)	Ctrl+p (on)
		Ctrl+m (normal)		
	Ctrl+q (off)	Ctrl+u (full)	Ctrl+n (off)	Ctrl+o (off)
Active Alarm Mode	AutoRefresh	Format	Filter	
	Ctrl+s (off)	Ctrl+t (terse)	Ctrl+y (on)	
		Ctrl+m (normal)		
	Ctrl+q (on)	Ctrl+u (full)	Ctrl+n (off)	

Command line arguments

The table “Command line arguments” (page 351) lists the Command line arguments for the Alarm Display.

Table 57
Command line arguments

Command line	Description
[-h <host>]	The name of the remote host on which the General Manager Data Router (GMDR) is running. If a surveillance service selection exists, the default is the selected host; otherwise, the default is the local host.
[-s <GMDR>]	The name of the GMDR server from which you want to extract data. The default is GMDR.

(Sheet 1 of 2)

Table 57 (Continued)
Command line arguments

Command line	Description
[-r <number>]	The maximum number of active alarms that the Alarm Display buffers when the *Auto-Refresh* option is deactivated. The default is 500.
[-b <number>]	The maximum number of logs that the Alarm Display buffers while the *Pause* option is activated. The default is 500.
[-a <number>]	The maximum number of logs that Alarm Display keeps in the Log mode window. The default is 500.
[-o DPN]	DPN mode only. It displays DPN alarms in NCS format. The default is Passport- and DPN-originated alarms in *common* format. This is now outdated.
[-m [ACTIVE | LOG]]	Can be Log or Active mode. The default is Log mode.
[-w <number>]	The time interval between refreshes of the Log display. The default is two seconds.

(Sheet 2 of 2)

Alarm Display interface in MDM Operator Client

The main window and overall interface of the Alarm Display tool in the MDM Operator Client environment is made up of the following parts:

- “Menu bar” (page 353)
- “Alarm display area” (page 356)
- “Filter area” (page 357)
- “Advanced Filter dialog box” (page 357)
- “Details area” (page 359)
- “Alarm Menu pop-up menu” (page 359)

You may also want to view the following Alarm Display information:

- “Alarm Display basic procedures” on page 303
- “Alarm Display fundamentals” on page 361

Menu bar

The Alarm Display provides the following menus:

- “File” (page 353)
- “Edit” (page 354)
- “Options” (page 354)
- “Help” (page 355)

File

The following commands are available from the File menu:

Table 58
File menu commands

Command	Description
Reconnect to Server	Resets the connection to the general management data router (GMDR) server. Use this command if the GMDR server stops responding to the client, for example, if you set a new filter but receive no alarms.
Save Alarms to File	Lets you save the alarm display information to a specified file.
Print Selected Alarm Details	Prints these details on the currently selected alarm: component, state, time, type, customer ID, fault, severity, cause, event, comments, acknowledge state, acknowledge reason, and acknowledge user ID.
Print All Alarm Summary	Prints this summary alarm information on each alarm in the alarm list area: alarm number, severity, component, event, date, and time.
Exit	Closes the alarm display window and exits the application.

Edit

The following commands are available from the Edit menu:

Table 59
Edit menu commands

Command	Description
Copy	Copies the full format of a selected alarm from the alarm list to the system clipboard. You can then paste this information into another application.

Options

The following commands are available from the Options menu:

Table 60
Options menu commands

Command	Description
Log Alarms to File	Opens a Java Open dialog and prompts you for information on where to store the log file.
Bell on Critical Alarm	Turns sound effects on or off for critical alarms. Use this command only if your resource file has sound definitions and your hardware supports sound.
Bell on Major Alarm	Turns sound effects on or off for major alarms. Use this command only if your resource file has sound definitions and your hardware supports sound.
Bell on Minor Alarm	Turns sound effects on or off for minor alarms. Use this command only if your resource file has sound definitions and your hardware supports sound.
Bell on Warning Alarm	Turns sound effects on or off for warning alarms. Use this command only if your resource file has sound definitions and your hardware supports sound.

Help

The following commands are available from the Help menu:

Table 61
Help menu commands

Command	Description
Help on Window	Displays help on the Alarm Display window.
What's This?	Displays information about a selected area of the Alarm Display window.

Alarm display area

The alarm list area consists of the following items: a list box and check boxes that let you determine what displays in the alarm list, an alarm count, and a detailed alarm list.

Alarm count field

This field displays the total number of alarms in the alarm list, based on any filters in effect.

Alarm mode list box

This list box allows you choose the mode for displaying alarms. The following modes are available:

- **Active Alarms** mode display only active alarms.
- **Alarm Log** mode displays recent alarms as they are received by MDM. This mode includes all alarms including set, clear, and message events
- **Alarm History** mode is similar to **Alarm Log** mode but also includes past alarms. In some networks, selecting this mode can result in large amounts of alarm data.

Pause Alarms check box

When you enable this check box, no subsequent alarms display in the alarm list. When this check box is not enabled, the alarm display continues to add alarms to the alarm list.

Auto-scroll check box

When you enable this check box, the alarm display automatically scrolls the alarm list so that the most recent alarm is visible. When this check box is not enabled, the alarm list does not automatically scroll.

Alarm list

The alarm list displays information on alarms in the network. The information is displayed in the following columns: Ack, Severity, Event, Fault, Timestamp, Component ID, Notification ID, Alarm Type, Probably Cause, Comment Data, Operator Data, Expert Data, Ack State, Ack Timestamp, Ack User ID, Ack Reason, Raw State, Administration State, Operator State, Usage State, Availability Status, Procedural Status, Control Status, Alarm Status, Standby Status, Unknown Status, Related Components, Alarm Process ID, File Name, File Line Number, File Version and Customer ID.

Filter area

The Filter area allows you to activate and define simple and advanced filters. See for information about how to set filters.

Filter list box

The Filter list box allows you to set the filter mode. The following modes are available:

- Off turns all filters off.
- Simple filters alarms based on severity. You can define the severity levels that you want to filter using the check boxes in the Simple Filter sub-area.
- Advanced filters alarms based on the settings enabled from the “Advanced Filter sub-area” (page 357).

Simple Filter area

The Simple Filter area allows you define a filter based on alarm severity. You use the check boxes in the Simple Filter sub-area to define the alarm severity that you want the filter to use. You can enable one of more of the check box options and click the Save button to save your selections.

Advanced Filter sub-area

The Advanced Filter area allows you to define filters based on several criteria. When you select the Advanced option from the Filter list box, you enable the Settings button in the Advance Filter sub-area. You click the Settings button to open the Advanced Filter dialog box and then you set your filter criteria using the options in the dialog box. See “Advanced Filter dialog box” (page 357) for a description of the Advanced Filter dialog box and its options.

Advanced Filter dialog box

The Advanced Filter dialog box opens when you click the Settings button in the Advance Filter sub-area. You can use the options in the Advanced Filter dialog box to set filter criteria. You can also name and save multiple filters and apply different filters for each mode of the alarm browser. It is also possible to create default filters for groups of users and enable users to override the settings as required.

The dialog box is made up of the following parts:

- Filtering area

  All filters that you set are displayed in this area after you click the Add button.

- attribute list box

  This is the first list box in the window. It contains eight alarm attributes that you can choose from.

- options list box

  This is the second list box in the window. It contains options that can be applied to the attribute you selected in the attribute list box.

- target value field

  This is the field where you enter the component ID of the device that the you want to filter.

- Add button

  Click this button to add your filter to the list in the Filter area.

- Change button

  Click this button to make changes to the selected filter. You must select a filter in the Filtering area to make this button active.

- Delete button

  Click this button to delete the selected filter. You must select a filter in the Filtering area to make this button active.

- OK button

  Click this button to apply your filters and close the dialog box.

- Cancel button

  Click this button to close the dialog box without applying any of your filters.

Details area

The details area provides tabs that display additional alarm information:

Detailed Alarm Report tab

The Detailed Alarm Report tab displays all of the same alarm information that is displayed in the Alarm List area, except only for the selected alarm. The details are organized and displayed in logical groups.

MDM Full Alarm Format tab

The MDM Full Alarm Format tab displays all of the same alarm information that is displayed in the Alarm List area, except only for the selected alarm. The details are organized and displayed in full format.

NTP Description of Fault tab

The NTP Description of Fault tab displays the NTP description for the selected alarm.

Alarm Menu pop-up menu

The Alarm Menu is a pop-up menu that opens when you right click on an alarm in the list area. You must be operating in active mode to open the Alarm Menu. The Alarm Menu contains the following commands:

Table 62
Alarm menu commands

Command	Description
Copy	Copies all the selected alarms so that they can be pasted later.
Acknowledge Alarms	Opens the Acknowledge Alarms dialog box. This dialog box allows you to select and acknowledge alarms.
Unacknowledge Alarms	Opens the Unacknowledge Alarms dialog box. This dialog box allows you to select and unacknowledge alarms.

Table 62
Alarm menu commands

Command	Description
Local Clear	Removes the selected alarms from the SDM, NMDR, or GMDR local database. The selected alarm is not removed from the Alarm Display alarm list until a Clear is received from SDM, NMDR, or GMDR.
Global Clear	Removes the selected alarm from the NCS active alarm list. The selected alarms are not removed from the Alarm Display alarm list until a Clear is received from NCS. (This selection is only available for DPN alarms). Global Clear is disabled for proxy alarms.
Start Tool	Allows you to access various tools. For details on the Start Tool menu, see the section about the Start Tool in 241-6001-122 *Preside MDM Using MDM Toolset and Operator Client Interfaces*. Start tool menus can be customized. For information about customizing start tools, see the section on customizing the toolsets and Start Tools menu in 241-6001-301 Preside MDM Customization Administrator Guide.

Alarm Display fundamentals

The Alarm Display provides a list of logs and active alarms in the network. It lets you view alarms received from Passport, MPE 9500, DPN and selected SNMP devices in a single window. You can use the Alarm Display in conjunction with other surveillance tools to isolate faults in your network.

You access the Alarm Display tool from the Fault toolset in the Preside MDM window. The Alarm Display provides two modes of operation: Active and Logs. The Alarm Display displays all alarms in a common format. You can launch Alarm Display with an Active Alarm List or a window that displays a log of all alarms received.

Alarm details

Regardless of the type of device that is generating an alarm, Alarm Display provides the same set of details about each alarm, where applicable. The details provided by Alarm Display are as follows:

Display formats for alarm details

When you are viewing alarm details in Alarm Display, you can control the number of details that are displayed using display formats. The method that you use to control the display format is different for the MDM Toolset Environment and the MDM Operator Client environment.

Alarm severity

Passport and MPE 9500 switch alarms are shown in common format. The table “Common alarm severity mapping” (page 362) shows the mapping between the Preside Multiservice Data Manager (MDM) Alarm Display common alarm severities and Passport and MPE 9500 switch severities.

Table 63
Common alarm severity mapping

MDM Alarm Display common alarm severity label	Passport and MPE 9500 switch severity label	DPN switch severity label
CRITICAL	Critical	Major
MAJOR	Major	Minor
MINOR	Minor	
CLEAR	Clear	Wildcard
WARNING	Warning	Degrade, Overload
UNKNOWN	Indeterminate	others

Alias substitution for component names in MDM Toolset

The Alarm Display provides an option that lets you substitute an alias for the component name when displaying alarms. This function is an extension of the Customer Database (CDB) support. To use the alias function, you need to customize the tool's Motif resources. To enable alias substitution set the cdbSupportAlias resource to a value of True. For details, see "Resources for color control of common alarm formats by Alarm Display" (page 326).

When you enable support for alias substitution, the CDB Preferences Dialog box opens with an additional checkbox—Display component ID alias from CBC server. Use this checkbox to turn alias substitution on or off in Alarm Display.

When alias substitution is turned on, the component name is replaced by the alias in the Customer Database's Related Component field. The alias displays in all alarm formats. However, a new second line displays in the normal and full formats to indicate the real component name. For more information, see "Displaying Customer Database Information in MDM Toolset" (page 364).

Active mode

The Active mode shows the SET alarms for which there is no corresponding CLEAR. The display is auto refreshed at a default rate of once every minute; it removes cleared alarms and inserts new SET alarms. You can turn the auto refresh off and refresh the display as needed by pressing the *Refresh* button.

> ***Note:*** If more than 500 SET alarms are received with the *Auto Refresh* turned off, it automatically resets to *On* and forces a refresh of the display.

You can perform the following actions in Active mode:

- Double click on an alarm to change the alarm display format.
- Press the Shift key and double click on an alarm to change the alarm display format to full syntax.
- Press the Control key and double click on an alarm to acknowledge or unacknowledge an alarm. For details on acknowledging and unacknowledging alarms, see “Acknowledging and Unacknowledging Alarms” (page 364).
- Select an alarm and press the up or down arrow key to scroll through the list of alarms displayed on the screen.

Log mode

When the Alarm Display tool is in the Log mode, the SET, CLR, and MSG alarms are shown as they are asynchronously received.

Babbler alarms are kept by Preside Multiservice Data Manager (MDM). A babbler alarm is defined as a SET alarm generated by the switch, without a corresponding CLR alarm. The babbler alarms carry a different notification ID but the same component ID, the same fault code, and the same alarm severity as the previous SET alarms they are duplicating.

In the case of successive SET alarms, FMDR and NMDR retain the latest received alarm, and previous alarms become historical alarms. By default, DPN babbler alarms are discarded by MDM. To enable DPN babbler alarms, run the DMDR server with the -B option. For information on the DMDR server startup options, see 241-6001-310 *Preside MDM Server Reference Guide*.

You can perform the following actions in Log mode:

- Double click on an alarm to change the alarm display format.
- Press the Shift key and double click on an alarm to change the alarm display format to full syntax.
- Press the Control key and double click on an alarm to acknowledge or unacknowledge an alarm. For details on acknowledging or unacknowledging alarms, see “Acknowledging and Unacknowledging Alarms” (page 364).
- Select an alarm and press the up or down arrow key to scroll through the list of alarms displayed on the screen.

Acknowledging and Unacknowledging Alarms

See “Alarm acknowledgement and unacknowledgement” (page 381) for fundamental information related to acknowledging and unacknowledging alarms.

Displaying Customer Database Information in MDM Toolset

By default, the Alarm Display does not display customer database information. You can, however, override this default and control the display of customer data in alarms by using the Set CDB Preferences Dialog. See “Setting customer database preferences in MDM Toolset” on page 320.

Enabling the display of customer data in alarms can help you diagnose faults. When you do enable the display, the Alarm Display shows information on an alarm’s component ID from a customer database server. You can view this information in the full common alarm format (for both the Active and Logs mode) in the “CDB:” tagged field. For more information on common alarm format, see “Alarm severity” (page 361).

For more information on common alarms, see “Alarm severity” (page 361). For details on how to setup and populate a customer database server, see 241-6001-804 *Preside MDM Workstation Utilities User Guide*, “*Customer Data Tool*”.

> ***Note:*** Populate the customer database with information in the display component ID format. For example, use the format EM/NODE1 LP/0 rather than EM NODE1 LP 0.

Alarm Display provides on option that lets you use alias substitution for component names. To do so, you must first turn on the support for this capability by modifying the Motif resource files (see “Alias substitution for component names in MDM Toolset” (page 362). When support is enabled, you can use the CDB Preferences Dialog to control whether or not to display the alias in Alarm Display.

Filtering alarms

The Alarm Display Filter Dialog defines the conditions that alarms need to meet to be reported in the Alarm Display main display. Use the filter dialog to define filter characteristics, save or restore filter settings, and apply defined filter characteristics to the Alarm Display main display.

Defining filters

Alarms can be filtered to display specific severities, fault codes, customer ids and alarms from certain components. Filtering can be enabled or disabled at any time with the Filter buttons on the main window.

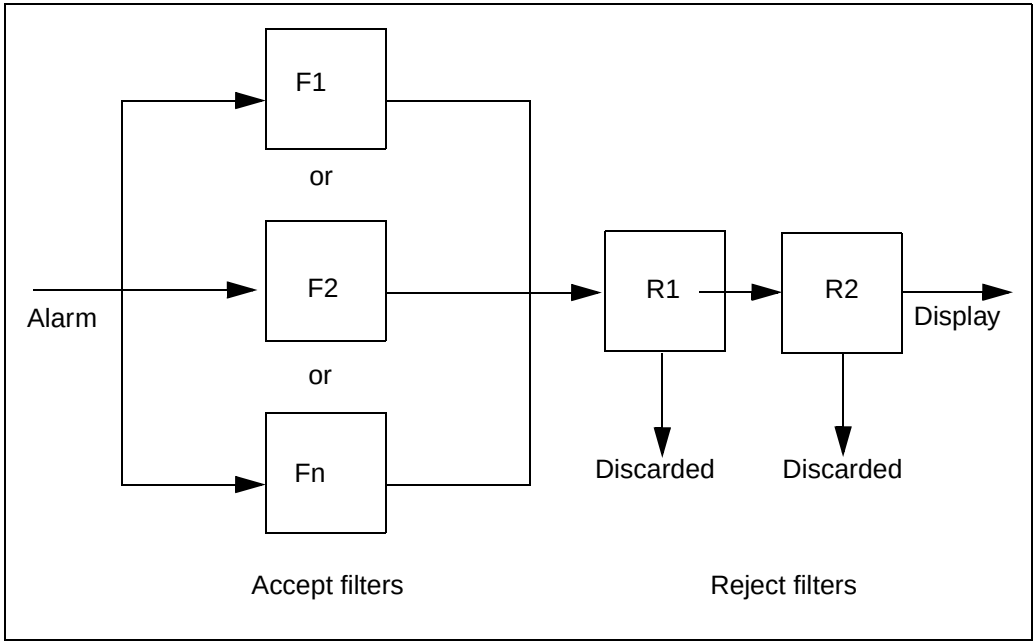
Multiple filters can be active at a given time. Filters can be defined to reject or accept alarms.

Applying filters in MDM Toolset

You can apply your filters to the Alarm Display main display after you define them.

The figure “Filtering process” (page 366) illustrates the filtering process. The Alarm Display shows an alarm if it matches the conditions of at least one Accept filter; it blocks the display of an alarm if it matches the conditions of one Reject filter. Alarm Display uses a two-stage filtering process. First, accept the alarm types you want displayed, and then reject a subset of the accepted alarms that you do not want to see in the Alarm Display main display.

Figure 31
Filtering process



You can combine up to 10 Active filters in any combination of Accept or Reject filters. To set this maximum, change the *AD*maxNumberActiveFilters* resource in your resource file.

Saving filters in MDM Toolset

After you define a set of filters, you can save them to a file. Saved filters are automatically restored when you start the Alarm Display. Filters are stored in your *$HOME/MagellanNMS* directory under the following names: *ADActiveModeFilterDpn.cfg* (outdated), *ADActiveModeFilter.cfg*, *ADLogModeFilterDpn.cfg* (outdated), and *ADLogModeFilter.cfg*. Each filter is defined by a separate record and each record is separated by a blank line. A filter must contain a filter name, the action it performs, and its activity.

This is an example of a filter set in the Log mode:

FILTERNAME: x
ACTION: ACCEPT
ACTIVE: TRUE
SEVERITY:CRITICAL
SEVERITY: MAJOR
SEVERITY: MINOR
SEVERITY: CLEARED
COMPONENT: PM/R66*
FAULTCODE:1*
CUSTOMERID:1
ACKSTATE: acked
ACKUSERID: dmei

FILTERNAME: xx
ACTION: REJECT
ACTIVE: TRUE
SEVERITY: CRITICAL
SEVERITY: MAJOR
SEVERITY: MINOR
SEVERITY: CLEARED
COMPONENT: PM/R66 PE/2*
FAULTCODE: 1*
CUSTOMERID: 1
ACKSTATE: acked
ACKUSERID: dmei

Active and Inactive Named Filters

An active filter will be used by Alarm Display when you turn your filtering option on. An inactive filter will not be used by Alarm Display when you turn your filtering option on.

Accept and Reject Filters

Filters can be defined to reject or accept alarms.

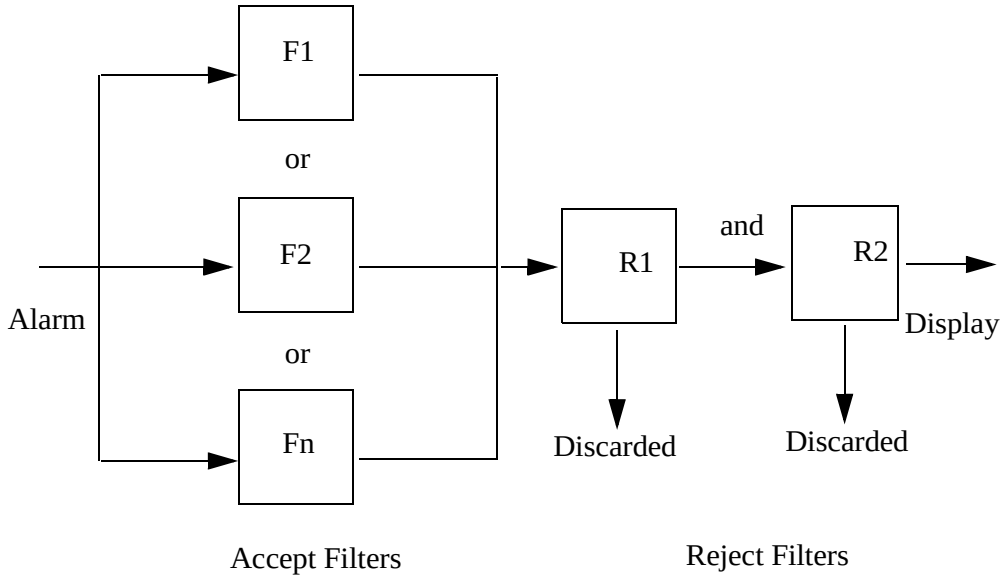
Setting the radio button of a named filter to Accept Alarms means that the named filter conditions will be used positively. To pass an Accept Filter an alarm needs to match the conditions specified in its definition.

Setting the radio button of a named filter to Reject Alarms means that the named filter conditions will be used negatively. An alarm matching the conditions specified in a reject filter will be discarded no matter what other accept or reject filters are in use.

Combining Named Filters

Multiple filters can be active at a given time. When multiple filters are combined Alarm Display will accept an alarm if it matches the conditions of at least one accept filter and will discard an alarm if it matches the conditions of at least one reject filter. The filtering mechanism used by Alarm Display can be modeled as a two stage filtering process where you first choose the set of alarms you want to be accepted by Alarm Display and then the alarms from the accepted set that you want to reject.

Figure 32
Accept and reject filters



Filters Storage Format

Your filter sets are stored in your directory *$HOME/MagellanNMS* under the following names:

IADActiveModeFilter.cfg,
IADActiveModeFilterDpn.cfg (outdated),
IADLogModeFilter.cfg and
IADLogModeFilterDpn.cfg (outdated).

Each filter is defined by a unique record and each record is separated by a blank line. A filter must contain a filter name, its activity and the action performed by that filter.

FILTERNAME: <name of the filter>
ACTION: <ACCEPT | REJECT >
ACTIVE: <TRUE |FALSE >
SEVERITY: < as shown in filter dialog>.
COMPONENT: < component pattern in display format
FAULTCODE: < a fault code pattern>
CUSTOMERID: < a customer id number >
ACKSTATE: < as shown in filter dialog>
ACKUSERID: <an ack userid pattern>

Saving and viewing Alarm Display files

You can save the information displayed by the Alarm Display to a file and also view saved files. The appearance and control areas differ slightly depending on whether you are in Active Alarms or Logs mode.

For situations in which you do not wish to have an operator logged in to the Alarm Display Tool, there is another way to extract alarms from **Preside Multiservice Data Manager (MDM)** with the *rncslarm* utility. For information about this utility, see the section on extracting alarms in text format in 241-6001-301 *Preside MDM Customization Administrator Guide*.

Pattern matching using wildcards

Alarm Display supports two types of pattern matching wildcards for the component id, the fault code, the acknowledgement user id, and comment data. The first one is "*" which matches any string, including the null string. The second one is "?" which matches any single character. You can use more than one pattern matching character.

Example
Component id pattern PM/R66* would get all the alarms on a component starting with PM/R66 and its subcomponents.

Example
The component id pattern PM/R66* PO/* would filter the port alarms on the PM/R66.

Example
The fault code pattern 30* retrieves all alarms with a fault code beginning with 30.

Example
The Ack userid pattern dmei* retrieves all alarms that are acked or unacked by user dmei, regardless of which workstation is used.

DPN Alarm Display

The DPN Alarm Display tool displays DPN alarms in the DPN format.

See “Alarm Display interface in the MDM Toolset” on page 328 for more information related to the Alarm Display interface, procedures and fundamentals.

Chapter 7
Alarm Help

Alarm Help lets you view alarm code descriptions from the following documents on the workstation to assist in problem detection and correction:

- 241-1001-506 *DPN-100 Alarm Console Indications* contains DPN alarms
- NN10600-500 *Nortel Networks Multiservice Switch 7400/15000/20000 Alarms Reference* contains Passport alarms
- 241-6001-501 *Preside MDM Alarms Reference Guide* contains MDM proxy alarms and alarms for SNMP devices supported by MDM
- NN10700-014 *Nortel Networks Multiservice Provider Edge 9500 Alarms Reference* contains MPE 9500 alarms

Navigation

- “Alarm Help basic procedures” (page 371)
- “Alarm help window” (page 380)

Alarm Help basic procedures

Alarm Help is a utility that lets you view alarm code descriptions for the following:

- DPN devices
- Passport devices
- MPE 9500 devices
- Preside Multiservice Data Manager (MDM) proxy alarms

- SNMP-supported devices

In addition, you can use Alarm Help to add and edit your own user-defined alarm code descriptions.

Navigation

Starting Alarm Help

Start Alarm Help for access to online documents.

Procedure step

1 On the Preside MDM window, select Fault -> Alarm Help

The Alarm Help window opens with the Introduction of the Alarm Console Indications document.

Stopping Alarm Help

Start Alarm Help to close the display window.

Procedure step

1 Use one of the following methods to stop Alarm Help:

- Close the Netscape browser. Minimizing the window does not stop the alarm help display.
- Select any context-sensitive help menu item.
- Click any help button.

Searching for an alarm code

You can search for a particular alarm code in Alarm Help. To do so, you need to specify all characters in the 8-digit code. You cannot search based on partial matches or wildcards.

Procedure steps

1 Enter the 8-digit alarm code in the text entry field.

The fault code is eight hexadecimal digits entered as XXXX XXXX or XXXXXXXX.

2 Click the Search Alarm button.

If the alarm code is matched with one or more occurrences, all the occurrences are displayed in the navigation area. If no alarm code is matched, the words No matches is displayed.

Note 1: You can replace any of the eight hexadecimal digits in the fault code with a wildcard character. Type the wildcard characters in the text entry field.

Note 2: Valid wildcard characters are n, x, y, and z. These can take on the hexadecimal values of 0 (zero) through F. You can also use the question mark (?) as a wildcard character to replace a single digit, and the asterisk (*) to replace a number of digits at the end of the alarm code.

Searching for a text string

Search for a text string to locate specific information.

Procedure steps

1. Type the text string, enclosed by single quotes, in the text entry field.
2. Click the Search Text button.

   If the string is matched with one or more occurrences, all the occurrences of the text string will appear in the navigation area. If the text string cannot be matched, the phrase No Matches is displayed in the view area.

   Note: Matched strings can occur both in headings and in any other text within a document.

Viewing alarm codes from Alarm Display or Component Information Viewer

Open alarm help from the Alarm Display or Component Information Viewer using the Start Tool.

Procedure steps

1. If Alarm Help is not running, open Alarm Help:
   a. Select an alarm in Alarm Display or Component Information Viewer.
   b. With the right mouse button, select Start Tool.
   c. From the Start Tool menu, select Alarm Help.
2. Select the alarm code you want to view.

   The text for the selected alarm code will be displayed in Alarm Help.

Adding and editing alarm codes

Alarm Help allows you to add alarm code descriptions. You can add a new alarm code or you can reuse an existing alarm code. You can also edit or delete alarm code descriptions.

Note: If you add or modify alarm code descriptions in the Online Documentation (UNIX) and then switch to Online Documentation (Web), the revisions may not be available to Online Documentation (Web). If this occurs, use the following procedure:

Navigation

- "Adding a description for a new alarm code" (page 376)
- "Adding a description using an existing alarm code" (page 377)
- "Editing an alarm code description" (page 377)
- "Deleting an alarm code description" (page 379)

Adding a description for a new alarm code

Add a description to a user-defined alarm code.

Procedure steps

1 Enter a new alarm code in the text entry field.

The code should consist of eight hexadecimal digits. Make sure the code does not conflict with any other alarm codes.

The SNMP Surveillance Adapter has a CD (customer-defined) labelling feature. If you enter only six digits, CD is automatically added to the start of the six-digit code. For example, **123456** becomes **CD 123456**. This CD label helps to ensure that the alarm code will not conflict with any other alarm code.

If you enter eight digits, CD is not added to the start of the alarm code. Make sure the code does not conflict with any other alarm codes.

Note 1: The CD labelling feature is unique to the SNMP Surveillance Adapter. This feature does not apply to the SNMP Integrator.

Note 2: The first two numbers should match the device type value for the device being managed.

2 Click the Add/Edit button.

The Edit Alarm Text window is displayed with the new alarm code in the title bar of the window.

3 Type the text of the alarm code description in the window.

4 Click the Apply button.

The new alarm code is added to the end of the list in the navigation area.

Adding a description using an existing alarm code

Add a description to an existing user-defined alarm code.

Procedure steps

1. Select an existing alarm code:

   Select an existing alarm code one of the following ways:

   - Enter an existing alarm code in the text entry field as an eight hexadecimal digit. For example, enter **CD12 3456**, or **5004 0100**.
   - Select an alarm code in the navigation area.

2. Click the Add/Edit button.

   The Edit Alarm Text window is displayed with the existing alarm code in the title bar of the window.

3. Type the text of the alarm code description in the window.

4. Click the Apply button.

   Note: You can only add user-defined alarm codes. If you use this procedure to edit an existing alarm code that was provided to you, a duplicate alarm code description will be created.

   The new alarm code is added to the end of the list in the navigation area.

Editing an alarm code description

Edit a description to an existing alarm code.

Procedure steps

1. Select an existing alarm code:

   Select an existing alarm code one of the following ways:

   - Enter the alarm code in the text entry field as an eight hexadecimal digit. For example, enter **CD12 3456**, or **5004 0100**.

   Select an alarm code in the navigation area.

2. Click the Add/Edit button.

   The Edit Alarm Text window is displayed with the existing alarm code in the title bar of the window.

3. Edit the text of the alarm code description in the window.

4. Click the Apply button.

Deleting an alarm code description

Delete a description to an existing user-defined alarm code.

Procedure steps

1 Select an existing alarm code:

Select an existing alarm code one of the following ways:

- Enter the alarm code in the text entry field as an eight hexadecimal digit. For example, enter **CD12 3456**, or **5004 0100**.
- Select an alarm code in the navigation area.

2 Click the Add/Edit button.

The Edit Alarm Text window is displayed with the existing alarm code in the title bar of the window.

3 Click the Delete button.

A warning is displayed asking if you want to delete the alarm code description.

4 Click the Yes button to confirm you want to delete the alarm code description.

Note: You can only delete user-defined alarm code descriptions.

Alarm help window

When you start Alarm Help, a Netscape browser opens and displays the alarm in context. The alarm in context is the last alarm that was selected from the Alarm Display or Component Information Viewer tool. If no alarm is in context when you start Alarm Help, the top of the Alarm Console Indications document displays in the window. After you start Alarm Help, the contents of the window update automatically as the alarm in context changes.

Alarm help buttons and fields

The following buttons and fields are available from the Alarm help window:

Table 64
Alarm help buttons and fields

Command	Description
Reset	returns you to the top of the Alarm Console Indications document when you have been doing other viewing or searching. ***Note:*** Note: By default the word Introduction is displayed in the text entry field because that is the first text found.
Text	Text entry field lets you type in an alarm code or other text that you want searched.
Search Alarm	Initiates a search for an alarm code.
Search Text	Initiates a search through the alarm documents for a specific text string.
Add/Edit	Lets you add you own alarm code descriptions to Alarm Help and edit them

Alarm help areas

The Alarm Help window has the following areas:

- a navigation area on the left that contains a table of contents.
- a view area on the right that contains the text of the alarm documents.

Chapter 8
Alarm acknowledgement and unacknowledgement

The Alarm acknowledgement and unacknowledgement tools enable you to acknowledge and unacknowledge alarms.

Navigation

Alarm acknowledgement and unacknowledgement procedures

Acknowledging alarms in MDM Toolset

You can acknowledge selected active alarms when Alarm Display is in active mode. When you acknowledge an alarm, a checkmark icon is displayed to the left of that alarm in the alarm list. The icon appears in both active and log modes. You can also view the date and time of the acknowledgment, the userid of the person who acknowledged the alarm, and the reason for the acknowledgement, depending on the display format you are using.

Procedure steps

1. From the Alarm Display window, select the alarm that you want to acknowledge.
2. Right-click on the selected alarm.
3. Select **Acknowledge Alarms** from the pop-up menu.
4. In the **Acknowledge Alarm(s) Dialog** box, type a reason for the action in the **Reason** field. You may also need to enter a userid in the **User** field, if the system administrator has enabled changes to this field. The default value for the **User** field is <UnixUserID@hostname>.
5. Click **Ack Alarm(s)**.

Unacknowledging alarms in MDM Toolset

You can unacknowledge selected acknowledged alarms when the Alarm Display is in active mode. When you unacknowledge an alarm, a crossed out checkmark icon to the left of that alarm is displayed in the alarm list. The icon appears in both active and log modes. You can also view the date and time of the unacknowledgement, the userid of the person who unacknowledged the alarm, and the reason for the unacknowledgement, depending on the display format you are using.

Procedure steps

1. From the Alarm Display window, select the alarm that you want to unacknowledged.
2. Right-click on the selected alarm.
3. Select Unacknowledge Alarms from the pop-up menu.
4. In the **Unacknowledge Alarm(s) Dialog** box, type a reason for the action in the **Reason** field. You may also need to enter a userid in the **User** field if the system administrator has enabled changes to this field. The default value for the **User** field is <UnixUserID@hostname>.
5. Click **Unack Alarm(s)**.

Acknowledging active alarms on selected components in MDM Toolset

Active alarms for selected components from within the Network Viewer, Component Status Display, Network Status Bar, and Component Information Viewer can be acknowledged.

1. When the Acknowledge Alarms Dialog opens, enter a reason or modify the existing reason.
2. If the dialog is configured to allow the user value to be changed, modify it if required.
3. Click **Also ack all alarms on related sub-components.**

   This acknowledges all active alarms for all subcomponents belonging to the selected component.
4. Click **Ack Alarm(s).**

   The dialog closes.

   An attempt is made to acknowledge each alarm. If a given alarm fails to be acknowledged, other alarms are not affected and they can still be acknowledged.

Unacknowledging active alarms on selected components in MDM Toolset

Active alarms for selected components from within the Network Viewer, Component Status Display, Network Status Bar, and Component Information Viewer can be unacknowledged.

1. When the Unacknowledge Alarms Dialog opens, enter a reason or modify the existing reason.
2. If the dialog is configured to allow the user value to be changed, modify it if required.
3. Click **Also unack all alarms on related sub-components.**

   This unacknowledges all active alarms for all subcomponents belonging to the selected component.
4. Click **Unack Alarm(s)**.

   The dialog immediately closes.

   An attempt is made to unacknowledge each alarm. If a given alarm fails to be unacknowledged, other alarms are not affected and they can still be unacknowledged.

Acknowledging alarms in Operator Client

You can acknowledge selected active alarms when Alarm Display is in active mode. When you acknowledge an alarm, a checkmark icon is displayed to the left of that alarm in the alarm list. The icon appears in both active and log modes. You can also view the date and time of the acknowledgment, the userid of the person who acknowledged the alarm, and the reason for the acknowledgement, depending on the display format you are using.

Procedure steps

1. From the Alarm Display window, click Active Alarms from the **Alarm mode** list box.
2. Select the alarm that you want to acknowledge.
3. Right-click on the selected alarm.
4. Select **Acknowledge Alarms** from the pop-up menu.
5. In the **Input Dialog** box, type a reason for the action in the **Enter acknowledgement comment** field and click OK. You may also need to enter a userid in the **User** field, if the system administrator has enabled changes to this field. The default value for the **User** field is <UnixUserID@hostname>.

Unacknowledging alarms in Operator Client

You can unacknowledge selected acknowledged alarms when Alarm Display is in active mode. When you unacknowledge an alarm, a crossed out checkmark icon to the left of that alarm in the alarm list. The icon appears in both active and log modes. You can also view the date and time of the unacknowledgement, the userid of the person who unacknowledged the alarm, and the reason for the unacknowledgement, depending on the display format you are using.

Procedure steps

1. From the Alarm Display window, click Active Alarms from the **Alarm mode** list box.
2. Select the alarm that you want to unacknowledge.
3. Right-click on the selected alarm.
4. Select **unacknowledge Alarms** from the pop-up menu.
5. In the **Input Dialog** box, type a reason for the action in the **Enter unacknowledgement comment** field and click OK. You may also need to enter a userid in the **User** field, if the system administrator has enabled changes to this field. The default value for the **User** field is <UnixUserID@hostname>.

Alarm acknowledgement and unacknowledgement overview

The Alarm Acknowledgment tool lets you notify others that you are investigating a problem associated with one or more active alarms. When you no longer need alarms acknowledged, use the Alarm Unacknowledgement tool. Rather than removing acknowledgement, the Alarm Unacknowledgement tool changes the acknowledged status to unacknowledged.

Alarm acknowledgment and unacknowledgement behave as a SET/REPLACE. For example, a previously unacknowledged alarm can be acknowledged using the SET operation; a currently acknowledged or unacknowledged alarm can be changed using the REPLACE operation.

You can unacknowledge previously acknowledged alarms and acknowledge previously unacknowledged alarms. You can also append acknowledgement/unacknowledgement information to an alarm that has previously been acknowledged/unacknowledged.

Alarm Acknowledgment is started from the Acknowledge Alarm(s) Dialog under the following conditions:

- on a set of selected active alarms from within the Alarm Display.
- on a set of selected active alarms from within the Component Information Viewer.
- on a selected component from within the Network Viewer.
- on a selected component from within the Component Status Display.
- on a selected component from within the Network Status Bar.
- on a selected component from within the Component Information Viewer.

These scenarios cause an *ackAlarm* request to be issued to the GMDR server to perform the required acknowledgment. For additional information, see 241-6001-303 *Preside MDM Administrator Guide*, and the section on Inbound Alarm API in 241-6001-203 *Preside MDM Alarm and Status API Reference Guide*.

For more details about Alarm Acknowledgement and Unacknowledgement, see, the following topics:

- "Acknowledging and unacknowledging single or multiple alarms in MDM Toolset" (page 389)
- "Changing state by acknowledging all active alarms on a component in MDM Toolset" (page 390)
- "Displaying alarm acknowledgment and unacknowledgement information in MDM Toolset" (page 390)
- "Acknowledge Alarm(s) Dialog in MDM Toolset" (page 390)
- "Unacknowledge Alarm(s) Dialog in MDM Toolset" (page 392)
- "Input dialog in Operator Client" (page 394)
- "Customizing the Alarm Acknowledgment Dialog in MDM Toolset" (page 394)

Acknowledging and unacknowledging single or multiple alarms in MDM Toolset

You can acknowledge or unacknowledge a selection of active alarms and you can acknowledge all alarms for a given component. To acknowledge and unacknowledge one or more active alarms, use the following commands available from MDM alarm-based fault management tools (for example, Alarm Display and Component Information Viewer):

- **Acknowledge Alarms** to acknowledge one or more selected active alarms
- **Unacknowledge Alarms** to remove acknowledgement from one or more selected acknowledged alarms

To acknowledge and unacknowledge all active alarms for a selected component, and optionally its related subcomponents, use the following commands from MDM state-based fault management tools (for example, Network Viewer and Component Information Viewer):

- **Acknowledge Alarms on Component** to acknowledge all active alarms for a selected component, and optionally its subcomponents.
- **Unacknowledge Alarms on Component** to unacknowledge any currently acknowledged alarms for a selected component.

Changing state by acknowledging all active alarms on a component in MDM Toolset

The Alarm Acknowledgement and Unacknowledgement tool provides a link between alarm-based and state-based surveillance. Acknowledging all active alarms on a component masks the component state during propagation. When you acknowledge all active alarms on a component from an alarm-based tool such as Alarm Display, the propagated state of the component becomes acknowledged. The effect is similar to manually acknowledging a component state from a state-based tool such as the Network Viewer, where the raw state remains unchanged. For details, see the section on the General Management Data Router (GMDR) in 241-6001-310 *Preside MDM Server Reference Guide*.

Displaying alarm acknowledgment and unacknowledgement information in MDM Toolset

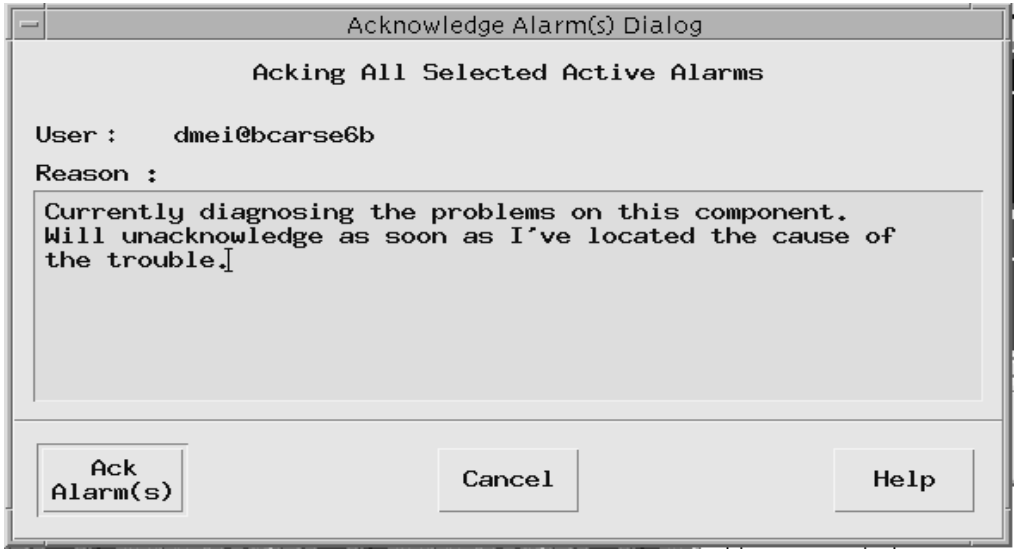
When you acknowledge or unacknowledge alarms, a dialog opens and displays the user ID from which the acknowledge or unacknowledge request was made and prompts for the reason for the request. Displaying alarm information in full format from the Alarm Display or Component Information Viewer tool includes the user ID, time, and reason for acknowledgement or unacknowledgement. Acknowledged alarms in Alarm Display and Component Information Viewer display with checkmark to the left of the alarm. Unacknowledged alarms display with an X on top of the checkmark.

Acknowledge Alarm(s) Dialog in MDM Toolset

The Acknowledge Alarm(s) Dialog is used to acknowledge one or more active alarms.

The figure “Acknowledge Alarm(s) Dialog for selected active alarms” (page 391) illustrates an Acknowledge Alarm(s) Dialog for selected active alarms.

Figure 33
Acknowledge Alarm(s) Dialog for selected active alarms



The data entry fields for the Acknowledge Alarm(s) Dialog are as follows:

- *User* indicates the identifier stored as part of the alarm (the person associated with the acknowledgment or unacknowledgement). This value is non-editable (by default) but can be made editable through the resource modification described in “Customizing the Alarm Acknowledgment Dialog in MDM Toolset” (page 394).
- *Reason* specifies the reason for the acknowledgment and is stored as part of the alarm. You can enter text description of up to 256 characters (maximum allowable length by default). You can alter the maximum allowable length for the reason text through the resource modification described in “Customizing the Alarm Acknowledgment Dialog in MDM Toolset” (page 394). If you select a single alarm that was previously

acked or unacked, the reason text associated with that alarm automatically appears by default. You can delete this text by typing new text, or you can modify it by clicking the text using the left mouse button.

The Acknowledge Alarms Dialog has the following buttons:

- *Ack Alarms* sends an *ackAlarm* request to the General Management Data Router (GMDR) server for each selected active alarm (if this dialog is invoked from an alarm list menu item) or for every active alarm for the current component (if this dialog is invoked from a toolset menu item)
- *Cancel* ignores the request and pops down the dialog.
- *Help* displays information about Alarm Acknowledgment and Unacknowledgement.

The following button is displayed only when you acknowledge all active alarms on a selected component using the Start Tool menu item:

- *Also ack all alarms on related sub-components* allows you to perform a hierarchical alarm acknowledgment to acknowledge all active alarms on the component you select and on any of its subcomponents.

Unacknowledge Alarm(s) Dialog in MDM Toolset

The UnAcknowledge Alarm(s) Dialog is used to unacknowledge one or more active alarms.

The figure “UnAcknowledge Alarm(s) Dialog for selected active alarms” (page 393) illustrates a sample Unacknowledge Alarm(s) Dialog for selected active alarms.

Figure 34
UnAcknowledge Alarm(s) Dialog for selected active alarms

The data entry fields for the Unacknowledge Alarm(s) Dialog are as follows:

- *User* indicates the identifier stored as part of the alarm (the person associated with the acknowledgment or unacknowledgement). This value is non-editable (by default) but can be made editable through the resource modification described in “Customizing the Alarm Acknowledgment Dialog in MDM Toolset” (page 394).
- *Reason* specifies the reason for the unacknowledgement and is stored as part of the alarm. You can enter text description of up to 256 characters (maximum allowable length by default). You can alter the maximum allowable length for the reason text through the resource modification described in “Customizing the Alarm Acknowledgment Dialog in MDM Toolset” (page 394). If you select a single alarm that was previously acked or unacked, the reason text associated with that alarm automatically appears by default. You can delete this text by typing new text, or you can modify it by clicking the text using the left mouse button.

The Unacknowledge Alarms Dialog has the following buttons:

- *UnAck Alarms* sends an *ackAlarm* request to GMDR for each selected active alarm (if this dialog is invoked from an alarm list menu item) or for every active alarm for the current component or subcomponent (if this dialog is invoked from a toolset menu item).
- *Cancel* ignores the request and pops down the dialog.
- *Help* displays information about Alarm Acknowledgment and Unacknowledgement.

The following is displayed only when you unacknowledge all active alarms on a selected component using the Start Tool menu item:

- *Also unack all alarms on related sub-components* allows you to perform a hierarchical alarm unacknowledgement to unacknowledge all the active alarms on the component you select and on any of its subcomponents.

Input dialog in Operator Client

The Input dialog in Operator client enables you to input an acknowledgement comment in the Enter acknowledgement comment field when you acknowledge an alarm. The Input dialog also enables you to enter an unacknowledgement comment in the Enter unacknowledgement comment field when you unacknowledge an alarm.

Customizing the Alarm Acknowledgment Dialog in MDM Toolset

The dialogs used for acknowledgment/unacknowledgement of alarms use resources to control their functional and visual aspects. You can customize some of these resources.

The table “Resources for customizing the Acknowledge/Unacknowledge Alarms Dialog” (page 395) lists the alarm acknowledgment resources that you can customize. These resources apply to both the Acknowledge Alarm(s) Dialog and the Unacknowledge Alarm(s) Dialog.

Table 65
Resources for customizing the Acknowledge/Unacknowledge Alarms Dialog

Resource	Description	Legal value
*AckAlarmDlog*userId FieldField.editable	If True, the *User* field in the dialog used for acknowledging or unacknowledging alarms, can be modified. The default is False.	True or False
AckAlarmDlog commentData.max Length	The maximum length of *Reason* text that can be specified when acknowledging or unacknowledging alarms. The default length is 256.	Any legal *Motif* value associated with the *MaxLength* resource.

Resource Files

The following files contain resources for the Acknowledge and Unacknowledge Alarm(s) Dialogs:

- */opt/MagellanNMS/lib/app-defaults/C/CIV* contains resources for the dialog when invoked from selected alarms in the Component Information Viewer.
- */opt/MagellanNMS/lib/app-defaults/C/IAD* contains resources for the dialog when invoked from selected alarms in Alarm Display.
- */opt/MagellanNMS/lib/app-defaults/C/ACKALARM* contains resources for the dialog when invoked from selected components in Network Viewer, Component Status Display, Component Information Viewer, and Network Status Bar.

You can make resource changes to the Alarm Acknowledgment Dialogs that affect a particular application or all applications that provide Alarm Acknowledgment. For example, you can change the following resource:

```
IAD*AckAlarmDlog*UserIdFieldField.editable: True
```

This enables the *user* field to be editable when acknowledging or unacknowledging alarms from the Alarm Display. If you omit the *IAD* prefix, all applications are affected.

See the section on customizing resources used by MDM tools in 241-6001-301 *Preside MDM Customization Administrator Guide*, for more information on setting and overriding resources.

Chapter 9
Network Status Bar

Use the Network Status Bar to view the current status of network components and see status changes.

Navigation

Network Status Bar procedures

You can perform the following tasks using the Network Status Bar:

Starting the Network Status Bar

You can leave the Network Status Bar open continuously, so that changes in the network can be monitored while you use the workstation for other applications.

Procedure steps

1 From the Fault menu, select **Network Status Bar**.

The **Network Status** window opens.

2 Select **Refresh** to view the latest information from the GMDR database.

The **Network Status** window is updated with the latest information from the GMDR database.

Acknowledging all current values

Acknowledging the current values for each severity changes the background to the same color for all counts. When any severity value changes, the background color reverts back to its unacknowledged color. This visible feedback helps you to identify changes in values.

Procedure steps

1 Acknowledge all current values:

If running....	Action
MDM Toolset	Click **Acknowledge.**
MDM Operator client	Select **Options** and then **Acknowledge.**

The background color changes.

2 Refresh the display if you want to force all background colors back to their original color:

If running....	Action
MDM Toolset	Click **Refresh.**
MDM Operator client	Select **Options** and then **Refresh**.

Customizing the Troubled Components pop-up menu for Preside MDM Toolset

For procedures on customizing the pop-up menu in the Troubled Components window, see the section on customizing the toolsets and Start Tools menus in **241-6001-301** ***Preside MDM Customization Administrator Guide***.

When you modify the menu, use one of the following substitution variables in the command line:

- $COMP: The internal component name of the target
- $DCOMP: The display component name of the target

Customizing resources in the Network Status Bar for Preside MDM Toolset

The Network Status Bar uses resources to describe certain functional and appearance aspects. Some of these aspects can be customized. Others must not be tampered with without affecting the functionality of the Network Status Bar.

CAUTION

Risk of altering the functionality of the NSB

Do not modify resources that are not listed in the table: "Resources in the Network Status Bar that you may customized" on page 400. Changing unlisted resources may negatively affect the appearance and functionality of the Network Status Bar.

For details about customizing resources, see the section on customizing resources used by MDM tools in 241-6001-301 *Preside MDM Customization Administrator Guide*. The original resource file for the Network Status Bar is */opt/MagellanNMS/lib/defaults/C/StatsBar*.

The table “Resources in the Network Status Bar that you may customized” (page 400) lists the Network Status Bar resources that you may customize.

Table 66
Resources in the Network Status Bar that you may customized

Resource	Description	Legal values
compOOSThresh dbnlCountThresh critAlmThresh majorAlmThresh minorAlmThresh warnAlarmThresh	Indicator thresholds	Integer (def: 0)
refreshPeriod	Main window refresh interval	Integer (def: 60s)
errorColor	Major indicators' background color	Color
warningColor	Minor indicators' background color	Color
plainColor	Non-threshold background color	Color
ackedColor	Acked indicators' background color	Color

Network Status Bar fundamentals

The Network Status window provides a high-level view of the current network status. This window also monitors a set of statistical indicators gathered from the general management data router (GMDR) database. Some of these indicators quantify troubled elements in the network, including the number of active alarms and the number of out-of-service components. Because the Network Status Bar is context-linked to the Component Information Viewer and the Alarm Display tools, you can drag and drop components onto these tools to diagnose faults in the network

The Network Status window supports the following capabilities:

- global network status monitoring and indicator thresholding
- a Troubled Components window that displays troubled components from the network model Preside MDM Toolset
- service selection of the network model for Preside MDM Toolset
- service selection of the GMDR servers

The Network Status window displays the number of alarms by severity. Severity levels include the following:

- C (critical)
- M (major)
- m (minor)
- W (warning)

Each severity is color coded according to the color scheme in effect. You can use the Preside Multiservice Data Manager (MDM) or standard color scheme. For details, see the table "MDM state color conventions" on page 249. In addition to color, each severity level contains an indicator value (a value that indicates the number of alarms at that level).

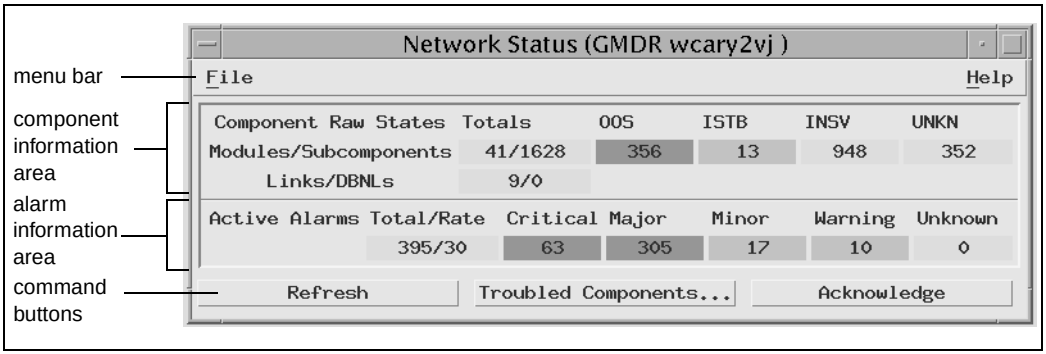
Network Status Bar interface in Preside MDM Toolset

The main window and the overall notifies of the Network Status Bar in the MDM Toolset environment is made up of the following parts:

- “Menu bar” (page 403)
- “Component information area” (page 403)
- “Alarm information” (page 404)
- “Button bar” (page 405)
- "Troubled Components Dialog" on page 406
- "Error Dialogs" on page 407
- "Warning Dialogs" on page 408

See the figure “Network Status Bar window in MDM Toolset” (page 402) for a sample Network Status Bar window.

Figure 35
Network Status Bar window in MDM Toolset



Active alarms and out-of-service components indicate troubled network elements. Troubled elements display with a colored background: red for major trouble and orange for minor trouble. This puts emphasis on their values if a customizable threshold is crossed. If no threshold is crossed, their background remains a neutral color.

The information displayed is refreshed on a regular basis, typically every 60 seconds. The time interval can be set by using the *refreshPeriod* resource or the *-refresh* command line option. For additional information, see "Customizing resources in the Network Status Bar for Preside MDM Toolset" (page 399).

Menu bar

The menu bar contains the following menus:

- "File" (page 403)
- "Help" (page 403)

File

The File menu contains the following command:

- **Exit** closes the window and exits the tool.

Help

The following commands are available from the Help menu:

Command	Description
on Window	Provides help on the Network Status Bar window.

Component information area

The component information area displays information on the total number of components managed by GMDR and its breakdown into per state counts (the states here are raw states, as opposed to those visible from a Network Model base tool). Counts are shown for both modules/subcomponents and plain and dynamic links (DBNL):

State	Description
Totals	The total number of modules or subcomponents
* OOS	The number of out-of-service components (modules and subcomponents) (threshold resource: compOOSThresh)
+ ISTB	The number of in-service components that are troubled (threshold resource: compISTBThresh)
INSV	The number of in-service components.
UNKN	The number of components in other states (unknown to GMDR)
+ Totals	The total number of plain and dynamic links (for example, DBNL) known to GMDR to be active (threshold resource: dbnlCountThresh for dynamic links)

Alarm information

The alarm information area displays information on the number of active alarms in the GMDR database. This count is broken down in terms of (common format) alarm severities and the alarm arrival rate in alarms per minute.

State	Description
* Critical	The number of active alarms of severity CRITICAL (threshold resource: critAlmThresh)
* Major	The number of active alarms of severity MAJOR (threshold resource: majorAlmThresh)
+ Minor	The number of active alarms of severity MINOR (threshold resource: minorAlmThresh)

State	Description
+ Warning	The number of active alarms of severity WARNING (threshold resource: warnAlarmThresh)
Unknown	The number of active alarms of severity INDETERMINATE (or other)
Total/Rate	The number of active alarms or the alarm arrival rate (alarms per minute)

Note 1: The '*' indicates a major trouble indicator displaying a red background when its value is above threshold

Note 2: The '+' indicates a minor trouble indicator displaying an orange background when its value is above threshold. For links, the number of DBNLs is checked.

Button bar

The Network Status Bar button bar provides the following buttons:

Table 67
Button bar commands

Command	Description
Refresh	Updates the dialog with the latest information from the GMDR database. Acknowledgment is removed and thresholded background colors are displayed as required.

Table 67
Button bar commands

Command	Description
Troubled Components	Starts the Troubled Components Dialog to show what components are currently in the Troubled state (OOS or ISTB) as indicated by the Network Model.
Acknowledge	Acknowledges the current status values by changing the background color of the trouble indicator fields (aquamarine) on the display. As the values of these indicators change, their background color reverts to either the OK color (gray) or the trouble-indicating color (red or orange). This enables you to ignore the current issues in the network but be informed of any change in the indicators. Pressing the Refresh button forces all indicators to display their unacknowledged background color.

Troubled Components Dialog

The Troubled Components Dialog displays the troubled components in the Network Model. A list on the left shows all components and links known to the Network Model to have a Troubled state (out-of-service or in-service–troubled) or to have subcomponents with a Troubled state. It also displays all Dial Backup Network Links (DBNLs) known to be active. When a component in this list is selected, the list on the right is updated to include the troubled subcomponents for the selected component module or link (for links, both endpoints are shown as in the Component Information Viewer's Related List).

Note that the contents of the dialog are not updated automatically as that of the main window. To update the information in the dialog, select the Refresh button.

The subcomponents in the troubled subcomponents list support a pop-up start tools menu that lets you to start another Preside Multiservice Data Manager (MDM) tool in the context of the selected component. For details on the Start Tool menu, see the section about the Start Tool in 241-6001-122 *Preside*

MDM Using MDM Toolset and Operator Client Interfaces. Start tool menus can be customized. For information about customizing start tools, see the section on customizing the toolsets and Start Tools menu in 241-6001-301 *Preside MDM Customization Administrator Guide*.

The component text field can be populated in these ways:

- by dropping a component from another tool onto the dialog
- by selecting a component in the module or component list
- by entering a component name from the keyboard
- by selecting the Get Context button

  Note: You can also drag the components of the dialog and drop them (component name) onto other tools.

Components selected with the *select* mouse button in the subcomponents list (rinh) are also automatically put into (Hot) context as if the *Put Context* command had been issued.

Buttons in the dialog are as follows:

- The Find button displays the component in the component list and the subcomponent in the subcomponent list. The lists are scrolled so that the component is visible. A standard warning dialog is displayed if the entered component is not found.
- The Get context button performs the Find Component operation, for the component in context.
- The Put context button puts the current component in context.
- The Refresh button updates the dialog with the latest information from the database.

Error Dialogs

Error dialogs warn you of an error condition. You need to respond before you can proceed. Click on OK to return to the application at the point before the error condition occurred.

Warning Dialogs

Warning dialogs warn of possible danger. You need to respond before you can proceed. Click on OK to proceed, or click on Cancel to return to the application at the point before the dialog appeared.

Keyboard shortcuts

The Network Status Bar provides the following command shortcuts:

- *Ctrl+E* exits from the Network Status Bar tool.
- *Shift+Help* displays help information for the dialog, menu item, or button that he cursor is currently on. When you press Shift+Help, the cursor changes to a question mark. Move the cursor to the item for which you want help and press the Select button to display help information for the item.

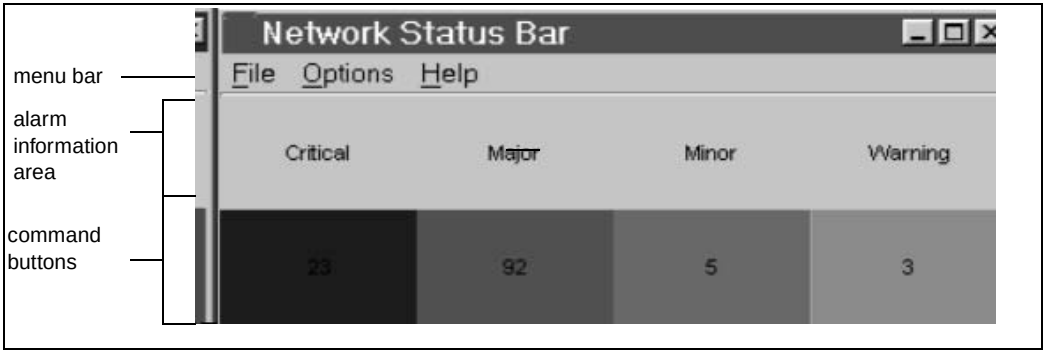
Network Status Bar interface in Preside MDM Operator Client

The main window and the overall interface of the Network Status Bar in the MDM Operator Client environment is made up of the following parts:

- “Menu bar” on page 409
- “Component information area” on page 413

See the figure “Network Status Bar window in MDM Operator Client” (page 409) for a sample Network Status Bar window.

Figure 36
Network Status Bar window in MDM Operator Client



You may also want to view the following information related to Network Status Bar:

- “Network Status Bar procedures” on page 397
- “Network Status Bar fundamentals” on page 400

Menu bar

Network Status bar provides the following menus:

- "File" on page 410
- "Options" on page 410
- "Help" on page 412

File

The File menu contains the following command:

- Exit allows you to exit the tool and closes the window.

Options

The Options menu contains the following commands:

Command	Description
Acknowledge	Acknowledges the values for each severity level. When you select this command, the background color of all severity levels changes to gray. However, if any indicator value changes, the background color of its severity level reverts to its unacknowledged color.
Refresh	Refreshes the screen by checking for indicator value changes. By default, the network status application refreshes every 60 seconds. Selecting this command causes an immediate refresh and all counts revert to the unacknowledged color.
Beep When Count Changes	Sets an audible warning when the a current indicator value changes. For Windows 2000, Windows NT, or Windows XP platforms, you may need to assign a sound to the default beep setting in the Sounds control panel. To turn on the beep when counts change, select the Beep When Count Changes check box. To turn off the beep, clear the check box.

Command	Description
Show Component Counts	Turns the display of component counts by state on or off. To display the number of components by state in the network window, select the Show Component Counts command. A check mark beside the command indicates that the command is enabled. The status bar application displays the number of components for each of the following states: OOS (out-of-service) ISTB (in-service – troubled) INSV (in-service) UNKN (unknown)

Command	Description
Show Totals	Turns the display of alarm count and state count totals on or off. To turn on the display, select the Show Totals command. A check mark beside the command indicates that the command is enabled. If the network status displays only alarm information when you select this command, then the following summary alarm information is added to the display: -total number of alarms -alarm rate If the network status displays both alarm and component information when you select this command, then the following alarm and component summary information is added to the display: -AA totals (total number of active alarms) -AA rate (active alarm rate) -Mod (total number of modules being monitored) -Sub (total number of subcomponents being monitored) -Links (total number of plain links) -DBNL (total number of dynamic dial backup network links) To turn off the display of state and alarm counts, clear the check box. In addition to alarm count by severity, you can display component count by state.

Help

The following commands are available from the Help menu:

Command	Description
Help on Window	Provides help on the Network Status Bar window.
What's This?	Displays information about a selected area of the Network Status Bar window.

Component information area

The component information area displays information on the total number of components managed by GMDR and its breakdown into per state counts.

Chapter 10
Component Information Viewer

The Component Information Viewer performs diagnostic analysis of components identified by the first-alert surveillance tools.

Navigation

Component Information Viewer procedures

This section provides procedures for using the Component Information Viewer tool.

Getting Started

Using filters and preferences

Working with related components

Displaying additional information

Displaying diagnostics

Customizing the tool

- “Customizing the Component Information Viewer display in MDM Toolset” (page 453)

Starting Component Information Viewer

By starting the Component Information Viewer from the Fault menu, it is started without context. As a result, the Component Information Viewer opens without displaying any component information. To display information on a particular component, specify the component after the window opens.

Procedure steps

1 From the Fault menu, select **Component Information Viewer**.

The **Component Information Viewer** window opens.

Starting Component Information Viewer with context

Context lets you transfer component information among those MDM tools that also support context. You can start the Component Information Viewer tool with context from the following Preside Multiservice Data Manager (MDM) tools:

- Network Viewer
- Alarm Display
- Network Status Bar
- Component Status Display
- Circuit Viewer

When you start the Component Information Viewer tool from these MDM tools, the Component Information Viewer tool opens and automatically displays information about the component in context.

Procedure steps

1. From any of the Preside Multiservice Data Manager (MDM) tools that support context, select a component.
2. Open the **Start Tools** pop-up menu, point to **Fault** and then select **Component Information Viewer**.

   The Component Information Viewer opens and the **Related Components for** and **Information for** fields are populated with the component in context.

Exiting Component Information Viewer

Procedure steps

1 Select **File** and then **Exit**.

If running...	The result is:
MDM Toolset	The Exit CIV dialog opens only if you made changes to the Component Information Viewer. If you did not make changes, the Component Information Viewer closes.
MDM Operator Client	The Exit Confirmation dialog opens.

2 From the exit dialog box,

If running...	Action:
MDM Toolset	select one of the following actions: -**Exit and Save** to exit Component Information Viewer and save the modified settings. -**Exit without Saving** to exit Component Information Viewer without saving the changes. -**Cancel** Exit to cancel the exit operation and return to the Component Information Viewer window. -**Help** to display online help.
MDM Operator Client	answer the following question by clicking **Yes** or **No**: Do you really want to exit the Component Information Viewer?

Setting component filters in MDM Toolset

Use the Component Filter Settings Dialog box to limit the number of related components that display in the related components panel. You can filter components based on raw or propagated states.

The Troubled Network State (OOS or ISTB) filter option displays only those components that have a raw state of Out-Of-Service (OOS) or In-Service-Troubled (ISTB). Components with a state of Acknowledged or Maintenance but are still OOS or ISTB are also included.

The Propagated State/Criticality filter option displays only those components that have the propagated states and state criticalities that you select. You need to select at least one propagated state and one state criticality. The criticality values range from 1 (lowest) to 5 (highest) and are only used for the OOS and ISTB states.

Procedure steps

1. From the **Options** menu, select **Change Component Filter Settings…**.

   The **Component Filter Settings** Dialog box opens.

2. Select either the **Troubled Network State (OOS or ISTB)** or **Propagated State/Criticality** filter option. If you select **Propagated State/Criticality**, then you also need to specify at least one state value and one criticality value.

3. When you finish modifying filter settings, use one of the following buttons to specify how the settings are to be used:

   - To apply the new settings, click **Use Filters**.
   - To save the new settings to a file, click **Save to File**. The settings are saved to the file $HOME/MagellanNMS/CIVFilt.cfg.
   - To restore filter settings from an existing $HOME/MagellanNMS/CIVFilt.cfg file, click **Restore from File**.
   - To cancel any changes that you made to the **Component Filter Settings Dialog** box, click **Cancel**.

Setting filters in MDM Operator Client

You use the options in the filter panel area of the Component Information Viewer window when working in the MDM Operator Client environment.

Procedure steps

1. Enable the **Propogated State/Criticality** radio button.

   A list of check boxes appear that you can use to set state and threshold information for filters.

2. Click **Set Filter** once you have selected all of your filter settings.

Setting Preferences in MDM Toolset

Use the Preference Settings Dialog box to control the following set of Component Information Viewer operating parameters:

- **Auto-Context** controls whether or not the Component Information Viewer window automatically updates the related components and information panels whenever a new component is put in context.
- **Auto-Raise Window** controls whether or not the Component Information Viewer window automatically moves to the top of the window stack when a context operation occurs. If Auto-Raise window is turned off, the Component Information Viewer window will not move to the top of the window stack, however a bell will sound to indicate a context change. Auto-Raise Window is available only when Auto-Context is turned on.
- **Auto-Refresh** controls whether or not the Component Information Viewer window regularly refreshes the contents of the related components and information panels.
- **Refresh Interval (sec)** controls the number of seconds between refreshes. Refresh Interval (sec) is available only when Auto-Refresh is turned on. The interval represents the number of seconds the Component Information Viewer waits after a completed refresh before attempting another one. If one panel cannot refresh in time before a new cycle starts, it is ignored. The failure of one panel being refresh in time does not stop the other from being updated.
- **Alarm Format** controls the level of alarm information that displays in the information panel. Terse displays the least amount of alarm information, Full displays the most, and Normal displays a mid range.
- The **CDB database name** and **server host** fields identify the name and server to access for customer database (CDB) information. Customer information displays in the information panel when the Information Type box is set to Customer Data. Customer information also displays when you select Recent Alarms or Active Alarms using full format.
- The **Insert matching data from CDB server in alarms** check box controls whether or not the Component Information Viewer window automatically displays customer information that matches the component IDs in common full format alarms.

- **Display component ID alias from the CDB server in alarms** is available only if you have enabled alias substitution. Use this check box to specify whether or not to display aliases in alarms.

Prerequisite

The Alarm Display provides an option to substitute an alias for a component name in the display of alarms. By default, this functionality is disabled. To use aliases, you first need to enable the functionality. Then, you can use the CDB Preferences Dialog to turn the display of aliases on or off.

To enable alias substitution, you need to modify the CIV*cdbSupportAlias resource. For details, see the section on customizing resources used by MDM tools in 241-6001-301 *Preside MDM Customization Administrator Guide*.

After alias substitution has been enabled, an additional check box (Display component ID alias from the CDB server in alarms) displays in the CDB Preferences Dialog so that you can chose whether or not to display the aliases.

Expected results

When alias substitution is enabled, the component name is replaced by the alias in the Customer Database's Related Component field. The alias displays in all alarm formats. However, a new second line displays in the normal and full formats to indicate the real component name.

Procedure steps

1 From the Options menu, select **Change Preference Settings…**.

The **Preference Settings Dialog** box opens.

2 To change the automatic context setting, in the **Auto-Context** list box, select **On** to enable automatic context, or **Off** to disable it.

3 To change the setting for raising the Component Information Viewer window to the top of multiple windows whenever the context changes, in the **Auto-Raise** list box, select **On** to enable raising the window, or **Off** to disable it.

4 To change the automatic refresh setting, in the **Auto-Refresh** list box, select **On** to enable automatic refreshing, or **Off** to disable it.

5 To set the refresh interval, move the **Refresh Interval (sec)** slider left to decrease the time interval or right to increase it.

6 To set the alarm format, from the Alarm Format list, select **Terse**, **Normal**, or **Full**.

7 To display customer database information in the window, specify the name of the customer database to use for data retrieval in the **CDB database name** field and the name of the server host in the **and server host** field.

8 To display customer data in the alarms, select the **Insert matching data from CDB server in alarms** check box.

9 If you have enabled alias substitution and the **Display component ID alias from the CDB server in alarms** check box is available, select the check box to turn on the display of aliases, or clear the check box to turn off the display.

10 When you finish modifying preferences, use one of the following buttons to specify how the preferences are to be used:

- To apply the new settings, click **Use Preferences**.
- To save the new settings to a file, click **Save to File**. The settings are saved to the file $HOME/MagellanNMS/CIVPref.cfg.
- To restore preference settings from an existing $HOME/MagellanNMS/CIVPrefs.cfg file, click **Restore from File**.
- To cancel any changes that you made to the **Preference Settings Dialog** box, click **Cancel**.

Using previously saved preference settings in MDM Toolset

Use this procedure to retrieve and apply previously stored preference settings. The settings are restored from your $HOME/MagellanNMS/CIVPrefs.cfg file.

Procedure steps

1. From the **Options** menu, select **Change Preference Settings**….

   The **Preference Settings Dialog** window opens.

2. Click **Restore from File**.

   The restored settings display in the dialog box.

3. To apply the filter settings, click **Use Preferences**.

   The restored settings, with the exception of the sash position, are applied to the Component Information Viewer window.

Setting a target in the related components panel in MDM toolset

To display related information about a component in the Component Information Viewer window, you need to target, or specify, the name of a component or subcomponent for which you want related information.

Expected results

The type of related component information that the Component Information Viewer displays is shown in the table “Related components” (page 427).

Table 68
Related components

Target component	Related information
Organizational node	Next level links, nodes, and the parent node.
Link	Endpoint components, parent components, and links.
Module	All subcomponents of the module, all links terminating on the module and the parent component.
Subcomponent	All subcomponents of the subcomponent, all links terminating on the subcomponent, any crucial subcomponents of the ancestors, and all parents up to the module.

Procedure steps

1 To target a component in the related components panel, select one of the following methods:

- Type the name of the component in the **Related Components for** text field and then press the Enter key.
- Right-click the triangle at the end of the **Related Components for** field and from the resulting **Get Context** pop-up menu select a component.
- If the related components list has entries, right-click on an entry and from the resulting pop-up menu select **Show Related**.
- From the **Auto-Context** list box, select **On** and then select a component in another monitoring tool.

Setting the acknowledge state for a component

Use this procedure to set the acknowledge state on or off. Setting the acknowledged state on temporarily hides the current troubled state of a component causing the acknowledged component to behave as if in-service.

The availability of the on or off command depends on the current acknowledge state of the component. If a component is not in acknowledge state, you can set the acknowledge state on. If a component is currently in acknowledge state, you can set the acknowledge state off.

Expected results

If no related components are troubled, the acknowledged component displays a state of acknowledged (ACKED). When an acknowledged component changes state, the acknowledgment is automatically removed and the real state of the component is shown. For more information on Acknowledged state, see 241-6001-015 *Preside MDM Network Model Administrator Guide*. A component is also put into acknowledged state by acknowledging all active alarms against the component.

Procedure steps

1 To set the acknowledge state on or off, perform one of the following actions:

if running...	**the result is...**
MDM Toolset	-To set the acknowledge state on, right-click on a component in the related components list and then from the resulting pop-up menu, select **Set Acknowledge State On** -To set the acknowledge state off, right-click on an acknowledged component in the related components list and then from the resulting pop-up menu, select **Set Acknowledge State Off**

if running...	**the result is...**
MDM Operator Client	-To set the acknowledge state on, right-click on a component in the related components list and then from the resulting pop-up menu, select **Turn Acknowledgement State On** -To set the acknowledge state off, right-click on an acknowledged component in the related components list and then from the resulting pop-up menu, select **Turn Acknowledgement State Off**

Setting the maintenance state for a component

Use this procedure to set the maintenance state on or off. Setting the maintenance state permanently hides the current troubled state of a component. Any children of the selected component are also put into maintenance state. For more information on maintenance state, see 241-6001-015 *Preside MDM Network Model Administrator Guide*.

The availability of the on or off command depends on the current maintenance state of the component. If a component is not in maintenance state, you will be able to set the maintenance state on. If a component is currently in maintenance state, you will be able to set the maintenance state off.

Procedure steps

1 You can set the maintenance state on or off. Use one of the following actions.

- To set the maintenance state on, right-click on a component in the related components list and then from the resulting pop-up menu, select **Set Maintenance State On**.
- To set the maintenance state off, right-click on an acknowledged component in the related components list and then from the resulting pop-up menu, select Set Maintenance State Off.

if running...	**the result is...**
MDM Toolset	-To set the maintenance state on, right-click on a component in the related components list and then from the resulting pop-up menu, select **Set Maintenance State On.** -To set the maintenance state off, right-click on an acknowledged component in the related components list and then from the resulting pop-up menu, select **Set Maintenance State Off**

if running...	**the result is...**
MDM Operator Client	-To set the maintenance state on, right-click on a component in the related components list and then from the resulting pop-up menu, select **Turn Maintenance State On.** -To set the maintenance state off, right-click on an acknowledged component in the related components list and then from the resulting pop-up menu, select **Turn Maintenance State Off.**

Starting the Start Tools from the Component Information Viewer

Use this procedure to start other MDM tools to view additional fault management data without exiting from the Component Information Viewer.

Procedure steps

1. From the Component Information Viewer, right-click on a component in the related components list.

   A pop-up menu opens.

2. On the pop-up menu, point to **Start Tool**, then point to one of the Start Tool categories, and then select the appropriate MDM software tool.

Setting a target in the information panel in MDM Toolset

To display additional component information in the Component Information Viewer window, you need to target, or specify, the name of a component or subcomponent for which you want additional information.

Procedure steps

1 To target a component in the information panel, select one of the following methods:

- Type the name of the component in the **Information for** text field and then press the Enter key.
- Right-click the triangle at the end of the **Information for** field and from the resulting **Get Context** pop-up menu select a component.
- Right-click on a component in the related components list and select **Show Information** from the resulting pop-up menu.
- With **Auto-Context** turned off, double-click on a component in the related components list.
- With **Auto-Context** turned on, select a component in the related components panel.
- With **Auto-Context** turned on, select a component from another MDM tool that supports component context.

Displaying additional component information in MDM Toolset

Use the information panel to further investigate information. You can display management or diagnostic information to help diagnose a fault and determine its impact.

Procedure steps

1. Set a target in the **Information for** field. For details, see “Setting a target in the information panel in MDM Toolset” (page 433).
2. In the information panel, click the **Information Type:** list box to display a list of information types to apply to the target component.
   - To display the currently active alarms for the component, select **Active Alarms**. To display alarms for the component and all its subcomponents, in the **Include Subcomps:** list box, select **On**.
   - To display the most recent status record from a DPN component, select **Status**.
   - To display the alarm history, select **Recent Alarms.**
   - To display network model information, select **Model Data.**
   - To display data from the customer database, select **Customer Data**.
   - To display diagnostic commands, select **Diagnostics**.

Clearing alarms using Local Clear

Clear alarms locally to remove them from the alarm list in Alarm Display and from MDM server databases. When you clear an alarm locally, your userID, hostname, and the "DISPLAY" environment variable value are displayed in the comment data. Multiple alarms can be cleared at once only in MDM Toolset. You can only perform a local clear against DPN and Passport.

Note: When re-synchronizing with devices that have an active alarm list, the locally cleared alarm may be re-introduced in the servers databases.

Prerequisites

- The GMDR server must be running.
- Alarm Display must be running in active mode.

Procedure steps

1 Display the list of alarms:

If running...	Action...
MDM Toolset	If the information panel is not set to display alarms, display alarms by specifying a target for which you want alarms in the Information for: field. Then, from the Information Type: list box, select **Active Alarms**
MDM Operator Client	From the Alarm list, select **Active Alarms**

2 Select alarms that you wish to clear locally:

If running...	Action...
MDM Toolset	-To select a single alarm, click an alarm. -To select contiguous multiple alarms, click the first alarm in the range and then shift-click the last alarm in the range. -To select non-contiguous multiple alarms, click the first alarm and then ctrl-click additional alarms.
MDM Operator Client	-To select an alarm, click an alarm.

3 Right-click on a selected alarm in the information list to open the **Alarm Menu** pop-up menu.

4 Select **Local Clear** and then release the mouse button.

If running...	The result is:
MDM Toolset	A Local Clear Confirmation dialog box is displayed stating “You are about to clear the selected alarm(s) locally from MDM. Are you sure you want to clear the alarm(s)?” Select Yes if you are sure you want to locally clear the alarms. Select No if you do not want to clear the alarms. Click Refresh Display or wait for the next refresh period for alarms to disappear.
MDM Operator Client	The alarm is removed from the list.

Expected results

- The alarm is cleared from the GMDR/DMDR/FMDR/NMDR/SMDR/ IMDRdatabases.
- Your userID, hostname, and the “DISPLAY” environment variable value will be displayed in the comment data of the resulting Clear Alarm.

Clearing alarms using Global Clear

Clear alarms globally to remove them from the alarm list in Alarm Display and from MDM server databases and on-switch databases. When you clear an alarm globally, your userID, hostname, and the “DISPLAY” environment variable value are displayed in the comment data. Multiple alarms can be cleared at once only in MDM Toolset.

This procedure can only be used to globally clear Passport an DPN alarms.

Prerequisites

- Global alarm clearing must be configured on the DMA server.
- The GMDR servers must be up and running.
- The GMDR server must be able to access a DMA server through its configuration.

Procedure steps

1 Display the list of alarms:

If running...	Action...
MDM Toolset	If the information panel is not set to display alarms, display alarms by specifying a target for which you want alarms in the Information for: field. Then, from the Information Type: list box, select **Active Alarms**
MDM Operator Client	From the alarm list, select **Active Alarms**

2 Select alarms that you wish to clear globally:

If running...	Action...
MDM Toolset	-To select a single alarm, click an alarm. -To select contiguous multiple alarms, click the first alarm in the range and then shift-click the last alarm in the range. -To select non-contiguous multiple alarms, click the first alarm and then ctrl-click additional alarms.
MDM Operator Client	-To select an alarm, click an alarm.

3 Right-click on a selected alarm in the information list to open a pop-up menu.

4 Select Global Clear and then release the mouse button.

If running...	The result is...
MDM Toolset	A confirmation dialog box is displayed asking “You are about to clear the selected alarm(s) globally from MDM. Are you sure you want to clear the alarm(s)?” Select Yes if you are sure you want to globally clear the alarms. Select No if you do not want to clear the alarms. Click Refresh Display or wait for the next refresh period for alarms to disappear.
MDM Operator Client	The alarm is removed from the list.

Expected results

- Your userID, hostname, and the “DISPLAY” environment variable value will be displayed in the comment data of the resulting Clear Alarm.
- The alarm is cleared from the GMDR/FMDR databases and from the active alarm list stored in the network.

Clearing alarms using the Global Clear tool in MDM Toolset

You can clear a alarm globally from the Component Information Viewer window to clear it out of the MDM servers and the on-switch database. This procedure requires that the MDM operator set up connection authentication first. Only one alarm can be cleared at a time.

Prerequisites

- The Host Group Directory Services (HGDS) server and the Passport Comms Mgr server (FDTM) must be up and running.

Procedure steps

1. If the information panel is not set to display alarms, display alarms using the following steps:
   a. Specify a target for which you want alarms in the **Information for:** field.
   b. From the Information Type: list box, select **Active Alarms**.
2. In the information list, select the alarm that you want to clear.
3. Right-click on a selected alarm in the information list to open a pop-up menu.
4. Select **Start Tool** and then **Global Clear of Alarms** and then release the mouse button.

   A Confirmation dialog box is displayed asking “You are about to clear the selected alarm(s) globally from MDM. Are you sure you want to clear the alarm(s)?” Select Yes if you are sure you want to globally clear the alarms. Select No if you do not want to clear the alarms.

   The Connection Console dialog box opens and displays the first Passport group to which the node belongs. The Connection Console dialog box does not display if you are already connected to a group that contains the Passport.
5. Connect to a destination. Use the default selected destination or select another destination.
6. Type a valid user ID in the User Id text box.
7. Type a valid password in the Password text box.

   You can repeat step 5 through step 7 as often as needed.
8. Click Connect.

9 Select a connected destination using one of the following steps:

- Double-click on a connected network destination in the Destination list.
- Select a connected network destination in the Destination list and then click Select.
- Select the wild-card route (*). The wild card lets you direct commands to nodes in any of the connected groups without having to know which group the node belongs to.

If the request failed, a dialog box opens with the error message.

Expected results

- Your userID, hostname, and the “DISPLAY” environment variable value will be displayed in the comment data of the resulting Clear Alarm.
- The alarm is cleared from the GMDR/FMDR databases and from the active alarm list stored in the network.

Acknowledging active alarms

Use this procedure to acknowledge an active alarm. You acknowledge an alarm to let others know that the fault is under investigation. You can remove the acknowledgement with the unacknowledge command.

Expected results

Acknowledged alarms display a check mark on the left of the alarm list, both in active mode and log mode, even though alarms can only be acknowledged from active mode. If you display the alarms in full format the date and time of the acknowledgement, the user ID, and the reason for the acknowledgement displays in the alarm list.

Procedure steps

1 Acknowledge active alarms:

If running...	Action...
MDM Toolset	If the information panel is not set to display alarms, display alarms by specifying a target for which you want alarms in the Information for: field. Then, from the Information Type: list box, select **Active Alarms**
MDM Operator Client	From the Alarm list, select **Active Alarms**

2 In the information list, select the alarm that you want to acknowledge.

- To select contiguous multiple alarms, click the first alarm in the range and then shift-click the last alarm in the range.
- To select non contiguous multiple alarms, click the first alarm and then ctrl-click additional alarms.

3 Select alarms that you wish to acknowledge:

If running...	Action...
MDM Toolset	-To select a single alarm, click an alarm. -To select contiguous multiple alarms, click the first alarm in the range and then shift-click the last alarm in the range. -To select non-contiguous multiple alarms, click the first alarm and then ctrl-click additional alarms.
MDM Operator Client	-To select an alarm, click an alarm.

4 Right-click on a selected alarm in the information list and select **Acknowledge Alarms**.

If running...	The result is...
MDM Toolset	The Acknowledge Alarm(s) Dialog box opens.
MDM Operator Client	The Input dialog box opens.

5 Type a reason for the action and a user ID (if the user ID field has been configured to be editable). The default is <UnixUserID>@<Hostname>.

6 To close the dialog:

If running...	Action...
MDM Toolset	Click **Ack Alarm(s)**
MDM Operator Client	Click **OK**

Unacknowledging active alarms

Use this procedure to remove the acknowledgement from active alarms.

Expected results

Unacknowledged alarms display a crossed-out check mark icon on the left of the alarm list, both in active mode and log mode, even though alarms can only be unacknowledged from active mode. If you display the alarms in full format the date and time of the unacknowledgement, the user ID, and the reason for the unacknowlegement display in the alarm list.

Procedure steps

1 Remove acknowledgement from active alarms:

If running...	Action...
MDM Toolset	If the information panel is not set to display alarms, display alarms by specifying a target for which you want alarms in the Information for: field. Then, from the Information Type: list box, select **Active Alarms**
MDM Operator Client	From the Alarm list, select **Active Alarms**

2 Select alarms that you wish to unacknowledge:

If running...	Action...
MDM Toolset	-To select a single alarm, click an alarm. -To select contiguous multiple alarms, click the first alarm in the range and then shift-click the last alarm in the range. -To select non-contiguous multiple alarms, click the first alarm and then ctrl-click additional alarms.
MDM Operator Client	-To select an alarm, click an alarm.

3 Right-click on a selected alarm in the information list and select **Unacknowledge Alarms**.

If running...	The result is...
MDM Toolset	The Unacknowledge Alarm(s) Dialog box opens.
MDM Operator Client	The Input dialog box opens.

4 Type a reason for the action and a user ID (if the user ID field has been configured to be editable). The default is <UnixUserID>@<Hostname>.

5 To close the dialog:

If running...	Action...
MDM Toolset	Click **Unck Alarm(s)**
MDM Operator Client	Click **OK**

Displaying diagnostic information in MDM Toolset

Use the diagnostic capability to diagnose network faults. The Component Information Viewer tool supports a range of diagnostics. For details about each diagnostic, see “Diagnostic commands in MDM Toolset” (page 462).

> ***Note:*** The list of diagnostics for MPE contains only Query Historical Alarms

The availability of diagnostic commands depends on several factors including the type of device and whether or not the diagnostic menu has been customized at your installation. For information about customizing diagnostic menus, see the section on customizing Component Information Viewer diagnostics in 241-6001-301 *Preside MDM Customization Administrator Guide*.

Expected results

Diagnostic information in the Component Information Viewer window does not support manual or automatic refresh commands. To update diagnostic information, you need to execute the diagnostic command again.

Procedure steps

1. Set a target in the **Information for:** field to specify the component for which you want diagnostic information.
2. In the **Information Type:** list box, select **Diagnostics**.
3. In the **Commands:** list box, select one of the following commands:
   - **Select Command Route…** to open the Connection Console dialog box. For details, see “Selecting a new command route in MDM Toolset” (page 447).
   - **Command Console…** to start the Command Console tool. If no connection has been made the Connection Console dialog box opens first.
   - **Query Historical Alarms…** to open the Real Time Alarm Collection (RTAC) tool to access RTAC spooled alarms. For details, see “Querying historical alarms from Component Information Viewer in MDM Toolset” (page 449).
   - **Passport Commands** to execute a selection of Passport diagnostic commands

- **Passport Tests** to execute a selection of Passport tests.
- **Passport Inventory** to execute a selection of Passport inventory reporting utilities
- **DPN Commands** to execute a selection of DPN diagnostic commands
- **DPN Inventory** to execute a selection of DPN inventory reporting utilities
- **NRS Commands** to execute a selection of Network Reporting System (NRS) utilities
- **Passport Port Test Console** to open a dialog box that prompts for the test parameters and target component ID.

Selecting a new command route in MDM Toolset

The Component Information Viewer retains the last OA and Passport Group command routes. Use this procedure only if you need to establish a new connection or change the route of an OA or Passport Group.

This procedure only applies to Passport.

You select a new route using the Connection Console dialog box. This dialog box lets you manage network connections by connecting to or disconnecting from a network destination and by setting a default destination.

Expected results

The Connection Console dialog box is similar to the Command Console Connection Management dialog box except for the addition of the Select button. For details, see the section on the Command Console Connection Management dialog in 241-6001-804 *Preside MDM Workstation Utilities User Guide*. The Connection Console dialog supports the Passport wild card route (*) as a legal Passport group. Although you can select the Passport wild-card route, you cannot establish a connection with it.

Procedure steps

1. In the **Information Type:** list box, select **Diagnostics**.
2. In the **Commands:** list box, select **Select Command Route…**.

   The **Connection Console** dialog box opens.
3. If needed, establish a connection to another network destination.
   - Click on an entry in the **Destination** list to populate the **Destination:** text box.
   - Type a valid user ID in the **User Id** text box.
   - Type a valid password in the **Password:** text box.
   - Click **Connect**.
4. Select a connected destination using one of the following steps:
   - Double-click on a connected network destination in the **Destination** list.
   - Select a connected network destination in the **Destination** list and then click **Select**.

- For Passports only, select the Passport wild-card route (*). The wild card lets you direct commands to Passport nodes in any of the connected groups without having to know which group the node belongs to.

Querying historical alarms from Component Information Viewer in MDM Toolset

Use this procedure to start the Real-time Alarm Collection (RTAC) search tool to from Component Information Viewer. This tool accesses RTAC spooled alarms so that you can extract short-term historical alarms.

- "Prerequisite" (page 449)
- "Procedure steps" (page 449)
- "Procedure job aid" (page 450)

Prerequisite

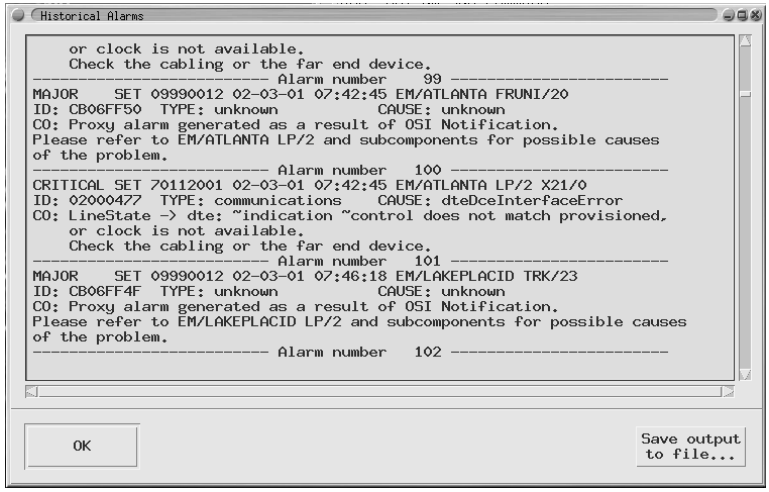
RTAC must be running on the same workstation as the Component Information Viewer host, or its database directory must be accessible by the Network File System (NFS).

Procedure steps

1. In the **Information Type:** list box, select **Diagnostics**.
2. In the **Commands:** list box, select **Query Historical Alarms…**

   The Query Historical Alarms dialog opens and displays the first of the two-page dialog.
3. On the first page of the dialog, refine the alarm query by using the following filters. For a description of the filters, see the table "Query Historical Alarm filters" (page 450)".
4. If you do not require any further filters, click OK to start the query, otherwise click Advanced to open the second page of the dialog.
5. Further refine the alarm query. by using any of the following filters. For a description of the filters, see the table "Query Historical Alarm filters" (page 450).
6. Optionally, to save the Customer Database (CDB) options and alarm output format settings so that they are used the next time you start the Query Historical Alarms tool, click Save CDB and Format specifications as defaults.
7. To begin the historical alarm query, click OK.

Depending on the length of time to search for matching alarms, a tracking dialog may open. This dialog tracks the search progress. As matching alarms are identified, they display in the Historical Alarms output window.



8 To save the contents of the Historical Alarms dialog to a file, click Save output to file... or to close the dialog, click OK.

The Historical Alarms dialog closes.

Procedure job aid

Table 69
Query Historical Alarm filters

Filter	Description
First page of dialog:	
Component	specifies the component for which you want to retrieve alarms. By default, the Component field is populated with the component in context. If you specify a component filter, the alias filter is ignored.
(Sheet 1 of 3)	

Table 69 (Continued)
Query Historical Alarm filters

Filter	Description
or Alias	specifies the component alias. The alias replaces the component ID in the display with the matching Related Component ID value from the customer database. If you do not use a customer database, or if you specify a component filter, this alias filter is ignored.
From date/time	specifies the start of the time period for which you want alarms. The initial value for this field is the current date and time minus one day. If you override the initial value in this field or in the To date/time field and need to reestablish the initial values, click the Reset Date-Time button.
To date/time	specifies the end of the time period for which you want alarms. The initial value for this field is the current date and time. If you override the initial value in this field or in the From date/time field and need to reestablish initial values, click the Reset Date-Time button
Fault code	specifies the fault code to use for filtering alarms. You can use GREP style patterns to specify these fault codes.
Alarm event	specifies the alarm event to use for filtering alarms. If needed, you can specify multiple alarm events.
Alarm severity	specifies the alarm severity to use for filtering alarms. If needed, you can specify multiple severities.
Display format	specifies the level of alarm output to display, from the least output (terse) to the most output (full).
Advanced page of dialog:	
Alarm type	specifies the alarm type to use for filtering. If needed, you can select multiple types.

(Sheet 2 of 3)

Table 69 (Continued)
Query Historical Alarm filters

Filter	Description
Comment text	text specifies the comment data pattern (GREP) to use for filtering.
Customer Database Server	specifies the service name of the Customer Database (CDB) that has the customer data and alias information. The Query Historical Alarms tool supports the same CDB interaction as the Alarm Display and Component Information Viewer tools.
Customer Database Host	specifies the host name of the CDB that has the customer data and alias information.

(Sheet 3 of 3)

Customizing the Component Information Viewer display in MDM Toolset

You can customize the following items in the Component Information Viewer:

- "Alarm list" (page 453)
- "Related components list menu" (page 454)
- "Information for field pop-up menu" (page 455)
- "Component Information Viewer Diagnostic Command menu" (page 455)
- "Other resources" (page 455)

Alarm list

For procedures on customizing the Start Tool menu for the Alarm List, see the section on customizing the toolsets and Start Tools menus in 241-6001-301 *Preside MDM Customization Administrator Guide*.

When you modify the Start Tool menu file, use one of the following substitution variables in the command line:

- $SEVERITY: the Common format severity of the alarm, which can be UNKNOWN, CRITICAL, MAJOR, MINOR, WARNING, or CLEARED
- $DPNSEV: the DPN format severity of the alarm which can be ncsUnknown, ncsDEGRADE, ncsOVERLOAD, ncsMINOR, ncsMAJOR, or ncsWILDCARD
- $EVENT: the type of the alarm which can be CLEAR, SET, or MESSAGE
- $DPNMNEM: the DPN alarm mnemonic, which can be TRAPDATA, ACTIVATE, INVALID, MISSING, DUPLICAT, MEMORY, CONJEST, FAILED, REFUSED, TIME_OUT, CRITICAL, OOS, THRESHLD, ENABLED, DISABLED, PROBE, CALL_BLK, or DISCARD. This variable has a value for DPN alarms only.

- $DPNACTION: the Network Control System (NCS) action value, which can be ncsServiceData, ncsHardware, ncsSoftware, ncsSecurity, ncsProtocol, ncsDebug, ncsNetwork, ncsEngineering, ncsOperations, ncsUnclassified, or ncs Wildcard. This substitution value is for DPN alarms only.
- $FCODE: the alarm fault code. This eight-digit fault code is used to specify the alarm. The first four digits are used to identify the source of the alarm, and the last four digits are used to identify the alarm.
- $DATE: the date of the alarm in the format:YY-MM-DD
- $TIME: the time of the alarm in the format:HH:MM:SS
- $COMP: the internal component name of the target
- $DCOMP: the display component name of the target
- $DTYPE: the DPN device type. This variable has a value for DPN alarms only
- $FORMAT: the present format of an alarm, which can be TERSE, NORMAL, or FULL
- $TYPE: the alarm type, which can be communications, qualityOfService, processing, equipment, environment, security, operator, debug, or unknown. This value gives a general explanation of the cause of the alarm.
- $RAWSTATE: the corresponding component's raw state
- $CMT: the operator comment data text
- $OPER: the operator data text

Related components list menu

For procedures on customizing the Start Tool menu for the Related Components List, see the section on customizing the toolsets and Start Tools menus in 241-6001-301 *Preside MDM Customization Administrator Guide.*

When you modify the file, you one of the following substitution variables on the command line:

- $COMP: the internal component name of the target
- $DCOMP: the display component name of the target

Information for field pop-up menu

You can customize the pop-up menu that opens when you right-click on the triangle at the right of the Information for field. This pop-up menu contains the Get Context command and a list of up to 10 of the last targeted components. If you frequently use the same components, you can customize the list so that it contains these frequently used component names or name patterns. To customize the list, create one of the following files:

- To customize the list for a single user ($HOME), create the file $HOME//MagellanNMS/CIVInfoTargets.cfg.
- To customize the list for all users of the workstation, create the file /opt/MagellanNMS/cfg/CIVInfoTargets.cfg.
- For second-party integrators customizing the list for all users of the workstation, create the file /opt/MagellanNMS/ext/lib/cfg/CIVInfoTargets.cfg

The Component Information Viewer searches for custom files in the order they are listed in the preceding bulleted list. The first file found is used to populate the list.

The file format is as follows:

```
# comments are blank lines, or lines that
# start with #, !, or *
labelString: <label to appear in the menu>
value: <component name or patterns to be used
        as a target upon selection>
```

Component Information Viewer Diagnostic Command menu

For details about customizing the Diagnostic Command menu, see the section on diagnostic menu management in 241-6001-301 *Preside MDM Customization Administrator Guide*.

Other resources

You can customize the resources to control

- the colors associated with propagated states, problem states, and severity
- whether or not the problem states are shown in the related components list

- whether or not the bell rings upon error

The table “Resources for color control of propagated states” (page 456) lists the resources you use to control the colors associated with the propagated states displayed by Component Information Viewer components. This table also lists the resources you use to control the state color at the module level. If the value of this resource is true, then the unknown state color at the module level is different from the default unknown color.

Table 70
Resources for color control of propagated states

Resource	Description	Legal values
*stateINVALID *stateUNKNOWN *stateINSV *stateISTB_1 *stateISTB_2 *stateISTB_3 *stateISTB_4 *stateISTB_5 *stateOOS_1 *stateOOS_2 *stateOOS_3 *stateOOS_4 *stateOOS_5 *stateMTCE *stateHIER_MTCE *stateACKED moduleStateUNKNOWN	Specifies the state-to-color mapping used to indicate the current state of the components in the Related Components List. (These are the same resources used for the NV.) .	Any legal X windows color or specification. See 241-6001-301 *Preside MDM Customization Administrator Guide*.

The table “Resources for color control of common alarms” (page 457) lists the resources you use to control the colors associated with the common alarm format severity displayed by the Component Information Viewer components.

Table 71
Resources for color control of common alarms

Resource	Description	Legal values
*BackgroundColorUnknown *ForegroundColorUnknown *BackgroundColorCritical *ForegroundColorCritical *BackgorundColorMajor *ForegroundColorMajor *ForegroundColorMinor *BackgroundColorMinor *BackgroundColorWarning *ForegroundColorWarning *BackgroundColorCleared *ForegroundColorCleared *BackgroundColorDefault *ForegroundColorDefault	Specifies the background and foreground color-to-severity mappings for the common alarm formats.	Any legal X windows color or specification. See 241-6001-301 *Preside MDM Customization Administrator Guide*. .

The table “Resources to control the ringErrorBell” (page 457) lists the resources you use to control the ringErrorBell.

Table 72
Resources to control the ringErrorBell

Resource	Description	Legal values
CIV*ringErrorBell	If True, the Component Information Viewer rings the bell when it cannot find data for a target. If False, the Component Information Viewer does not ring the bell. The default is True.	True or False

The table “Resources for customizing the Acknowledgement/ unacknowledgement Alarms Dialog” (page 458) lists the resources you use to customize the Acknowledge Alarms Dialog and the Unacknowledge Alarms Dialog.

Table 73
Resources for customizing the Acknowledgement/unacknowledgement Alarms Dialog

Resource	Description	Legal values
*AckAlarmDlog*userIdFieldField.editable	If True, the *User* field in the dialog used for acknowledging or unacknowledging alarms, can be modified. The default is False.	True or False
*AckAlarmDlog*commentData.maxLength	The maximum length of *Reason* text that can be specified when acknowledging or unacknowledging alarms. The default length is 256.	Any legal *Motif* value associated with the *MaxLength* resource.
CIV*differentModuleUnknownColor	If differentModuleUnknownColor is true, then the unknown color for the node at the module level is different from the default unknown.	True or False

Table 74
Resources for Customer Database component ID alias

Resource	Description	Legal values
CIV*cdbSupportAlias	Enables support for Customer Database component name aliasing.	True to enable alias support, False (default) to prevent alias support

Component Information Viewer fundamentals

The Component Information Viewer is the primary Multiservice Data Manager (MDM) tool for diagnosing network faults. This tool provides in-depth information on components and subcomponents of a network element. You can view surveillance information for a component and navigate to other components, subcomponents, or associated links. The Component Information Viewer uses information from active and recent alarms to assess the cause of a fault. The tool also determines the impact of a fault by providing state information for related components.

The Component Information Viewer uses alarm- based surveillance to find more information on the impact and history of the fault. It also uses state-based surveillance to provide more information on the probable cause and context of the fault.

Table 75
Component Information Viewer features

Feature	Description
Textual view	View a group of related components. View pertinent information such as alarms.
Access to network information	Access all available Network Model information.
	Get active alarm information.
	Look up recent alarm history.
	Access status information (DPN-100).
Component state	View the state of all components displayed. The state is indicated by name and color.
	Put components into maintenance or acknowledged states.
Alarms	Clear an active alarm.
Look and feel	View only components for the states that you select.
	Have the Component Information Viewer automatically updated whenever you select a different component in the Network Viewer.

(Sheet 1 of 2)

Table 75 (Continued)
Component Information Viewer features

Feature	Description
Navigation	Navigate to related components.
Access	Directly access the Component Information Viewer, General Data Reporter, DPN Performance Viewer, Data Viewer, and Customer Database. Access your tools and macros.
(Sheet 2 of 2)	

Using the Component Information Viewer, you can perform the following tasks:

- put a component into acknowledge or maintenance state
- acknowledge, unacknowledge, or clear active alarms
- start other tools
- set preferences for parameters such as automatic context, automatic refresh interval, alarm format, and customer database server identification
- set component filters
- obtain management information including active alarms, recent alarms, status records (DPN only), model data, and customer data
- execute diagnostic commands

Component Information Viewer data

The tool facilitates fault diagnosis by providing access to the following management and diagnostic information:

Management data

The information panel provides various types of management data information on a component including active alarm, recent alarms, status, model data, and customer data.

- Active alarm information includes active alarms for the target component extracted from the General Management Data Router (GMDR).

- Recent alarms information includes recent alarms, active or not, for that component extracted from the GMDR buffer.
- Status information includes the most recent status record received for the target component extracted from the GMDR.
- Model information includes information on the component that is stored in the Network Model.
- Customer Database includes information for the component. The information is retrieved from the Customer Database server identified in the Preference Settings Dialog.

Diagnostic information in MDM Toolset

The Component Information Viewer provides commands that let you directly access information to diagnose network faults without having to start other fault management tools.

Before you can access diagnostic information, you need to specify a component and the type of diagnostic information you want to retrieve. Diagnostic information displays in the Component Information Viewer window or, in some cases, another window. For details about the available diagnostic commands, see “Diagnostic commands in MDM Toolset” (page 462).

Diagnostic commands in MDM Toolset

The Component Information Viewer window supports the following diagnostics:

Note: Only Query Historical Alarms diagnostic or user customized diagnostics are available for MPE 9500.

- “Passport Inventory” (page 467)
- “DPN Commands” (page 468)
- “DPN Inventory” (page 470)
- “NRS Commands” (page 471)
- “Passport Port Test Console” (page 472)
- “Port test console output” (page 474)

The availability of the commands varies according to the configuration at your installation. The following subset of diagnostic commands are always available:

- Select Command Route…
- Command Console…
- Query Historical Alarms…
- Help

Select Command Route

The Select Command Route… command is always available from the Commands list. Selecting this command opens the Connection Console dialog box to connect to, or disconnect from, a destination. This dialog also lets you select the default destination for diagnostic commands.

Command Console

The Command Console… command is always available from the Commands list. Selecting this command starts the Command Console tool with the component specified in the Component Information Viewer.

Query Historical Alarms

The Query Historical Alarms… command is always available from the Commands list. This command opens the Real-Time Alarm Collection (RTAC) Access tool. This tool consists of a two-page dialog that lets you specify filters for retrieving RTAC spooled alarms. For details about this tool, see “Query Historical Alarms” (page 517). For procedures on using this tool from Component Information Viewer, see “Querying historical alarms from Component Information Viewer” (page 463).

Help

The Help command is always available from the Commands list. Selecting this command opens the online documentation for Command diagnostics.

Passport Commands

Except where indicated, commands in the table "Passport Command diagnostics" (page 478) apply to all Passport component types. The table lists all Passport diagnostic commands, however the list of available Passport Commands at your installation may differ.

Table 76
Passport Command diagnostics

Passport Command	Description	Command line equivalent
Describe Component	Displays all attributes of the target component and any of its subcomponents. The subcomponents are listed by instance. For example, if multiple Dlcis are defined for a specified FrUni, all are listed.	
List Comps	Lists the first level subcomponents of the Passport.	`list -o -p`
Display LPs	Displays all attributes of all LPs.	`display -o -p lp/*`
Display LP	Opens the Passport Component Selector dialog box and lets you select a single LP for which the attributes will display.	`display -notab -o -p lp/<selected>`
Display Cards	Displays all attributes of all.	`display -notab -o -p shelf cards/* CARDs`
Display Trunks	Displays all attributes of all Passport Trunks.	`display -notab -o -p trk/*`
Display Software	Displays the current loaded software versions.	`display -p sw`
Display Provisioning	Displays all attributes of provisioned components.	`display -o prov`

(Sheet 1 of 2)

Table 76 (Continued)
Passport Command diagnostics

Passport Command	Description	Command line equivalent
List Files	Opens a dialog box that prompts for a file path and then lists the files in the specified path.	`list -file -path ("<file path>") fs`
List Subcomponents	Lists all subcomponents of a target component.	`list -o -p <target>` (for subcomponents only
Display Attributes	Displays all attributes of the target component.	`display -notab -o -p <target>` (for subcomponents only)
Display Subcomps	Displays all attributes of all subcomponents of the target component.	`display -notab -o -p <target> *` (for subcomponents only)
Display Stats Delta	Opens a dialog box that prompts for the time delta and optional repeat count and then starts the MDM Passport Delta script. The script displays changes in all the attribute values of the target between sampling intervals. Use for subcomponents only.	
Display Connections	Available for Frame Relay (FrUni, FrNNi, FrAtm), and AtmIf and their subcomponents. This command lists their connection components (Dlcis, Vccs, Vpcs, Vpts, and Vpt-Vccs) indicating their state and any correlation IDs.	
Display Troubled Conn	Similar to Display Connections, but only lists the disabled connections. This command requires that the target Passport node support be at least PCR 2.x software. Otherwise, it acts like the Display Connections command.	
Help	Opens the online documentation for Passport Commands.	

(Sheet 2 of 2)

Passport Tests

The table “Passport Test diagnostics” (page 466) lists all Passport test and trace commands, however the list of available commands at your installation may differ.

Table 77
Passport Test diagnostics

Passport Test	Description	Command line equivalent
Ping IP Address	Prompts with an input dialog the IP address to ping and then pings that address through the corresponding Virtual Router.	`ping -ipAddr (<IP address>) -traceRoute <target VR prefix> ip icmp` (for virtual routers and their subcomponents only)
Trace AtmIf Circuit	Traces the Atm Virtual Circuit.	`trace <target VCC prefix>` (for ATM VCCs only)
Trace AtmIf Path	Traces the Atm Virtual Path.	`trace <target VPC or VPT prefix>` (for ATM VCCs and VPTs only)
Ping DPRS Node	Starts the DPRS Ping command and traces the path followed to reach the target RID, MID, or remote DLCI.	`ping -roundTripDelay -allPaths <target RID prefix>` (for RTG-RID components only) `ping -roundTripDelay -allPaths <target MID prefix>` (for RTG-MID components only) `ping -roundTripDelay <target DLCI prefix>` (for Frame Relay DLCI components only)

(Sheet 1 of 2)

Table 77 (Continued)
Passport Test diagnostics

Passport Test	Description	Command line equivalent
Trace PORS Connection	Traces a PORS connection across one or more routing regions (through the gateways), and reports the Logical Channels, Gateway Calls, and applications used (applicable to TRK, RGTY,TRK-LCH, RGTY-CALL, VS, HTDS, and BTDS components. For TRK and RGTY, connections on the Trunk or Routing Gateway are traced)	
Port-Interface Test	starts the Passport Port Test Console. Use for port-interface and service components only. For details, see “Passport Port Test Console” (page 486).	
Help	Opens the online documentation for Passport Tests.	
(Sheet 2 of 2)		

Passport Inventory

For details on Passport Inventory reports, see the section on Passport Inventory reports in 241-6001-808 *Preside MDM Device Inventory Tools User Guide*. Passport Inventory commands are applicable to any Passport component type. Depending on availability, you may see the following set of Passport inventory reporting utilities

The table “Passport Inventory diagnostics” (page 482) lists all of the Passport Inventory reporting utilities, however the list of available utilities at your installation may differ.

Table 78
Passport Inventory diagnostics

Passport Inventory	Description
Module Report	Opens the Passport Module Summary Inventory report for the target module.
Card Report	Opens the Passport Card Inventory report for the target module.
Trunk Report	Opens the Passport Trunk Inventory report for the target module.
Software Report	Opens the Passport Software Inventory report for the target module.
ATM Report	Opens the Passport ATM Services Inventory report for the target module.
FrameRelay Report	Opens the Passport FrameRelay Services Inventory report for the target module.
Help	Opens the online documentation for Passport Inventory.

DPN Commands

Table 79
DPN Command diagnostics

DPN Command	Description	Command line equivalent
List Active DPNs	Lists the currently active DPNs below the current default OA destination.	This command maps to the existing dpnup macro. Use for DPN AN CA components
Display DPN Calls	Lists all active calls on the target port.	This command maps to the AllCall macro. Use for port components only.
OA Directory	Lists the OA hierarchy below the target OA.	`<target OA name> DIR` (for OA components only)
OA List	Lists the OZ hierarchy below the target OA.	`<target OA name> OA LIST`
Module Stats	Displays the module level statistics.	`(D STATS)`
Display MCFs	Displays the active MCF information.	`(D MCF)`
(Sheet 1 of 3)		

Table 79 (Continued)
DPN Command diagnostics

DPN Command	Description	Command line equivalent
Display Spooling Sys.	Displays the current state of the spooling system (local or remote).	`DSP D`
Display File Sys.	Displays the current state of the file system.	`FILE D`
List PEs	Lists the available PEs on the target module.	`D`
List MCFs	Lists the available MCFs on the target module.	`LIST MCF`
List File(s)…	Prompts for a file name pattern and then lists the matching files from the file system of the target module.	`FILE DIR <name pattern>`
Query Module	Displays the module level configuration information for the target module.	`Q MOD`
Query Switch	Displays the switch level configuration information for the target module	`Q SWITCH`
Query Network	Displays network level configuration for the target module.	Q NET
Query All on Module	Displays configuration for the target module.	`Q *`
PE Hardware	Displays hardware status information for the target PE.	`<target PE> D HARD` (for PEs and their subcomponents only)
PE Image	Displays the active software image for the target PE.	`<target PE> D IMAGE` (for PEs and their subcomponents only)
PE Stats	Displays statistics for the target PE.	`<target PE> D STAT` (for PEs and their subcomponents only)

(Sheet 2 of 3)

Table 79 (Continued)
DPN Command diagnostics

DPN Command	Description	Command line equivalent
Query PE	Displays configuration information for the target PE.	`<target PE> Q` for PEs and their subcomponents only
Display Ports	Displays the Ports below the target PI.	`<target PI> D` (for PIs and their subcomponents only)
Query PI	Displays configuration information for the target PI.	`<target PI> Q` (for PIs and their subcomponents only)
Display Link	Displays link information for the target PO.	<target PO> D LINK (for Ports and their subcomponents only)
Display Service	Displays service information for the selected PO.	`<target PO> D SERV` (for Ports and their subcomponents only)
Display Stats	Displays statistics information for the target PI.	`<target PO> D STATS` (for Ports and their subcomponents only)
Query Link	Displays link level configuration for the target PO.	`<target PO> Q LINK` for Ports and their subcomponents only)
Query Service	Displays service level configuration information for the target PO.	`<target PO> Q SERV (for Ports and their subcomponents only)`
Query DNA	Displays DNA/CUG level configuration information for the target PO.	`<target PO> Q DNA` (for Ports and their subcomponents only)
Help	Opens the online documentation for DPN commands.	

(Sheet 3 of 3)

DPN Inventory

For details on DPN Inventory reports, see the section on DPN Inventory reports in 241-6001-808 *Preside MDM Device Inventory Tools User Guide*.

The table “DPN Inventory diagnostics” (page 485) lists all of the DPN Inventory reporting utilities, however the list of available utilities at your installation may differ.

Table 80
DPN Inventory diagnostics

DPN Inventory	Description
Full Module Report	Opens the DPN Full Module Inventory report for the target module
Module Summary Report	Opens the DPN Module Summary Inventory report for the target module.
PE Report	Opens the DPN PE Inventory report for the target module.
PI Report	Opens the DPN PI Inventory report for the target module.
SCR Report	Opens the DPN Source Call Router Inventory report for the target module.
NL/Trunk Report	Opens the DPN Network Link and Trunk Inventory report for the target module.
Help	Opens the online documentation for DPN inventory.

NRS Commands

For details about the Network Reporting System (NRS), see 241-6001-022 *Preside MDM Network Reporting System User Guide*. Except where indicated, all commands apply to any DPN or Passport component types. The table “NRS Command diagnostics” (page 486) lists all of the NRS reporting utilities, however the list of available utilities at your installation may differ.:

Table 81
NRS Command diagnostics

NRS Command	Description
Find DNA	opens a dialog and prompts for a DNA GREP pattern. The pattern is then passed to the nrsFinddna utility to identify the component(s) that support it.
Configuration Report	opens the xnrsdatah utility for multiple graphical display reports with the parameters Module, Report on fields, Filtered and Current set.
(Sheet 1 of 2)	

Table 81 (Continued)
NRS Command diagnostics

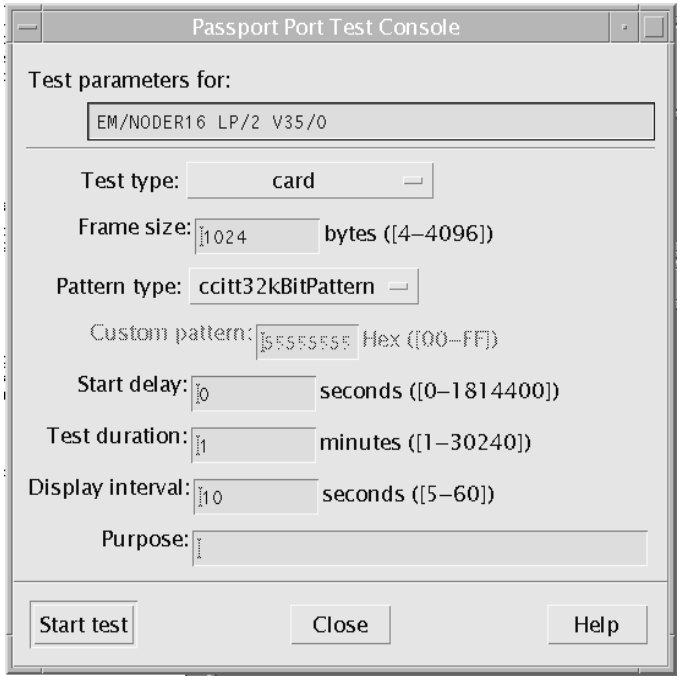
NRS Command	Description
Configuration Diff	opens the xnrsdiff utility for multiple graphical display reports with the Module parameter set to the target component, the Dated parameter set to the latest dated configuration (source) and the Current parameter (destination) set.
DPN Service Config	opens the nrsdserv NRS utility and reports the target node's service configuration. Use for DPN components only.
Help	Opens online documentation for NRS Command.
(Sheet 2 of 2)	

Passport Port Test Console

The Passport Port Test Console opens a dialog that prompts for the test parameters and target component ID. The component ID can be the name of the actual port-interface to test or a service component that uses the port.

The figure "The Passport Port Test Console dialog" (page 473) shows the Passport Test Dialog

Figure 37
The Passport Port Test Console dialog



Passport Port Test Console dialog

.ha.CIV Passport Port Test Console

The dialog controls map to the standard Passport Port-Interface Test components, with the exception of display interval. The controls are as follows:

- **Test parameters for:** specifies the target component name. The component name can be either a port interface (for example, `V35`, `X21`, `DS1`, `Sonet`) or a service component (for example, `FrUni`, `Trk`, `DpnGate`). If you specify a service component, the tool automatically identifies the port-interface in use.
- **Test type:** supports a list of port tests. Port tests include card, manual, localLoop, remoteLoop, externalLoop, payloadLoop, remoteLoopThisTrib, v54RemoteLoop, and pn127RemoteLoop.

- **Frame size:** specifies the size of frames to send.
- **Pattern type:** supports a list of pattern types to send in those frames. Pattern types include ccitt32kBitPattern, ccitt8MBitPattern, and customizedPattern.
- **Custom pattern:** is available only if you use the pattern type customizedPattern and lets you specify a bit pattern for the test frames.
- **Start delay:** specifies (in seconds) the delay before the test starts.
- **Test duration:** specifies (in minutes) the duration of the test.
- **Display interval:** specifies (in seconds) the delay between the sampling of intermediate results. Note that this is not the same as the on-switch attribute. Passport only emits results in minute intervals. So, to provide intermediate results in less than one-minute intervals, this tool polls for results rather than waiting for Passport to send them.
- **Purpose:** lets you specify the reason for performing the test.

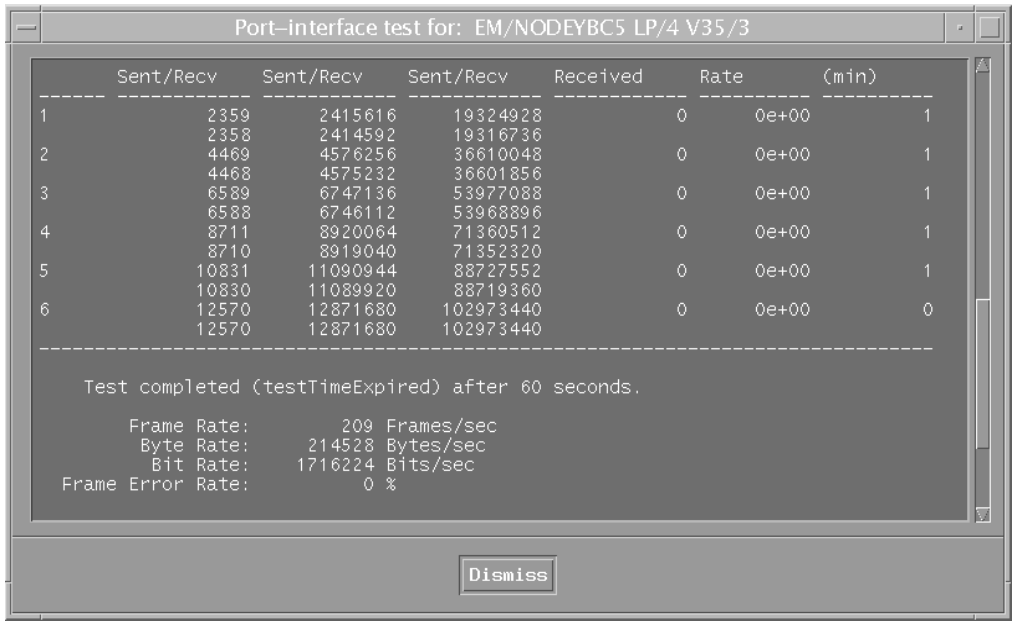
For more information about Passport port tests, see NN10600-551 *Nortel Networks Multiservice Switch 7400/15000/20000 FP Configuration Reference*.

Port test console output

The Port Test Console automatically locks the interface, starts the test, and regularly polls the port-interface for the test's intermediate results. The output goes to standard output (Component Information Viewer Diagnostics). When started from a UNIX Access window or macro, the output can be sent to an xmsg window or a file.

The figure "Passport Port Test Console output (xmsg window)" (page 489) shows a sample port test output.

Figure 38
Passport Port Test Console output (xmsg window)



The test output consists of a header, test parameters, a summary of the current configuration and operational parameters of the port, a table with the intermediate results, and a footer summarizing the test results, and the current operational state once again, in case it changed.

Sample Passport Port Test Console output (full text)

The following example shows the a sample of the full text of the Passport Port Text output.

```
Port-interface card test
for EM/NODEYBC5 LP/4 V35/3 (EM/NODEYBC5 FRUNI/4300).
-----------------------------------------------------
---------------------------
Test Parameters:
    Test Frames: 1024 byte(s) frames with  pattern
       Duration: 1 minute(s) with a 0 second(s) start
delay
                  polling for results every 10 seconds
```

```
Current port-interface configuration:

     applicationFramerName = FrUni/4300 Framer
           clockingSource = local
              commentText =
        customerIdentifier = 0
     dataTransferLineState = rfs dsr dcd rts
        dteDataClockSource = fromDce
        enableDynamicSpeed = no
             ifAdminStatus = up
                   ifIndex = 59
                 lineSpeed = 192000 bit/s
          lineStatusTimeOut = 1000 msec
                  linkMode = dte
             readyLineState = rfs dsr dcd rts
                    vendor =

Current port-interface state:

              actualLinkMode = dte
           actualRxLineSpeed = 192000 bit/s
           actualTxLineSpeed = 192000 bit/s
        dataXferStateChanges = 4
                   lineState = rfs dsr dcd ~rts
```

Sample Frames Sent/Recv	Bytes Sent/Recv	Bits Sent/Recv	Err. Frms Received	Bit Err Rate	Remaining (min)
1	2359	2415616	19324928	0	
0e+00	1				
	2358	2414592	19316736		
2	4469	4576256	36610048	0	
0e+00	1				

```
                4468      4575232     36601856
3           6589     6747136    53977088         0
0e+00           1
                6588      6746112     53968896
4           8711     8920064    71360512         0
0e+00           1
                8710      8919040     71352320
5          10831    11090944    88727552         0
0e+00           1
               10830     11089920     88719360
6          12570    12871680   102973440         0
0e+00           0
               12570     12871680    102973440
-------------------------------------------------
--------------------------

    Test completed (testTimeExpired) after 60 seconds.

        Frame Rate:        209 Frames/sec
         Byte Rate:     214528 Bytes/sec
          Bit Rate:    1716224 Bits/sec
  Frame Error Rate:          0 %

Current port-interface state:

           actualLinkMode = dte
         actualRxLineSpeed = 192000 bit/s
         actualTxLineSpeed = 192000 bit/s
      dataXferStateChanges = 5
                 lineState = rfs dsr dcd rts
```

The tool expects that the appropriate Passport group is already connected. For this reason, the Component Information Viewer Diagnostics uses this tool as an argument to the `execWithDest` utility.

The tool's command line follows:

```
/opt/MagellanNMS/bin/ppPortTest
        [-ask|-noask]
        [-stay]
        [-o <output file> | -x]
```

```
[-fsize <frame size>]
[-type <test type>]
[-pat <pattern type>]
[-cust <custom pattern>]
[-delay <start delay in seconds>]
[-duration <test duration in minutes>]
[-interval <display interval in seconds>]
[-purpose <string>]
<port-interface/service component ID>
```

where:

`-ask|-noask` specifies whether the dialog is invoked. If you specify `-ask`, the dialog always opens and prompts for the test parameters. If you specify `-noask`, the dialog does not open and testing proceeds with the parameters provided on the command line.

`-stay` does not close the dialog after the test completes to allow you to start a test on a different component. This option is most useful with the `-x` option).

`-o <output file>|-x` specifies the destination of the test output. If you specify `-o` and an output file name, the test output is sent to that file. If you specify `-x`, the output is sent to an independent xmsg window. A new window opens for each test. By default, the output is send to the standard output stream.

`-fsize <frame size>` specifies the size of frames to send.

`-type <test type>` specifies the port type test.

`-pat <pattern type>` specifies the pattern types to send in the frames.

`-cust <custom pattern>` specifies a bit pattern for the test frames.

`-delay <start delay>` specifies (in seconds) the delay before the test starts.

`-duration <test duration>` specifies (in minutes) the duration of the test.

`-interval <results polling interval>` specifies (in seconds) the delay between the sampling of intermediate results.

`-purpose <test purpose>` specifies the default values for the corresponding fields in the dialog.

`<port-interface/service component ID>` specifies the target component for the test in display or canonical format with the specified module specified (for example, `EM/NODEYBC5 LP/4 V35/4 or EM/NODEYBC5 FRUNI/44`).

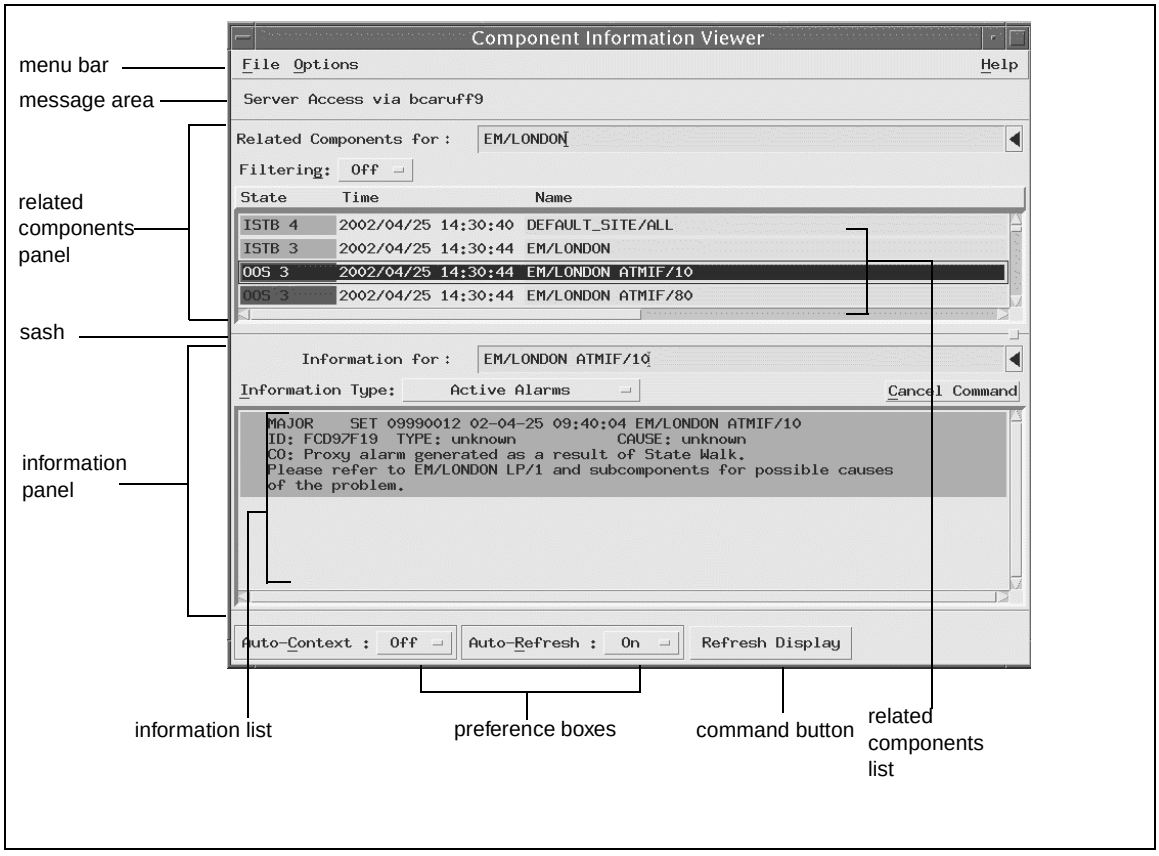
Component Information Viewer interface in MDM Toolset

The Component Information window contains the following areas:

- “Menu bar” (page 482)
- “Message area” (page 483)
- “Related components panel” (page 483)
- “Sash” (page 486)
- “Information panel” (page 487)

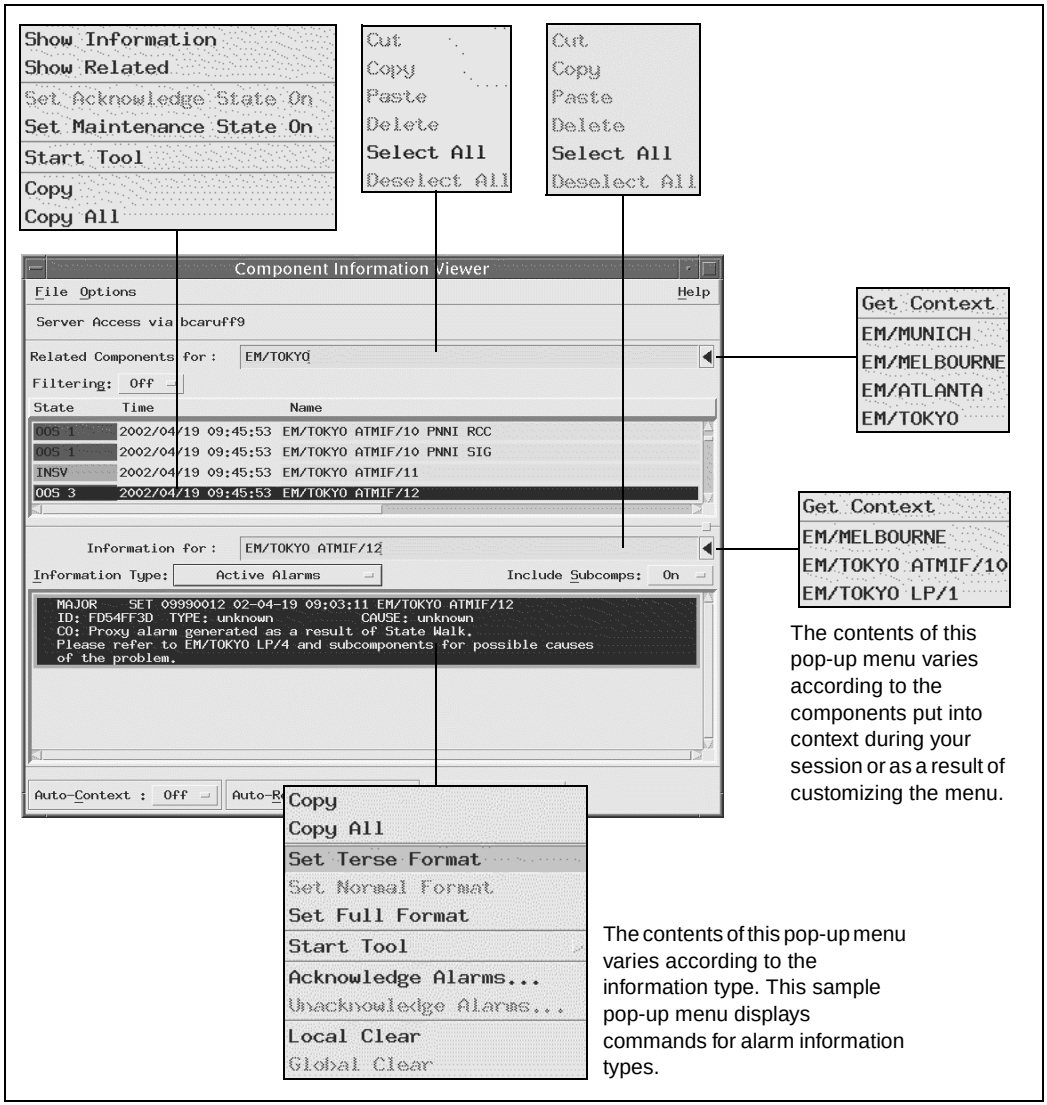
The figure “Sample Component Information Viewer window in MDM Toolset” (page 480) shows a sample Component Information Viewer window.

Figure 39
Sample Component Information Viewer window in MDM Toolset



The figure "Component Information Viewer pop-up menus in MDM Toolset" (page 481) shows commands that are available from pop-up menus in the Component Information Viewer tool.

Figure 40
Component Information Viewer pop-up menus in MDM Toolset



Menu bar

The Component Information Viewer menu bar contains the following menus:

- "File menu" (page 482)
- "Options menu" (page 482)
- "Help menu" (page 482)

File menu

The File menu contains the following command:

Command	Description
Exit	closes the Component Information Viewer tool. If you modified preferences or filter settings, a dialog box opens and prompts for the appropriate course of action for these changes before the session closes.

Options menu

The Options menu contains the following commands:

Command	Description
Change Component Filter Settings…	opens the Component Filter Settings dialog box where you can modify, save, and restore component filter settings. For the procedure to change filter settings, see "Setting component filters in MDM Toolset" (page 421).
Change Preference Settings…	opens the Preference Settings Dialog where you can modify, save, and restore Component Information Viewer preferences. For the procedure the change preference settings, see "Setting Preferences in MDM Toolset" (page 423).

Help menu

The Help menu contains the following commands:

Command	Description
Help on Window	displays general information about the Component Information Viewer window.
What's This?	Displays information about a selected area of the Component Information Viewer window.

Message area

The message area displays the name of the servers used by the Component Information Viewer. This area also displays a message when a command returns a non-zero error code.

Related components panel

The related components panel lets you view the impact of a component failure and the name and state of any related components. From this panel, you can start other MDM tools and interact with the Information Panel to find the cause of a particular fault.

The related components panel contains the following items:

- "Related Components for" (page 483)
- "Filtering box" (page 484)
- "Related components list" (page 484)

Related Components for

Use the Related Components for field to specify the component name for which you want related component information. Related component information displays in the related components list.

The Related Components for field supports two pop-up menus. One pop-up menu collects the names of components that you target during a session. You can select an entry from this list of components to populate the field. To open this menu, right-click on the triangle at the right of the Related Components for field. The other pop-up menu lets you edit existing text in the field. To open this pop-up menu, right-click in the field. The figure "Component Information Viewer pop-up menus in MDM Toolset" (page 481) shows these pop-up menus.

You can use various methods to specify a component name in the Component Information Viewer window.

- Typing an entry.
  If you type the component name in a format other than the display format, the Component Information Viewer reformats the component name to the display format.
- Using component context
  To use component context, right-click on the left pointing triangle at the end of the Related Components for field and select the an appropriate entry from the **Get Context** pop-up menu. For more information about component context, see “Context” (page 42).
- Selecting an item from the target component pop-up menu
  The Component Information Viewer tool maintains a list of the last 10 components that you have targeted during your session. To recall a targeted component, right-click on the triangle to the right of the Related Components for field and select an entry from the Get Context pop-up menu.

Filtering box

You set filters by using the Change Component Filter Settings… command in the Options menu. The Filtering box contains a drop-down list that lets you turn filtering on or off for related components. When filtering is on, only those components matching the current component filter settings display in the related components list. When filtering is off, all related components display.

The Component Information Viewer saves the value specified in the Filtering box as a preference setting. Therefore, the filter setting applies each time the Component Information Viewer tool opens. For more information on preference settings, see “Setting Preferences in MDM Toolset” (page 423).

Related components list

The related components list displays the parents, children, related links, a crucial subcomponent of an ancestor component and any special relationships of the component specified in the Related Components for field. This list also supports a pop-up menu that lets you perform tasks on selected entries in the list.

The list displays the propagated state, time, and name of each related component. For a description of the propagated states, see the table "Propagated states" (page 485).

Table 82
Propagated states

Propagated state	Description
UNKNOWN	The component is unknown.
INSV	The component is in service and working properly.
ISTB	The component is in service but has a non-fatal fault, or one of its subcomponents is ISTB or OOS. The number represents the criticality of the faulty component.
OOS	The component is out of service because of a fatal fault or one of its parents is OOS. The number represents the criticality of the faulty component.
OOS (Hierarchical-Out-Of-Service)	An ancestor component of the component is known to be out-of-service, or a crucial subcomponent of an ancestor component is known to be out-of-service.
MTCE	The component or a crucial subcomponent of an ancestor component is in maintenance state.
HIER MTCE	The component is in a hierarchical maintenance state. This state occurs when a parent of the component, or a crucial subcomponent of an ancestor component is in maintenance state.
ACKED	The component is in acknowledged state and no other faults are apparent.

The time shown in the list is the time of the last state change. The time displays in *yy-mm-dd hh:mm:ss* format. If the component has never had a state change, the text "Never Changed" displays.

Related components pop-up menu

The related components pop-up menu lets you perform tasks on selected entries in the related components list. To open the pop-up menu, right-click on an entry in the related components list. The figure "Component Information Viewer pop-up menus in MDM Toolset" (page 481) shows the related components pop-up menu. This pop-up menu contains the following commands:

- **Show Information** updates the Information Panel to show information on the selected component.
- **Show Related** updates the Related Components Panel to show the related components of the selected component.
- **Set Acknowledge State On/Off** sets the acknowledged state of a selected component. For more information, see "Setting the acknowledge state for a component" (page 428)
- **Set Maintenance State On/Off** sets the maintenance state of a component and the hierarchical maintenance for all its subcomponents. For more information, see "Setting the maintenance state for a component" (page 430)
- **Start Tool** allows you to start other MDM tools. For details, see "Starting the Start Tools from the Component Information Viewer" (page 432).
- **Copy** copies the text of the selected item to the Primary selection and the clipboard.
- **Copy All** copies the text of all the related components to the Primary selection and the clipboard.

Sash

The sash is positioned between the related components and information panels. Moving the sash up or down changes the amount of space each panel occupies. For example, if you move the sash down to increase the amount of space for the related components panel, the amount of space for the information panel decreases. To move the sash, drag the box on the right side of the sash up or down.

Information panel

Use the information panel to display additional management data for a component including alarms, network model data, customer data, and diagnostics.

The Information Panel contains the following items:

- “Information for” (page 487)
- “Pop-up menu” (page 489)
- “Information type” (page 489)
- “Include subcomps” (page 490)
- “Commands (diagnostic commands)” (page 491)
- “Information list” (page 492)

Information for

To view additional information about a component, you need to specify the component name in the Information for field and specify the type of information you want in the Information Type box. For information about the types of information you can display, see “Information type” (page 489). This field also supports a pop-up menu that lets you edit the text in the field.

The Information for field supports two pop-up menus. One pop-up menu collects the names of components that you target for information during a session. You can use this pop-up menu to populate the field. To open this menu, right-click on the triangle at the right side of the Information for field. The other pop-up menu lets you edit existing text in the field. To open this pop-up menu, right-click in the field. The figure “Component Information Viewer pop-up menus in MDM Toolset” (page 481) shows these pop-up menus.

To specify a component name in this field, you can use the following methods:

- Typing an entry
  If you type the component name in a format other than the display format, the Component Information Viewer reformats the component name to the display format.

- Using the field's pop-up menus
  There are two pop-up menus in the Information for field. One provides commands to edit the text in the field, the other pop-up menu provides access to component context and a list of components from which you can select. You can use the second pop-up menu to target a component. To open this pop-up menu, right-click on the triangle at the end of the Information for field. You can then target the component in context by selecting the Get Context command, or you can target a component by selecting from a list of the ten most recently targeted components. For more information about component context, see "Context" (page 42). If you frequently use the same component names, you can customize the entries in this pop-up menu. For details, see "Customizing the Component Information Viewer display in MDM Toolset" (page 453).
- Using the related components list
  Selecting an entry in the related components list, populates the Information for field with the selected component name.
- Using search patterns
  You can use search patterns for active alarm and recent alarm information types. Patterns of components have a vertical bar ('|') in the name, typically the first character if there is only one pattern. All alarms matching the specified patterns display in the information panel. The pattern language is the same as extended GREP style patterns.

  A search pattern is first matched to the component ID in canonical format (blank separated). Then the pattern is matched to the component ID in display format (/ separated), then to the fault code, and finally to the comment text of the alarms.

  When you specify a search pattern, information is not automatically refreshed. Refresh the display manually by clicking the Refresh button or by pressing the Return key in the text field.

  The table "Sample search patterns" (page 489) provides sample search patterns and a description of their function.

Table 83
Sample search patterns

Search pattern	Function
EM .* SONET .*|EM .* DS3 .*	Reports all alarms in the network for Passport DS3 and SONET port-interfaces
|EM .* SONET .*	Reports only SONET alarms. The vertical bar at the beginning distinguishes the specification from a plain component name:
^7039....$\|^7041....$|^7001....$	Displays all Passport ATM and Frame Relay related alarms. The caret (^) indicates the beginning of the string to match. The $ character indicates the end of the string to ensure occurrences of these numbers are not matched in the middle of another string

Pop-up menu

To edit the text in the Information for field, use the field's pop-up menu. To open the pop-up menu, right-click in the Information for field. The pop-up menu contains commands that let you cut, copy, paste, delete, select or deselect text in this field. This pop-up menu is the same as the Related Components for pop-up menu.

Information type

The Information Type: box lets you select the type of information to display in the information panel. The table "Component Information Viewer Information types" (page 490) lists the available information types.

Table 84
Component Information Viewer Information types

Information type	Description
Active Alarms	Displays the currently active alarms for the specified component
Status	Displays the most recent status record received from the specified component (DPN only)
Recent Alarms	Displays the alarm history for the specified component
Model Data	Displays the information about the specified component, as started in the network model.
Diagnostics	Displays diagnostic information based on the type of information selected with the Command button. For details about available diagnostic commands, see “Commands (diagnostic commands)” (page 491).
Customer Data	Displays customer database information matching the specified component. This information is retrieved from the Customer Database server identified in the Preferences dialog. See “Setting Preferences in MDM Toolset” (page 423).

The Component Information Viewer saves the value in the Information Type box as a preference setting. Therefore, the information type applies each time the Component Information Viewer application opens. For more information on preference settings, see “Setting Preferences in MDM Toolset” (page 423).

Include subcomps

The Include Subcomps box is available only when the current information type is Active Alarms. This box lets you choose whether or not to display active alarms for all subcomponents of a specified component.

The Component Information Viewer saves the value in the Include Subcomps box as a preference setting. Therefore, the setting for this option applies each time the Component Information Viewer application opens. For more information on preference settings, see “Setting Preferences in MDM Toolset” (page 423).

Commands (diagnostic commands)

The Commands box is available only when the current information type is Diagnostics. Clicking on the box opens a menu of diagnostic commands. The commands vary depending on the available tools and whether the menu of diagnostic commands has been customized at your installation. You may see the following items:

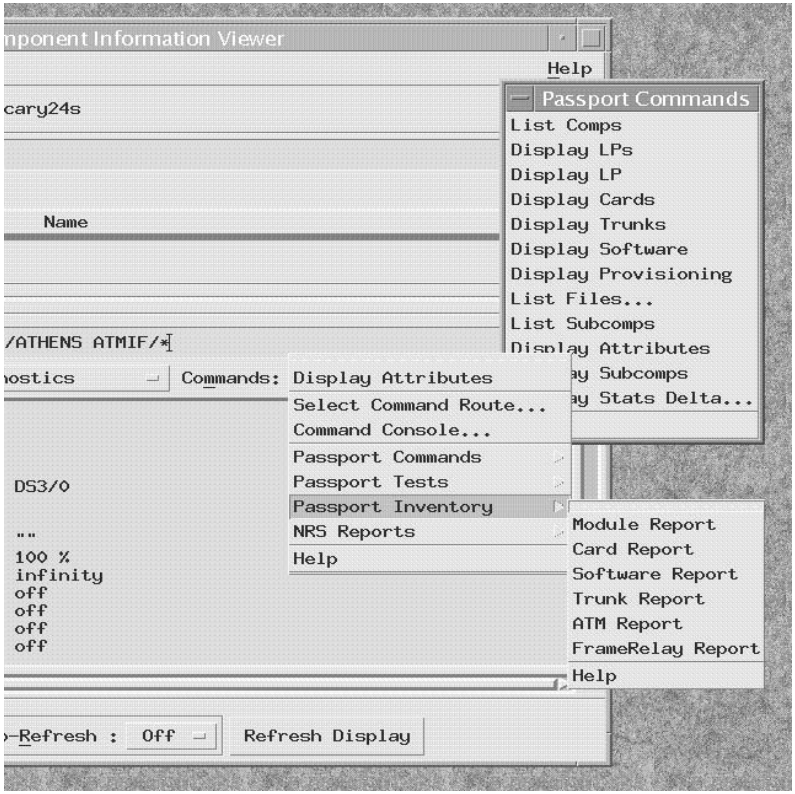
- commands to select a command route, start the Command Console tool, and display online help
- Passport and DPN commands to
  - help diagnose components
  - send inventory reports to the Information Panel
- Passport commands to execute Passport tests

Output from these diagnostic commands display in the Information panel.

For a list of default Component Information Viewer Diagnostic commands, see “Commands (diagnostic commands)” (page 491). For details about customizing the diagnostic menu, see the section on customizing the Component Information Viewer diagnostics in 241-6001-301 *Preside MDM Customization Administrator Guide*.The Commands menu and its submenus are all detachable to make their commands easier and faster to use. To detach a menu, press the middle mouse button on the dotted white line at the top of the menu and drag the menu off the window. Since the commands in a menu are sensitive to the type of component currently targeted by the Information panel, the availability of these commands will be re-evaluated when you change the value in the Information for field or when the field loses the focus.

The figure “Detachable Commands menu in MDM Toolset” (page 492) shows the available commands.

Figure 41
Detachable Commands menu in MDM Toolset



Information list

The information list displays information about selected components. The content of the information list depends on the type of information that you select from the Information Type box. You can display active alarms, status records (DPN only), recent alarms, model data, customer data, and diagnostics.

Each information type has its own pop-up menu. The figure “Component Information Viewer pop-up menus in MDM Toolset” (page 481) shows the pop-up menu for the diagnostic information type.

When active alarms and recent alarms display in the Information list, the following commands are available from the pop-up menu:

- **Copy** copies the text of the selected alarm in the information panel to the clipboard and a specified destination.
- **Copy All** copies all the alarms in the information panel to the clipboard and a specified destination.
- **Set Terse Format** lets you to display the selected alarms in terse format. For detailed information on terse format, see “Format toggle button” (page 332).
- **Set Normal Format** lets you to display the selected alarms in normal format. For detailed information on normal format, see “Format toggle button” (page 332).
- **Set Full Format** lets you to display the selected alarms in full format. For detailed information on full format, see “Format toggle button” (page 332).
- **Start Tool** lets you to start other tools and utilities. For details, see “Starting other MDM tools from Shelf View in MDM Toolset” (page 214) and “Starting other MDM tools from Shelf View in Operator Client” (page 216).
- **Acknowledge Alarms…** lets you to indicate to other network operators that you are currently investigating a fault causing an alarm. This is available for Active Alarms only. For more information, see “Acknowledging active alarms” (page 441).
- **Unacknowledge Alarms…** lets you take selected alarms out of the Acknowledged state and indicate to other network operators that the fault causing the alarm has been resolved or needs to be investigated. This is available for Acknowledged Active Alarms only. For more information, see “Unacknowledging active alarms” (page 443).
- **Local Clear** clears the selected alarms on the Preside Multiservice Data Manager (MDM) system only. This is available for Active Alarms only. For more information, see “Clearing alarms using Local Clear” (page 435).

- **Global Clear** clears alarms from the appropriate DPN-100 OAs, Passport, and from MDM. For more information, see “Clearing alarms using Global Clear” (page 437).

When status records, model data, customer data, and diagnostic information display in the Information list, the following commands are available from the pop-up menu:

- **Copy** copies selected text the clipboard.
- **Select All** selects all text in the Information list.
- **Deselect All** cancels the selection of any text.
- **Copy Component to Target Field** copies the current text selection, or the text surrounding the cursor position, to the Information for field for use as another command. In the absence of a selection, the command tries to identify a component ID in the text around the cursor position and then uses this text as the subcomponent portion in the Information for field. For example, using the output of a Passport list command, click somewhere on one of the output component names and select Copy Component to Target Field. The copied component becomes the subcomponent in the Information for field. Pressing the Shift key and double-clicking the middle mouse button on text in the information list performs the same function as the Copy Component to Target Field command.

Preference boxes

The Component Information Viewer contains the following boxes:

- Auto-Context
- Auto-Refresh
- Refresh Display

Auto-Context

The Auto-Context button controls whether or not the Component Information Viewer tools automatically retrieves components from context. For example, if you turn on automatic context and then select a component in any of the MDM tools that support context, that component information automatically displays in the Component Information Viewer window. You

can also set Auto-Context in the Preference Settings Dialog box. For details on using this dialog, see “Setting Preferences in MDM Toolset” (page 423). For more information about component context, see “Context” (page 42).

Auto-Refresh

The Auto-Refresh button controls whether or not the information in the Component Information Viewer window automatically refreshes. The refresh interval is set in the Preference Settings Dialog. You can also set Auto-Refresh in the Preference Settings Dialog. For details on using this dialog, see “Setting Preferences in MDM Toolset” (page 423).

Refresh button

The Refresh Display button lets you immediately refresh the contents of the Component Information Viewer window.

Errors and warnings

The Component Information Viewer provides the following error and warning messages to help you take corrective action:

- "Service Selection Warning Dialog" (page 496)
- "Save Settings Error Dialog" (page 496)
- "Restore Settings Error Dialog" (page 496)
- "Manual Alarm Clearing Error Dialog" (page 497)

Service Selection Warning Dialog

The Service Selection Warning Dialog box indicates that the Component Information Viewer is using a new management data server due to a LAN selection change.

Update the contents of the Component Information Viewer window by clicking the Refresh Display button.

Save Settings Error Dialog

The Save Settings Error Dialog box indicates that the preference file cannot be saved to the $HOME/MagellanNMS/CIVPrefs.cfg file or the component filter settings file cannot be saved to the $HOME/MagellanNMS/ CIVCFilt.cfg file.

Ensure that there is write access to the home directory and the configuration file. Ensure there is sufficient disk space for the home directory.

Restore Settings Error Dialog

The Restore Settings Error Dialog indicates that the preference file cannot be restored from the $HOME/MagellanNMS/CIVPrefs.cfg file or the component filter settings cannot be restored from the $HOME/ MagellanNMS/ CIVCFilt.cfg file.

Ensure that the configuration file exists and that there is read access to the home directory and the configuration file. If the file exists and has the appropriate permissions but the file contents are not recognized, recreate the appropriate settings using the Component Filter or Preference Settings Dialog boxes, and save them again.

Manual Alarm Clearing Error Dialog

The Manual Alarm Clearing Error Dialog box opens when an alarm cannot be cleared. The dialog box displays a message indicating the cause and information used to clear the alarm.

Component Information Viewer interface in MDM Operator Client

The component information viewer contains alarm information and diagnostics information that help you diagnose network problems. Selecting a window tab displays the applicable information.

The component information viewer window consists of the following areas:

- “Menu bar” (page 499)
- “Filter panel area” (page 501)
- “Component list area” (page 502)
- “Filter option boxes” (page 503)
- “Status bar” (page 503)
- “Alarms tab” (page 503)

The figure “Sample Component Information Viewer window in MDM Operator Client” (page 498) shows a sample Component Information Viewer window.

Figure 42
Sample Component Information Viewer window in MDM Operator Client

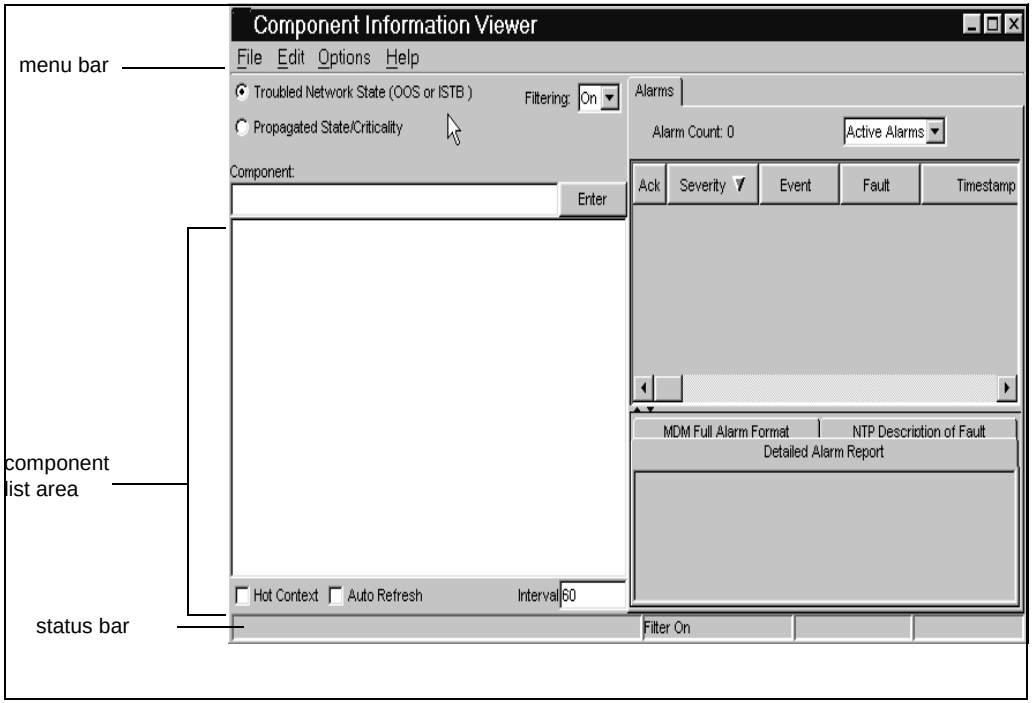
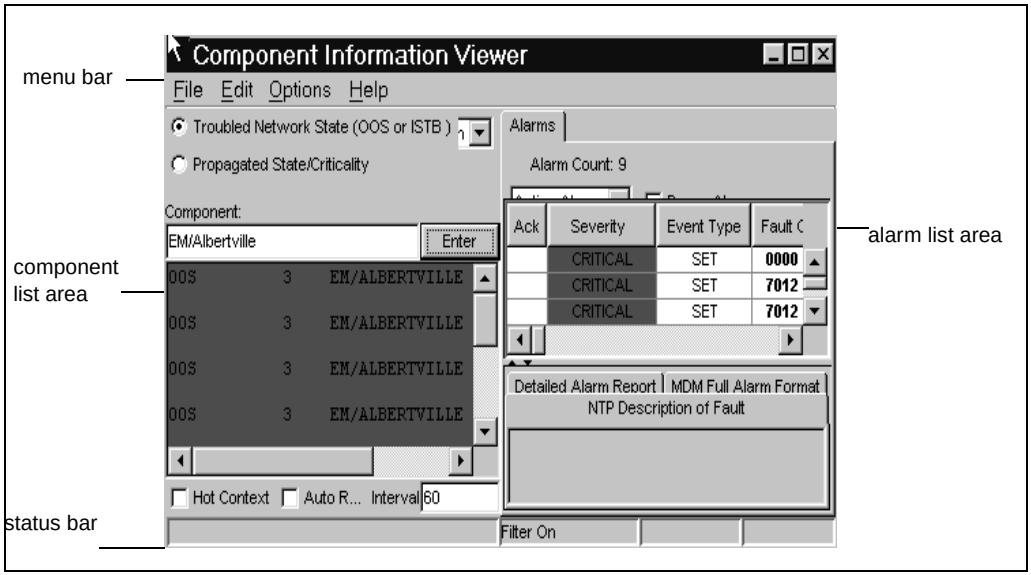


Figure 43
Sample Component Information Viewer window in MDM Operator Client



Menu bar

The component information viewer provides the following menus:

- “File” (page 499)
- “Edit” (page 500)
- “Options” (page 500)
- “Help” (page 501)

File

The **File** menu contains the following commands:

Command	Description
Reconnect to server	resets the connection to the general management data router (GMDR) server. Use this command if the GMDR server stops responding to the client, for example, if you set a new filter but receive no alarms.
Exit	closes the component information viewer window and exits the application.

Edit

The **Edit** menu contains the following command:

Command	Description
Copy	copies the full format of a selected alarm from the alarm list to the system clipboard. You can then paste this information into another application

Options

The **Options** menu contains the following commands:

Command	Description
Bell On Critical Alarm	turns sound effects on or off for critical alarms. To play a sound whenever the alarm display receives a critical alarm, select the check box. To turn off sounds for critical alarms, clear the check box
Bell On Major Alarm	turns sound effects on or off for major alarms. To play a sound whenever the alarm display receives a major alarm, select the check box. To turn off sounds for major alarms, clear the check box.

Command	Description
Bell On Minor Alarm	turns sound effects on or off for minor alarms. To play a sound whenever the alarm display receives a minor alarm, select the check box. To turn off sounds for minor alarms, clear the check box
Bell On Warning Alarm	turns sound effects on or off for warning alarms. To play a sound whenever the alarm display receives a warning alarm, select the check box. To turn off sounds for warning alarms, clear the check box

Help

The **Help** menu contains the following command:

Command	Description
Help on Window	displays general information about the Component Information Viewer window.
What's This?	Displays information about a selected area of the Component Information Viewer window.

Filter panel area

The filter panel area provides filters which display components based on the component state. When you first open the Component Information Viewer, filtering on Troubled Network State is enabled by default. The Component Information Viewer supports filtering on the following conditions:

- "Troubled Network State" (page 501)
- "Propagated State/Criticality" (page 502)

Troubled Network State

The Troubled Network State filter only displays components that have a troubled raw state including out-of-service (OOS) and in-service troubled (ISTB).

Propagated State/Criticality

The Propagated State/Criticality filter enables you to select the specific propagated states and state criticalities that you wish to display that include:

- "State filter options" (page 502)
- "Threshold filter options" (page 502)

State filter options

To filter by state, select from the following options:

- OOS (out of service)
- ISTB (in service, troubled)
- INSV (in service)
- Unknown

Threshold filter options

To filter the components based on their threshold, select any of the values from 1 to 5. The more outages a component's fault causes, the higher its threshold value. If you filter on INSV or Unknown states, any selected threshold values are ignored.

Set Filter button

The **Set Filter** button activates any selected state and threshold filters.

Component list area

The component list area is where you can request a component to view. The area contains a **Component** field and **Enter** button, component list box, and component list options boxes.

Component field

The **Component** field lets you enter the name of the node that you want to view.

Enter button

As an alternative to pressing the enter key to enter a a component ID in the component field, click **Enter**.

Component list

After you enter a component ID, a component list opens. This list shows all the related components including parents and children.

Filter option boxes

The filter option boxes let you turn hot context on or off and to set an auto-refresh interval.

Hot Context

If you select this check box, hot context is turned on. If you do not select this check box, hot context is turned off.

Auto-Refresh

This option refreshes (reloads) the network model information. The Component Information Viewer application does not update component state information as the network status changes. You need to reload model information to capture state changes. If you select this check box, the applications reload based on the time specified in the Interval field. If you do not select this check box, the application does not reload network model information.

Interval

This option specifies the number of seconds between automatic network model reloads. The default value is 60 seconds. When you change the interval value and then press the enter key, an immediate refresh occurs. To set an interval, ensure that you also select the auto-refresh check box. The component information viewer does not accept a refresh interval less than 15 seconds.

Status bar

The status bar provides information about whether filtering is on or off, the login user ID, and the server being accessed.

Alarms tab

The alarm list area consists of a list area and check boxes that let you determine what displays in the alarm list, an alarm count, and a detailed alarm list.

Note: The alarm list area information is displayed when the alarms window tab is selected.

Alarm mode list box

This list box provides lets you choose from the following alarm modes.

- **Active Alarms** display only active alarms.
- **Alarm Log** displays recent alarms as they are received by MDM. This mode includes all alarms including set, clear, and message events
- **Alarm History** is similar to Alarm Log but also includes past alarms. In some networks, selecting this mode can result in large amounts of alarm data.

Pause Alarms

If you select this check box, no subsequent alarms display in the alarm list. If you do not select this check box, the alarm display continues to add alarms to the alarm list.

Alarm list area

Alarms are displayed in this area based on the selected alarm mode. Full alarm details are provided in this list area and details are displayed according to labelled columns at the top of the list area.

Detailed Alarm Report tab

The Detailed Alarm Report tab displays all of the same alarm information that is displayed in the Alarm List area, except only for the selected alarm. The details are organized and displayed in logical groups.

MDM Full Alarm Format tab

The MDM Full Alarm Format tab displays all of the same alarm information that is displayed in the Alarm List area, except only for the selected alarm. The details are organized and displayed in full format.

NTP Description of Fault tab

The NTP Description of Fault tab displays the NTP description for the selected alarm.

Chapter 11
Query Historical Alarms

Query Historical Alarms tool is used to search and display short-term historical alarms.

Navigation

Query Historical Alarms procedures

Use these procedures to query historical alarms from MDM Toolset window, the command line interface (CLI), and from other tools.

You can also query historical alarms from the Component Information Viewer. To do so, see the following procedures:

Querying historical alarms tool from the Preside MDM tool set window

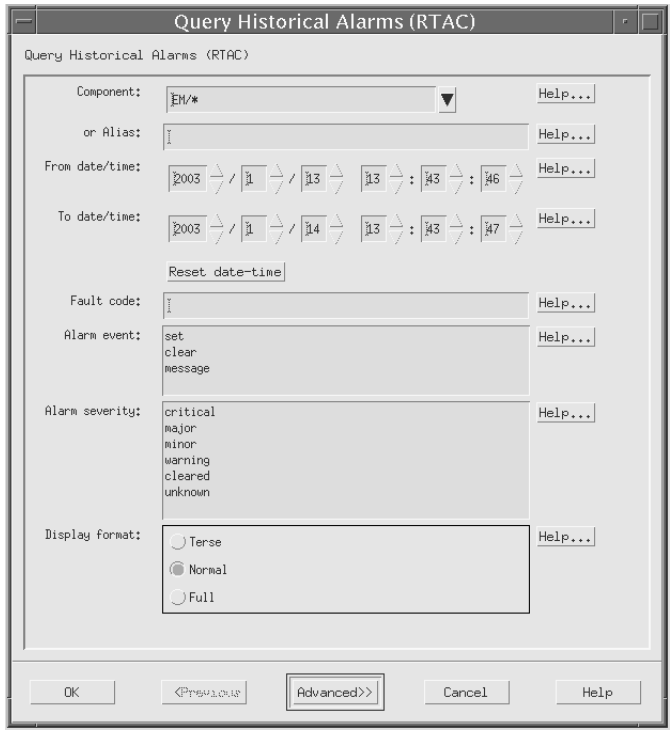
You can start the Query Historical Alarms tool using various methods. Use this procedure to start the tool from the Preside MDM tool set window.

- "Procedure steps" (page 506)
- "Procedure job aid" (page 509)

Procedure steps

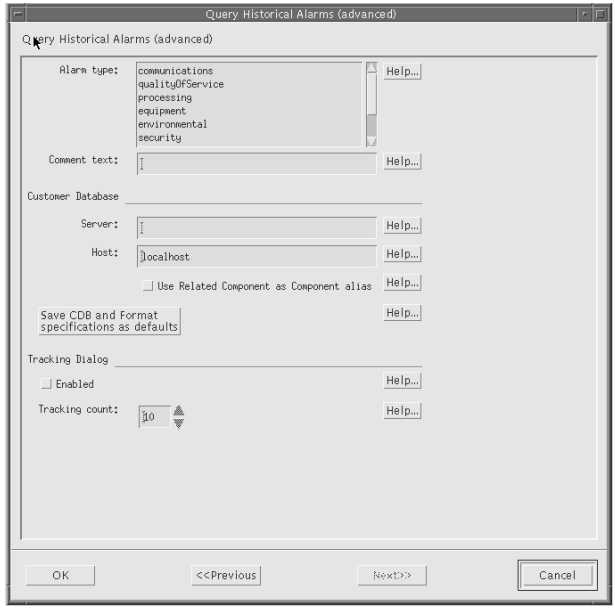
1 In the Preside Multiservice Data Manager window, select **Fault -> Query Historical Alarms.**

The Query Historical Alarms dialog opens and displays the first of the two-page dialog.



2 On the first page of the dialog, refine the alarm query by using the following filters. For a description of the filters, see the table “Query Historical Alarms filters” (page 509).

3 If you do not require any further filters, click **OK** to start the query, otherwise click **Advanced** to open the second page of the dialog.



4 Further refine the alarm query by using any of the following filters. For a description of the filters, see the table “Query Historical Alarms filters” (page 509).

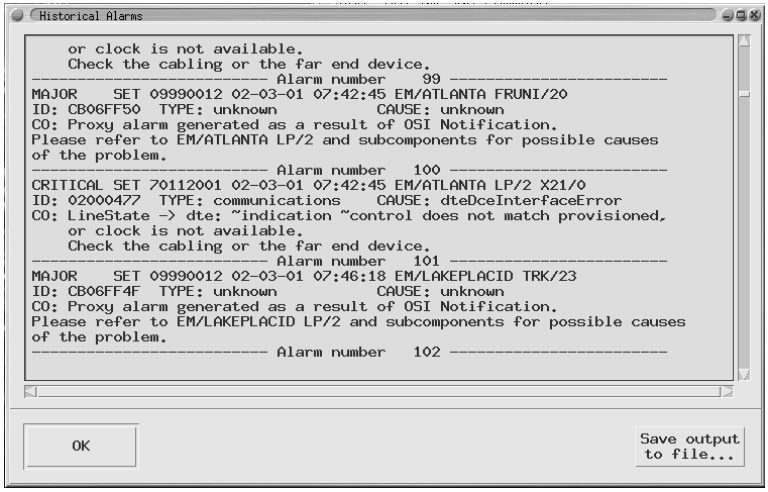
5 Optionally, to save the Customer Database (CDB) options and alarm output format settings for the next time you start the Query Historical Alarms tool, click **Save CDB and Format specifications as defaults**.

6 Optionally, to display a tracking dialog that counts the alarms scanned during the search, click to select the **Enabled** check box.

- To control the number of alarms scanned before the tracking dialog refreshes, change the value in the **Tracking count** box. Turning on tracking may slow the search.

7 To begin the historical alarm query, click **OK**.

The **Historical Alarms** dialog box opens.



If you enabled tracking, the tracking dialog also opens.

As matching alarms are identified they display in the **Historical Alarms** output window. When the scan is complete, the tracking dialog closes.

8 To save the contents of the Historical Alarms dialog box to a file, click **Save output to file...** or to close the dialog box, click **OK**.

The Historical Alarms dialog box closes and the Query Historical Alarms dialog box reopens so that you can make further alarm queries.

Procedure job aid

Table 85
Query Historical Alarms filters

Filter	Description
First page of dialog:	
Component	specifies the component for which you want to retrieve alarms. By default, the component is EM/*, which retrieves all Passport alarms. Alternatively, you can specify the component for which you want alarm information. If you specify a component filter, the alias filter is ignored.
or Alias	specifies the component alias. The alias replaces the component ID in the display with the matching Related Component ID value from the customer database. If you do not use a customer database, or if you specify a component filter, this alias filter is ignored.
From date/time	specifies the start of the time period for which you want alarms. The initial value for this field is the current date and time minus one day. If you override the initial value in this field or in the To date/time field and need to reestablish the initial values, click the Reset Date-Time button.
To date/time	specifies the end of the time period for which you want alarms. The initial value for this field is the current date and time. If you override the initial value in this field or in the From date/time field and need to reestablish initial values, click the Reset Date-Time button
Fault code	specifies the fault code to use for filtering alarms. You can use GREP style patterns to specify these fault codes.
Alarm event	specifies the alarm event to use for filtering alarms. If needed, you can specify multiple alarm events.
(Sheet 1 of 2)	

Table 85 (Continued)
Query Historical Alarms filters

Filter	Description
Alarm severity	specifies the alarm severity to use for filtering alarms. If needed, you can specify multiple severities.
Display format	specifies the level of alarm output to display, from the least output (terse) to the most output (full).
Advanced page of dialog:	
Alarm type	specifies the alarm type to use for filtering. If needed, you can select multiple types.
Comment text	text specifies the comment data pattern (GREP) to use for filtering.
Customer Database Server	specifies the service name of the Customer Database (CDB) that has the customer data and alias information. The Query Historical Alarms tool supports the same CDB interaction as the Alarm Display and Component Information Viewer tools.
Customer Database Host	specifies the host name of the CDB that has the customer data and alias information.

(Sheet 2 of 2)

Querying historical alarms from the command line interface

You can start the Query Historical Alarms tool using various methods. Use this procedure to start the tool from the command line.

Procedure steps

1. Execute the real-time alarm search tool by typing the following command syntax as one continuous command:

```
/opt/MagellanNMS/bin/rtacsrch
  [-format <TERSE|NORMAL|FULL|DUMP>]
  [-output <WINDOW|MORE|STDOUT|FILE <output file>]
  [-noseparator]
  [-start <date> [<time>]]
  [-end <date> [<time>]]
  [-component <component id pattern>
  [-fault <fault code pattern>]
  [-cid <customer id pattern>]
  [-<any alarm field name> <pattern>]
  [-h]
```

Variable definitions

Variable	Definition
`-format [<TERSE|NORMAL|FULL|DUMP>]`	specifies the alarm output level. The output formats correspond to those of the Alarm Display tool. Output ranges from the least output (TERSE) to the complete alarm output (FULL). DUMP format is an output of the non-empty alarm fields in format: <field 1 name> = <file 1 value> <field 2 name> = <file 2 value> 336 . <field n name> = <file n value> The default format is TERSE.
`-output [<WINDOW|MORE|STDOUT|FILE <output file>]`	specifies where the output displays. WINDOW displays alarms in a scrollable window. MORE sends output to standard output using the more program. STDOUT sends output to the standard output stream. FILE sends output to the named file. The default output is WINDOW.
`-noseparator`	omits separators between alarms
`-start <date> [<time>]`	specifies the start date for the query. <date> and <time> specify the start range of the alarm records. The default start date and time is 1900-01-01 00:00:00. `<date>` can be in the form yymmdd, yyyymmdd, yy-mm-dd, or yyyy-mm-dd. `<time>` can be in the form hhmmss or hh:mm:ss.

(Sheet 1 of 2)

Variable	Definition
-end <date> [time]	specifies the end date for the query. <date> and <time> specify the end range of the alarm records. The default start date and time is 9999-12-31 23:59:59. <date> can be in the form yymmdd, yyyymmdd, yy-mm-dd, or yyyy-mm-dd. <time> can be in the form hhmmss or hh:mm:ss.
-component <component ID pattern>	specifies the component identifier pattern. <component ID pattern> is considered anchored (^<pattern>$).
-fault <fault code pattern>	specifies a fault code pattern. <fault code pattern> is considered anchored (^<pattern>$).
-cid <customer Id pattern>	specifies a customer identifier pattern. <customer Id pattern> is considered anchored (^<pattern>$).
-<any alarm field name> <pattern>	<any alarm field name> can be any field present in an alarm record. The list of available fields is available in the ala.rdf file. <pattern> is considered anchored (^<pattern>$).
-h	displays command line usage information.

(Sheet 2 of 2)

Procedure job aids

The table “Command line abbreviations” (page 514) details those command line options that support abbreviations:

Table 86
Command line abbreviations

Option	Abbreviation
format	fo
output	o
noseparator	nos
start	s
end	e
component	co or compId
fault	fa or faultcode
cid	ci or customerId

The figure “Sample rtacsrch command lines” (page 515) provides sample rtacsrch command lines

Figure 44
Sample rtacsrch command lines

Examples:

rtacsrch

This command extracts every alarm and prints them in TERSE format. The alarms are displayed in a scrollable window.

rtacsrch -s 00-01-12 -e 20000227 13:04:58 -fo normal -co “EM/NODEA FRUNI/7.*” -o file NODEA_7.alarms

This command line extracts the alarms related to FRUNI 7 on Passport NODEA that were generated between January 12, 2000 at midnight and February 27, 2000 at 13:04:58. The alarms are printed in NORMAL format and saved in file NODEA_7.alarms

The table “Exit codes for rtacsrch command” (page 515) details the exit codes from rtacsrch command.

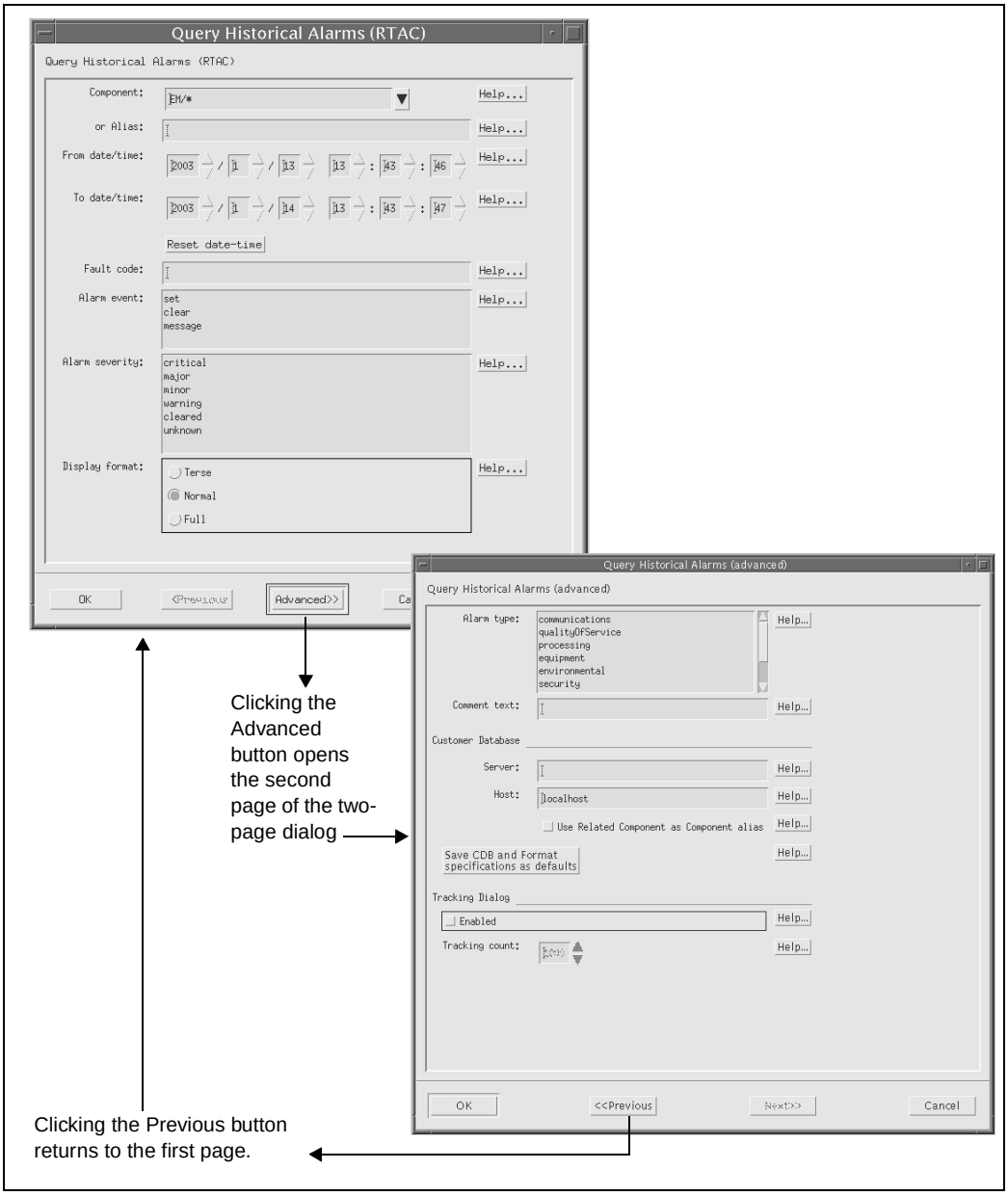
Table 87
Exit codes for rtacsrch command

Exit code	Description
0	Normal success
1	Major errors were found
2	Terminated because of signal received

Query Historical Alarms interface

The Query Historical Alarms interface consists of a single two-page dialog that contains a selection of fields to help refine the search criteria. Each field has a Help button that displays a brief explanation of the associated field. You can filter the alarm search on such parameters that include date and time ranges, fault codes, events, alarm severity, alarm types, alarm output level, and customer database services. The figure "Sample Query Historical Alarms dialog" (page 517) shows a sample dialog.

Figure 45
Sample Query Historical Alarms dialog



Query Historical Alarms fundamentals

You can start the Query Historical Alarms tool from the Preside Multiservice Data Manager (MDM) tool set window, from within the Component Information Viewer tool, or through a command line interface.

The Query Historical Alarms tool lets you search and display short-term historical alarms. The collection and saving of these short-term alarms are done by the real-time alarm collection (RTACCOL) server. Each day, the RTACCOL creates a file for the collection of alarms (using the format "alarms.<yyyy>-<mm>-<dd>" for the file name) and stores this file in the directory defined in the RTAC.cfg configuration file. For further details about RTACCOL, see the section on the real time alarm collection tool in 241-6001-310 *Preside MDM Server Reference Guide*.

The Query Historical Alarms tool extracts information from the historical alarm files and displays its output in the Historical Alarms output dialog. When you close the output dialog, the Query Historical Alarms dialog reopens if you started the tool from the Preside MDM tool set window. If you started the Query Historical Alarms tool using Component Information Viewer, the Query Historical Alarms dialog does not automatically reopen. In this case, you need to select the Query Historical Alarms command from Component Information Viewer once again.

Chapter 12
Component Status Display

This section describes the Component Status Display and provides you with instructions on how to use this tool. The following information is included:

Component Status Display overview

The Component Status Display is a monitoring tool that provides a textual display of the current state or criticality of network model components. Component Status Display allows you to view status at the following levels:

- region
- site
- module
- components

The Component Status Display provides a textual representation of the organization at region, site, module, component, and subcomponent levels in the network. For a graphical representation of the same information, use the Network Viewer.

The Component Status Display is equipped with preference dialogs that let you

- set up filtering to display the status of one or more component types based on Troubled Raw state, or Propagated state and Criticality
- sort information displayed for components based on the component name, the Propagated state and Criticality, or the time of the last state change
- set the refresh interval for component states
- turn on or turn off automatic refreshing of component states

You can customize the Component Status Display. The Component Status Display features a Start Tool command from which you can launch other Preside Multiservice Data Manager (MDM) tools. You can customize the list of tools available from the Start Tool command. For details, see the section on customizing the toolsets and Start Tools menu in 241-6001-301 *Preside MDM Customization Administrator Guide*. You can also customize resources such as alarm colors. For details, see “Customizing the Component Status Display” (page 548).

The Component Status Display also allows you to react to a fault by putting the component into Acknowledged state or Maintenance state.

See also…

- “Component Status Display overview” (page 519)
- “Component status” (page 521)
- “Component Status Display main window” (page 524)
- “Component Status Display dialogs” (page 532)
- “Component Status Display procedures” (page 540)
- “Setting Component Status Display preferences” (page 546)

- “Setting Component Status Display preferences” (page 546)
- “Customizing the Component Status Display” (page 548)

Component status

The status of a component is determined by its state. Each component in the network model contains a set of core attributes to model its state. There are two categories of states: raw and propagated. Raw states apply to a single component and are produced by the Surveillance Data Servers. Propagated states reflect the impact of raw states on related components and are computed by the Surveillance Network Updater (SURNUP) or, in the case of Acknowledgment and Maintenance, are originated by the operator.

For further information on component states and criticality, see 241-6001-015 *Preside MDM Network Model Administrator Guide*.

Raw state values

Raw state values are provided by the Surveillance Data Servers and only apply to a single component. Possible raw state values are shown in the table “Raw state values” (page 521).

Table 88
Raw state values

Raw state value	Label	Meaning
Unknown	UNK	MDM has not heard from the component and does not know its state
In-Service	INSV	The component is known to be working properly.
Out-Of-Service	OOS	The component is not working.
In-Service–Troubled	ISTB	The component is known to be In-Service but experiencing some difficulties, for example, overloaded

Propagated state values

Propagated states consist of two elements—a state value and a criticality value (N). Possible propagated state values are shown in the table "Propagated state values" (page 522).

Table 89
Propagated state values

Propagated state value	Label	Meaning
Unknown	UNK	MDM has not heard from the component and does not know its state.
In-Service	INSV	The component, its parents, and all its children are working properly.
Out-Of-Service-N	OOS-N	The component is not working because of a fatal fault or because one of its parents is out-of-service. N is its criticality.
Hierarchical-Out-Of-Service-N	OOS-N	The component's parents or one of its grandparents is not working and N is the component's criticality.
In-Service-Troubled-N	INST-N	The component is working but has suffered a non-fatal fault, or one of its subcomponents is troubled or out-of-service. N is the criticality of the most important subcomponent affected, if not that of the component itself.
Acknowledged	ACKED	The component has been put in acknowledged state and no other faults are apparent.

(Sheet 1 of 2)

Table 89 (Continued)
Propagated state values

Propagated state value	Label	Meaning
Maintenance	MTCE	The component has been put into maintenance state
Hierarchical Maintenance	HIER_MTCE	One of the component's parents has been put in maintenance state.
(Sheet 2 of 2)		

Propagated values are computed by the Surveillance Network Updater (SURNUP). In addition, the operator can assign the following state values:

Acknowledged

In the Acknowledged state, a component's true raw state is masked. The component behaves as though it is in-service (that is, if other related components are troubled, the component's Propagated state reflects this). If no troubled-related components exist, the Acknowledged component displays an ACKED propagated state instead of INSV. If at least one endpoint of a link is ACKED and the others are ACKED, INSV, or UNKNOWN, the link also displays an ACKED propagated state. As soon as another raw state change is received from the network for the component (through alarms or other network management data), the Acknowledged state is automatically removed; the new raw state is applied and propagated. The Acknowledged state therefore acts as a temporary Maintenance state. See "Putting a component into Acknowledged state" (page 543) for procedures.

Maintenance

In the Maintenance state, a component's true raw state, and that of its subcomponents, are masked. The component displays a propagated state of MTCE (its children display HIER MTCE). In contrast to the Acknowledged state, components in the Maintenance state ignore any additional raw state change from the network. The component can only be removed from the Maintenance state manually or when the model is reloaded. See "Putting a component into Maintenance state" (page 543) for procedures.

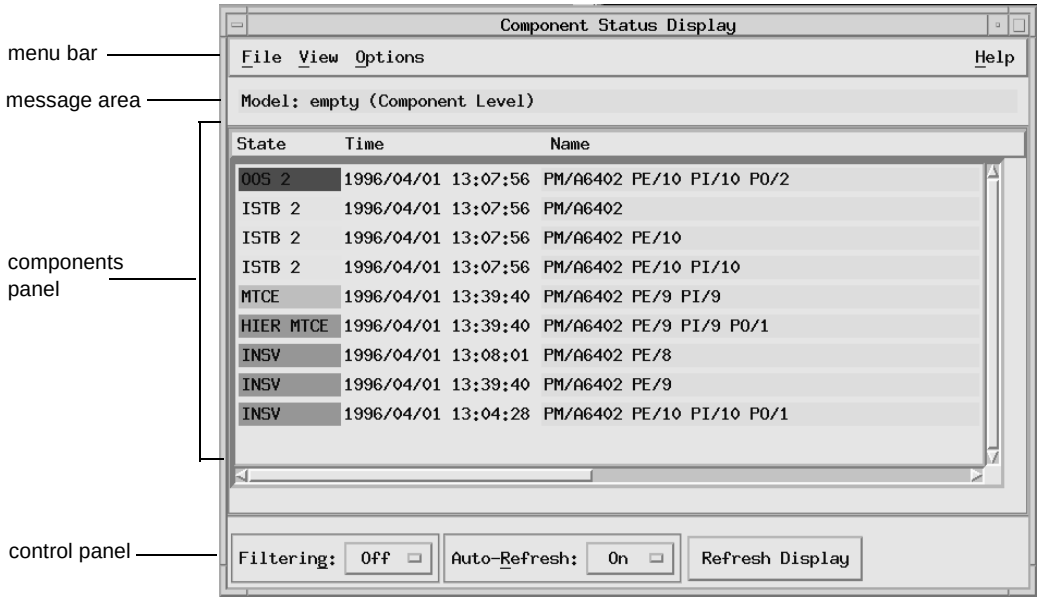
Component Status Display main window

The Component Status Display main window is divided into the following areas:

- “Menu Bar” (page 524)
- “Message area” (page 526)
- “Components Panel” (page 526)
- “Control panel” (page 531)

The figure “Component Status Display main window” (page 524) shows a sample Component Status Display main window.

Figure 46
Component Status Display main window



Menu Bar

The menu bar contains the following command menus:

- “File menu” (page 525)

File menu

The File menu contains the following command:

- **Exit** closes the Component Status Display and its dialogs. If any Preference or Component Filter settings are modified, a dialog opens and prompts you to save either, both, or none of these settings before exiting. You can also close the dialog without exiting.

View menu

The View menu contains the following commands:

- **Select Organization** displays the available organizations and lets you choose a new organization from the current network model. Select the desired organization, then choose the *Open Organization* menu item on the display, or simply double-click on the organization. All region nodes in the selected organization are displayed.
- **Show Region Level** displays all region nodes in the current organization.
- **Show Site Level** displays all site nodes in the current organization.

  Note: If you expand downwards (that is, the current display shows regions), you see only sites that are under the selected region(s). If no selected regions are in the list, all sites in the selected organization are shown.

- **Show Module Level** displays all module nodes in the current organization.

  Note: If you expand downwards (that is, the current display shows sites) you see only modules that are under the selected site(s). If no selected sites are in the list, then all modules in the selected organization are shown.

- **Show Component Level** displays all component nodes in the current organization.

Note: If you expand downwards (that is, the current display shows modules), you see only components that are under the selected module(s). If no selected modules are in the list, then all components in the selected organization are shown.

Options menu

The Options menu contains the following commands:

- **Change Component Filter Settings…** opens the Component Filter Settings Dialog to allow you to modify, save, and restore these settings.
- **Change Preference Settings…** opens the Preference Settings Dialog to allow you to modify, save, and restore these settings.

Help menu

The Help menu contains the following commands:

- **Help on Window** displays descriptive information about the Component Status Display window components.
- **What's This?** displays information about a selected area of the Component Status Display window.

Message area

The Message Area displays the name of the network model, the level that is currently being displayed (that is, the Region, Site, Module, or Component) and the number of components in the current list. The number of components may be a subset of the total at the given level, if filtering is turned on. This area is also used for displaying a user prompt that indicates you need to select a new organization. This prompt could be the result of your request to choose a new organization, or the result of a new network model being loaded while Component Status Display is running.

Components Panel

The Components Panel lets you monitor components at a particular level. This panel takes its information from the Network Model Coordinator and displays it in a format similar to that of the Related Components Panel of the Component Information Viewer.

The Components Panel lists components at a particular level within the organization (region, site, module, and component). For example, you can monitor only the components that meet a selected state criteria (if filtering is turned on) based on a specified sort criteria. Even with filtering turned off, you can view a subset of components at a particular level by selecting a subset of components at one level and requesting to view a lower level. For example, you can select a set of *Site* components and then ask to view the *Module* level. In this case, only the modules that are found under the selected sites are displayed at the Module Level. Then filtering can be used to further reduce the displayed list.

Component fields

The following fields are provided for each component listed in the Components Panel:

- *State* displays the component Propagated state by name and color. The colors and names are the same as those used by the Network Viewer. See "Propagated state values" (page 522) for more information about the displayed states.
- *Time* displays the date and time of the last Propagated state change that the component has undergone. If no state change has yet occurred, this field displays the string *Never Changed*.
- *Component* displays the actual component display name.

Component filtering

You can filter the contents of the Component Panel based on the components' Raw or Propagated states, and component types. Component filter settings are modified through the *Component Filter Settings Dialog*, which can be opened from the *Options* menu; filtering is turned *On* or *Off* by means of the *Filtering* option button. Filtering is disabled at the Region Level and Site Level, and when organizations are displayed.

Context

When a component is selected in the Components Panel, its name is automatically put into hot context. Any tools that are running and are set up to respond to a change in hot context automatically home to the selected component.

Pop-up menu

The Components Panel contains a pop-up menu that displays the following commands:

- *Open Organization* opens (loads) the selected organization, clears the contents of the Components Panel, and displays the Region components for the selected organization.

  Note: The Components Panel displays components at a particular level within the current organization. It also displays a list of the available organizations within the network model. Therefore, this menu item is only enabled when the Components Panel contains a list of organizations.

- *Show Region Level* clears the current contents of the Components Panel and populates it with the regions in the current network model. This is subject to filtering and the current selection.
- *Show Site Level* clears the current contents of the Components Panel and populates it with the sites in the current network model. This is subject to filtering and the current selection.
- *Show Module Level* clears the current contents of the Components Panel and populates it with the modules in the current network model. This is subject to filtering and the current selection.
- *Show Component Level* clears the current contents of the Components Panel and populates it with the components found in the current network model. This is subject to filtering and the current selection.
- *Set Acknowledge State On/Off* puts a component in the Acknowledged state or removes it from the Acknowledged state.

  If the component is a module or subcomponent, holds a Troubled Raw state (OOS or ISTB) and is not already in the Acknowledged or Maintenance state, the Components Panel pop-up menu shows the *Set Acknowledge State On* command. Selecting the command puts the component in the Acknowledged state and triggers a refresh of the Components Panel. Since this refresh may be done automatically before the operation is complete, the resulting display might only reflect a transitional state. If in doubt, refresh the panel again within a few seconds.

If the component is already in the Acknowledged state, the pop-up menu shows the *Set Acknowledge State Off* command which, when selected, removes the component from the Acknowledged state and refreshes the Components Panel.

If none of the outlined conditions exists, the pop-up menu shows the *Set Acknowledge State On* command in a disabled state.

- *Set Maintenance State On/Off* puts a component in the Maintenance state or removes it from the Maintenance state.

  If the component is not already in the Maintenance state (MTCE or HIER MTCE), the pop-up menu shows the *Set Maintenance State On* command. Selecting the command puts the component and its subcomponents into the Maintenance state and triggers a refresh of the Components Panel. Since this refresh may be done automatically before the operation is complete, the resulting display might only reflect a transitional state. If in doubt, refresh the panel again within a few seconds.

  If the component is already in the Maintenance state (MTCE only), the pop-up menu shows the *Set Maintenance State Off* command which, when selected, removes the component and its subcomponents from the Maintenance state and refreshes the Components Panel.

  If none of the outlined conditions exists, the pop-up menu shows the *Set Maintenance State On* command in a disabled state.

- *Start Tool* opens a menu that lists various categories of tools and utilities that you can start from Component Status Display.
- *Copy* copies the text of an item selected in the Components Panel to the Primary Selection (accessed with the middle mouse button in a text field) and the Clipboard (accessed with the Paste Edit menu items).
- *Copy All* copies the text of all items in the Components Panel to the Primary Selection (accessed with the middle mouse button in a text field) and the Clipboard (accessed with the Paste Edit menu items).

Filtering option button

The *Filtering* option button lets you activate or deactivate the Components Panel component filtering. This button provides the following options:

- *On* enables component filtering. Only the components that match the current filter settings are displayed in the Components Panel.
- *Off* disables component filtering.

Note: The value of this option button is part of the Component Status Display Preference Settings, and is saved and restored with the other settings. The Filtering state is, therefore, persistent across Component Status Display invocations. See "Changing the Component Filter Settings" (page 544) for procedures. See "Using previously saved filter settings" (page 545) to reverse the procedures.

Component Status Display supports these forms of component state filtering:

- filtering on Troubled Raw states
- filtering on Propagated states and Criticalities

If filtering on Troubled Raw states is selected, only components that currently hold a Troubled Raw state (OOS or ISTB) are displayed (the components for which the network sends MDM information indicating a fault). If Propagated State Filtering is selected, you can specify the specific (Propagated) states and state criticalities to be displayed. You need to select at least one state and one state criticality.

Each type of state filtering is subject to the component types that are currently selected. You need to select at least one component type.

To change the current component filter settings, open the *Component Filter Settings Dialog* from the *Options* menu.

Auto Refresh option button

The *Auto-Refresh* option button turns on or turns off automatic refreshing of the Component Panel at a scheduled interval. This interval is set in the *Preference Settings Dialog*.

The options for the Auto-Refresh option button are

- *On* enables Auto-Refresh.
- *Off* disables Auto-Refresh.

Note: When the network model changes, the network model Coordinator notifies the Component Status Display of the change. The Component Status Display automatically refreshes its Components Panel. Auto-Refresh does not apply to the Components Panel when organization components are displayed.

Refresh Display Button

The *Refresh Display* button forces an immediate refresh of the Components Panel. If the *Auto-Refres*h button is currently set to *On*, and the refresh triggered by the *Refresh Display* button is complete, the refresh timer is reactivated.

Control panel

The Control Panel provides controls that apply to it, namely the *Filtering* and *Auto-Refresh* controls, and the *Refresh Display* command button. The values of controls contained within the Panel can be saved across Component Status Display invocations as part of the Preference Settings.

Keyboard shortcuts

The Component Status Display provides the following keyboard shortcuts:

- *Ctrl + E* closes the Component Status Display tool and its dialogs.
- *Ctrl + 0* executes the *Select Organization* command.
- *Ctrl + G* executes the *Show Regional Level* command.
- *Ctrl + I* executes the *Show Site Level* command.
- *Ctrl + M* executes the *Show Module Level* command.
- *Ctrl + C* executes the *Show Component Level* command.

For details on the commands run by the *Ctrl + 0, G, I, M,* and *C* options, see “View menu” (page 525).

Component Status Display dialogs

The Component Status Display provides the following dialogs:

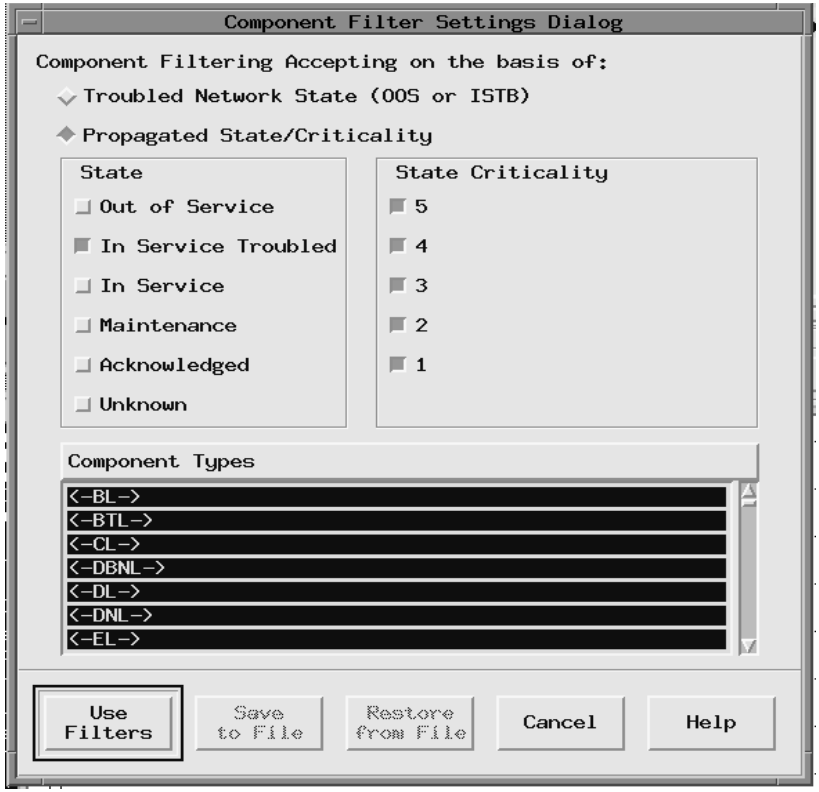
- “Component Filter Settings Dialog” (page 532)
- “Preference Settings Dialog” (page 534)
- “Exit CSD Dialog” (page 537)
- “Warning and error dialogs” (page 538)

Component Filter Settings Dialog

The *Component Filter Settings Dialog*, sets up the Component Status Display so that it displays the component status for one or more component types. The component status is based on the raw state Troubled, or on the propagated state and criticality.

The figure “Component Filter Settings Dialog” (page 533), shows a sample Component Filter Settings Dialog.

Figure 47
Component Filter Settings Dialog



If you select T*roubled Network State (OOS* or *ISTB)*, only components that currently hold an out-of-service (OOS) Troubled Raw state or an in-service Troubled Raw state (ISTB) are displayed. These are components for which the network sent the Preside Multiservice Data Manager (MDM) information indicating a fault.

If you select *Propagated State/Criticality*, you can select the specific (propagated) states and state criticalities to be displayed. You need to select at least one state and one state criticality.

Each type of state filtering is subject to the component types that are currently selected. You need to select at least one component type.

The Component Filters Setting Dialog buttons provide the following functions:

- *Use Filters* applies the new settings to the main Component Status Display main window and closes the dialog. If *Filtering* is already *On*, the Components Panel immediately refreshes to display the new settings. Applied settings are not automatically saved to file (see *Save to File* button).
- *Save to File* saves the current settings to file *$HOME/MagellanNMS/CSDCompFilt.cfg*. The settings are not automatically applied to the main Component Status Display window (see *Use Filters* button). If the settings cannot be saved, an error dialog is displayed.
- *Restore from File* restores the settings from file *$HOME/MagellanNMS/CSDCompFilt.cfg*. Restored settings are applied to the dialog but not to the main Component Status Display window (see *Use Filters* button). If the settings cannot be restored, an error dialog is displayed.
- *Cancel* closes the dialog. Closing the dialog neither applies nor saves the settings (click *Use Filters* or *Save to File* first).

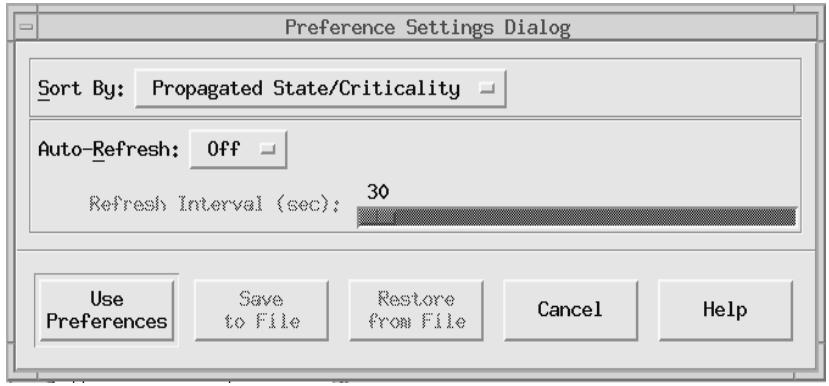
Preference Settings Dialog

The *Preference Settings Dialog* lets you

- sort information displayed for components based on the Propagated state and Criticality, or the time of the last state change
- turn on or turn off the *Auto-Refresh*
- set the refresh interval for the component status displayed with the tool

See the figure “Preference Settings Dialog” (page 535) for an overview of the dialog.

Figure 48
Preference Settings Dialog



The *Preference Settings Dialog* buttons provide the following functions:

- *Sort By* controls the sort key used by the Component Status Display for displaying the components in the Components Panel. This button provides the following options:
  - — *Component Name* sorts the Components Panel in ascending order by component name.
  - — *Propagated State/Criticality* sorts the Components Panel based on the predefined State/Criticality order listed in the table “State/Criticality label definition” (page 535).

Table 90
State/Criticality label definition

State/Criticality	Label
1. OOS (5-1)	Out of Service
2. ISTB (5-1)	In Service Troubled
3. ACKED	Acknowledged
4. MTCE	Maintenance
5. HIER MTCE	Hierarchical Maintenance
6. INVS	In Service

(Sheet 1 of 2)

Table 90 (Continued)
State/Criticality label definition

State/Criticality	Label
7. UNKNOWN	Unknown
8. INVALID	Invalid
(Sheet 2 of 2)	

Time of Last State Change sorts the Components Panel in descending order by the date/time that the component is last changed. The last component to have changed state appears at the top of the panel. Components that never changed state (that is, the time value is *Never Changed*) always appear at the end of the list.

See "Setting the sort key for the components list" (page 546) for procedures.

- *Auto-Refresh* turns on or turns off automatic refreshing of the Components Panel. This button provides the following options:
  - — *On* enables *Auto-Refresh* and the *Refresh Interval* scale.
  - — *Off* disables *Auto-Refresh* and the *Refresh Interval* scale.

  Note: Turning on and turning off *Auto-Refresh* is also controlled from the Control Panel in the main window.

- *Refresh Interval* controls the number of seconds between refreshes when *Auto-Refresh* is enabled. The scale allows you to set the interval between refreshes to a value from 30 to 600 seconds (1/2 to 10 minutes).

  To set the interval with the scale, see the procedures in "Setting the Auto-Refresh interval" (page 547).

- *Use Preferences* applies the new settings to the main Component Status Display window and closes the dialog. If any of the settings change, the Components Panel refreshes. Applied settings are not automatically saved to file; you need to save them using the *Save to File* button.

- *Save to File* saves the current dialog's Preference Settings to file *$HOME/MagellanNMS/CSDPrefs.cfg*. This file is automatically restored when the Component Status Display starts up and maintains your saved settings across Component Status Display invocations.

  The settings are not automatically applied to the Components Panel; you need to apply them using the *Use Preferences* button.

  Note: When you sort by *Propagated State/Criticality*, you cannot rearrange the predetermined order of states.

- *Restore from File* retrieves the preferences that are stored in *$HOME/MagellanNMS/CSDPrefs.cfg.* This button does not automatically apply the preferences that have been retrieved. You need to apply them using the *Use Preferences* button.

Exit CSD Dialog

If you close the Component Status Display and do not save modified preference or component filter settings to their respective user-files, the Exit Component Status Display dialog opens. This dialog provides the following buttons and choices:

- *Exit and Save* saves the preferences or settings to a file and closes the Component Status Display Tool and its dialogs.
- *Exit without Saving* closes the Component Status Display Tool and its dialogs without saving the preferences or settings to a file.
- *Cancel Exit* aborts the exit.

See the figure "Exit CSD dialog window" (page 538) for an overview of the Exit dialog.

Figure 49
Exit CSD dialog window

Warning and error dialogs

The Components Status Display provides a number of warning and error dialogs. If a warning or an error dialog opens, take the action indicated.

Save Settings Error Dialog

The *Save Settings Error Dialog* indicates that the preference or component filter settings (or both) could not be saved to their use-specific files (CSDPrefs.cfg and CSDCompFilt.cfg respectively in the user's home account under the directory *MagellanNMS*). Possible reasons for this failure are

- the home directory or the configuration files are protected (no write permission)
- there is insufficient disk space in the home directory

Ensure that the files and home directory have write permission and that enough disk space is left; then retry the operation.

Restore Settings Error Dialog

The *Restore Settings Error Dialog* indicates that the preference or Component Filter Settings (or both) could not be restored from their user-specific files (CSDPrefs.cfg and CSDCompFilt.cfg respectively in the user's home account under the directory *MagellanNMS*). Possible reasons for this failure are

- the home directory or the configuration files are protected (no read permission)
- the files do not exist

- the files exist but their contents are not recognized

If files exist in the home directory and in *MagellanNMS* directory ensure that they have read permission. If the files do not exist, or if they exist but their contents are not recognized, recreate the appropriate settings using the Component Filter and Preference Settings dialogs; then save them again.

Maximum Components Warning Dialog

This *Maximum Components Warning Dialog* warns you that the Component Status Display may take a few minutes to display the list of components that you requested.

No Network Model Coordinator Error Dialog

The *Network Model Coordinator Error Dialog* indicates that the Component Status Display cannot establish a connection to the Network Model Coordinator. After the Component Status Display closes, verify whether or not the Network Model Coordinator is running. If it is not running, start with the Server Manager Administration Tool (if you have access to it), or contact your system administrator for assistance.

Network Model Access Error Dialog

The *Network Model Access Error Dialog* indicates that the Component Status Display cannot access the network model. Most likely, the Network Model Coordinator is running, but a network model is not loaded in shared memory. Verify whether or not a network model is loaded. If it is not loaded, load one, or contact your system administrator for assistance.

Service Selection Warning Dialog

The *Service Selection Warning Dialog* indicates that your workstation has been renamed to a new network model host. This affects only tools such as the CIV that use the Network Model Server to access the LAN-selected host. However, the Component Status Display is unaffected since it uses only the local network model that runs on your workstation.

No Model Error Dialog

The *No Model Error Dialog* indicates that the network model is either empty or corrupted. Verify that a network model is loaded in shared memory. If it is not loaded, load one. However, if a network model is already loaded, reload the model, or contact your system administrator for assistance.

Lost Connection Error Dialog

The *Lost Connection Error Dialog* indicates that the Component Status Display has lost its connection to the Network Model Coordinator. The most likely cause is that the Network Model Coordinator has terminated. Verify whether or not the Network Model Coordinator is running. Either restart or contact your system administrator for assistance.

Model Locked Error Dialog

The *Model Locked Error Dialog* indicates that the Component Status Display is attempting to access the network model while it is locked by another network model application. The network model is probably being updated; therefore, retry the command that you were attempting. If this dialog appears after successive attempts, you may want to contact your system administrator for assistance.

Organization Not Found Error Dialog

The *Organization Not Found Error Dialog* indicates that the Component Status Display cannot locate the selected organization in the network model that is currently loaded in shared memory. The organization may have been deleted by another network model application while you were running the Component Status Display. Choose *Select Organization* from the *View* menu to get an updated list of the available organizations in the network model. Select and open one of the organizations on the list.

Component Status Display procedures

You can perform the following tasks with the Component Status Display:

- "Starting the Component Status Display" (page 541)
- "Refreshing the Components Panel" (page 541)
- "Choosing a new organization" (page 542)
- "Putting a component into Acknowledged state" (page 543)
- "Putting a component into Maintenance state" (page 543)
- "Changing the Component Filter Settings" (page 544)
- "Exiting the Component Status Display" (page 545)

Starting the Component Status Display

Your system administrator may have the Component Status Display configured to open automatically. If not, you can open the Component Status Display tool from the fault management toolset.

> ***Note:*** The Component Status Display does not use the network model server referred to by the current service selection. The Component Status Display needs to run on the same workstation as the network model shared memory.

Starting the Component Status Display tool

1 In the Preside MDM Toolsets window, select Fault -> Component Status Display

The Component Status Display window opens. Any preferences that were saved to a file during a previous session are automatically used.

Refreshing the Components Panel

You can refresh the Components Panel

- manually by using the *Refresh Display* button in the Main Window at any time
- automatically by using the Auto-Refresh feature. Auto-Refresh updates the contents of the Components Panel based on the interval that you set in the *Preferences Settings Dialog.* After you set the interval, you can activate it from the *Preference Settings Dialog* or from the main window.

When the network model changes, the Network Model Coordinator notifies the Component Status Display of the change. The Component Status Display then automatically refreshes the Components Panel.

> ***Note:*** You cannot apply the Auto-Refresh feature to the Components Panel while organization components are displayed.

Activating and deactivating Auto-Refresh from the Main Window

Use this procedure to activate or deactivate *Auto-Refresh* from the Component Status Display window. For instructions to set the Auto-Refresh interval and activate it from the *Preferences Setting Dialog*, see “Setting the Auto-Refresh interval” (page 547).

1 Select *On* from the *Auto-Refresh* option button to turn the function on, or select *Off* to turn the function off.

On appears next to the button to indicate that the function is activated or Off to indicate that the function is deactivated.

Choosing a new organization

The network model can contain one or more organizations. Depending on the number of organizations present, the following actions can occur:

- **One organization** The Component Status Display automatically opens the organization and displays all regions within the organization.
- **Two organizations** If the first organization is *DEFAULT ALL*, the Component Status Display automatically opens the other organization; otherwise, it opens *DEFAULT ALL*.
- **More than two organizations** Component Status Display displays a list of all available organizations found in the network model and then prompts you to select and open one. Select the desired organization and choose *Open Organization* from the Components Panel pop-up menu. All the regions within the selected organization are displayed. If more than one organization is displayed, you can switch to a different organization by following the procedure "Choosing and opening a new organization" (page 542).

  Note: You can also specify an organization value as a parameter in the startup command for the tool, by using the *-O* option. For example, the command */opt/MagellanNMS/bin/csd -O "DPN R3_ORG" &* starts the Component Status Display and tells it to open the organization *DPN R3_ORG*. The region records for this organization are automatically shown when the Component Status Display starts.

Choosing and opening a new organization

1 From the *View* menu select *Select Organization*

The organizations appear in the Components Panel.

2 From the pop-up menu in the Component Panel, select *Open Organization*.

The organizations are automatically replaced by the region records for the selected organization.

Putting a component into Acknowledged state

The Acknowledged state temporarily hides the current troubled state of a component (as indicated by the network). When a component is acknowledged, it acts as though it is in an In-Service state. If no other related components are troubled, the acknowledged component displays a state of ACKED instead of In-Service. When the component changes state, the acknowledgment is automatically removed and the real state of the component is shown. Only troubled modules and subcomponents (from the network) can be put into the Acknowledged state. For more information on the Acknowledged state, see 241-6001-015 *Preside MDM Network Model Administrator Guide*.

Note: You can put a component into the Acknowledged state by acknowledging all active alarms against the component.

Putting a component into and taking it out of the Acknowledged state

1. In the Components Panel, click on the component you want to put into the Acknowledged state.

   The component is highlighted.

2. From the pop-up menu in the Components Panel, select *Set Acknowledged State On*.

   The next time the menu appears, the command changes to *Set Acknowledged State Off*.

   Note: You can also put a component into the Acknowledged state by acknowledging all active alarms against the component using the *Start Tool* menu.

3. From the pop-up menu, select *Set Acknowledged State Off* to remove the component from the Acknowledged state.

Putting a component into Maintenance state

Maintenance state permanently hides the current troubled state of a component. When a module or component is put into maintenance, its state is propagated downwards. For more information on the Maintenance state, see 241-6001-015 *Preside MDM Network Model Administrator Guide*.

Putting a component into Maintenance state

1. In the Components Panel, click on the component you want to put into the Maintenance state.

The component is highlighted.

2 From the Components Panel pop-up menu, select *Set Maintenance State On.*

Note: The next time the menu is displayed, the command changes to *Set Maintenance State Off*. Select this new command to remove the components from the Maintenance state.

Changing the Component Filter Settings

You can modify the Component Status Display to reduce the amount of information displayed in the Components Panel using the *Component Filter Settings Dialog*. For information about the items in this dialog, see "Component Filter Settings Dialog" (page 532).

You can use the component filter settings in these ways:

- You can set the components filter parameters and use them immediately. or, you can also save the settings to a file for reuse.
- You can retrieve previously stored filter settings from a file and use them.

Setting component filtering from the Component Filter Settings Dialog

Use this procedure to set the component filter parameters from the Component Filter Settings Dialog and to save the settings to the *CSDCompFilt.cfg* file in your *$HOME/MagellanNMS* directory.

1 Ensure that *Filtering* is turned to *On* in the Component Status Display main window.

2 From the *Options* menu, select *Change Component Filter Settings*

The Component Filter Settings Dialog opens.

3 Click on *Troubled Network State* or *Propagated State/Criticality*.

4 If you click *Propagated State/Criticality*, select one or more *States* and one or more *Criticality* values.

Note: The criticality values, which range from 1 (lowest) to 5 (highest), are used only for the In-Service Troubled and Out of Service states.

5 Select one or more components that you want to filter from the component types list. All component types are automatically selected by default.

To add a component to your existing selection, press Control and click on the component you wish to add.

To add a contiguous group of components, click on one component, then drag the mouse to select the other components. Alternatively, click on the first component and on the last component; all components between them are selected automatically.

6 Select *Save to File* to permanently save the filter settings to the *CSDCompFilt.cfg* file in your *$HOME/MagellanNMS* directory.

7 Select *Use Filters* to apply the new filter settings.

If filtering is turned to *On* in the Component Status Display main window, the newly filtered components are displayed in the Components List.

Note: Any changes made to the filter settings are lost if you do not apply them before closing. The last set of applied filters are displayed the next time the dialog is opened.

8 Click *Cancel* to close the dialog.

Using previously saved filter settings

Use this procedure to retrieve and apply previously stored filter settings. The settings are restored from the *CSDCompFilt.cfg* file in your *$HOME/MagellanNMS* directory.

1 From the *Option*s menu, select *Change Component Filter Settings….*

The Component Filter Settings Dialog window opens.

2 Click *Restore from File*.

The restored settings are displayed in the dialog.

3 Click *Use Filters* to apply the filter settings to the Component Status Display main window.

The restored settings are applied to the Component Status Display main window.

Exiting the Component Status Display

To close the Component Status Display and all its dialogs, select *Exit* from the *File* menu.

If you have made modifications in the Component Filter Settings Dialog or the Preferences Setting Dialog but did not save them, the Exit CSD dialog opens. For details about this dialog and the choices it provides, see "Exit CSD Dialog" (page 537).

Setting Component Status Display preferences

The *Preference Setting Dialog*, described in "Preference Settings Dialog" (page 534), lets you tailor the Component Status Display main window and perform the following functions:

- set the Sort key
- turn Auto-Refresh on or off
- set the Auto-Refresh interval
- save the preferences to a file or restore them from a file
- apply the settings to the main window

Setting the sort key for the components list

Use this procedure to set up the sort key to sort components according to Troubled Network state, Propagated State/Criticality, the component name, and the time that the component is last modified.

1 From the *Options* menu, select *Change Preference Settings*

The Preference Settings Dialog opens.

2 From *Sort-By,* select one of the sort keys.

Note: When you sort by *Propagated State/Criticality*, you cannot rearrange the order of states. Also, *out-of-service* (OOS) and *in-service troubled* (ISTB) states are sorted in descending order from most critical (5) to least critical (1).

3 Click *Use Preferences* to apply the sort key to the Components Panel in the Component Status Display main window.

The Components Panel refreshes to show the components according to the specified sort order.

4 Select *Cancel* to close the dialog.

The Preference Settings Dialog closes.

Setting the Auto-Refresh interval

Use this procedure to set the interval at which information in the Main Window is refreshed.

You can set the interval to a value from 30 to 600 seconds. To set the value, click to the left or right of the slider to decrease or increase the setting by five-second increments; or, drag the slider to the left or right to decrease or increase the setting by one-second increments.

1. From the *Options* menu, select *Change Preference Settings*

   The Preference Settings Dialog opens.

2. Select *On* from the *Auto Refresh* option button.

3. Set the *Refresh Interval* to the desired number of seconds.

4. Select *Save to File* if you want to save the settings to the *CSDPrefs.cfg* file in your *$HOME/MagellanNMS* directory.

   The settings made in the dialog and preference settings that are exclusive to the Component Status Display main window, such as Filtering, are saved. The changes are not applied and the dialog remains open.

5. Click *Use Preferences* to apply these settings to the Component Status Display main window.

6. Click *Cancel* to close the dialog.

   The Preference Settings Dialog closes.

   Note: This preference setting is dependant on the *Auto-Refresh* preference being enabled. If *Auto-Refresh* is deactivated, the *Refresh Interval* is disabled.

Using previously saved preference settings

Use this procedure to retrieve and apply previously stored preference settings. The settings are restored from the *CSDPrefs.cfg* file in your *$HOME/MagellanNMS* directory.

1. From the *Options* menu, select *Change Preference Settings*

   The Preference Settings Dialog opens.

2. Click *Restore from File*.

   The restored settings are displayed in the dialog.

3 Click *Use Preferences* to apply these settings to the Component Status Display Main Window.

The restored settings are applied to the Component Status Display main window.

Customizing the Component Status Display

The Component Status Display lets you customize the following items:

- the Component List Start Tool menu
- other resources including
  - — colors associated with propagated states and problem states
  - — whether or not the problem states are shown in the Components Panel
  - — whether or not a bell rings upon error

Customizing the Components List Start Tool menu

For procedures on customizing the Start Tool menu for the Components Panel List, see the section on customizing the toolsets and Start Tools menus in 241-6001-301 *Preside MDM Customization Administrator Guide*.

To customize the Components Panel List Start Tool menu, copy the file */opt/MagellanNMS/lib/tsets/$LANG/tools/surv/* and save it in either *$HOME/MagellanN MS/tools/* for a single user customization or */opt/MagellanNMS/cfg/tsets/$LANG/tools/* for all users of a workstation

When you modify the file, use one of the following substitution variables in the command line:

- *$COMP*: the internal component name of the target
- *$DCOMP*: the display component name of the target

Customizing other resources

The table “Resources for color control of propagated states by Component Status Display” (page 549) lists the resources you use to control the colors associated with propagated states displayed by Component Status Display.

Table 91
Resources for color control of propagated states by Component Status Display

Resource	Description	Legal values
*stateOOS_1 *stateOOS_2 *stateOOS_3 *stateOOS_4 *stateOOS_5 *stateISTB_1 *stateISTB_2 *stateISTB_3 *stateISTB_4 *stateISTB_5 *stateACKED *stateMTCE *stateHIER_MTCE *stateINVS *stateUNKNOWN *stateINVALID moduleStateUNKNOWN	Specifies the state-to-color mapping used to indicate the current state of the components in the Components Panel (These are the same resources used for the NV.)	Any legal X windows color or specification. See 241-6001-301 *Preside MDM Customization Administrator Guide*.

Table 92
Resources for customizing the Acknowledgement/unacknowledgement Alarms Dialog

Resource	Description	Legal values
*AckAlarmDlog*userIdFieldField.editable	If True, the *User* field in the dialog used for acknowledging or unacknowledging alarms, can be modified. The default is False.	True or False
*AckAlarmDlog*commentData.maxLength	The maximum length of *Reason* text that can be specified when acknowledging or unacknowledging alarms. The default length is 256.	Any legal *Motif* value associated with the *MaxLength* resource.
CIV*differentModuleUnknownColor	If differentModuleUnknownColor is true, then the unknown color for the node at the module level is different from the default unknown.	True or False

The table “Resources for color control of problem states by Component Status Display” (page 551) lists the resources you use to control the colors associated with the problem states displayed by Component Status Display components.

Table 93
Resources for color control of problem states by Component Status Display

Resource	Description	Legal value
*stateNameOOS_1 *stateNameOOS_2 *stateNameOOS_3 *stateNameOOS_4 *stateNameOOS_5 *stateNameISTB_1 *stateNameISTB_2 *stateNameISTB_3 *stateNameISTB_4 *stateNameISTB_5 *stateNameACKED *stateNameMTCE *stateNameHIER_MTCE *stateNameINVS *stateNameUNKNOWN *stateNameINVALID	Specifies the state-to-name mappings used to indicate the current state of the components in the Components Panel. (These are the same resources used for the NV.)	Any legal character string. Caution must be exercised when modifying state names to ensure that the new name correctly and clearly identifies the state; otherwise, problem states could be shown for components which are in service and conversely.

Chapter 13
IP Discovery

Internet Protocol (IP) Discovery application is used to discover Simple Management Network Protocol (SNMP) devices.

Note: This document does not include software rollback procedures. See *Preside MDM Release Supplement*.

Navigation

Basic procedures

This section contains the following procedures:

Starting IP Discovery

Use this procedure to start IP Discovery without password protection.

To set a password, see “Setting a password for IP Discovery” (page 556).

Prerequisites

- The IP Discovery server must be running.

Procedure

1. From the **Preside MDM** window, select **Fault -> IP Discovery**.

   A warning dialog box opens informing the user that IP Discovery is in non-secure mode.

2. Click **OK**.

   The **IP Device Discovery** window is displayed.

Setting a password for IP Discovery

Setting a password for the IP Discovery tool increases the security of your network by adding a layer of protection to your network settings. The network settings control access to the devices. Accessing or changing network settings can disrupt network surveillance of these devices and cause potential security problems. By adding a password to IP Discovery, you are decreasing the chances that an unauthorized user could get access to your network settings.

Prerequisites

- You must be logged in as root to set the password for IP Discovery.

Procedure steps

1. From the **Fault** menu, click **IP Discovery.**

   The **IP Device Discovery** window opens.

2. From the **Security** menu, click S**et/Change Password**.

   The **Set Password** dialog box opens.

3. Type a new password in the **New Password** field.

4. Type the same password again in the **Confirm Password** text field.

5. Click **OK**.

Starting IP Discovery with password protection

When you start IP Discovery any time after you have set a password, you will be starting with password protection.

To find out how to set a password, see “Setting a password for IP Discovery” (page 556).

Procedure steps

1. From the **Preside MDM** window, select **Fault -> IP Discovery**.

   The **User Logon** dialog box opens.

2. Enter the password and click **OK**

   If you do not enter the correct password after three attempts, the IP Discovery GUI shuts down.

Changing a password for IP Discovery

Changing passwords on a regular basis ensures that your network settings remain secure from unauthorized users. You should also change your passwords when you feel that your network security might be compromised by events such as changes in your network or organization.

Attention!

If another user is running an IP Discovery session when you change the password, that user will be prompted to relogin and enter the new password.

Prerequisites

- You must be logged in as root to reset the password for IP Discovery.

Procedure steps

1. From the **Preside MDM** window, select **Fault -> IP Discovery**.

   The **IP Device Discovery** window opens.

2. From the **Security** menu, click S**et/Change Password**.

   The **Change Password** dialog box opens.

3. Type the current password in the **Old Password** field.
4. Type a new password in the **New Password** field.
5. Type the new password again in the **Confirm Password** field.
6. Click **OK**.

Disabling password protection for IP Discovery

Disabling password protection for IP Discovery may be necessary in situations where customers require non-secure access. This procedure removes the password protection file.

Prerequisites

- You must be logged in as root to reset the password for IP Discovery.

Procedure steps

1 From the command console, type the following command

`rm /opt/MagellanNMS/cfg/private/IPM.passwd`

Once this file is removed, the password for IP Discovery is disabled and it can be accessed in non-secure mode.

Discovering devices using direct discovery

Use direct discovery to discover a device by its hostname or by its IP address. You can use both hostnames and IP addresses in one discovery session. See “Discovery window” (page 586) for more information.

Procedure steps

1. From the **IP Device Discovery** window, select **Device -> Discover.**

   The **Discovery** window opens.

2. In the **Method** field, select **Direct**

3. Enter the device you wish to discover by one of the following methods:

   a. Type the IP address or hostname in the **IP Address** field. If you are discovering more than one device, separate the IP addresses and hostnames with a comma.

   b. Click **Load from** to open a seed file which contains IP addresses and hostnames of devices to be discovered.

4. When you have finished choosing the parameters, click **Start** to begin discovery.

   During the discovery process, the **Status** area shows the progress of the discovery as well as any errors.

   Note: Several options are available during direct discovery. You can specify the device type with which you want the device discovered by using the **Discover As** option.You can also specify the option to **Register to Receive Traps**. For more information on these options, see “Discovery window” (page 586).

Discovering devices using route-based discovery

Discover devices using route-based discovery in order to discover a network or part of it using an initial address or set of addresses as a starting point. See “Discovery window” (page 586) for more information.

Procedure steps

1. From the **IP Device Discovery** window, select **Device -> Discover**.

   The **Discovery** window opens.

2. In the **Method** field, select **Route based**.

3. Enter the device you wish to be used as a starting point for route-based discovery by one of the following methods:

   a. Type the IP address or hostname in the **IP Address** field. If you are using more than one starting point, separate the IP addresses and hostnames with a comma.

   b. Click **Load from** to open a seed file which contains IP addresses and hostnames of devices to be used as starting points.

4. When you have finished choosing the parameters, click **Start** to begin discovery.

   During the discovery process, the status area shows the progress of the discovery.

   Note: Several options are available during route-based discovery. In the **Exclude** field in the **Options** area, select the device types that you wish to exclude from the discovery. In the **IP Address Range** field in the **Options** area, enter the range of IP addresses to be discovered. Addresses outside of this range are ignored. For more information on these options, see “Discovery window” (page 586).

Deleting devices

The delete command deletes selected devices in the **Devices** tab. The delete command is only available when you select the **Devices** tab and there is at least one selected entry in the table.

Procedure steps

1. From the **IP Device Discovery** window, select **Devices** tab.
2. Highlight one or more devices in the table. To select more than one device, do one of the following:
   - Press the **Shift** key and the left mouse.
   - Press the **Ctrl** key and the left mouse.
3. Right click on the item.
4. From the pop-up menu, select **Delete**.

   A dialog opens to confirm the delete request with the following options:

   - **Attempt device deletion from Network Model**
   - **Attempt trap deregistration with device**

   Note 1: The option **Attempt device deletion from Network Model** will delete a device from the Network Model, if possible, even if the option for automatic deletion of obsolete components in the surveillance update server SURNUP is disabled. This option may fail if the network model is not available for an update. This may occur if another user is in Edit mode in the Network Viewer when you attempt to delete the device. For more information, see the Surveillance Network Model Updater (SURNUP) section in the 241-6001-310 *Preside MDM Server Reference Guide*.

   Note 2: The option **Attempt trap deregistration with device** may significantly slow down the deletion process.

5. Click **OK** to delete the device.

   The selected device disappears from the table. If the deletion is unsuccessful, an error message is displayed.

   A log containing the result of the delete operation is created by default in /opt/MagellanNMS/data/log/ipm/ipDiscovery.out. For more information, see “Logging” (page 592).

   Note 1: The device may be deleted from the Network Model automatically if the fault servers support automatic deletion of obsolete components and the option for automatic deletion of obsolete

components is enabled in the surveillance updater server SURNUP. This is true even if **Attempt device deletion from Network Model** is not selected.

Note 2: A delete command may fail if the device cannot be found in the General Management Data Router (GMDR).

Updating devices

You can update a device when it changes its configuration and/or MIB information.

Procedure steps

1. From the **IP Device Discovery** window, select **Devices** tab.

   The currently managed devices list is displayed in the table.

2. Highlight one or more devices in the table. To select more than one device, press the **Shift** key.

3. Right click on the item.

4. From the pop-up menu, select **Update**.

   The updated devices are refreshed from the table. If the update is unsuccessful, an error message is displayed.

   Note: An update command may fail if the device cannot be found in the General Management Data Router (GMDR).

Finding devices

You can locate a device in the device table using a device name or IP address.

Procedure steps

1. From the **IP Device Discovery** window, select **Devices** tab.

   The currently managed devices list is displayed in the table.

2. Select the **Device -> Find Device**.

3. Input a device name or IP Address in the name field of the **Find Device** dialog.

4. Press the **Find** button or press Enter to locate the row with the matching device.

5. To continue searching for another match in the table, press **Find** again.

6. Press **Close** to close the **Find Device** dialog.

   Note: The Find functionality searches the table from the first row to the very end of the table; however, if a row is selected before **Find** is used, the searching begins from the selected row to the end of the table and wraps around.

Saving device IP addresses to a file

Save device IP addresses of a specific device type to a file for record keeping and organizational purposes.

Procedure steps

1. From the **IP Device Discovery** window, select **Devices** tab.

   The currently managed devices list is displayed in the table.

2. Select the **File -> Save As**.

3. In the **Save Devices** dialog, type a file name in the Enter file name field or click **Browse...** to select a file from the **Save** dialog.

4. Select a device type from the **Select Device Type** pull-down.

5. Click **Save** to save the IP addresses for the specified device type to the file.

Adding an address

You can add a polling or trap address (depending on the device cartridge's capabilities) to the address list for a specified device.

Procedure steps

1. From the **IP Device Discovery** window, select **Devices** tab.

   The currently managed devices list is displayed in the table.

2. Highlight one device from the table.

3. From the **Device** menu, select **AddAddress**. You can also right-click the device and select **AddAddress** from the pop-up menu.

   The **AddAddress** dialog opens.

   Note: If multiple address capability is not supported, a dialog opens indicating that multiple addressing is not supported by the device cartridge. In this case, you will not see the **AddAddress** dialog.

4. In the **IP Address** field, type in the IP Address of the device you wish to add.

5. In the **Community** field, type in the Read community string of the device you wish to add (for example, public).

6. In the **Type** field, select **Trap** or **Poll**.

   Note: The options in the **Type** field depend on the device cartridge's capability. You may see Trap or Poll, or both Trap and Poll.

7. Click **Add**.

   A message at the bottom of the **IP Device Discovery** window informs you when the address is added.

Creating a network setting

Create network settings to add a new network device and its attributes.

Prerequisites

- To perform network settings procedures, you must be in edit mode. Only one person at a time can perform these procedures. For more information, see “Network Settings” (page 582)

Procedure steps

1. From the **IP Device Discovery** window, select **Network Settings**.

   The current network settings list is displayed.

2. From the **Edit** menu, select **Add Row**.

   A new row is added into the table.

3. Enter the network setting attributes:

   - **IP Address** or address range
   - **Read Community String**
   - **Read Write Community String** (optional)
   - **Port**
   - **Device Type** (optional)
   - **SNMP Version** (optional)

4. Select **File -> Save** to save the new settings into the network settings configuration file.

Changing network settings

Change network settings to restore communication with devices that are unreachable and are in an “unknown” state in MDM.

Prerequisites

- To perform network settings procedures, you must be in edit mode. Only one person at a time can perform these procedures. For more information, see “Network Settings” (page 582)

Procedure steps

1. From the **IP Device Discovery** window, select **Network Settings**.

   The current network settings list is displayed.

2. Select and highlight the row you want to modify.
3. Enter the network setting attributes:
   - **IP Address** or address range
   - **Read Community String**
   - **Read Write Community String** (optional)
   - **Port**
   - **Device type** (optional)
   - **SNMP Version** (optional)
4. Select **File -> Save** to save the new settings into the network settings configuration file and apply them.

Deleting network settings

Deleting network settings removes an entry from the list of network settings.

Prerequisites

- To perform network settings procedures, you must be in edit mode. Only one person at a time can perform these procedures. For more information, see “Network Settings” (page 582)

Procedure steps

1. From the **IP Device Discovery** window, select **Network Settings**.

   The current network settings list is displayed.

2. Highlight the entry or row you want to delete.

3. Select **Edit -> Delete Row(s).**

   Note: You can also right-click the item, and select **Delete Row(s)** from the pop-up menu.

4. Select **File -> Save** to save the new settings into the network settings configuration file.

Moving rows in network settings

You may need to change the order of network settings because the ordering is important in IP Discovery. See “Network settings during discovery” (page 591) for more information.

Prerequisites

- To perform network settings procedures, you must be in edit mode. Only one person at a time can perform these procedures. For more information, see “Network Settings” (page 582)

Procedure steps

1. From the **IP Device Discovery** window, select **Network Settings**.

   The current network settings list is displayed.

2. Highlight the row you wish to move.
3. Perform one of the following:
   a. To move a row up, select **Edit -> Move Row Up**.
   b. To move a row down, select **Edit -> Move Row Down**.
4. The highlighted row has moved up or down in the table.
5. Save the settings by selecting **File -> Save**.

Changing the IP Discovery log location

Use this procedure to change the location of IP Discovery logs.

Procedure steps

1. Close all instances of the IP Discovery application.
2. With root privileges, edit the file /opt/MagellanNMS/bin/ipDiscovery and set the values for MDM_IPM_OUT_FILE and MDM_IPM_ERROR_FILE to direct output to the desired log location.
3. Launch IP Discovery again.

IP Device Discovery window

The **IP Device Discovery** window contains the following areas:

- “Menu bar” (page 573)
- “Devices” (page 578)
- “Network Settings” (page 582)

Menu bar

The **IP Device Discovery** menu bar consists of the following menus:

- “File” (page 573)
- “Edit” (page 574)
- “Device” (page 575)
- “Security” (page 576)
- “Help” (page 577)

File

The following commands are available from the **File** menu:

Table 94
File menu commands

Command	Description
Save	Saves the current network settings. The Save option is greyed out when the Devices tab is selected.
Save As	Opens the Save Devices dialog which allows the user to save the IP addresses for devices of a specific type to a file. The Save As command is not available when the Network Settings tab is selected.
Exit	Closes the IP Discovery application. If there are unsaved changes, you are prompted to save the changes before exiting the application.

Edit

The following commands are available from the **Edit** menu:

Table 95
Edit menu commands

Command	Description
Add Row	Either adds a new row to the top of the list of settings profiles if no row has been selected, or adds a new row below an already selected row. The new entry does not have an IP address, but consists of default values for the other parameters. The Add Row command is only available when: • the network settings tab is selected • you are in edit mode
Move Row Up	Moves the selected row up one entry in the table. The Move Row Up command is only available when: • the network settings tab is selected • you are in edit mode • there is an entry in the table
Move Row Down	Moves the selected rows down one entry in the table. The Move Row Down command is only available when: • the network settings tab is selected • you are in edit mode • there is an entry in the table

Table 95
Edit menu commands

Command	Description
Delete Row	Deletes selected row(s). The Delete Row(s) command is only available when: • the network settings tab is selected • you are in edit mode • there is an entry in the table
Select All	Selects all devices or settings profiles depending on which tab is visible.
Deselect All	Deselects all devices or settings profiles, depending on which tab is visible.

Device

The following commands are available from the **Device** menu:

Table 96
Device menu commands

Command	Description
Discover	Opens the Discovery window. You can discover devices using the direct discovery or route-based discovery.
Refresh List	Rereads the list of SNMP-managed devices. The Refresh list command is only available when you select the Devices tab.
Update	Rediscovers the selected devices. The Update command is only available when you select the Devices tab, and there is a selected entry in the table.
Delete	deletes any selected devices in the **Devices** tab.

Table 96
Device menu commands

Command	Description
Add Address	Adds a polling or trap address to the address list for a specified device. The Add Address command is only available when you select the Devices tab, and there is a selected entry in the table. The Add Address command may fail if one of the following items occur: • the device profile does not allow this action (not supported in the device cartridge) • the address has been assigned to another device, and this device is currently using the address for polling The following attributes must be specified in the request: • there is an entry in the table • IP address • community string • address type (poll or trap)
Find Device	Locates a device in the device table using the device name or IP address. When Find Device is selected, a dialog box is displayed. You can enter a device name or IP address to search the Devices table. When the device is located, the row associated with the device is highlighted.

Security

The following command is available from the **Security** menu: (This command is only available when you are logged in as root.)

Table 97
Security menu commands

Command	Description
Set/Change Password	Displays the Set Password dialog box if you have never set a password for IP Discovery. If you have previously set a password for IP Discovery, this command displays the Change Password dialog box.

Help

Invoking a help command launches online documentation. The following command is available from the **Help** menu:

Table 98
Help menu commands

Command	Description
Discovery Help	Displays information on how to discover devices. This command is also available by clicking Help on the Discovery window
Network Settings Help	Displays information on how to use network settings.
Devices Help	Displays information on how to use Device menu options. You must have installed the MDM NTP package for these commands to work.

Save Devices dialog

The **Save Device** dialog allows a user to save all the IP addresses of a specific device type to a file.

Table 99
Save Devices dialog

Fields/Buttons	Description
Enter file name	Allows the user to specify a file name and path of the saved file.
Select Device Type	Displays a list of device types from a drop-down menu, and allows the user to select one.
Browse...	Displays the **Save** dialog.
Save	Saves the IP addresses of the specified device type to the specified file.

Save dialog

The **Save** dialog allows a user to select a directory and file to save IP addresses to.

Table 100
Save As dialog

Fields/Buttons	Description
File name	Allows the user to specify a file name.
Files of Type	Allows the user to specify a file type.
Save	Saves the file name to the Enter file name field in the Save Devices dialog.

Devices

The **Devices** tab is displayed by default when you launch the IP Discovery application. This window tab lists discovered devices that have an IP address and name. The fields are as follows:

Table 101
Devices fields

Command	Description
Name	Contains the Preside Multiservice Data Manager (MDM) assigned component ID for the device.
IP Address	Contains the management address used by Preside MDM to communicate with the device
Read Community String	Contains the community string used to query and poll the device.
SNMP Version	Contains the Simple Network Management Network Protocol (SNMP) version number that is used to query and communicate with the device. The SNMP version number is specified as SNMPv1 or SNMPv2c.

Note: The listing described is the default format by which the device information is displayed. You can display the information in any order by holding down the left mouse button on the heading, and moving it to the left or the right.

You can right click on a device to display a pop-up menu. From the pop-up menu, you can open the **Discovery** window, refresh the device list, update the device list or delete devices.

Note 1: The pop-up menu does not display if you do not select an entry.

Note 2: Discovery or deletion of a large number of devices may take quite a while to propagate to the IP discovery device list. Allow time for the changes to propagate, and then refresh the list to see these update.

Sorting devices

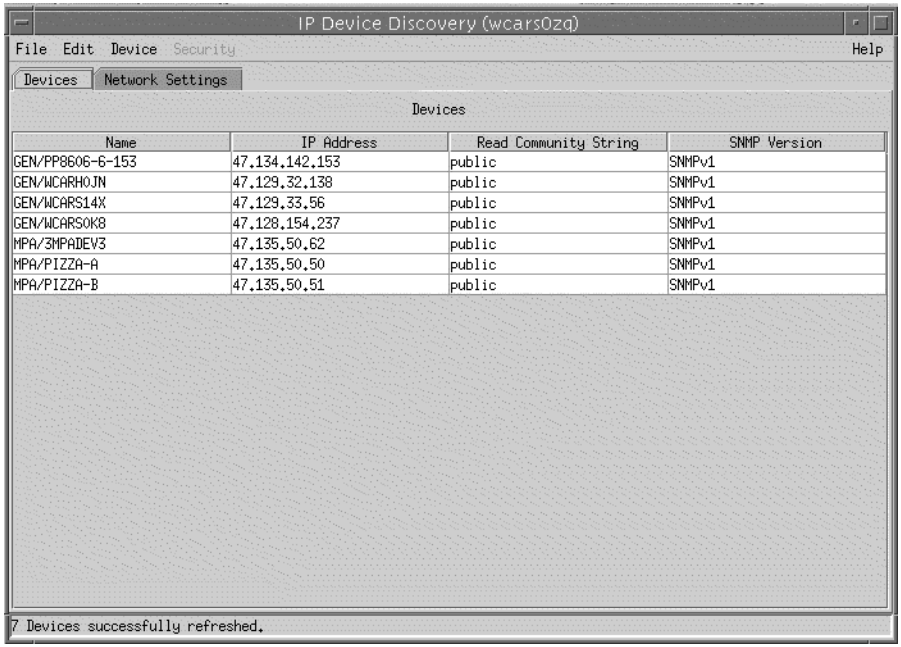
You can sort the listed devices by clicking one of the following headings:

Table 102
Sort fields

Command	Description
Name	sorts the devices alphabetically from top to bottom.
IP Address	Sorts the devices by IP address, with the smallest numerical IP address at the top.
Community String	Click on the **Read Community String** heading to sort the devices alphabetically from top to bottom.
SNMP Version	Sorts the devices by Simple Network Management Protocol (SNMP) version.

The figure “Devices tab” (page 581) shows the device fields

Figure 50
Devices tab



Network Settings

Network settings lets you add, delete, modify and rearrange SNMP read and read/write community strings and other attributes that control access to network devices.

Network settings can be edited by one user at a time. When the network settings tab is selected, you are put in edit mode, or in read-only mode if you are not the only person accessing this tab. One of the following messages is displayed in the status bar to indicate which mode you are in:

- **Viewing as read-only. Network settings currently locked by either another editing session or a discovery process.** This message indicates that another user is in edit mode, and that you can only view the network settings. You cannot modify the network settings in this mode.
- **Edit Network Settings. This** message indicates that you are in edit mode, and can modify the network settings.

When you exit the edit mode after making changes, a dialog prompts you to save the changes. If there is an error in an IP address field, a message is displayed, and you cannot proceed.

The network settings fields are as follows:

Table 103
Network Settings fields

Command	Description
IP Address	(includes wildcards) contains an IP address range specification used to match management addresses of devices as they are discovered, in order to determine its network settings. Examples of the valid pattern specifications are as follows: -134.177.125.31: matches the specified IP address -134.177.125.1-31: matches all addresses in the range 134.177.125.1 to 134.177.125.31 -134.177.125.*: matches all addresses in the range 134.177.125.1 to 134.177.125.255 -134.177.125-128.*: matches all addresses in the range 134.177.125.* to 134.177.128.* -*.*.*.*: matches all addresses.
Read Community String	Contains the community string used to query and poll the device.
Read Write Community String	Contains the write community string used to perform SNMP writes to the device. You can write to a device when the Register to Receive Traps option is enabled during the discovery of a device that supports the SNMP Target MIB, and the SNMP view based ACM MIB.
Port	Contains the port number to be used by SNMP for device discovery.

Table 103
Network Settings fields

Command	Description
Devices	Contains the type of devices supported by IP Discovery. If the device type is blank, this field matches against any device type.
SNMP Version	Contains the Simple Network Management Network Protocol (SNMP) version number that is used to query and communicate with the device. The SNMP version number is specified as SNMPv1 or SNMPv2c. • **SNMPv1** indicates that SNMP1 will be used to discover and manage the device. • **SNMPv2c** indicates that SNMP2c will be used to discover and manage the device. • a blank entry (**" "**) indicates that the SNMP version in the DCD will be used to manage the device.

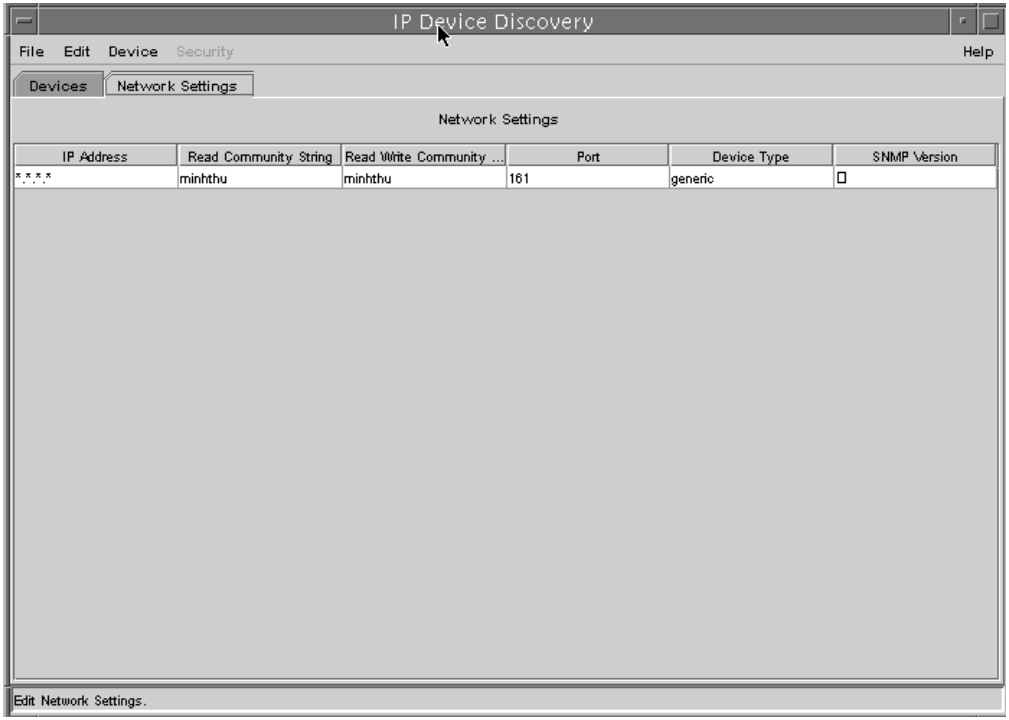
In edit mode, you can right click on a network setting to display a pop-up menu that displays the following:

- **Add Row**
- **Move Row Up**
- **Move Row Down**
- **Delete Row(s)**

Note: The pop-up menu does not display if you do not select an entry.

The figure "Network Settings tab" (page 585) shows the network settings fields.

Figure 51
Network Settings tab



Discovery window

The Discovery window opens when you select **Device -> Discover** from the **IP Device Discovery** window. The window is split in to three sections. The **Options** area is hidden by default. View the **Options** area by clicking on the splitter bar and dragging the bar to the desired location.

See the figure “Discovery window” (page 586), which shows the **Options** area.

Figure 52
Discovery window

Discovery window items

The following items are available on the Discovery window:

Table 104
Discovery window items

Command	Description
Method	Contains a pull-down menu to chose the device discovery type. The options are Direct and Route-based discovery.
IP Address	Lists the IP addresses or hostnames separated by a comma. When you select direct discovery, it lists the IP addresses or hostnames to be discovered. When you select route-based discovery, this field holds IP addresses or hostnames of seed devices. The IP Address field also contains the a pop-up menu.
Load from	Displays a file browser to let you select a file from which to read the IP addresses. The format of the file can be one of the following: • a comma separated list of hostnames and/or IP address • a host name or IP address entry per line without any punctuation (commas are allowed at the end of the line). An example of the file format is as follows: • 12.2.2.3 • 12.2.4.5 • xyz123

Table 104
Discovery window items

Command	Description
Register to Receive Traps	When you check this box, the discovery process attempts to register with the device to receive traps using the SNMP Target MIB specification in RFC 2573, and the SNMP view based ACM MIB specification in RFC 2575. If the process is successful, then Preside Multiservice Data Manager (MDM) receives traps from these devices without having to log in to the devices and configure them manually for sending traps to the management workstation.
IP Address Range	Is available for route-based discovery and provides a range to discover IP addresses. If the device is not contained within the range, they will not be discovered. This field is greyed out if direct discovery is selected. The IP Address Range field contains the a pop-up menu. Examples of the valid pattern specifications are as follows: -134.177.125.1-31: matches all addresses in the range 134.177.125.1 to 134.177.125.31. -134.177.125.*: matches all addresses in the range 134.177.125.1 to 134.177.125.255. -134.177.125-128.*: matches all addresses in the range 134.177.125.* to 134.177.128.* -*.*.*.*: matches all addresses

Table 104
Discovery window items

Command	Description
Discover As	Contains a pull-down menu for direct discovery that lists all supported device types. When no device type is selected, the device is discovered as the type of device indicated by querying its sysObjectId. When a specific device type is selected, the device is discovered explicitly as the device type, without any queries being performed to verify the settings. To select more than one device type, press the shift key or the control button while selecting devices. To deselect an item, press the **Ctrl** key and left-click the mouse. The **Discover As** field is disabled automatically. ***Note:*** Note 1: “Discover As” does not guarantee that a device will be added to the device lists immediately, later, or not at all. It depends on the driver, the state of the device, and the network settings under the network settings tab. ***Note:*** Note 2:Specifying a device type is an optional step. For most device discoveries, it is typical to leave the **Discover As** option blank (default value)
Exclude	Disables the discovery of selected device types for route-based discovery.
Start	Starts the discovery process.
Stop	Stops the discovery process.
Close	Closes the Discovery window.
Help	Displays help on how to use the Discovery window.
Status	Shows the status of the discovery process.

Edit pop-up menu

Table 105
Edit pop-up menu

Command	Description
Cut	Lets you cut an IP address range.
Copy	Lets you copy an IP address range.
Paste	Lets you delete an IP address range.
Select All	Lets you select IP address ranges.

IP discovery fundamentals

Network settings during discovery

Network settings are applied during the discovery process as follows:

- The discovery process searches for a matching network setting entry starting at the top of the network settings list. Therefore, it is important to order the rows in the network settings properly.
- The matching, which includes wild carding, is performed on the IP address, device type (if specified). A blank (empty) value for a device type matches any device type in the network settings list. Then matching is done on port, community string and SNMP version.
- The discovery process attempts to apply the first match that it finds in the network settings that fits its criteria. If all constraints (such as valid IP range, device type exclusion, and absence of a similar device) are satisfied, then it tries to add the device with these settings.
- If the first match fails because constraints are not satisfied, the searching process continues down the network settings list for another best match.

This process continues until the discovery attempt is successful, or the end of the network settings list is reached.

The data collection daemon (DCD) attempts to discover the device for up to three days after the discovery request is made. A discovery request is shown as Pending in the Status column of the Discovery window. When the device is successfully discovered, the status changes to Succeeded.

Route-based discovery

Route-based discovery reads the addresses of neighbouring devices from ipRouteNextHop in the routing table of the seed device found in the IP Address field of the Discovery window. The discovery process is then able to obtain a list of devices to reseed the algorithm with. The address resolution protocol (ARP) cache is also examined for potential devices. When a device type is included in the exclude list, that device cannot be discovered. It does not, however, prevent the devices in its routing table from being discovered.

Direct discovery

Direct discovery accepts a list of devices, and attempts to discover each device as a SNMP-managed device.

Why a discovery may fail

A discovery request may fail for the following reasons:

- The IP address or IP Address Range entered are not properly formatted.
- The device cannot be communicated with using he current settings.
- The device has already been discovered.
- A device with the same IP address and community string is already being managed by Preside Multiservice Data Manager (MDM).

Logging

When a user performs any IP Discovery functions, the output messages and errors are displayed in the status area of the IP Device Discovery window. These messages and additional debugging information are also logged in log files. The log files are located in the directory /opt/MagellanNMS/data/log/ipm by default. Error log files have an extension of .err by default. The standard output log file has an .out extension by default.

Two variables determine the location where the output messages and errors are logged. They are contained in the file /opt/MagellanNMS/bin/ipDiscovery. These variables and their defaults are:

- MDM_IPM_OUT_FILE=/opt/MagellanNMS/data/log/ipm/ipDiscovery.out
- MDM_IPM_ERROR_FILE=/opt/MagellanNMS/data/log/ipm/ipDiscovery.err

Setting these variables to an appropriate file name causes output/errors from all scripts in the IP Discovery tool to be logged to the specified files.

To change the location of these files, see “Changing the IP Discovery log location” (page 572).

Troubleshooting

Error messages and warning messages should be used to troubleshoot problems that may occur.

Error messages

The table “IP Discovery error messages” (page 593) contains information on error messages, their cause, and required actions.

Table 106
IP Discovery error messages

Message	Details	Remedial action
Error: cannot resolve IP Address for host <host>		Verify that the hostname is correct.
Error: cannot find hostname <host>		Verify that the hostname is correct.
Error: cannot setup SNMP session to <IP address>		Verify software installation.
Error: unable to walk routing table	During route-based discovery, an attempt to read the routing table of a device was unsuccessful. No new devices were learned from the routing table of this device.	
Error: unable to walk ARP table	During route-based discovery, an attempt to read the ARP table of a device was unsuccessful. No new devices were learned from the ARP table of this device.	
<IP Address> could not be added. APPLICATION_ERROR No process to query	DCD cartridge is not installed.	Install the required device integration cartridge.
(Sheet 1 of 3)		

Table 106 (Continued)
IP Discovery error messages

Message	Details	Remedial action
Could not communicate with <IP Address> using community "<SNMP read community string>" on port 161	Possible causes: 1. The IP Address is unreachable. 2. MDM was not registered on the device to allow the IP Discovery tool to communicate using that SNMP community string. 3. The wrong community string was specified by the Network Settings in IP Discovery.	1. Verify IP address is correct 2. Make the necessary configurations on the device to allow SNMP communication with MDM IP Discovery tool. 3. Verify the correct community string used in IP Discovery
Error: unable to register to receive traps	The trap registration option was used during discovery. The discovery was successful, but the trap registration was not.	Manually register for traps with the device.
Error: device doesn't support trap registration	Trap registration was selected during discovery, but the device does not support the required MIBs, as outlined in RFC 2573 and RFC 2575.	Manually register for traps with the device.
Error: unable to open <file>. Defaulting to port 162.	Trap registration attempted to read Preside MDM's trap port from the appropriate file, but it was unable to. It proceeded to register to receive traps on the default SNMP trap port 162.	
Error: calculated SnmpTargetAddrParams too long. Try a shorter community string.	The read community string for this device is too long.	Shorten the read community string.
(Sheet 2 of 3)		

Table 106 (Continued)
IP Discovery error messages

Message	Details	Remedial action
Error: cannot get sysObjectId from <IP address>.	Discovery was unable to perform an SNMP query to retrieve the device's sysObjectID.	Verify the SNMP community.
Error: Application unable to read device list.	IP Discovery encountered an application error while trying to retrieve the current list of devices. This is most likely caused by system resource issues. This error is usually seen when there are other Java applications running on the workstation, and there are multiple launches of IP Discovery.	Exit unnecessary Java applications. Verify swap space is configured as recommended in 241-6001-101 *Preside MDM Engineering Guide*.
The help server is not running, please launch nmstool.	For IP Discovery's help to work, the help server must be running. This server is started when you launch nmstool.	Launch nmstool and retry the IP Discovery help.

(Sheet 3 of 3)

Warning messages

The table “IP Discovery warning messages” (page 596) contains information on warning messages, their cause and action required.

Table 107
IP Discovery warning messages

Message	Details	Remedial action
Warning: entry not found in Vacm Security Table. Unable to Delete.	The feature to remove trap registration with the specified device is being used during device deletion, but trap registration from IP Discovery was never successfully performed against the device.	Manually unregister for traps with the device.
Warning: no entry in SNMP target address table.	The feature to remove trap registration with the specified device is being used during device deletion, but trap registration from IP Discovery was never successfully performed against the device	Manually unregister for traps with the device
Warning: no entry in SNMP target params table.	The feature to remove trap registration with the specified device is being used during device deletion, but trap registration from IP Discovery was never successfully performed against the device	Manually unregister for traps with the device
Network Model is in edit mode: device deletion from Network Model failed.	The network model is currently being edited, so the device is only partially deleted. It is deleted from the DCD, but remains in the network model.	Manually delete the device from the network model.
(Sheet 1 of 2)		

Table 107 (Continued)
IP Discovery warning messages

Message	Details	Remedial action
Warning: network settings currently locked by either an editing session or another discovery process. Discovery results may be less predictable.	The network settings are in edit mode. The network settings tab has been selected by a user either on the same instance or another instance of IP Discovery.	Stop the discovery process. Verify that no instance of the IP Discovery window has the network setting tab selected. Select the Devices tab and restart.
xx.xx.xx.xx could not be added. APPLICATION_ERROR No process to query.	IP Discovery attempts to add the device but cannot find the DCD process to communicate with.	Ensure that SMDR is connected with the DCD process and the DCD is running.

(Sheet 2 of 2)

Chapter 14
Circuit Viewer

The Circuit Viewer tool allows you to retrieve and view detailed information about circuit in the network. This information can be used for troubleshooting.

Navigation

- “Circuit Viewer basic procedures” (page 599)
- “Circuit Viewer fundamentals” (page 652)
- “Circuit Viewer interface” (page 631)

Circuit Viewer basic procedures

Use Circuit Viewer to view and diagnose circuits.

Starting and exiting

- “Starting the Circuit Viewer tool without component context” (page 601)
- “Starting the Circuit Viewer tool with component context” (page 602)
- “Displaying Circuit Viewer online help” (page 603)
- “Setting the server configuration options” (page 604)
- “Setting log file information levels” (page 605)
- “Setting authentication information” (page 606)

Working with circuit information

Diagnosing circuits

Using component context

Starting other tools from Circuit Viewer

Starting the Circuit Viewer tool without component context

Use this procedure to start the Circuit Viewer tool without component context.

Procedure steps

1 In the Preside Multiservice Data Manager window, select **Fault** and then **Circuit Viewer**.

The MDM Administration Database authentication dialog opens.

2 In the MDM Administration Database authentication dialog, type a valid user name and password and click **OK**.

The Circuit Viewer tool opens.

Starting the Circuit Viewer tool with component context

Context lets you transfer component information among other Preside Multiservice Data Manager (MDM) tools that also support context. Starting Circuit Viewer with context populates the Component field in the Circuit retrieval panel with the component in context. Use this procedure to start the Circuit Viewer tool with component context.

Procedure steps

1. From any of the Preside Multiservice Data Manager (MDM) tools that support context, select a component.
2. Open the **Start Tools** menu and select **Fault ->Circuit Viewer**.

   The MDM Administration Database dialog opens.

3. In the MDM Administration Database dialog, type a valid user name and password and click **OK**.

   The Circuit Viewer window opens with a circuit list that displays all circuits containing the selected component.

   Note: The Network Viewer tool lets you select multiple nodes. If you select more than one node in Network Viewer and then start Circuit Viewer, Circuit Viewer opens with the first node that you selected.

Displaying Circuit Viewer online help

Help is available in most Preside Multiservice Data Manager (MDM) tools from either a Help menu or a Help button. Use this procedure to view online help for the Circuit Viewer tool. You can view general descriptive information for the tool or context-specific help information.

Procedure steps

1. For an overview description, from the Circuit Viewer window **Help** menu, select **On Window**.

   The online help window opens with a general description of the Circuit Viewer tool.

2. For help on a specific area of the main window, from the Circuit Viewer **Help** menu, select **What's This?**.

   The mouse changes to a question mark (?).

   a. Move the mouse pointer onto an area of the Circuit Viewer window for which you want help and click the mouse button.

   The online help window opens with information specific to the area you selected.

Setting the server configuration options

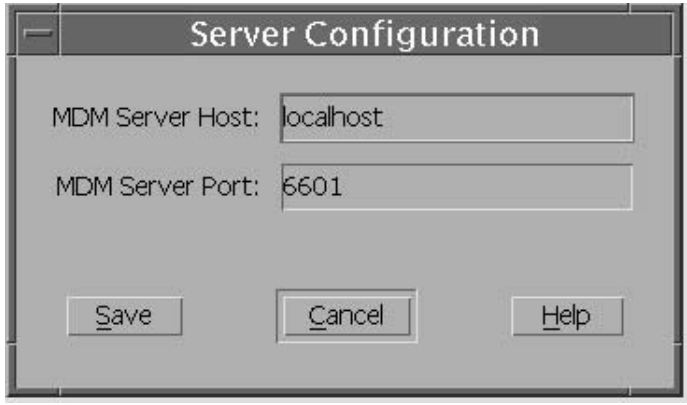
Use the Server Configuration dialog to change the settings for the MDM server host and port for accessing on-switch data. You need to change the server configuration information for the following reasons:

- If the Circuit Viewer tool resides on a client, then you need to specify the appropriate IP address of the MDM server host.
- If you are not using the default server port of 6601 for the Passport Command Access server, then you need to specify the server port number in the startup command for the server in the Server Administration tool. For details about configuring the Passport command access server, see the section on the Passport command access server (PPAccessServer) in 241-6001-310 *Preside MDM Server Reference Guide*

Procedure steps

1 From the **Options** menu, select **Server Configuration**.

The Server Configuration dialog opens.



2 In the **MDM Server Host** field, type a valid host name.

3 In the **MDM Server Port** field, type a valid port number.

4 To save the settings and close the dialog, click **Save**.

Setting log file information levels

Use the Logging Options dialog to set the appropriate information level to save in the Circuit Viewer log file. Circuit Viewer stores the specified log information in the /opt/MagellanNMS/data/log/CircuitManagement.log file.

- "Procedure steps" (page 605)
- "Related information" (page 605)

Procedure steps

1 From the **Options** menu, select **Logging**.

The Logging Options dialog opens.

2 From the dialog, select the level of messages you want to log.

3 Click **Apply**.

Related information

For more information about log files and their file size restrictions, see the section on circuit management log files in 241-6001-400 *Preside MDM Administration Database User Guide*

Setting authentication information

Use this procedure to specify authentication information to be used to log into a PassportPassport node to retrieve polling and statistical information.

Procedure steps

1 From the **Options** menu, select **Authentication…**.

The Authentication dialog opens.

2 In the **Default User ID** field, specify the default user ID for authentication to Passport devices.

3 In the **Default Password** field, specify the default password to authenticate to Passport devices.

4 If there are nodes where user IDs and passwords differ from the default, then complete the following steps:

- In the **Node** field, type the node name to which you want to connect. Or, click the browse button […] to the right of the **Node** field to display a list of nodes from which you can select.
- In the **User ID** field, type the user ID for the specified node.
- In the **Password** field, type the password for the specified node.

5 To save the authentication information and close the dialog, click **Apply**.

Retrieving a list of circuits from the Administration Database

Use this procedure to retrieve one or more circuits from the Administration Database.

Procedure steps

1. In the **Circuit retrieval criteria** panel, specify a circuit identifier in the **Circuit ID** field.

   Note: The name of an IP VPN Access circuit is stored in the database as 'IPCoS'. The display name described in the Circuit(s) Found section is constructed. Therefore, when you search for an IP VPN Access circuit, you must specify the Customer, Site and IP Access Point information separately (do not enter the display name in the Name field).

2. To refine your search, complete any remaining fields in the general retrieval criteria panel. If you use the **Component** browse button to open the Component Selection Dialog and want information on using this dialog, see "Using the Component Selection Dialog" (page 610).

3. To include service-specific retrieval criteria, from the **Service type** drop-down list, select one of the following service types:

   - ATM
   - Frame Relay
   - IP VPN Access

   The service retrieval criteria panel opens. If you select Any, the service-specific retrieval panel does not open.

4. Complete the appropriate fields in the service retrieval criteria panel to refine your search.

   Note: If you wish to search for circuits under a Site or Access Point, select the radio button to the left of the fields to enable the fields. If you wish to search for circuits terminating on a logical interface, select the radio button to the left of the Interface field.

5. Click Retrieve.

Job aid: How to specify retrieval criteria

To retrieve circuits from the Administration Database, you need to specify the criteria for searching the database. The Circuit Viewer window contains a circuit retrieval panel where you specify the required criteria. The more fields you complete, the more specific the search. The following list details the various methods for specifying retrieval criteria.

- **Accept the default value**
  When Circuit Viewer opens, some fields in the window have values in them. These values are default values. For example, the Circuit ID field has an asterisk (*) as a default value. The asterisk matches all values for the field in the database. You can accept the default value or specify a different value. A default value of "Any" matches any possible value for the field.

- **Type a value**
  Some fields let you type a value in the field. You can type a specific value or a search pattern. For example, a specific value such as west_spvc2 in the Circuit ID field causes the Circuit Viewer tool to search the database for the single circuit named west_spvc2. If you use a search pattern, then the Circuit Viewer tool searches the database for all circuit identifiers that satisfy the search pattern. For example, a search pattern such as west* causes the Circuit Viewer tool to search the database for all circuit identifiers that begin with the string "west".

- **Use the browse button**
  Some fields have a browse button […] on the right side of the field. Clicking the browse button opens a selector dialog that lists all possible values. You can then select a value from this list. The browse buttons for Circuit ID and Customer Name open their corresponding Selection Dialogs. The browse button for Component opens the Component Selection Dialog.

- **Use the drop-down list**
  Some fields have a drop-down list from which you can make a selection. The Circuit Type field is an example of a field with a drop-down list.

- **Get Context**
  Some fields, such as Circuit ID support context. To retrieve a value name from context, position the cursor over the field and right-click to open a pop-up menu. From the pop-up menu, select the Get Context command.

Related information

For a description of the fields in the **Circuit retrieval criteria** panel, see “Circuit retrieval criteria panel” (page 636).

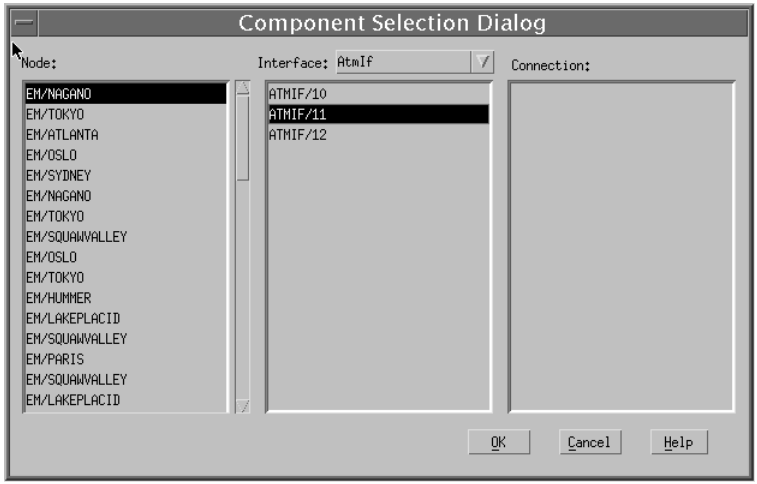
Using the Component Selection Dialog

Use this dialog to select an interface or connection component to retrieve from the Administration Database.

Procedure steps

1 In the **Circuit retrieval criteria** panel, click the **Component** browse [...] button.

The Component Selection Dialog opens.



2 Select a node by clicking on an entry in the Node list.

3 In the **Interface** box, select an interface type from the drop down list.

The **Interface** list displays a list of interfaces.

4 To select an interface, click on an entry in the **Interface** list.

5 If needed, to select a connection component:

- Double-click on an interface to display connection components.
- Select a connection component in the **Connection** list.

6 Click **OK**.

Sorting a list in the Circuit(s) found panel

Use this procedure to sort the items in the Circuit(s) found panel. You can sort by ascending or descending order.

Procedure steps

1. If no list of circuits displays in the **Circuit(s) found** panel, specify retrieval criteria. For details, see “Retrieving a list of circuits from the Administration Database” (page 607).
2. To sort any column in descending order, position the mouse pointer in the column header and while pressing the Shift key, click the left mouse button.
3. To sort any column in ascending order, position the mouse pointer in the column header and click the left mouse button.

Displaying circuit component information

Use this procedure to display information about nodes, interfaces, connections, states, and traffic management profiles related to a circuit and to view provisional and operational information for a circuit component.

- "Procedure steps" (page 612)
- "Related information" (page 613)

Procedure steps

1. If no list of circuits displays in the **Circuit(s) found** panel, then specify the retrieval criteria. For details, see "Retrieving a list of circuits from the Administration Database" (page 607).
2. Select a circuit from the **Circuit(s) found** list.
3. Click the **Circuit information** tab.

   The General circuit information is displayed in the top panel. Circuit specific information is displayed in the bottom panel. For IP VPN Access circuits, the component Id of the Logical Interface is displayed if it is known.
4. Click the **Circuit components** tab.

   The Circuit components pane opens. By default, the pane displays component information in text tables.
5. Optionally, you can change the way the information displays in the Circuits component pane.
   - To reorder the display of columns in the table, drag and drop columns on the desired location.
   - To change the width of a column, drag the boundary line on the right side of the column heading until the column is the desired width.
   - To change from a text to a graphical format, click **Circuit Path**. To return to text format, click **Component List**.
6. Optionally, to start another MDM tool in context with the selected circuit, right-click on a component in the **Circuit components** pane to open a pop-up menu. From the pop-up menu, select an appropriate entry from the list of tools.

   The selected MDM tool opens.

7 Optionally, you can view provisioned or operational attributes of a component. Go to the procedure “Displaying provisioned or operational attributes of a component” (page 614), step 4.

Related information

The **Circuit components** pane supports a pop-up menu to get additional component information or start other Multiservice Data Manager (MDM) tools. You can customize the lists tools that you can open from this pop-up menu. For details, see the section on customizing menus that start other tools in 241-6001-400 *Preside MDM Administration Database User Guide*.

Displaying provisioned or operational attributes of a component

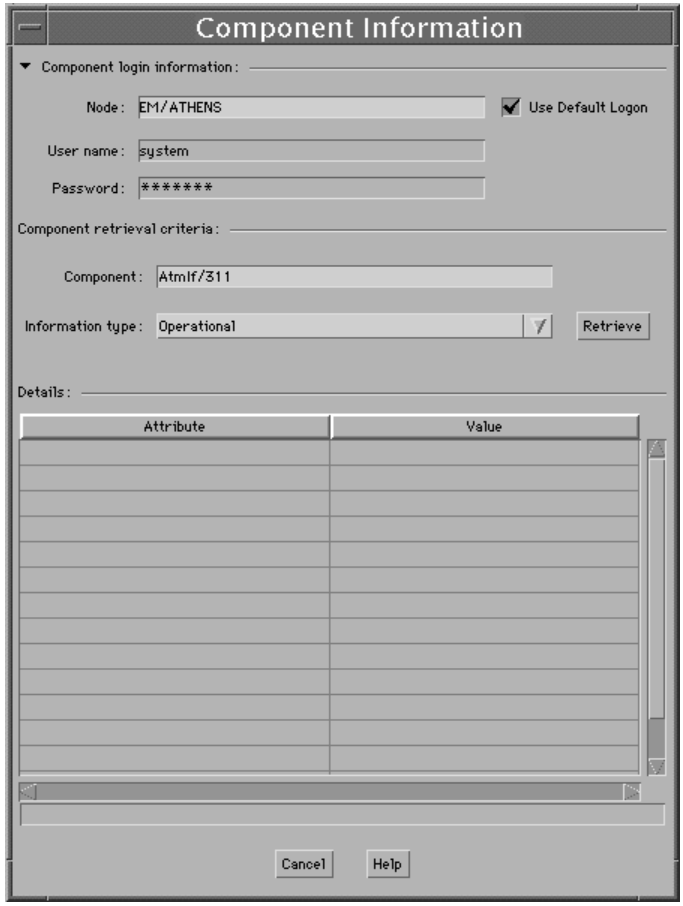
Procedure steps

Use this dialog to view provisioned or operational attributes of a component

1. If no list of circuits displays in the **Circuit(s) found** panel, then specify the retrieval criteria. For details, see “Retrieving a list of circuits from the Administration Database” (page 607).
2. Select a circuit from the **Circuit(s) found** list.
3. Click the **Circuit components** tab.

   The Circuit components pane opens. By default, the pane displays component information in text tables.
4. Double-click on a component in the tabular or graphical display. Alternatively, right-click on a component to open a pop-up menu. From the pop-up menu, select **Get Component Information**.

The Components Information dialog opens using information in context from the Circuit Viewer.



5 Provide the appropriate information to log on to a node using one of the following methods:

- If no logon defaults exist in the current session and none are needed, type the appropriate values in the **User name** and **Password** fields.
- When the **Use Default Logon** check box is selected, it is used for setting the logon information for the current session by using the default authentication information set in the Circuit Viewer (under the menu item Option and then Authentication).

- To reset any existing default logon information for the current session, clear the **Use Default Logon** check box and then type the appropriate values in the **User name** and **Password** fields and then select the Use Default Logon check box.

6 From the Information type drop-down list, select one of the following options:

- Operational
- Provisioned

7 Click **Retrieve**.

The specified component information displays in the **Component Information** dialog.

8 To close the **Component Information** dialog, click **Cancel**.

Displaying a connection trace

By default, the Circuit Viewer tool displays only the source and, if provisioned, the destination connection components for an SPVC or SPVP. Use this procedure to perform a PNNI connection trace on the source component of an SPVC or SPVP circuit to determine the intermediate components that make up a circuit.

Prerequisites

- You need to supply a Passport user ID and password for a source node that has "config" impact before you can request a trace. If you have not already done so, see the procedure “Setting authentication information” (page 606)

Procedure steps

1. If no list of circuits displays in the **Circuit(s) found** panel, then specify the retrieval criteria. For details, see “Retrieving a list of circuits from the Administration Database” (page 607).

2. In the **Circuit(s) found** panel, click on the SPVC or SPVP circuit for which you want circuit details.

3. In the **Circuit detail(s)** panel, click the **Circuit components** tab.

   The SPVC or SPVP endpoints display in the table.

4. In the **Circuit detail(s)** panel, click **Trace**.

   If you have not already authenticated to the node, the Authentication Dialog opens. See the procedure “Setting authentication information” (page 606) for details about completing the Authentication Dialog.

   If you have already authenticated, the trace begins. While the trace is in progress, the **Trace** button changes to **Tracing…**

   If the trace is successful, the intermediate components display in the table. If state polling is turned on, the states of the intermediate circuit components will also be polled. The results of the trace include the egress components for the source node, the intermediate nodes, and the destination node. The trace does not include ingress virtual connections. If the circuit re-routes, the state of obsolete components displays as "does not exist". You can request another trace at this point, if the circuit re-routes.

   If the trace is unsuccessful, a dialog opens and displays the reason for failure.

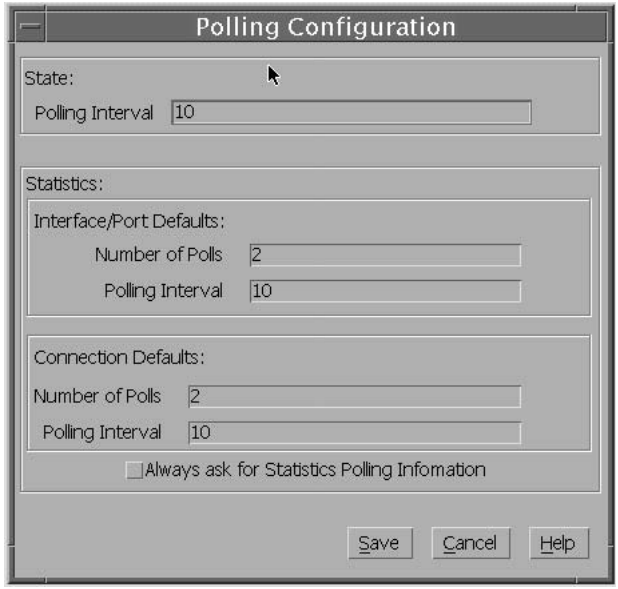
Setting the polling configuration options

The Polling Configuration dialog lets you set the circuit state polling interval, the number of times the Circuit Viewer tool polls for interface and connection statistics, and the polling interval for interface and connection statistics. Use this procedure to set the configuration options for circuit state and circuit component statistics polling.

Procedure steps

1 From the **Options** menu, select **Polling Configuration….**

The Polling Configuration dialog opens.



2 To change the polling options for circuit state

- in the **State: Polling Interval** field, type the required number of seconds between polls

3 To change the polling options for interface component statistics

- in the **Interface/Port Defaults: Number of Polls** field, type a value for the required number of polls for interface and port statistics. Leaving this field blank causes polling to continue indefinitely.

- in the **Interface/Port Defaults: Polling Interval** field, type the required number of seconds between polls for interface statistics

Note: Port Statistics is only available for ATM circuits.

4 To change the polling options for the connection component statistics

- In the **Connection Defaults: Number of Polls** field, type a value for the required number of polls for connection statistics. Leaving this field blank causes polling to continue indefinitely.
- in the **Connection Defaults: Polling Interval** field, type the required number of seconds between polls for connection component statistics.

5 If you want to have the option of changing the polling options each time you request statistics, select the check box **Always ask for Statistics Polling Information**.

When you request statistics, a Polling Parameters dialog opens with those parameters that are appropriate for the requested statistics.

Starting state polling

Use this procedure to start the polling of circuit component state. An overall circuit state is determined from the polled component states.

Prerequisites

- Before you can turn on state polling, you need to supply Passport authentication information. For the authentication procedure, see “Setting authentication information” (page 606)

Procedure steps

1. If no list of circuits displays in the **Circuit(s) found** panel, then specify the retrieval criteria. For details, see “Retrieving a list of circuits from the Administration Database” (page 607).
2. In the **Circuit(s) found** panel, right-click on the circuit for which you want the circuit state.

   A popup menu opens.
3. From the popup menu, select **Start State Polling**.

   If you have already authenticated to the node for which you want information, then the circuit state displays in the **Circuit detail(s)** panel.

   If you have not already authenticated to the node, the Authentication Dialog opens. See the procedure “Setting authentication information” (page 606) for details about completing the Authentication Dialog. When authentication to the node is successful state polling begins.
4. To view the components of a circuit and their states, in the **Circuit detail(s)** panel, click the **Circuit components** tab.
5. To view the values of the connection state attributes, in the **Circuit detail(s)** panel, click the **Connection states** tab.

Stopping state polling

Use this procedure to stop circuit state polling.

Procedure steps

1. In the **Circuit(s) found** panel, right-click to open the popup menu.
2. Stop state polling using one of the following methods:
   - From the popup menu, select **Stop State Polling**
     Circuit state polling stops and the component states change to "not polled".
   - Select another circuit and the polling for the previous circuit will be stopped automatically.

Viewing circuit component statistics

Use this procedure to view a subset of key statistics for circuit components.

Prerequisites

Before you can turn on component statistics polling, you need to supply Passport authentication information. For the authentication procedure, see "Setting authentication information" (page 606).

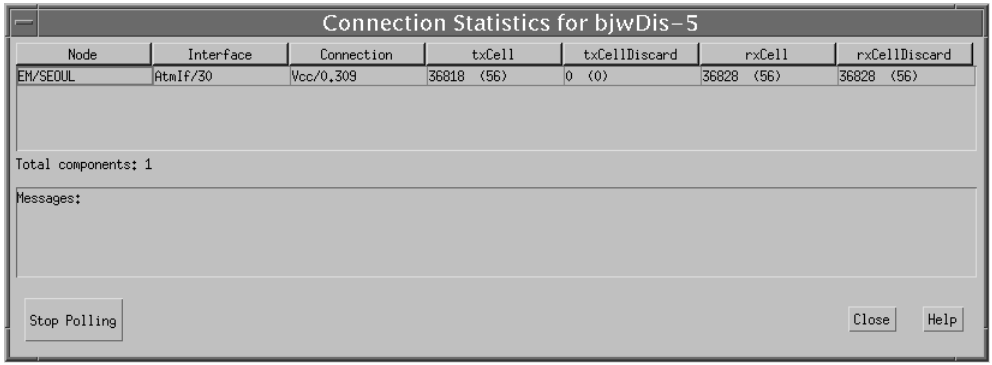
Procedure steps

1. If no list of circuits displays in the **Circuit(s) found** panel, then specify the retrieval criteria. For details, see "Retrieving a list of circuits from the Administration Database" (page 607).
2. In the **Circuit(s) found** panel, right-click on the circuit for which you want statistical information.

   A popup menu opens.
3. From the popup menu, select **Statistics** and then one of the following entries:
   - **Connection Statistics**
   - **Interface Statistics**
   - **Port Statistics**

   Note: Port Statistics is only available for ATM circuits.

A dialog opens displaying the requested statistics in tabular format.



Expected results

If you have set the polling configuration options to always ask for statistics polling information, the Polling Parameters dialog opens and displays only those parameters that are appropriate to the requested statistics. For information on polling configuration, see the procedure “Setting the polling configuration options” (page 619).

When you request connection statistics, a dialog opens and displays the statistics in tabular format. If the Circuit Viewer tool is unable to retrieve a statistic, "n/a" appears in the table cell and the reason for failure displays in the message panel below the statistics table. The reason for failure is logged in the /opt/MagellanNMS/data/log/CircuitManagement.log file

Related Information

The Statistics dialogs contain a subset of key circuit component statistics. When you request statistics, the Circuit Viewer polls for this information. Each time a poll occurs, the dialog refreshes with the new statistics. Where relevant, changes from the previous poll are shown in brackets (). Polling for statistics continues until the maximum number of polls has been reached or until you click the Stop Polling button. To view or set the maximum number of polls, see “Setting the polling configuration options” (page 619).

While polling is in effect, a Stop Polling button is available. If you click the Stop Polling button or if the number of polls has been reached, the button changes to Re-start Polling. When you restart polling, polling resumes for the specified number of polls.

Job aid: Getting more statistics

If you require more comprehensive statistical information, you can start the MDM Data Viewer tool.

1. In the Connection Statistics dialog, right-click on a node for which you want detailed statistics.

   A popup menu opens.

2. From the popup menu, select Performance -> Data Viewer.

   The Data Viewer tool opens with the selected node in context. For information about this tool, see 241-6001-031 *Preside MDM Performance Management User Guide*.

Putting a component or circuit into context

Context lets you pass component information from Circuit Viewer to other Preside Multiservice Data Manager (MDM) tools that support context. Use this procedure to put a component or circuit into context.

Procedure steps

1. To put a component into context, in the Circuit details panel, select the Circuit components tab and then select the component you want to put in context from either the text list or the graphical display.
2. To put a circuit into context, in the Circuit(s) found list, select the circuit you want to put in context

Getting a component or circuit from context

Use this procedure to get a component or circuit from context. The Circuit ID and Component fields in the Circuit retrieval panel support the use of context.

Procedure steps

1. Position the cursor over any of the fields in the **Circuit retrieval** panel that support context and right-click.

   A popup menu opens.

2. From the popup menu, select **Get Context**.

   The Circuit Viewer tool retrieves the value in context and then performs a search based on that value.

Starting a service provisioning tool without context

Use this procedure to start the service provisioning tool without context from the Circuit Viewer tool. The service provisioning tool that opens depends on the service type of the selected circuit.

- "Procedure steps" (page 628)
- "Related information" (page 628)

Procedure steps

1 From the **Tools** menu, select one of the following:

- **ATM Service Provisioning**
- **FR Service Provisioning**

The selected service provisioning window opens.

Note: The FR Service Provisioning tool is only launchable when the selected IP VPN Access circuit is in "Normal" status and it has been assigned to an IP Access Point.

2 Launch the IP VPN service provisioning tool to modify an ATM local VPN access circuit.

Related information

For details about the ATM service provisioning tool, see 241-6001-600 *Preside MDM Service Provisioning for ATM User Guide*.

For details about the Frame Relay service provisioning tool, see 241-6001-603 *Preside MDM Service Provisioning for Frame Relay User Guide*.

For details about the IP VPN service provisioning tool, see 241-6001-616 *Preside MDM IP VPN Service Configuration User Guide*.

Starting a service provisioning tool with context

Use this procedure to start a service provisioning tool with circuit context from the Circuit Viewer tool.

- "Procedure steps" (page 629)
- "Related information" (page 629)

Procedure steps

1. If no list of circuits displays in the **Circuit(s) found** panel, then specify the retrieval criteria. For details, see "Retrieving a list of circuits from the Administration Database" (page 607).
2. In the **Circuit(s) found** field, select the circuit that you want to put in context.
3. Right-click on the selected circuit to display the popup menu.
4. On the popup menu, point to **Launch Service Provisioning** and then select one of the following commands.
   - **Edit Circuit** to start the service provisioning tool in Edit mode.
   - **Delete Circuit** to start the provisioning tool in Delete mode.

   The service provisioning tool opens in context to the selected circuit ID.

Related information

For details about the ATM service provisioning tool, see 241-6001-600 *Preside MDM Service Provisioning for ATM User Guide*.

For details about the Frame Relay service provisioning tool, see 241-6001-603 *Preside MDM Service Provisioning for Frame Relay User Guide*.

Starting the MDM Database Administration tool from Circuit Viewer

Use this procedure to start the MDM Database Administration tool from Circuit Viewer. The MDM Database Administration tool lets you perform administration tasks on a selection of objects in the Administration Database.

Procedure steps

1 From the Tools menu, select **MDM Database Administration**.

The MDM Database Administration window opens.

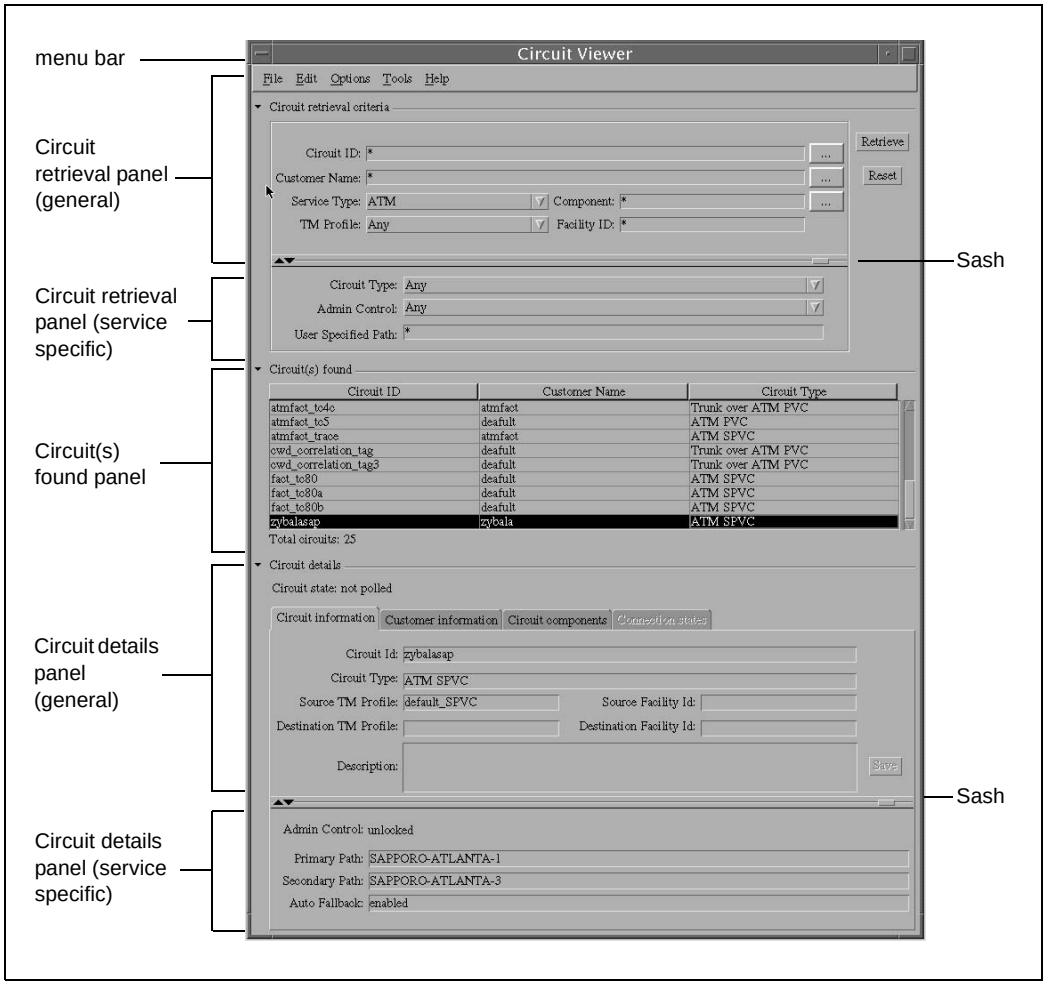
Circuit Viewer interface

The Circuit Viewer window consists of the following elements:

- “Menu bar” (page 632)
- “Circuit retrieval criteria panel” (page 636)
- “Circuit(s) found panel” (page 640)
- “Circuit details panel” (page 642)
- “Sashes” (page 651)

The figure “Circuit Viewer window” (page 632) shows a sample Circuit Viewer window.

Figure 53
Circuit Viewer window



Menu bar

The menu bar contains the following menus:

- “File” (page 633)
- “Edit” (page 633)
- “Options” (page 634)

- “Tools” (page 635)
- “Help” (page 636)

File

Table 108
File menu commands

Command	Description
Exit	Closes the Circuit Viewer main window and exits the application.

Edit

Table 109
Edit menu commands

Command	Description
Copy	Copies the selected alarms so that you can paste them later.
Cut	Deletes any selected text.
Paste	Copies the current contents of the system clipboard to the current cursor position.
Select All	Selects all entries in any editable text area.
Deselect All	Cancels the selection of the Select All command.

Options

Table 110
Edit menu commands

Command	Description
Server Configuration…	Opens the Configuration dialog. Using this dialog, you can specify an MDM server host and port for accessing on-switch component information.To set the configuration options, see the procedure “Setting the server configuration options” (page 604)
Polling Configuration…	Opens the Polling Configuration dialog for setting the circuit state and circuit component state polling. To set the polling configuration options, see the procedure “Setting the polling configuration options” (page 619)
Authentication…	Opens the Authentication dialog where you specify default and node specific user names and passwords. To authenticate, see the procedure “Setting authentication information” (page 606)
Logging…	Opens the Logging Options dialog where you select the type of information to log. To set the level of log information, see the procedure “Setting log file information levels” (page 605). Log messages are saved in the /opt/MagellanNMS/data/log/CircuitManagement.log file. For details about managing the size of log files, refer to “Circuit management log files” (page 653) and the section on circuit management log files in 241-6001-400 *Preside MDM Administration Database User Guide*.

Tools

Table 111
Tools menu commands

Command	Description
ATM Service Provisioning	Starts the ATM service provisioning tool. To start the ATM service provisioning tool, see the procedure “Starting a service provisioning tool without context” (page 628) and “Starting a service provisioning tool with context” (page 629). For information about ATM service provisioning, see 241-6001-600 *Preside MDM Service Provisioning for ATM User Guide*.
FR Service Provisioning	Starts the Frame Relay service provisioning tool. To start the Frame Relay service provisioning tool, see the procedure “Starting a service provisioning tool without context” (page 628) and “Starting a service provisioning tool with context” (page 629). For information about Frame Relay service provisioning, see 241-6001-603 *Preside MDM Service Provisioning for Frame Relay User Guide*.
MDM Database Administration	Starts the MDM Database Administration tool. To start the MDM Database Administration tool, see the procedure “Starting the MDM Database Administration tool from Circuit Viewer” (page 630).

You can customize the contents of the Tools menu. For details, see the section on customizing menus that start other tools in 241-6001-301 *Preside MDM Customization Administrator Guide*.

Help

Table 112
Tools menu commands

Command	Description
Help on Window	Displays general information about the Component Information Viewer tool.
What's This?	Displays information about a selected area of the Component Information Viewer window.

Circuit retrieval criteria panel

Use the circuit retrieval panel to specify the criteria for searching the Administration Database. For some fields in this panel you can type an entry or a search pattern. For other fields you can use the drop down menu to select an entry.

This circuit retrieval panel has two sections: a general retrieval criteria area and a service retrieval criteria area. The general area lets you specify retrieval criteria that are applicable to all circuit service types. The service retrieval criteria area lets you specify retrieval criteria that is specific to a service type. The service criteria area is hidden until you select a service type.

General retrieval criteria area

The general retrieval criteria area lets you retrieve circuit information from the Administration Database based on the following criteria:

Table 113
General retrieval criteria items

Command	Description
Circuit ID	Retrieves circuits matching the identifier from the database. An asterisk (*) in this field acts as a wildcard. This field supports a browse button [...] that provides a list of available circuit IDs.
Customer Name	Retrieves circuits associated with customer names. An asterisk (*) in this field acts as a wildcard. This field supports a browse button [...] that provides a list of available customers.
Service Type	Retrieves circuits based on the specified service type. When you select a specific service type, its associated panel opens below the general panel to provide additional search criteria.
TM Profile	Retrieves circuits based on types of service offerings.
Component	Retrieves circuits based on the name of a component. An asterisk (*) in this field acts as a wildcard. This field supports a browse button [...] that provides a list of available components.
Facility ID	Retrieves circuits based on the facility identifier at either end of the circuit. An asterisk (*) in this field acts as a wildcard.

The Circuit Viewer tool matches the TM Profile and Facility IDs against the values associated with circuit endpoints only, not intermediate components as in the case of a nailed up PVC.

ATM retrieval criteria area

The ATM service retrieval panel opens when you specify a service type of ATM.

Table 114
ATM retrieval criteria items

Command	Description
Circuit Type	Identifies the type of ATM circuit to retrieve from the database. The following types are available: PVC, SPVC, PVP, SPVP, FR/ATM Access NPVC, FR/ATM Access SPVC. ATM MPE PVC and Trunk over ATM PVC.
Admin Control	Identifies the initial state of the connection following initial provisioning and after FP restarts and software reloads. The following values are available: permLocked and unlocked. If you select permLocked, the VPI and VCI numbers are reserved on the source node of the call but no bandwidth is used.
User Specified Path	Specifies either the primary or secondary manual designated transit line (MDTL) route. If you do not want the MDTL path to be considered in the search, leave this field blank.

Frame Relay retrieval criteria

The Frame Relay service retrieval panel opens when you select a service type of Frame Relay.

Table 115
Frame Relay retrieval criteria items

Command	Description
Data Network Address	identifies the data network address of the FrUni or FrNni at either the local or remote end.

IP VPN Access criteria

The IP VPN Access retrieval panel opens when you select a service type of IP VPN Access.

Table 116
IP VPN Access retrieval criteria items

Command	Description
Circuit Type	Identifies the specific type of IP VPN Access circuit. The following types are currently supported: FR IP VPN Access and ATM IP VPN Access.
Site	Identifies the name of the site containing the IP Access Points on which the desired circuits terminate. An asterisk (*) in this field acts as a wildcard. This field supports a browser button [...] that provides a list of available sites based on the selected customer.
Access Point	Identifies the name of the IP Access Point on which the desired circuits terminate. An asterisk (*) in this field acts as a wildcard. This field supports a browse button [...] that provides a list of available access points based on the selected site. If the selected site is set to "Unassigned", the list will only show the access points that have not been assigned to any site. If a user chooses "Unassigned" from the list of the available access points, only the circuits that have not been assigned to any access point will be retrieved.
Interface	Identifies the name of the Logical Interface component on which the desired circuits terminate.

Note: The **Site** and **Access Point** fields are enabled if the radio button to the left of the fields is selected. The **Interface** field is enabled if the radio button to the left of the field is selected.

For more information on setting up Sites and Access Points, refer to 241-6001-603 *Preside MDM Service Provisioning for Frame Relay User Guide* and 241-6001-616 *Preside MDM IP VPN Service Configuration User Guide*.

Context support

Context refers to variables that are shared among the Preside Multiservice Data Manager (MDM) tools using the MDM Context Server. The Circuit ID and Component fields in the retrieval panel support context. You can retrieve a circuit or component if it is in context by right-clicking on the field and selecting the Get Context command from the popup menu. For information about using context, see "Putting a component or circuit into context" (page 626) and "Getting a component or circuit from context" (page 627).

Command buttons

This panel contains the following command buttons:

Table 117
Context panel buttons

Command	Description
Retrieve	Initiates a retrieval from the Administration Database.
Reset	Resets the values in the Circuit retrieval criteria panel back to their default settings.

Circuit(s) found panel

The Circuit(s) found panel displays a table containing all circuits in the database that meet the search criteria specified in the Circuit retrieval panel. The table includes the circuit identifier (ID), customer name, and the circuit type.

Circuits retrieved from the database are consolidated first and then displayed in the Circuit(s) found panel. A Frame Relay circuit appears as a single circuit in the Circuit(s) found panel although it is actually several circuits. A Frame Relay circuit consists of a primary circuit and up to seven backup circuits, of which any can be active at a given time. As well, a FrameRelay IP VPN Access circuit (in a backhaul case) consists of a FrameRelay primary circuit and a FrameRelay access circuit, while an ATM IP VPN Access circuit is essentially an ATM MPE PVC circuit with an access-type AtmMpe Ac component (for example Rtr Vrf If AtmMpe Ac). Internally in the database,

for this type of ATM MPE PVC circuit, an artificial counterpart (an ATM access circuit) is maintained to facilitate circuit retrievals upon IP VPN Access service types.

> ***Note:*** If you perform a query based on the "ATM" service and the "ATM MPE PVC" circuit type where the ATM MPE PVC circuit is associated with an ATM IP VPN Access circuit (the parent circuit), then **only** the ATM IP VPN Access circuit appears in the Circuit found table. Similarly, if you perform a query based on the "FR" service, when a FrameRelay primary circuit is associated with a FR IP VPN Access circuit (the parent circuit), then **only** the FR IP VPN Access circuit appears in the Circuit found table.

The name stored in the database for all IP VPN Access circuits is "IpCos". When an IP VPN Access circuit is displayed in the Circuit Viewer, it is further distinguished by its Site and Access Point, if they are known, and its IP CoS index. The name has the format Site/<site_name> AccessPoint/ <access_point_name> IPCoS/<IP CoS index>. For example:

Site/Ottawa Access Pt/Lab5 IpCos/1

If the Access Point or Site are not known, the string "none" appears as the name. For example:

Site/(none) Access Pt/(none) IpCos/0
Site/(none) Access Pt/Lab5 IpCos/1

Under certain conditions, icons display in the Circuit(s) found panel. For the circuit types SPVC and SPVP, a lock icon may display in the Circuit ID column. This icon indicates the connection is provisioned as locked. Absence of the lock icon can indicate that the circuit is unlocked or that the component is at a release prior to the introduction of the adminControl attribute (PCR 3.0).

You can reorder the display of columns in the Circuit(s) found list by dragging and dropping columns. See “Sorting a list in the Circuit(s) found panel” (page 611). You can also change the width of a column by dragging the

boundary line on the right side of the column heading until the column is the appropriate width. This panel also provides the total number of circuits based on the retrieval criteria.

When you select an entry from the circuit(s) found list, the circuit ID and serial number of that circuit are placed in context. Context lets you share information among other Preside Multiservice Data Manager (MDM) tools.

Right-clicking on a circuit in this panel opens a popup menu that lets you perform the following tasks:

- Launch Service Provisioning, see "Starting a service provisioning tool with context" (page 629)
- "Starting state polling" (page 621) or "Stopping state polling" (page 622)
- "Viewing circuit component statistics" (page 623)

Circuit details panel

The Circuit details panel displays detailed circuit information including the following

- "Circuit state" (page 642)
- "Circuit information" (page 642)
- "Customer information" (page 644)
- "Circuit components" (page 645)
- "Connection states" (page 649)

Circuit state

If you turn on state polling, the circuit state displays at the top of the Circuit details panel. The overall circuit state is computed based on the states of the circuit components. The state of a circuit component is based on its state attributes retrieved from the switch. To view more information about states of circuit components, select the Circuit components and Connection state tabs.

Circuit information

The Circuit information pane displays general and service-specific information about the circuit selected in the Circuit(s) found list.

General pane

You can view the following information about circuits in the general circuit information pane:

- circuit identifier
- circuit type
- source traffic management profile
- destination traffic management profile
- source facility identifier
- destination facility identifier
- description

You can edit the circuit Description field from the Circuit information pane. To edit the other fields, you need to use the MDM Database Administration tool. The Save button saves any changes that you make to the circuit description in the Administration Database.

The figure "Circuit Viewer window" (page 632) shows a sample Circuit Viewer window with the Circuit Information tab selected.

Service-specific pane

You can view the following ATM information in the service-specific details pane:

- admin control
- primary path
- secondary path
- automatic fallback

Depending on the Admin Control values, icons may display in the Circuit information pane. A lock icon in the Admin Control field denotes a circuit that has been provisioned as locked.

No service-specific information is available for Frame Relay circuits.

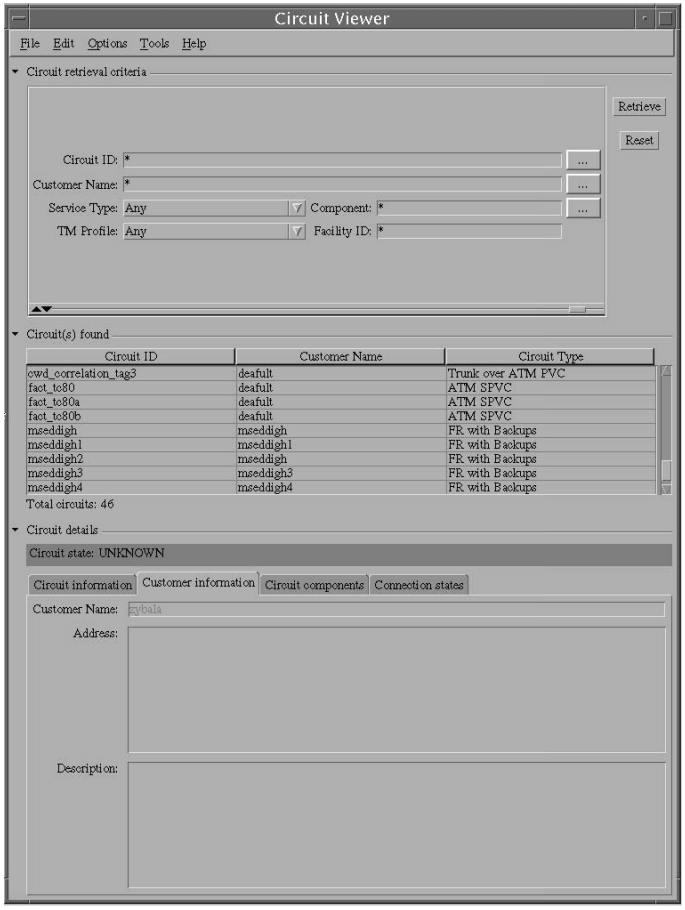
For IP VPN Access circuits, you can view the component ID of the IP Logical Interface if it is known.

Customer information

The Customer information pane displays information about the customer assigned to the circuit selected in the Circuit(s) found list. This pane displays the customer name and address and any additional comments associated with the customer.

The figure “Sample Circuit Viewer window with Customer Information tab selected” (page 645) shows the Customer Information tab in the Circuit Viewer window.

Figure 54
Sample Circuit Viewer window with Customer Information tab selected



Circuit components

The Circuit components pane displays a table containing the provisioned components for the circuit selected in the Circuit(s) found list. As well, the pane contains command buttons for performing operations on the circuit components.

The circuit component information table includes the node, interface, connection, state, and traffic management (TM) profile data for all circuit types. If there are component attributes that are circuit dependent, then these attributes appear as additional columns in the table. For ATM circuits, the additional column displays the setting of the aisGeneration attribute for ATM SPVC and SPVP source connection components. For Frame Relay there is one column that indicates the Dlci type, either master or slave, and another column that displays the dataNetworkAddress attribute of the FrUni/FrNni Dna component. For FR IP VPN Access composite circuits, all components under the Frame Relay composite and the FrDte composite are displayed together in a single table.

The state of a circuit component shown in the table is derived from its own operationalState and adminState and that of its interface as well as additional state attributes, depending on the type of component. These states are shown in the Connection states tabbed pane.

When displaying SPVC and SPVP components, Circuit Viewer tries to find the destination AtmIf or FrATM interface from the called address. For AtmIf, if no address is provisioned, then a default address is computed by the loader and stored in the Administration Database when the component is loaded. It is this computed address that is used for the matching process. If Circuit Viewer finds an exact match to a single interface, then the interface and the connection type display in the component list. If no match is found, or if multiple matches are found, then the called address and the connection component without the connection type display in the component list. For the latter case, the connection type could be either a Fratm Dlci or an AtmIf Vcc. Circuit Viewer performs these matches for the following SPVCs and SPVPs:

- FrAtm to FrAtm
- AtmIf to AtmIf
- FrAtm to AtmIf

This type of address matching cannot be used for AtmIf to FrAtm since the provisioned FrAtm address is not in NSAP format.

The Circuit components pane supports a popup menu that lets you start other Preside Multiservice Data Manager (MDM) tools or retrieve provisioned or operational attributes for a single component. If there is no connection to the command manager server, or if the component is a node, then the component popup menu is not available.

For procedures on displaying component information, see "Displaying circuit component information" (page 612).

Circuit components command buttons

The following command buttons are available in the Circuit components pane:

Table 118
Alarm menu commands

Command	Description
Trace	Is available for ATM SPVC and SPVP circuits only. This button performs a PNNI connection trace on the source component. This trace provides the details for the intermediate circuit components in the path.
Circuit Path	Is available for ATM circuits only. This button displays the circuit components graphically. When the display changes from tabular to graphical format, the label on the button changes to **List Components** to revert to the tabular format.

The figures "Sample Circuit Viewer window with Circuit Components tab (List view) selected" (page 648) and "Sample Circuit Viewer window with Circuit Component tab (Path view) selected" (page 649) show the two views of the Circuit components tab in the Circuit Viewer window.

Figure 55
Sample Circuit Viewer window with Circuit Components tab (List view) selected

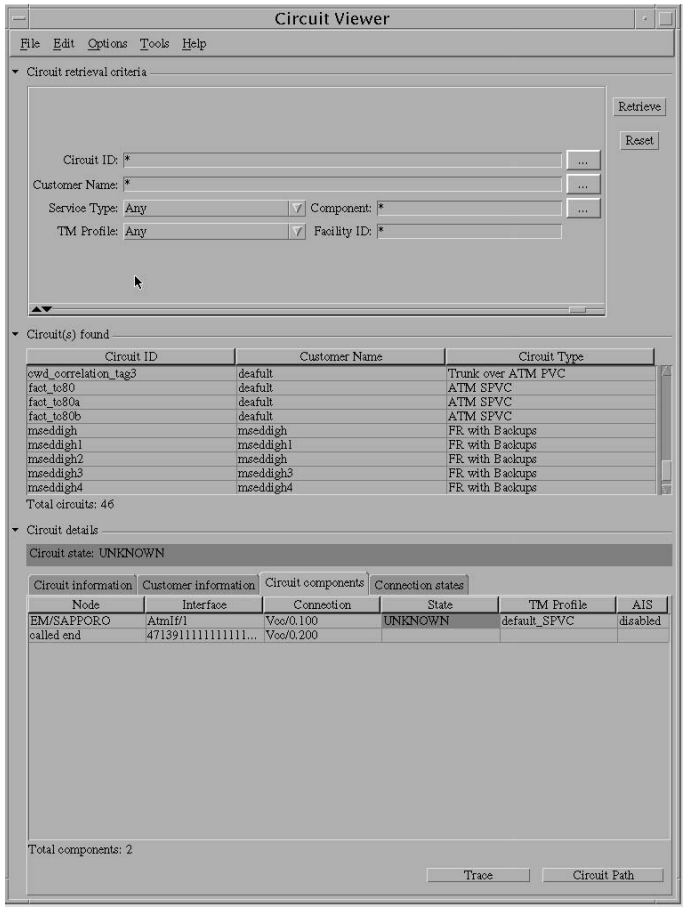
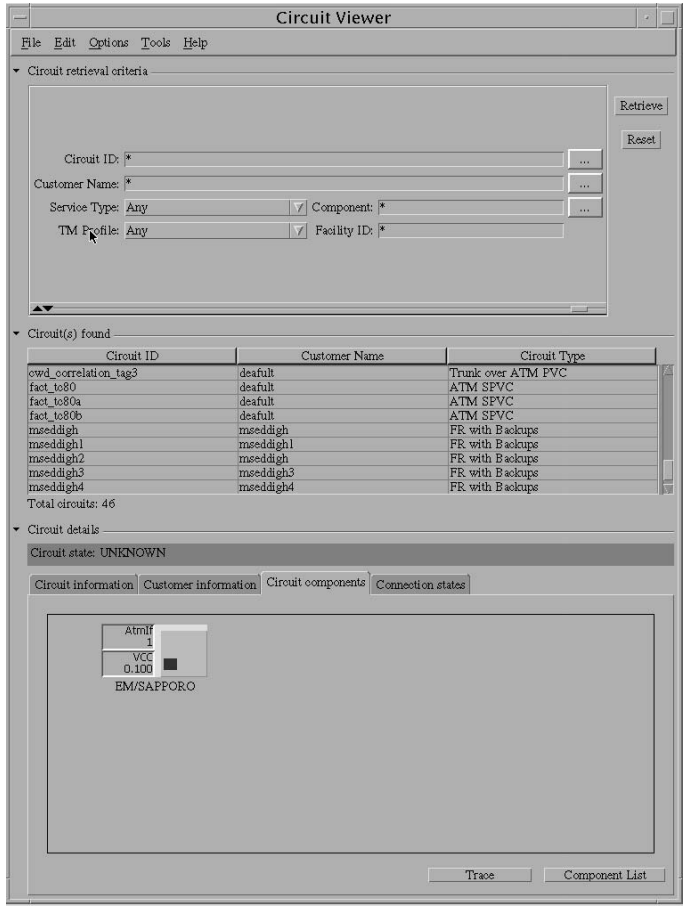


Figure 56
Sample Circuit Viewer window with Circuit Component tab (Path view) selected



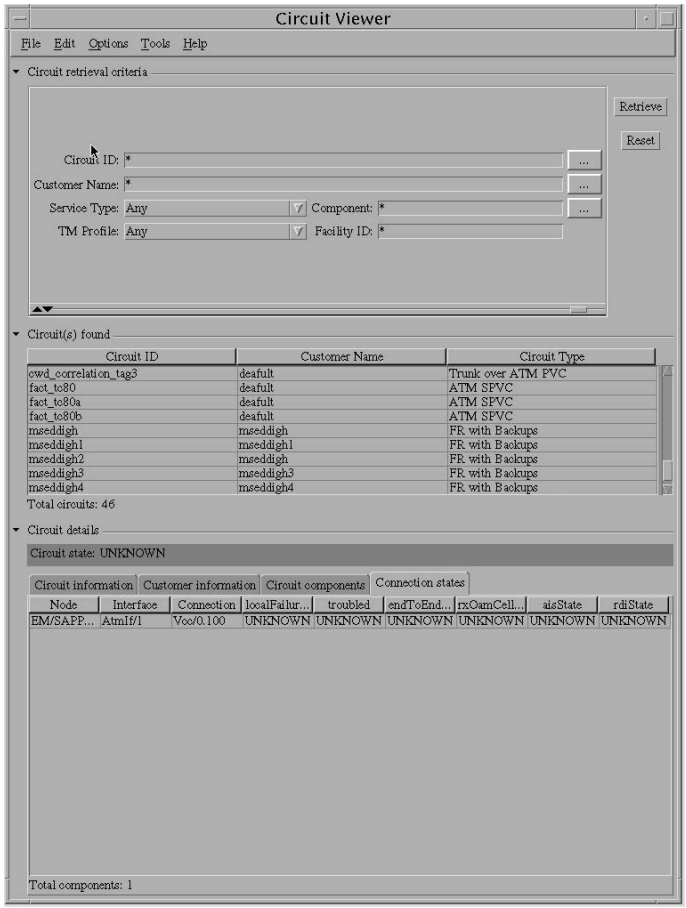
Connection states

The Connection states tabbed pane is available only when state polling is turned on. This pane displays state attributes for each connection component that is polled. If a path trace has been done, the intermediate components will be displayed, otherwise just the endpoint state will be shown.

The node, interface and connection columns identify the connection components that make up the circuit. The remaining columns display the state attributes for each component.

The figure “Sample Circuit Viewer window with Connection states tab selected” (page 650) shows the Connection states tab in the Circuit Viewer window.

Figure 57
Sample Circuit Viewer window with Connection states tab selected



Sashes

There are a series of vertical sash bars in the window that let you change the amount of space a panel occupies. When you move a sash to increase the amount of space in one panel, the space for the other panels decrease correspondingly. To move a sash, drag the box in sash up and down.

Online help

Help is available in most Preside Multiservice Data Manager (MDM) tools from either a Help menu or a Help button.

The Help menu provides general descriptive information for the Circuit Viewer tool. You can view a brief overview of the tool using the On Window command. Help on key areas of the window is available from the What's This? command. For details, see "Displaying Circuit Viewer online help" (page 603).

General descriptive help is available for dialogs that contain a Help button. You can view the help information for a dialog by clicking the Help button in the dialog.

Circuit Viewer fundamentals

The Circuit Viewer tool is one component of the Preside Multiservice Data Manager (MDM) circuit management suite. This tool works in conjunction with the MDM Database Administration tool, service provisioning tools, and the Administration Database to support the management of circuits in the network. For details about the MDM Database Administration tool and the Administration Database, see 241-6001-400 *Preside MDM Administration Database User Guide*. For details about the supported service provisioning tools, see 241-6001-600 *Preside MDM Service Provisioning for ATM User Guide* and 241-6001-603 *Preside MDM Service Provisioning for Frame Relay User Guide*.

Circuit Viewer retrieves circuit information from the Administration Database. You can specify criteria for searching the database. The Circuit Viewer tool displays a list of circuits that meet the specified criteria. Then, from this list of circuits, you can select a circuit for which you want detailed information. You can view data that includes the circuit information such as the circuit ID and type, customer information, circuit components, and connection states of those components.

The Circuit Viewer tool service diagnostic information helps you manage faults in the network. These diagnostics include state information about the circuit, circuit components, and connection components. As well, you can view a selection of statistics for the connection, interface, and port components across a circuit.

The Circuit Viewer supports the following circuits types:

- ATM
  - PVC
  - SPVC
  - PVP
  - SPVP
  - FR/ATM Access NPVC
  - FR/ATM Access SPVC
  - ATM MPE PVC

- Trunk over ATM PVC

- Frame Relay
  - FRNNI
  - FRUNI
- Frame Relay IP VPN Access
  - Backhaul Access (2764)
  - Direct Access (2764)
  - IP Optimized Direct (2764 and 2547)
  - IP Optimized Backhaul (2764 and 2547)
- ATM IP VPN Access (local PVC point to point connection)

Circuit Viewer server configuration

To use the Circuit Viewer application, you need to configure the Passport command access server. For details, see the section on the Passport command access server (PPAccessServer) in 241-6001-310 *Preside MDM Server Reference Guide*.

If the Passport command access server is on a different machine than Circuit Viewer, then you should specify the appropriate host via Options->Server Configuration in Circuit Viewer. Otherwise, Circuit Viewer will be unable to connect to the server. For more information, refer to “Setting the server configuration options” (page 604).

Circuit management log files

The Circuit Viewer tool stores log messages in the /opt/MagellanNMS/data/log/CircuitManagement.log file. These log files have a maximum size of 10 megabytes (MB). When this limit is reached, the content of CircuitManagement.log is moved and stored in CircuitManagement.log.1. New log messages accumulate in CircuitManagement.log once again. When CircuitManagement.log reaches is maximum size again, the following changes occur:

- the content of CircuitManagement.log.1 moves to CircuitManagement.log.2

- the content of Circuit Management.log moves to CircuitManagement.log.1
- new log messages accumulate in CircuitManagement.log

Current log messages are always stored in CircuitManagement.log. When this file reaches its size limit, the content is moved to another file in sequence. This roll-over process continues to create additional log files up to CircuitManagement.log.9. This method allows for a maximum of ten log files—one actively accumulating new log messages and nine others containing progressively older messages. When the maximum number of log files is reached, the roll-over process continues but the content of the oldest file, CircuitManagement.log.9, is lost.

> ***Note:*** If a log file does not roll over as expected, another application may have a process that has the log file open. A rollover will occur when no process has the log file open and the log file nears its maximum size.

Since each log file can occupy up to 10 MB of disk space, and there are up to 10 log files, storage for log files can reach 100 MB. Therefore, it is recommended that you have a file management strategy that includes archiving and deleting older log files.

The MDM Database Administration tool also writes to the circuit management log file. As well, the ATM service provisioning tool writes to the circuit management log file if the provisioning causes errors in the Administration Database. Therefore, if you want to delete a current log file, first ensure that the log file is not being used by another application.

The Frame Relay Service Provisioning tool can be launched from a Frame Relay IP VPN Access circuit as long as the circuit is complete (status Normal) and it has been assigned to an IP Access Point.

Chapter 15
HP OpenView NNM desktop

The Hewlett-Packard (HP) OpenView Network Node Manager (NNM) application can be used to access Preside Multiservice Data Manager (MDM). This section describes how to access a selection of MDM tools from this application.

Navigation

HP OpenView procedures

This section contains procedures to start the HP OpenView Network Node Manager (NNM) application and to access a selection of MDM tools from that application.

Navigation

Starting and stopping the HP OpenView NNM tool

- "Starting HP OpenView NNM from the MDM toolset" (page 657)
- "Starting HP OpenView NNM from the UNIX command line" (page 658)
- "Quitting HP OpenView NNM" (page 659)

Displaying online information

- "Displaying online documentation" (page 660)
- "Displaying alarm help" (page 661)

Starting MDM tools from HP OpenView

- "Starting MDM Passport tools from the menu bar" (page 662)
- "Starting MDM Passport tools from the node pop-up menu" (page 664)
- "Starting MDM DPN tools from the menu bar" (page 665)
- "Starting MDM DPN tools from the node pop-up menu" (page 667)

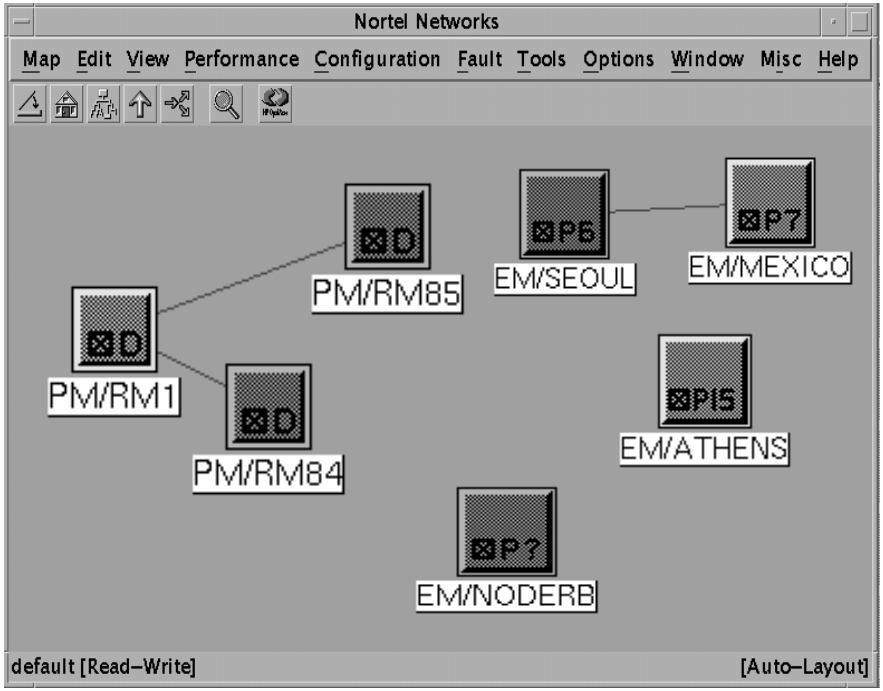
Starting HP OpenView NNM from the MDM toolset

Start HP OpenView NNM desktop to access the HP OpenView platform.

Procedure step

1 In the Preside MDM window, select **Fault**, **HP OpenView NNM**, and **Network Node Manager**.

The HP OpenView NNM desktop opens.



Starting HP OpenView NNM from the UNIX command line

Start HP OpenView NNM desktop to access the HP OpenView platform.

Procedure steps

1. In a UNIX window start HP OpenView:

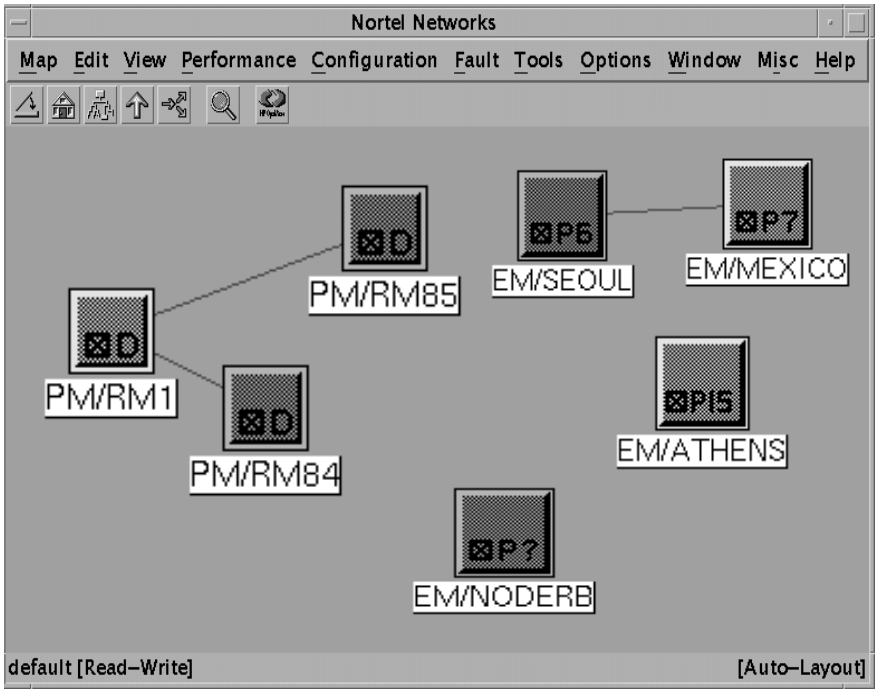
   `/opt/OV/bin/ovw &`

   The About HP OpenView window opens. To close the window, click **Close** or wait for the window to close on its own.

   The Alarm Categories window opens. It may display a status message at the bottom, stating the percentage of the trapd.log file that has been loaded.

2. To view your network on the Root map, double-click the Nortel Networks symbol.

   The Nortel Networks submap opens and displays the network devices.



Quitting HP OpenView NNM

Use this procedure to quit the HP OpenView NNM application.

Procedure steps

1. From the **Map** menu, select **Exit**.

   An OpenView Windows Warning dialog opens.

2. To exit, click **OK**.

   The dialog closes along with the Event Categories window and any open submaps.

Displaying online documentation

Display online documentation to access MDM and MDP documentation.

Procedure steps

1. From the Root map Help menu or any submap Help menu, select Online Documentation.

   The Netscape browser opens with online documentation.

2. In the left pane of the browser, select the MDM or MDP document suite.

   The left pane displays the documentation categories.

3. In the left pane, select a document name.

   A table of contents appears. You can now select a topic from the document.

4. In the left pane, select the topic you want to view.

   The topic details display in the right frame.

Displaying alarm help

Alarm help allows you to view help on specific alarms.

If you use this procedure to view help information for alarms from the HP OpenView NNM desktop, you need to first start the Alarm Help tool from the Preside MDM window. Starting Alarm Help in this manner opens the Netscape browser required for online help. As long as the Netscape Alarm Help window is open, you can request alarm help.

Procedure steps

1. In the Preside MDM window, select System -> Utilities -> Online Documentation.

   The Alarm Help tool opens in a Netscape window.

2. On the OpenView submap, select the nodes for which you want alarm help.

3. From the Fault menu, select Alarm.

   The All Alarms Browser window opens with a list of alarms for the selected nodes.

4. From the list of alarms, select one for which you want detail information.

5. From the Actions menu, select Additional Actions.

   The Additional Actions on All Alarms dialog opens.

6. From the Action list, select Help for Passport Alarms.

7. Click the OK button.

   The Netscape browser window displays the alarm help for the requested alarm

Starting MDM Passport tools from the menu bar

You can start a selection of MDM PassportPassport tools from HP OpenView NNM menu bar. The table "MDM Passport tools that you can start from HP OpenView NNM" (page 662) provides a list of MDM tools that you can start from HP OpenView and the associated documentation for those tools.

Procedure steps

1. On the OpenView submap, click a Passport node to select it.
2. From the **Performance**, **Configuration**, **Fault**, or **Miscellaneous** menu, choose the MDM Passport tool that you want to start.

Table 119
MDM Passport tools that you can start from HP OpenView NNM

MDM tools	For more information, see...
Performance tools:	
Passport Data Viewer	241-6001-031 *Preside MDM Performance Management User Guide*
Configuration tools:	
Nodal Provisioning	241-6001-610 *Preside MDM Nodal Provisioning User Guide*
Software Distribution and Configuration	241-6001-023 *Preside MDM Configuration Management for Passport User Guide*
Service Integrity Simplification	*241-6001-022 Preside MDM Network Reporting System User Guide*
Network Activation	241-6001-023 *Preside MDM Configuration Management for Passport User Guide*
Passport/SNMP Devices Backup and Restore	241-6001-807 *Preside MDM Network Backup and Restore*
Fault tools:	
Alarm Display	241-6001-011 *Preside MDM Fault Management User Guide*

(Sheet 1 of 2)

Table 119 (Continued)
MDM Passport tools that you can start from HP OpenView NNM

MDM tools	For more information, see...
Component Information Viewer	241-6001-011 *Preside MDM Fault Management User Guide*
Component Status Display	241-6001-011 *Preside MDM Fault Management User Guide*
Network Status Bar	241-6001-011 *Preside MDM Fault Management User Guide*
Passport Shelf View	241-6001-011 *Preside MDM Fault Management User Guide*
Miscellaneous utilities:	
Command Console	241-6001-804 *Preside MDM Workstation Utilities User Guide*
Customer Database	241-6001-804 *Preside MDM Workstation Utilities User Guide*

(Sheet 2 of 2)

Starting MDM Passport tools from the node pop-up menu

You can start MDM Passport tools from a node's pop-up menu.

Procedure steps

1. On the OpenView submap, right-click a Passport node to select it.

   The node pop-up menu opens.

2. From the node pop-up menu, select one of the following MDM tools:

   - a Passport Configuration tool
   - a Passport Fault tool
   - Data Viewer
   - Command Console
   - Customer Database

Starting MDM DPN tools from the menu bar

You can start a selection of MDM DPN tools from HP OpenView NNM menu bar. The table "MDM DPN tools that you can start from HP OpenView NNM" (page 665) provides a list of MDM DPN tools that you can start from HP OpenView and the associated documentation for those tools.

Procedure steps

1. On the OpenView submap, click to select a node.
2. From the **Performance**, **Configuration**, **Fault**, or Miscellaneous menu, choose the MDM Passport tool that you want to start.

Table 120
MDM DPN tools that you can start from HP OpenView NNM

MDM tools	For more information, see...
Performance tools:	
DPN Performance Viewer	241-6001-031 *Preside MDM Performance Management User Guide*
Configuration tools:	
Component Provisioning	241-6001-012 *Preside MDM Configuration Management for DPN User Guide*
Service Data Backup	241-6001-012 *Preside MDM Configuration Management for DPN User Guide*
Service Data Restore	241-6001-012 *Preside MDM Configuration Management for DPN User Guide*
Global Data Manager	241-6001-012 *Preside MDM Configuration Management for DPN User Guide*
Software Distribution	241-6001-012 *Preside MDM Configuration Management for DPN User Guide*

(Sheet 1 of 2)

Table 120 (Continued)
MDM DPN tools that you can start from HP OpenView NNM

MDM tools	For more information, see...
Software Substitution	241-6001-012 *Preside MDM Configuration Management for DPN User Guide*
Envelope Editor	241-6001-012 *Preside MDM Configuration Management for DPN User Guide*
Service Data Conversion	241-6001-012 *Preside MDM Configuration Management for DPN User Guide*
Network Activation	241-6001-012 *Preside MDM Configuration Management for DPN User Guide*
Service Integrity Simplification	241-6001-022 *Preside MDM Network Reporting System User Guide*
DPN Fault tools:	
Alarm Display	241-6001-011 *Preside MDM Fault Management User Guide*
Component Information Viewer	241-6001-011 *Preside MDM Fault Management User Guide*
Component Status Display	241-6001-011 *Preside MDM Fault Management User Guide*
Network Status Bar	241-6001-011 *Preside MDM Fault Management User Guide*
Miscellaneous utilities:	
Command Console	241-6001-804 *Preside MDM Workstation Utilities User Guide*
Customer Database	241-6001-804 *Preside MDM Workstation Utilities User Guide*

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Starting MDM DPN tools from the node pop-up menu

You can start MDM DPN tools from a node's pop-up menu.

Procedure steps

1. On the OpenView submap, right-click a DPN node to select it.

   The node pop-up menu opens.

2. From node pop-up menu, select one of the following MDM tools:
   - a DPN Configuration tool
   - Command Console
   - Customer Database
   - a DPN Fault tool
   - DPN Performance Viewer

HP OpenView NNM fundamentals

HP OpenView Network Node Manager (NNM) is an optional feature of MDM that provides access to the HP OpenView platform. To run this desktop application, you need HP OpenView and the HP OpenView Desktop for MDM software installed on the MDM workstation. After the required software is installed, you can start the HP OpenView NNM desktop application from the MDM toolset. Then, from the HP OpenView NNM desktop, you can access the following from the MDM software:

- fault management tools
- configuration management tools
- Data Viewer performance management tool
- Customer Database utility for access to customer information databases
- Command Console utility for direct access to a switching element

Root map

When you start HP OpenView NNM from MDM, a Root map opens, displaying the Nortel Networks symbol and the IP Internet symbol. These symbols indicate the state of their respective networks through color. The standard HP OpenView color scheme is used. To view the standard color representation you can display the legend from the Help menu.

How HP OpenView NNM desktop displays device names

HP OpenView NNM desktop displays Passport and DPN device names on the Nortel Networks submap.

Passport devices

For Passport nodes, the icons distinguish between Passport nodes belonging to the 6000, 7000 and 15000 series.

- Icons depicting Passport legacy and 6000 nodes contain P6 or 6.
- Icons depicting Passport 7400 nodes contain P7 or 7.
- Icons depicting Passport 15000 nodes contain P15 or 15.
- Icons depicting unknown Passport nodes contain P? or ?. Although the devices are in the database, it has not yet been configured to identify these devices. To change these icons to identify the Passport type, use the Make Configuration Data File (MCDF) utility. For details see 241-6001-015 *Preside MDM Network Model Administrator Guide*.

Passport nodes also have a label beneath the icon. Passport switches display on the Nortel Networks submap as EM/<device_name>. For example: EM/EMDEV1

Passport 4400 access device names display on the Nortel Networks submap as MPA /<device_name>. For example: MPA/MPADEV1

DPN devices

DPN nodes are depicted by an icon that contains a D or O.

The label for DPN switches display on the Nortel Networks submap as follows, depending on the type of DPN device:

- DPN-100 device names display as PM/<device_name>, for example: PM/PMDEV1
- Passport 4120 device names display as PM/<device_name>, for example: PM/PM/DEV2
- Operating Agents on DPN-100, Passport 4120, or Passport 4400 with LDM cards display as OA/<agent_name>, for example OA/AGENT3

There is no subcomponent submap for DPN devices. To see a list of the subcomponents and their states, use the Component Information Viewer.

Chapter 16
Common surveillance tasks

Network operators perform common surveillance tasks, such as monitoring the network for faults (global network status through the Network Status Bar, state-based through the Network Viewer, or Component Status Display or alarm-based through the Alarm Display); diagnosing the cause of the faults and its impacts; and taking remedial actions.

You can use a combination of surveillance tools to perform common tasks. Specific procedures, based on the tool and task, are provided in the following sections:

Finding troubled components

To quickly find troubled components, you can use the Network Status Bar, Network Viewer, Component Status Display, Alarm Display, and Component Information Viewer tools. If the Component Information Viewer is open with Auto Context Active turned on, component information from the Network Viewer, Component Status Display, and Alarm Display is passed to this tool for processing. See “Setting Preferences in MDM Toolset” (page 423) for more information.

For references to specific tools and tasks for finding troubled components, see the table “Finding troubled components” (page 672).

Table 121
Finding troubled components

Tool and task	Reference
Network Status Bar	“Network Status Bar” (page 397)
• Monitor network status.	“Network Status Bar fundamentals” (page 400)
• Identify troubled components.	“Troubled Components Dialog” (page 406)
Network Viewer	“Network Viewer in the MDM Toolset” (page 37)
• Navigate through the network.	“Using the Component Finder” (page 67) “Using organization navigation” (page 71) “Using background navigation” (page 77)
Component Status Display	“Component Status Display” (page 519)
• Navigate through the network.	“Starting the Component Status Display” (page 541)
• Set component filtering.	“Changing the Component Filter Settings” (page 544)

(Sheet 1 of 2)

Table 121 (Continued)
Finding troubled components

Tool and task	Reference
Alarm Display	“Alarm Display” (page 303)
• Display active alarms	“Active mode” (page 363)
• Display alarm logs	“Log mode” (page 363)
• Setting alarm filters.	“Filtering alarms” (page 365)
• Setting special effects.	“Setting alarm effects” (page 308)
Component Information Viewer	“Component Information Viewer” (page 415).
• Turn on Auto context active.	“Setting Preferences in MDM Toolset” (page 423)
• Set component filters.	“Setting component filters in MDM Toolset” (page 421)
• Set information type.	“Displaying additional component information in MDM Toolset” (page 434)
(Sheet 2 of 2)	

Monitoring a selected set of components

You can select a set of components that you want to monitor at a site, module, component, or subcomponent level of an organization. In the Alarm Display you can also perform filtering on specific components.

For references to specific tools and tasks for monitoring components, see the table.“Monitoring selected components” (page 673)

Table 122
Monitoring selected components

Tool and task	Reference
Component Status Display	“Component Status Display” (page 519)
• Choose the area of the network that you want to monitor.	“Starting the Component Status Display” (page 541)
(Sheet 1 of 2)	

Table 122 (Continued)
Monitoring selected components

Tool and task	Reference
• Select the types of components with particular states or critical levels that you want to monitor.	"Changing the Component Filter Settings" (page 544)
• Sort the list of components by state, component name, or time, and set the update interval.	"Setting the sort key for the components list" (page 546) "Setting the Auto-Refresh interval" (page 547)
Network Status Bar	"Network Status Bar" (page 397)
• Identify troubled subcomponents.	"Troubled Components Dialog" (page 406)
Network Viewer	"Network Viewer in the MDM Toolset" (page 37)
• Navigate through the network.	"Using the Component Finder" (page 67) "Using organization navigation" (page 71) "Using background navigation" (page 77)
Alarm Display	"Alarm Display" (page 303)
• Filter alarms.	"Filtering alarms" (page 365)

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Responding to troubled or out-of-service states

If you find a troubled component, or you receive an alarm indicating in-service troubled (ISTB) or out-of-service (OOS) state, use the tools described in the table "Responding to troubled or out-of-service states" (page 675) to respond.

Table 123
Responding to troubled or out-of-service states

Tool and task	Reference
Network Viewer	"Network Viewer in the MDM Toolset" (page 37)
• Use the Component Finder.	"Finding a component using the Component Finder" (page 68)
• Use organization navigation.	"Expanding in place to the next lower level" (page 71)
Component Status Display	"Component Status Display" (page 519)
• Navigate through the network.	"Starting the Component Status Display" (page 541)
• Set the component filtering.	"Setting component filtering from the Component Filter Settings Dialog" (page 544)
Component Information Viewer	"Component Information Viewer" (page 415)
• Select the problem subcomponent.	"Setting a target in the related components panel in MDM toolset" (page 427)

Determining a problem

After you locate the component causing the problem in the network, you need to determine the underlying cause of the problem, its importance, and its impact.

For references to specific tools and tasks for determining a network problem, see the table "Determining the cause of network problems" (page 676).

Table 124
Determining the cause of network problems

Tool and task	Reference
Component Information Viewer	"Component Information Viewer" (page 415)
• Navigate through the network.	"Component Information Viewer data" (page 461)
• Set the information type.	"Setting component filters in MDM Toolset" (page 421)
• Get more data from other tools.	For details on the Start Tool menu, see the section about the Start Tool in 241-6001-122 *Preside MDM Using MDM Toolset and Operator Client Interfaces*
Alarm Help	See "Alarm Help" (page 371).
• Look up the fault code.	

Putting a component into maintenance state

After you find a problem, you may want to put the component in maintenance state while it is being fixed.

For references to specific tools and tasks for putting components in maintenance state, see the table "Putting a component in maintenance state" (page 676).

Table 125
Putting a component in maintenance state

Tool and task	Reference
Network Viewer	"Network Viewer in the MDM Toolset" (page 37)
• Put the subcomponent into maintenance.	"Putting components into the Acknowledged state" (page 66)
(Sheet 1 of 2)	

Table 125 (Continued)
Putting a component in maintenance state

Tool and task	Reference
Component Status Display	"Component Status Display" (page 519)
• Put the subcomponent into maintenance.	"Putting a component into Maintenance state" (page 543)
Component Information Viewer	"Component Information Viewer" (page 415)
• Put the subcomponent into maintenance.	"Setting the maintenance state for a component" (page 430)
(Sheet 2 of 2)	

Putting a component in acknowledged state

After you find a problem, you may want to put the component in acknowledged state to mask its real state.

For references to specific tools and tasks for putting components in acknowledge state, see the table "Putting a component in acknowledged state" (page 677).

Table 126
Putting a component in acknowledged state

Tool and task	Reference
Network Viewer	"Network Viewer in the MDM Toolset" (page 37)
• Put the subcomponent into acknowledged state.	"Putting components into the Acknowledged state" (page 66)
Component Status Display	"Component Status Display" (page 519)
• Put the subcomponent into acknowledged state.	"Putting a component into Acknowledged state" (page 543)
(Sheet 1 of 2)	

Table 126 (Continued)
Putting a component in acknowledged state

Tool and task	Reference
Component Information Viewer	"Component Information Viewer" (page 415)
• Put the subcomponent into acknowledged state.	"Setting the acknowledge state for a component" (page 428)
(Sheet 2 of 2)	

Clearing an alarm

Normally, operators do not clear alarms. They are cleared after the component is restored. If necessary, you can clear an active alarm; but once cleared, it cannot be retrieved.

For references to specific tools and tasks for clearing an alarm, see the table "Clearing an alarm" (page 678).

Table 127
Clearing an alarm

Tool and task	Reference
Component Information Viewer	"Component Information Viewer" (page 415)
• If necessary, clear the alarm.	"Clearing alarms using Local Clear" (page 435) and "Clearing alarms using Global Clear" (page 437)
Alarm Display	"Alarm Display" (page 303)
• If necessary, clear the alarm.	"Clearing alarms locally" (page 316) and "Clearing alarms globally" (page 317)

Acknowledging/Unacknowledging an alarm

After you investigate a the cause of an alarm, you may choose to acknowledge the alarm. This indicates to other network operators that the problem is under investigation. Conversely, you might choose to unacknowledge a previously acknowledged alarm.

For references to specific tools and tasks for acknowledging or unacknowledging an alarm, see the table.“Acknowledging and Unacknowledging an alarm” (page 679)

Table 128
Acknowledging and Unacknowledging an alarm

Tool and task	Reference
Component Information Viewer	“Alarm acknowledgement and unacknowledgement” (page 381)
Alarm Display	“Alarm acknowledgement and unacknowledgement” (page 381)

Fixing a problem

After a problem is diagnosed, you can fix or circumvent it by issuing commands from the Command Console. See the Command Console section in 241-6001-804 *Preside MDM Workstation Utilities User Guide* for information on this tool.

Changing the Network Viewer display

You can customize the Network Viewer display by saving different views of the network.

For references to specific tasks for changing the Network Viewer display, see the table “Changing the Network Viewer display” (page 680).

Table 129
Changing the Network Viewer display

Tool and task	Reference
Network Viewer	"Network Viewer in the MDM Toolset" (page 37)
• Displaying nodes and shelves	"Displaying nodes" (page 49)
• Zoom to a larger view.	"Zooming in on the display" (page 77)
• Save a view of the network that is to be used often.	"Using Views of the network" (page 85)

Appendix A
LPDA-2 modem management

This appendix describes how you can manage LPDA-2 modems with Preside Multiservice Data Manager (MDM). It explains:

- what the LPDA-2 macros are
- how to use the LPDA-2 macros
- how to update the LPDA-2 macro configuration file

The macros described in this appendix can only be used with modems that support LPDA-2.

About LPDA-2 commands

LPDA-2 is a protocol that allows diagnostic commands to be sent to modems that support this protocol. You can send LPDA-2 commands using the macro facility of the Command Console. Each macro sends an LPDA-2 command to a modem at a specified port and displays the results of the command in the Command Console utility. For details about the Command Console utility, see 241-6001-804 *Preside MDM Workstation Utilities User Guide*.

The results displayed by the macros include comments on the values being displayed. When it is appropriate, a rating is displayed beside the value received from the modem. For example, the line quality received by the modem can be rated as good, fair, poor, or bad.

The values to which these ratings apply are set in the LPDA configuration file. You can edit this file to customize the display printed by the macros in the Command Console.

Modem self-test macro - LPDASLF

The modem self-test macro sends a command to a modem to perform a series of self-tests. These tests are performed by both local and remote modems. The modem reports the results of these tests and displays them in the Command Console.

Modem and line status macro - LPDAMST

The modem and line status macro sends a command to the modem to report the results of the last self-test performed. The modem reports the results of these tests and displays them in the Command Console.

Modem transmit/receive test macro - LPDATRR

The modem transmit/receive test macro sends a command to the modem that causes the local and remote modems to exchange test sequences. The number of times the modems exchange these sequences is supplied by the operator.

Using LPDA-2 macros

You need to start all macros from the Command Console. Before you can send an LPDA-2 command to a modem, you need to disable the port to which it is attached. You can disable the port from the Command Console using the AM/RM DISABLE command. For details on the command, see 241-1001-303 *DPN-100 Operator Commands and Responses - Volume 4*.

Example

RAAS-11 5 2 DISABLE

disables port 2 on PE 5 of the RAAS-11 access module.

The length of time the macros can run is limited. If no response is received before the time limit is reached, the macro times out and reports the problem.

You can start all macros that run from the Command Console by using $ in front of the macro name.

Running the LPDASLF macro

To run the LPDASLF macro, enter the command LPDASLF followed by the routing information that identifies the port being tested.

Example

$LPDASLF RAAS-11 5 2

The test takes a maximum of one minute, the results are displayed in the Command Console window.

Running the LPDAMST macro

To run the LPDAMST macro enter the command LPDAMST followed by the routing information that identifies the port being tested.

Example

$LPDAMST RAAS-11 5 2

The test takes a maximum of one minute; the results are displayed in the Command Console window.

Running the LPDATRR macro

To run the LPDATRR macro, enter the command LPDATRR followed by the number of test sequences the modems are to exchange, and the routing information that identifies the port being tested.

Example

$LPDATRR 6 RAAS-11 5 2

Here the modems exchange six test sequences and then report the results.

The maximum number of times that the modems can exchange test sequences is ten and the minimum is one. You need to provide a value for the number of exchanges before the routing information.

The time taken to complete the test depends on the number of test sequence exchanges requested. The maximum time for the test is 60 minutes; the results are displayed in the Command Console.

Updating the LPDA-2 configuration file

The file *lpda.cfg* contains information used by the macros to display the results received from the modem. A copy of this file is in the */opt/MagellanNMS/cfg/macros/nms* directory. You can use this file to change the behavior of the LPDA-2 macros when you

- change the ranges of values that are used to judge the performance of the modem
- change the language in the report printed from the modem
- extend the modem models recognized by the macros

You need to put replacement versions of this file in the Preside Multiservice Data Manager (MDM) user's *$HOME/MagellanNMS* directory. The macros search this directory for the configuration file before going to the */opt/MagellanNMS/cfg/macros/nms* directory.

If a problem occurs in the user's copy of the configuration file, the error is reported, and the */opt/MagellanNMS/cfg/macros/nms* version is used. If the macros fail to find a valid configuration file, they will print a warning and use a set of default values.

Detailed instructions for altering the configuration file are contained in the file.

Appendix B
Common alarm format

The table “Common alarm format” (page 685) describes the Common alarm format parameters.

Table 130
Common alarm format

Parameter	Semantics
componentID	Indicates the full name of the component that generated the alarm. For MPE 9500 alarms, the component ID is displayed using the following format: `<type><IOC#><port#> [:<part#>[:[<part#>]][.<unit#>[.<unit#>...]]` where:
date	Indicates the date at which the alarm was generated.
time	Indicates the time at which the alarm was generated.
alarmType	Indicates the type of event (for example, equipmentAlarm, CommunicationsAlarm). This attribute is equivalent to the OSI **alarmType** parameter.
common severity	Indicates the severity of the alarm. This attribute is equivalent to the OSI **perceivedSeverity** parameter. For MPE 9500, the possible values are CRITICAL, MAJOR, MINOR, WARNING, CLEAR, UNKNOWN.
probableCause	Standardized cause for the event. This attribute is equivalent to the OSI **probableCause** parameter.

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Table 130 (Continued)
Common alarm format

Parameter	Semantics
notificationID	Provides an identifier for the alarm. It may be used by the **correlatedNotifications** parameter of subsequent alarms.
customerID	Indicates the device customer Id associated with the component. This attribute is set to zero for MPE 9500.
rawState	The DPN raw state.
commentData	Provides a free form text description of the event.
operatorData	A HEX string specifying operator data.
expertData	A HEX string specifying expert data.
event	An integer specifying the alarm type as being a message, a set, or a clear.
fault code	A code used to obtain further information concerning the error causing the alarm. For MPE 9500 originated alarms, the fault code format is 8 + 3 +4 where 3 is a HEX string for the subsystem, and 4 represents the subsystem alarm code.
relatedComponentName	The names of components related to the component originating the alarm.
correlatedNotifications	Identifies alarms that are related to this alarm.
fileNameInformation	Information allowing the determination of the location in source of the alarm generating code.
administrativeState	This attribute is equivalent to the OSI **administrativeState** parameter.
operationalState	This attribute is equivalent to the OSI **operationalState** parameter.
usageState	This attribute is equivalent to the OSI **usageState** parameter.
proceduralStatus	This attribute is equivalent to the OSI **proceduralStatus** parameter.
availabilityStatus	This attribute is equivalent to the OSI **availabilityStatus** parameter.
unknownStatus	This attribute is equivalent to the OSI **unknownStatus** parameter.

(Sheet 2 of 3)

Table 130 (Continued)
Common alarm format

Parameter	Semantics
fileNameInformation	Identifies the file name of the source for the alarm generating code.
lineNumber	Identifies the line number in fileNameInformation for the alarm generating code.
processId	Identifies the process Id of the component generating the alarm.
version	Identifies the name of the version of software running when the alarm was generated. Supported for MPE 9500 only.
CCI Index	If configured, identifies the unique integer, configuredComponentIndex (CCI), used across all configured components in the system. Supported for MPE 9500 only.
DCI Index	If configured, identifies the dynamicComponentIndexOrZero (DCI). The value of this attribute is unique within the scope of the configured parent component. Supported for MPE 9500 only.

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Preside Multiservice Data Manager

Fault Management

User Guide

R15.1

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