NORTEL NETWORKS

Preside Multiservice Data Manager

Workstation Utilities

User Guide

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User Guide

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Contents

About this document

The following topics are discussed in this section:

Who should read this document and why

This document is for those who want to learn about the Preside Multiservice Data Manager (MDM) Utilities toolset. This document provides a description of the tools in the Utilities toolset and information on how to them.

What you need to know

This document assumes that you have basic knowledge of the following

- how to log on to an Preside Multiservice Data Manager (MDM) workstation
- how to use MDM
- the UNIX operating system
- UNIX vi text editor

How this document is organized

241-6001-804 *Preside MDM Workstation Utilities User Guide* contains the following sections:

- "The Utilities toolset" (page 15) is a general introduction to the toolset.
- "Remote Access" (page 19) explains how to use the Remote Access utility to access a host.
- "Command Console" (page 27) explains how to use the Command Console utility for fault detection and correction.
- "Online Documentation" (page 65) describes the Online Documentation browser to view MDM online documentation.
- "Memory Utilization tool" (page 69) explains how to use the Virtual Memory Utilization tool to find out how much virtual memory is available on your workstation.
- "Network Model Shared Memory Utilization tool" (page 73) explains how to use the Network Model Shared Memory Utilization tool to display information about the amount of shared memory available on the workstation for the Network Model.
- "Customer Data Tool" (page 79) explains how to use the Customer Data tool to access a customer data database.

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 the Preside Multiservice Data Manager (MDM), uppercase and lowercase letters that appear in UNIX commands and parameters must be matched exactly. The system matches upper and lowercase characters differently.

- |

  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 /).

Related documents

See the following documents for related information:

- 241-1001-506 *DPN-100 Alarm Console Indications*
- 241-2001-341, *NM Service Envelope Definitions*
- 241-6001-011 *Preside MDM Fault Management User Guide*
- 241-6001-012 *Preside MDM Configuration Management for DPN User Guide*
- 241-6001-015 *Preside MDM Network Model Administrator Guide*
- 241-6001-101 *Preside MDM Engineering Guide*
- 241-6001-211 *Preside MDM Embedded Programming Interface Reference Guide*
- 241-6001-303 *Preside MDM Administrator Guide*
- 241-6001-304 *Preside MDM Configuration Management Administrator Guide*
- 241-6001-501 *Preside MDM Proxy Alarms Reference Guide*
- 241-6001-801 *Preside MDM Overview*
- 241-6001-802 *Preside MDM User Interface Primer*
- 241-6001-809 *Preside MDM EPIC Reference Guide*
- 241-5701-500 *Passport 6400, 7400, 15000, 20000 Alarms*

Chapter 1
The Utilities toolset

The Utilities toolset is a set of Preside Multiservice Data Manager (MDM) utilities. This chapter contains the following:

Preside Multiservice Data Manager Utilities

Preside Multiservice Data Manager (MDM) Utilities are productivity tools that include:

- UNIX Access creates a window that runs a UNIX shell.

  Note: The UNIX Access utility is not provided by MDM. It is a standard application delivered with the Solaris operating system to which the MDM Utilities toolset provides access.

- EPIC is an interactive command line interface that simplifies Passport surveillance and provisioning

  — see the 241-6001-809 *Preside MDM EPIC Reference Guide*

- Remote Access lets you access a host from a remote location.

  — see "Remote Access" (page 19)

- Command Console allows you to directly access the switching element and its corresponding command set.

  — see "Command Console" (page 27).

- Memory Utilization displays information about the amount of virtual memory available on the workstation.

— see “Memory Utilization tool” (page 69)

- Network Model Shared Memory Utilization displays information about the amount of shared memory available on the workstation for the network model.

  — see “Network Model Shared Memory Utilization tool” (page 73)

- the MIB Browser utility lets you browse MIBs and perform other related functions

  — see “MIB Browser” (page 17)

- Customer Data provides access to the customer data database and allows you to add, change, query, delete, and view customer information.

  — see “Customer Data Tool” (page 79)

- The online documentation and help facility provides online access to the complete set of MDM Preside Multiservice Data Manager (MDM) documents.

  — see “Online Documentation” (page 65)

MIB Browser

The MIB Browser is provided as a general utility and is supported by the Preside Multiservice Data Manager using the AdventNet Web NMS software.

The MDM performance management tool Data Viewer uses the AdventNet Web NMS toolkit. The MIB Browser, part of that toolkit, has been integrated into MDM. Use the MIB Browser to load and view multiple MIB modules, traverse the MIB tree to look at the definitions, and view and operate on data available through an SNMP agent on a network managed device.

For additional information on the MIB Browser, use the MIB Browser's Help menu or refer to the AdventNet web site at http://www.adventnet.com.

Starting the MIB Browser

1 In the Nortel Networks Preside MDM window, select System -> Utilities -> MIB Browser.

The MIB Browser opens.

Saving loaded MIB files

If you do not save the loaded MIB files, all of the loaded files will be lost when the browser is restarted and you will have to load them again.

Procedure steps

1 Copy the file /opt/MagellanNMS/lib/cfg/loadmib.cfg to /opt/MagellanNMS/cfg.

2 Add MIB files, in order, to /opt/MagellanNMS/cfg/loadmib.cfg. Some common MIB files can be found in /opt/MagellanContrib/Advent/current/builder/mibs.

XFile

XFile is a standalone tool that is used by applications in MDM as a general utility for viewing files. For example, both Alarm Display and DPN Performance Viewer use this utility as their log file viewer.

The XFile window has the following components:

- The **File Name** text field. You use this field to enter the name of the file that you want to view.

- A scrollable area in which the file contents are displayed.
- The **Show** button that refreshes the contents of the display area with the current content of the specified alarm file.
- The **Pause/Resume** button that 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 dislay the incoming alarms.
- The **Close** button that closes the window.

Chapter 2
Remote Access

This chapter describes Remote Access, a utility that lets you access a remote host that supports the VT100 user interface either through an X.29 PAD session or a Telnet session.

This chapter contains the following:

The Remote Access tool

The Remote Access tool lets you access a remote host that supports the VT100 user interface either through an X.29 PAD session or a Telnet session.

The Remote Access main window contains a Session list that displays all active remote sessions. You can access a host by typing the remote host name or address in the text entry field, or you can use the Get context menu selection.

To start a Telnet session from the text entry field, you can type an IP address, a host name known as an IP host to the workstation, a component identifier of an SNMP device, or a host name known as a Passport module by the Host Group Directory Server (HGDS).

To start an X.29 PAD session from the text entry field, you can type a DNA, or a host name that has been configured on the workstation as an X.25 host.

You can establish up to ten concurrent Remote Access sessions from the workstation, but you cannot set up more than one session with the same host. Each Remote Access session provides an 80-character wide by 25-line tall VT100-like window and a corresponding entry in the Session list.

See also...

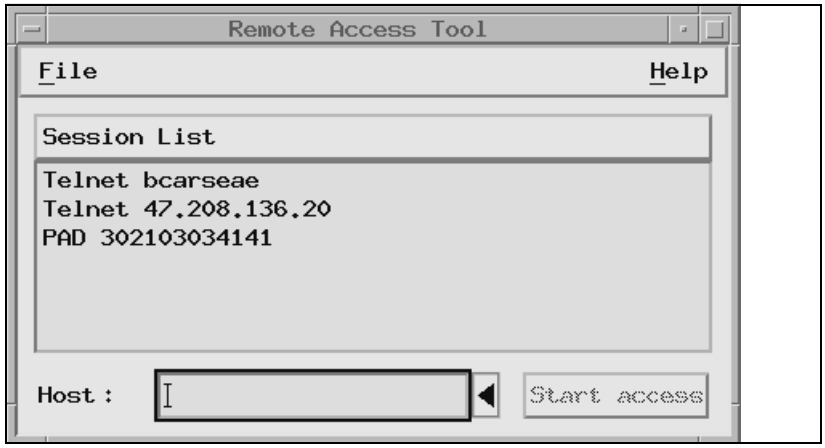
- "Starting a Remote Access session" (page 21)
- "The Session list" (page 22)
- "Host text entry field and Get context menu" (page 23)
- "Start access button" (page 23)
- "Stopping a Remote Access session" (page 24)
- "Stopping the Remote Access tool" (page 25)
- "Using the keyboard" (page 25)

Starting the Remote Access tool

1 In the Preside MDM window, select System -> Utilities -> Remote Access.

The Remote Access window opens.

Figure 1
Remote Access window



Starting a Remote Access session

Before starting a Remote Access session using the Get context (see step 3), the host name must be in context in the Component Information Viewer, or Component Status Display. Refer to the appropriate sections on Network Viewer, Component Information Viewer, or Component Status Display in 241-6001-011 *Preside MDM Fault Management User Guide* for details.

1 Start a Remote Access Telnet session:

Start a Remote Access Telnet session one of the following ways:

- Type an IP address in the data entry field and click the Start access button.
- Type a host name known as an IP host to the workstation in the data entry field and click the Start access button.

You can also make your host known by its node name by entering your node name and IP address in the /etc/hosts file or in the NIS or NIS+ system.

- Type a host name known as a Passport module by the Host Group Directory Server (HGDS) in the data entry field and click the Start access button.

- Type the name of an SNMP device, including the node type (for example, EM is a node type) in the data entry field and click the Start access button.

2 Start a Remote Access X.29 PAD session:

Start a Remote Access X.29 PAD session one of the following ways

- Type a DNA in the text entry field and click the Start access button.
- Type a host name that has been configured on the workstation as an X.25 host in the text entry field and click the Start access button. Use the tool x25tool from SunLink X.25 to configure the host name.

3 Start a remote access session:

a. Choose the data selector at the right of the data entry field

b. Choose Get context.

A Remote Access session for the host starts and the host name is displayed in the Session list in the main window of the Remote Access tool. Each remote session has a separate window.

See also...

- "The Session list" (page 22)
- "Host text entry field and Get context menu" (page 23)
- "Start access button" (page 23)
- "Receiving an error" (page 24)
- "Receiving a confirmation" (page 24)

The Session list

Each Remote Access session has a corresponding entry in the Session list. The session list shows the remote sessions that are in progress.

A popup menu is available once you select a session in the Session list. The popup menu contains the following commands:

- Show session - brings the selected session to the top of the display. It may or may not have been iconified. You can also double-click on a session in the Session list to bring it to the top of the display.
- Stop session - terminates the selected Remote Access session. The entry is removed from the Session list.

See also...

- “Receiving a confirmation” (page 24)
- “Stopping a Remote Access session” (page 24)

Host text entry field and Get context menu

You can access a host using the host text entry field and the Get context menu selection.

Accessing a host using the host text entry field

1 Type the remote host name or address in the Host text entry field.

2 Click the Start access button.

The host name is retrieved from the host text entry field.

Accessing a host using the data selector

1 From the data selector, choose Get context.

The host name is retrieved from the context server.

See also...

- “The Session list” (page 22)
- “Starting a Remote Access session” (page 21)

Start access button

Start a remote session using the name or address in the Host text entry field.

Starting a remote session

1 Click the Start access button.

A VT100-like window opens with the remote session.

If the Host text entry field is empty, the workstation will beep.

See also...

- “Host text entry field and Get context menu” (page 23)
- “Starting a Remote Access session” (page 21)

Receiving an error

When 10 remote access sessions are already open and you attempt to open a new one, an error dialog opens informing you that the maximum number of sessions are already open.

When a remote access session is already open to a host and you attempt to open a new session to the same host, an error dialog opens informing you that a session is already open to that host.

Closing the error dialog

1 Click the OK button.

The request to open a new session is cancelled.

Receiving a confirmation

When you request the stopping of a remote access session, a confirmation dialog opens requesting you to confirm.

When some remote access sessions are open and you select *Exit* from the File menu, a confirmation dialog opens warning you that the open sessions will be terminated and requesting you to confirm.

Confirming to stop a remote access session

1 If you want to continue your request, click the Yes button.

If you want to cancel your request, click the No button.

See also...

- “Stopping a Remote Access session” (page 24)

Stopping a Remote Access session

When you exit the Remote Access tool, all active sessions close. If you want to terminate a remote session without quitting the tool, follow this procedure.

1 Select the session to be terminated in the Session List.

2 Choose Stop session.

3 Click the Yes button to confirm.

The session is removed from the screen and the session no longer is displayed in the Session List.

Another way to stop a Remote Access session is to close the session's Xterm or UNIX window. When the session's window is closed, the session is removed from the Session List on the Remote Access tool. For example, one way to exit from the session window is to type exit and press Return. Once the session window closes, the session is removed from the Session List.

Stopping the Remote Access tool

To stop the Remote Access tool, from the File menu, select Exit or type Ctrl-E. Any open Remote Access sessions are terminated.

Using the keyboard

The Remote Access tool provides the following command shortcuts:

- Ctrl+E exits the Remote Access tool.

See also...

- "Mnemonics" (page 25)

Mnemonics

Some characters in menus and menu items have an underscore. These are mnemonics that you can use instead of using the mouse.

You can use the following keys in combination with the mnemonics:

- Meta key. For example, Meta-F X opens the File menu and exits Remote Access.
- F10 key. For example, F10 F X opens the File menu and exits Remote Access.

See also...

- "Using the keyboard" (page 25)

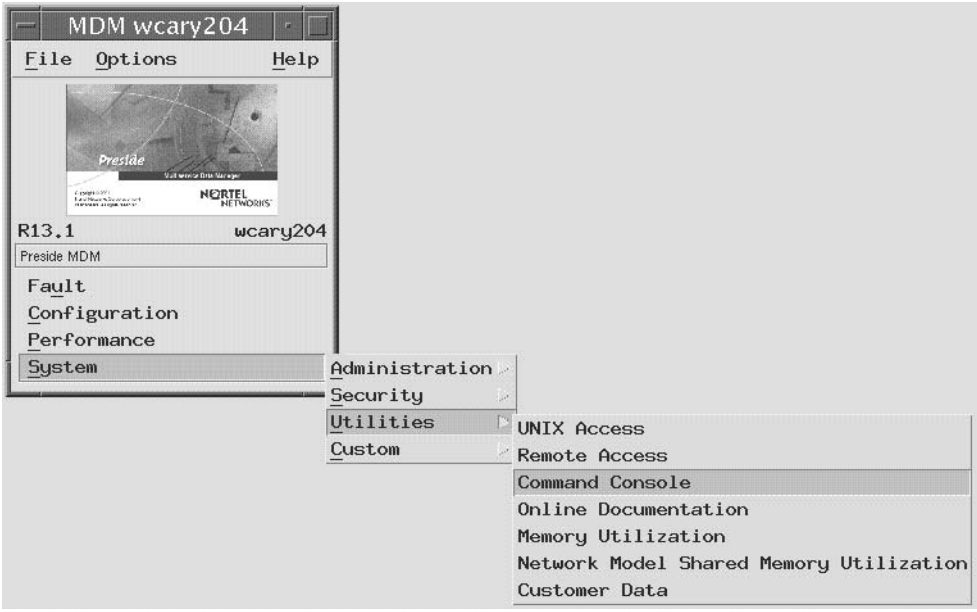
Chapter 3
Command Console

This section describes the Command Console and provides instructions on how to use this tool. You can view the following topics in this section:

Command Console utility

Preside Multiservice Data Manager (MDM) provides the Command Console utility for fault detection and correction. The Command Console is a utility under the System toolset in the Preside MDM window. The figure “Preside MDM Command Console” (page 28) shows the location of the Command Console utility.

Figure 2
Preside MDM Command Console



Command Console is an operator command application that lets you directly access Passport, DPN, and SNMP devices and their corresponding command sets.

Accessing the Command Console

1 In the Nortel Networks Preside MDM window, select System -> Utilities -> Command Console.

   The Command Console utility opens.

Command Console overview

The Command Console is an operator command application that allows you to directly access the switching element and its corresponding command set.

The Command Console provides the following functionality:

- an interactive operator command interface for network control
- the ability to issue operator commands directly to a switching element
- a DPN network control system (NCS) command interface
- a Passport command interface
- the ability to use UNIX commands and Simple Network Management Protocol (SNMP) commands
- multiple simultaneous connections to DPN NCS operation agents (OAs) and Passport operator interfaces
- simple text entry for commands and delivery of whole command lines to remote systems
- command prefixing and command routing
- automatic prefixing which converts the previously issued command into a properly structured prefix for the next command
- the ability to log command and command output to a file

To use the Command Console, you need to be familiar with operator commands described in the following documents:

- 241-6001-303 *Preside MDM Administrator Guide*
- 241-1001-303 *DPN-100 Operator Commands and Responses*
- 241-5701-050 *Passport 7400, 15000, 20000 Commands*
- 241-2001-351 *DPN-100 Network Control System Operations and Maintenance*.

Command Console main window

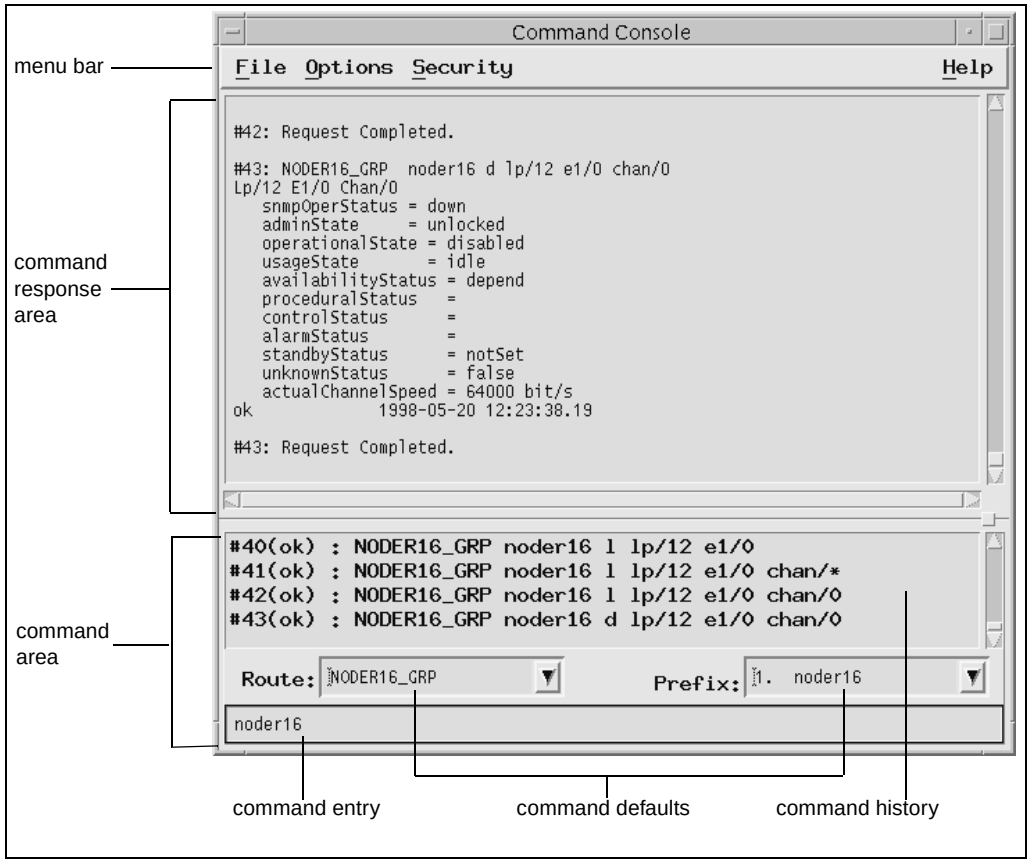
The Command Console main window consists of the following areas:

- “Menu bar” (page 31)

- "Command response area" (page 32)
- "Command area" (page 33)

See the figure "Command Console main window" (page 30) for a sample Command Console main window.

Figure 3
Command Console main window



Menu bar

The Command Console menu bar consists of the following menus:

- "File menu" (page 31)
- "Options menu" (page 31)
- "Security menu" (page 32)
- "Help Menu" (page 32)

File menu

The File menu provides the following commands:

- *Log to file…*opens the Log to File Dialog allowing you to specify the file to use for logging all subsequent command output. This command is available only when logging to a file is disabled. For details on the dialog, see "Log to File Dialog" (page 41).
- *Stop file logging* stops command output from being logged to a file. This command is available only logged to a file is enabled.
- *Exit* ends the Command Console session.

Options menu

The Options menu provides the following commands:

- *Prefix Definition…* displays the Prefix Definition Dialog. For details on the dialog, see "Prefix Definition Dialog" (page 40).
- *Current Connections…* displays the Current Connections Dialog. For details on the dialog, see "Current Connections Dialog" (page 40).
- *Set Auto-Prefix On* enables automatic prefix mode. This command is available only when automatic prefix mode is disabled. For details, see "Prefixes" (page 36).
- *Set Auto-Prefix Off* disables automatic prefix mode. This command is available only when automatic prefix mode is enabled. For details, see "Prefixes" (page 36)
- *Recall History as Prefix* recalls the selected command history entry or the last executed command as a command prefix for the next command. For details, see "Prefixes" (page 36).

Security menu

The Security menu provides the following command:

- *Connection Management…* displays the Connection Management Dialog allowing you to make and remove connections to network destinations. For details, see "Command Console Connection Management dialog" (page 39).

Help Menu

The Help menu provides the following commands:

- *Help on Context*
- *Help on Window*
- *Help on Help*
- *Help on Keys*

Command response area

The command response area displays both the operator command and the response to the command. Each command in the command response area has an associated sequence number for easy reference.

Commands in the command response area are displayed in full, that is, the command is shown with any command route and prefix in effect. For example, if you set Route to *NODER16_GRP* and Prefix to *noder16*, then enter the command *d lp/0*, the command is displayed in the command response area as *#1 : NODER16_GRP noder16 d lp/0*.

If a response to a command is interspersed with responses from other commands, the command text is followed by the string …continued…. The end of the response for any command is indicated by a line that contains the command number and the string Request Completed.

To save the contents of the command response area, use one of the following methods:

- enable *Log to file…* which also saves the command response area
- cut and paste to extract portions of the response text
- use drag and drop techniques to select portions of text to drop onto the printer icon in the common desktop environment (CDE) Front Panel

Command area

The command area is made up of three smaller areas which include the following:

- "Command history area" (page 33)
- "Command defaults area" (page 34)
- "Command entry area" (page 35)

Command history area

The command history area displays a list of all the commands you entered in the command entry area. All commands except for connect and disconnect are added to the command history. Each entry has a sequence number to associate a command with its response. In addition to commands, the following character indicators can also appear in the command history area:

- (…) to indicate a command is executing
- (*ok*) to indicate successful completion of a command
- (*X*) to indicate completion of a command but with errors

Use the command history area to re-execute a previous command. The following methods are available:

- Double-click, using the mouse select button, on a command in the command history.
- Select a command in the command history. To do so, click, using the mouse select button, on a command. The command is automatically pasted in the command entry area. If needed, you can edit the command; otherwise, execute the command by pressing the Return key.
- Select a command from the command history by clicking on a command using the mouse select button. From the Options menu, choose *Recall History as Prefix*. The selected command is pasted into the command entry area as a prefix. Type the command verb and press the Return key.

The command history area provides additional functionality through its pop-up menu. To display the command history pop-up menu, click on a command in the command history using the mouse menu button. The command history pop-up menu opens providing the following commands:

- *Cancel* stops the command that is currently executing. Currently executing commands are shown with the indicator (…). You can cancel only DPN and UNIX commands.
- *Show Response* finds the command in the command response area and highlights the beginning of the response. If the response is interspersed with other commands, you can issue subsequent *Show Response* commands on the same history item to show the remaining output.

Command defaults area

The command defaults area contains two boxes that display the current command route and any active prefix. The boxes and their functions are as follows:

- *Route:* lets you define a destination for a command. This destination is known as the command route. To access available routes, click the downward pointing arrow on the right side of the Route box. The list of available routes includes any group to which you are currently connected and three specialized routes. The specialized routes consist of the following:

  — $ (UNIX macro route)

  — @ (SNMP command route)

  — * (Passport wild-card route)

  The UNIX macro route lets you direct a command to the UNIX workstation and is the default route. The SNMP command route lets you perform Simple Network Management Protocol commands. The Passport wild-card route lets you direct commands to Passport nodes in any of the connected groups without having to know to which group the node belongs. The Command Console automatically routes the command to the appropriate group.

  For instructions on how to set a command route, see “Setting up command routing” (page 48).

- *Prefix:* lets you add a prefix to a command. A prefix is a command string that is added automatically to the beginning of any command you enter in the command entry area. You can select a prefix from a list of available prefixes; or, you can use the automatic prefix option. For more information on prefixes, see “Prefixes” (page 36). For instructions on how to set command prefixes, see “Setting up prefixes” (page 49).

Command entry area

Use the command entry area to enter commands. You can perform the following functions using the command entry area:

- enter a command
- edit an existing command displayed in the command entry area
- recall the last command by entering an equal sign (=)
- paste a command copied from the command response area
- automatically paste commands by clicking on a command in the command history area
- create a prefix using the command

  .PREF DEF <prefix_value>

- create or replace a prefix using the command

  .PREF <pref_num> DEF <prefix_value>

- delete a prefix using the command

  .PREF <pref_num> UNDEF

If you set a Prefix command default, this default is added automatically to the command entry area. For example, if you set Prefix to *R72*, then the string *R72* is automatically pasted into the command entry area. Each command that you type in the command entry area will have the prefix *R72* appended to it.

You can temporarily override a prefix using the command entry area. Any changes you make to a prefix in the command entry area apply only to the next command you execute. For example, assume you have set Route to *CORENCS* and Prefix to *R72* but you want to execute the *display* command with a prefix of R7 on the next command. The existing default *R72* is automatically pasted into the command entry area. To change this prefix,

delete *2* from the prefix *R72* in the command area and then type *display.* The command *CORENCS R7 DISPLAY* is executed. The ability to modify a prefix in the command entry area is useful when working with large prefixes.

You can change the default route setting using the command entry area. To do so, type another route as the first token in the command entry area. Providing a route as the first token also deactivates the current prefix setting because prefixes are usually route-specific. For example, if you have set Route to *CORENCS* and Prefix to *R72* and then enter *TOPNCS dir* in the command entry area, the route changes to *TOPNCS*, the prefix changes to *none,* and the command *TOPNCS dir* executes.

The command entry area has a pop-up menu that contains the command *Get Context*. This command allows you to paste the current component from context into the command area.

Prefixes

Using Command Console prefixes can help you when you need to issue multiple commands to either the same device or the same components, or both. Using prefixes saves you keystrokes since prefixes are automatically added to the command entry area for use in subsequent commands. You can create static prefixes or you can enable automatic prefix mode.

Static prefixes

You can specify a prefix to use for all subsequent commands. This prefix is static, that is, the prefix remains in effect until explicitly modified or deleted.

Automatic prefix mode

You can also use automatic prefix mode to set prefixes. When you enable automatic prefix mode, the Command Console converts a previously executed command into a device-specific prefix. For example, you can issue the Passport configuration sequence of check, save, activate, confirm, and commit without having to repeatedly input the module and subcomponent. Automatic prefixes are based on the last command issued. Therefore, prefixes can change with every command issued. An automatic prefix differs from a static prefix in that it need not be the left-most part of the command.

The table “Automatic prefix rules” (page 37) outlines the conversion rules for automatic prefixes when commands are entered in the command entry area (see the format for Command in the table) and when drag and drop techniques are used (see the format for Component in the table) and shows the resulting prefix. The caret (^) in the table indicates the position of the insertion cursor for the next command.

Table 1
Automatic prefix rules

Original command or dropped component name	**Resulting prefix**
DPN	
Command: <module> <verb...> Component: PM/<module>	<module> ^
Command: <module> PE <pe> <verb...> Component: PM/<module> PE/<pe>	<module> PE <pe> ^
Command: <module> <pi> <verb...> Component: PM/<module> PE/<pe> PI/<pi>	<module> <pi> ^
Command: <module> <pi> <po> <verb...> Component: PM/<module> PE/<pe> PI/<pi> PO/<po>	<module> <pe> <pi> ^
Command: <module> <comp.> <d|q|?...>	<module> <comp.> ^
Other DPN commands and component names	<module> ^
Passport	
Command: <module> <verb + opts> Component: EM/<module>	<module> ^
Command: <module> <verb + opts> <subcomponents and args...> Component: EM/<module> <subcomponents...>	<module> ^ <subcomponents and args...>

Setting automatic prefixes

You can set automatic prefixes by the following methods:

- Drag and drop a component or alarm from another fault management tool onto the Command Console. This action converts the corresponding component name into a prefix in the command entry area. Drag and drop components are always converted to prefixes. Drag and drop procedures and automatic prefixes produce similar outputs.
- Select a command in the command history area and then from the Options menu, choose *Recall History as Prefix* (Ctrl+h keyboard shortcut). This action converts the command into a prefix in the command entry area. If no command is currently selected, the Command Console creates a prefix when a command is executed.

You can invoke automatic prefix mode by the following method:

- From the Options menu, choose *Set Auto-Prefix On* (Ctrl+a keyboard shortcut). Each time you execute a command, the command is converted to a prefix for the next command.

Keyboard shortcuts

The Command Console provides the following command shortcuts:

- *Ctrl+E* closes the Command Console.
- *Ctrl+P* opens the Prefix Definition Dialog.
- *Ctrl+C* opens the Connection Management Dialog.
- *Ctrl+A* sets automatic prefix on or off
- *Ctrl+H* converts a previous command into a prefix for the next command

Command Console dialogs

The Command Console provides the following dialogs:

- “Command Console Connection Management dialog” (page 39)
- “Current Connections Dialog” (page 40)
- “Prefix Definition Dialog” (page 40)
- “Log to File Dialog” (page 41)
- “Bad Log File Error Dialog” (page 42)

Command Console Connection Management dialog

The Connection Management Dialog lets you to log on to a network destination. This dialog provides the following options:

- *Server Host* displays the server host name. All network communications are performed through this host.
- *Destination List* lists all the network destinations which are available from the current server host. The destination is either a destination mnemonic name for the DPN network or a GROUP name for the Passport network. Selecting an entry from the destination list, populates the Destination and User Id fields. *Destination Buttons* let you to hide/ show the DPN or Passport destinations.
- *Service Selection...* opens the Connection Service Selection dialog of the Service Selection tool. This dialog lets you select a different service host from the network access selection areas. Opened in this way, the Service Selection tool applies changes to a single user session only; it does not apply changes to other users of the same workstation. This lets you rapidly connect to different groups and OAs supported by different Preside Multiservice Data Manager (MDM) servers. For details on the tool, see the 241-6001-303 *Preside MDM Administrator Guide*.
- *User Id List* lists all previously authenticated user IDs associated with the selected destination and allows you to re-use authentication data.
- *Destination* lets you type a destination into this field rather than selecting one from the *Destination* list.
- *User Id* lets you type a user ID into this field rather than selecting one from the *User Id* List.
- *Password* lets you to type a Password into this field if the field has not already been populated.
- *Message* displays messages related to the current authentication request.
- *Connect* performs authentication. The Messages field displays the status of the authentication request. The dialog remains open upon successful completion to allow you to make other connections.
- *Disconnect* terminates the connection to the network destination.
- *Close* closes the dialog and returns to the Command Console.

Note: The Connection Management Dialog appears automatically the first time you start the Command Console and there is no current group or operations agent (OA) connection.

Current Connections Dialog

The Current Connections Dialog lets you view all the currently available connections and select a new route.

The dialog contains a connection list with the following information for each connection:

- *Route* is the name of the operations agent (OA) or group that is connected.
- *Type* is one of the following connection types:
  - MACRO (UNIX macro route $)
  - SNMP (SNMP command route @)
  - ALL GROUPS (Passport wild-card route *)
  - GROUP
  - DEST MNEM (destination mnemonic)
- *Via Host* is the host name of the workstation that is used for establishing the connection.

The dialog also contains the following buttons:

- *Set Route* sets the current route to the selected route. It is operable only when a selected item in the connection list is available.
- *Close* exits the Current Connections Dialog.
- *Help* displays information on the Current Connections Dialog

Prefix Definition Dialog

The Prefix Definition Dialog lets you enter or modify a set of prefixes as follows:

- *Prefix List* provides a sequential list of available prefixes. You can activate a prefix by double-clicking an entry in the Prefix List.

- *Edit Prefix* enables you to edit a single entry. To enter a prefix to edit, click an item in the Prefix List.

The dialog contains the following buttons:

- *Add* adds a new or changed value in the selection area to the list. If the selection is numbered, it replaces or inserts the prefix in the list. If the selection is not numbered, it is added to the end of the list with the next valid prefix number. This button is available after you enter a new prefix or modify an existing prefix.
- *Delete* deletes a selection from the list. This button is available only when you select an entry from the prefix list.
- *Activate* makes the selected prefix the current prefix and gives the current prefix special status in the command entry area of the main window. This button is available after you select an entry prefix from the prefix list.
- *Deactivate* removes the selected prefix from its special status in command line initialization. This button is available after you have activated a prefix.
- *Save Prefix List* saves the prefix list and is available when at least one prefix has added, modified, or deleted.
- *Close* closes the Prefix Definition Dialog.
- *Help* displays information on the Prefix Definition Dialog.

Log to File Dialog

The Log to File Dialog lets you specify the file for logged command output.

This dialog is a standard Motif File Selection dialog with an additional *Overwrite if existing?* toggle button. The dialog controls are as follows:

- *Overwrite if existing?* discards the contents of an existing file when logging starts.
- *Start Logging* closes the dialog and begins logging command output to the file identified in the Selection field.
- *Cancel* closes the dialog without logging.
- *Change Directory* changes the pathname in the Selection field to the directory selected in the Directories list.

- *Help* displays information on the Log to File Dialog.

If the selected file cannot be opened for logging, an error dialog will be displayed and a new file can be selected.

Bad Log File Error Dialog

If you select a file from the Log to File Dialog than cannot open for output, then the Bad Log File Error Dialog is displayed. The file or the directory may have incorrect access privileges. To continue, close the dialog, fix the problem, and select either the same log file or a different log file.

Command Console Procedures

You can perform the following tasks using the Command Console:

- "Managing network connections" (page 42).
- "Setting up command routing" (page 48)
- "Setting up prefixes" (page 49)
- "Entering commands" (page 55)
- "Using operator commands" (page 58)
- "Customizing the Command Console" (page 61)

Managing network connections

You can perform the following network management procedures:

- "Establishing a network connection" (page 43)
- "Setting the current connection" (page 46)
- "Disconnecting from the network" (page 47)
- "Sharing connections" (page 48)
- "Dealing with connection failures" (page 48)

Establishing a network connection

The Command Console establishes communications with DPN and Passport systems through the Connection Manager. The actual connection process is transparent. After you select a destination and type your UserID and password in the Connection Manager Dialog, a network connection is requested.

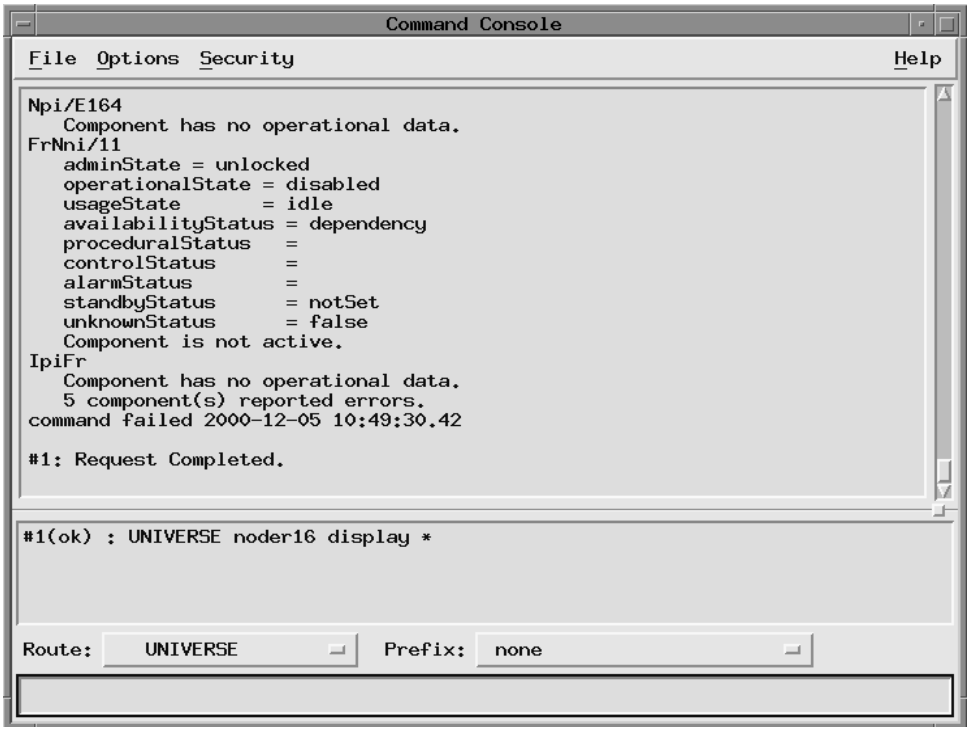
> ***Note:*** Your Preside Multiservice Data Manager (MDM) system administrator may have configured your workstation to open the Command Console automatically when you log on.

Use the following procedure to establish a connection to a network destination.

Connecting to the network

1. In the Preside MDM window, select System -> Utilities -> Command Console.

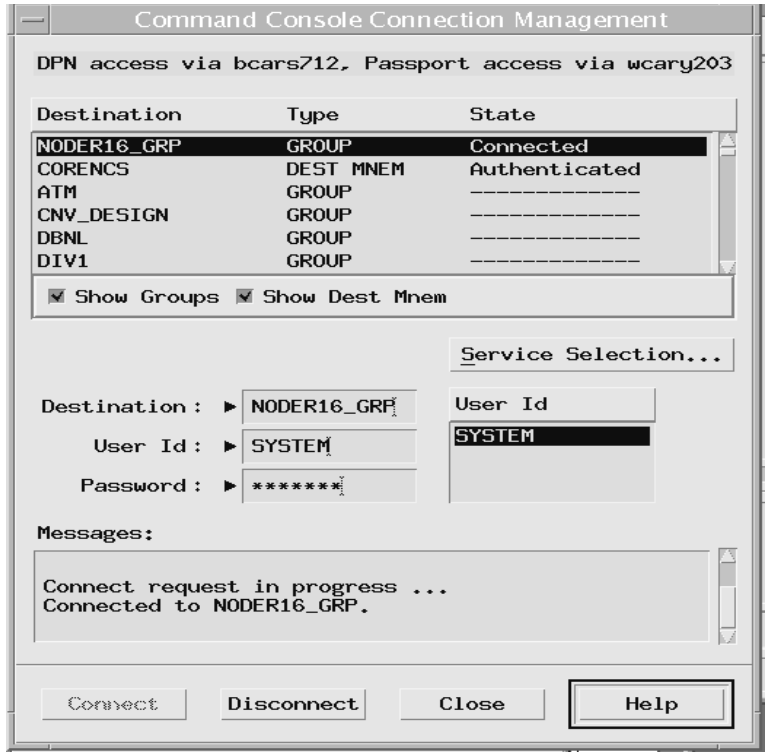
   The Command Console window opens.



2 On the Security menu, choose Connection Management.

The Command Console Connection Management dialog opens.

The host to which the Connection Manager is currently connected is displayed at the top of the dialog. Below it is the network Destination List. You can use the Show Groups and Show Dest Mnem buttons to determine the contents of the Destination List. The Show Groups button can include or exclude Passport groups from the list. The Show Dest Mnem button can include or exclude DPN OA's.



3 Start the Service Selection tool. To do so, click the Service Selection button.

The Connection Service Selection dialog opens.

4 Make any required changes to the current network access service selections.

As you make changes in the Service Selection tool, the connection dialog updates to show the available destinations on that server. When you perform a service selection, your existing connections are retained (whatever server they were actually established against).

5 Type a destination in the Destination field. Alternatively, double-click an entry in the Destination list.

6 Type your user ID and password in the appropriate fields. Alternatively, double-click an entry in the User ID field.

You must fill in these text fields before you can connect to the network.

Note: If you have already successfully entered a user ID and password during the current login, choosing a user ID from the User Id list pastes this information in these fields.

7 Click Connect.

When the connection is successful, the Connection Management Dialog remains open so you can make other connections.

8 Click Close.

The Connection Management Dialog closes. You can now issue commands to the destination address. After a successful connection, the Route field in the Command Console changes to this connection. All subsequent commands in the Command Console are directed to that route. The message area displays any messages pertinent to this connection.

Setting the current connection

Use the following procedure to determine which network connections are currently available.

Displaying available networks

1 On the Options menu, choose Current Connections….

The Current Connections Dialog opens.

A list of active components and the host used to establish the connection are displayed in the dialog.

2 To set your current route to one of the routes in the list, click the desired route name and then click Set Route.

The route indicator in the main Command Console window displays the new route and host used in establishing the connection.

Disconnecting from the network

Use the following procedure to disconnect an existing network connection.

Disconnecting a network

1 On the Security menu, choose Connection Management.

The Connection Management Dialog opens.

2 Select the destination you want disconnected from the destination list.

3 Click Disconnect.

4 To close the Connection Management Dialog and return to the Command Console, click Close.

The Connection Management Dialog closes and the Command Console main window opens. The message area displays any messages pertinent to this disconnection.

Sharing connections

You can run multiple Command Console sessions on your workstation. If you do, each session has access to connections that any other Command Console session makes. Also, each session is informed when a connection is established.

Dealing with connection failures

Connection failures result in the cancellation of all outstanding commands that are running against the failed connection. If the current route is the same as the connection that fails, the current route is set to *$*. You may have to find the source of the problem and correct it, or you may have to reconnect.

Setting up command routing

A command route specifies the destination for a command entered in the command entry area. The default is a dollar sign ($), which directs the command to UNIX on the workstation. Use the following procedure to set the current route.

Setting the current route from the main window

1. In the Command Console window, click the downward pointing arrow on the right side of the Route box.

   A list box opens and displays the list of available routes.

2. Click an entry from the list of available routes.

   The name of the selected route is displayed in the Route field.

You can change the current route shown on the Route field by performing the following actions:

- entering a new route name as a command. Entering the dollar sign (*$*) command sets the route back to the UNIX system.
- entering a new route name followed by a command to execute the command and change the default route to the new route name
- double-clicking on a route from the list of routes in the Current Connections Dialog

Note: In each of these cases, you need to enter a route that is connected through the Connection Manager. The only exception to this is route *$*, the UNIX system, which is available by default. The current prefix is also cleared (that is, set to *none)* in each case.

Setting up prefixes

You can create a prefix from the Prefix Definition Dialog. You can also create, modify, and delete prefixes using commands entered in the command entry area.

You can perform the following prefix tasks:

- "Creating command prefixes" (page 49)
- "Saving command prefixes to a file" (page 51)
- "Using a pre-defined command prefix" (page 51)
- "Deleting a command prefix" (page 52)
- "Creating, modifying, and deleting prefixes from the command entry area" (page 52)
- "Using automatic prefix mode" (page 54)

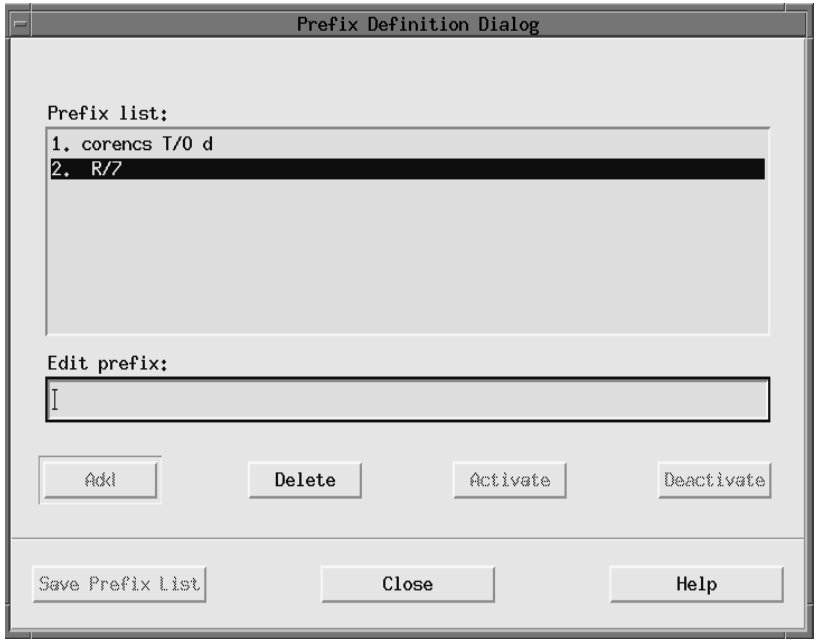
Creating command prefixes

Use the following procedure to create, change, or delete a prefix from the Prefix Definition Dialog. For a description of the dialog, see "Prefix Definition Dialog" (page 40).

Creating prefixes

1 On the Options menu, choose Prefix Definition.

The Prefix Definition Dialog opens.



2 Type the desired text in the Edit prefix field.

You can specify a number for the prefix by typing a number, a space, and then the desired text.

Note: If you specify a number for the prefix and a prefix currently exists with this number, it is overwritten with the new prefix text. The new prefix is automatically activated and becomes the current prefix. For a prefix that begins with a number, you need to specify both the number of the prefix and the prefix; otherwise, the Command Console takes the leading number of the prefix and uses it as the index for the prefix.

3 Click Add.

The text is added to the prefix list. If you specify a number, the prefix is added in the specified order. If you do not specify a number, the prefix is placed at the end of the list and is given the next available number.

Saving command prefixes to a file

Use the following procedure to save prefixes to a file, making them available for subsequent Command Console sessions.

Saving prefixes

1 On the Options menu, choose Prefix Definition.

The Prefix Definition Dialog opens.

2 Click Save Prefix List.

The prefixes are saved and are available the next time you start the Command Console.

Note: This button is available only when a modification is made to the prefix list. Modifications include the addition of a new prefix, a change to an existing prefix, and the deletion of a prefix.

Using a pre-defined command prefix

Use the following procedure to activate and deactivate a command prefix.

Activating a prefix from the main window

1 In the Command Console window, click the downward pointing arrow to the right of the Prefix box.

A list of available prefixes is displayed.

2 From the list of prefixes, click on the desired prefix.

The selected prefix is displayed in the Prefix field.

Activating a command prefix from the Prefix Definition Dialog

1 On the Options menu, choose Prefix Definition.

The Prefix Definition Dialog opens.

2 Click an entry in the Prefix list.

3 Click Activate.

The selected prefix appears in the Prefix field.

Note: This prefix continues to be used until it is deactivated, until another prefix is selected or added, or until the Route is changed. You can also double click on a prefix in the list to activate it. When a prefix is added it becomes the current prefix.

Deactivating a command prefix from the Prefix Definition Dialog

1 On the Options menu, choose Prefix Definition.

The Prefix Definition Dialog opens.

2 Click Deactivate.

The current prefix is deactivated and removed from the command entry area of the main window. The value in the command defaults area is set to *none*.

Deleting a command prefix

Use the following procedure to delete a defined prefix from the Prefix Definition Dialog.

Deleting a command prefix

1 On the Options menu, select Prefix Definition.

The Prefix Definition Dialog opens.

2 From the list of prefixes, click on the prefix you want to delete.

3 Click Delete.

The selected prefix is deleted from the list.

Creating, modifying, and deleting prefixes from the command entry area

The syntax used to change the command prefix in the command entry area is as follows:

`PREF <pref_num> DEF <pref_value>`

This command adds or replaces a prefix whose prefix number is <*pref_num*> with value <*pref_value*>.

`PREF DEF <pref_value>`

This command adds the prefix <*pref_value*> to the next sequential location in the prefix list.

`PREF <pref_num> UNDEF`

This command deletes the prefix whose prefix number is <pref_num> from the prefix list.

You can invoke prefixes by entering <*prefix-num*> as the first token in the command entry area. The prefix system supports the use of routing IDs within prefix definitions.

The special prefix value (.) is used to deselect the current prefix and return a null initial value to the command line. Additionally, if you type only a prefix in the command entry area, it changes only the current prefix.

When a prefix value is encountered in the first token of a command line, the system completes prefix substitution and resets the current prefix to the substituted value.

When a line is submitted that does not use any prefix, that line is passed to the routing system for transmission to the appropriate managed device.

Examples:

Suppose the following conditions exist:

- You have a prefix list consisting of

  1. R72
  2. N12

- Connections CORENCS and TOPNCS are available, where TOPNCS is the current route.

Typing:

- *2* sets the current prefix to N12.
- .2 DIR executes the command TOPNCS N12 DIR.
- CORENCS .1 DIR changes the current prefix to R72, changes the current route to CORENCS, and executes the command CORENCS R72 DIR.
- . (a period) sets the current prefix to *none*.

To save prefixes for use in subsequent Command Console sessions, click Save Prefix List in the Prefix Definition Dialog.

Using automatic prefix mode

Use the following procedure to turn automatic prefix mode on or off. For more information, see “Prefixes” (page 36).

Setting automatic prefix mode

1. Choose one of the following tasks:
   - **a.** On the Options menu, choose Set Auto-Prefix On.
   - **b.** Type Ctrl+a.
   - **c.** On the Prefix menu in the command defaults area, choose auto.

   Automatic prefix mode is enabled and the menu command changes to Set Auto-Prefix Off. When the Auto-Prefix command is enabled, typed commands are converted to prefix for the next command.

   Choose Set Auto-Prefix Off, or type Ctrl+a again to disable automatic prefix mode. The content of the command entry area is cleared and replaced by the current default prefix, if any.

Use the following procedure to convert a previous command into a prefix. For more information, see “Prefixes” (page 36).

Controlling automatic prefixes

1. Select a previous command from the command history area. If no selection is made, the last issued command will be used.
2. On the Options menu, choose Recall History as Prefix. Alternatively, you can type Ctrl+h.

   The selected, or last, command is converted to prefix for the next command.

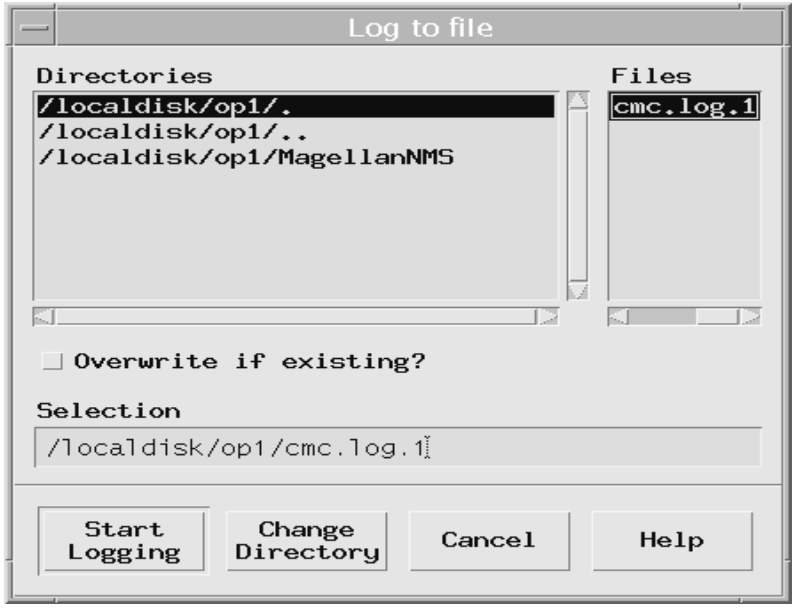
Logging command output to a file

Use the following procedure to specify a log file that automatically collects all command responses.

Enabling command response logging

1. On the File menu, choose Log to file….

The Log to file dialog opens.



2 Specify the directory and file where the logs are to be stored by selecting the appropriate entries in the Directories and Files lists. Click Change Directory. Alternatively, you can type the pathname in the Selection field.

3 If a log file currently exists and you want to overwrite it with the new responses, enable the Overwrite if existing? button.

4 To activate the log to file process, click Start Logging.

Disabling command response logging

1 On the File menu, choose Stop file logging.

Logging to file is immediately terminated.

Entering commands

When you enter a command, the first stage of command processing is a scan for prefix substitution. If a prefix is present in the line, substitution is performed; the current prefix is set as the prefix used in the command. The

next stage is the assignment of a command route to the command. For information about command routes, see “Setting up command routing” (page 48).

> ***Note:*** To ensure that commands are executed in operational mode (not provisioning mode), use the -o or -c options with each command you enter.

The command is then sent for execution. If no prefix is used, the command line is directly sent directly for execution. For information about prefixes, see “Setting up prefixes” (page 49).

The command is then assigned a sequence number and copied to both the response area and history list. It is displayed in the command history area using a (…) indicator until it is complete. If it completes successfully (or with no error return code), the indicator is changed to (ok). If it completes unsuccessfully, the indicator is changed to (X). Results of command execution are displayed in the command response area as they are received.

You can send the following classes of commands from the Command Console.

Network control system (NCS) commands These are described in the following publications:

- 241-1001-301, *Network Module Operator Commands and Responses*
- 241-1001-303 *DPN-100 Operator Commands and Responses*
- 241-2001-350, *NCS Operations and Maintenance*

You need to be logged on to an OA to issue NCS commands and view the responses.

Passport commands These are described in 241-5701-050 *Passport 7400, 15000, 20000 Commands*. You need to be logged on to a GROUP to issue Passport commands and view the responses.

Hold command To stop an NCS command from timing out, type the command *hold* in the command entry area before the NCS command. For example

```
hold N12 test 9 48 card 5
```

Command prefixes Command prefixes are text command strings that you place before any command in the input area. The Command Console lets you create, store, and use up to 60 different command prefixes. For detailed information about prefixes see “Setting up prefixes” (page 49).

UNIX commands (macros) You can type UNIX commands from the Command Console by prefixing $ to the command. For example, to get a list of files in the UNIX working directory, type the following command:

```
$ls  -1
```

You can find UNIX commands in UNIX handbooks. The Preside Multiservice Data Manager (MDM) workstation guides describe only the commands needed to run the MDM software.

Disruptive Commands

The Disruptive Command Safeguard facility needs to be installed by the Preside Multiservice Data Manager (MDM) system administrator. The Disruptive Command Safeguard searches command strings that you enter for any keywords that are considered disruptive. See 241-6001-303 *Preside MDM Administrator Guide*, for instructions on configuring the Disruptive Command Safeguard facility.

If you have the capability to execute a command that might be disruptive, a prompt is displayed when you enter one. If you do not have this capability, the command is rejected and no message is issued.

Disruptive keywords The following keywords are considered disruptive by default. Contact your system administrator for other keywords that may be added to the following list.

- ACTIVATE
- COMMIT
- CONFIRM

- DEREGISTER
- DISABLE
- ERASE
- FILTER
- FORMAT
- LOAD (see note below)
- REFUSE
- REGISTER
- RELOAD
- RESET
- RESTART
- STOP

  Note: If any of these keywords are preceded by the keyword *Query* or *Display*, the keyword is not considered disruptive. For example, *Display Committed* and *Query Load* are not disruptive; however, *Load* and *Committed* are disruptive.

Using operator commands

You can enter selected operator commands from anywhere a component can be selected and from within tools that support a Start Tool submenu; namely, the network viewer, the component information viewer and the alarm display.

The operator commands tool is supported for:

- DPN-100
  - PMs
  - OAs
  - PM-PEs
  - PM-PIs
  - PM-POs

- Passport modules and any subcomponent

  Note: The Operator Commands tool is also supported on RTRs, ERTRs, Hosts, and Preside Multiservice Data Manager (MDM) workstations. Invoking the Operator Commands tool on one of these starts a Telnet session to that node name. For this Telnet session, a corresponding IP address to node name needs to exist in the */etc/hosts* file.

Configuring connections for the Operator Commands tool

The Operator Commands tool uses information contained in the *.nmsrc* file (located in your *$HOME/MagellanNMS* directory) to determine which OA/Passport groups are used to establish a network connection. This connection is completed using the same mechanism that the Command Console uses. If a network connection on a component is not yet established, the Operator Commands tool prompts for authentication information to complete the connection. The Operator Commands tool reuses existing network connections.

Note: The Operator Commands tool automatically creates a file if one does not already exist by using the first used OA or Passport Group as the default for future connections.

If you want to define a specific OA destination for a given DPN-100 module, add an entry in the following format to the *.nmsrc* file in your *$HOME/MagellanNMS* directory:

```
[<module name>] OA <OA name> [<userid> [<password>]]
```

Example:

R78 OA CORENCS DAVE

If you want to add a specific group destination for a given Passport module, add an entry in the following format to the *.nmsrc* file in your *$HOME/MagellanNMS* directory:

```
[<module name>] GROUP <Group name> [<userid>
[<password>]]
```

Example:

NODER2 GROUP NODER2_GRP

If the module name is omitted and the entry is located at the bottom of the file, the destination applies to all other DPN-100 or Passport modules.

Example:

NODEY2CD GROUP NODEY2CD_GRP
GROUP UNIVERSE
OA CORENCS

This example indicates that you need to use connections to *NODEY2CD_GRP* to reach *NODEY2CD*. *UNIVERSE* is used for all other Passports and *CORENCS* is used for all DPN-100s. Ensure that the generic line (no module name) appears after the module-specific lines.

Note: If the user name and password are provided, connections are performed automatically.

Starting the Operator Commands tool

1. From the supporting tool (Network Viewer, Component Information Viewer, or Alarm Display), select the component to which you want to make a network connection.
2. From the Start Tool submenu, select Utilities -> Operator Commands.

   The Operator Commands tool opens with a choice of command selections.

   Note: The command selections vary depending on the type of component you choose.
3. Select the number or letter corresponding to the command you want issued.
4. Press the Return key.

   If a network connection exists for the appropriate DPN-100 or Passport Group component, the connection is used to execute the command. If a network connection does not exist, you are prompted for authentication information: Destination, Capability ID and Password.
5. After the command execution is complete, to display the command menu, press the Return key.
6. To exit the Operator Commands tool, select *q*.

   The Operator Commands tool closes.

Executing an alternate command

To enter a command that is not available in the current menu list, use the *o* and *O* options.

1. From the supporting tool, select the module to which you want to make a network connection.
2. On the Start Tool submenu, choose Operator Commands.

   The Operator Commands tool opens with the choice of command selections.
3. Enter either *o* for *Other Command on Component* or *O* for *Other Command on Destination.*

   The tool prompts you to manually enter commands for the current component or for the OA/Group destination.
4. Enter the command on the prompt line and press the Return key.

   If a network connection does not exist, you are prompted for authentication information: Destination, Capability ID and Password. If a network connection exists for the appropriate DPN-100 or Passport Group component, the connection is used to execute the command.
5. After the command is executed, press the Return key and manually enter a new command.
6. Press the Return key (empty line) to return to the main menu.
7. To quit the Operator Commands tool, select *q*.

   The tool closes.

   Note: You can quit the tool at any time: type Ctrl-C to cancel the operation then press the Return key to exit the tool.

Customizing the Command Console

You can customize the Command Console to

- ensure that the Connection Management Dialog opens automatically when you open the Command Console
- prevent the execution of UNIX commands from the Command Console
- initiate the log-to-file feature when the Command Console starts

To customize an installation, you need to change the application default file for the Command Console. The default file is */opt/MagellanNMS/lib/app-defaults/<lang>/CMC* directory, where <*lang*> is one of: *C* (English), *ja* (Japanese), *or zh* (Chinese). Changes to this file affect all users of that installation.

> ***Note:*** Specifications made in a user's *.Xdefaults* file override any corresponding specifications in application default files.

To customize a single user, you need to change the user's *.Xdefaults* file in the user's home directory. For example, the user *oper1* can edit the file */home/oper1/.Xdefaults/<lang>* where <*lang*> is one of *C* (English), *ja* (Japanese), or *zh* (Chinese). Changes to this file affect a single user only and are usually put into effect when the user logs in to the account. Changes to the.*Xdefaults* file can be made effective immediately by executing the following command from a UNIX access window:

```
/usr/openwin/bin/xrdb -merge .Xdefaults
```

The table “Resources for customizing the Command Console” (page 63) lists the resources you use to customize the Command Console.

Table 2
Resources for customizing the Command Console

Resource	Description	Legal values
CMC*pop-upCM	If the value is set to True, the Connection Manager window automatically opens when you start the Command Console. If the value is set to False, the Connection Manager window does not open automatically. The default value is False.	True or False
CMC*unixAccess	If the value is set to True, UNIX commands are executed. If the value is set to False, UNIX commands are prevented from executing. The default value is True.	True or False
CMC*logToFile	If the value is set to True, the console automatically logs all output to a file in the home account. The file is called *CmcLog.YYMMDD-HHMMSS.PID*. If the value is set to False, the console does not automatically log output to a file. The default value is False.	True or False
(Sheet 1 of 2)		

Table 2 (continued)
Resources for customizing the Command Console

Resource	Description	Legal values
CMC*logFilePath	This resource specifies the pathname of the log file in the home account. The default is *CmcLog.<date time>.<pid>*.	
CMC*logAppend	If the value is set to True, the output is appended to a log file if it already exists. If the value is set to False, the output overwrites a log file if it already exists. The default value is False.	True or False
(Sheet 2 of 2)		

Chapter 4
Online Documentation

This section describes the Online Documentation utility. This section contains the following topics:

About Online Documentation (Web)

Online Documentation (Web) is a web-based online documentation and help utility supplied with the Preside Multiservice Data Manager (MDM) software. The web version of the utility provides online help information accessible from a Java-enabled browser and provides platform independence as a distributed application.

Using Online Documentation (Web), you can access the complete set of MDM and Management Data Provider (MDP) technical publications. A navigation frame lets you navigate through the available documentation and select a topic, subtopics, or related topics. In addition, you can search the documentation set based on keywords.

You can also access context-sensitive help information for MDM applications. This context-sensitive information includes online help information for MDM application windows and dialogs, alarms, and software configuration.

Setting the NMSWEBBROWSER variable

If the Netscape web browser is not installed in the directory /opt/netscape, change the environment variable NMSWEBBROWSER to the actual path.

1. Close all MDM tools and associated help windows.
2. To determine the Netscape path, type the following command:

   `which netscape`

   The path to Netscape is shown.
3. Set the NMSWEBBROWSER environment variable.

   `setenv NMSWEBBROWSER <Netscape path>`

   where:

   <Netscape path> is the path to the directory in which Netscape is installed. Use the Netscape path shown in step 2.

   Or, set the environment variable in the .cshrc or .profile files and then source the modified file using one of the following methods.

   For C-shell (csh):

   `source /opt/MagellanNMS/system/skel/.cshrc`

   For Bourne shell (sh):

   `./opt/MagellanNMS/system/skel/.profile`

Starting Online Documentation (Web)

1. Start the MDM toolset:

   `/opt/MagellanNMS/bin/nmstool &`

   The Preside MDM window opens.
2. You can start Online Documentation by either of the following methods:

   a. From the Preside MDM window, select System -> Utilities ->Online Documentation.

   b. From within an MDM tool, select a Help item from the Help menu.

   The Online Documentation utility opens.

Note: Whenever you select Help, Alarm Help, or context help within an MDM tool, the Online Documentation (Web) browser opens. On the initial launch of Netscape, a dialog opens indicating that Netscape is starting. The initial launch of Netscape may take several seconds.

Getting help

Most Preside Multiservice Data Manager (MDM) tools provide a Help menu to view online help about the MDM tool in context. The Help menu provides the following types of help information.

- "Help on Context" (page 67)
- "Help on Window" (page 67)

Help on Context

Preside Multiservice Data Manager (MDM) context-sensitive help lets you view online help related to MDM tools.

To start context-sensitive help, from the Help menu, select Help on Context. When the cursor changes to a question mark, select any object in the window. After you make a selection, the help information associated with that object displays in the Online Documentation window.

Help on Window

This menu item displays a brief description of the currently selected Preside Multiservice Data Manager (MDM) window.

Troubleshooting Online Documentation (Web)

The following procedure is intended to troubleshoot the main cause of on-line documentation failure..

No help information displays in Online Documentation (Web)

If all the required software packages for Online Documentation (Web) are installed, but help information does not display in the Netscape window, then use the following procedure.

1 Ensure that the Tomcat application is running by using the ps command.

```
ps -ef | grep java
```

If Tomcat is running, you should see the following process:

```
root 4074 1 11 11:22:15 pts/5 0:04 /opt/
MagellanContrib/JRE/current/bin/java
-DJava.endorsed.dirs=/opt/MagellanCon...
```

2 If Tomcat is not running, log in as root then start it:

```
/etc/init.d/jtomcatctl404 start
```

If Tomcat is already running, log in as root then restart it:

```
/etc/init.d/jtomcatctl404 stop
/etc/init.d/jtomcatctl404 start
```

3 Check the current configuration of the port variable:

```
ctxcmd -s TOMCATHOST
```

Notice the return value of the port. For example, “value is 47.135.225.32:8081” the port number is 8081.

For more information, see the procedure to change Tomcat port numbers in 241-6001-100 *Preside MDM Installer Guide*.

No user-defined alarm help displays in Online Documentation (Web)

If you add or modify alarm help information in Online Documentation (UNIX) and this information does not display in Online Documentation (Web), use the following procedure.

1 Ensure the /opt/MagellanNMS//data/alarms/UserAlarms directory exists and contains files and directories that have read permissions.

2 Log on as root and restart Tomcat.

```
/etc/init.d/jtomcatl404 stop
/etc/init.d/jtomcatl404 start
```

3 Restart MDM.

```
/opt/MagellanNMS/bin/nmstool
```

Mnemonics

In the menus of the Preside Multiservice Data Manager (MDM) tools, some characters have an underscore. These are mnemonics that you can use instead of using the mouse to open a menu and select a menu item.

You can use the following keys in combination with the mnemonics:

- Meta key
  For example, Meta-H W opens the Help menu and selects On Window.
- F10 key
  For example, F10 H W opens the Help menu and selects On Window

Chapter 5
Memory Utilization tool

This chapter describes Memory Utilization, a utility that provides you with the amount of virtual memory available on the workstation. This chapter contains the following:

The Memory Utilization tool

The Memory Utilization tool displays information about the amount of virtual memory available on the workstation. It displays the percentage of virtual memory currently in use on the Preside Multiservice Data Manager (MDM) workstation in a bar graph.

The Memory Utilization display shows the virtual memory used and the amount still available on the workstation. This information is displayed in megabytes.

The horizontal bar graph shows the percentage of memory used. On a color monitor, the bar changes color as follows:

- green indicates an acceptable amount of free memory

- red indicates a low amount of free memory (less than 10% of memory is available)

When the low memory threshold is crossed, a log appears in the System Log Display and a message is displayed on the console.

The bar graph is updated regularly to display the current memory.

See also...

- "About virtual memory" (page 70)
- "File menu" (page 71)
- "Configuring Memory Utilization" (page 71)
- "Using the keyboard" (page 72)

About virtual memory

Virtual memory is the memory that all applications on the workstation have available to them. The amount of virtual memory is determined by the amount of swap space configured on the workstation. When the available virtual memory is exhausted, no more processes can be run, while existing processes may encounter problems.

Memory utilization is important because Preside Multiservice Data Manager (MDM) tools only function properly if there is sufficient memory available. If problems are encountered that are believed to be related to insufficient memory, this tool can be used to monitor memory usage and to guide in making procedures for tool usage that avoid memory exhaustion. Alternatively, a consistently low amount of available memory may indicate that additional workstation virtual memory is required.

Refer to 241-6001-101 *Preside MDM Engineering Guide* for details on workstation engineering.

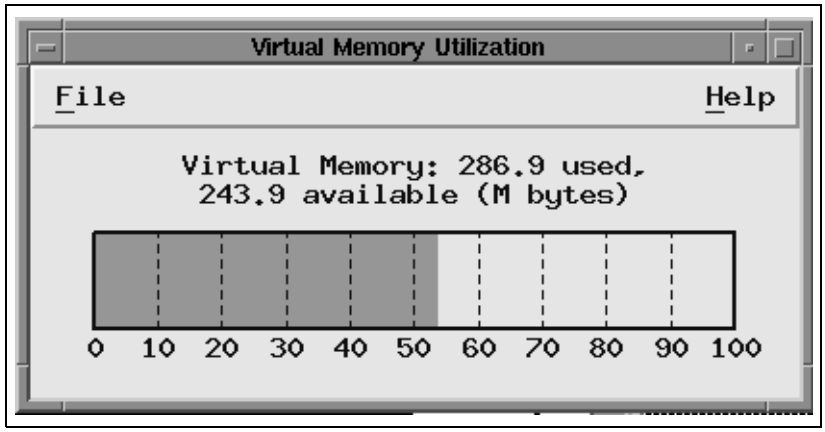
Starting Memory Utilization

1 In the Preside MDM window, select System -> Utilities -> Memory Utilization.

The Virtual Memory Utilization window opens.

If the Memory Utilization tool cannot get the memory information when you launch it, you will be asked to restart the tool.

Figure 4
Memory Utilization tool



File menu

The File menu contains the following command:

- Exit stops the Memory Utilization tool.

Configuring Memory Utilization

The low memory threshold, acceptable amount of memory color, and low amount of memory color can be set by command line options or X Toolkit resources. The options related to color can only be seen when the tool is run on a color monitor.

To set the threshold to mark the transition between an acceptable and a low amount of memory, enter the following command:

```
-t <number_between_0_and_100>
```

The appropriate value for the threshold is very dependant on the workstation configuration, the mix of Preside Multiservice Data Manager (MDM) tools being used, and on the amount of information (network size, service data size,

alarm rate) being processed. The threshold value is best arrived at by monitoring memory utilization and determining when a low memory condition occurs. The default value is 90.

Enter the following command to set the bar color when the amount of memory used is less than the low memory threshold percentage:

```
-ok <color>
```

Enter the following command to set the bar color when the amount of memory used is greater than or equal to the low memory threshold percentage:

```
-low <color>
```

Example

The default tool parameters can be set by starting the tool as follows:

```
/opt/MagellanNMS/bin/mem -virtual -t 90 -ok
      forestgreen -low red
```

Using the keyboard

The Memory Utilization tool provides the following command shortcut:

- Ctrl+E exits the Memory Utilization tool.

See also...

- “Mnemonics” (page 72)

Mnemonics

Some characters in menus and menu items have an underscore. These are mnemonics that you can use instead of using the mouse. You can use the following keys in combination with the mnemonics:

- Meta key. For example, Meta-F X opens the File menu and exits Memory Utilization.
- F10 key. For example, F10 F X opens the File menu and exits Memory Utilization.

See also...

- “Using the keyboard” (page 72)

Chapter 6
Network Model Shared Memory Utilization tool

This chapter describes Network Model Shared Memory Utilization, a utility that provides you with the amount of shared memory available on the workstation. This chapter contains the following:

The Network Model Shared Memory Utilization tool

The Network Model Shared Memory Utilization tool displays information about the amount of shared memory available on the workstation for the network model. It displays the percentage of shared memory currently in use on the Preside Multiservice Data Manager (MDM) workstation in a bar graph. Use this tool to monitor the shared memory when a new network model is loaded.

The Network Model Shared Memory Utilization display shows the network model shared memory used and the amount still available on the workstation. This information is displayed in megabytes.

The horizontal bar graph shows the percentage of shared memory used. On a color monitor, the bar changes color as follows:

- green indicates an acceptable amount of free memory
- red indicates a low amount of free memory (less than 10% of memory is available)

When the low memory threshold is crossed, a log appears in the System Log Display and a message is displayed on the console.

The bar graph is updated regularly to display the current memory, especially while a new network model is being loaded.

See also...

- "About shared memory" (page 74)
- "File menu" (page 76)
- "Configuring Network Model Shared Memory Utilization" (page 76)
- "Using the keyboard" (page 77)

For more information on network models, refer to 241-6001-015 *Preside MDM Network Model Administrator Guide*. For more information on how to increase the amount of shared memory, refer to 241-6001-303 *Preside MDM Administrator Guide*.

About shared memory

Shared memory is the memory that is used to store the active Surveillance Network Model. When the Network Model Coordinator (NMC) is started, it reserves as large an amount of shared memory as it can (or as much as indicated by its -s command line argument). This memory is shared by the active model and the applications that use it, such as the Network Model Server, CSD, and Component Provisioning.

A consistently low amount of available shared memory may indicate that additional workstation memory is required. Contact your system administrator, or refer to 241-6001-101 *Preside MDM Engineering Guide* and 241-6001-303 *Preside MDM Administrator Guide*.

Note: Increasing the amount of physical memory (RAM) on a workstation does not increase the amount of shared memory (although it will likely increase performance). The workstation's kernel must be reconfigured to make use of the added memory.

Starting Network Model Shared Memory Utilization

The Network Model Shared Memory Utilization tool must be started before a network model is loaded.

When the Network Model Coordinator (NMC) is started, it uses the value of the shared memory segment size defined during the Preside Multiservice Data Manager (MDM) configuration and reserves as big a piece of shared memory as it can. Alternatively, NMC supports a -s option that lets you specify the amount of shared memory (in Megabytes) that you want to allocate. The memory is shared by the active model and the applications that use it. A consistently low amount of available shared memory may indicate that more shared memory is required.

1 In the Preside MDM window, select System -> Utilities -> Network Model Shared Memory Utilization.

The NM Shared Memory Utilization window opens.

2 Several conditions may impact the display on the NM Shared Memory Utilization window.

These conditions are displayed in Table 1.

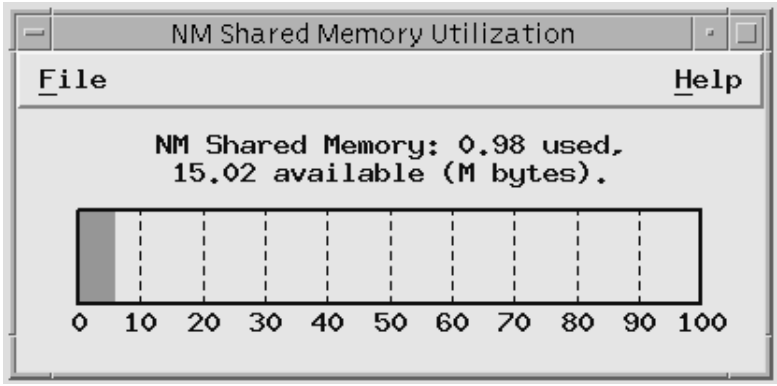
Table 3

If...	Then...	Reason: The...
the text above the bar graph indicates an error and asks you to restart the tool	restart the tool	shared memory segment is not present or was lost while the tool was opened.
the text above the bar graph displays that no shared memory is in use by MDM.	there is nothing to view; restart the tool if the NMC is started	shared memory segment is not currently in use by MDM

Table 3

If...	Then...	Reason: The...
the text above the bar graph says that the system cannot get shared memory information and asks you to restart the tool.	restart the tool	tool was unable to get shared memory information
the tool is taking long to open	wait: the tool will open once the model is loaded	tool was started while the model was loading

Figure 5
NM Shared Memory Utilization tool



File menu

The File menu contains the following command:

- Exit stops the Network Model Shared Memory Utilization tool.

Configuring Network Model Shared Memory Utilization

The low memory threshold, acceptable amount of memory color, and low amount of memory color can be set by command line options or X Toolkit resources. The options related to color can only be seen when the tool is run on a color monitor.

To set the threshold to mark the transition between an acceptable and a low amount of memory, enter the following command:

```
-t <number_between_0_and_100>
```

The appropriate value for the threshold is very dependant on the workstation configuration, the mix of Preside Multiservice Data Manager (MDM) tools being used, and on the amount of information (network size, service data size, alarm rate) being processed. The threshold value is best arrived at by monitoring memory utilization and determining when a low memory condition occurs. The default value is 90.

Enter the following command to set the bar color when the amount of memory used is less than the low memory threshold percentage:

```
-ok <color>
```

Enter the following command to set the bar color when the amount of memory used is greater than or equal to the low memory threshold percentage.

```
-low <color>
```

Example

The default tool parameters could be set by starting the tool as follows:

```
/opt/MagellanNMS/bin/mem -shared -t 90 -ok forestgreen
      -low red
```

Using the keyboard

The Network Model Shared Memory Utilization tool provides the following command shortcut:

- Ctrl+E exits the Network Model Shared Memory Utilization tool.

See also...

- “Mnemonics” (page 77)

Mnemonics

Some characters in menus and menu items have an underscore. These are mnemonics that you can use instead of using the mouse.

You can use the following keys in combination with the mnemonics:

- Meta key. For example, Meta-F X opens the File menu and exits Network Model Shared Memory Utilization.
- F10 key. For example, F10 F X opens the File menu and exits Network Model Shared Memory Utilization.

See also...

- “Using the keyboard” (page 77)

Chapter 7
Customer Data Tool

This chapter describes the Customer Data Tool, a utility that provides access to the customer database(s). This chapter contains the following:

The Customer Data Tool

The Customer Data Tool provides access to a customer database. Each customer database is composed of records that contain information for a particular component. This information can be anything, but typically consists of phone numbers, contacts, and circuit numbers for a particular piece of hardware or DNA. For example, the customer data for a port might contain the name and address of the current end user of that port.

The Customer Data Tool allows you to add, change, query, delete, and view customer information. This tool has many uses. For example, it can be used to quickly access customer information in the event of a problem or to identify all customers on a particular piece of hardware.

See also...

- “Starting the Customer Data tool” (page 80)
- “Data organization” (page 81)
- “Customer Data Tool main window” (page 83)
- “Working with other Preside Multiservice Data Manager (MDM) tools” (page 96)
- “Setting up the Customer Data Tool” (page 96)
- “Keyboard shortcuts” (page 110)

For information on the Embedded Programming Interface (EPI) Customer Database interface, see 241-6001-211 *Preside MDM Embedded Programming Interface Reference Guide*. The Customer Database tool is also available for the Component Information Viewer and the Alarm Display tools in the Preside Multiservice Data Manager (MDM) fault management toolset. For more information, see the Component Information Viewer and the Alarm Display chapters in 241-6001-011 *Preside MDM Fault Management User Guide*

Starting the Customer Data tool

You can start the Customer Data tool from the Preside MDM window. Or, if your workstation has Hewlett Packard (HP) OpenView software installed, you can start the Customer Data tool from the HP OpenView Desktop for MDM.

When you start Customer Data, the tool locates all available customer databases. If one database is found, then you can access that database directly. If more than one databases is found, the tool displays a list of databases from which you can make a selection. Alternatively, you can type a database name and its server hostname in the dialog entry fields.

See also...

- “Selecting a database” (page 84)

Starting from the Preside MDM window

1 On the Preside MDM window, select System -> Utilities -> Customer Data.

The Customer Data window opens.

Starting from the HP OpenView Desktop

There are various methods for starting the Customer Data tool from the HP OpenView Desktop. Use one of the following procedures.

Starting the Customer Data tool from the HP OpenView Desktop

1 From the HP OpenView Desktop Misc (Miscellaneous)) menu, choose Customer Database.

Starting the Customer Data tool from the Events Categories window

1 In the Events Categories dialog, choose Nortel Passport Events.

The Nortel Passport Events Browser window opens.

2 From the Nortel Passport Events Browser Action menu, choose Additional Actions.

The Additional Actions on Nortel Passport Events window opens.

3 In the Additional Actions on Nortel Passport Events window list box, choose Customer Database.

Starting the Customer Data tool from the Start Tool menu

1 Open the Start Tool submenu:

Open the Start Tool submenu using one of the following methods:

- In the Alarm Display window, place the cursor over an alarm and press the mouse menu button to display the pop-up Alarm Menu.
- In the Component Information Viewer window, place the cursor over an area that shows the events and press the mouse menu button to display the pop-up menu.

2 From the pop-up menu, choose Start Tool.

The Start Tool submenu opens.

3 From the Start Tool submenu, choose Customer Data.

Data organization

Each customer data record in the database has two parts: component name and component data.

Component name This is the name of the component under which the customer data is stored. Component names are unique upper case strings. You must enter a component name in the Component field whenever you retrieve, add, change, or delete a customer data record. The following table "Component names" (page 82) contains examples of component names:

Table 4
Component names

Component type	Component name
DNA	DNA X01234567890123
Port	PM R34 PE 7 PI 7 PO 1
Module	PM R34
NCS OA	PM R34 OA DPNOA
NCS application	PM R34 OA DPNOA APPL APPNAME

Note: Component names may also be entered in the MDM Display mode (with '/' between the category/value pairs as in PM/R34 PE/7 PI/7 PO/1.

Component data This area consists of four parts: date, source, customer data, and related component.

- Date specifies a date in YYYYMMDD (year-month-day) format. Records created or modified by the Customer Data Tool contain the date when they were last modified.
- Source is a three-letter code indicating where the customer data record originated or was last updated. MDM appears in this field if the records were created or modified by the Customer Data Tool. This field cannot be edited.
- Customer Data contains up to 1300 characters of free-format customer data (for example, circuit numbers, names, phone numbers).
- Related Component is another component that is related to the customer data record. It is recommended that the Related Component field be filled in if DNAs are added from the Preside Multiservice Data Manager

(MDM). You can use the Related Component field to retrieve the related component or to retrieve all keys of all components that are the same as the related component.

See also...

- “Manipulating customer data” (page 83)

Manipulating customer data

The Component, Customer Data, and Related Component areas may contain essentially any value. Component names and related component names are always in upper case. Keeping these values consistent, in both format and meaning, ensures that this tool provides consistent results when retrieving or searching for data. Data in the Component area is always changed to upper case. Templates are a good way to ensure that data is consistent.

Customer Data Tool main window

For information on items in the Customer Data Tool main window, see the following:

- “File menu” (page 83)
- “Options menu” (page 84)
- “Component field” (page 85)
- “Customer Data area” (page 90)
- “Search area” (page 91)
- “Messages field” (page 96)

File menu

The File menu contains the following command:

- Exit exits the Customer Data Tool.

To exit the Customer Data Tool, select Exit or type Ctrl+E.

Options menu

The Options menu contains the following commands:

- Turn Auto Update On determines whether the tool will automatically attempt to retrieve customer data for component names that are put into context from other DPN and Preside Multiservice Data Manager (MDM) workstation tools. If auto update is not active, a component name put into context may be retrieved by selecting Get context from the Component area menu. Selecting this menu item toggles the auto update to active, and the menu item Turn Auto Update Off appears in place of this menu item.
- Turn Auto Update Off toggles the auto update to non-active. The menu item Turn Auto Update On appears in place of this menu item.
- Select database lets you select the customer database that the tool accesses.

See also...

- “Selecting a database” (page 84)
- “Component field” (page 85)
- “Customer Data area” (page 90)
- “Related Component field” (page 91)

Selecting a database

The Customer Data Tool lets you specify the database that you want to use. You can do this when the tool is started, or at any time during a session.

1 From the Options menu, select Select database.

The Customer Databases dialog opens, and a list of available databases is displayed. If no databases are available, the tool displays an appropriate message and waits, periodically checking for databases to become available.

2 Select a database, or enter the database name and supporting server hostname in the entry fields.

3 Click Use Database.

The database name appears in the title bar and a message appears in the Messages area indicating the database that you have chosen.

To cancel the database selection, click Cancel.

If no database servers exist, contact your system administrator for assistance.

Component field

The Component field is used to indicate a component name. The Component field contains the following command buttons:

- Retrieve attempts to recover the customer data record for the component specified in the Component field. The Customer Data Tool performs a hierarchical search. If a record exists, it is displayed. If a match is not found with the specified name, the tool continues the search in the following manner:
  - — using the component name in display and canonical format
  - — using the immediate parent of the component in both display and canonical formats
  - — using the parent's parent and so on until a match is found or until there are no more parents

  Example
  If you specify the component EM NODER16 LP 2 DS1 0 and no match is found, the Customer Data Tool continues to look for matches by using the following:

  - — EM/NODER16 LP/2 DS1/0
  - — EM NODER16 LP 2 and EM/NODER16 LP/2
  - — EM NODER16 and EM/NODER16

  Rather than selecting Retrieve from the popup menu, you can enter a string in the component field and press the Return key.

  The Customer Data Tool stops at the first match found, if any. This way, if customer data applies to all ports, for example, this data is stored on the common processor component without having to duplicate it on every port. If no match is found, the tool displays an error message in the Messages area.

- Add creates a customer data record for the component specified in the Component field. The Date and Source fields are automatically filled in with the current date and source of the record. Records cannot be added if they already exist in the database. (This menu item is not available if the tool was started with the Read Only option.)
- Replace supersedes the contents of the component specified in the Component field with the data in the Customer Data area. Records cannot be replaced if they do not already exist in the database. (This menu item is not available if the tool was started with the Read Only option.)
- Delete erases the record for the component specified in the Component field. An error message is displayed if the component does not exist in the database. (This menu item is not available if the tool was started with the Read Only option.)

The Component field also provides a pop-up menu that contains the following commands:

- Retrieve attempts to recover the customer data record for the component specified in the Component field. The Customer Data Tool performs a hierarchical search. If a record exists, it is displayed. If a match is not found with the specified name, the tool continues the search in the following manner:
  - — using the component name in display and canonical format
  - — using the immediate parent of the component in both display and canonical formats
  - — using the parent's parent and so on until a match is found or until there are no more parents

  Example
  If you specify the component EM NODER16 LP 2 DS1 0 and no match is found, the Customer Data Tool continues to look for matches by using the following:

  - — EM/NODER16 LP/2 DS1/0
  - — EM NODER16 LP 2 and EM/NODER16 LP/2

— EM NODER16 and EM/NODER16

Rather than selecting Retrieve from the popup menu, you can enter a string in the component field and press the Return key.

The Customer Data Tool stops at the first match found, if any. This way, if customer data applies to all ports, for example, this data is stored on the common processor component without having to duplicate it on every port. If no match is found, the tool displays an error message in the Messages area.

- Add creates a customer data record for the component specified in the Component field. The Date and Source fields are automatically filled in with the current date and source of the record. Records cannot be added if they already exist in the database. (This menu item is not available if the tool was started with the Read Only option.)
- Replace supersedes the contents of the component specified in the Component field with the data in the Customer Data area. Records cannot be replaced if they do not already exist in the database. (This menu item is not available if the tool was started with the Read Only option.)
- Delete erases the record for the component specified in the Component field. An error message is displayed if the component does not exist in the database. (This menu item is not available if the tool was started with the Read Only option.)
- Copy to Related Component Area copies the text in the Component field to the Related Component field.
- Get Context gets the last component name put into context (by any DPN and Preside Multiservice Data Manager (MDM) workstation tool).
- Put Context places the name in the Component field into context.
- Cut cuts the currently selected text into the cut buffer.
- Copy copies the currently selected text into the cut buffer.
- Paste pastes the contents of the cut buffer into the text at the current cursor position.

- Delete erases the currently selected text without saving it in the cut buffer.
- Select All selects all text.
- Deselect All cancels the current selection.

See also...

- “Data organization” (page 81)
- “Creating a template for customer data” (page 88)
- “Using a template for customer data” (page 88)
- “Adding customer data” (page 89)
- “Changing customer data” (page 89)
- “Deleting a component” (page 90)
- “Working with other Preside Multiservice Data Manager (MDM) tools” (page 96)

Creating a template for customer data

You can create one data record and use it as a template for all new data records you add to the database. This is not a menu option, but rather a set of steps.

1 Enter the name of the template in the Component field.

2 Add the template information in the Customer Data area.

For example, Name, Location, Phone, and Company.

3 From the Component field pop-up menu, choose the Add button.

The template is added to the database.

Using a template for customer data

1 Enter the name of the template in the Item field in the Search area.

2 From the Item field pop-up menu, choose Search Component Names.

The template name and information appears in the window.

3 Change the name of the component and add the appropriate customer data.

4 From the Component field pop-up menu, choose the Add button.

Note: If you have not changed the name of the component, an error message appears in the Messages area indicating that the component already exists.

Click on the template name in the Search area to display the template in the window.

See also...

- "Search area" (page 91)

Adding customer data

You can add customer data for any component in the network. Customer data is stored in a database on the Preside Multiservice Data Manager (MDM) workstation. Every record is referenced by a unique component name.

1. Enter the component name in the Component field.
2. Enter the new customer data in the Customer Data area.
3. Enter the related component in the Related Component field.

   The related component should be the PE or port for the given DNA.
4. From the Component field pop-up menu, choose the Add button.

   A message appears in the Messages area indicating that the component has been added. If the component already exists in the database, an error message appears.

Changing customer data

You can modify or replace customer data for any component.

1. Enter the component name in the Component field.
2. From the Component field pop-up menu, choose Retrieve.

   The customer data is displayed in the Customer Data area. If the record is not found, a message appears in the Messages area indicating that the component could not be found.
3. Edit the data.
4. From the Component field pop-up menu, choose the Replace button.

   A message appears in the Messages area indicating that the data has been replaced.

Deleting a component

You can delete customer data from any component in the database.

1. Enter the component name in the Component field.
2. From the Component field pop-up menu, choose the Delete button.

   A message appears in the Messages area confirming the deletion. An error is displayed if the record is not found or the database record cannot be deleted.

Customer Data area

The Customer area contains the following two fields:

- Date/Source
- Related Component

Note: The Customer Data area accepts a maximum of 1300 characters of text. If you try to save data that exceeds 1300 characters, you will receive a warning message telling that you cannot save your entry.

Date/Source field

The Date/Source field contains component information. The Date/Source field provides a pop-up menu that contains the following commands:

- Cut cuts the currently selected text into the cut buffer.
- Copy copies the currently selected text into the cut buffer.
- Paste pastes the contents of the cut buffer into the text at the current cursor position.
- Delete erases the currently selected text without saving it in the cut buffer.
- Select All selects all text.
- Deselect All cancels the current selection.

See also...

- “Data organization” (page 81)

Related Component field

The Related Component field is used to indicate a related component. The Related Component field provides a pop-up menu that contains the following commands:

- Copy to Search Area copies the text in the Related Component field to the Item field in the Search area.
- Copy to Component Name Area copies the text in the Related Component field to the Component field.
- Put Context places the name of the related component into context.
- Cut cuts the currently selected text into the cut buffer.
- Copy copies the currently selected text into the cut buffer.
- Paste pastes the contents of the cut buffer into the text at the current cursor position.
- Delete erases the currently selected text without saving it in the cut buffer.
- Select All selects all text.
- Deselect All cancels the current selection.

See also...

- “Data organization” (page 81)
- “Search area” (page 91)

Search area

The search operation scans the entire customer database and returns component names of all the records that contain an expression you specify in the Search area Item field. The component names of all matched components are listed in the Items Matched area. The tool returns a maximum of 5000 records on any search. If there are more than 5000 records, the search stops after the first 5000 records.

You can specify one of three search fields:

- Component name field
- Customer data field (the default)

- Related component field

  Note: The dual format and hierarchical searching described for the Retrieve operation do not apply for the Search operation.

Use the Item field in the Search area for search strings. Items that match the specified search string are displayed in the search area of the main window. The Item field provides a pop-up menu that contains the following commands:

- Search Data searches the customer data fields of all records. You can also press Return in the Item field to invoke this operation.
- Search Component Names searches the component name fields of all records.
- Search Related Component searches the related component fields of all records.
- Cut cuts the currently selected text into the cut buffer.
- Copy copies the currently selected text into the cut buffer.
- Paste pastes the contents of the cut buffer into the text at the current cursor position.
- Delete erases the currently selected text without saving it in the cut buffer.
- Select All selects all text.
- Deselect All cancels the current selection.

Searching for customer data

1. Enter the expression to search for in the Item field of the Search area.
2. To search using Search data, the default search option, press the return key.

   To search using another search option, choose a search option from the Item field pop-up menu, choose one of the three search options

   The components that match the search appear in the Items Matched area.

See also...

- “Using special symbols” (page 93)
- “Searching examples” (page 94)
- “Items matched field” (page 95)

Using special symbols

You can use certain symbols to achieve more specific results when performing a search. For more information, consult the “Regular Expression” section of the ed manual page. Type man ed from a UNIX access window for details. See the table “Special symbols” (page 93).

Note: Customer data searches are case-sensitive.

Table 5
Special symbols

Character	Matches	Example
	Any occurrence of the specified string	ITI Find ITI anywhere in the text. - ‘ITI line’ will match - ‘New ITI line’ will match - ‘Previously ITI’ will match
^	Start of text	^ITI Find ITI at the start of the text. - ‘ITI lines’ will match - ‘New ITI line’ will NOT match - ‘Previously ITI’ will NOT match
$	End of text	ITI$ Find ‘ITI’ at the end of text - ‘ITI line’ will NOT match - ‘New ITI line’ will NOT match - ‘Previously ITI’ will match ^ITI line$ Combined start and end - this will match ONLY the supplied text - nothing longer, nothing shorter.

(Sheet 1 of 2)

Table 5 (continued)
Special symbols

Character	Matches	Example
[characters]	One of the characters within [ ]	[XE]123456789 Find X or E followed by 123456789. X123456789[0-46] Find X123456789 followed by a 0, 1, 2, 3, 4, or 6. [Cc]ustomer Find customer, with or without a capital “C”
expression*	Zero or more occurrences of the previous expression	X123456[0-5]* Find X123456 followed by zero or more occurrences of the digits between 0 to 5.
.*	Displays all records in the database	

(Sheet 2 of 2)

Searching examples

The following examples show how you can use the search utility to retrieve data.

Example

Find all records that contain the word Critical in the Customer Data area.

Enter Critical in the Item field. From the Item field pop-up menu, choose Search Data (or press Return). The component names of all records that match the expression are placed in the Items Matched area.

Example

Find the customer data for a particular DNA.

Enter the DNA component name (for example, DNA X0123456789) in the Component field and press Return.

Example

Find the customer data for a port.

Enter the port component name (for example, PM R34 PE 7 PI 7 PO 1) in the Component field and press the Return key. If the port has no associated data, the tool looks for data in its parents (PI, then PE, then PM).

Example
Find all DNAs on a port.

Enter the port key in the Item field. From the Item field pop-up menu, choose Search Related Components. All components with the same port as the related component appear in the Items Matched area.

Example
Find all DNAs that begin with X1234.

Enter X1234 in the Item field. From the Item field pop-up menu, choose Search Data.

Example
Find all components with service ITI.

Enter ^ITI in the Item field. From the Item field pop-up menu, select Search Data. This example works only if the first line in each customer data record is the service type.

Items matched field

The Items Matched area contains the component names of records that were matched by the last search operation. The Items Matched area pop-up menu contains the following commands:

- Retrieve retrieves the customer data for the selected record.
- Copy to Related Component Area copies the component name in the Items Matched area to the Related Component field.
- Copy copies the currently selected text into the cut buffer.

See also...

- “Retrieving information from the Items Matched area” (page 96)

Retrieving information from the Items Matched area

To retrieve customer data for an item listed in the Items Matched area, select the item. Then, from the pop-up menu, choose Retrieve.

Messages field

The Messages field displays information on the current status of the application. The Messages field pop-up menu contains the following commands:

- Copy copies the currently selected text into the cut buffer.
- Select All selects all text in the Messages area.
- Deselect All cancels the current selection in the Messages area.

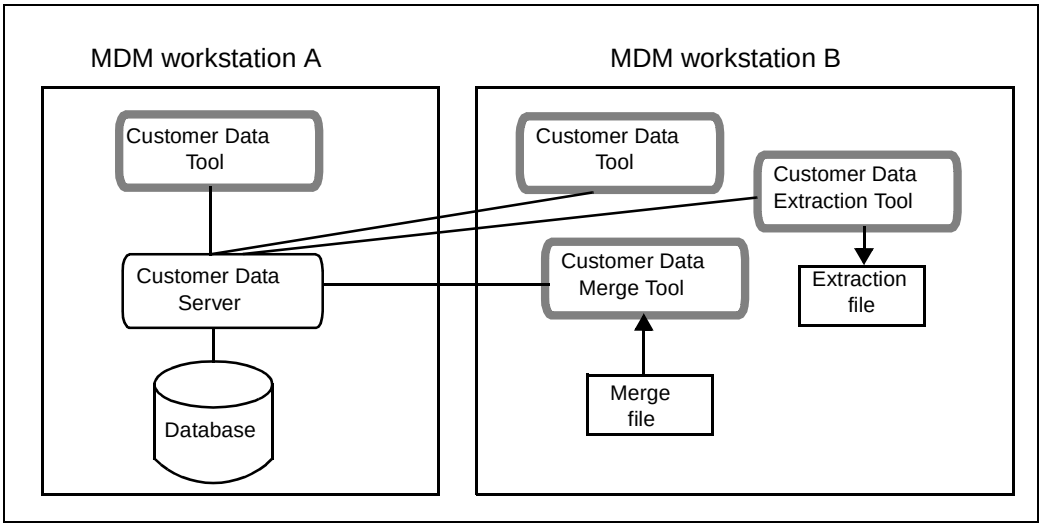
Working with other Preside Multiservice Data Manager (MDM) tools

The Customer Data Tool can work cooperatively with other MDM tools that have the ability to put a component name into context. These tools include Component Provisioning, Network Viewer, Component Information Viewer, Component Status Display, Alarm Display, Network Status Bar, and GMDR Administration tool. This can be done by selecting a component in one of the tools and selecting Put context from the Component field pop-up menu. If the Customer Data Tool has Turn Auto Update set to ON (from the Options menu) when a component is put into context in another tool, that component automatically appears in the Customer Data Tool. Otherwise, the user can select Get Context from the Customer Data Tool to retrieve this information. For more information on context, the 241-6001-012 *Preside MDM Configuration Management for DPN User Guide*.

Setting up the Customer Data Tool

The figure “Customer data from external sources” (page 103) gives an example setup of two Preside Multiservice Data Manager (MDM) workstations accessing the same customer data server.

Figure 6
Customer Data setup



Administrators can perform the following tasks in order to make the Customer Data Tool available to other users.

Creating databases

One or more customer databases must be created. Optionally, you can base the number of databases required on the number of Customer Data time streams the network is using. It is recommended that there be one database for every time stream. The Customer Data time stream corresponds to the number of service data time streams you have. Service data time streams are discussed in 241-6001-304 *Preside MDM Configuration Management Administrator Guide*.

These databases must be given unique names and the names should convey meaning to the users of this tool.

Creating a database and providing access to the database is done by creating a Customer Database Server process for the database. Refer to “Creating a new database” (page 100) for more information.

Populating databases from external sources

Once a database has been created, it may be necessary to populate the database using data from a source external to the Preside Multiservice Data Manager (MDM).

You can incorporate data from other sources into the customer database provided the data is in the proper format. See the table “External data format” (page 108) for a description of this format.

When a data file has been generated, the Customer Database Merge program is used to add (or merge) the data into the customer database. This program is described in “Combining external data into the customer database” (page 102).

> ***Note:*** Alternatively, you can programmatically populate and query a database using the Embedded Programming Interface described in 241-6001-211 *Preside MDM Embedded Programming Interface Reference Guide*.

Automatic restarting

Once a database has been created (and possibly populated) it should be configured so that it can be automatically accessed after a workstation has been restarted or software has been upgraded.

This is done by adding a Preside Multiservice Data Manager (MDM) Server Manager entry for each customer database server that you want to have started. For details, see the 241-6001-303 *Preside MDM Administrator Guide* for more information.

LAN-wide access

By default, the customer database is only accessible by its clients if the customer data server process is on the same workstation as the clients or if the workstation running the clients is LAN selected to the workstation running the server process. This is acceptable as long as all services (such as X.25 access or customer databases) that a workstation user wants to access are on the same host (either the local one or the LAN selected one). However, if they want to access, for example, X.25 on one host and a customer data server on another, then a LAN-level Multi-nodal Name Server (MNS) must be used. Refer to the 241-6001-303 *Preside MDM Administrator Guide* for more

information on the MNS. Note that if the database servers are identified using the Select Database dialog's entry fields, or if the database is running on the local workstation, there is no need to deploy a Level 2 MNSD for this purpose.

Extracting or deleting records from a database

An administrator should backup a database periodically so that it can be recovered in the event of a problem. Also, they may want to remove all records from the database that are from a specific source and then add new records from that source. The Customer Data Extraction program extracts records from a customer database and places them into a file. This file can then be used for customized processing.

Customer Data Server

The Customer Data Server is the sole manager of customer data on the Preside Multiservice Data Manager (MDM). Each server provides LAN-wide, concurrent customer data access for one customer database. The server provides service to the Customer Data Tool and the Customer Data Extraction and Merge programs. Refer to the 241-6001-303 *Preside MDM Administrator Guide* for more information on the multi-nodal name server (MNS).

The server is managed by the system administrator from a UNIX access window. Customer database servers can be configured to:

- Automatically restart using the MDM Server Manager (SVM).
- Be LAN-wide accessible using the LAN Service Selector or the Multi-nodal Name Service (MNS) or both.

The Customer Data Server program is started as follows:

```
/opt/MagellanNMS/bin/cdbserver database_name
      [-create] [-h] &S
```

Where:

```
database_name
```

is the database name that the server is to manage.

```
-create
```

creates a new database (optional).

`-h`

is Help. It prints command usage information.

`&`

places the server in background mode.

> ***Note:*** When issuing a UNIX command in the background mode (using the & symbol), you must press Return twice to display the UNIX prompt again.

Creating a new database

A database cannot be populated until it has been created and managed by a customer data server. To create a new database and to provide access to it, start the Customer Data Server with the create option specified. The server starts, creates the database, and then waits for clients. If the specified database already exists, an error is displayed. This process must be done once for each new database.

Examples

The following example creates an empty database called Cust_Data in the current directory.

```
/opt/MagellanNMS/bin/cdbserver Cust_Data -create &
```

The response is:

```
cdbserver: Database ‘Cust_Data’ successfully created.
cdbserver: Database ‘Cust_Data’ successfully accessed.
```

This database is recognized by the cdbserver clients as the file Cust_Data.

If the database already exists, the following is displayed:

```
cdbserver: Error - database ‘Cust_Data’ already
      exists.
```

The following example creates an empty database called Customer_Data in a directory called /home/databases.

```
/opt/MagellanNMS/bin/cdbserver /home/databases/
      Customer_Data -create &
```

This database is recognized by the cdbserver clients as the file Customer_Data.

Database information

The customer database is stored on disk with the name specified in the -create option with the .db extension.

In order to minimize the time required to access records in the database, the database is stored as a sparse file. This means that there can be places in the file that contain no information and make the file appear larger than it actually is. This occurs if you use the ls -l command to check the size of the file. Therefore, to determine the actual size of the file, use the du -s command. This returns the correct size of the database in kilobytes.

For example, to display the size of my_database type:

```
du -s my_database.db
```

The response is:

```
36 my_database.db
```

This means the file is 36 kilobytes or approximately 36846 (36*1024) bytes.

Note: The size indicated by ls -l and du -s commands generally differs more for larger databases.

The database generally does not shrink in size, even after records have been deleted. As a result, it is necessary to re-create the database in order to reclaim disk space and to increase efficiency. This is done by using the cdbextract command. Refer to “Compress the database” (page 107) for more information.

The database cannot be copied or archived (for example, using cp or tar) like a regular file. In order to copy or archive the database, it must have its contents extracted into a file using cdbextract. The extracted file can then be copied or archived.

Accessing an existing customer database

To provide access to an existing database that does not currently have a customer data server, run a cdbserver process for the database with no options specified. This is the usual method for starting a cdbserver process.

The cdbserver process is started as follows:

```
/opt/MagellanNMS/bin/cdbserver database_name &
```

Example

The following example provides access to an existing database called Feb_01_CustData in directory /usr/db.

```
/opt/MagellanNMS/bin/cdbserver /usr/db/
      Feb_01_CustData &
```

The response is:

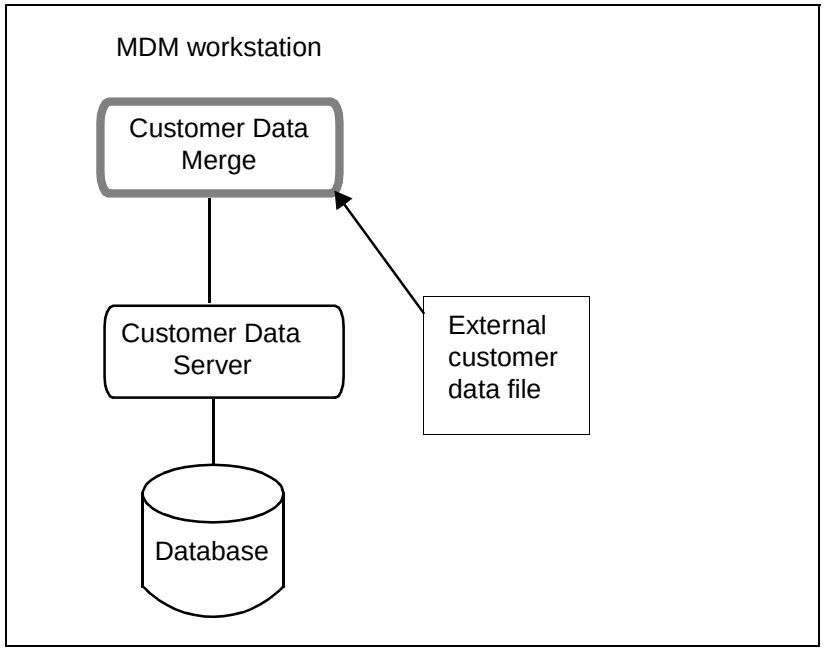
```
cdbserver: Database '/usr/db/Feb_01_CustData'
successfully accessed.
```

Combining external data into the customer database

Customer data can be added or merged from external databases using Customer Database Merge. This program takes a Preside Multiservice Data Manager (MDM) database name and customer data file as input and merges the external data into the database. See the figure "Customer data from external sources" (page 103).

Note: Alternatively, you can programmatically populate and query a database using the Embedded Programming Interface as described in 241-6001-211 *Preside MDM Embedded Programming Interface Reference Guide*

Figure 7
Customer data from external sources



Enter the cdbmerge program as follows:

```
/opt/MagellanNMS/bin/cdbmerge database_name
      merge_file [-replace] [-setsource] [-h]
```

Where:

`database_name`

is the name of the customer database. The name must be 1 to 32 characters long.

`merge_file`

is the name of a file containing external customer data to be merged.

`-replace`

replaces a record if the record being merged already exists in the database. If this option is not specified, then an existing database record will not be replaced (optional).

`-setsource`

sets the source field of all records in the merge_file to MDM.

`-h`

is Help. It prints command usage information.

Example

The following example adds data from customer data file ext_customerdata to database new_database.

```
/opt/MagellanNMS/bin/cdbmerge new_database
      ext_customerdata
```

The response is:

```
NOTE: cdbmerge - Starting merge of file
‘ext_customerdata’ into database ‘new_database’.

Records merged ...
100 200 300 400 500 600 700 800 900 1000

NOTE: cdbmerge -Merge completed.
1322 records added to database.
0 errors.
```

Example

The following example merges customer data file ext_customerdata into existing database existing_database and replaces any duplicate records with records from the merge file. The -setsource option sets the source fields of all records to MDM.

```
/opt/MagellanNMS/bin/cdbmerge existing_database
       ext_customerdata -replace -setsource
```

Updating the customer database

1. Create a new customer database.
2. Load any other external data into the database.
3. Extract all Preside Multiservice Data Manager (MDM) data from the old database and load it into the new database by specifying the -replace option.

Extracting or deleting data from the database

Data records may be extracted, and optionally deleted from the Preside Multiservice Data Manager (MDM) database using the cdbextract program. This program searches the database for the requested records and writes them to a file or, by default, to standard output. The records are written out in the same format as is accepted by the cdbmerge program. The records are erased, after having been extracted, if the -delete option is specified.

> ***Note:*** Alternatively, you can programmatically populate and query a database using the Embedded Programming Interface as described in 241-6001-211 *Preside MDM Embedded Programming Interface Reference Guide*

Enter the cdbextract program as follows:

```
/opt/MagellanNMS/bin/cdbextract database_name
       [-file output_file] [-delete]
       [-source (NMS|XXX)] [-comp (compid)]
       [-related (related_compid)] [-h]
```

Where:

`database_name`

is the name of the customer database. The name must be 1 to 32 characters long.

`-file output_file`

is the name of the file in which the extracted records are to be stored. The default is standard out (optional). If the output is not required, specify /dev/null as the output_file.

`-delete`

erases the records after the records have been extracted. The default is do not delete (optional).

`-source`

is the source type of the records to be extracted, to a maximum of three characters. As a default, all records are extracted (optional).

`-comp`

is the component ID to be searched for. Only records with a component_name field matching the specified component ID are written to the file specified by the -file option. The specified component ID must be an exact match to the packet module name without any trailing blanks or extra spaces.

`-related`

is the related component ID to be searched for. Only records with a component_name field matching the specified related component ID are written to the file specified by the -file option. The specified related component ID must be an exact match to the packet module name without any trailing blanks or extra spaces.

`-h`

is Help. It prints command usage information.

Example

The following example extracts all the records from the database and places them in a file called all_records.

```
/opt/MagellanNMS/bin/cdbextract new_database -file
      all_records
```

Example

The following example extracts all records belonging to component names starting with PM R55. These records are placed in a file called R55.comp.

```
/opt/MagellanNMS/bin/cdbextract new_database -file
      R55.comp -comp “PM R55”
```

Example

The following example extracts all records with related components that belong to PM R55. These records are placed in a file called R55.asso.

```
/opt/MagellanNMS/bin/cdbextract new_database -file
      R55.comp -associate “PM R55”
```

Note: To extract all records belonging to packet module PM R55, combine Examples 4 and 5. You can also run cdbmerge on files R55.comp and R55.asso with the options -replace and -setsource, which will change the source fields in PM R55 to MDM.

Backup customer database

If you want to archive or duplicate the current customer data, extract all the customer data into a file and store the file on tape or disk.

Updating data from a particular source

If data has been merged (using cdbmerge) into the database from a particular source and you want to update that data from the source again to keep the two files synchronized, perform the following:

- If a backup does not already exist, backup the database by extracting all the data and placing it in a file.
- From the existing database, extract and delete all the data from a specified source and place it in a file.
- Merge the new data into the existing database.

Example

In the following example, data in the cust_data database with a source type of ext is deleted and placed in a file called old_ext_records. Then the new source data in the new_ext_records file is merged into the cust_data database.

```
cdbextract cust_data -source ext -delete -file
    old_ext_records

cdbmerge cust_data new_ext_records
```

Compress the database

If many merge or delete operations have been done to the database, it is possible to reclaim disk space and increase efficiency by re-creating the database. This is done by extracting all the data, deleting the database, and then re-creating and merging the extracted data.

External customer data format

External customer data can be added to the Preside Multiservice Data Manager (MDM) database provided it is in the proper format. All external customer data is case-sensitive and any multiple blanks between characters or at the end of a line are removed. The table “External data format” (page 108) describes the external data format required by the cdbmerge program.

Table 6
External data format

Field name	Size (chars)	Description
Source	3	The source of this record. Possible values are MDM or any three character customer-specified value. This field is used to identify the source of records when extracting or updating records in the database.
Semi-colon	1	Field delimiter
Date	8	Date in YYYYMMDD format. This may be any date, but it is suggested that it be the activation date of the component or the last modified date.
Semi-colon	1	Field delimiter
Component	65	The component name in the network model format. This will be the key for this record in the MDM database. Examples: DNA: DNA X01234567931123 Port: PM R34 PE 7 PI 7 PO 1 Module: PM R34 NCS OA: PM R34 OA DPNOA NCS application: PM R34 OA DPNOA APPL APPNAME
Semi-colon	1	Field delimiter
Related component	46	(only used for DNAs) The component with which the DNA is related (for example, a Port or PE) The name is up to the port level only (that is, a DNA for an SNA LU has the component name of the LU up to the Port only).
Semi-colon	1	Field delimiter
Data length	4	The number of characters of customer data in the Customer Data area.
Semi-colon	1	Field delimiter

(Sheet 1 of 2)

Table 6 (continued)
External data format

Field name	Size (chars)	Description
Customer data	up to 1300	The customer data, which is ASCII text containing newlines (ASCII 10), spaces (ASCII 32), and printable characters (ASCII 33-126). Characters other than these are not recognized by the Customer Data Tool and should not be included in the customer data. NULL characters (ASCII 0) cannot be included.
Newline character	1	A newline is located at the end of the record. It is not part of the customer data and is not included in the customer data length.

(Sheet 2 of 2)

Example

The figure "External data file format" (page 109) shows the proper format of the external data file. This file is suitable for merging with customer data. If the records are not in the proper format, an error message appears when you try to merge the file.

Note: The top two lines of this example are not included in the data file, but have been added to show field positioning. The values in the component and related component fields are forced to upper case by the cdbmerge utility.

Figure 8
External data file format

```
00000000011111111112222222222333333333344444444455555555556666666
66667777777777
12345678901234567890123456789012345678901234567890123456789012345
67890123456789
NMS;19930731;PM R34 PE 4 PI 4 PO 1                                  ;
                              ;0069;X25
Customer: A&L Trust Co.
Contact: Fred Smith
Phone: 744-3434 x2344
NMS;19930731;DNA X404443444505431                                    ;
PM R34 PE 3 PI 2 PO 2                 ;0062;X25
Customer: ABC Plumbing
Contact: John Jones
Phone: 836-9876
```

Deployment considerations

The customer database potentially requires a large amount of disk space on the Preside Multiservice Data Manager (MDM). The amount of disk space is proportional to the number of components, particularly DNAs and ports, for which customer data is to be stored. In general, it is suggested that one copy of customer data be stored on a workstation server and that it be shared across a LAN.

The Network Reporting System (NRS) requires that the customer database file be on a disk that is accessible by each workstation running reports that include customer data. NRS does not use the customer data server.

Keyboard shortcuts

The Customer Data Tool provides the following command shortcuts:

- Ctrl+E exits the Customer Data Tool.
- Ctrl+X cuts selected text.
- Ctrl+C copies selected text.
- Ctrl+V pastes selected text.

See also...

- “Mnemonics” (page 110)

Mnemonics

Some characters in menus and menu items have an underscore. These are mnemonics that you can use instead of using the mouse.

You can use the following keys in combination with the mnemonics:

- Meta key. For example, Meta-F X opens the File menu and exits Customer Data.
- F10 key. For example, F10 F X opens the File menu and exits Customer Data.

See also...

- “Keyboard shortcuts” (page 110)

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Preside Multiservice Data Manager

Workstation Utilities

User Guide

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