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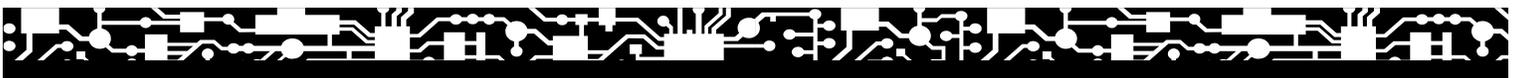


***Navis*[™] Optical Provisioning Manager - Multi-Regional Provisioning (MRP)**

Release 1.1

Administration Guide

365-309-803R1.1
Issue 1
July 2002



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Contents

About this information product

<u>Purpose</u>	<u>xi</u>
<u>Reason for reissue</u>	<u>xi</u>
<u>Safety labels</u>	<u>xi</u>
<u>Intended audience</u>	<u>xi</u>
<u>How to use this information product</u>	<u>xii</u>
<u>Conventions used</u>	<u>xiv</u>
<u>Related documentation</u>	<u>xiv</u>
<u>How to comment</u>	<u>xvi</u>
<u>How to order</u>	<u>xvi</u>

1 Administration overview

<u>Overview</u>	<u>1-1</u>
<u>What is administration?</u>	<u>1-2</u>
<u>Who performs administration tasks?</u>	<u>1-3</u>
<u>Supported hardware configuration</u>	<u>1-4</u>

2 Platform Administration

<u>Overview</u>	<u>2-1</u>
-----------------	------------

Section I: Power on the HP-UX server, HP-UX workstation and Windows® workstation

Overview	2-3
Power on an HP-UX server	2-4
Power on an HP-UX workstation	2-5
Power on a Windows® workstation	2-6

Section II: Power down the HP-UX server, HP-UX workstation and Windows® workstation

Overview	2-7
Power down an HP-UX server	2-8
Power down an HP-UX workstation	2-10
Power down a Windows® workstation	2-11

Section III: Printer Administration

Overview	2-12
Install a networked printer on a Navis™ Optical PM - MRP server	2-13
Add a network printer	2-15
Add a local serial printer	2-16

3 Users and User Profiles

Overview	3-1
--------------------------	---------------------

Section I: User and User Profile Concepts

Overview	3-3
User and User Profile Concepts	3-4

Section II: User Types, User IDs, and Privileges

Overview	3-5
Create a User ID using the SAM GUI-based program	3-6

[Create a User ID with the SAM terminal-based program](#) 3-9

[Assign User privileges on a Windows® PC](#) 3-13

[Assign User privileges on a Windows® 2000 PC](#) 3-15

[Assign System Administrator \(SA\) privileges on a Windows® PC](#) 3-17

Section III: Navis™ Optical PM - MRP User ID Administration Tasks

[Overview](#) 3-19

[Add a user](#) 3-20

[Modify a user](#) 3-22

[Delete a user](#) 3-24

[Create a user profile](#) 3-25

[Modify a user profile](#) 3-26

[Delete a user profile](#) 3-28

Section IV: Administer SAGE Desktop Integration users

[Overview](#) 3-29

[Definition: SAGE Desktop Integration](#) 3-30

[Add a user to a SAGE workstation](#) 3-31

[Delete a user from a SAGE workstation](#) 3-32

4 System administration

[Overview](#) 4-1

Section I: Start and Stop the Navis™ Optical PM - MRP server application

[Overview](#) 4-3

[Start the Navis™ Optical PM - MRP server application](#) 4-4

[Stop the Navis™ Optical PM - MRP server application](#) 4-6

Section II: Start and Exit the Navis™ Optical PM - MRP User Interface application

Overview	4-8
Start Navis™ Optical PM - MRP user interface on an HP-UX workstation	4-9
Start Navis™ Optical PM - MRP user interface on a Windows workstation (PC)	4-10
Exit Navis™ Optical PM - MRP	4-11

Section III: Administer the Network Map

Overview	4-12
Install a new background map	4-13
Set map preferences	4-14
Update a network element position	4-15
Search for controlled network elements	4-16
Search for location-type information for a specific network element	4-17

Section IV: Administer user-defined submaps

Overview	4-18
Add a user-defined submap	4-19
Display/modify a user-defined submap	4-20
Delete a user-defined submap	4-21

Section V: Administer the Oracle database

Overview	4-22
Restart the Oracle database	4-23
Stop the Oracle database	4-24

Section VI: Administer the system cron file

Overview	4-25
--------------------------	------

View the root cron file	4-27
View the dacsan cron file	4-28
Edit the root cron file	4-29
Edit the dacsan cron file	4-30

5 Provisioning Administration

Overview	5-1
--------------------------	-----

Section I: Aggregates

Overview	5-2
Add an Aggregate	5-3
Delete an Aggregate	5-5
Display/Modify an Aggregate	5-6

Section II: User Defined Submap

Overview	5-8
Add a User Defined Submap	5-9
Display/Modify a User Defined Submap	5-10
Delete a User Defined Submap	5-11

6 Environment provisioning

Overview	6-1
--------------------------	-----

Section I: Provision links

Overview	6-3
Provision links with the Bulk Link Provisioning Tool	6-6

Section II: Merge circuits

Overview	6-7
Merge circuits with the Merge Circuit Tool	6-9

Section III: IDLPM Tool

[Overview](#) 6-11

[IDLPM Tool](#) 6-12

7 Network communication management

[Overview](#) 7-1

Section I: Synchronize the database

[Overview](#) 7-2

[Synchronize the Navis™ Optical PM - MRP database with a DMS database](#) 7-3

8 System maintenance

[Overview](#) 8-1

Section I: Back up the database

[Overview](#) 8-2

[Perform a hot backup](#) 8-4

[Perform a cold backup](#) 8-5

Section II: Recover the database

[Overview](#) 8-7

[Perform a hot backup recovery](#) 8-8

[Perform a cold backup recovery](#) 8-10

Section III: Monitor space

[Overview](#) 8-12

[Monitor space](#) 8-13

9 Trouble clearing

[Overview](#) 9-1

	Trace Capture Guidelines Task	9-3
	Enable trace on a server	9-4
	Enable southbound/northbound interface tracing	9-6
	Enable trace on a Windows PC	9-8
	Create a single file for trace data	9-10
	View the log files	9-11
	View the log file on an HP-UX server	9-12
	View the console.log file on a Windows PC	9-13
	Clear trace files on a server	9-14
<hr/>		
10	Navis™ Optical PM - MRP Software Release, Version, and Patch Information	
	Overview	10-1
	Display the Software Release and Load ID	10-2
	Display the Software Version Number	10-3
	Determine which Software Patch is Loaded	10-4
<hr/>		
A	Navis™ Optical PM - MRP File systems	A-1
	Navis™ Optical PM - MRP file systems	A-1
<hr/>		
B	Navis™ Optical PM - MRP Off-Line tools	B-1
	Overview	B-1
	Section I: Add a DMS	
	Overview	B-3
	Add a DMS to the Network Map with the Add DMS Tool	B-4
	Section II: Populate the Navis™ Optical PM - MRP database	
	Overview	B-6

Populate the Navis™ Optical PM - MRP Database with Navis™ Optical NMS data	B-7
--	---------------------

Section III: Change Network Element Tool

Overview	B-9
--------------------------	---------------------

Change the Target Identifier (TID) on a Craft Interface Terminal (CIT)	B-11
--	----------------------

Change Network Element Names in ITM-SC and Navis™ Optical PM - MRP	B-14
--	----------------------

Change Network Element Names in Navis™ Optical EMS and Navis™ Optical PM - MRP	B-20
--	----------------------

C	Common Unix® Commands	C-1
----------	--	---------------------

Overview	C-1
--------------------------	---------------------

init command for changing run levels	C-2
--	---------------------

who command for verifying system run level	C-3
--	---------------------

ping command for verifying communication	C-4
--	---------------------

telnet command for initiating remote sessions	C-5
---	---------------------

uname command for displaying system information	C-6
---	---------------------

lanscan command for verifying LAN status	C-7
--	---------------------

vgdisplay command for verifying mirroring status	C-8
--	---------------------

shutdown Command for Halting or Rebooting Servers	C-9
---	---------------------

ps Command for Information About Active Processes	C-10
---	----------------------

IN	Index	IN-1
-----------	------------------------------	----------------------



About this information product

Purpose This preface provides an overview of this information product, which is the *Navis™ Provisioning Manager - Multi-Regional Provisioning (MRP) Administration Guide*.

The purpose of this Administration Guide is to explain to users how to administer the *Navis™ Optical Provisioning Manager - Multi-Regional Provisioning (MRP) Release 1.1*.

Reason for reissue Issue 1 of this *Administration Guide* is a new document that supports the supports the *Navis™ Optical PM - MRP, Release 1.1*.

Safety labels This document does not use safety labels.

Intended audience This information product is written primarily for operations personnel who administer *Navis™ Optical PM - MRP*. It may be used by anyone desiring specific information about the features, applications and operations of *Navis™ Optical PM - MRP*.

How to use this information product

This document contains:

- **task** information, which includes administration tasks (that is, step-by-step instructions).
- **conceptual** information, which is specific data related to the tasks.

Both types of information is presented within the chapters of this *Administration Guide*.

Chapter descriptions

The following table describes the information in each chapter of this *Administration Guide*.

Section	Title	Description
Preface	About this information product	Explains this document's purpose, its intended audience, and how to use the document.
Chapter 1	Chapter 1, "Administration overview"	Provides an overview of the administration process.
Chapter 2	Chapter 2, "Platform Administration"	Contains tasks used to power on and power down HP-UX® and Windows® servers and workstations and printer set-up tasks.
Chapter 3	Chapter 3, "Users and User Profiles"	Explains user and user profile concepts, how to create User IDs and assign user privileges. Defines how to restrict system access.
Chapter 4	Chapter 4, "System administration"	Explains how to start and stop the system, set preferences, restart the database and how to perform other system administration tasks.
Chapter 5	Chapter 5, "Provisioning Administration"	Contains tasks on managing aggregates and user-defined submaps.

Section	Title	Description
Chapter 6	Chapter 6, “Environment provisioning”	Contains Off-Line tool tasks used to set up the Navis™ Optical PM - MRP environment by provisioning links and merging circuits. It also contains a task used to extract inter-domain data from the IDLPM application and load it into Navis™ Optical PM - MRP.
Chapter 7	Chapter 7, “Network communication management”	Includes instructions for synchronizing the Navis™ Optical PM - MRP database with the DMS database.
Chapter 8	Chapter 8, “System maintenance”	Provides instructions on how to perform backups, recover from system failures, and monitor space.
Chapter 9	Chapter 9, “Trouble clearing”	Contains troubleshooting tasks.
Chapter 10	Chapter 10, “ Navis™ Optical PM - MRP Software Release, Version, and Patch Information”	Contains information on how to display Navis™ Optical PM - MRP software release, load ID, version number, and patch information.
Appendix A	Appendix A, “Navis™ Optical PM - MRP File systems”	Lists the Navis™ Optical PM - MRP file systems.
Appendix B	Appendix B, “Navis™ Optical PM - MRP Off-Line tools”	Provides information on using the Navis™ Optical PM - MRP Add a DMS, Data Population, and Change Network Element Off-Line tools.

Section	Title	Description
Appendix C	Appendix C, “Common Unix® Commands”	Contains information on common UNIX® commands.
Index	Index	Enables the user to find information quickly on specific topics.

Conventions used This *Administration Guide* relies on the following typographical conventions to distinguish between computer input and output.

- When describing the Navis™ Optical PM - MRP software, fields in windows and field entries are identified with **this font**.
- When describing the UNIX® environment, text and numbers that the user inputs to the computer are identified with boldface type.
- In the UNIX® environment, text and numbers that the computer outputs to the user are identified with monospace type.

Related documentation This *Administration Guide* is part of a set of documents that supports the Navis™ Optical PM - MRP.

List of documents

The document set that supports Navis™ Optical PM - MRP comprises:

1. *Navis™ Optical PM - MRP Administration Guide*, (365-309-803) - provides instructions on how to administer Navis™ Optical PM - MRP and the network. This document includes tasks and conceptual information.
2. *Navis™ Optical PM - MRP Provisioning Guide*, (365-309-804) - provides instructions on how to use Navis™ Optical PM - MRP to provision and manage a network. This document includes tasks and conceptual information.

Glossary

The *Navis™ Optical NMS Administration Guide* contains a glossary that will be helpful to users of Navis™ Optical PM - MRP.

On-line documentation

On-line documentation for Navis™ Optical PM - MRP is provided in two formats:

1. An on-line version, in HTML format, of this document set is provided as part of the Navis™ Optical PM - MRP software.
2. An on-line version, in HTML format, of this document set is available on CD-ROM. The CD-ROM, which is titled *Navis™ Optical PM - MRP User Documentation CD-ROM*, (365-309-805) - includes the full set of documents listed previously.

Screen help

The Navis™ Optical PM - MRP software includes screen help for each form, which describes the purpose of the form, each field, and each button.

Additional documents

The document set that supports Navis™ Optical Network Management System (NMS) also provides valuable information for the users of Navis™ Optical PM - MRP. The document set that supports Navis™ Optical NMS includes:

1. *Navis™ Optical NMS Getting Started Guide*, (365-309-260) - provides information needed when you are learning how to use the Navis™ Optical NMS software. It describes how to start and stop Navis™ Optical NMS, how to use the software, and how to interpret the graphical user interface. This document includes tasks and conceptual information.
2. *Navis™ Optical NMS Applications and Planning Guide*, (365-309-261) - describes the Navis™ Optical NMS features and applications, provides a product description and the hardware platforms for the product, and describes system planning and engineering, ordering, and product support. This document contains conceptual information only.
3. *Navis™ Optical NMS Provisioning Guide*, (365-309-262) - instructs users on how to use Navis™ Optical NMS to provision and manage a network. This document includes tasks and conceptual information.

4. *Navis™ Optical NMS Maintenance Guide*, (365-309-263) - instructs users on how to maintain Navis™ Optical NMS and the network. This document includes tasks and conceptual information.
5. *Navis™ Optical NMS Administration Guide*, (365-309-264) - instructs users on how to administer Navis™ Optical NMS and the network. This document includes tasks and conceptual information.
6. *Navis™ Optical NMS User Documentation CD-ROM*, (365-309-265) - the CD-ROM version of the Navis™ Optical NMS document set.

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1 Administration overview

Overview

Purpose This chapter provides an overview of the *Navis™* Optical Provisioning Manager - Multi-Regional Provisioning (MRP) administration process.

Platform administration and *Navis™* Optical PM - MRP administration

This document contains the administrative operations for *Navis™* Optical PM - MRP.

It covers the following administration categories:

- ***Platform Administration***, which contains critical platform setup tasks that are performed outside of the *Navis™* Optical PM - MRP application. This category includes tasks for powering on or powering off the HP-UX server, HP-UX workstation or Windows workstation, adding users, and configuring printers.
- ***Navis™ Optical PM - MRP Administration***, which includes tasks and concepts specific to this application.

Contents

What is administration?	1-2
Who performs administration tasks?	1-3
Supported hardware configuration	1-4



What is administration?

Introduction Navis™ Optical PM - MRP administration involves providing the following types of support for Navis™ Optical PM - MRP and the network:

- Platform administration
- User security administration
- System administration
- Environment provisioning
- System maintenance
- Network communication management
- Trouble clearing

Platform administration *Platform support* includes tasks associated with HP-UX servers, HP-UX workstations, and Windows workstations.

User security administration *User security administration* includes tasks associated with adding and deleting Navis™ Optical PM - MRP user IDs and profiles.

System administration *System administration* includes tasks associated with administering the Navis™ Optical PM - MRP application.

Environment provisioning *Environment provisioning* includes tasks used to provision links and merge circuits.

System maintenance *System maintenance* includes maintenance tasks, such as backing up and recovering from system failures, and monitoring space.

Network communication management *Network communication management* involves synchronizing the Navis™ Optical PM - MRP database with the Domain Management System (DMS) database.

Trouble clearing *Trouble clearing* includes tasks associated with enabling trace and viewing log and console.log files.



Who performs administration tasks?

Introduction Administrative tasks are performed by users who are designated as system administrators of specific types.

System administrator user types The following system administrator user types are supported by Navis™ Optical PM - MRP:

- **Navis™ Optical PM - MRP System Administrator**, which is the **dacscan** user with privileges to start or stop Navis™ Optical PM - MRP.
- **Navis™ Optical PM - MRP Administrator**, which is an **sa** user allowed to create other Navis™ Optical PM - MRP application users.

In addition to these system administrator user types, there are also hardware administrators for UNIX® and Windows® systems known as **OS (Operating System) Superusers**. The OS superuser has ultimate power over UNIX® or Windows hardware and are **root** or **Administrator** respectively.

For a description of Navis™ Optical PM - MRP user types, see [“User types and user profiles” \(3-4\)](#) in [Chapter 3, “Users and User Profiles”](#).

Functions Users with system administrator privileges are able to perform tasks that enable them to:

- Provide security management, provisioning, and system support for the Navis™ Optical PM - MRP host and the Network Map
- Control the appearance of the Network Map



Supported hardware configuration

Hardware configuration The configuration supported by Navis™ Optical PM - MRP consists of a single server with or without mirrored disks. A mirrored disk configuration eliminates the need for a second processor as a backup. The application and database that reside on separate disks are mirrored onto a second set of disks. Information that is written to disk is reflected simultaneously onto the mirrored counterpart. It is recommended that the mirroring status is checked regularly to ensure that all mirrored information is synchronized with the primary information.

The tasks in this guide apply to the Navis™ Optical PM - MRP-supported configuration only.

For details on Navis™ Optical PM - MRP hardware configuration, refer to the *Navis™ Optical PM - MRP Provisioning Guide* and the *Navis™ Optical NMS Applications and Planning Guide*.

Optional UPS Customers may choose to provide an Uninterruptible Power Supply (UPS) for additional high availability protection. UPS protects the main servers and their essential peripherals from downtime resulting from power failures. In the case of long power losses, the UPS enables the system to shut down gracefully. The amount of time power is supplied is dependent on the type of UPS selected by the customer.

The UPS provides a configurable file that contains two timers used in the shutdown. When the Navis™ Optical PM - MRP application receives notification of a loss of AC power, the application runs a shutdown script that results in a graceful shutdown of the application within the time limit of the timers. These two timers are:

- *shutdown_delay_mins*: the number of minutes from the time UPS switches to internal battery power until the UPS monitor initiates a shutdown. The default value for this parameter is one minute.
- *shutdown_timeout_mins*: the number of minutes the shutdown operation is monitored before a reboot is initiated with the halt option. The default value for this parameter is five minutes.

These timers are tunable at the time of installation and can be changed after installation; however, under normal conditions they should not be changed.





2 Platform Administration

Overview

- Purpose** This chapter contains information on how to:
- power on and off HP-UX servers, HP-UX workstations, and Windows® workstations
 - add printers

Contents

<u>Section I: Power on the HP-UX server, HP-UX workstation and Windows® workstation</u>	<u>2-3</u>
<u>Power on an HP-UX server</u>	<u>2-4</u>
<u>Power on an HP-UX workstation</u>	<u>2-5</u>
<u>Power on a Windows® workstation</u>	<u>2-6</u>
<u>Section II: Power down the HP-UX server, HP-UX workstation and Windows® workstation</u>	<u>2-7</u>
<u>Power down an HP-UX server</u>	<u>2-8</u>
<u>Power down an HP-UX workstation</u>	<u>2-10</u>
<u>Power down a Windows® workstation</u>	<u>2-11</u>
<u>Section III: Printer Administration</u>	<u>2-12</u>
<u>Install a networked printer on a Navis™ Optical PM - MRP server</u>	<u>2-13</u>

Add a network printer	2-15
Add a local serial printer	2-16

Section I: Power on the HP-UX server, HP-UX workstation and Windows® workstation

Overview

Purpose This section describes how to power on an HP-UX server, an HP-UX workstation, and a Windows® workstation.

Contents

Power on an HP-UX server	2-4
Power on an HP-UX workstation	2-5
Power on a Windows® workstation	2-6



Power on an HP-UX server

Purpose Use the following task to power on an HP-UX server.

Important! When the system is powered on, it *does not* automatically start the Navis™ Optical PM - MRP application.

Task Complete the steps below to power on the HP-UX server.

- 1 Switch on all associated peripherals, for example, the control terminal, external disk drives, external tape drives, and modems.
-
- 2 Switch on the HP-UX server (press the power switch or turn the key, as appropriate).

Result:

The HP-UX server runs a sequence of diagnostics and then boots into multi-user mode. The server is ready when the Console Login prompt is displayed on the controlling terminal. Its initial run-level setting is 3.

END OF STEPS



Power on an HP-UX workstation

Purpose Use this task to power on an HP-UX workstation.

Task Complete the steps below to power on an HP-UX workstation.

- 1** Switch on all associated peripherals, for example, control terminal(s), external disk drives, external tape drives, and modems.

- 2** Switch on the workstation (press the power switch or turn the key, as appropriate).

Result:

The workstation runs a sequence of diagnostics and then boots to the X-Windows system. The workstation is ready when the Common Desktop Environment (CDE) login dialog box is displayed.

END OF STEPS



Power on a Windows® workstation

Purpose Use this task to power on a Windows® workstation.

Task Complete the steps below to power on a Windows® workstation.

1 Switch on all associated peripherals, for example, control terminal(s), external disk drives, external tape drives, and modems.

2 Switch on the workstation (press the power switch or turn the key, as appropriate).

Result:

The workstation runs a sequence of diagnostics. The workstation is ready when the Windows® login dialog box is displayed.

END OF STEPS



Section II: Power down the HP-UX server, HP-UX workstation and Windows® workstation

Overview

Purpose This section describes how to power down an HP-UX server, an HP-UX workstation, and a Windows® workstation.

The Navis™ Optical PM - MRP application must be shut down before the server is powered off. For details on starting and stopping the Navis™ Optical PM - MRP server and user interface applications, refer to [“Section I: Start and Stop the Navis™ Optical PM - MRP server application” \(4-3\)](#) and [“Section II: Start and Exit the Navis™ Optical PM - MRP User Interface application” \(4-8\)](#) in [Chapter 4, “System administration”](#).

Contents

Power down an HP-UX server	2-8
Power down an HP-UX workstation	2-10
Power down a Windows® workstation	2-11



Power down an HP-UX server

Purpose Use this task to power down an HP-UX server.

Before you begin Before you begin this task, be sure to:

- follow the step below to shut down the Navis™ Optical PM - MRP application.
- use local procedures to inform users that the application will be shut down.

Task Complete the steps below to power down an HP-UX server.

1 On the control terminal, log in as root.

2 Shut down the Navis™ Optical PM - MRP application. See [“Stop the Navis™ Optical PM - MRP server application” \(4-6\)](#) in [Chapter 4, “System administration”](#).

3 At the prompt, type `cd /`

Result:

The directory is changed.

4 At the prompt, type `shutdown -h -y 0`

Important! The **0** value in the command line `shutdown -h -y 0` causes the shutdown process to begin in 0 seconds, or immediately. To delay the shutdown process, replace the **0** with the number of seconds to be waited before the shutdown is to commence.

Result:

The shutdown process initiates and eventually displays the following message:

```
System has halted
OK to turn off power or reset system
```

UNLESS 'wait for UPS to turn off power' message was
printed above

-
- 5** Switch off the HP-UX server (press the power switch or turn the key,
as appropriate).

Result:

The HP-UX server is powered off.

-
- 6** Switch off all associated peripherals, for example, the control
terminal, external disk drives, external tape drives, and modems.

END OF STEPS



Power down an HP-UX workstation

Purpose Use the following task to power down an HP-UX workstation.

Task Complete the steps below to power down an HP-UX workstation.

1 Log in to the workstation as root.

2 At the prompt, type `cd /`

3 At the prompt, type `shutdown -h -y 0`

Important! The **0** value in the command line `shutdown -h -y 0` causes the shutdown process to begin in 0 seconds, or immediately. To delay the shutdown process, replace the **0** with the number of seconds to be waited before the shutdown is to commence.

Result:

The shutdown process initiates and eventually displays the following message:

```
System has halted
OK to turn off power or reset system
UNLESS 'wait for UPS to turn off power' message was
  printed above
```

4 Switch off the workstation (press the power switch or turn the key, as appropriate).

Result:

The workstation is powered off.

END OF STEPS



Power down a Windows® workstation

Purpose Use this task to power down a Windows® workstation.

Task Complete the steps below to power down a Windows® workstation.

1 Log in to the workstation as Administrator.

2 Select **Start > Shut Down**.

Result:

The Shut Down Windows® dialog box is displayed.

3 Select the **Shut Down...** radio button and select **Yes**.

Result:

The Windows® workstation powers down.

4 Switch off the workstation (press the power switch or turn the key, as appropriate).

Result:

The workstation is powered off.

END OF STEPS



Section III: Printer Administration

Overview

Purpose This section describes how to add a printer and set up the Common Desktop Environment (CDE) icon. Procedures for installing a networked printer on a server and for adding a network and a local serial printer are provided.

Contents

Install a networked printer on a Navis™ Optical PM - MRP server	2-13
Add a network printer	2-15
Add a local serial printer	2-16

Install a networked printer on a Navis™ Optical PM - MRP server

Purpose Use this task to install a networked printer on a Navis™ Optical PM - MRP server.

Before you begin Before you begin this task, collect the following information about the network printer by printing the test/configuration page from the printer.

- Printer name
- IP Address
- LAN Hardware Address
- Name or IP address of the server providing spooler facilities

Task Complete the steps below to add a networked printer on a Navis™ Optical PM - MRP server.

1 Take the printer off-line.

2 Access the test menu on your printer and run a self test.

Result:

A printer status sheet prints. This status sheet indicates the LAN hardware address (LAN HW ADDRESS), network peripheral name (HOST NAME), and the IP address, if these values have been assigned to the printer.

3 Press **On Line**.

4 From the system console, log into the server as **root**.

5 Enter `ksh /install/prtinstall` at the # prompt.

Result:

Additional prompts are displayed.

-
- 6** Respond to the IP address, printer name, and Type in the LAN
Hardware Address prompts.

Result:

The network printer is added.

END OF STEPS



Add a network printer

Purpose Use this procedure to add a network printer.

Before you begin Before you begin this task, collect the following information:

- Printer name (the printer name must be six characters or less)
- IP address

The network printer must be connected to Ethernet.

Task Complete the steps below to add a network printer.

1 Take the printer off-line.

2 Access the test menu on your printer and run a self test.

Result:

A printer status sheet prints. This status sheet indicates the LAN hardware address (LAN HW ADDRESS), network peripheral name (HOST NAME), and the IP address, if these values have been assigned to the printer.

3 Press **On Line**.

4 Using the system console, log into the server as root.

5 At the # prompt, enter `ksh /install/prtinstall`

6 Respond to the IP address, printer name, and Type in the LAN Hardware Address prompts.

Result:

The network printer is added.

END OF STEPS



Add a local serial printer

Purpose Use this procedure to add a local serial printer.

Before you begin Before you begin this task, collect the following information:

- Printer name (the printer name must be six characters or less)

The local serial printer must be connected to the asynchronous multiplexer board.

Task Complete the steps below to add a local serial printer to your server.

1 Using the system console, log into the server as root.

2 At the # prompt, enter `ksh /install/prtinstall`

3 Answer the questions as appropriate.

Result:

The local serial printer is added.

END OF STEPS





3 Users and User Profiles

Overview

Purpose This chapter provides the conceptual information needed to comprehend the administration of users and user profiles in the Navis™ Optical PM - MRP. It also includes tasks used to add users, assign privileges, and restrict access to the Navis™ Optical PM - MRP application.

Contents

<u>Section I: User and User Profile Concepts</u>	<u>3-3</u>
<u>User and User Profile Concepts</u>	<u>3-4</u>
<u>Section II: User Types, User IDs, and Privileges</u>	<u>3-5</u>
<u>Create a User ID using the SAM GUI-based program</u>	<u>3-6</u>
<u>Create a User ID with the SAM terminal-based program</u>	<u>3-9</u>
<u>Assign User privileges on a Windows® PC</u>	<u>3-13</u>
<u>Assign User privileges on a Windows® 2000 PC</u>	<u>3-15</u>
<u>Assign System Administrator (SA) privileges on a Windows® PC</u>	<u>3-17</u>
<u>Section III: Navis™ Optical PM - MRP User ID Administration Tasks</u>	<u>3-19</u>

Add a user	3-20
Modify a user	3-22
Delete a user	3-24
Create a user profile	3-25
Modify a user profile	3-26
Delete a user profile	3-28
Section IV: Administer SAGE Desktop Integration users	3-29
Definition: SAGE Desktop Integration	3-30
Add a user to a SAGE workstation	3-31
Delete a user from a SAGE workstation	3-32



Section I: User and User Profile Concepts

Overview

Purpose This section describes user and user profile concepts.

Contents

User and User Profile Concepts	3-4
--	---------------------



User and User Profile Concepts

The default administrator The Navis™ Optical PM - MRP application is shipped with a default administrator login that is called *sa*. This login is used by the initial user to do initial start-up tasks. This user has access to all Navis™ Optical PM - MRP forms, including those forms that are needed to add additional new users.

Users who are created by *sa* are typically set up with access to only a subset of Navis™ Optical PM - MRP forms. Therefore, to become authorized, a user has to already have the correct permissions to access these Navis™ Optical PM - MRP forms or to have the *sa* change his or her permissions.

User types and user profiles The Navis™ Optical PM - MRP application allows authorized users to have different levels of access, which are controlled by a login ID, a password, a user type, and a user profile.

The *Navis™ Optical PM - MRP User* is the user who has access to the Navis™ Optical PM - MRP application. By default, this user is of the type that is called *regular user*.

A user profile controls which task groupings a user is allowed to access and thereby which tasks the user is allowed to perform. A user can be assigned to more than one user profile.

The Navis™ Optical PM - MRP offers the following user profiles:

- The *Initial* profile provides access to the Configuration Management and NE Management task groupings. By default, all new users are assigned to the Initial Profile.
- The *Combined* profile provides access to the All Tasks task grouping, which includes the Configuration Management, NE Management, System Administrator, and Configuration Management (View only) Administrator task groupings.

While each profile has a finite number of *assigned* tasks, the system administrator can select which tasks to associate with a particular profile.

In addition to the user profiles listed, the system administrator can add a new profile, or modify or delete an existing profile. The *Initial Profile* can never be deleted and the *Combined Default Profile* cannot be modified or deleted.

□

Section II: User Types, User IDs, and Privileges

Overview

Purpose This section describes Navis™ Optical PM - MRP user types and contains tasks for creating user IDs using a GUI-based or terminal-based version of the SAM program. It includes tasks for assigning user privileges to a user with a Windows® PC or a Windows® 2000 PC, as well as assigning administrator privileges on a Windows® PC.

There is no need to add new users on the server. Any necessary user IDs should have been created during installation.

Navis™ Optical PM - MRP User types

The following system administrator user types are supported by Navis™ Optical PM - MRP:

- *Navis™ Optical PM - MRP System Administrator*, which is the **dacscan** user with privileges to start or stop Navis™ Optical PM - MRP.
- *Navis™ Optical PM - MRP Administrator*, which is an application administrator. This user type has **sa** as its default administrator user ID and resides in the Navis™ Optical PM - MRP database as the first real user.
- Regular Users or those users with access to the Navis™ Optical PM - MRPAapplication.

Contents

Create a User ID using the SAM GUI-based program	3-6
Create a User ID with the SAM terminal-based program	3-9
Assign User privileges on a Windows® PC	3-13
Assign User privileges on a Windows® 2000 PC	3-15
Assign System Administrator (SA) privileges on a Windows® PC	3-17

Create a User ID using the SAM GUI-based program

Purpose Use this task to create a user ID with the GUI-based version of the **SAM** program on an HP-UX workstation.

Task Complete the steps below to create an application user ID using SAM on an HP-UX workstation.

1 Log into the workstation as root.

2 On the Common Desktop Environment (CDE) panel (on the bottom of the screen), select the terminal icon to open a **dtterm** window.

Result:

A **dtterm** window is displayed.

3 At the prompt, enter `sam` [Enter].

Result:

A menu of System Administration Manager options is displayed.

4 Double click the **Accounts for Users and Groups** icon.

Result:

The Accounts for User and Groups icons is displayed.

5 Double click the **Users** icon.

Result:

A Displaying All Users form is displayed.

6 Select **Actions > Add**.

Result:

The Add a User Account form is displayed.

-
- 7 In the **Login Name** field, enter a value of up to 8 characters for the ID (such as the person's abbreviated name) .

Important! The valid characters allowed in the ID are lowercase letters (a-z), numbers (0-9), and one or more underscores (_). The first character must be a lowercase letter. The underscores may be in any position after the first.

Result:

The **Home directory** field displays the directory path, which includes the Login Name field's value, such as **/home/<login_name>**.

-
- 8 Select the **Create Home directory** box.

Important! The **Create Home Directory** box *must* be selected in order to add the user successfully. If this box is not checked, the **/etc/passwd** file may be corrupted and cause the computer to boot up in single user mode.

-
- 9 In the **Primary Group Name** field, enter users.

-
- 10 In the **Start-up Program** field, enter /usr/bin/ksh.

Important! The remaining fields are optional.

-
- 11 Optionally complete the remaining fields, and then click **OK** to continue.

Result:

The Set User Password dialog box is displayed.

-
- 12 Enter a password for the user ID and click **OK**.

Result:

A verification message is displayed.

-
- 13 Re-enter the password and click **OK**.

Result:

A message indicates that the user ID has been added.

-
- 14** To exit the Add a User Account form, select **File > Exit**.
-
- 15** To exit the Accounts for Users and Groups form, select **File > Exit SAM**.
-
- 16** At the prompt, type `cat /etc/passwd | pg` and review the `passwd` file to ensure that permissions have been set properly for the created user ID.
-
- 17** For each user entered in the **Login Name** field in [Step 7](#) of this task, complete [“Add a user” \(3-20\)](#) in [Chapter 3, “Users and User Profiles”](#) to add the user to the Navis™ Optical PM - MRP application.

END OF STEPS



Create a User ID with the SAM terminal-based program

Purpose Use this task to create a user ID with the terminal (non-GUI) version of the SAM program, which may be accessed through a telnet session.

Before you begin Before you begin this task, you need the IP address of a machine with the SAM application.

Task Complete the steps below to create a user ID by accessing **SAM** through a telnet session.

1 Log into a workstation.

2 Click the **Start** button in the task bar, and then select **Run**.

Result:

The Run dialog box is displayed.

3 In the Run dialog box's **Open** field, enter telnet <ip_address_or_hostname> then login as **root** to the host server containing the SAM program.

4 At the prompt, enter sam [ENTER].

Result:

A message indicates that the terminal version of **SAM** is started.

5 Press **Enter**.

Result:

The **Sam Administration Manager** menu is displayed.

6 At the highlighted **Accounts for Users and Groups** selection, press **Enter**.

Result:

A menu of User and Group options is displayed.

-
- 7 Using the down arrow key, highlight **Users** and press **Enter**.

Result:

The Accounts for Users and Groups form is displayed.

- 8 Using the **Tab** and arrow keys, scroll to the **Actions** menu selection and press **Enter**.

Result:

The Actions menu is displayed.

- 9 At the highlighted **Add...** entry, press **Enter**.

Result:

The Add a User Account form is displayed.

- 10 In the **Login Name** field, enter a value of up to 8 characters for the ID (such as the person's abbreviated name) and press **Enter**.

Important! The valid characters allowed in the ID are lowercase letters (a-z), numbers (0-9), and one or more underscores (_). The first character must be a lowercase letter. The underscores may be in any position after the first.

Result:

The cursor bypasses the **User ID (UID)** field, which is populated already with a system-generated entry. The **Home directory** field displays the directory path, which includes the Login Name field's value, such as **/home/<login_name>**.

- 11 Tab to the **Create Home Directory** check box and press **Enter** if the box is not checked already.

Important! The **Create Home Directory** box *must* be checked in order to add the user successfully. If this box is not checked, the **/etc/passwd** file may be corrupted and cause the computer to boot up in single user mode.

- 12 Tab to the **Primary Group Name** field, type **users**, and press **Enter**.
-

.....
13 In the **Start-Up Program** field, enter `/usr/bin/ksh` and press **Enter**.

Important! The remaining fields are optional.

.....
14 Tab to **OK** and press **Enter**.

Result:

The Set User Password dialog box is displayed.

.....
15 Enter a password for the user ID, tab to **OK**, and press **Enter**.

Result:

A verification message is displayed.

.....
16 Re-enter the password, tab to **OK**, and press **Enter**.

Result:

A message indicates that the login has been added.

.....
17 To exit the Add a User Account form, tab to the **File** menu, highlight **Exit**, and press **Enter**.

.....
18 To exit the Accounts for Users and Groups form, tab to the **File** menu, highlight **Exit SAM**, and press **Enter**.

.....
19 At the prompt, type `cat /etc/passwd | pg` and review the `passwd` file to ensure that permissions have been set properly for the created user ID.

.....
20 At the prompt, type `exit`.

Result:

A `logout root` and `telnet status` message are displayed.

-
- 21** For each user entered in the **Login Name** field in [Step 10](#) of this task, complete [“Add a user” \(3-20\)](#) in [Chapter 3, “Users and User Profiles”](#) to add the user to the Navis™ Optical PM - MRP application.

.....

END OF STEPS



Assign User privileges on a Windows® PC

Purpose Use this procedure to assign user privileges to a user on a PC running Windows® software.

Before you begin Be sure that the user ID has been created.

Permissions You must have system administrator privileges on the PC to complete this task.

Task Complete the steps below to assign user privileges to a user on a Windows® PC.

- 1 In the Windows® main window, click on the **Start** button in the task bar.

Result:

A menu is displayed.

- 2 Select **Programs > Administrative Tools (Common) > User Manager**.

Result:

The User Manager window is displayed.

- 3 In the User Manager window, select **User > New User**.

Result:

The New User window is displayed.

- 4 Complete the required **Username** field and the optional **Full Name** and **Description** fields.
-

- 5 In the **Password** field, enter the password for the new user ID.
-

- 6 In the **Confirm Password** field, enter the same password.
-

.....
7 (Optional) Uncheck the **User Must Change Password at Next Logon** box.

.....
8 (Optional) Check the **Password Never Expires** box.

.....
9 Click the **Groups** button.

Result:

The Group Membership screen is displayed.

.....
10 In the Group Membership screen, view the **Member of** list for a **Users** entry. If **Users** is not listed, highlight **Users** in the **Not Member of** list and click the **Add** button.

Important! If an entry other than **Users** is displayed in the **Member of** list, highlight the entry, and then click the **Remove** button to move the entry to the **Not Member of** list.

Result:

Users is displayed in the **Member of** list.

.....
11 In the Group Membership screen, click **OK**.

Result:

The Group Membership screen closes.

.....
12 In the New User screen, click **OK**.

Result:

The New User screen closes and the new user is listed on the User Manager screen. The user has been assigned user privileges.

.....
END OF STEPS



Assign User privileges on a Windows® 2000 PC

Purpose Use this procedure to assign user privileges to a user on a PC running Windows® 2000 software.

Before you begin Be sure that the user ID has been created.

Permissions You must have system administrator privileges on the PC to complete this task.

Tasks Complete the steps below to create a user login on a Windows® 2000 PC.

1 Log into a workstation as an administrator.

2 In the task bar, click the **Start** button, and then select **Settings > Control Panel**.

Result:

The Control Panel form is displayed.

3 Double click the **Users and Passwords** icon.

Result:

The Users and Passwords form is displayed.

4 Click the **Add** button.

Result:

The Add New User window is displayed.

5 Complete the **User name**, **Full name**, and **Description** fields, and click the **Next >** button.

Result:

The Add New User form displays the password fields.

-
- 6** Complete the **Password** and **Confirm Password** fields, and then click the **Next >** button.

Result:

The Add New User form displays access selections.

-
- 7** Click **Standard user** (or other desired level of access), and then click the **Finish** button.

Result:

The user has been assigned user privileges.

END OF STEPS



Assign System Administrator (SA) privileges on a Windows® PC

Purpose Use this procedure to add a user to a Windows® PC and assign system administrator privileges.

Before you begin Be sure that the user ID has been created.

Permissions You must have system administrator privileges to perform this task.

Tasks Complete the steps below to create a system administrator login and assign system administrator privileges on a Windows® PC.

- 1 In the Windows® main window, click the **Start** button in the task bar.

Result:

A menu is displayed.

- 2 Select **Programs > Administrative Tools (Common) > User Manager**.

Result:

The User Manager window is displayed.

- 3 In the User Manager window, select **User > New User**.

Result:

The New User window is displayed.

- 4 Complete the required **Username** field and the optional **Full Name** and **Description** fields.
-

- 5 In the **Password** field, enter the password for the new user ID.
-

- 6 In the **Confirm Password** field, enter the same password.
-

-
- 7 Uncheck **User Must Change Password at Next Logon**.
-

- 8 Check the **Password Never Expires** box.
-

- 9 Select the **Groups** button.

Result:

The Group Membership screen is displayed.

.....

- 10 In the Group Membership screen, view the **Member of** list for an **Administrators** entry. If **Administrators** is not listed, highlight **Administrators** in the **Not Member of** list and select the **Add** button.

Important! If an entry other than **Administrators** is displayed in the **Member of** list, highlight the entry, and then select the **Remove** button to move the entry to the **Not Member of** list.

Result:

Administrators is displayed in the **Member of** list.

.....

- 11 In the Group Membership screen, select **OK**.

Result:

The Group Membership screen closes.

.....

- 12 In the New User screen, select **OK**.

Result:

The New User screen closes and the new user is listed on the User Manager screen.

END OF STEPS

.....



Section III: Navis™ Optical PM - MRP User ID Administration Tasks

Overview

Purpose This section describes how to administer user IDs in the Navis™ Optical PM - MRP application.

Contents

Add a user	3-20
Modify a user	3-22
Delete a user	3-24
Create a user profile	3-25
Modify a user profile	3-26
Delete a user profile	3-28



Add a user

Purpose Use this procedure to add a user to Navis™ Optical PM - MRP.

Permissions You must have system administrator privileges to complete this task.

Important! Before you begin this task, the user ID must first be created on the specific platform. See [Chapter 2, “Platform Administration”](#) for details.

Task Complete the following steps to add a user to Navis™ Optical PM - MRP.

- 1 On the Network Map, select **Administration > Security Assignments > Users > Add**.

Result:

The Add User form is displayed.

- 2 In the **User ID** field, enter a user ID.
-

- 3 In the **Description** field, enter a description to be associated with the user ID. This field is optional.
-

- 4 In the **Profile** field, select a user profile from the drop-down list.

The options are:

- **Initial**
- **Provisioning (View Only)**
- **Combined**

If no user profile is selected, the user is assigned the **Initial** profile automatically.

Result:

The selected profile is displayed and the tasks associated with the profile are listed in the **Assigned Tasks** area of the window.

.....
5 In the **User Type** field, select **Regular User**.
.....

6 Click **Apply**.

Result:

A message on the bottom of the Add User form indicates that the user has been added.
.....

7 Click **OK**.

Result:

The Add User form closes.

.....
E N D O F S T E P S
.....



Modify a user

Purpose Use this procedure to modify user ID information.

Permissions You must have system administrator privileges to complete this task.

Task Complete the following steps to modify a user.

- 1 On the Network Map, select **Administration > Security Assignments > Users > Display/Modify**.

Result:

The List of Users form is displayed.

- 2 Highlight the user ID to be modified.
-

- 3 From the **Actions** menu, select **Modify User**.

Result:

The Modify User form is displayed.

- 4 Change the **Description**, **Profile**, or **User Type** parameters as desired.
-

- 5 Click **Apply**.

Result:

A message on the bottom of the Modify User form indicates that the parameters for the selected user have been modified.

- 6 Click **OK**.

Result:

The Modify User form closes.

- 7 From the List of Users form, select **File > Close**.
-

Result:

The List of Users form closes. The user ID information has been modified.

END OF STEPS



Delete a user

Purpose Use this procedure to delete a regular user.

Permissions You must have system administrator privileges to complete this task.

Task Complete the following steps to delete a user.

- 1 On the Network Map, select **Administration > Security Assignments > Users > Display/Modify**.

Result:

The List of Users form is displayed.

- 2 Highlight the user ID to be deleted.
-

- 3 From the **Actions** menu, select **Delete User**.

Result:

A confirmation box appears and asks if you really want to delete this user.

- 4 Click **Yes**.

Result:

The user ID is deleted.

- 5 Select **File > Close**.

Result:

The List of Users form closes.

END OF STEPS



Create a user profile

Purpose Use this procedure to create a user profile.

Permissions You must have system administrator privileges to complete this task.

Task Complete the following steps to create a user profile.

- 1 On the Network Map, select **Administration > Security Assignments > Profiles > Add Profile**.

Result:

The Add Profile form is displayed.

- 2 In the **Profile Name** field, enter a name for the user profile (up to 30 characters).
-

- 3 Add tasks to the user profile by moving them from the **Available Tasks** list to the **Selected Tasks** list.
-

- 4 Click **Apply**.

Result:

The user profile is created and is now available for assignment to users.

- 5 Click **OK**.

Result:

The Add Profile form closes.

END OF STEPS



Modify a user profile

Purpose Use this procedure to modify the list of tasks associated with a user profile.

Note that neither the Combined Profile nor the Provisioning (View Only) Profile can be edited.

Permissions You must have system administrator privileges to complete this task.

Task Complete the following steps to modify a user profile:

- 1 On the Network Map, select **Administration > Security Assignments > Profiles > Modify Profile**.

Result:

The Modify Profile form is displayed.

- 2 In the **Profile Name** field, select the user profile to be modified from the drop-down list.

Result:

The selected and available tasks for the user profile are displayed.

- 3 Do one of the following:
 - Add tasks to the user profile by moving them from the **Available Tasks** list to the **Selected Tasks** list.
 - Remove tasks from the user profile by moving them from the **Selected Tasks** list to the **Available Tasks** list.
-

- 4 Click **Apply**.

Result:

The user profile is modified.

- 5 Click **OK**.
-

Result:

The Modify Profile form closes.

END OF STEPS



Delete a user profile

Purpose Use this procedure to delete a user profile.

Note that the Initial Profile cannot be deleted.

Permissions You must have system administrator privileges to complete this task.

Task Complete the following steps to delete a user profile.

- 1 On the Network Map, select **Administration > Security Assignments> Profiles > Delete Profile**.

Result:

The Delete Profile form is displayed.

- 2 In the **Profile Name** field, select the name of the user profile to be deleted from the drop-down list.
-

- 3 Click **Apply**.

Result:

A confirmation box asks if you really want to delete this profile.

- 4 Click **Yes**.

Result:

The user profile is deleted.

- 5 Click **Close**.

Result:

The Delete Profile form closes.

END OF STEPS



Section IV: Administer SAGE Desktop Integration users

Overview

Purpose This section describes how to administer the Secure Access Gateway for Enterprises (SAGE) Desktop Integration feature.

Contents

Definition: SAGE Desktop Integration	3-30
Add a user to a SAGE workstation	3-31
Delete a user from a SAGE workstation	3-32



Definition: SAGE Desktop Integration

SAGE Desktop SAGE Desktop Integration is an optional feature for Navis™ Optical PM - MRP applications that allows users to access multiple Navis™ Optical PM - MRP systems through a web browser.

A system administrator may add SAGE users to or delete them from an HP-UX client server.

Since SAGE requires each user to have an individual profile, the system administrator is responsible for managing these profiles as well as user logins and passwords. The administrator must also support users with logging into SAGE, changing passwords, modifying user attributes, and interpreting and responding to system messages.

Related information For more detailed system administration instructions, see the *Secure Access Gateway for Enterprises (SAGE) Administration Guide*.



Add a user to a SAGE workstation

Purpose Use this procedure to add a user to a SAGE workstation.

Task Complete the steps below to add a user to a SAGE client workstation.

1 Log into the SAGE client workstation as **system administrator**.

2 Click on the **IWS** icon.

Result:

The IWS Home Page form is displayed.

3 Click on the **TMS** icon.

Result:

The Navis™ Optical PM - MRP Network Map is displayed.

4 Select **Administration > Security Assignments > Users > Add**.

Result:

The Add User form is displayed.

5 In the **User ID** field, enter **sawg** and then click **OK**.

6 In the **Profile** field, select **Combined Profile** from the drop-down list.

7 Click on **OK** on the bottom of the form.

Result:

The user ID is added to the SAGE workstation.

END OF STEPS



Delete a user from a SAGE workstation

Purpose Use this procedure to delete a user from a SAGE workstation.

Task Complete the steps below to delete a user from a SAGE workstation.

1 Log into the SAGE workstation as **system administrator**, and then bring up the Navis™ Optical PM - MRP Network Map.

2 On the Network Map, select **Administration > Security Assignments > Users > Display/Modify**.

Result:

The List of Users form is displayed.

3 Highlight the user ID to be deleted.

4 From the **Actions** menu, select **Delete User**.

Result:

A confirmation box appears and asks if you really want to delete this user.

5 Click **Yes**.

Result:

The user ID is deleted.

6 Select **File > Close**.

Result:

The List of Users form closes.

END OF STEPS





4 System administration

Overview

Purpose This chapter describes tasks for administering Navis™ Optical PM - MRP.

Contents

<u>Section I: Start and Stop the Navis™ Optical PM - MRP server application</u>	<u>4-3</u>
<u>Start the Navis™ Optical PM - MRP server application</u>	<u>4-4</u>
<u>Stop the Navis™ Optical PM - MRP server application</u>	<u>4-6</u>
<u>Section II: Start and Exit the Navis™ Optical PM - MRP User Interface application</u>	<u>4-8</u>
<u>Start Navis™ Optical PM - MRP user interface on an HP-UX workstation</u>	<u>4-9</u>
<u>Start Navis™ Optical PM - MRP user interface on a Windows workstation (PC)</u>	<u>4-10</u>
<u>Exit Navis™ Optical PM - MRP</u>	<u>4-11</u>
<u>Section III: Administer the Network Map</u>	<u>4-12</u>
<u>Install a new background map</u>	<u>4-13</u>
<u>Set map preferences</u>	<u>4-14</u>

Update a network element position	4-15
Search for controlled network elements	4-16
Search for location-type information for a specific network element	4-17
Section IV: Administer user-defined submaps	4-18
Add a user-defined submap	4-19
Display/modify a user-defined submap	4-20
Delete a user-defined submap	4-21
Section V: Administer the Oracle database	4-22
Restart the Oracle database	4-23
Stop the Oracle database	4-24
Section VI: Administer the system cron file	4-25
View the root cron file	4-27
View the dacsan cron file	4-28
Edit the root cron file	4-29
Edit the dacsan cron file	4-30



Section I: Start and Stop the Navis™ Optical PM - MRP server application

Overview

Purpose This section describes how to start and stop the Navis™ Optical PM - MRP server application.

Background The host application starts when the HP-UX server is brought to run level 4, and exits when the HP-UX server is brought to run level 3 (multi-user mode). The host application stops when Navis™ Optical PM - MRP is brought to run level 3 (multi-user mode).

Contents

Start the Navis™ Optical PM - MRP server application	4-4
Stop the Navis™ Optical PM - MRP server application	4-6



Start the Navis™ Optical PM - MRP server application

Purpose Use this procedure to start the Navis™ Optical PM - MRP server application.

Before you begin The first step in starting Navis™ Optical PM - MRP is powering on the HP-UX server, therefore, before you begin this task, be sure that the server has been powered on. See [“Power on an HP-UX server” \(2-4\)](#) in [Chapter 2, “Platform Administration”](#).

Start the Navis™ Optical PM - MRP server application Complete the steps below to start the Navis™ Optical PM - MRP server application.

1 Log into the server as root.

2 At the prompt, enter `who -r`.

Result:

A message displays a line of current run level information, such as `run-level 3 Oct 30 11:26 3 0 S`.

3 Continue with one of the following options.

IF	THEN
run-level is 3,	proceed to the next step.
run-level is 4,	the application is already running; no further action is necessary.
run-level is not 3 or 4,	contact Lucent Customer Support. (See the <i>Technical support</i> information located on the inside of the cover sheet of this document for details.)

4 At the prompt, enter `init 4`.

Result:

The run level is changed to run-level 4.

- 5** At the prompt, enter `tail -f/etc/rc.log`

Important! To terminate this command, press **Ctrl** and **c**.

Result:

The following message is displayed:

WS-TMS Application has been started...

HP-UX run-level transition completed

<Weekday> MMM DD HH:MM:SS <timezone> YYYY

END OF STEPS



Stop the Navis™ Optical PM - MRP server application

Purpose Use this procedure to stop the Navis™ Optical PM - MRP server application.

The host application stops when Navis™ Optical PM - MRP is brought to run level 3 (multi-user mode).

Stop the Navis™ Optical PM - MRP server application

Complete the steps below to stop the Navis™ Optical PM - MRP server application.

- 1 Log into the server as root.
-

- 2 At the prompt, enter `who -r`.

Result:

A line of current run level information, such as the following, is displayed:

```
run-level 4 Oct 30 11:26 3 0 S
```

- 3 Continue with one of the following options:

IF	THEN
the run-level is 4,	proceed to the next step.
the run-level is 3,	the application is not running; no further action is necessary.
run-level is not 3 or 4,	contact Lucent Customer Support (see the <i>Technical support</i> information located on the inside of the cover sheet of this document for details).

- 4 At the prompt, enter `init 3`.

Result:

The run level is changed to run-level 3.

-
- 5 At the prompt, enter `tail -f/etc/rc.log`

Important! To terminate this command, simultaneously press **Ctrl** and **c**.

Result:

The following message is displayed:

```
HP-UX run-level transition completed
```

```
<Weekday> MMM DD HH:MM:SS <timezone> YYYY
```

```
END OF STEPS
```



Section II: Start and Exit the Navis™ Optical PM - MRP User Interface application

Overview

Purpose This section describes how to start and exit the Navis™ Optical PM - MRP User Interface (UI) application on an HP-UX workstation or on a Windows workstation.

Contents

Start Navis™ Optical PM - MRP user interface on an HP-UX workstation	4-9
Start Navis™ Optical PM - MRP user interface on a Windows workstation (PC)	4-10
Exit Navis™ Optical PM - MRP	4-11



Start Navis™ Optical PM - MRP user interface on an HP-UX workstation

Purpose Use this procedure to start the Navis™ Optical PM - MRP user interface on an HP-UX workstation.

Before you begin Before you begin, be sure that the HP-UX workstation is powered on. See [“Power on an HP-UX workstation” \(2-5\)](#) in [Chapter 2, “Platform Administration”](#).

Task Complete the following steps to start Navis™ Optical PM - MRP on an HP-UX workstation.

1 Log into the HP-UX workstation.

2 Continue with one of the following.

IF...	THEN...
the Navis™ Optical PM - MRP icon is displayed on the desktop:	double-click the icon. Important! The icon may be displayed as a Lucent logo. Result: The Navis™ Optical PM - MRP Network Map opens.
the icon is not displayed:	contact Lucent Customer Support. See the <i>Technical support</i> information on the inside of the cover page of this document for details.

END OF STEPS



Start Navis™ Optical PM - MRP user interface on a Windows workstation (PC)

Purpose Use this procedure to start the Navis™ Optical PM - MRP user interface on a Windows workstation (PC).

Before you begin Before running Navis™ Optical PM - MRP on a Windows workstation, the workstation must be powered on (see [“Power on a Windows® workstation” \(2-6\)](#) in [Chapter 2, “Platform Administration”](#)) and the Navis™ Optical PM - MRP application must be loaded on the workstation. This task assumes that the application has been loaded on the workstation.

Task Complete the following steps to start Navis™ Optical PM - MRP on a Windows workstation.

- 1 Log into the Windows workstation.

Result:

The Windows desktop is displayed.

- 2 Continue with one of the following.

IF...	THEN...
the icon is displayed on the desktop:	double-click the icon. Result: The Navis™ Optical PM - MRP Network Map opens.
the icon is not displayed on the desktop:	contact the Lucent Customer Support. (See the <i>Technical support</i> information on the inside of the cover sheet of this document for details.)

END OF STEPS



Exit Navis™ Optical PM - MRP

Purpose Use this procedure to exit the Navis™ Optical PM - MRP user interface application on HP-UX or Windows workstations.

Task Complete the steps below to exit the Navis™ Optical PM - MRP application.

- 1 On the Network Map, do one of the following:
 - Select **File > Exit**
 - Select the close button in the top right corner of the Network Map.

Result:

A confirmation dialog box is displayed.

- 2 In the dialog box, select **OK**.

Result:

The Navis™ Optical PM - MRP session is terminated.

END OF STEPS



Section III: Administer the Network Map

Overview

Purpose This section contains tasks for controlling the appearance of the Network Map and for managing network elements on the map.

Contents

Install a new background map	4-13
Set map preferences	4-14
Update a network element position	4-15
Search for controlled network elements	4-16
Search for location-type information for a specific network element	4-17



Install a new background map

Purpose You may install a new background map for HP-UX client machines or Windows PCs. However, in order to do so, you must call Lucent Customer Support for assistance. See the *Technical support* information on the inside of the cover sheet of this document for details.

The system administrator will use off-line hardware (such as a scanner) to scan the customer's map and save it onto the host machine as a **.gif** file in the **\$DEST/jnm/itm/data/customer** directory.

Contact Lucent Customer Support to install a new background map.

Choosing a background map

A new background map must be selected carefully so that it does not obscure the icons and text displayed with it. For example, a map that is largely white will hide the white text of the icon names.

When selecting a background map, select a map that includes colors that contrast sufficiently with the icons and text displayed on the map so that they are distinguished easily by the user.

Task Perform the step below to install a new background map for all users.

-
- 1 Contact Lucent Customer Support to perform this task.

END OF STEPS



Set map preferences

Purpose Use this procedure to set map preferences.

Task Complete the steps below to set map preferences.

- 1 On the Network Map, select **Administration > Preferences...**

Result:

The Preferences form is displayed.

- 2

IF	THEN
you want to select a different map	highlight an entry in the User Login View drop-down list.
you want to set the link width value	click the Normal or Heavy button.

- 3 Select **OK**.

Result:

The form closes. Changes to the map will take effect during the next and subsequent sessions.

END OF STEPS



Update a network element position

Purpose Use the following procedure to update a network element's position on the Network Map.

Permissions You must have *system administrator* or *Configuration Management* privileges to save the updated network element positions on the Network Map.

Task Complete the steps below to move a node permanently to a new position on the Network Map.

1 On the Network Map, select the node you want to move.

2 Drag and drop the node to the new location.

Result:

The node and its connecting links are repositioned.

3 On the Network Map, select **File > Save Node & Label Map Positions**.

Result:

The network element's location is updated.

END OF STEPS



Search for controlled network elements

Purpose Use this procedure to search for a list of network elements with which Navis™ Optical PM - MRP works and for information about the digital cross-connect systems that are part of the network.

Task Complete the steps below to search for controlled network elements and digital cross-connect systems that are part of the network.

- 1 On the Network Map, select **Administration > Location Reference Table**.

Result:

The Location Reference Table Query Box is displayed.

- 2 (*Optional*) In the **Office Location/NE ID** field, enter any known network element information to use as search criteria.
-

- 3 (*Required*) Select the **Area ID** from the drop-down list.
-

- 4 (*Optional*) Select the **Node Type** from the drop-down list.
-

- 5 Click **OK**.

Result:

The Location Reference Table form displays the results.

END OF STEPS



Search for location-type information for a specific network element

Purpose Use this procedure to search for location-type information for a specific network element.

Important! The search is limited to network elements that are controlled or cataloged by Navis™ Optical PM - MRP.

Task Complete the steps below to search for location-type information for a specific network element.

- 1 On the Network Map, select **Administration > Location Reference Table**.

Result:

The Location Reference Table Query Box is displayed.

- 2 (Required) In the **Office Location/NE ID** field, enter the network element ID.
-

- 3 (Required) Select the **Area ID** from the drop-down list.
-

- 4 (Optional) Select the **Node Type** from the drop-down list.
-

- 5 Select **OK**.

Result:

The Location Reference Table displays location-type information for the specific network element.

END OF STEPS



Section IV: Administer user-defined submaps

Overview

Purpose This section defines how to add, modify, and delete Navis™ Optical PM - MRP user-defined submaps.

You need the Initial or Combined profile to administer user-defined submaps.

Important! Each user may add a maximum of ten user-defined submaps.

Contents

Add a user-defined submap	4-19
Display/modify a user-defined submap	4-20
Delete a user-defined submap	4-21

Add a user-defined submap

Purpose Use this procedure to add a user-defined submap.

Important! Each user may add a maximum of ten user-defined submaps.

Permissions You must have the Initial or Combined profile to complete this task.

Task Complete the steps below to add a user-defined submap.

- 1 On the Network Map, select **Administration > User Defined Submap > Add**.

Result:

The Add User Defined Submap form is displayed.

- 2 In the **User Defined Submap Name** field, enter a name for the user-defined submap.
-

- 3 To add nodes to the new submap, select one or more entries from the **Non-Members** list, and then click the left arrow button.

Important! You may complete the **Filters** field to lessen the number of listed entries.

Result:

The selection(s) are moved to the **Members** list.

- 4 Select **OK**.

Result:

The new user-defined submap is added, and the Add User Defined Submap form closes.

END OF STEPS



Display/modify a user-defined submap

Purpose Use this procedure to display or modify a user-defined submap.

Permissions You must have the Initial or Combined profile to complete this task.

Task Complete the steps below to display or modify a user-defined submap.

- 1 On the Network Map, select **Administration > User Defined Submap > Display/Modify**

Result:

The Modify User Defined Submap form is displayed.

- 2 In the **User Defined Submap Name** field, select the submap to be displayed or modified.

Result:

The selected information is displayed.

- 3 Do one of the following:

- Make no changes and proceed to the next step.
 - Add nodes to the submap by selecting one or more entries from the **Non-Members** list and clicking the left arrow button.
 - Remove nodes from the submap by selecting one or more entries from the **Members** list and clicking the right arrow button.
-

- 4 Click **OK**.

Result:

The submap is modified if changes were made.

END OF STEPS



Delete a user-defined submap

Purpose Use this procedure to delete a user-defined submap.

Permissions You must have the Initial or Combined profile to complete this task.

Task Complete the steps below to delete a user-defined submap.

- 1 On the Network Map, select **Administration > User Defined Submap > Delete**

Result:

The Delete User Defined Submap form is displayed.

- 2 In the **User Defined Submap Name** field, select a map name from the pull down menu.

Result:

The selected information is displayed.

- 3 Click **OK**.

Result:

The user-defined submap is deleted.

END OF STEPS



Section V: Administer the Oracle database

Overview

Purpose This section describes how to restart and stop the Oracle database. Start and stop the Oracle database only when necessary, for example, when backing it up.

Definition: Oracle database The Oracle database is used to retain persistent copies of application and customer data. Use of Oracle's Transaction Processing Option enables concurrent control and a high degree of data integrity.

Important Starting and stopping the database should be performed only at the discretion of Lucent Customer Support.

Contents

Restart the Oracle database	4-23
Stop the Oracle database	4-24



Restart the Oracle database

Purpose Use this procedure to restart the Oracle database.

Important! This procedure should be performed only at the discretion of Lucent Customer Support.

Task Complete the steps below to restart the Oracle database.

1 From the system console, log in as oracle.

2 At the prompt, enter `/usr/dacscan/toolbin/startdb.sh`.

Result:

A message indicating that the database has been started is displayed on the form.

END OF STEPS



Stop the Oracle database

Purpose Use this procedure to stop the Oracle database.

Important! This procedure should be performed only at the discretion of Lucent Customer Support.

Task Complete the steps below to stop the Oracle database.

1 From the system console, log in as oracle.

2 Stop the application on the server.

Reference:

For instructions, see [“Stop the Navis™ Optical PM - MRP server application” \(4-6\)](#) earlier in this chapter.

3 At the prompt, enter /usr/dacscan/toolbin/shutdb.sh.

Result:

A message indicating that the database has been stopped is displayed on the form.

END OF STEPS



Section VI: Administer the system cron file

Overview

- Purpose** This section describes how to administer the system cron file.
- Background** The cron file contains commands that are executed automatically at set times.
- The cron file may be edited; however, cron files should be edited only at the discretion of Lucent Customer Support.
- There are two types of cron files, which operate independently:
- root cron, which includes various administrative functions that are executed on a routine basis, such as daily backups and file system space monitoring
 - dacscan cron, which includes various application-related functions, such as database syncs and auto-implementation
- File format** In the read-only root cron file, entries on the active line are separated by blanks or tabs. Each field of the active line correlates to a subset of time. The following is an example of an active line, with each field separated by a tab (indicated by -->):
- ```
min-->hour-->day-->month-->day-of-week-->command
min: 0-59
hour: 0-23 day:1-31 month:1-12 day of week: 0-6 (Sunday=0)
command: program to be executed
```
- In place of numerics, an asterisk (\*) may be used as a wild card to indicate the whole range. A sample active line may look like the following:
- ```
01 04,23 * * * ksh /usr/dacscan/bin/auto_backup &
```
- This line specifies that the auto_backup will execute in the background one minute past the 4th hour and, again, one minute past the 23rd hour, every day of the month, every month, and every day of the week.

Contents

View the root cron file	4-27
---	----------------------

View the dacscan cron file	4-28
Edit the root cron file	4-29
Edit the dacscan cron file	4-30



View the root cron file

Purpose Use this procedure to view the root cron file.

Important! The root cron file is a read-only file. It can be edited only by the superuser (root user).

Task Complete the steps below to view the system cron file.

1 From the system console, log into the server as root.

2 At the # prompt, enter `crontab -l` [Enter].

Result:

The root cron file is displayed.

END OF STEPS



View the dacscan cron file

Purpose Use this task to view the **dacscan cron** file.

Important! The **dacscan cron** file is a read-only file. It can be edited only by the superuser (root user).

Task Complete the steps below to view the **dacscan cron** file.

- 1 From the system console, log into the server as dacscan.

Important! Using the root login, you may enter `su - dacscan` and enter the dacscan password.

- 2 At the # prompt, enter `crontab -l` [Enter].

Result:

The dacscan cron file is displayed.

END OF STEPS



Edit the root cron file

Purpose Use this procedure to change the desired execution times of commands in the root cron file.

Permissions You must have root permissions to edit the root cron file. Before editing this file, it is recommended that you first create a copy of each file, then delete the copy when it is no longer needed.

Task Complete the steps below to edit the root cron file.

1 From the system console, log into the server as root.

2 At the # prompt, enter `crontabs -e`.

Result:

The root crontab file is opened in edit mode.

3 Edit the desired parameter.

4 Save and close the file.

Result:

When you quit the file, the root cron file is loaded automatically into the system cron.

END OF STEPS



Edit the dacscan cron file

Purpose Use this procedure to change the desired execution times of commands in the **dacscan cron** file.

Permissions You must have dacscan permissions to edit the **dacscan cron** file. Before editing this file, it is recommended that you first create a copy of each file, then delete the copy when it is no longer needed.

Task Complete the steps below to edit the **dacscan cron** file.

1 From the system console, log into the server as dacscan.

2 At the # prompt, enter `crontabs -e`.

Result:

The **dacscan cron** file is opened in edit mode.

3 Edit the desired parameter.

4 Save and close the file.

Result:

When you quit the file, the **dacscan cron** file is loaded automatically into the system cron.

END OF STEPS





5 Provisioning Administration

Overview

Purpose This chapter contains topology and provisioning tasks performed to administer Navis™ Optical PM - MRP.

Contents

<u>Section I: Aggregates</u>	<u>5-2</u>
<u>Add an Aggregate</u>	<u>5-3</u>
<u>Delete an Aggregate</u>	<u>5-5</u>
<u>Display/Modify an Aggregate</u>	<u>5-6</u>
<u>Section II: User Defined Submap</u>	<u>5-8</u>
<u>Add a User Defined Submap</u>	<u>5-9</u>
<u>Display/Modify a User Defined Submap</u>	<u>5-10</u>
<u>Delete a User Defined Submap</u>	<u>5-11</u>



Section I: Aggregates

Overview

Purpose An *aggregate* is a collection of one or more network elements collapsed into a single node displayed on the Network Map. An aggregate can contain other aggregates.

This section discusses the provisioning tasks associated with aggregates as they relate to managing the topology of the Navis™ Optical PM - MRP Network Map.

Contents

Add an Aggregate	5-3
Delete an Aggregate	5-5
Display/Modify an Aggregate	5-6



Add an Aggregate

Purpose This procedure is used to add an aggregate to the Navis™ Optical PM - MRP Network Map.

Task Complete the following task to add an aggregate to the Navis™ Optical PM - MRPNetwork Map.

- 1 On the Network Map, select **Administration > Aggregate > Add**.

Result:

The Aggregate Add form is displayed.

- 2 In the **Area ID** field, click the down arrow and select an area ID.
-

- 3 In the **Aggregate ID** field, enter a 1 to 20 character name for the Aggregate ID.
-

- 4 In the **Acronym** field, enter a 1 to 4 character name for the aggregate Acronym.
-

- 5 From the **Non-Members List**, select the network element or elements you want to add to the aggregate.

Important! To select more than one network element, press the Shift with the up or down arrow key. The number of network elements that can be selected at one time is unlimited.

- 6 Click the left arrow to move the network elements appearing in the **Non-Members** list to the **Members** list.

Result:

The selected network elements appear within the **Members** list.

- 7 Click **OK**.
-

Result:

A confirmation window is displayed.

- 8** On the confirmation window, click **OK**.

Result:

The confirmation window and the Aggregate Add form close.

- 9** To display the new aggregate, from the Network Map's **Expand Area** field, select the area to which the aggregate was added from the drop-down menu.

Result:

An Aggregate icon is displayed in the Expanded Area section of the Network Map.

END OF STEPS



Delete an Aggregate

Purpose This procedure is used to delete an aggregate from the Navis™ Optical PM - MRP Network Map.

Task Complete the following task to delete an aggregate from the Navis™ Optical PM - MRP Network Map.

- 1 From the Network Map, select **Administration > Aggregate > Delete**.

Result:

The Aggregate Delete form is displayed.

- 2 In the **Area ID** field, click the down arrow and select an area ID.
-

- 3 Click the **Aggregate ID** to be deleted.
-

- 4 Click **OK**.

Result:

A confirmation window is displayed.

- 5 On the confirmation window, click **OK**.

Result:

The Aggregate Delete form and confirmation windows close.
The aggregate is deleted and is no longer displayed on the Network Map.

END OF STEPS



Display/Modify an Aggregate

Purpose This procedure is used to display or modify aggregate information. Changes are made to an aggregate by adding members to or removing members from an existing aggregate. *Members* are represented by *network element* or *office location* IDs.

Important! There is not a limit on the number of members that may reside in an aggregate.

Task Complete the following task to display or modify an existing aggregate.

- 1 On the Network Map, select **Administration > Aggregate > Display/Modify**.

Result:

The Aggregate Modify form displays.

- 2 In the **Area ID** field, click the down arrow and select an area ID.
-

- 3 In the **Aggregate ID** pull-down menu, click the aggregate to be displayed.

Result:

The selected aggregate displays and its associated members are displayed in the **Members** column.

- 4 Continue with one of the following options.

IF	THEN
you want to do not want to modify information,	select the Close button to complete this task.
you want to modify information,	proceed to the next step to continue.

-
- 5** In the **Members** or **Non-Members** list, select the network element(s) to be moved, click the left or right arrow to move the network elements to or from the list.

Result:

The network element(s) moves to the alternate list.

- 6** Click **OK**.

Result:

A confirmation window is displayed.

- 7** On the confirmation window, click **OK**.

Result:

The Confirmation window and Aggregate Modify form closes.

END OF STEPS



Section II: User Defined Submap

Overview

Purpose This section describes how to add, display/modify, or delete user defined submaps which allow a specific user to define what areas to display on the screen.

Contents

Add a User Defined Submap	5-9
Display/Modify a User Defined Submap	5-10
Delete a User Defined Submap	5-11



Add a User Defined Submap

Purpose This procedure is used to add a user defined submap.

Permissions You must be authorized to perform this task.

Task Complete these steps to add a user defined submap.

- 1 On the Network Map, select **Administration > User Defined Submap > Add**.

Result:

The Add User Defined Submap form is displayed.

- 2 In the **User Defined Submap Name** field, enter a name for the user defined submap.
-

- 3 In the **Area ID** field, select an area from the drop-down menu.
-

- 4 In the **Non-Member List** area of the form, select the **Node** or **Aggregate** button.
-

- 5 To add member(s) to the new submap, select one or more entries from the **Non-Members** list, then click the left arrow button.

Important! You can optionally complete the **Filters** field to lessen the number of listed entries.

Result:

The selection(s) are moved to the **Members** list.

- 6 Select **OK**.

Result:

The new user defined submap is added and the Add User Defined Submap form closes.

END OF STEPS

Display/Modify a User Defined Submap

Purpose This procedure is used to display/modify a user defined submap.

Permissions You must be authorized to perform this task.

Task Complete these steps to display/modify a user defined submap:

- 1 On the Network Map, select **Administration > User Defined Submap > Display/Modify**.

Result:

The Modify User Defined Submap form is displayed.

- 2 In the **User Defined Submap Name** field, select the submap to be displayed/modified from the drop-down menu.

Result:

The selected information displays.

- 3 Select the first or subsequent options then proceed to the next step.
 - Make no changes to the form.
 - Change the **Area ID** and/or **Non-Member List** information.
 - Add member(s) to the submap by selecting one or more entries from the **Non-Members** list, then click the left arrow button.
 - Remove member(s) from the submap by selecting one or more entries from the **Members** list, then click the right arrow button.
-

- 4 Continue with one of the following options.
 - If changes *were not made* to the form, select **Close**.
 - If changes *were made* to the form, select **OK**.

Result:

The submap is modified if changes were made.

END OF STEPS



Delete a User Defined Submap

Purpose This procedure is used to delete a user defined submap.

Permissions You must be authorized to perform this task.

Task Complete these steps to delete a user defined submap:

- 1 On the Network Map, select **Administration > User Defined Submap > Delete**.

Result:

The Delete User Defined Submap form is displayed.

- 2 In the **User Defined Submap Name** field, select a name from the drop-down menu.

Result:

The selected name displays.

- 3 Select **OK**.

Result:

The user defined submap is deleted.

END OF STEPS





6 Environment provisioning

Overview

Purpose Provisioning the environment setup involves using off-line tools to support inter-domain provisioning for Navis[™] Optical PM - MRP.

Provisioning the environment setup is supported by the following off-line tools:

- Bulk Link Provisioning Tool
- Merge Circuits Tool
- Inter Domain Link and Path Manager (IDLPM) Tool

Provisioning DMSs have been added and their databases populated during installation.

To provision the environment set-up, it is recommended that the following tasks are completed in this order:

1. Provision links with the Bulk Link Provisioning Tool
2. Merge circuits with the Merge Circuit Tool

After these tasks are completed, it is recommended that you synchronize the databases. Refer to [“Section I: Synchronize the database” \(7-2\)](#) in [Chapter 7, “Network communication management”](#).

IDLPM The IDLPM tool is used to migrate inter-domain link and path data from the IDLPM application to the Navis™ Optical PM - MRP application. This tool is run on the IDLPM and Navis™ Optical PM - MRP applications. In addition to running the IDLPM tool, the Bulk Link Provisioning and Merge Circuit tools must be run on Navis™ Optical PM - MRP to complete the IDLPM migration process.

Contents

<u>Section I: Provision links</u>	<u>6-3</u>
<u>Provision links with the Bulk Link Provisioning Tool</u>	<u>6-6</u>
<u>Section II: Merge circuits</u>	<u>6-7</u>
<u>Merge circuits with the Merge Circuit Tool</u>	<u>6-9</u>
<u>Section III: IDLPM Tool</u>	<u>6-11</u>
<u>IDLPM Tool</u>	<u>6-12</u>



Section I: Provision links

Overview

Purpose

This section describes the bulk link provisioning tool, which is used to perform a bulk transfer of topological links from provisioning systems (for example, an external Circuit Record System) to Navis™ Optical PM - MRP. This off-line tool abstracts the topological links into a bulk process and then performs a bulk add of the links to Navis™ Optical NMS as if they were added individually through the Navis™ Optical NMS GUI.

Refer to the *Navis™ Provisioning Manager - Multi-Regional Provisioning (MRP) Provisioning Guide* (365-309-804) for information on provisioning individual links.

Input file

Before running this tool, an input file must be created. This file must be created in the /tmp/net_entity directory and named Bulk_Link_Input_File. The input file is entered in the bulk link provisioning tool command.

Input file format

The Bulk_Link_Input_File includes one line per NMS or Navis™ Optical PM - MRP link to be provisioned.

When you are creating the Bulk_Link_Input_File, remember the following:

- each line represents a digital link
- each field is separated by a pipe (|)
- each line (digital link) is separated by a [RETURN]

The following is the format for the Bulk_Link_Input_File:

```
link_type|link_ID|aloc|zloc|A_office_id|Z_office_id|A_
port|Z_port|a_frame|z_frame|a_intf_port|z_intf_port|ATP_
type|ZTP_type|A_prot_port|Z_prot_port|a_prot_frame|z_prot_
frame|a_intf_prot_port|z_intf_prot_port|ATP_prot_
type|ZTP_prot_type|Prot_type or msp |msp_type|prot_link_
ID|Prot_group|linkname
```

The fields are defined as follows:

link_type	the coded "rate" of the link
link_ID	free-format label intended for the NMS or Navis™ Optical PM - MRP Circuit ID field
aloc	full A NE TID. The "A" network element identifier as known to NMS or Navis™ Optical PM - MRP
zloc	full Z NE TID. The "Z" network element identifier as known to NMS or Navis™ Optical PM - MRP
A_office_id	office ID at the A location
Z_office_id	office ID at the Z location
A_port	EMS-level port address of the service link at the A location
Z_port	EMS-level port address of the service link at the Z location
a_frame	NLS-level port address
z_frame	NLS-level port address
a_intf_port	derived from a_port
z_intf_port	derived from z_port
ATP_type	ptp ctp ftp (note: ftp is a floating port)
ZTP_type	ptp ctp ftp
A_prot_port	EMS-level port address of the Protecting Link at the A_location
Z_prot_port	EMS-level port address of the Protecting Link at the Z_location
a_prot_frame	NLS-level port address
z_prot_frame	NLS-level port address
a_intf_prot_port	derived from a_port2
z_intf_prot_port	derived from z_port2
ATP_prot_type	ptp_port.tptype
ZTP_prot_type	ptp_port.tptype
prot_type or msp	coded MSP configuration as "1X1MSP" or "1+1MSP" or "NONE"

msp_type	type of MSP configuration: UNI or BI
prot_link_ID	free-format label denoting the protecting link or “NONE”
prot_group	MSP Protection Group Name for 1X1MSP
linkname	interface name for the link

Contents

Provision links with the Bulk Link Provisioning Tool	6-6
--	---------------------



Provision links with the Bulk Link Provisioning Tool

Purpose This section describes how to perform bulk link provisioning in Navis™ Optical PM - MRP.

Important! Run this tool during *off-hours* to avoid impact on system response. If this is your first time using this tool, contact Lucent Customer Support for assistance.

Task Complete the steps below to run the bulk link provisioning tool.

1 Log into the Navis™ Optical PM - MRP server as dacscan.

2 Enter the following commands:

```
mkdir /tmp/net_entity
```

```
cd /tmp/net_entity
```

3 In the **/tmp/net_entity** directory, create an input file called **Bulk_Link_Input_File**. Refer to the Overview of this section for the **Bulk_Link_Input_File** format.

4 Save and close the file, and then select one of the following options from the next step.

5 Run the command by entering
/usr/dacscan/toolbin/offline/net_entity.ksh -i -n digital link -f Bulk_Link_Input_File

Other options for this tool include:

- **-h**: to print a usage message
 - **-b**: to run in batch mode. No input file confirmation requested.
 - **-v**: to validate the input file in preparation. Do not process.
-

6 Verify the error or log file by looking in
/tmp/net_entity_DATE_TIME.

END OF STEPS



Section II: Merge circuits

Overview

- Purpose** This section describes the Navis™ Optical PM - MRP Merge Circuit tool which supports the merging of in-effect, inter-domain circuits/paths.
- About this tool** The Navis™ Optical PM - MRP Merge Circuit tool searches the Navis™ Optical PM - MRP database for inter-domain links that can be used for merge processing. This tool maintains a list of inter-domain link port candidates. It updates the list when an inter-domain link's port has been used so no attempts will be made to use it in future processing.
- The Navis™ Optical PM - MRP Merge Circuit tool next locates a path which both terminates on an inter-domain link port and has a continuation in a neighboring domain. The tool then updates the Navis™ Optical PM - MRP database with the merge operation and instructs Navis™ Optical NMS to update the DMS **userLabel** field with the name of the merged circuit.
- Input file** The Navis™ Optical PM - MRP Merge Circuit tool uses an input data file, which is an ASCII text file with multiple non-empty lines.
- Each line contains fields separated by a pipe (|). There is no | at the beginning of the line, but a | must be present at the end of the line.
- The tool can handle multiple merged circuits in one file. For each merged circuit in the file, there should be a "PATH_BEGIN" line, the text line, and a "PATH_END" line. These lines must end with a pipe (|).
- Input file format** The following is the format for the Input data file:
- ```
PATH_BEGIN|
merged_ckt_id|a_loc|z_loc|a_port|z_port|prot_
type|a.prot.loc|z_prot_loc|a_prot_port|z_prot_port|
to_be_merged_ckt_id1|
to_be_merged_ckt_id2|
```

...  
to\_be\_merged\_ckt\_idN|  
PATH\_END|  
PATH\_BEGIN|  
...  
...  
PATH\_END|

**Contents**

|                                                            |                     |
|------------------------------------------------------------|---------------------|
| <a href="#">Merge circuits with the Merge Circuit Tool</a> | <a href="#">6-9</a> |
|------------------------------------------------------------|---------------------|

## Merge circuits with the Merge Circuit Tool

---

**Purpose** This section describes how to merge circuits with the Navis™ Optical PM - MRP Merge Circuit Tool.

**Before you begin** Before running the Navis™ Optical PM - MRP Merge Circuit tool, note the following conditions:

- You must create an input file.
- All inter- and intra-domain paths/circuits must be in the **In Effect** state.
- The merge will be valid only on paths with no circuits riding on them.

**Important!** If this is your first time using this tool, contact Lucent Customer Support for assistance.

**Task** Complete the steps below to run the Navis™ Optical PM - MRP Merge Circuit tool.

---

**1** Log into the server as dacscan.

---

**2** Enter **cd /usr/dacscan/toolbin.**

---

**3** Run the Merge Circuit tool by entering **./pathMerge <input data file path name>**

**Result:**

The Navis™ Optical PM - MRPMerge Circuit tool does the following:

- searches the Navis™ Optical PM - MRP database for inter-domain links and their endpoints that can be used for merge processing.
- searches the Navis™ Optical PM - MRP database for intra-domain paths terminating on the identified end port.

- merges circuits across the inter-domain link by populating the DMS **Userlabel** field with the circuit ID of one of the merged circuit's component circuits. The inter-domain link is then marked as *used*.
- verifies whether or not the circuit is cross-connected. If it is, the tool searches for additional inter-domain links across which it may be merged. If it is not, then the tool returns to the list of inter-domain link port candidates to perform additional processing.
- produces audit logs containing positive and negative results of the Merge Circuit Tool and stores them in log files.

If the user has provisioned a black box to a node, and the Navis™ Optical PM - MRP user wants to provision an inter-domain link between this node and another node in another domain to which it also may or may not be provisioned, the operation from Navis™ Optical PM - MRP may be successful, but the order implementation at Navis™ Optical NMS will fail. This will occur since the port(s) are in use by the link to the black box(es).

In this case, it is recommended that the user first delete the black boxes locally at the relevant Navis™ Optical NMS and then create the inter-domain link from Navis™ Optical PM - MRP.

When the user requests to merge a number of subnetwork connections from Navis™ Optical PM - MRP, if one or more of the requests fail to lower level management system, the Navis™ Optical PM - MRP will display a message indicating that the merge update of the Navis™ Optical PM - MRP circuit ID failed for the Navis™ Optical NMS circuit ID in Navis™ Optical NMS. The merge will complete, but **setUserLabel** will fail. In this case, the user will have to modify the circuit ID locally in the appropriate network management system through modify order parameters.

END OF STEPS



## Section III: IDLPM Tool

### Overview

---

**Purpose** The IDLPM tool is used to extract inter-domain data from the IDLPM application and to load it into the Navis™ Optical PM - MRP. The tool needs to migrate over all the inter-domain digital links and the information necessary for Navis™ Optical PM - MRP in order to associate the IDs of the inter-domain paths, the merged names, with all their constituent inter-domain and intra-domain segments. The merged name is the name given to the end-to-end path whose segment spans multiple DMS domains.

**Processing Requirements** The script must be separately run in the IDLPM and Navis™ Optical PM - MRP applications.

**IDLPM Processing Results** This script produces the following results on the Navis™ Optical PM - MRP machine used for the IDLPM to Navis™ Optical PM - MRP data migration:

- Provisions inter-domain digital links
- Merges path segments into end-to-end inter-domain paths.
- Updating customer name information of end-to-end inter-domain paths.

#### Contents

|                            |                      |
|----------------------------|----------------------|
| <a href="#">IDLPM Tool</a> | <a href="#">6-12</a> |
|----------------------------|----------------------|

## IDLPM Tool

---

**Purpose** This task describes how to run the IDLPM tool.

**Processing Order** This script is first run in the IDLPM application and next run in the Navis™ Optical PM - MRP applications. After the script completes on Navis™ Optical PM - MRP, the Bulk Link Provisioning and Merge Circuit scripts must be run.

**Before you begin** Note the following:

- A database backup of the Navis™ Optical PM - MRP system machine should be made prior to each data modification phase. In the event of failure of any phase, the system can be restored to its previous state by applying the appropriate backup.
- A clean, Navis™ Optical PM - MRP must be started up and connected to DMSs. In all likelihood, the DMSs will be connected to the Navis™ Optical PM - MRP sequentially. The migration can only proceed once all the DMSs are online with the Navis™ Optical PM - MRP.
- Before performing an IDLPM migration to Navis™ Optical PM - MRP, be sure that a database sync has occurred with each DMS. This enables Navis™ Optical PM - MRP to be populated with intra-domain network data from all of the DMSs.
- The IDLPM component of the migration tool will retrieve only inter-domain digital links.

**Important!** If this is your first time using this tool, contact Lucent Customer Support for assistance.

**Task** Perform the following steps to extract inter-domain data from the IDLPM application and to load it into the Navis™ Optical PM - MRP.

---

- 1 Back up the Navis™ Optical PM - MRP system machine. See the backup tasks in [Chapter 8, “System maintenance”](#).

**Result:**

The Navis™ Optical PM - MRP system machine is backed up.

- 
- 2 Stop the IDLPM application. .

**Result:**

The IDLPM application is stopped.

---

- 3 At the prompt, enter `GET_INTERDOMAIN_LINKS_PATHS.BAT`.

**Result:**

The scripts will access the IDLPM SQL Server database using the **sqladmin** login. The scripts run in the Windows® 2000 environment under the **Administrator** username. Upon completion, the following batch files are produced:

**idlpm\_digital\_link.dat.YYMMDD.HH:MI:SS** and  
**idlpm\_path.dat.YYMMDD.HH:MI:SS**.

---

- 4 Use **ftp** to copy the **idlpm\_digital\_link.dat.YYMMDD.HH:MI:SS** and **idlpm\_path.dat.YYMMDD.HH:MI:SS** files to the Navis™ Optical PM - MRP host server.

**Result:**

The files are transferred from the IDLPM machine to the Navis™ Optical PM - MRP host machine's

**/tmp/net\_entity/idlpm\_migration** directory.

---

- 5 Log into the Navis™ Optical PM - MRP host as `dacscan`.
- 

- 6 At the prompt, enter `cd /usr/dacscan/toolbin`

**Result:**

The prompt resides at the directory where the migration tool is located.

---

- 7 At the prompt, enter `GET_INTERDOMAIN_LINKS_PATHS.BAT`.

**Result:**

The script manipulates the inter-domain digital link file in order to prepare it as input for the Navis™ Optical PM - MRP

inter-domain digital link bulk-provisioning tool. This step can take up to an hour to complete.

- 
- 8 Upon completion of the last step, at the prompt, enter **cd ~dacscan/toolbin/offline** and type **./net\_entity.ksh -n digital\_link -ip -f tms\_digital\_link.dat."date"** or **./net\_entity.ksh -n digital\_link -ip -f invalid\_digital\_link.dat."date"** .

**Result:**

The Bulk Link tool is run and the inter-domain digital links file is loaded into the Navis™ Optical PM - MRP. Upon completion, the Navis™ Optical PM - MRP component of the migration tool manipulates the inter-domain paths file in order to prepare it as input for the Navis™ Optical PM - MRP Merge tool.

- 
- 9 At the prompt, enter **cd /dacscan/toolbin/pathMerge /tmp/net\_entity/tms\_path\_merge.dat."date"** or **cd /dacscan/toolbin/pathMerge /tmp/net\_entity/invalid\_path\_merge.dat."date"**.

**Result:**

The Navis™ Optical PM - MRP Merge tool is run which causes inter-domain paths in the Navis™ Optical PM - MRP to be inventoried, and the end-to-end path(s) to be merged are discovered.

END OF STEPS





# 7 Network communication management

## Overview

---

**Purpose** This chapter provides tasks for interacting with subsystems in the network.

**Contents**

|                                                                                      |                     |
|--------------------------------------------------------------------------------------|---------------------|
| <a href="#">Section I: Synchronize the database</a>                                  | <a href="#">7-2</a> |
| <a href="#">Synchronize the Navis™ Optical PM - MRP database with a DMS database</a> | <a href="#">7-3</a> |



## Section I: Synchronize the database

### Overview

---

**Purpose** This section provides information on synchronizing the Navis™ Optical PM - MRP database with the DMS database.

**Contents**

|                                                                                      |                     |
|--------------------------------------------------------------------------------------|---------------------|
| <a href="#">Synchronize the Navis™ Optical PM - MRP database with a DMS database</a> | <a href="#">7-3</a> |
|--------------------------------------------------------------------------------------|---------------------|



## Synchronize the Navis™ Optical PM - MRP database with a DMS database

---

**Purpose** Use this procedure to synchronize the Navis™ Optical PM - MRP database with a DMS database.

The Navis™ Optical PM - MRP and Navis™ Optical NMS databases should be synchronized under the following circumstances:

- if communication between Navis™ Optical NMS and Navis™ Optical PM - MRP is down
- if Navis™ Optical NMS has been down and is brought back up

**Important!** Navis™ Optical NMS allows the user to create subnetwork connection (SNC) at the Navis™ Optical NMS level without the creation of Port (PTP). At the Navis™ Optical PM - MRP level, when a database synchronization is performed, the SNC will not be reported to Navis™ Optical PM - MRP since this application makes requests based on PTPs.

**Task** Complete the steps below to synchronize the Navis™ Optical PM - MRP database with a DMS database.

---

- 1** On the Network Map, select **File > Open Controller Map**.

**Result:**

The DMS Controller Map is displayed.

---

- 2** Right-click the DMS node you wish to synchronize with Navis™ Optical PM - MRP.
- 

- 3** Select **Session > Start Synchronization**.

**Result:**

The Database Download/Synchronization form is displayed. The **DMS ID** field is pre-populated with the name of the DMS.

- 
- 4 In the **Sync Type** field, select one of the following:
- **Network Elements** to synchronize with Navis™ Optical PM - MRP all the network elements and containing subnetworks managed by the DMS. Navis™ Optical PM - MRP inventories the following for each network element: name, type, version, and communication status.
  - **Topological Links** to synchronize with Navis™ Optical PM - MRP all the physical connectivities that exist between the network elements within the DMS.
  - **Subnetwork Connections** to synchronize with Navis™ Optical PM - MRP all paths and circuits that exist within the DMS.
- 

- 5 Select **Apply**.

**Result:**

A confirmation form is displayed.

---

- 6 Select **Yes**.

**Result:**

The Database Synchronization Status form is displayed.

---

- 7 Wait for the synchronization to complete.
- 

- 8 Select **Close**.

**Result:**

The Navis™ Optical PM - MRP database is synchronized with the DMS database.

END OF STEPS

---





# 8 System maintenance

## Overview

---

**Purpose** This chapter describes tasks for ensuring the reliability of Navis™ Optical PM - MRP by backing up and recovering the database. It also provides a task for monitoring system space.

### Contents

|                                                         |                             |
|---------------------------------------------------------|-----------------------------|
| <a href="#"><u>Section I: Back up the database</u></a>  | <a href="#"><u>8-2</u></a>  |
| <a href="#"><u>Perform a hot backup</u></a>             | <a href="#"><u>8-4</u></a>  |
| <a href="#"><u>Perform a cold backup</u></a>            | <a href="#"><u>8-5</u></a>  |
| <a href="#"><u>Section II: Recover the database</u></a> | <a href="#"><u>8-7</u></a>  |
| <a href="#"><u>Perform a hot backup recovery</u></a>    | <a href="#"><u>8-8</u></a>  |
| <a href="#"><u>Perform a cold backup recovery</u></a>   | <a href="#"><u>8-10</u></a> |
| <a href="#"><u>Section III: Monitor space</u></a>       | <a href="#"><u>8-12</u></a> |
| <a href="#"><u>Monitor space</u></a>                    | <a href="#"><u>8-13</u></a> |



## Section I: Back up the database

### Overview

---

**Purpose** This section describes how to perform various types of backups.

**Scheduled backups** The system can be set to perform daily backups. The time for the daily backups is set in the cron file. For information on how to edit the cron file, see [“Section VI: Administer the system cron file” \(4-25\)](#) in [Chapter 4, “System administration”](#).

**Host database backups** Two types of backups are available:

- hot backup
- cold backup

Hot backups run when the system is up and running (hot). Cold backups run when Navis™ Optical PM - MRP is shut down (cold). A hot backup takes longer to complete than a cold backup, but a hot backup can be initiated while Navis™ Optical PM - MRP is running. The application must be stopped before a cold backup can be run.

**Hot backups** There are two types of hot backups:

- automatic
- user-initiated

The system automatically backs up the database on Sunday, Tuesday, Wednesday, Thursday, and Friday at 2:00 a.m. if a tape is present in the tape drive. The system must be at run level 4 for a hot backup to run.

The hot backup takes from 60 to 180 minutes to complete, depending on the size of the database. No operator action is required during the hot backup. The default database backup retention is 5 days (5 tapes/rotation).

It is recommended that hot backups are performed nightly. The frequency and time of automatic hot backups can be altered in the cron file.

**Cold backups** A cold backup is the most accurate type of backup. Operator action is required during the cold backup procedure; the system must be brought to run level 3 for a cold backup.

Cold backups should be run weekly, or at least monthly.

**Contents**

|                                       |                     |
|---------------------------------------|---------------------|
| <a href="#">Perform a hot backup</a>  | <a href="#">8-4</a> |
| <a href="#">Perform a cold backup</a> | <a href="#">8-5</a> |



## Perform a hot backup

---

**Purpose** A hot backup is run when the system is up and running.

**Task** Complete the steps below to perform a hot backup.

---

- 1 From the system console, log into the server as root.  

---
- 2 Remove the daily backup tape and insert a blank tape for the hot backup in the drive.  

---
- 3 When the lights on the tape drive stop flashing, enter the following command:

```
/bin/ksh /usr/dacscan/bin/hot_backup
```

**Result:**

The hot backup begins and takes approximately 60-180 minutes to complete, depending on the size of the database. The # prompt is displayed on the system console once the backup is complete.

---

- 4 Remove the hot backup tape.  

---
- 5 Label the tape *hot backup* and add the following information:
  - current date
  - server name

---

- 6 Store the tape in a safe place.  

---
- 7 Replace the daily backup tape in the drive.

**Result:**

The hot backup is complete.

END OF STEPS

---



## Perform a cold backup

---

**Purpose** Run a cold backup when Navis™ Optical PM - MRP is shut down (cold).

**Task** Complete the steps below to perform a cold backup.

---

1 From the system console, log into the server as root.

---

2 Stop Navis™ Optical PM - MRP.

**Reference:**

For instructions, see [“Stop the Navis™ Optical PM - MRP server application” \(4-6\)](#) in [Chapter 4, “System administration”](#).

---

3 Log in to the Navis™ Optical PM - MRP server as root.

---

4 Remove the daily backup tape and insert the cold backup tape in the drive.

---

5 When the lights on the tape drive stop flashing, enter the following command:

```
/bin/ksh /usr/dacscan/bin/cold_backup
```

**Result:**

The cold backup begins and takes approximately 40 minutes to complete. The # prompt is displayed on the system console once the backup is complete.

---

6 Remove the tape.

---

7 Label the tape *cold backup* and add the following information:

- current date
  - server name
-

---

**8** Store the cold backup tape in a safe place.

---

**9** Replace the daily backup tape in the drive.

**Result:**

The cold backup is complete.

---

**10** At the prompt, enter `shutdown -r -y 0` to reboot the server and clean up UNIX system files.

**Result:**

The server will shut down and restart. This will take approximately 10 minutes; the prompt is displayed again once the process is complete.

---

**11** Log into the server as `root`.

---

**12** At the prompt, enter `init 4` to start the Navis™ Optical PM - MRP application.

**Result:**

The application starts.

---

**13** Optionally enter `top` to display the status of the start process. To exit this display, simultaneously press **Ctrl** and **c**.

END OF STEPS

---



## Section II: Recover the database

### Overview

---

**Purpose** This section describes how to recover from a system failure.

**Types of recoveries** Two types of recoveries are available:

- hot backup recovery
- cold backup recovery

If you are recovering the system using a hot backup, you must use the procedure for a hot backup recovery. If you are recovering using a cold backup, you must use the procedure for a cold backup recovery.

**Contents**

|                                                |                      |
|------------------------------------------------|----------------------|
| <a href="#">Perform a hot backup recovery</a>  | <a href="#">8-8</a>  |
| <a href="#">Perform a cold backup recovery</a> | <a href="#">8-10</a> |



## Perform a hot backup recovery

---

**Purpose** Use this procedure to perform a hot backup recovery.

**Before you begin** Navis™ Optical PM - MRP must be shut down to perform this procedure.

Be sure that you have the hot backup tape labeled with the following information:

- the correct date
- server name

**Task** Complete the steps below to perform a hot backup recovery.

---

1 From the system console, log into the server as root.

---

2 Stop Navis™ Optical PM - MRP.

**Reference:**

For instructions, see in [“Stop the Navis™ Optical PM - MRP server application” \(4-6\)](#) in [Chapter 4, “System administration”](#).

---

3 Insert the hot backup tape in the tape drive.

---

4 When the lights on the tape drive stop flashing, enter `su - dacscan`

---

5 At the prompt, enter `/bin/ksh /usr/dacscan/bin/hot_recover`

**Result:**

The hot backup recovery begins and takes approximately 90 minutes to complete. The # prompt is displayed on the system console once the hot backup recovery is complete.

---

6 Remove the tape, label it with the current date, and store it in a safe place.

**Result:**

The hot backup recovery is complete.

- 
- 7** Restart the Navis™ Optical PM - MRP application by entering `init 4`.

**Result:**

The Navis™ Optical PM - MRP application starts.

END OF STEPS



## Perform a cold backup recovery

---

**Purpose** Use this procedure to perform a cold backup recovery.

**Before you begin** Navis™ Optical PM - MRP must be shut down to perform this procedure.

Be sure that you have the cold backup tape labeled with the following:

- the correct date
- server name

**Task** Complete the steps below to perform cold backup recovery.

---

1 Using the system console, log into the server as root.

---

2 Stop Navis™ Optical PM - MRP.

**Reference:**

For instructions, see [“Stop the Navis™ Optical PM - MRP server application” \(4-6\)](#) in [Chapter 4, “System administration”](#).

---

3 Insert a tape with a valid cold backup in the tape drive.

---

4 When the lights on the tape drive stop flashing, enter `su - dacscan`

---

5 At the prompt, enter `/bin/ksh /usr/dacscan/bin/cold_recover`

**Result:**

A prompt requests the date of the backup tape.

---

6 Enter YYYYMMDD (or YYMMDD for older tapes).

**Important!** The date entered must match the date on the backup tape.

**Result:**

The cold backup recovery begins. This takes approximately 90 minutes to complete. The # prompt is displayed on the system console when the backup is complete.

---

- 7** Remove the tape, label it with the current date, and store it in a safe place.

**Result:**

The cold backup recovery is complete.

---

- 8** At the prompt, enter `init 4` to start the Navis™ Optical PM - MRP application.

**Result:**

The application starts.

END OF STEPS

---



## Section III: Monitor space

### Overview

---

**Purpose** Navis™ Optical PM - MRP has an internal script that periodically checks its own file systems to verify that they are not running out of space. This section describes Navis™ Optical PM - MRP's space monitoring and recovery program, Spacewatch.

**Contents**

|                               |                      |
|-------------------------------|----------------------|
| <a href="#">Monitor space</a> | <a href="#">8-13</a> |
|-------------------------------|----------------------|

## Monitor space

---

**Definition: Spacewatch program** Spacewatch is a space monitoring and recovery program that provides hourly file system monitoring for the following controller files:

- Provisioning documents directory (**/dacscan/prov**)
- Alarms directory (**/dacscan/alarms**)
- Application logs directory (**/dacscan/log**)
- Database archives directory (**/dacscan/dbarch**)
- Application users directory (**/dacscan/users**)
- Application trace information directory (**/dacscan/trace**)

**Spacewatch Parameters** The Spacewatch script is executed as per parameters defined in the **root cron** file. It is recommended that these parameters are not changed.

**Warning messages** If a controller file is over 60% full, Spacewatch provides a warning message to the system event log in the form of `LOG_FILESYSTEM_SPACE_LOW`.

**Recovery messages** Specific recovery actions are provided for the **/dacscan/trace**, **dacscan/log**, **dacscan/dbarch**, and **dacscan/users** files, if their percentage full is over 80%.

The recovery message for the **dacscan/dbarch** controller file is:

```
"Logfile" removed database archive file - back up database immediately!
```

The recovery message for the **dacscan/trace** and **dacscan/log** files is:

```
Removed log files - Archives may be incomplete!
```

The recovery message for the **dacscan/users** file is:

```
"Logfile" is running low on space, clean up immediately!
```

Contact Lucent Customer Support for assistance with these recovery messages.







# 9 Trouble clearing

## Overview

---

**Purpose** This chapter describes how to turn on trace and view trace files. It also provides tasks for viewing the core and log files.

**Navis™ Optical PM - MRP trace files** The home directory of Navis™ Optical PM - MRP is `/usr/dacscan`. The application servers reside in the bin directory of the home directory. Each server has trace information linked to it and trace can be turned on and off via the `tinfo` file in `/usr/dacscan/bin`.

A trace file contains information that identifies equipment status at a given point in time. The typical use of a trace file is to send it to Lucent Technical Support to be used in remote troubleshooting activities.

**Important!** The trace files should never be removed while the application is up.

### Contents

|                                                                |                      |
|----------------------------------------------------------------|----------------------|
| <a href="#">Trace Capture Guidelines Task</a>                  | <a href="#">9-3</a>  |
| <a href="#">Enable trace on a server</a>                       | <a href="#">9-4</a>  |
| <a href="#">Enable southbound/northbound interface tracing</a> | <a href="#">9-6</a>  |
| <a href="#">Enable trace on a Windows PC</a>                   | <a href="#">9-8</a>  |
| <a href="#">Create a single file for trace data</a>            | <a href="#">9-10</a> |

|                                                           |                      |
|-----------------------------------------------------------|----------------------|
| <a href="#">View the log files</a>                        | <a href="#">9-11</a> |
| <a href="#">View the log file on an HP-UX server</a>      | <a href="#">9-12</a> |
| <a href="#">View the console.log file on a Windows PC</a> | <a href="#">9-13</a> |
| <a href="#">Clear trace files on a server</a>             | <a href="#">9-14</a> |

# Trace Capture Guidelines Task

---

**Purpose** The system administrator can turn on, capture, and send trace data to Lucent Customer Support when troubleshooting problems. Use this task as a guideline on when to turn on trace.

**Before you begin** **Important!** Trace should only be turned on when requested by Lucent Customer Support.

Trace should only be turned on when requested by Lucent Customer Support.

Before editing the file in this task, you may want to first create a copy of the file, then delete the copy when it is no longer needed.

**Task** Complete these steps to determine when to turn on the trace capture capability.

---

**1** Using one of the *Enable trace* tasks in this section, edit the appropriate trace configuration file to turn on trace.

---

**2** Reinitiate the condition to be checked.

**Result:**

Trace output should be produced.

---

**3** Send the trace output to Lucent Customer Support.

---

**4** Edit the appropriate trace configuration file to turn off trace.

END OF STEPS

---



## Enable trace on a server

---

**Purpose** Use this procedure to turn on trace on a particular server and to create a trace file for capturing information.

**Important!** Trace files should never be removed.

**Before you begin** Before you begin this task, ensure that the application is at run level 3.

**Important!** Before editing the file in this task, you may want to first create a copy of the file, then delete the copy when it is no longer needed.

**Task** Complete the steps below to create a trace file.

---

- 1 Enter the command `who -r` to check the current run level.

**Result:**

The run level number is displayed.

---

- 2 If the displayed run level is higher than 3, enter the command `init 3` to bring the application to run level 3.
- 

- 3 From the system console, log into the server as `dacscan`.
- 

- 4 At the prompt, change to the directory containing the **tinfo** file by entering `cd /usr/dacscan/bin`.
- 

- 5 Open the **tinfo** file in edit mode by entering `vi tinfo`.
- 

- 6 In the **tinfo** file, locate the following line: `<servername> -1 0`  
`<servername>. 0 Y`

**Important!** In your **tinfo** file, `<servername>` will be replaced with the actual server name.

---

| 7 | IF                                       | THEN                                                                        |
|---|------------------------------------------|-----------------------------------------------------------------------------|
|   | you want to increase tracing from 0 to 5 | enter the following:<br><b>[Esc]</b><br>:1,\$s/-1 0/-1 5/<br><b>[Enter]</b> |
|   | you want to decrease tracing from 5 to 0 | enter the following:<br><b>[Esc]</b><br>:1,\$s/-1 5/-1 0/<br><b>[Enter]</b> |

---

8 Save and exit the file.

**Result:**

The file is saved at the new trace level.

---

9 At the prompt, enter **init 4** to bring the application up to run level 4.

**Result:**

Trace is turned on. A trace file named **<process\_name>.<pid>.<host\_name>** is generated.

Note that **<process\_name>** represents the process, for example, SBNOTIF represents the southbound notification process.

---

10 Verify that the trace file **/dacscan/trace/<process\_name>.<pid>.<hostname>** exists.

**Important!** To increase the available space in the /dacscan/trace directory, retain only the latest version of each file; use `rm ulog.<old_date>` command to remove old trace files.

END OF STEPS

---



## Enable southbound/northbound interface tracing

---

**Purpose** Use this procedure to enable southbound/northbound interface tracing on a particular server.

**Before you begin** Before you begin this task, ensure that the application is at run level 3.

**Task** Complete the steps below to enable southbound/northbound interface tracing.

---

- 1 Enter the command `who -r` to check the current run level.

**Result:**

The run level number is displayed, such as `run-level 3`.

---

- 2 If the displayed run level is higher than 3, enter the command `init 3` to bring the application up to run level 3.
- 

- 3 From the system console, log into the server as `dacscan`.
- 

- 4 At the prompt, enter `cd /usr/dacscan`.
- 

- 5 Create a **TMSconfig** file - if one does not exist already - following the example below, otherwise, proceed to [Step 7](#).

```
EMSTRACEON SBGW200Lsrv -1 -1 -1
EMSTRACEON brokerSrv -1 -1 -1
EMSTRACEON ExtObserverSrv -1 -1 -1
EMSTRACEON STMFGWSrv -1 -1 -1
TRACELOGSIZE 1000
```

---

- 6 Save and exit the file.

**Result:**

The file is saved with the new trace level.

- 
- 7** At the prompt, enter **init 4** to bring the Navis™ Optical PM - MRP application up to run level 4.

**Result:**

Southbound/northbound interface tracing is enabled.

- 
- 8** At the prompt, enter `cat TMSconfig` to verify that the trace file exists.

**Result:**

The file is displayed.

END OF STEPS



## Enable trace on a Windows PC

---

**Purpose** Use this procedure to turn on trace and create a file for capturing information on a Windows PC.

### Before you begin

Before you begin this task, start the Navis™ Optical PM - MRP application. See [“Start Navis™ Optical PM - MRP user interface on a Windows workstation \(PC\)” \(4-10\)](#) for details.

**Important!** Trace files should never be removed. Before editing the file in this task, you may want to first create a copy of the file, then delete the copy when it is no longer needed.

**Task** Complete the steps below to enable trace on a Windows PC.

---

1 From the system console, log into the server as dacscan.

---

2

| IF                                                                                              | THEN                                                                                                                                     |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| you want to increase global tracing and turn on F-interface tracing <i>on an HP-UX</i> console, | edit the <code>/usr/add-on/ui/jui/bin/run_jnm</code> file by searching for <code>gt</code> and setting it to <code>gt=4 fint.tr=4</code> |
| you want to increase global tracing and turn on F-interface tracing <i>on a PC</i> ,            | edit the <code>&lt;drive&gt;:\jui\bin\run_jnm.bat</code> file by searching for <code>gt</code> and setting it to 5.                      |

---

3 Save the edited `run_jnm` or `run_jnm.bat` file.

---

4 Shut down and restart the Navis™ Optical PM - MRP application.

See [“Stop the Navis™ Optical PM - MRP server application” \(4-6\)](#) and [“Start the Navis™ Optical PM - MRP server application” \(4-4\)](#) in Chapter 4, “System administration”.

### Result:

Trace is turned on and a trace file is generated.

- 
- 5** Verify that the trace file exists.

END OF STEPS

---



## Create a single file for trace data

---

**Purpose** Use this task to create one file containing information from one or more trace files produced on the server.

**Task** Complete the steps below to copy trace source into one file.

---

**1** From the system console, log into the server as dacscan.

---

**2** At the prompt, enter `cd /dacscan/trace`.

---

**3** At the prompt, enter `tar cvf trace.tar ./*`

**Result:**

The trace files will be copied into a single file.

END OF STEPS

---



## View the log files

---

**Overview** All significant events associated with database backups and transfers are logged in the log files. These events are also recorded in log files in **/dacscan/tmp**.

Operator transaction logs are stored in compressed format in the **/dacscan/log/data** directory with the following naming convention:

**<log-prefix>.<Julian-date>.<hour>.<minute>**

The following is a list of log files:

- sys (System Event) - This file records all system error messages. The file name is **tms.log.<hostname>**.
- Server log file - This file logs process event and error information. This file is stored in **/dacscan/log/data/tms.log**.
- PC client log file - This file is stored in **<drive>:\juilogs\<user>.log**.

**Log file retention** One log file is retained for each day of the week. All log files are maintained up to seven days; the oldest file is overwritten first.



## View the log file on an HP-UX server

---

**Purpose** Use this procedure to view the log file residing on an HP server.

**Task** Complete the steps below to view the log file.

---

- 1 From the system console, log into the server as dacscan.  

---
- 2 Change to the directory containing the log file to be viewed by entering `cd /dacscan/log/data/nms.log.<server-hostname>`  

---
- 3 Enter `pg <logfile>.log`

**Result:**

The log file is displayed.

END OF STEPS

---



## View the console.log file on a Windows PC

---

**Purpose** Use this procedure to view the console.log file residing on a PC.

**Task** Complete the steps below to view the log file.

---

**1** Log into the PC as **sa**.

---

**2** Using Notepad or Wordpad, display the **console.log** file which resides in **<drive>:\jui\logs\<user>.log**.

**Result:**

The file is displayed.

END OF STEPS

---



## Clear trace files on a server

---

**Purpose** Use this task to clear trace files on a server.

*Ensure that you are in the correct directory before clearing the trace file; not all deleted files can be recovered.*

**Task** Complete the steps below to clear trace files on a server.

---

**1** From the system console, log into the server as dacsan.

---

**2** Change to the directory containing the trace files by entering `cd /dacsan/trace`

*Ensure that you are in the correct directory before clearing the trace file; not all deleted files can be recovered.*

---

**3** At the prompt, enter the following:

```
$for i in `ls`
do
> $i
done
```

**Result:**

The trace file's contents is cleared.

END OF STEPS

---





# 10 Navis<sup>TM</sup> Optical PM - MRP Software Release, Version, and Patch Information

## Overview

---

**Purpose** This chapter contains information on how to display Navis<sup>TM</sup> Optical PM - MRP software release, load ID, version number, and patch information.

**Contents**

|                                                          |                      |
|----------------------------------------------------------|----------------------|
| <a href="#">Display the Software Release and Load ID</a> | <a href="#">10-2</a> |
| <a href="#">Display the Software Version Number</a>      | <a href="#">10-3</a> |
| <a href="#">Determine which Software Patch is Loaded</a> | <a href="#">10-4</a> |



## Display the Software Release and Load ID

---

**Purpose** This procedure is used to display the Navis™ Optical PM - MRP release number and load ID.

**Task** Complete these steps to display the Navis™ Optical PM - MRP release number and load ID:

---

**1** Log into the server as **root** or **dacscan**.

---

**2** To display the release number, enter `cat /etc/dscan/release`.

**Result:**

The current release number is displayed.

---

**3** To display the load ID, enter `cat /etc/dscan/ws-tmskr-loadid`.

**Result:**

The current load ID is displayed.

END OF STEPS

---



## Display the Software Version Number

---

**Purpose** Use this procedure to display the version number of Navis™ Optical PM - MRP software.

**Task** Complete the following steps to display the current version number of Navis™ Optical PM - MRP.

---

- 1 From the Network Map, select **Help > Version**.

**Result:**

The currently installed software version number and build date are displayed.

END OF STEPS

---



## Determine which Software Patch is Loaded

---

**Purpose** This procedure is used to determine which software patch is loaded.

**Task** Complete these steps to determine which software patch is loaded:

.....  
**1** Using the system console, log in to the primary host as dacscan.  
.....

**2** At the prompt, type `swlist | grep PATCH`.

**Result:**

A complete patch list displays.

END OF STEPS

---





# Appendix A: Navis™ Optical PM - MRP File systems

## Navis™ Optical PM - MRP file systems

---

**Introduction** This appendix contains a list of the Navis™ Optical PM - MRP file systems.

**List of file systems** The following are the 17 file systems supported by Navis™ Optical PM - MRP:

1. Root directory (*/*)
2. OS kernel (*/stand*)
3. Spool directories (*/var*)
4. Core OS components (*/usr*)
5. Optional OS components (*/opt*)
6. Provisioning documents directory (*/dacscan/prov*)
7. Alarms directory (*/dacscan/alarms*). Note that this directory applies to host alerts; Fault Management is not supported on Navis™ Optical PM - MRP.
8. Three Oracle tablespace directories (*/oradb*, */oradb2*, */oradb3*)
9. Application logs directory (*/dacscan/log*)
10. Database re-do logs and archives directory (*/dacscan/dbarch* and */dacscan/journal*)
11. Application users directory (*/dacscan/users*)
12. Application trace information directory (*/dacscan/trace*)

13. Temporary directory (**/tmp**)
14. Application temporary space (**/dacscan/tmp**)
15. Application software (**/usr/dacscan**)
16. Application software patch history (**/patch**)
17. Q-adapter (**/ITM-QA**).





# Appendix B: Navis™ Optical PM - MRP Off-Line tools

## Overview

---

**Purpose** This appendix contains information about off-line tools available for Navis™ Optical PM - MRP.

Tasks using the following tools are provided:

- Add a DMS Tool
- Database Population Tool
- Change a Network Element Tool

All DMSs should have been added and their databases populated during installation. These tasks are provided for your information only.

### Contents

|                                                                                                   |                            |
|---------------------------------------------------------------------------------------------------|----------------------------|
| <a href="#"><u>Section I: Add a DMS</u></a>                                                       | <a href="#"><u>B-3</u></a> |
| <a href="#"><u>Add a DMS to the Network Map with the Add DMS Tool</u></a>                         | <a href="#"><u>B-4</u></a> |
| <a href="#"><u>Section II: Populate the Navis™ Optical PM - MRP database</u></a>                  | <a href="#"><u>B-6</u></a> |
| <a href="#"><u>Populate the Navis™ Optical PM - MRP Database with Navis™ Optical NMS data</u></a> | <a href="#"><u>B-7</u></a> |
| <a href="#"><u>Section III: Change Network Element Tool</u></a>                                   | <a href="#"><u>B-9</u></a> |

|                                                                                                |                      |
|------------------------------------------------------------------------------------------------|----------------------|
| <a href="#">Change the Target Identifier (TID) on a Craft Interface Terminal (CIT)</a>         | <a href="#">B-11</a> |
| <a href="#">Change Network Element Names in ITM-SC and Navis™ Optical PM - MRP</a>             | <a href="#">B-14</a> |
| <a href="#">Change Network Element Names in Navis™ Optical EMS and Navis™ Optical PM - MRP</a> | <a href="#">B-20</a> |

## Section I: Add a DMS

### Overview

---

**Purpose** This section describes how to add or delete a Domain Management System (DMS) using the Add a DMS Tool. Note that the term *controller* in this section refers to domain map.

**Contents**

|                                                                    |                     |
|--------------------------------------------------------------------|---------------------|
| <a href="#">Add a DMS to the Network Map with the Add DMS Tool</a> | <a href="#">B-4</a> |
|--------------------------------------------------------------------|---------------------|



## Add a DMS to the Network Map with the Add DMS Tool

---

**Purpose** Use this task to add a DMS to the Navis™ Optical PM - MRP Network Map. The task adds Navis™ Optical NMS controllers to the controller map and then populates the Navis™ Optical PM - MRP Network Map with areas representing the domains of the added controllers.

**Important!** This task must be run for each DMS to be added. Up to 24 DMSs may be added.

**Before you begin** This task requires access to:

- Navis™ Optical NMS software with ITM-SC, WaveStar Optical EMS, and associated network elements
- Navis™ Optical PM - MRP

Also, you need the following information before you begin:

- the name for the DMS
- the DMS IP address

**Important!** If this is your first time using this tool, contact Lucent Customer Support for assistance.

**Task** Complete the steps below to add a DMS to the Navis™ Optical PM - MRP Network Map.

---

- 1 Log into the DMS host.  

---
- 2 At the prompt, enter **who -r** and verify that the host is at run level 4.  

---
- 3 From the system console, log into the Navis™ Optical PM - MRP host as **root**.  

---
- 4 If the application is running, enter **init 3**.  

---
- 5 At the prompt, enter **/usr/dacscan/bin/add.DMS**

**Result:**

A prompt is displayed.

---

- 6** At the prompt, enter the DMS name.

**Important!** Enter the DMS name in upper case. Since it will be displayed on the GUI, create a meaningful name.

**Result:**

A prompt is displayed.

---

- 7** Enter an acronym for the DMS.

**Result:**

A prompt is displayed.

---

- 8** Enter the IP address of the DMS.

**Result:**

A successful add message is displayed.

---

- 9** At the prompt, enter **init 4** to bring up the application.
- 

- 10** Open the Navis™ Optical PM - MRP Network Map.
- 

- 11** Open the Navis™ Optical PM - MRP Controller Map.
- 

- 12** Verify that the Navis™ Optical PM - MRP Controller Map displays the name of the new DMS, which is preceded by **DMS\_**.
- 

- 13** Start communication from the Navis™ Optical PM - MRP Controller Map.

**Result:**

The new DMS should be able to establish communication with Navis™ Optical PM - MRP, and the DMS icon on the Navis™ Optical PM - MRP Controller Map should be green.

END OF STEPS

---

## Section II: Populate the Navis™ Optical PM - MRP database

### Overview

---

**Purpose** This section describes the Navis™ Optical NMS to Navis™ Optical PM - MRP Data Population tool. This tool is used to populate the Navis™ Optical PM - MRP Database when a Domain Management System (DMS) is brought under the Navis™ Optical PM - MRP layer.

**About this tool** The Navis™ Optical NMS to Navis™ Optical PM - MRP Data Population tool contains two parts:

- Data Collection Tool (DCT)
- Data Load Tool (DLT)

**Data Collection Tool** The Data Collection part of this tool exports data from the Navis™ Optical NMS layer, places it into standard ASCII format, and then transmits the data from Navis™ Optical NMS to Navis™ Optical PM - MRP via ftp. This tool retrieves each DMS-managed network element's optical links, optical multiplexed sections, optical channel trails, digital links (including unprotected digital links), and both protected and unprotected paths and path segments.

When the DCT is run, it automatically creates a directory to store data.

**Data Load Tool** The Data Load part of this tool imports data from the Navis™ Optical NMS layer into Navis™ Optical PM - MRP and enables users to load either a single entity or multiple types of entities at one time. The DLT produces an audit data file and stores the data separately from the collected output file. The audit file contains a log of successfully loaded data and error records.

#### Contents

|                                                                                            |                     |
|--------------------------------------------------------------------------------------------|---------------------|
| <a href="#">Populate the Navis™ Optical PM - MRP Database with Navis™ Optical NMS data</a> | <a href="#">B-7</a> |
|--------------------------------------------------------------------------------------------|---------------------|



## Populate the Navis™ Optical PM - MRP Database with Navis™ Optical NMS data

---

**Purpose** This section describes how to use the Navis™ Optical PM - MRP Data Population tool.

**Before you begin** Before running the Navis™ Optical PM - MRP Data Population tool, ensure the following:

- The state of the Navis™ Optical PM - MRP and DMS should be idle. *No provisioning operations should be performed while the Data Collection Tool is running.*
- There must be sufficient space and appropriate settings for the tool to run without encountering storage problems.
- Process information for one DMS at a time.

**Important!** If this is your first time using this tool, contact Lucent Customer Support for assistance.

**Task** Complete the following steps to run the Navis™ Optical NMS to Navis™ Optical PM - MRP Data Population tool.

---

**1** Log into the Navis™ Optical NMS server as **dacscan**.

---

**2** Enter the following commands to run the DCT tool:

```
cd /usr/dacscan/toolbin/offline
```

```
net_entity.ksh -n <net_entity> -e [-h]
```

where:

**-n <net\_entity>** represents the required network entity to be processed.

This value can be any of the following:

- managed\_ne
- optical\_link
- optical\_trail
- digital\_link
- path

Populate the Navis™ Optical PM - MRP  
Database with Navis™ Optical NMS data

- e is used to export the network entity from NMS to a file
- h prints the command usage message

**Result:**

The DCT exports data from the Navis™ Optical NMS layer and places it into standard ASCII format. Then data is transmitted manually via **ftp** from Navis™ Optical NMS to Navis™ Optical PM - MRP. Results are stored in a directory created by the DCT.

- 
- 3 Log into the Navis™ Optical PM - MRP server as **dacscan**.

- 
- 4 Enter the following commands to run the DLT tool:

**cd /usr/dacscan/toolbin/offline**

**net\_entity.ksh -n <net\_entity> -i [-vabh] [-f input\_file]**

where:

-n **net\_entity** represents the required network entity to be processed.  
For example,

**managed\_ne|optical\_link|optical\_trail|digital\_link|path. -f input\_file**  
represents the file from which the entities to be imported are read.  
The file is assumed to be in **/tmp/net\_entity** unless the full path is specified. If no file is specified, the user is prompted to confirm a list of files to process. The files must adhere to the following naming convention: **/tmp/net\_entity/\*net\_entity.action.current**.

**Result:**

The DLT imports data from the Navis™ Optical NMS layer into the Navis™ Optical PM - MRP. The tool produces an audit data file and stores it separately from the collected output file. The audit file contains a log of successfully loaded data and error records.

END OF STEPS



## Section III: Change Network Element Tool

### Overview

---

**Purpose** When a name change occurs to an existing network element ID, the change must be reflected in each application through which it is managed.

This section describes how to change the identification of an existing network element using the Change Network Element ID tool.

**Change Network Element ID Script**

Network Element IDs are changed in applications as a result of running a change network element ID script. This script is first run at the EMS-level to support name changes to ITM-SC or Navis™ Optical EMS controlled network elements. After the script completes, a change script is run at the Navis™ Optical NMS-level to support network element name changes in the Navis™ Optical NMS application. The final step is to run the script at the Navis™ Optical PM - MRP-level.

There are different change network element ID scripts used in the ITM-SC, Navis™ Optical EMS, Navis™ Optical NMS, and Navis™ Optical PM - MRP applications. The tasks included in this section capture how the ITM-SC, Navis™ Optical EMS, and Navis™ Optical PM - MRPscripts are run.

**Impact to other applications**

When Navis™ Optical NMS network elements are managed by Navis™ Optical PM - MRP, then the final step is to run the tool in the Navis™ Optical PM - MRP application.

**Source File**

The first step of this process is to create a source file containing the requested changes. This source file can be used by each script to change ITM-SC or Navis™ Optical EMS controlled network element names.

- Limitations** Users should mind the following limitations when renaming an existing network element.
- The system does not perform any alphabetic ordering after the network element name change.
  - Subnet ID, Aggregate ID, and Controller Name changes are not supported.
  - The system will not update any Kanji-related tables. This limitation is only relevant for Japanese customers.
  - For the changed name to be displayed, the user must restart the user interface.
  - If a network element is deleted, has its name changed, or its Office identification does not have an associated TID name, it will remain on the Location Reference Table.

**Contents**

|                                                                                                |                      |
|------------------------------------------------------------------------------------------------|----------------------|
| <a href="#">Change the Target Identifier (TID) on a Craft Interface Terminal (CIT)</a>         | <a href="#">B-11</a> |
| <a href="#">Change Network Element Names in ITM-SC and Navis™ Optical PM - MRP</a>             | <a href="#">B-14</a> |
| <a href="#">Change Network Element Names in Navis™ Optical EMS and Navis™ Optical PM - MRP</a> | <a href="#">B-20</a> |



## Change the Target Identifier (TID) on a Craft Interface Terminal (CIT)

---

**Purpose** This task describes how to change a network element's TID on a network element's CIT.

**Before you begin** changing the name of an existing network element, consider the following:

- The user must ensure the uniqueness of the new network element name.
- Changing a network element's name should be first done in the EMS that controls the network element. It is recommended that users perform an EMS on-line archive before changing the network element's name.
- When renaming a network element, users must abide by a strict naming convention. Note that the new network element name should not include a backslash character because it *may not* be supported.

**Task** Perform the following steps to change the identification of an existing network element on a CIT.

---

**1** Log into the network element's CIT.

---

**2** Right click on **NE > Graphical (OSI) > <network\_element\_name>**, and then click **OK**.

**Result:**

The System Type Selection dialog box displays.

---

**3** Select a network element from the list.

**Result:**

The NE Login Dialog box displays.

---

**4** Enter the login and password, then click **OK**.

---

**Result:**

A process dialog box displays followed by a legal notice.

---

- 5 Click **OK**.

**Result:**

A form displays.

---

- 6 Select **Administration > Set TID**, then click **OK**.

**Result:**

A form displays.

---

- 7 Select **Fault > Enter/Exit Maintenance Condition > Enter Maintenance Condition**, then click **yes**.

**Result:**

A red, maintenance box displays at the lower right area of the form.

---

- 8 Select **Administration > Set TID**, click **OK** and then change the TID.

**Important!** Note that the new network element name should not include a backslash character because it *may not* be supported.

**Result:**

A form displays.

---

- 9 Select **Fault > Enter/Exit Maintenance Condition > Exit Maintenance Condition**, then click **Exit**.

**Result:**

The WaveStar® CIT Confirmation dialog box displays.

---

- 10 Click **Yes**.

**Result:**

The TID name change process is initiated.

---

It is important to wait for the change to be processed (about 25 minutes) before proceeding to the next step.

---

- 11** To verify the change, log into the network element's CIT, enter the password, then click **OK**. See [Step 1](#) through [Step 4](#) for details.
- 

- 12** In the toolbar, click the **Update** button.

**Result:**

The new TID displays.

END OF STEPS

---



## Change Network Element Names in ITM-SC and Navis™ Optical PM - MRP

---

**Purpose** This task describes how to change existing network element identifiers on the ITM-SC using the change network element identifier tool.

**Processing Order** This tool's change script is first run on an ITM-SC host server and then a script is run on the Navis™ Optical PM - MRP host server. This task contains the commands to run the script on both servers.

**Before you begin** Before changing the name of an existing network element, consider the following items:

- Be sure that the name change has been made. See [“Change the Target Identifier \(TID\) on a Craft Interface Terminal \(CIT\)” \(B-11\)](#) for details.
- Shut down the ITM-SC before running the off-line script. The user will not be able to communicate with the ITM-SC at this time.
- Navis™ Optical PM - MRP will only update the new name in the Circuit IDs that are in M.1400 format. For Circuit IDs with FREE FORMAT, it is the user's responsibility to update the Circuit IDs (using the Graphical Layout Parameters form).
- The Navis™ Optical PM - MRP will not dynamically update any current screen with the new network element ID name. From the Network Map, the user must select **File > Query Again** to display the new name.

**Important!** If this is your first time using this tool, contact Lucent Customer Support for assistance.

**Task** **Important!** Because the ITM-SC portion of this script may change, please refer to the ITM-SC user documentation for updated information on how to run this script on the ITM-SC system.

Perform the following steps to change the identification of an existing network element. The steps used in the first part of this

task apply to the ITM-SC host server while the remaining steps apply to the Navis™ Optical PM - MRP host server.

---

- 1 From the Network Controller Map, right click the ITM-SC, Navis™ Optical NMS, and Navis™ Optical PM - MRP icons then select **Session > Stop Communication**.

**Result:**

Communication is disabled on ITM-SC, Navis™ Optical NMS, and Navis™ Optical PM - MRP.

---

- 2 Log into the ITM-SC host as `i2kadmin` and enter the password.

**Result:**

The user is logged into the ITM-SC host.

---

- 3 At the prompt, type `. itm_sc_setup`

**Result:**

The ITM-SC set up begins.

---

- 4 At the prompt, enter `cd /opt/itm/sc/<latest_load_number>/ems/bin`.

**Result:**

The prompt resides at the specified directory.

---

- 5 At the prompt, enter `ls -ld .`

**Result:**

The directory permissions display.

---

- 6 View the display to verify whether or not the `/bin` directory is set to 744, i.e., `drwxr--r--`.
- 

- 7 If the `/bin` directory's permissions *are* set to 744, go to the next step.

If the /bin directory's permissions *are not* set to 744, enter the following:

```
chmod 744 /opt/itm/sc/<latest_load_number>/ems/bin
```

**Important!** You can optionally type **chmod 744 \***.

---

- 8** Use a text editor to create a **node\_mapping** file that contains the old and new network element names.

**Important!** Be sure that the **node\_mapping** file contains one line each, in old\_name|new\_name format separated with a tab or a | character. A carriage return must separate each line.

---

- 9** Use **ftp** to copy the created **node\_mapping** file to the Navis™ Optical PM - MRP host server.
- 

- 10** At the prompt, enter `./ems_stop`.

**Result:**

The ITM-SC is stopped.

---

- 11** At the prompt, enter `./ems_db_gnrt -n`

This command checks existing network elements in the ITM-SC database.

---

- 12** At the prompt, enter `./ems_db_gnrt -D <network_element_value> -N node_mapping`

**Result:**

The tool is initiated.

---

- 13** At the prompt, enter `y` to confirm the actions.

**Result:**

The renaming tool is executed and runs until the tool has successfully completed the renaming on the ITM-SC server. The renaming process may now begin on the Navis™ Optical PM - MRP server.

---

- 
- 14** While the ITM-SC is still down, log into the Navis™ Optical PM - MRP host as dacscan.
- 

- 15** At the prompt, enter `cd /usr/dacscan/toolbin`

**Result:**

The prompt resides at the directory where the `change_neid` tool is located.

---

- 16** Retrieve the ITM-SC **node\_mapping** data file then type **mv node\_mapping mrp\_sc\_node**.

**Result:**

The file is renamed to **mrp\_sc\_node**.

Note that the last line of the **mrp\_sc\_node** file *must not* contain a carriage return. (See [Step 8](#).)

**mrp\_sc\_node** is only a recommended filename. Any filename can be used.

---

- 17** At the prompt, enter  
`./change_neid nm.node`
- 

- 18** At the prompt, enter N.

**Result:**

The renaming tool is executed and runs until the tool has successfully completed the renaming on the Navis™ Optical PM - MRP server.

---

- 19** Upon completion, log into the ITM-SC server as `i2kadmin` and enter the password.

**Result:**

The user is logged into the ITM-SC host.

---

20 To start the ITM-SC application, at the prompt, type:

```
. itmsc_setup
ems_start
```

**Result:**

The ITM-SC application is restarted.

21

| IF                                                                          | THEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The renamed network element <i>is a Navis™ Optical NMS DACS 4/4/1</i> ,     | <p>Use the following steps to change the network element name on the network element through Navis™ Optical NMS VCIT.</p> <ol style="list-style-type: none"> <li>1. Login to the Navis™ Optical NMS DACS 4/4/1 network element via VCIT.</li> <li>2. Select <b>Provision &gt; SystemID</b>.</li> <li>3. At the <b>SystemID</b> field, enter the new network element name.</li> <li>4. In the <b>FrameID</b> field, enter a value, for example, <b>0</b>.</li> <li>5. Select the <b>Change</b> button. The network element name has been changed.</li> <li>6. Perform a MIB-Upload to ITM-SC for the renamed Navis™ Optical NMS DACS network elements.</li> </ol> |
| The renamed network element <i>is not a Navis™ Optical NMS DACS 4/4/1</i> , | <p>Perform a MIB download for all changed network elements.<br/>           It is normal for this download to take a long period of time to complete.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

22 If the rename script has run on all affected systems, then enter the following:

From the Network Controller Map, right click the ITM-SC, Navis™ Optical NMS, and Navis™ Optical PM - MRP icons then select **Session > Start Communication**.

**Result:**

Communication is enabled on ITM-SC, Navis™ Optical NMS,  
and Navis™ Optical PM - MRP.

- 
- 23** Restart the Navis™ Optical PM - MRP GUI and synchronize its  
database with the ITM-SC server.

END OF STEPS

---



## Change Network Element Names in Navis™ Optical EMS and Navis™ Optical PM - MRP

---

**Purpose** This task describes how to change existing network element identifiers on the Navis™ Optical EMS using the change network element identifier tool.

**Processing Order** This tool's change script is first run on the Navis™ Optical EMS host server and then a script is run on the Navis™ Optical PM - MRP host server. This task contains the commands to run the script on both servers.

**Before you begin** Before changing the name of an existing network element, consider the following items:

- Be sure that the name change has been made. See [“Change the Target Identifier \(TID\) on a Craft Interface Terminal \(CIT\)” \(B-11\)](#) for details.
- Shut down the Navis™ Optical EMS before running the off-line script. The Navis™ Optical PM - MRP user will not be able to communicate with the Navis™ Optical EMS at this time.
- Navis™ Optical PM - MRP will only update the new name in the Circuit IDs that are in M.1400 format. For Circuit IDs with FREE FORMAT, it is the user's responsibility to update the Circuit IDs (using the Graphical Layout Parameters form).
- The Navis™ Optical PM - MRP will not dynamically update any current screen with the new network element ID name. From the Network Map, the user must select **File > Query Again** to display the new name.

**Important!** If this is your first time using this tool, contact Lucent Customer Support for assistance.

**Task** **Important!** Because the Navis™ Optical EMS portion of this script may change, please refer to the Navis™ Optical EMS user documentation for updated information on how to run this script on the Navis™ Optical EMS system.

Perform the following steps to change the identification of an existing network element. The steps used in the first part of this task apply to the Navis™ Optical EMS host server while the

remaining steps apply to the Navis™ Optical PM - MRP host server.

- 
- 1 From the Network Controller Map, right click the ITM-SC, Navis™ Optical NMS, and Navis™ Optical PM - MRP icons then select **Session > Stop Communication**.

**Result:**

Communication is disabled on ITM-SC, Navis™ Optical NMS, and Navis™ Optical PM - MRP.

- 
- 2 Log into the Navis™ Optical EMS host as ems and enter the password.

**Result:**

The user is logged into the Navis™ Optical EMS host.

- 
- 3 Use a text editor to create a file that contains the old and new network element names.

**Important!** Be sure that the file contains one line each, in old\_name|new\_name format separated with a tab or a | character. A carriage return must separate each line.

- 
- 4 Use **ftp** to copy the created file to the Navis™ Optical PM - MRP host server.

- 
- 5 At the prompt, enter `tidchange -f <created_filename> -du-y`

**Result:**

Navis™ Optical EMS is stopped and the renaming tool runs on the Navis™ Optical EMS host server. Upon completion, Navis™ Optical EMS is brought back up

The renaming process may now begin on the Navis™ Optical PM - MRP server.

- 
- 6 While the Navis™ Optical PM - MRP server is still down, log into the Navis™ Optical PM - MRP host as dacscan.

- 
- 7 At the prompt, enter `cd /usr/dacscan/toolbin`

**Result:**

The prompt resides at the directory where the `change_neid` tool is located.

- 
- 8 Retrieve the Navis™ Optical EMS `node_mapping` data file then type `mv node_mapping mrp_snms_node`.

**Result:**

The file is renamed to `mrp_snms_node`.

Note that the last line of the `mrp_snms_node` file *must not* contain a carriage return. (See [Step 3](#).)

`mrp_snms_node` is only a recommended filename. Any filename can be used.

- 
- 9 At the prompt, enter  
`./change_neid mrp_snms_node`

- 
- 10 If a prompt displays, enter **Y** to change the circuit name or **N** to retain the existing circuit name.

**Important!** A prompt only displays when  
`CKTFMT=AZTYPEID:FREE`.

**Result:**

The renaming tool runs, completes its name change process, then the Navis™ Optical PM - MRP host server comes back up. The process takes about 45 minutes.

- 
- 11 If the rename script has run on all affected systems, then enter the following:

From the Network Controller Map, right click the ITM-SC, Navis™ Optical NMS, and Navis™ Optical PM - MRP icons then select **Session > Start Communication**.

**Result:**

Communication is enabled on ITM-SC, Navis™ Optical NMS,  
and Navis™ Optical PM - MRP.

- 
- 12** Restart the Navis™ Optical PM - MRP GUI and synchronize its  
database with the Navis™ Optical EMS server.

END OF STEPS

---







# Appendix C: Common Unix® Commands

## Overview

---

**Purpose** This section describes a few UNIX® commands used in the administration process. Some of these commands are used in this document's tasks, while others may be used when there is a need to access remote systems or to verify network communication status.

### Contents

|                                                                   |                      |
|-------------------------------------------------------------------|----------------------|
| <a href="#">init command for changing run levels</a>              | <a href="#">C-2</a>  |
| <a href="#">who command for verifying system run level</a>        | <a href="#">C-3</a>  |
| <a href="#">ping command for verifying communication</a>          | <a href="#">C-4</a>  |
| <a href="#">telnet command for initiating remote sessions</a>     | <a href="#">C-5</a>  |
| <a href="#">uname command for displaying system information</a>   | <a href="#">C-6</a>  |
| <a href="#">lanscan command for verifying LAN status</a>          | <a href="#">C-7</a>  |
| <a href="#">vgdisplay command for verifying mirroring status</a>  | <a href="#">C-8</a>  |
| <a href="#">shutdown Command for Halting or Rebooting Servers</a> | <a href="#">C-9</a>  |
| <a href="#">ps Command for Information About Active Processes</a> | <a href="#">C-10</a> |

## init command for changing run levels

---

**Introduction** An `init` command is used to change the run level of the Navis™ Optical PM - MRP application on an HP-UX machine. The following describes two run levels, *run level 3* and *run level 4*.

**Run level 3** When the system administrator enters the `init 3` command, the system switches to run level 3, which shuts down the Navis™ Optical PM - MRP application.

**Run level 4** When the system administrator enters the `init 4` command, the system to switches to run level 4, which starts up the Navis™ Optical PM - MRP application.



## who command for verifying system run level

---

**Purpose** The **who** command allows you to verify the system run level.

**Task** Use this task to determine the current run level of the system.

---

**1** Log into the host as root.

---

**2** At the prompt, enter `who -r`

**Result:**

A message displays a line of current run level information, such as `run-level 3 Dec 30 11:26 3 0 S.`

END OF STEPS

---



## ping command for verifying communication

---

**Description** The ping command is used to determine whether it is possible to communicate with a remote system. Failure to communicate may result if the remote system is switched off or the communication link is not working correctly.

When a user enters `ping <host_name> -n 10` at a prompt, output similar to the following is displayed:

```
PING <host_name>.lucent.com: 64 byte packets
64 bytes from <ip_address>: icmp_seq=0. time=155. ms
64 bytes from <ip_address>: icmp_seq=1. time=155. ms
64 bytes from <ip_address>: icmp_seq=2. time=155. ms
64 bytes from <ip_address>: icmp_seq=3. time=154. ms
64 bytes from <ip_address>: icmp_seq=4. time=155. ms
64 bytes from <ip_address>: icmp_seq=5. time=154. ms
64 bytes from <ip_address>: icmp_seq=6. time=154. ms
64 bytes from <ip_address>: icmp_seq=7. time=155. ms
64 bytes from <ip_address>: icmp_seq=8. time=155. ms
64 bytes from <ip_address>: icmp_seq=9. time=157. ms
----<host_name> PING Statistics----
10 packets transmitted, 10 packets received, 0% packet
loss round-trip (ms) min/avg/max = 154/154/157
```

To turn off ping, press the **Ctrl** and **c** keys.



## telnet command for initiating remote sessions

---

**Description** The telnet command is used to initiate a session on a remote system. When `telnet <system_name>` is entered at a prompt, the system requests the user to type the login ID and password. Once successfully logged in, the session is active until the user logs off of the remote system.



## uname command for displaying system information

---

**Purpose** The **uname** command allows you to identify the system with which a terminal is communicating.

**Task** Use this task to display system information.

---

1 Log into a terminal as root.

---

2 At the prompt, enter `uname -a`

**Result:**

A line similar to the following displays:

```
HP-UX <host_name> B.11.00 A 9000/810 2013485357
two-user license.
```

END OF STEPS

---



## lanscan command for verifying LAN status

---

**Purpose** The **lanscan** command allows you to view the status of any of the LANs that are connected to the server, including the LAN that connects Navis™ Optical PM - MRP to the Domain Management System (DMS).

**Task** Complete the steps below to view LAN status information.

---

**1** From the system console, log into the host as root.

---

**2** Enter `lanscan`

**Result:**

The LAN status information is displayed.

END OF STEPS

---



## vgdisplay command for verifying mirroring status

---

**Purpose** The **vgdisplay** command verifies that the application and databases residing on separate disks are synchronized.

**About the mirrored disk configuration** A mirrored disk configuration eliminates the need for a second processor as a backup. The application and database that reside on separate disks are mirrored onto a second set of disks. Information that is written to disk is reflected simultaneously onto the mirrored counterpart. It is recommended that mirroring status is checked regularly to ensure that all mirrored information is synchronized with the primary information.

**Before you begin** Ensure that the LVSTATUS is set to SYNC.

**Task** Complete the steps below to obtain mirroring status.

---

1 From the system console, log into the server as root.

---

2 At the # prompt, enter `vgdisplay -v | pg`.

**Result:**

The mirroring status is displayed.

END OF STEPS

---



## shutdown Command for Halting or Rebooting Servers

---

**Purpose** The shutdown command is used to halt or reboot the servers.

**Before you begin** The format for the shutdown command is the following:

```
shutdown -<hy/ry> <seconds>
```

where: shutdown is the command verb used to halt or reboot the servers.

-hy specifies that the servers are to be shut down using the halt option.

-ry specifies that the servers are to be shut down using the reboot option.

<seconds> specifies the numbers of seconds that are to elapse before the shutdown commences.

**Task** Complete these steps to halt or reboot a server:

---

**1** Log in to the server as root.

---

**2** To shut down the server using the halt option, at the prompt type  
shutdown -hy 0.

To shut down the server using the reboot option, at the prompt type  
shutdown -ry 0.

**Result:**

The server is shut down.

END OF STEPS

---



## ps Command for Information About Active Processes

---

**Purpose** The `ps` command is used to view information about active processes.

**Before you begin** A helpful note—by *piping* the output of the `ps` command to the `wc` (word count) command, for example: `ps -ef | wc`, the system displays line, word, and byte counts. The output displays numbers such as 33 17 12, which would represent the line, word, and byte counts of the process.

**Task** Complete these steps to use the `ps` command:

---

**1** Log in to the host server as root.

---

**2** At the system prompt, type: `ps`.

**Result:**

The system outputs information about the active processes.

END OF STEPS

---





# Index

- A** Add
- an aggregate, [5-3](#)
  - DMS, [B-4](#)
  - local printer, [2-16](#)
  - network printer, [2-15](#)
  - user defined submap, [5-9](#)
  - user profile, [3-25](#)
- Add a user
- regular user, [3-20](#)
  - to a SAGE workstation, [3-31](#)
  - to a Windows® PC with SA privileges, [3-17](#)
  - to Windows® PC with user privileges, [3-13](#)
- Administer printers, [2-12](#)
- Administration
- platform, [1-2](#)
- administration
- sa, the default, [3-4](#)
- Administration
- system, [1-2](#)
  - user security, [1-2](#)
- Administration defined, [1-2](#)
- Aggregate
- add, [5-3](#)
  - delete, [5-5](#)
  - display/modify, [5-6](#)
- Audience, [xi](#)
- intended, [xi](#)
- 
- B** Background Map
- install, [4-13](#)
- Backups, [8-2](#)
- cold, [8-3](#), [8-5](#)
  - hot, [8-2](#), [8-4](#)
- Bulk link provisioning tool, [6-6](#)
- 
- C** Change
- aggregate, [5-6](#)
  - network element name in ITM-SC, [B-14](#)
  - network element name in Navis™ Optical EMS, [B-20](#)
  - TID, [B-11](#)
- CIT, [B-11](#)
- Clear trace files, [9-14](#)
- Clearing troubles, [1-2](#)
- Cold backup, [8-3](#)
- Cold backups, [8-5](#)
- Cold recovery, [8-10](#)
- Command
- init, [C-2](#)
  - ping, [C-4](#)
  - telnet, [C-5](#)
  - uname, [C-6](#)
  - who, [C-3](#)
- Commands, [C-1](#)
- Comments, [xvi](#)
- Conventions
- typographical, [xiv](#)
- Cron file, [4-25](#)
- edit, [4-29](#), [4-30](#)
  - view, [4-27](#), [4-28](#)
- 
- D** Data Population tool, [B-6](#)
- Database, [4-22](#)
- restart, [4-23](#)
  - stop, [4-24](#)
- Default administrator, [3-4](#)
- Delete
- aggregate, [5-5](#)
  - user, [3-24](#)

user defined submap, [5-11](#)  
 user profile, [3-28](#)

Delete a user  
 from SAGE workstation, [3-32](#)

Desktop integration, [3-29](#)

Display  
 load ID, [10-2](#)  
 release number, [10-2](#)  
 software version number, [10-3](#)

Display/Modify  
 aggregate, [5-6](#)

Display/modify  
 user defined submap, [5-10](#)

DMS  
 add to Network Map, [B-4](#)

DMS database  
 synchronize database with, [7-3](#)

Documentation  
 font usage, [xiv](#)  
 how to comment, [xvi](#)  
 list of, [xiv](#), [xv](#)  
 on CD-ROM, [xv](#)  
 on-line version, [xv](#)

---

**E** Edit  
 cron file, [4-29](#), [4-30](#)

Environment provisioning, [1-2](#)

Exit  
 Navis™ Optical PM - MRP user interface application, [4-8](#)

Exit Navis™ Optical PM - MRP user interface  
 on a PC, [4-11](#)  
 on a workstation, [4-11](#)

---

**F** File systems, [A-1](#)  
 Font usage, [xiv](#)

---

**G** Guidelines  
 trace, [9-3](#)

---

**H** Hardware configuration, [1-4](#)

Help  
 screen help, [xv](#)

Hot backups, [8-2](#), [8-4](#)

Hot recovery, [8-8](#)

HP server  
 power down, [2-8](#)  
 power on, [2-4](#)

---

**I**

Information products, [xv](#)  
 font usage, [xiv](#)  
 how to comment, [xvi](#)  
 how to order, [xvi](#), [xvi](#)  
 list of, [xiv](#)  
 on CD-ROM, [xv](#)  
 on-line version, [xv](#)

init 3, [C-2](#)

init 4, [C-2](#)  
 init command, [C-2](#)  
 Intended audience, [xi](#), [xi](#)

---

**L** LAN status  
 view, [C-7](#)

Load ID, [10-2](#)

Location-type information  
 network element search, [4-17](#)

Log file  
 retention, [9-11](#)

Log files  
 viewing, [9-11](#)  
 viewing on an HP workstation, [9-12](#)  
 viewing on Windows PC, [9-13](#)

---

**M** Merge Circuit Tool, [6-9](#)  
 Mirroring status, [C-8](#)

Modify  
 aggregate, [5-6](#)  
 user ID information, [3-22](#)  
 user profile, [3-26](#)

Monitoring space, [8-12](#)

---

**N** Navis™ Optical NMS to Navis™ Optical PM - MRP Data Population tool, [B-7](#)

Navis™ Optical PM - MRP administration, [1-1](#)

Network communication management, [1-2](#)

Network element  
rename in ITM-SC, [B-14](#)  
rename in Navis™  
Optical EMS, [B-20](#)  
update position on  
Network map, [4-15](#)

Network elements  
search for, [4-16](#)

Network Map  
administer, [4-12](#)

Node  
update position, [4-15](#)

---

**O** Off-line Tools, [B-1](#)

Add DMS, [B-3](#)

Off-line tools

Bulk link provisioning,  
[6-6](#)

Off-line Tools

Change network  
element, [B-14](#), [B-20](#)

Data Collection tool,  
[B-6](#)

Data Load tool, [B-6](#)

Data Population tool,  
[B-6](#)

Off-line tools

IDLPM, [6-11](#), [6-12](#)

Merge Circuit tool, [6-7](#)

Merge Circuit Tool, [6-9](#)

Off-line Tools

Navis™ Optical PM -  
MRP to Navis™  
Optical PM - MRP  
Data Population tool,  
[B-7](#)

On-line documentation, [xv](#)

On-line help  
See: Screen help

Ordering  
information products,  
[xvi](#)

---

**P** Parameters

installation, [A-1](#)

Patch, [10-1](#)

Platform administration,  
[1-1](#), [1-2](#)

Power down

HP server, [2-8](#)

HP-UX workstation,  
[2-10](#)

Windows® workstation,  
[2-11](#)

Power on

HP server, [2-4](#)

HP-UX workstation, [2-5](#)

Windows® workstation,  
[2-6](#)

Printer

add local, [2-16](#)

add network printer,  
[2-15](#)

install networked printer  
on a Navis™ Optical  
PM - MRP server,  
[2-13](#)

Provision links, [6-3](#)

ps command, [C-10](#)

---

**R** Reason for reissue, [xi](#)

Recoveries, [8-7](#)

cold, [8-10](#)

hot, [8-8](#)

Recovery messages, [8-13](#)

Reissue

reason for, [xi](#)

Release Number, [10-2](#)

Rename

ITM-SC network  
element, [B-14](#)

Navis™ Optical EMS  
network element, [B-20](#)

Restart

database, [4-23](#)

Run level

verify, [C-3](#)

Run levels, [C-2](#)

---

**S** sa, [3-4](#)

SAGE desktop defined,  
[3-30](#)

SAM

create a user ID, [3-6](#)

create an application  
user ID, [3-9](#)

Scheduled backups, [8-2](#)

Screen help, [xv](#)

Search

for controlled network  
elements, [4-16](#)

for location-type information for a specific network element, [4-17](#)

Secure Access Gateway for Enterprises (SAGE), [3-29](#)

Set

- map preferences, [4-14](#)

shutdown command, [C-9](#)

Software

- release number, [10-1](#)
- version number, [10-1](#)

Software patch, [10-4](#)

Software version number, [10-3](#)

Space

- monitoring, [8-12](#)

Spacewatch

- parameters, [8-13](#)

Spacewatch program, [8-12](#)

Start

- Navis™ Optical PM - MRP server application, [4-3](#)
- Navis™ Optical PM - MRP user interface application, [4-8](#)

Start Navis™ Optical PM - MRP

- on a PC, [4-10](#)
- server application, [4-4](#)

Start Navis™ Optical PM - MRP user interface on

- on a Windows workstation, [4-10](#)

Start Navis™ Optical PM - MRP user interface

- on an HP-UX workstation, [4-9](#)

Stop

- database, [4-24](#)
- Navis Optical NMS server application, [4-6](#)
- Navis™ Optical PM - MRP server application, [4-3](#)

Stop Navis™ Optical PM - MRP user interface

- on a PC, [4-11](#)
- on a workstation, [4-11](#)

Submap

- add a user defined, [4-19](#), [5-9](#)
- administer user defined, [4-18](#)
- delete a user defined, [4-21](#), [5-11](#)
- display/modify a user defined, [4-20](#), [5-10](#)
- user defined, [5-8](#)

Synchronize the database, [7-2](#)

System administration, [1-2](#)

System information, [C-6](#)

System maintenance, [1-2](#)

**T**

telnet, [C-5](#)

TID

- change, [B-11](#)

Trace

- guidelines for capturing, [9-3](#)

southbound/northbound trace, [9-6](#)

Trace data

- create a single file for, [9-10](#)

Trace files

- clear, [9-14](#)
- creating on a Windows PC, [9-8](#)
- creating on an HP server, [9-4](#)

Trouble clearing, [1-2](#), [9-1](#)

Typographical conventions, [xiv](#)

**U**

Uninterruptible Power Supply, [1-4](#)

UNIX® commands, [C-1](#)

Update

- node, [4-15](#)

UPS, [1-4](#)

User defined submap, [4-19](#)

- add, [5-9](#)
- delete, [5-11](#)
- display/modify, [5-10](#)

user ID

- add, [3-6](#), [3-9](#)
- creating through SAM's GUI-based program, [3-6](#)

User profile

- add, [3-25](#)
- delete, [3-28](#)
- modify, [3-26](#)

User profiles

See: Users

User security  
administration, [1-2](#)  
User types, [1-3](#)  
user types, [3-5](#)  
User-defined submaps, [4-18](#)  
Users  
profiles, [3-4](#), [3-4](#), [3-4](#)  
types of, [3-4](#)

---

**V** View  
cron file, [4-27](#), [4-28](#)  
LAN status, [C-7](#)

---

**W** Warning messages, [8-13](#)  
wc command, [C-10](#)  
who command, [C-3](#)  
Windows® PC  
adding a user to and  
assigning SA  
privileges, [3-17](#)  
adding a user to and  
assigning user  
privileges, [3-13](#)  
Workstation  
SAGE, [3-31](#), [3-32](#)

