Lucent Technologies
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Navis™ Optical Provisioning Manager (PM) - Network Provisioning (NP)

Release 1.0

Administration Guide

365-314-102R1.0
Issue 1
April 2002

Lucent Technologies at: 800-645-6759 (continental U.S.) or 317-322-6847 (outside of the U.S.).

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3 System Administration

About this information product

Purpose

This preface provides an overview of this information product, which is the ***Navis™ Optical Provisioning Manager - Network Provisioning (PM - NP) System Administration Guide,*** Release 1.0

The purpose of this ***Administration Guide*** is to explain to users how to administer the Navis™ Optical Provisioning Manager - Network Provisioning (PM - NP) System, Release 1.0.

Reason for reissue

Issue 1 of this ***Administration Guide*** is a new document that supports the Navis™ Optical PM - NP System, Release 1.0.

Safety labels

This document does not use safety labels.

Intended audience

This document is written primarily for operations personnel who administer the Navis™ Optical PM - NP System.

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 presented 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 HP-UX and Windows configuration set up, printer set up, power on and power down tasks.
Chapter 3	Chapter 3, "System Administration"	Explains how to start and stop the system, set preferences, restart the database and how to perform other system administration tasks.

Section	Title	Description
Chapter 4	Chapter 4, “User Administration”	Explains how to assign user privileges and restrict access to the system.
Chapter 5	Chapter 5, “Provisioning Administration”	Contains tasks on managing areas, aggregates, and scheduled entities.
Chapter 6	Chapter 6, “Reliability and Service Recovery ”	Provides instructions on how to perform hot and cold backups.
Chapter 7	Chapter 7, “Off-Line Tool Concepts”	Contains tasks for off-line tools.
Chapter 8	Chapter 8, “EMS Management ”	Describes how to add new element management systems, perform a database synchronization, and view LAN status information.
Chapter 9	Chapter 9, “Trouble Clearing”	Contains troubleshooting procedures.
Chapter 10	Chapter 10, “Patch and Software Upgrade Tasks”	Will provide specific instructions on how to upgrade the system.
Appendix A	Appendix A, “Navis™ Optical PM - NP Filesystems”	Contains a list of file systems.
Appendix B	Appendix B, “Navis™ Optical PM - NP Configuration Parameters”	Serves as a placeholder for general information about system configuration parameters.

Section	Title	Description
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 - NP 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 - NP System.

List of documents

The document set that supports the Navis™ Optical PM - NP System comprises:

1. The *Navis™ Optical Provisioning Manager - Network Provisioning (PM - NP) System Getting Started Guide*, (365-314-104) instructs users how to begin using the product to provision and manage a network. This document includes tasks and conceptual information.
2. The *Navis™ Optical Provisioning Manager - Network Provisioning (PM - NP) System Provisioning Guide*, (365-314-100) instructs users how to use the product to provision and manage a network. This document includes tasks and conceptual information.

3. The *Navis™ Optical Provisioning Manager - Network Provisioning (PM - NP) System Maintenance Guide,* (365-314-101) instructs users on how to maintain the product and the network. This document includes tasks and conceptual information.
4. The *Navis™ Optical Provisioning Manager - Network Provisioning (PM - NP) System Administration Guide,* (365-309-102) instructs users on how to administer the product and the network. This document includes tasks and conceptual information.

Glossary

This ***Administration Guide*** contains a glossary that will be helpful to users of the Navis™ Optical PM - NP System.

On-line documentation

On-line documentation for the Navis™ Optical PM - NP System 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 - NP 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 - NP User Documentation CD-ROM,* (365-314-103), includes the full set of documents listed previously.

Screen help

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

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1 Administration Overview

Overview

Purpose

This chapter provides an overview of the administration of the Navis™ Optical PM - NP System.

Administration Categories

The Navis™ Optical PM - NP System encompasses two types of administration categories.

The two types of administrative categories are the following:

- ***Platform Administration***, which contains critical platform setup tasks that are performed outside of the Navis™ Optical PM - NP application. This category includes tasks for powering on or powering off workstations, adding users to workstations, and assigning user privileges.
- ***Navis™ Optical PM - NP Administration***, which includes tasks and concepts that are specific to this software application.

Contents

What is administration?

Introduction

Administration of the Navis™ Optical PM - NP System includes the management of users and system security.

Administration process

The administration process provides the following types of support to the Navis™ Optical PM - NP System and the network:

- security management support
- provisioning support
- system support

Security management

Security management support includes tasks associated with how to add and delete user IDs and profiles.

Provisioning support

Provisioning support includes tasks used to list network elements.

System support

System support includes system-related tasks, such as how to back up or recover the system.

□

Who performs administration tasks?

Introduction

Administrative tasks are performed by users who have a ***system administrator user type***.

System administrator user types

The Navis™ Optical PM - NP System has the following types of system administrators who use the system:

- The ***Navis™ Optical PM - NP System Administrator*** is the **dacscan** user who has privileges to start or stop the Navis™ Optical PM - NP System.
- The ***Navis™ Optical PM - NP Administrator*** is the application administrator whose user type is **sa**, which is the default administrator user ID that automatically resides in the Navis™ Optical PM - NP database as the first real user. The Navis™ Optical PM - NP administrator can create other Navis™ Optical PM - NP application users, including those who have **sa** privileges and can assign flexible permissions to permit/restrict user access to the application's forms.
- The ***OS (Operating System) Superuser*** is the hardware administrator for the UNIX or the Windows system who has ultimate power over UNIX or Windows hardware, and is known as **root** or **Administrator**, respectively.

Functions

Users who have system administrator privileges are able to perform tasks that enable them to:

- provide security management, provisioning, and system support to the Navis™ Optical PM - NP host and to the Network Map
- control the appearance of the Network Map

□

Hardware Configurations

Introduction

The Navis™ Optical PM - NP System supports various hardware configurations.

List of hardware configurations

The following hardware configurations are supported:

- single server
- single server with disk mirroring

Refer to the *Navis™ Optical PM - NP Provisioning Guide* for details.

□

2 Platform Administration

Overview

Purpose

This chapter contains information on how to:

- use common UNIX commands
- power on/power down servers
- power on/power down desktops—HP workstations and PCs
- perform configuration setup tasks
- manage users on client/server workstations residing on HP-UX and Windows platforms
- create and delete SAGE workstation users
- add a printer
- power down desktops—HP workstations and Windows PC
- power down HP and Windows servers

Contents

Section I: 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

init command to change the run level of the application

Introduction

The `init` command is used to change the run level of the Navis™ Optical PM - NP application on an HP server. The following describes two run levels, ***run level 3*** and ***run level 4***.

run level 3

The **init 3** command causes the system to switch to run level 3, which shuts down the Navis™ Optical PM - NP application. For example, the **init 3** command would be entered before creating a trace file or if the system needs a new software load.

run level 4

The **init 4** command causes the system to switch to run level 4, which starts up the Navis™ Optical PM - NP application. For example, the **init 4** command would be entered after a trace file has been created. Systems that are configured with an uninterruptible power supply (UPS) are brought up to run level 4 automatically.

□

who command to verify the system run level

Purpose This procedure is used to verify system run level.

Task Use these steps to determine the current run level of the system.

1 Log in to 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

□

init and who commands to clear the buffers on single servers

Purpose This procedure is used periodically to clear the buffers on single servers only.

Task Use these steps to clear the buffers on single servers:

1 Log in to the single server as `root`.

2 At the prompt, enter `init 3`

Result:

The Navis™ Optical PM - NP application is stopped.

3 At the prompt, enter `who -r`

Result:

A message is displayed indicating the current run level and when the machine was last rebooted, such as `run-level 3 Dec 30 11:26 3 0 S`.

END OF STEPS

□

ping command to verify communication with a remote system

Description

The `ping` command is used to determine whether it is possible to communicate with a remote system. Failure to communicate may be caused by the remote system being switched off or the communication link 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
```

□

telnet command to initiate a session on a remote system

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 to display system information

Purpose This procedure is used to identify the system with which a terminal is communicating.

Task Use these steps to display system information.

1 Log in to a terminal as `root`.

2 At the prompt, enter `uname –a`

Result:

A line similar to the following is displayed:

```
HP-UX <host_name> B.11.00 A 9000/810 2013485357
two-user license.
```

END OF STEPS

□

lanscan command to view LAN status

Purpose The `lanscan` command allows you to view the status of any of the LANs that are connected to the machine, including the LAN that connects the Navis™ Optical PM - NP to the Navis™ Optical EMS.

Task Use these steps to view LAN status information.

1 Using the system console, log in to the primary or the standby host as `root`.

2 Enter `lanscan`.

Result:

The LAN status information is displayed.

END OF STEPS

□

vgdisplay command to verify mirroring status

Purpose

The `vgdisplay` command is used to verify that the application and databases residing on separate disks are synchronized.

About the mirrored disk configuration

A mirrored disk configuration eliminates having a second server 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 onto the mirrored counterpart. We recommend that the mirroring status is checked periodically to ensure that all mirrored information is synchronized with the primary information.

Before you begin

Ensure that the LVSTATUS is set to SYNC.

Task

Use these steps to obtain mirroring status:

1 Using the system console, log into the primary host as `root`.

2 Enter `vgdisplay -v | pg` at the # prompt.

Result:

The mirroring status is displayed.

END OF STEPS

□

Section II: Power on Servers

Overview

Purpose

This section contains information on how to power on HP servers and a Windows terminal server.

Contents

Power on an HP server in a single server configuration

Purpose This procedure is used to power on an HP server in a single server configuration.

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

Task Use these steps to power on an HP server in a single server configuration.

1 Power on all associated peripherals, for example, the control terminal, external disk drives, external tape drives, and modems.

2 Power on the HP server by pressing the power switch or turning the key, as appropriate.

Result:

The HP server runs a sequence of diagnostics then boots into multi-user mode. The server is ready when the `Console Login` prompt is displayed on the controlling terminal.

END OF STEPS

□

Power on a Windows terminal server

Purpose This procedure is used to power on a Windows terminal server.

Task Use these steps to power on a Windows terminal server.

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

2 Power on the HP server by pressing the power switch or turning the key, as appropriate.

Result:

The server runs a sequence of diagnostics and is ready for input when the Windows login dialog box is displayed.

END OF STEPS

□

Section III: Power Down Servers

Overview

Purpose

This section contains information on how to power down HP servers and a Windows terminal server.

Contents

Power down an HP server in a single server configuration

Purpose This procedure is used to power down an HP server in a single server configuration.

Before you begin Before you begin this task, be sure that the Navis™ Optical PM - NP application has been shut down. See "Stop the Navis™ Optical PM - NP application on a single server" (3-14).

Task Complete the following task to power down a single server.

1 On the control terminal, log in as `root`.

2 At the prompt, type `cd /`

Result:

The directory is changed.

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

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 Power off the HP server by pressing the power switch or turning the key.

Result:

The HP server is powered off.

5 Power off all associated peripherals, for example, the control terminal, external disk drives, external tape drives, and modems.

Result:

All associated peripherals are powered off.

END OF STEPS

Power down a Windows terminal server

Purpose This procedure is used to power down a Windows terminal server.

Before you begin Be sure that the Navis™ Optical PM - NP application has been shut down.

Task Use these steps to power down a Windows terminal server.

1 Log in to the Windows terminal server as `Administrator`.

2 Press the **Ctrl**, **Alt**, and **Del** buttons.

Result:

The Windows Security dialog box is displayed.

3 Press the **Shut Down** button.

Result:

The Shut Down Windows dialog box is displayed.

4 Select the **Shut Down** radio button.

Result:

The Shutdown Computer dialog box is displayed.

5 Select the **OK** radio button.

Result:

The Windows terminal server powers down.

6 Power off the terminal server by pressing the power switch or turning the key.

Result:

The terminal server is powered off.

7 Power off all associated peripherals, for example, the control terminal, external disk drives, external tape drives, and modems.

Result:

All associated peripherals are powered off.

END OF STEPS

□

Section IV: Power on Desktops

Overview

Purpose

This section contains information on how to power on user desktops, which are HP workstations and Windows PCs.

Contents

Power on an HP-UX workstation

Purpose This procedure is used to power on an HP-UX workstation.

Task Use these steps to power on an HP-UX workstation.

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

2 Power 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 PC

Purpose This procedure is used to power on a Windows PC.

Task Use these steps to power on a Windows PC.

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

2 Power on the PC—press the power switch or turn the key, as appropriate.

Result:

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

END OF STEPS

□

Section V: Power Down Desktops

Overview

Purpose

This section contains information on how to power down HP workstations and Windows desktops.

Contents

Power down an HP-UX workstation

Purpose This procedure is used to power down an HP-UX workstation.

Before you begin Be sure that the Navis™ Optical PM - NP application has been shut down. See "Stop the Navis™ Optical PM - NP application on the User Interface" (3-13).

Task Use these steps to power down an HP-UX workstation.

1 Log in to the workstation as `root`.

2 At the prompt, type `cd /`

Result:

The directory is changed.

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

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 Power off the workstation by pressing the power switch or turning the key.

Result:

The workstation is powered off.

5 Power off all associated peripherals, for example, the control terminal, external disk drives, external tape drives, and modems.

Result:

All associated peripherals are powered off.

END OF STEPS

Power down a Windows PC

Purpose This procedure is used to power down a Windows PC.

Before you begin Be sure that the Navis™ Optical PM - NP application has been shut down. See "Stop the Navis™ Optical PM - NP application on the User Interface" (3-13).

Task Use these steps to power down a Windows PC.

1. Log in to the PC as `Administrator`.

2. Select **Start > Shut Down**.

   Result:

   The Shut Down Windows dialog box is displayed.

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

   Result:

   The Windows PC powers down.

4. Power off the PC by pressing the power switch or turning the key.

   Result:

   The PC is powered off.

5. Power off all associated peripherals, for example, the control terminal, external disk drives, external tape drives, and modems.

   Result:

   All associated peripherals are powered off.

END OF STEPS

□

Section VI: Configuration Tasks

Overview

Purpose

This section contains tasks that explain how to configure Navis™ Optical PM - NP hardware and how to set up supporting processes.

Contents

Add a workstation to the Navis™ Optical PM - NP host

Purpose Use these steps to add a workstation to the Navis™ Optical PM - NP host.

Task Use these steps to add a workstation to the Navis™ Optical PM - NP host.

1 Log in to the Navis™ Optical PM - NP host as `root`.

2 At the prompt, enter `ksh /install/add.ethers`

3 At the prompt, enter `y` and press **Enter**.

4 At the prompt, enter the workstation name and press **Enter**.

5 Enter `y` to confirm that the name was entered correctly then press **Enter**.

6 Enter the `IP address` then press **Enter**.

Result:

You are prompted to confirm your entry.

7 View the entry, then enter `y` if it is correct, or `n` if it is not correct, and then enter the correct entry to continue.

8 Log in to the workstation.

9 At the prompt, enter `pg /etc/hosts`.

Result:

A page of information is displayed.

10 View the display to determine if an entry exists for the workstation.

11

IF	THEN
an entry exists,	proceed to the next step.
an entry does not exist,	add the workstation information to the bottom of the **/etc/hosts** file.

12 Download the Navis™ Optical PM - NP GUI.

Result:

The GUI is downloaded.

END OF STEPS

□

TIM TCP/IP configuration setup

Purpose Use these steps to set up a TNM Integration Module (TIM) TCP/IP configuration.

Task Use these steps to set up a TIM TCP/IP configuration.

1 Log in to the host as `root`.

2 At the prompt, enter `init 3`

Result:

The Navis™ Optical PM - NP application is stopped.

3 At the prompt, enter `cd /etc/dscan`

```
touch .tim
chmod 666 .tim
```

Result:

The file's timestamp is updated and its permissions are changed.

4 At the prompt, enter `/etc/dscan/chg_env_var`

Result:

The following message is displayed:

```
THE DEFAULT SETTINGS FOR <COMPANY_NAME> WILL NOW BE
   DISPLAYED
YOU WILL BE PROMPTED TO CONFIRM THE SETTINGS.
ENTER TO CONTINUE:
```

5 Press **Enter**.

Result:

A list of settings is displayed with a prompt requesting if you want to change the settings.

6 Type `y` and press **Enter** to continue.

Result:

The `WS-NMS Parameter Editor` menu is displayed.

7 View the menu until you see the number corresponding to `TIM_PORT` or `TIM_TCP`.

Important! You may have to press **Enter** to view this selection.

8 At the prompt, enter the number corresponding to `TIM_PORT` or `TIM_TCP`.

Result:

The selection is displayed.

9 At the prompt, enter `2` and press **Enter**.

Result:

You are prompted to enter the IP address for TIM.

10 Enter the `IP address` then press **Enter**.

Result:

You are prompted to confirm your entry.

11 View the entry, then enter `y` if it is correct, or `n` if it is not correct, and then enter the correct entry to continue.

Result:

You are prompted to enter the TIM hostname.

12 Enter the hostname, then press **Enter**.

Result:

You are prompted to confirm your entry.

13 View the entry, then enter `y` if it is correct, or `n` if it is not correct, and then enter the correct entry to continue.

Result:

The following messages should be displayed followed by a prompt to add or change the TIM Interface login and password.

```
Updated host's file successfully

Updated CCP file successfully
```

14 Add or change the password as required.

Result:

The following message is displayed.

```
Updated TIM login file successfully
```

15 Press **Enter** to return to the edit parameter menu and then type `q` and press **Enter** and type `n` and press **Enter**.

Result:

You have exited the menu.

16 Log in to the host as `dacscan`.

17 Copy the parameters to the following file in the database: `/usr/dacscan/bin/DBinitParam`

Result:

A list of parameters is displayed without entries for `TIM_PORT` and `TIM_TCP`.

18 Log in to the host as `root`.

19 At the prompt, enter `init 4`

Result:

The Navis™ Optical PM - NP application is started.

END OF STEPS

□

Set up an asynchronous port for the TIM interface

Purpose Use this procedure to set up an asynchronous port for the TIM interface.

Task Use these steps to set up an asynchronous port.

1 Log in to the host as `root`.

2 At the prompt, enter `sam` then press **Enter**

Result:

The SAM program begins.

3 View the display, highlight **Peripheral Devices ->**, then press **Enter**.

Result:

A new menu is displayed.

4 Highlight **Terminals and Modems** then press **Enter**.

Result:

The current configuration is displayed.

5 Press **F4**.

Result:

The main menu bar is activated.

6 Select **Actions** then press **Enter**.

Result:

A drop down menu is displayed.

7 Select **Add Modems** then press **Enter**.

Result:

A note menu is displayed.

8 Select `OK`.

Result:

A hardware scan will take place and eventually return with the installed Mux/Serial cards and their respective hardware paths.

9 Highlight **Mux/Serial card with a h/w path of 12** then press **tab** three times.

10 Enter the port number, press **tab** once, then enter `9600` for the baud rate.

11 Press **tab** once, then unselect `Do you want the device for calling out?` Use defaults for all other prompts, then press **F5**.

Result:

A device file is created, for example for `port 3: /dev/ttyd0p3`

12 Write down the displayed device information then exit `sam`.

13 At the prompt, enter `vi /etc/inittab` and press **Enter**.

Result:

The file is displayed.

14 Locate `a0:2:respawn:/etc/getty -h ttyd0p3 9600` then change the line to `a0:24:respawn:/etc/getty -h ttyd0p3 9600`

15 Press **Esc**, then type `:wq`

Result:

The file is saved.

16 At the prompt, enter **init q** then press **Enter**.

Result:

The changed is initialized.

END OF STEPS

Section VII: Administering Users

Overview

Purpose

This section contains the tasks needed to create user IDs using a GUI-based or terminal-based version of HP's System Administration Manager (SAM) program. It includes tasks for assigning user or administrator privileges on a Windows PC and a task for setting up a user ID for cut-through to the Navis™ Optical EMS.

Contents

Create a User ID through SAM's GUI-based program

Purpose This procedure is used to create a user ID through the GUI-based version of the SAM program using an HP-UX workstation.

Task Use these steps to create an application user ID through SAM using an HP-UX workstation.

1 Log in to the workstation as `root`.

2 On the Common Desktop Environment (CDE) panel (at 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` and then press **Enter**.

Result:

The System Administration Manager window's SAM Areas 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 **Local Users** icon.

Result:

The Account for Users and Group 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 representing 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 At the **Create Home directory** field, select the box.

Important! The **Create Home Directory** box ***must*** be selected to add the user successfully. If this box is not checked, a corruption may occur in the **/etc/passwd** file that causes the computer to boot up in single user mode.

9 In the **Primary Group Name** field, enter `dba` or `users`.

Important! In most cases, `dba` is selected. User IDs within the `users` group may be restricted from performing certain functions.

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

Important! The remaining information is optional.

11 Optional: complete the remaining fields, then select the Set Passwords Option button.

Result:

The Password Options form is displayed.

12 At the **Password Options** field, choose an option from the list, then select **OK**.

Result:

The Password Options form closes and the Add a User Account window is displayed again.

13 Select **OK** to continue.

Result:

The Set User Password dialog box is displayed.

14 Enter a password for the user ID, then click **OK**.

Result:

A verification message is displayed.

15 Re-enter a password for the user ID, then click **OK**.

Result:

A message is displayed confirming that the user ID has been added.

16 To exit the Add a User Account form, select **File > Exit**.

Result:

The Accounts for Users and Groups form displays the new user ID.

17 To exit the Accounts for Users and Groups form, select **File > Exit SAM**.

18 At the prompt, type `cat /etc/passwd | pg`, then view the display to determine if permissions have been properly set for the created user ID in the **passwd** file.

19 For each user entered in the **Login Name** field in Step 7 of this task, use the "Add a user" (4-4) task to add the user to the Navis™ Optical PM - NP application.

Important! If this new user ID is used for cut-through access to an EMS, the user ID must be added to the EMS's GUI. See "Set up a user ID for cut-through to the Navis™ Optical EMS" (2-53) for details.

END OF STEPS

□

Create a User ID through SAM's terminal-based program

Purpose This procedure is used to create a user ID through the terminal (non-GUI) version of the SAM program, which may be accessed through a `telnet` session.

Task Use these steps to create a user ID by accessing **SAM** through a `telnet` session.

1 Log in to a workstation.

2 Click the **Start** button in the taskbar, then select **Run**.

Result:

The Run dialog box is displayed.

3 In the Run dialog box's **Open** field, enter `telnet <ip_address>` or `<host name>` and log in as **root** to the host server that contains the **SAM** program .

4 At the prompt, type `sam` and press **Enter**.

Result:

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

5 Press **Enter**.

Result:

The **Sam Administration Manager** form 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 the **Users** item 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, then 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 representing 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 already populated 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, then press **Enter** if an **X** is not already displayed in the box.

Important! The **Create Home Directory** box ***must*** be checked to add the user successfully. If this box is not checked, a corruption may occur in the **/etc/passwd** file that causes the computer to boot up in single user mode.

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

Important! In most cases, `dba` is entered. User IDs within the `users` group may be restricted from performing certain functions.

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

Result:

The **Start-Up Program** field contains the selected entry.

14 Optional: complete the remaining fields; tab to **Set Password Options**; and press **Enter**.

Result:

The Password Options dialog box displays.

15 Press **Enter** to display the list of password options, scroll to your selection, press **Enter**, tab to **OK**, then press **Enter**.

Result:

The Password Options dialog box closes.

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

Result:

The Set User Password dialog box is displayed.

17 Enter a password, then press **Enter**.

Result:

A verification message is displayed.

18 Re-enter a password, tab to **OK**, then press **Enter**.

Result:

A message confirms that the login has been added.

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

Result:

The Accounts for Users and Groups form is displayed.

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

21 At the prompt, type `cat /etc/passwd | pg` then view the display to determine if permissions have been properly set for the created user ID in the **passwd** file.

22 At the prompt, type **exit**.

Result:

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

23 For each user entered in the **Login Name** field in Step 10 of this task, perform the "Add a user" (4-4) task to add the user to the Navis™ Optical PM - NP application.

Important! If this new user ID is used for cut-through access to an EMS, the user ID must be added to the EMS GUI. See "Set up a user ID for cut-through to the Navis™ Optical EMS" (2-53) for details.

END OF STEPS

□

Assign user privileges to a user on a Windows PC

Purpose This procedure is used to assign user privileges to a user on a PC running Windows software.

Before you begin The user ID must be created.

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

Task Use these steps to assign user privileges to a user on a Windows PC.

1 On 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 From 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 associated with the new user ID.

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

7 Optional: Uncheck **User Must Change Password at Next Logon** box.

8 Optional: Check the **Password Never Expires** box.

9 Select the **Groups** button.

Result:

The **Group Membership** screen is displayed.

10 On 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 select the **Add** button.

Important! If an entry other than **Users** displays in the **Member of** list, highlight the entry, then select the **Remove** button to move the entry to the **Not Member of** list.

Result:

Users displays in the **Member of** list.

11 On the **Group Membership** screen, select **OK**.

Result:

The **Group Membership** screen closes.

12 On 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

□

Assign user privileges to a user on a Windows 2000 PC

Purpose This procedure is used 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 perform this task.

Task Use these steps to assign user privileges to a user on a Windows 2000 PC.

1 Log in to 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 form is displayed.

5 Complete the **User name, Full name,** and **Description** fields, and then 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 is added.

END OF STEPS

□

Assign system administrator privileges on a Windows PC

Purpose This procedure is used to assign system administrator privileges to a user on a Windows PC.

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

Permissions You must be authorized to perform this task.

Tasks Use these steps to create a system administrator login and assign system administrator privileges on a Windows PC.

1 On 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 From 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 associated with the new user ID.

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

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

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

9 Select the **Groups** button.

Result:

The **Group Membership** screen is displayed.

10 On 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 select the **Remove** button to move the entry to the **Not Member of** list.

Result:

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

11 On the **Group Membership** screen, select **OK**.

Result:

The **Group Membership** screen closes.

12 On 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

□

Add a user on the server

Note There is no need to add any new users on the server. Any necessary User IDs should have already been loaded with the software.

□

Set up a user ID for cut-through to the Navis™ Optical EMS

Purpose This procedure is used to set up a user ID for cut-through to the Navis™ Optical EMS application.

A cut-through user ID can be created and used for Navis™ Optical PM - NP to Navis™ Optical EMS connections.

Task Use these steps to add a cut-through user ID to Navis™ Optical EMS.

1 Add a cut-through user ID to Navis™ Optical EMS. See the *Navis™ Optical EMS Administration Guide* for details.

2 Enable the user option in the Secure Access Gateway for Enterprises (SAGE) feature. See the *Secure Access Gateway for Enterprises (SAGE) Administration Guide.*

END OF STEPS

□

Section VIII: Administer SAGE Desktop Integration Users

Overview

Purpose

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

Definition: SAGE Desktop Integration

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

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

Since SAGE requires each user to have an individual profile, the system administrator needs to manage these, along with user logins and passwords. The administrator also needs to support users with how to Log in to SAGE, how to change passwords, how to modify user attributes, and how to interpret and respond to system messages.

Related information

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

Contents

Add a user to a SAGE workstation

Purpose This procedure is used to add a user to a SAGE workstation.

Task Use these steps to add a user to a SAGE client workstation.

1 Log in to 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 **NMS** icon.

Result:

The Navis™ Optical NMS Network Module form is displayed.

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

Result:

The Add User form is displayed.

5 In the **User ID** field, type `sawg`, then click **OK**.

6 Optional: in the **Description** field, enter a description to be associated with the user ID.

7 In the **Profile** field's drop-down list, select **Combined Profile**.

Result:

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

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

9 Click **Apply**.

Result:

A message at the bottom of the Add User form indicates that the user is added to the SAGE workstation.

10 Click **OK**.

Result:

The Add User form closes.

11 Type the user ID in the **User ID** field and click **OK**.

Result:

The user ID is added to the SAGE workstation.

END OF STEPS

Delete a user from a SAGE workstation

Purpose This procedure is used to delete a user from a SAGE workstation.

Task Use these steps to delete a user from a SAGE workstation.

1 Log in to the SAGE workstation as system administrator.

2 Bring up the Navis™ Optical NMS Network Map.

Result:

The Navis™ Optical NMS Network Map is displayed.

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

Result:

The List of Users form is displayed.

4 Highlight the user ID to be deleted.

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

Result:

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

6 Click **Yes**.

Result:

The user ID is deleted.

7 Select **File > Close**.

Result:

The List of Users form closes.

END OF STEPS

□

Section IX: Printer Administration

Overview

Purpose

This section describes how to add a network or local serial printer and how to set up the Common Desktop Environment (CDE) printer icon.

Contents

Install a network printer on a Navis™ Optical PM - NP server

Purpose This procedure is used to install a network printer on a Navis™ Optical PM - NP server.

Before you begin Before you begin this task, collect the following information about the network printer from the system administrator and/or 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 Use these steps to add a network printer on a Navis™ Optical PM - NP server.

1 Take the printer off-line.

2 Press the **Menu** button until `TEST MENU` is displayed.

3 Press the **Item** button until `SELF TEST` is displayed.

4 Press **Enter**.

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.

5 Press **On Line**.

6 Using the system console, log in as root on the primary server via the system console.

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

Result:

Additional prompts are displayed.

8 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 This procedure is used to add a network printer to your workstation.

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

Task Use these steps to add a network printer.

1 Take the printer off-line.

2 Press the **Menu** button until `TEST MENU` is displayed.

3 Press the **Item** button until `SELF TEST` is displayed.

4 Press **Enter**.

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.

5 Press **On Line**.

6 Using the system console, log in as root on the primary server via the system console.

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

Result:

Additional prompts are displayed.

8 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 This procedure is used to add a local serial printer.

Before you begin Know the printer name. It must be six characters or less.

Task Use these steps to add a local serial printer to your workstation.

1 Using the system console, log in as `root` onto the primary server.

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

3 Answer the questions as appropriate.

Result:

The local serial printer is added.

END OF STEPS

□

Set up the CDE printer icon

Purpose This procedure is used to configure a workstation to print Navis™ Optical PM - NP forms to a local printer. The workstation can be configured to enable the Common Desktop Environment (CDE) printer icon to be used to print Navis™ Optical PM - NP forms to a local printer.

Task Use these steps to set up the CDE printer icon.

1 Log in as `root`.

2 Enter `cd /config` at the UNIX prompt.

3 Enter `vi sys.vuewmrc`

4 Change the `PUSH_ACTION` variable in the “CONTROL Printer” section to `PUSH_ACTION f.action PrintPush`

5 Save the file.

6 Exit the file.

7 Enter `cd /usr/vue/config/types`

8 Enter `vi PrintPush.vf`

9 Change the `EXEC-STRING` variable in the `Action PrintPush` section to `EXEC-STRING bin/ksh -c 'xwd -frame | xpr -device ps -cutoff 70 -rv | lp -o nb -o postscript'`

10 Save the file.

11 Exit the file.

12 Select **Exit** on the CDE to reboot the workstation.

Result:

The workstation is rebooted.

END OF STEPS

3 System Administration

Overview

Purpose

This chapter describes tasks performed to administer the Navis™ Optical PM - NP application.

Contents

Section I: Start the Navis™ Optical PM - NP Application on the HP Servers

Overview

Purpose

This section describes how to start Navis™ Optical PM - NP server application.

Background

The initial step to start the application is to power on the server. (See the ***power on*** tasks in Chapter 2, "Platform Administration".) A single-server configuration may or may not contain mirrored disks.

Start the host application

The application starts when the Navis™ Optical PM - NP application is initialized to run level 4. See "run level 4" (2-5) for additional details.

Contents

Start the Navis™ Optical PM - NP application on a single server

Purpose

This procedure is used to start the Navis™ Optical PM - NP application on a single server.

Before you begin

Verify that:

- The single server has been powered up; see "Power on an HP server in a single server configuration" (2-14).
- The GUI has been downloaded on the desktop(s) or terminal server(s).

Task

Use these steps to start the Navis™ Optical PM - NP application on a single server.

1 Log into the server as `root`.

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

Result:

Current run level information, such as `run-level 3 Oct 30 11:26 3 0 S`, is displayed.

3 Continue with one of the following options.

IF	THEN
`run-level` is `3`,	proceed to the next step to continue.
`run-level` is `4`,	the application is already running; no further action is necessary.
`run-level` is not `3` or `4`,	contact the system support staff. (See the ***Technical support*** information located at the beginning 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 the **Ctrl** and **c** buttons.

Result:

The following message is displayed:

```
WS-NMS Application has been started...

HP-UX run-level transition completed

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

END OF STEPS

□

Start the Navis™ Optical PM - NP application on a Windows terminal server

Overview

Once the Windows terminal server is powered on (see "Power on a Windows terminal server" (2-15)), it is not necessary to start the Navis™ Optical PM - NP application on a Windows terminal server; therefore a procedure is not required.

□

Section II: Start the Navis™ Optical PM - NP Application on the User Interface

Overview

Purpose

This section describes how to start Navis™ Optical PM - NP application on the user interface (UI).

Background

Once the servers are powered up (as described in the previous section of this chapter), users can start the Navis™ Optical PM - NP application:

- on an HP-UX workstation
- on a Windows PC

This section includes information on how to start Navis™ Optical PM - NP application on HP-UX workstation and on a Windows PC in a single-server configuration only.

Contents

Start the Navis™ Optical PM - NP application on a Windows terminal server

Overview

Once the Windows terminal server is powered on (see "Power on a Windows terminal server" (2-15)), it is not necessary to start the Navis™ Optical PM - NP application on a Windows terminal server, therefore a procedure is not required.

□

Start the Navis™ Optical PM - NP application on an HP-UX workstation

Purpose This procedure is used to start the Navis™ Optical PM - NP application 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" (2-22).

Task Use these steps to start the Navis™ Optical PM - NP application on an HP-UX workstation.

1 Log in to the HP-UX workstation.

Result:

The Lucent logo is displayed.

2 Continue with either of the following.

IF...	THEN...
the Lucent logo is displayed on the Common Desktop Environment (CDE) panel:	double-click the icon. **Result:** The Navis™ Optical PM - NP Network Map is displayed.
the icon ***does not appear***:	contact the system support staff. (See the ***Technical support*** information located at the beginning of this document for details.)

END OF STEPS

□

Start the Navis™ Optical PM - NP application on a Windows PC

Purpose

This procedure is used to start the Navis™ Optical PM - NP application on a Windows PC.

Before you begin

Before running the Navis™ Optical PM - NP application on a Windows PC, the PC must be powered on (see "Power on a Windows PC" (2-23)) and the Navis™ Optical PM - NP application must be loaded on the PC. This task assumes that the application has been already loaded on the PC.

Task

Use these steps to start the Navis™ Optical PM - NP application on a Windows PC.

1 Log into the Windows PC.

Result:

The Windows PC icon 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 - NP Network Map is displayed.
the icon ***does not display*** on the desktop:	contact the system support staff. (See the ***Technical support*** information located at the beginning of this document for details.)

END OF STEPS

□

Section III: Stop the Navis™ Optical PM - NP Application on the User Interface and Single Server Configurations

Overview

Purpose

This section describes how to stop the Navis™ Optical PM - NP application on HP single server configurations and the UI (user interface).

Stop the host application

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

Under certain circumstances, it might be necessary to bring the Navis™ Optical PM - NP application to run level 3, for example, if the system needs a new software load. See “run level 3” (2-5) for additional details.

Contents

Stop the Navis™ Optical PM - NP application on the User Interface

Purpose This procedure is used to stop the Navis™ Optical PM - NP application on HP-UX workstations or Windows PCs.

Task Use these steps to stop the Navis™ Optical PM - NP application on HP-UX workstations or Windows PCs.

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 At the dialog box, select **OK**.

Result:

The Navis™ Optical PM - NP session is terminated.

END OF STEPS

□

Stop the Navis™ Optical PM - NP application on a single server

Purpose This procedure is used to stop the Navis™ Optical PM - NP application on a single server.

Task Use these steps to stop the Navis™ Optical PM - NP application on a single server.

1 Log into the server as `root`.

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

Result:

Current run level information, such as `run-level 4 Oct 30 11:26 3 0 S` is displayed.

3 Continue with one of the following options.

IF	THEN
`run-level` is `4`,	proceed to the next step to continue.
`run-level` is `3`,	the application is not running; no further action is necessary.
`run-level` is not `3` or `4`,	contact the system support staff. (See the ***Technical support*** information located at the beginning 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, press the **Ctrl** and **c** buttons.

Stop the Navis™ Optical PM - NP application on a single server

Result:

The following message is displayed:

```
HP-UX run-level transition completed

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

END OF STEPS

□

Stop the Navis™ Optical PM - NP application on a Windows terminal server

Overview Since the Navis™ Optical PM - NP application is not run on a Windows terminal server, a procedure is not required.

□

Stop the Navis™ Optical PM - NP application on a server configuration with a UPS

Introduction

An Uninterruptible Power Supply (UPS) is used to protect the main servers and their essential peripherals from a power failure. The UPS enables the system to shut down gracefully within the time limit specified in a configurable timer parameter.

A UPS is only compatible with Non-Safeguard configurations. Systems configured with a UPS are brought into **init 4** automatically upon power up.

Configurable file

The UPS provides a configurable file that contains two timer parameters that are used in the shutdown process. When the Navis™ Optical PM - NP application receives notification of a loss of AC power, the application runs a shutdown script that gracefully shuts down the application within the time limit of these timer parameters:

- ***shutdown_delay_mins*** indicates the number of minutes following notification that its UPS has switched to internal battery power before the UPS monitor initiates a shutdown. The default value for this parameter is one minute.
- ***shutdown_timeout_mins*** indicates the number of minutes to monitor the shutdown operation before a reboot is initiated with the halt option. The default value for this parameter is five minutes.

These timer parameters are only tunable at installation time; they cannot be changed subsequent to installation. (During typical operating conditions, these parameters should not have to be changed.)
.

□

Section IV: Restart and Stop the Oracle Database

Overview

Purpose

This section describes how to restart and stop the Oracle database.

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 concurrency control and data integrity.

Important

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

Contents

Restart the Oracle database

Purpose This procedure is used to restart the Oracle database.

Important! This procedure is only performed at the direction of Lucent Customer Support.

Task Use these steps to restart the Oracle database.

1 Using the system console, log in as `oracle`.

2 Enter `/usr/dacscan/toolbin/startdb.sh` at the prompt.

Result:

A displayed message indicates that the database has been started.

END OF STEPS

□

Stop the Oracle database

Purpose This procedure is used to stop the Oracle database. (For example, the Oracle database would have to be stopped before it is backed up.)

Important! This procedure is only performed at the direction of Lucent Customer Support.

Task Use these steps to stop the Oracle database:

1 Using the system console, log in as `oracle`.

2 Stop the application on the primary server.

Reference:

For instructions, see the section "Stop the Navis™ Optical PM - NP application on the User Interface" (3-13).

3 Enter `/usr/dacscan/toolbin/shutdb.sh` at the prompt.

Result:

A displayed message indicates that the database has been stopped.

END OF STEPS

□

Section V: 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 automatically executed at set times.

Certain commands can be executed at particular times by using the system cron. The root cron and dacscan cron operate independently. The root cron has various administrative functions that are executed on a routine basis, such as daily backups and file system space monitoring. The dacscan cron has various application-related functions, such as database syncs and auto-implementation.

File format

The read-only root cron file format is such that everything on the active line is 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 (*) can be used to imply the whole range (wild card). A sample active line may look like:

```
01 04,23 * * * ksh /usr/dacscan/bin/auto_backup &
```

This line implies that the auto_backup will execute in the background one minute past the fourth hour (4:01 a.m.) and, again, one minute past the twentieth third hour (11:01 p.m.), every day, every month, and every day of the week.

The cron files can be edited however, editing should be performed only at the direction of Lucent Customer Support. Once the file is created/edited, it must be loaded into the cron.

Contents

View the dacscan cron file

Purpose This procedure is used to view the dacscan cron file.

Important! The dacscan cron file is a read-only file, which only the superuser (root) can edit.

Task Use these steps to view the dacscan cron file.

1 Using the system console, log into the primary server as `dacscan`.

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

2 Enter `crontab -l` at the # prompt.

3 Press **Enter**.

Result:

The dacscan cron file is displayed.

END OF STEPS

□

View the root cron file

Purpose This procedure is used to view the root cron file.

Important! The root cron file is a read-only file, which only the superuser (root) can edit.

Task Use these steps to view the root cron file.

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

2 Enter `crontab -l` at the # prompt.

3 Press **Enter**.

Result:

The root cron file is displayed.

END OF STEPS

□

Edit the system cron file

Purpose This procedure is used to change the desired execution times of commands in the system cron file.

> **Important!** Only the superuser (root) can edit the system cron file.

Task Use these steps to edit the system cron file.

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

2 At the # prompt, type `cd /usr/spool/cron/crontabs`

3 At the # prompt, type `ls -l`

> **Result:**
>
> The files **root** and **dacscan** are listed.

4 Open the **root** or **dacscan** file using the `vi` editor and then edit the desired parameter.

5 Press **Esc**, and then type **:wq** to save and close the file.

6 Use one of the following to read the revised file into the system cron.

IF...	THEN...
the **root** file was edited:	log in as `root` and then type: `crontab root` at the # prompt. **Result:** The **root** file is read into the system cron.
the **dacscan** file was edited:	log in as `dacscan` and then type `crontab dacscan` at the # prompt. **Result:** The **dacscan** file is read into the system cron.

END OF STEPS

□

Section VI: Monitor Space

Overview

Purpose The Navis™ Optical PM - NP application has an internal, space monitoring script that periodically checks its own file systems to verify that they are not running out of space. The following section describes the Navis™ Optical PM - NP script that generates warning and recovery messages as required.

□

Spacewatch

Purpose

Spacewatch is a space monitoring and recovery program that provides file-system monitoring once per hour 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**)

Warning messages

If a controller file is over 60% full, Spacewatch sends this warning message to the system event log: `ªLog fileº running low on space - clean up immediately!`

Recovery actions/messages

Special recovery actions/messages are provided for the following files:

- If **/dacscan/trace** is over 80% full, its recovery action is: `Removed log files - Archives may be incomplete!`
- If **dacscan/log** is over 80% full, its recovery action is: `Removed log files - Archives may be incomplete!`
- If **dacscan/users** is over 80% full, its recovery action is: `"Logfile" is running low on space, clean up immediately!`
- The **dacscan/dbarch** controller file recovery message is: `"Logfile" removed database archive file - back up database immediately!`

□

Section VII: Administer Performance Monitoring Data Export

Overview

Purpose

This section describes how to administer the Performance Monitoring Data Export feature via off-line tools.

Performance Monitoring Data Export is an optional feature that enables the automatic capture of all 24-hour performance monitoring data for all network elements controlled by the Navis™ Optical PM - NP application. During execution, it requests that all 24-hour performance monitoring data collected for the previous day be transferred to an ASCII file—one per Element Management System (EMS)—on a workstation or PC specified at the time of installation.

Contents

Performance Monitoring Data Export Variables

Overview

The Performance Monitoring Data Export feature executes according to the values specified by certain environment variables that control how this feature operates:

- ***$PM_LOG_WKST*** is a variable that exists on the server. It is the workstation to which performance monitoring data is exported.
- ***$PM_LOG_DIR*** is a variable that exists on the server. It is the directory on the ***$PM_LOG_WKST*** workstation where the exported data is stored. In this directory, the user must create one subdirectory for each day of the week, plus ***yesterday***: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, and yesterday.
- ***$PM_DATA_FILE*** is variable file on the ***$PM_LOG_WKST*** workstation that contains the exported performance monitoring data.
- ***$PM_DATA_FILE_DIR*** is the directory on the server that contains the request files. One request file must be created for each EMS, based on the ***$PM_DATA_FILE*** environment variable and the EMS name.
- ***$PM_EMS_TIMEOUT*** is the duration (in seconds) that is allocated to the EMS to collect and export the requested data. When this duration expires, a time-out error is logged.

For example, given these environment variables, the most recently transferred performance monitoring data file is located at:

$PM_LOG_WKST:$PM_LOG_DIR/<yesterday>/$PM_DATA_FILE

The ***$PM_LOG_WKST*** and the ***$PM_LOG_DIR*** variables are located on the server in the `/etc/dscan` directory. Their values are set at installation. The remaining variables, (***$PM_DATA_FILE*** , ***$PM_DATA_FILE_DIR*** and ***$PM_DATA_TIMEOUT***) are set up when the export tool is run.

□

Display Performance Monitoring Data Export variable settings

Purpose This procedure is used to display Performance Monitoring Data Export variable settings.

Task Use these steps to display Performance Monitoring Data Export variable settings.

1 From a workstation, log in as `dacscan`.

2 To display Performance Monitoring Data Export variable settings, enter one of the following at the prompt.

- To display all variable settings, type `env`
- To display a specific variable's setting, type `echo <$variable_name>`

Result:

The variable settings are displayed.

END OF STEPS

□

Change the scheduled run time of the Performance Monitoring Data Export file transfer

Purpose This procedure is used to change the scheduled run time of the Performance Monitoring Data Export file transfer.

The Performance Monitoring Data Export file transfer process is scheduled to run daily. By default, it is scheduled to run at 02:10 a.m. local time.

> **Important!** This task should be performed only at the direction of Lucent Customer Support.

Task Use these steps to change the scheduled run time of the Performance Monitoring Data Export file transfer process.

1 Log into the host as `dacscan`.

2 Enter `crontab -e`

3 Locate the following line in the file, which is used to clean up the old files and start the PM log file process:

```
mm hh * * * ksh /usr/dacscan/toolbin/StartPmData.sh >
/tmp/StartPmData.log
```

4 Edit the **mm** and **hh** entries so they correspond with the required hour (hh) and minute (mm).

5 Enter `<shift:wq!>`

Result:

The scheduled run time of the performance monitoring data file transfer process is changed.

END OF STEPS

□

Workstation set up for data export task

Purpose

This procedure is used to set up the workstation for PM data export to monitor reports.

Before you begin

Ensure that a `dacscan` login ID does not already exist on the workstation.

You must access the **.rhosts** file, which is typically found in **/usr/dacscan/.rhosts**. (Under most conditions, the **.rhosts** file does not have to be created or re-created.)

In step 5, you must create a directory structure that can be used to store data for each day of the week along with one subdirectory as a backup ***yesterday*** directory. The access privileges for these directories must be changed so their contents can be read by and written to by the ***owner***, ***group***, and ***other***.

Example:

cd /usr/dacscan

mkdir pm_export (This directory name is user specified; any directory name can be assigned to the directory; however, the same directory name must exist on the server.)

chmod 777 pm_export (Change the permissions on the directory just created so it is accessible to all.)

cd pm_export (Change directories to the directory that you just created.)

mkdir Monday (Make a subdirectory under *pm_export* called ***Monday***.)

chmod 777 Monday (Change the permissions of the directory *Monday* so it is accessible to all.)

mkdir Tuesday (Make another subdirectory under *pm_export* called ***Tuesday***.)

chmod 777 Tuesday (Change the permissions of the directory *Tuesday* so it is accessible to all.)

Continue to make directories for each remaining day of the week, along with a directory called ***yesterday***, and change the access privileges for each directory created.

Task Use these steps to create a `dacscan` login ID and to modify the **.rhosts** file.

1 Create a `dacscan` login ID. See "Section VII: Administering Users" (2-37).

2 From a new terminal window on that workstation, log in as the `dacscan` user.

3 Enter `cd $HOME`.

4 Using `vi`, access the `.rhosts` files and add a line to the file with the name of the host machine where PF and performance monitoring servers are running for the Navis™ Optical PM - NP application.

5 On the workstation, set up a directory structure for storing PM data. (See ***Before you begin***.)

6 Log into the Navis™ Optical PM - NP host machine as `dacscan`.

7 Enter `remsh <name of Workstation> uname -a` to test whether the `.rhosts` file works correctly.

Result:

The name and operating system of the workstation are displayed.

END OF STEPS

□

Execute the Performance Monitoring Data Export tool

Purpose

This procedure is used to view the relevant log information, view the current environment associated with the Performance Monitoring Data Export tool, or to reissue the request to transfer the 24-hour performance monitoring data associated with the previous day.

Related Information

The Performance Monitoring Data Export tool allows a host user to view relevant log information and to view the current environment associated with this feature. It provides the means for a host user to reissue the request to transfer 24-hour performance monitoring data associated with the previous day

Any user can access the Performance Monitoring Data Export tool from the host server. It is located in **/usr/dacscan/toolbin**.

Task

Use these steps to execute the Performance Monitoring Data Export.

1 From the system prompt, enter: `/usr/dacscan/toolbin/pm_export_tool`

Result:

A user menu is displayed.

2

IF	THEN
You want to display the Performance Monitoring Data Export feature overview	Enter **1**
You want to display the Performance Monitoring Data Export feature environment	Enter **2**
You want to view the Performance Monitoring Data Export log entries for mm/dd/yyyy	Enter **3**

Execute the Performance Monitoring Data Export tool

IF	THEN
You want to reissue the request to export 24-hour performance monitoring data (An option does not exist to issue a request on an individual EMS basis.)	Enter **4**
You want to quit executing the Performance Monitoring Data Export tool.	Enter **5** **Result:** Relevant log files are created and are located in `/usr/dacscan/toolbin`. On a dedicated UNIX workstation, uncompress the Performance Monitoring Data Export files by entering the command `gunzip -c <filename>`

END OF STEPS

Section VIII: Network Map

Overview

Purpose

This section contains tasks associated with the Network Map, including tasks associated with network elements, changing the background map, and changing model names.

Contents

Install a new background map

Purpose

This procedure requires the use of an off-line tool to install a new background map on HP-UX client machines or on Windows terminal servers.

The system administrator of the host will use off-line hardware, such as a scanner, to scan the customer's map and save it on the host machine as a **.gif** file. This map may be an image (**.gif**) file scanned by the user and stored in the host machine's *$DEST/jnm/itm/data/customer* directory.

To perform this task, contact Lucent Customer Support.

Choosing a background map

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

When selecting a background map, keep the following in mind:

- Select a map that is mainly a different color than the icons and text displayed on the map.
- Select a map that includes colors that contrast sufficiently with the icons and text displayed on the map that they are easily distinguished by the user.

Task

Use this step to install a new background map for all users.

1 Contact Lucent Customer Support to perform this task.

END OF STEPS

□

Update network element positions

Purpose This procedure is used to update network element positions on the Network Map.

Before you begin You must have ***configuration management***, ***element management***, or ***system administrator*** privileges to save the updated network element positions on the Network Map. See " System administrator user types" (1-3) for a description of what is allowed for system administrators.

Task Use these steps to move a node to a new position permanently on the Network Map.

1 On the Network Map, select the node to be repositioned.

2 Drag and drop the node to the new location.

Result:

The node and its connecting links are repositioned.

3 Select the following menu option: **File > Save Node and Label Map Positions**.

Result:

The network element location is updated.

END OF STEPS

□

Search for the Location Reference Table

Purpose This procedure is used to search for location-type information for a specific network element. The user may query by Office/Location/NE ID, Area, or Node Type, or request a list of all location-type information.

Network element queries display controlled or noncontrolled network elements. Controlled network elements are those controlled or cataloged by the Navis™ Optical PM - NP application. Noncontrolled network elements include black boxes.

Results received from controlled network element queries include information about the digital cross-connect systems that are part of the network.

> **Important!** The search is limited to NEs that are controlled or cataloged by the Navis™ Optical PM - NP application.

Task Use these steps to search for location-type information for a specific network element.

1 On the Network Map, select **Administration**.

2 Select **Location Reference Table**.

Result:

The Location Reference Table Query Box is displayed.

3

IF	THEN
You want to query by ***office location*** or ***network element ID***,	Enter the office location or network element ID in the **Office Location/NE ID** field.
You want to query by ***area ID***,	Select a value from the **Area** drop-down list.
You want to query by ***node type***,	Select a value from the **Node Type** drop-down list.

IF	THEN
You want to query ***all available location-type information***,	Leave all fields blank, then proceed to the last step.

4 Optional: Complete the **Additional Information** field.

5 Select **OK**.

Result:

The Location Reference Table displays the requested location-type information.

When the value `ITMNM` displays in the **Type** field, this represents the Navis™ Optical PM - NP. When `SNMS` displays in the **Type** field, this represents the Navis™ Optical EMS.

END OF STEPS

□

Modify noncontrolled network element information

Purpose This procedure is used to modify the description or administration information of an existing noncontrollable network element, including black boxes.

Task Use these steps to modify the description or administrative information of a noncontrollable network element.

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

Result:

The Location Reference Table Query Box is displayed.

2 In the **Office Location/NE ID** field, select the appropriate existing noncontrollable NEs.

3 Optional: Enter a 1 to 33 character string in the **Additional Information** field.

4 Optional: Select the **Area** associated with the noncontrolled network element from the drop-down menu.

5 Optional: Select the **Node Type** associated with the noncontrolled network element from the drop-down menu.

6 Click **OK**.

Result:

The Location Reference Table is displayed.

When the value `ITMNM` displays in the **Type** field, this represents the Navis™ Optical PM - NP. When `SNMS` displays in the **Type** field, this represents the Navis™ Optical EMS.

7 To modify the information, either click the first box in a row to select the row or click a box in a specific column to modify the information. You can modify rows in the following columns:

- **Description**
- **Acronym**
- **Additional Information**

8 Select **Actions > Update**.

9 Select **File > Close**.

Result:

The description or administration information of the network element is modified.

END OF STEPS

□

Change the model name of a network element

Purpose This procedure is used to change a model name.

Before you begin When changing the model name of network element, do not use the forward slash character, which is /, when renaming the network element.

Task Use these steps to change a model name.

1 Delete the network element that has a model name to be changed. See the ***Navis™ Optical PM - NP Provisioning Guide*** for instructions.

Result:

The network element is deleted.

2 Add the network element and enter the new model name. See the ***Navis™ Optical PM - NP System Provisioning Guide*** for details.

Important! The network elements that Navis™ Optical EMS supports do not have to be re-added because they are automatically discovered by the Navis™ Optical PM - NP application.

Result:

The network element is added and contains a new model name.

END OF STEPS

□

Section IX: Administer the TIM Northbound Alarm Interface

Overview

Purpose

This section explains how to set filtering criteria for the Navis™ Optical PM - NP alarms to be sent to the TNM Integration Module (TIM) northbound alarm interface. The TIM Northbound Alarm Interface is an option.

Contents

Set filtering criteria for Navis™ Optical PM - NP alarms

Purpose This optional procedure is used to set filtering criteria for Navis™ Optical PM - NP alarms to be sent to the TIM northbound alarm interface.

Task Use these steps to set filtering criteria for Navis™ Optical PM - NP alarms.

1 Start the Navis™ Optical PM - NP application.

Reference:

For instructions, see the section "Start the Navis™ Optical PM - NP application on an HP-UX workstation" (3-10).

2 On the Network Map, select **Administration > NB Transmission Filter**

Result:

The Alarm Transmission Filter form is displayed.

3 To send the Navis™ Optical PM - NP application's service-affecting and non-service affecting alarms to the TIM northbound alarm interface, select **Both** then click **OK**. To send the Navis™ Optical PM - NP application's service-affecting alarms only to the TIM northbound alarm interface, select **SA** then click **OK**.

Result:

The appropriate alarms are set to sent to the TIM northbound alarm interface.

END OF STEPS

□

Section X: Set Preferences

Overview

Purpose

This section defines how to set preferences for the Navis™ Optical PM - NP application.

Contents

Set event indications preferences

Purpose This procedure is used to set event indications preferences for the Network Event Summary.

Task Use these steps to set event indications preferences.

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

Result:

The Preferences form is displayed.

2 Select the **Event Indications** tab.

Result:

The Event Indications form, which is the default screen, is displayed.

3

IF	THEN
You want to set an audible beep when a new alarm is reported.	Select **Set Beep On**, then select the number of beeps, from 1 to continuous, to sound when a new alarm is reported.
You want to set the Event screen to display in the foreground.	Select **Set Event Screen to Foreground**.

4 Select **OK**.

Result:

The form closes. Changes to the event indications take effect during the following and subsequent sessions.

END OF STEPS

□

Set map preferences

Purpose This procedure is used to set map preferences.

Task Use these steps to set map preferences.

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

Result:

The Preferences form is displayed.

2 Select the **Map** tab.

Result:

The Map form displays the User Login View and Link Width sections.

3

IF	THEN
You want to select a different map view,	In the User Login View Section's Map View Field, highlight an entry in the drop down list. **Important!** The System Area Map is the default.
You want to specify area or select no area,	In the User Login View Section's Expand Area field, highlight an entry in the second tab's drop down list.
You want to change the Network Map's link width display,	In the Link Width section of the form, select **Normal** to have links display at a normal width or **Heavy** to have links display at a wide width.

4 Select **OK**.

Result:

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

END OF STEPS

□

Set alarm preferences

Purpose This procedure is used to set alarm preferences on forms.

Task Use these steps to set alarm preferences on forms.

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

Result:

The Preferences form is displayed.

2 Select the **Alarm Information On Forms** tab.

Result:

The Alarm Information on Forms form is displayed.

3 Click each box corresponding to the form to be changed.

Result:

Each selected box is marked.

4 Select **OK**.

Result:

The form closes.

5 Close the Navis™ Optical PM - NP application then bring it back up.

Result:

Changes to the alarm preferences will take effect during the next and subsequent sessions.

END OF STEPS

□

Set FM operational preferences

Purpose This procedure is used to set fault management (FM) operational preferences.

Task Use these steps to set FM operational preferences.

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

Result:

The Preferences form is displayed.

2 Select the **FM Operational Mode** tab.

Result:

The Fault Management Operational Mode form is displayed.

3

IF	THEN
You want to set fault management to use the alarm approach,	Select **Alarm Approach**.
You want to set fault management to use the service approach,	Select **Service Approach**.

4 Select **OK**.

Result:

An Attention dialog box is displayed indicating that the change will take effect for the next and subsequent sessions.

5 On the Attention dialog box. select **OK**.

Result:

The dialog box closes.

6 On the Fault Management Operational Mode form, select **OK**.

Result:

The Fault Management Operational Mode form closes.

END OF STEPS

4 User Administration

Overview

Purpose

This chapter contains the procedures needed to administer user IDs and user profiles in the Navis™ Optical PM - NP application. Administrators are responsible for adding, modifying, and deleting Navis™ Optical PM - NP user IDs and for specifying the tasks to which a user can or cannot gain access to by assigning a user profile to a user ID.

Contents

User Administration Concepts

The default administrator

The Navis™ Optical PM - NP System 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 - NP System screens, including those screens 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 - NP System screens. Therefore, in order to become authorized, a user has to already have the correct permissions to access these Navis™ Optical PM - NP System screens or to have the ***sa*** change his or her permissions.

User types and user profile

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

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

These task groupings can be assigned to a user profile:

- Fault Management
- Configuration Management
- Performance Monitoring
- NE Management
- System Administration
- Fault Management (View Only)
- Configuration Management (View Only)
- Performance Monitoring (View Only)

The Navis™ Optical PM - NP System has the following user profiles:

- The ***Initial*** profile provides access to the Fault Management, Configuration Management, Performance Monitoring, 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.
- The ***Provisioning (View Only)*** profile provides access to the Configuration Management (View Only) task grouping.
- The ***Alarm Management*** profile provides access to the Fault Management task grouping.

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

□

Add a user

Purpose This procedure is used to add a user to the Navis™ Optical PM - NP application.

Permissions You must be authorized to perform this task.

Before you begin The user ID must first be created in the **sam** program. See "Create a User ID through SAM's GUI-based program" (2-38) and "Create a User ID through SAM's terminal-based program" (2-42) for details.

Task Use these steps to add a user to the Navis™ Optical PM - NP application:

1. Start the Navis™ Optical PM - NP application. See "Section I: Start the Navis™ Optical PM - NP Application on the HP Servers" (3-4) for details.

   Result:

   The Network Map is displayed.

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

   Result:

   The Add User form is displayed.

3. In the **User ID** field, enter a 1 to 8 character user ID.

4. Optional: In the **Description** field, enter a 1 to 32 character description to be associated with the user ID.

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

   If a user profile is not selected, the user is automatically assigned **Initial Profile**.

Result:

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

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

7 Click **Apply**.

Result:

A message is displayed at the bottom of the Add User form indicating that the user is added.

8 Click **Close**.

Result:

The Add User form closes.

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

Result:

The List of Users form closes.

END OF STEPS

□

Modify a user

Purpose This procedure is used to modify user ID information.

Permissions You must be authorized to perform this task.

Task Use these steps to modify user ID information:

1 Start the Navis™ Optical PM - NP application. See "Section I: Start the Navis™ Optical PM - NP Application on the HP Servers" (3-4) for details.

Result:

The Network Map is displayed.

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 modified.

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

Result:

The Modify User form is displayed.

5 Change the **Description**, **Profile**, or **User Type** parameters as required.

6 Click **Apply**.

Result:

A message is displayed at the bottom of the Modify User form that states that the parameters for the selected user are modified.

7 Click **OK**.

Result:

The Modify User form closes.

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

Result:

The List of Users form closes.

END OF STEPS

□

Delete a user

Purpose This procedure is used to delete a user ID.

Permissions You must be authorized to perform this task.

Task Use these steps to delete a user ID:

1 Start the Navis™ Optical PM - NP application. See "Section I: Start the Navis™ Optical PM - NP Application on the HP Servers" (3-4) for details.

Result:

The Network Map is displayed.

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 is displayed 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

Add a user profile

Purpose This procedure is used to add a user profile.

Permissions You must be authorized to perform this task.

Before you begin During this procedure, you are required to name the user profile. Have a 1 to 30 character name ready for the user profile.

Task Use these steps to add a user profile:

1. Start the Navis™ Optical PM - NP application. See "Section I: Start the Navis™ Optical PM - NP Application on the HP Servers" (3-4) for details.

   Result:

   The Network Map is displayed.

2. On the Network Map, select **Administration > Security Assignments > Profiles > Add**.

   Result:

   The Add Profile form is displayed.

3. In the **Profile Name** field, enter a 1 to 30 character name for the user profile.

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

5. Click **Apply**.

   Result:

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

6. Click **Close**.

Result:

The Add Profile form closes.

END OF STEPS

Modify a user profile

Purpose This procedure is used to modify a user profile.

Permissions You must be authorized to perform this task.

Task Use these steps to modify a user profile:

1 Start the Navis™ Optical PM - NP application. See "Section I: Start the Navis™ Optical PM - NP Application on the HP Servers" (3-4) for details.

Result:

The Network Map is displayed.

2 On the Network Map, select **Administration > Security Assignments > Profiles > Modify**.

Result:

The Modify Profile form is displayed.

3 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.

4 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.

5 Click **Apply**.

Result:

The user profile is modified.

6 Click **Close**.

Result:

The Modify Profile form closes.

END OF STEPS

Delete a user profile

Purpose This procedure is used to delete a user profile.

Permissions You must be authorized to perform this task.

Task Use these steps to delete a user profile:

1. Start the Navis™ Optical PM - NP application. See "Section I: Start the Navis™ Optical PM - NP Application on the HP Servers" (3-4) for details.

   Result:

   The Network Map is displayed.

2. On the Network Map, select **Administration > Security Assignments> Profiles > Delete**.

   Result:

   The Delete Profile form is displayed.

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

4. Click **Apply**.

   Result:

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

5. Click **Yes**.

   Result:

   The user profile is deleted.

6. Click **Close**.

Result:

The Delete Profile form closes.

END OF STEPS

5 Provisioning Administration

Overview

Purpose

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

Contents

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 may contain other aggregates.

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

Contents

Add an aggregate

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

Task Use these steps to add an aggregate to the Navis™ Optical PM - NP Network 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-Member List**, select any network element you want to add to the aggregate.

   Important! To select more than one node, press the Control key. The number of network elements that can be selected at one time is unlimited.

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

   Result:

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

7. Click **Apply**.

Result:

A confirmation window is displayed.

8 Click **OK**.

Result:

You are returned to the Aggregate Add form.

9 Click **OK**.

Result:

The Aggregate is added to the Network Map. A corresponding network element is displayed at the top left side of the Network Map.

END OF STEPS

□

Delete an aggregate

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

Task Use these steps to delete an aggregate from the Navis™ Optical PM - NP 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 **Apply**.

Result:

A confirmation window is displayed.

5 Click **OK**.

Result:

The Aggregate Add form is displayed.

6 Click **OK**.

Result:

The aggregate is deleted and is no longer displayed on the Network Map.

END OF STEPS

□

Add an aggregate member

Purpose This procedure is used to add a member to an existing aggregate. A ***member*** can be defined as a network element, which constitutes aggregates.

> **Important!** The number of members that can reside in an aggregate is unlimited.

Task Use these steps to add a member to an existing aggregate:

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

   Result:

   The Aggregate Modify form is displayed.

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

3. In the **Aggregate ID** drop-down menu, click the down arrow and select the aggregate to be modified.

   Result:

   The aggregate members are displayed in the **Members** column.

4. In the **Non-members** column, click the network element to be added to the aggregate.

   Result:

   The network element is highlighted.

5. Click the **left-pointing arrow**.

   Result:

   The network element is moved to the **Members** column.

6. Click **Apply**.

Result:

A confirmation window is displayed.

7 Click **OK**.

Result:

You are returned to the Aggregate Add form.

8 Click **Close**.

Result:

The screen closes and the network element becomes a new member of the aggregate.

END OF STEPS

□

Remove an aggregate member

Purpose This procedure is used to remove a member from an existing aggregate. A ***member*** can be defined as a network element, which constitutes an aggregate.

Before you begin Before removing a member from an aggregate, note the following:

- The aggregate must have at least one member.
- The last aggregate member cannot be deleted without deleting the aggregate itself.

Task Use these steps to remove a member from an existing aggregate:

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

Result:

The Aggregate Modify window is displayed.

2 In the **Aggregate ID** menu, click the aggregate to be modified.

Result:

The aggregate members are displayed in the **Members** column.

3 In the **Members** column, click the network element to be deleted from the aggregate.

Result:

The network element becomes highlighted.

4 Click the **right-pointing arrow**.

Result:

The network element is moved to the **Non-members** column.

5 Click **Apply**.

Result:

A confirmation window is displayed.

6 Click **OK**.

Result:

You are returned to the Aggregate Add form.

7 Click **Close**.

Result:

The screen closes. The member is removed from the aggregate.

END OF STEPS

□

Specify an aggregate's acronym

Purpose This procedure is used to specify an aggregate's on-screen ***acronym***, which is the title formed from the initial letters or parts of the aggregate's full name.

Task Use these steps to modify an aggregate's on-screen acronym:

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

Result:

The Aggregate Add window is displayed.

2 In the **Aggregate ID** drop-down menu, select the aggregate whose acronym you wish to specify.

Result:

The members of the aggregate are displayed in the **Members** column.

3 Select **Acronym** and press the **Backspace** key.

Result:

The Aggregate List form is displayed.

4 Enter the new acronym.

5 Click **Apply**.

6 Click **OK**.

Result:

The aggregate acronym is modified. The change dynamically is displayed on the screen.

END OF STEPS

□

Section II: Areas

Overview

Purpose

This section describes areas and describes the tasks related to areas.

Background

Networks managed by theNavis™ Optical PM - NP application can be subdivided into smaller, manageable networks called ***areas***. When the network is subdivided into areas containing a limited set of nodes/aggregates and associated links, the potential to overcrowd the display is reduced and the system performance is improved because less information is exchanged by the subsystems.

Areas ***can be*** a set of nodes/aggregates:

- dedicated to a subscriber
- which are or are not connected
- in a geographic location or building

Areas ***cannot*** reside within other areas.

Users can choose to view only the areas they are interested in, which reduces the potential to overcrowd the display and improves system performance because less information is exchanged by the subsystems.

Only a system administrator can create areas.

Definition: area

An area is a collection of nodes, aggregates, and their associated links. An area is displayed as an icon on the Area Panel of the Network Map. An area can be expanded, which causes the Expansion Panel to appear on the Network Map and display all of the nodes, aggregates, and links in the area.

The number of network elements that can be included in an area is unlimited; however a limit of 300 network elements in an area is recommended to avoid a cluttered display and performance problems.

Contents

Add an area

Purpose This procedure is used to add an area.

Permissions You must be authorized to perform this task.

Task Use these steps to add an area:

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

   Result:

   The Area Create form is displayed.

2. In the **Area ID** field, enter a 1 to 20 character name for the Area ID.

3. Select **OK**.

   Result:

   The area is added. An area icon is displayed in the top left side of the Area Panel on the Network Map. An entry for the new area is displayed in the Network Tree Panel on the Network Map.

END OF STEPS

For more information For instructions on how to add members to the area that was created with this task, see the following task, "Modify an area" (5-15)

□

Modify an area

Purpose This procedure is used to modify an area.

Permissions You must be authorized to perform this task.

Task Use these steps to modify an area:

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

   Result:

   The Area Modify form is displayed.

2. In the Area ID field, click the down arrow to select the Area ID from the drop-down list.

   Result:

   Non-members of the area display in the **Non-Members** list, and members of the area display in the **Members** list.

3. Do one of the following:
   - Add nodes to the area by moving them from the **Non-Members** list to the **Members** list.
   - Delete nodes from the area by moving them from the **Members** list to the **Non-Members** list.

4. Select **Apply**.

   Result:

   The area is modified. The **Non-Members** and **Members** lists reappear and display the modifications.

5. Select **Close**.

Result:

The Area Modify form closes.

END OF STEPS

Delete an area

Purpose This procedure is used to delete an area.

Permissions You must be authorized to perform this task.

Task Use these steps to delete an area:

1 On the Network Map, select **Administration > Area > Delete**.

Result:

The Area Delete form is displayed.

2 In the **Area ID** field, click the down arrow to select the Area ID from the drop-down menu.

3 Select **OK**.

Result:

The area is deleted. The area icon is deleted from the Area Panel on the Network Map. The entry for the area disappears from the Network Tree Panel on the Network Map.

END OF STEPS

□

Section III: User Defined Area Map

Overview

Purpose

This section describes how to add, display/modify, or delete user defined area maps. These maps allow a specific user to define which network elements to display on the screen within a submap. (See "Section IV: User Defined Submap" (5-22).)

Contents

Add a user defined area map

Purpose This procedure is used to add a user defined area map.

Permissions You must be authorized to perform this task.

Task Use these steps to add a user defined area map:

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

Result:

The Add User Defined Area Map form is displayed.

2 In the **User Defined Area Map Name** field, enter a 1 to 20 character name for the user defined map.

3 To add member(s) to the new area map, 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.

4 Select **OK**.

Result:

The new user defined area map is added and the Add User Defined Area Map form closes.

END OF STEPS

□

Display/Modify a user defined area map

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

Permissions You must be authorized to perform this task.

Task Use these steps to display/modify a user defined area map:

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

Result:

The Modify User Defined Area Map form is displayed.

2 In the **User Defined Area Map Name** field, click the down arrow to select the map to be displayed/modified.

Result:

The selected information is displayed.

3 Do one of the following:

- Make no changes and proceed to the next step.
- Add member(s) to the area map by selecting one or more entries from the **Non-Members** list, then click the left arrow button.
- Remove member(s) from the area map by selecting one or more entries from the **Members** list, then click the right arrow button.

4 Select **OK**.

Result:

The area map is modified if changes were made.

END OF STEPS

□

Delete a user defined area map

Purpose This procedure is used to delete a user-defined area map.

Permissions You must be authorized to perform this task.

Task Use these steps to delete a user defined area map:

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

Result:

The Delete User Defined Area Map form is displayed.

2 In the **User Defined Area Map Name** field, click the down arrow to select a map name from the drop-down menu.

Result:

The selected information is displayed.

3 Select **OK**.

Result:

The user defined area map is deleted.

END OF STEPS

□

Section IV: User Defined Submap

Overview

Purpose

This section describes how to add, display/modify, or delete user defined submaps that allow a specific user to define what areas to display on the screen. (See also "Section II: Areas" (5-12) and "Section III: User Defined Area Map" (5-18).)

Contents

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 Use 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 1 to 20 character name for the user defined submap.

3 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.

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

Permissions You must be authorized to perform this task.

Task Use 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, click the down arrow to select the submap to be displayed/modified.

Result:

The selected information is displayed.

3 Do one of the following:

- Make no changes and proceed to the next step.
- 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 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 Use 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, click the down arrow to select a map name from the drop-down menu.

Result:

The selected information is displayed.

3 Select **OK**.

Result:

The user defined submap is deleted.

END OF STEPS

□

Section V: Scheduled Entities

Overview

Purpose

This section describes the administration of scheduled entities.

Definition: Scheduled entity

A scheduled entity is a provisioning assignment for a facility, path, or circuit that has been designated to occur at a future date and time. All assignments, with the exception of digital links, can be scheduled.

Contents

View a list of scheduled entities

Purpose This procedure is used to view a list of scheduled entities.

Before you begin The active form must be the Network Map.

Task Use these steps to view a list of scheduled entities:

1 On the Network Map, select **Administration > Scheduled List**.

Result:

The Scheduled List Query Box is displayed.

2 Enter the **Scheduled Entity**.

3 Enter the **Schedule Type** from the menu.

4 Select **OK**.

Result:

The Scheduled List form displays the queried information.

END OF STEPS

□

Delete a scheduled entity

Purpose This procedure is used to delete a scheduled entity.

Task Use these steps to delete a scheduled entity:

1 On the Network Map, select **Administration > Scheduled List**.

Result:

The Scheduled List Query Box is displayed.

2 Enter an existing **Scheduled Entity**.

3 Enter a **Schedule Type** from the menu.

4 Select **OK**.

Result:

The Scheduled List form is displayed with the queried information.

5 Select **Actions > Delete**.

Result:

A confirmation box is displayed that prompts the user to confirm the delete request.

6 Select **OK.**

Result:

The selected scheduled entity is deleted.

END OF STEPS

□

Modify a scheduled entity

Purpose This procedure is used to modify a scheduled entity.

Task Use these steps to modify a scheduled entity:

1 On the Network Map, select **Administration > Scheduled List**.

Result:

The Scheduled List Query Box is displayed.

2 Enter an existing **Scheduled Entity**.

3 Enter the **Schedule Type** from the menu.

4 Select **OK**.

Result:

The Scheduled List form is displayed with the queried information.

5 Select **Actions > Modify**.

Result:

A popup form is displayed for the selected entity.

6 Change the Start Date, Start Time, or both.

7 Select **OK.**

Result:

The selected scheduled entity is modified.

END OF STEPS

□

Filter the display of scheduled entities on the Scheduled List

Purpose This procedure is used to filter the display of the scheduled entities on the Scheduled List.

Task Use these steps to filter the display of the scheduled entities on the Scheduled List:

1 On the Network Map, select **Administration > Scheduled List**.

Result:

The Scheduled List Query Box is displayed.

2 Enter a **Scheduled Entity**.

3 Select **OK**.

Result:

The Scheduled List form is displayed with the queried information.

4 Select the **Scheduled Entity**.

5 Select **View > Filter/Sort**.

Result:

The Scheduled List Sort/Filter form is displayed.

6 Select the **Filter** tab.

Result:

The Filter fields are displayed.

7 In the **Filter 1**, **Filter 2**, and **Filter 3** fields, select a field from the drop-down menu, then enter a value to the right of your selection.

WARNING

When the Date or Time fields are selected, enter the From and To date values in the appropriate fields.

8 Select **OK**.

Result:

The filtered entities are displayed on the Scheduled List form.

END OF STEPS

□

View successful/failed scheduled entities through the Scheduled History List

Purpose This procedure is used to query the system for a historical list of scheduled entities that were successfully completed or that failed during reinstatement.

Task Use these steps to query the system for a historical list of successful/failed scheduled entities:

1 On the Network Map, select **Administration > Scheduled History List**.

Result:

The Scheduled History List Query Box is displayed.

2 Enter a **Scheduled Entity**.

3 Enter a **Schedule Type** from the menu.

4 Select **OK**.

Result:

The Scheduled History List form is displayed with the queried information.

END OF STEPS

□

Section VI: Provisioning maintenance tool

Overview

Purpose This section describes the paper or virtual disconnect tool.

Contents

Virtual disconnect tool description

Overview

The virtual disconnect tool is used to clean up the Navis™ Optical PM - NP database when facility, path, or circuit provisioning does not proceed as planned.

When cross connections are disconnected at the EMS or network element level without notification to the Navis™ Optical PM - NP application, the record of the assignment in the application still exists.

The virtual disconnect tool is a means to clean up the Navis™ Optical PM - NP database without sending commands to the EMS or to the network elements.

This also might be required, for example, in the unlikely event that an operator incorrectly assigned a circuit to a wrong black box location when provisioning the circuit in Navis™ Optical PM - NP. The result of this script is to cause change to the Navis™ Optical PM - NP database without interacting with the network elements.

For the task used to perform this function, see the ***Perform a Virtual Disconnect*** task in the ***Navis™ Optical PM - NP Provisioning Guide***.

□

6 Reliability and Service Recovery

Overview

Purpose

This chapter contains tasks performed to insure the reliability of the Navis™ Optical PM - NP application. It also contains system recovery tasks to use if the application becomes unavailable, and a routine maintenance task.

Contents

Section I: Perform Backups

Overview

Purpose

This section describes how to perform various types of backups.

Regular 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 Chapter 3, “System Administration”.

Host database backup

Two types of backups are available for HP server systems:

- A ***hot backup***, which occurs when the system is up and running (hot). A hot backup takes longer to complete than a cold backup; but a hot backup can be initiated while the application is running.
- A ***cold backup***, which occurs when the Navis™ Optical PM - NP application is shut down (cold). The application must be stopped before a cold backup can be initialized.

Hot backup

The system automatically backs up the database on Sunday, Tuesday, Wednesday, Thursday, and Friday at 2:00 a.m. if a tape is loaded in the tape drive. A customer can alter the run frequency of hot backups by changing the run time in the cron file.

The system is required to be at run level 4 for a hot backup. See “run level 4” (2-5) for more information on this run level.

Operator action is not required during the hot backup, which takes from 60 to 180 minutes to complete, depending on the database size. The default database backup retention is 5 days (5 tapes/rotation).

Cold backup

A cold backup is the most accurate type of backup.

Operator action is required during the cold backup procedure. The system must be set at run level 3 for cold backup. See “run level 3” (2-5) for more information on this run level.

The system must be down to run cold backups. We recommend that cold backups be run every week; however. it is up to the customer to determine run frequency.

Contents

Perform a hot backup

Purpose This procedure is used to run a hot backup manually at a time other than when it is scheduled to run in a cron job.

A hot backup occurs daily as the result of an entry in the cron job. This backup occurs when the system is up and running.

Task Use these steps to do a hot backup:

1 Using the system console, log in to the system as `root`.

2 Remove the ***daily backup tape*** and insert the ***hot backup tape*** into the tape drive.

Important! Wait until the lights on the tape drive stop flashing.

3 Enter `/bin/ksh /usr/dacscan/bin/hot_backup`

Result:

The hot backup begins, and will take 60 to 180 minutes to complete. The # prompt appears on the system console when the backup is completed.

4 Remove the ***hot backup*** tape.

5 Label the tape ***hot backup*** and add the:

- current date
- host server name

6 Store the tape in a safe place.

Result:

The hot backup is complete.

7 Insert the ***daily backup tape*** into the tape drive.

END OF STEPS

□

Perform a cold backup

Purpose A cold backup occurs when the Navis™ Optical PM - NP application is shutdown (cold). This task should be completed ***once a month***.

Task Use these steps to do a cold backup:

1. Using the system console, log in to the system as `root`.
2. At the prompt, type `init 3` to stop the Navis™ Optical PM - NP application.
3. Log in to the HP server as `root`.
4. Remove the ***daily backup tape*** and insert the ***cold backup tape*** into the tape drive.
5. Wait until the lights on the tape drive stop flashing.
6. Enter `/bin/ksh /usr/dacscan/bin/cold_backup`

   Result:

   The cold backup begins, which takes approximately 40 minutes to complete. The # prompt appears on the system console once the backup is completed.
7. Remove the ***cold backup*** tape.
8. Label the tape ***cold backup*** and add the:
   - current date
   - host server name
9. Store the tape in a safe place.

10 Insert the ***daily backup tape*** into the tape drive.

Result:

The backup is completed.

11 At the prompt, enter `shutdown -ry 0` to reboot the host server to clean up UNIX system files.

Result:

The host server shuts down and restarts, which takes approximately 10 minutes to complete. The prompt reappears once the process is completed.

12 Log in to the system as `root`.

13 At the prompt, enter `init 4` to start the Navis™ Optical PM - NP application.

Result:

The application is started.

14 Optionally enter `top` to display the status of the start process. Press the **Ctrl** and **C** keys to exit the display.

END OF STEPS

□

Section II: Perform Recoveries

Overview

Purpose

This section describes how to perform various types of recoveries.

Contents

Recovering hot or cold backups

Introduction

Two types of recovery are available:

- recovering a hot backup
- recovering a cold backup

Recovering a Hot Backup

Hot backups are recovered using the ***hot_recover*** script. The Navis™ Optical PM - NP application must be shut down to perform this procedure.

Recovering a Cold Backup

Cold backups are recovered using the ***cold_recover*** script. The Navis™ Optical PM - NP application must be shut down to perform this procedure.

Recovering the database to a different server

The database can be recovered on a different server after a hot backup is completed.

Assumptions

- Both systems have network connectivity to all workstations, external servers, and network elements. This connectivity establishes a disaster recovery site.
- The systems have been installed with an identical release of the Navis™ Optical PM - NP application software, including identical environment variable settings.
- The systems have both been licensed for identical features and network elements.
- The system administrators at both sites are synchronizing the following files:
  - **/etc/passwd**
  - **/etc/hosts**
  - **/usr/dacscan/oam/config_data/cm/ccpm/ccpconfig** (all references to hostnames except those that contain the local hostname)
  - user's accounts use the HP-UX system administration tool, SAM

□

Perform a hot backup recovery

Purpose This procedure is used to perform a hot backup recovery.

Before You Begin Be sure that you have the hot backup tape containing the:

- current date
- host server name

Task Use these steps to perform a hot backup recovery:

1 Using the system console, log in to the system as `root`.

2 At the prompt, type `init 3` to stop the Navis™ Optical PM - NP application.

3 Insert the hot backup tape into the tape drive.

4 Wait until the lights on the tape drive stop flashing.

5 At the prompt, enter `su - dacscan`

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

Result:

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

7 Remove the tape.

8 Label the tape with the current date, and store the tape in a safe place.

Result:

The hot backup recovery is completed.

9 At the prompt, enter `init 4` to start the Navis™ Optical PM - NP application.

Result:

The application is started.

END OF STEPS

□

Perform a cold backup recovery

Purpose This procedure is used to perform a cold backup recovery.

Before You Begin Be sure that you have the cold backup tape containing the:

- current date
- host server name

Task Use these steps to perform cold backup recovery:

1 Using the system console, log in to the system as `root`.

2 At the prompt, type `init 3` to stop the Navis™ Optical PM - NP application.

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

4 Wait until the lights on the tape drive stop flashing.

5 At the prompt, enter `su - dacscan`

6 Enter `/bin/ksh /usr/dacscan/bin/cold_recover`

Result:

A prompt appears and asks for the date of the backup tape.

7 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, which takes approximately 90 minutes to complete. The # prompt appears on the system console when the backup is completed.

8 Remove the tape.

9 Label the tape with the current date, and store the tape in a safe place.

Result:

The cold backup recovery is completed.

10 At the prompt, enter `init 4` to start the Navis™ Optical PM - NP application.

Result:

The application is started.

END OF STEPS

□

Recover the database to a different server

Purpose

This procedure is used to recover the database to a different server. This procedure can be used for system upgrades or when it is necessary to analyze data when trouble clearing.

Before You Begin

The task can only be performed after a hot backup has been completed.

- Create a hot backup tape at the site which has the source database, using the task "Perform a hot backup" (6-4).
- Ensure that the destination system is at run level 3.
- Recover the hot backup tape at the destination site, using the task "Perform a hot backup recovery" (6-9).
- On each workstation:
  - Ensure that the hostnames/IP addresses for both Navis™ Optical PM - NP systems (source and destination) are in `/etc/hosts`.
  - Ensure that the hostnames for both Navis™ Optical PM - NP systems (source and destination) are present in `/.rhosts`.
  - Ensure that the hostnames for both Navis™ Optical PM - NP systems (source and destination) are present in `/home/dacscan/.rhosts`.

Task

Use these steps to recover the database to a different server:

1. Using the system console, log in as `dacscan` on the Navis™ Optical PM - NP server.

2. Enter `ksh /usr/dacscan/bin/local.sh`.

   Result:

   This script resets the ***active controller*** field in the database with the name of the new hostname.

3 For any network elements that require knowledge of the connecting manager, refer to their documentation for procedures to enable connections.

4 For each user on each desktop, reset the name of the Navis™ Optical PM - NP application to which the user should connect.

5 Enter the command `init 4` to bring the system to run level 4.

Result:

The Navis™ Optical PM - NP application is started.

END OF STEPS

□

Section III: Delete History

Overview

Purpose This section describes the delete history tool, which is an off-line tool

□

About this tool

Background

Whenever a circuit is rearranged, the data from the previous circuit is retained in the Navis™ Optical PM - NP database. A circuit that has been rearranged several times accumulates substantial history information. The Delete History script, which is an off-line tool, retains only the necessary history data associated with each circuit, and deletes all unnecessary history data from the database.

The Delete History script consists of two parts:

- A script that automatically runs once when upgrading the database to a new version. If you need to refer to any circuits listed in the history that are not the most recent non-RS (restoration), non-RI (reinstatement) circuits, print out these circuits before upgrading the database. The Delete History script deletes these circuits from the history during the upgrade.
- A daily script execution that runs immediately following each successful daily backup.

□

7 Off-Line Tool Concepts

Overview

Purpose

This chapter describes off-line script tools provided with Navis™ Optical PM - NP. It also contains tasks associated with off-line tools.

Contents

Section I: INSERTNODE and REMOVENODE Tools

Overview

Purpose

This section contains information on the INSERTNODE and REMOVENODE tools, which are UNIX scripts that allow users to insert and remove network elements from the Navis™ Optical PM - NP application. These tools automatically update the Navis™ Optical PM - NP database.

The INSERTNODE tool uses cross-connect and port files when inserting a node; files are not needed when removing a node.

Features

The INSERTNODE and REMOVENODE tools provide the following features:

- The Navis™ Optical PM - NP configuration is updated locally; commands are not sent to the EMS.
- Digital links can be part of a path-switched ring or a line-switched ring.
- The MSP digital link and Optical Multiplex Section (OMS) with OMS Protection (OMSP) are supported.
- Updates of one-way, two-way, and broadcast paths/circuits are handled.
- Handles fault management reconciliation in case trails or ports involved in the procedure are alarmed.
- Combo circuits are handled the same as VTn/STSn paths.
- Path trace parameters, PTI, and PT mismatch detection mode are handled.
- Removing a black box from a physical link is supported.
- Inserting a node into a digital link is supported and digital links from EC-1 and OC-192 to are supported.
- Inserting a node into an OMS and an optical link is supported.
- Removing a node from two digital links is supported and digital links from EC-1 to OC-192 are supported.

- Removing a node from 2 OMS and 2 Optical Layer (OL) is supported.
- Removing a black box is supported.

Using the tool

The tasks that utilize these tools are located after this description.

Supported network elements

For the Navis™ Optical PM - NP and Navis™ Optical EMS applications, the INSERTNODE and REMOVENODE tools support the network elements that are listed in the ***Navis™ Optical PM - NP Provisioning Guide*** and the ***Navis™ Optical EMS Applications and Planning Guide***.

Supported physical link types

The INSERTNODE tool supports the following physical type links:

- Optical Multiplex Section
- Optical Link

The REMOVENODE tool supports the following physical type links:

- Optical Multiplex Section
- Optical Layer

Contents

Insert a Navis™ Optical EMS-controlled node into a digital link using INSERTNODE

Purpose

This procedure is used to insert a Navis™ Optical EMS-controlled network element into a digital link using the INSERTNODE tool. Upon completion, the task generates a cross connect and port file to update the Navis™ Optical PM - NP database.

Before you begin

We recommend that you contact Lucent Customer Support before you begin to use this tool.

Before you insert an Navis™ Optical EMS controlled network element into a digital link, consider the following:

- The network element to be inserted in the database of the Navis™ Optical PM - NP must be correctly installed on the network and must be already known by Navis™ Optical PM - NP; that is, it must appear on the Navis™ Optical PM - NP Network Map, which occurs when all ports are provisioned and all cross connections are made on the EMS being managed by the Navis™ Optical PM - NP application.
- When inserting a node, the network element must be pre-provisioned; all ports must be provisioned and cross-connected as needed to provide services.
- This procedure can be done before or after the fibers are physically reconnected to insert or remove a node.
- Successfully using INSERTNODE before reconnecting the fibers ensures that the reconnection of the fiber minimizes the risk of interrupting any logical paths carried by the physical layer.
- The EMS provides a file with port provisioning and cross-connect status. This file should be created just before the tool is executed. The user must transfer this file to the Navis™ Optical PM - NP host and specify the full path at the beginning of the procedure.
- If the EMS reports more cross connections than are needed, an error has not occurred. These cross connections are displayed in the Uncorrelated Cross Connect forms after the user does a DBSync.

- The user has to provide the connection ID for those connections that have to be merged or replaced by two new ones.
- The physical link where the node is inserted or removed should be in the in-effect state. Scheduled paths should not be riding on the digital link to be updated.
- Preplan paths should not be associated with any of the paths carried by the physical link to be updated.
- Performance Monitoring (PM) data collection on the physical links should be stopped prior to execution of this task. When inserting a node, PM data collection should be stopped on the STS-3c substructured paths, terminating on the inserted node. PM on the path going through the inserted node does not have to be stopped.
- The regenerators or amplifiers with OMS must be removed from the digital links before running this tool. After the task is completed, the user will put back the regenerators/amplifiers on the new physical links.
- The Navis™ Optical PM - NP user interface may not reflect the correct configuration at the run time of the tool. While the tool is in progress, the user should refrain from modifying/deleting existing paths that ride on the digital link where the tool is being executed. We recommend that the user interface should be down when the tool is run. If the user interface is not down, the user has to Refresh the Network Map and any forms that are open.
- A time slot or frequency interchange in the cross connects is not on the inserted/removed node. The EMS does not report cross connections with timeslot or frequency interchange. The EMS also does not report SNCP cross connects in the inserted/removed node.

Task Use these steps to insert a Navis™ Optical EMS-controlled node into a digital link using the **INSERTNODE** tool:

1 Log in to Navis™ Optical EMS as `ems`.

2 At the prompt, enter

```
cd /ems/bin
<node_path>
```

Result:

<node_path> is executed and the following two files are generated:

```
/tmp/db_snms_xc_ddmmyyyy_hhmm
/tmp/db_snms_pp_ddmmyyyy_hhmm
```

3 Use **ftp** or **rcp** to get these two files to the Navis™ Optical PM - NP host **/usr/dacscan/data** then record the path name on the Navis™ Optical PM - NP host.

4 Log in to the Navis™ Optical PM - NP host machine as `root` and enter the password.

5 At the prompt, enter `cd /usr/dacscan/data`

6 At the prompt, enter

```
chmod 777 db_snms_xc_ddmmyyyy hhmm
chmod 777 db_snms_pp_ddmmyyyy hhmm
```

7 At the prompt, enter `su - dacscan`.

Result:

The user is changed to `dacscan`.

8 At the prompt, enter `cd /usr/dacscan/bin`.

Result:

The prompt appears in the requested directory.

9 At the prompt, enter `INSERTNODE`.

Result:

The `INSERTNODE` tool is initiated.

10 At the `CLO/Order Number` prompt, enter the value of the digital link where the new node will be inserted.

11 At the `Network Element Name` prompt, enter the name of the network element that will be inserted.

12 At the `PORT ADDRESS to original A` prompt, enter the service port address (in PM-NP Port Address-format) that will connect to the original digital link's A location.

13 At the `PORT ADDRESS to original Z` prompt, enter the service port address (in PM-NP Port Address-format) that will connect to the original digital link's Z location.

14 At the `Digital Link 1 CKT ID` prompt, enter the circuit ID for the first new digital link.

Result:

This link's terminations are the original digital link's A location on the <new_node_name>.

15 At the `Digital Link 2 CKT ID` prompt, enter the circuit ID for the second new digital link.

Result:

This link's terminations are the original digital link's Z location on the <new_node_name>.

16 At the `EMS Port Provision File` prompt, enter the full path name of the EMS port provisioning file.

17 At the `EMS Cross Connect File` prompt, enter the full path name of the EMS cross connect file.

18 At the `Is this all correct` prompt, enter `Y` or `N`.

END OF STEPS

Delete a Navis™ Optical EMS-controlled node from a digital link using REMOVENODE

Purpose

This procedure is used to remove a Navis™ Optical EMS-controlled network element from a digital link using the REMOVENODE tool.

Before you begin

We recommend that you contact Lucent Customer Support before you begin to use this tool.

Before you remove a Navis™ Optical EMS network element from a digital link, consider the following:

- This task can be used before or after the fibers are physically reconnected to insert or remove a node.
- Successfully using REMOVENODE before reconnecting the fibers ensures that the reconnection of the fiber minimizes the risk of interrupting any logical paths carried by the physical layer.
- The EMS provides a file with port provisioning and cross connect status. This file should be created just before the tool is executed. A user will transfer this file to the Navis™ Optical PM - NP host and will specify the full path at the beginning of the task.
- The EMS might report more cross connections than are needed, which is not an error. These cross connections will be displayed in the Uncorrelated cross connect forms after the user does a database synchronization.
- The user has to provide the connection ID for those connections that have to be merged or replaced by two new ones.
- The physical link where the node is inserted or removed should be in the in-effect state. There should not be any scheduled paths riding on the digital link to be updated.
- Preplan paths should not be associated with any of the paths carried by the physical link to be updated.
- The regenerators or amplifiers with OMS must be removed from the digital links before running this tool. After the task is completed, the user will put back the regenerators/amplifiers on the new physical links.

- The Navis™ Optical PM - NP user interface may not reflect the correct configuration at the run time of the tool. While the tool is in progress, the user should refrain from modifying/deleting existing paths that ride on the digital link where the tool is being executed. We recommend that the user interface should be down when the tool is run. If the user interface is not down, the user has to Refresh the Network Map and any forms that are open.
- A time slot or frequency interchange in the cross connects is not on the inserted/removed node. The EMS does not report cross connections with timeslot or frequency interchange. The EMS also does not report SNCP cross connects in the inserted/removed node.

Task Use these steps to remove an Navis™ Optical EMS-controlled node from a digital link:

1 Log in to the Navis™ Optical PM - NP server as `dacscan`.

2 At the prompt, enter `cd /usr/dacscan/bin` then enter `REMOVENODE`.

Result:

The tool is initiated and a prompt appears.

3 At the **Network Element name** prompt, enter the name of the network element that will be removed.

4 At the ***first*** `CLO/Order Number` prompt, enter the value of the first digital link from where the node will be removed.

5 At the ***second*** `CLO/Order Number` prompt, enter the value of the second digital link from where the node will be removed.

6 Enter the CKT ID (All Fields of the Format) for the new digital link.

7 At the `Is this all correct` prompt, enter `Y` or `N`.

END OF STEPS

□

Section II: Bulk Circuit Provisioning Tool

Overview

Purpose This section describes the bulk circuit provisioning tool.

Contents

Bulk circuit provisioning tool task

Purpose This procedure is used to use the bulk circuit provisioning tool.

Before you begin We recommend that you contact Lucent Customer Support before you begin to use this tool.

Be sure to create a VT1.5 from the Network Map.

Contact Lucent Customer Support if you need assistance with using this tool.

Task Use these steps to run the bulk circuit provisioning tool:

1 Using the Network Map, create a VT1.5 and optionally create a T1 on the VT1.5. Refer to the ***Navis™ Optical PM - NP Provisioning Guide***.

2 Log in to the server as `dacscan` then enter `cd /usr/dacscan/toolbin`.

3 In the **/usr/dacscan/toolbin** directory, create a **data_file** file.

4 Add the following information to **data_file**, then save and close the file.

- Circuit ID <CKT_ID> of the created VT1.5 circuit.
- Total number of VT1.5 circuits to be created during the bulk provisioning.
- External port address of the VT1.5 at the A_location
- External port address of the VT1.5 at the Z_location
- A to Z Path Trace ID (transmitting).
- Z to A Path Trace ID (receiving).
- **Y**(es) or **N**(o) value to specify if a T1 should be created over the VT1.5.
- **Y**(es) or **N**(o) value to specify if alarms should be ignored during the bulk provisioning.

5 In the **/usr/dacscan/toolbin** directory, create and save an index file that contains the directory path of the **data_file**. For example: **/usr/dacscan/toolbin/data_file**.

6 At the prompt, enter **/usr/dacscan/toolbin/group_prov <indexfilename> -p**

Result:

A prompt appears requesting a proxy host.

If you are not prompted to enter the proxy host, none of the VT1.5s will be added and an error message appears indicating that there are other proxyproc processes on the system.

7 At the prompt, enter the proxy host.

Result:

The script continues to run.

END OF STEPS

□

Section III: User Transaction Log

Overview

Purpose This section describes the User Transaction Log.

Contents

User Transaction Log

Purpose This procedure is used to access the User Transaction Log.

Related Information The User Transaction Log provides friendly and practical access to user transaction attempts or sessions. The User Transaction Log includes basic information—presented in easy terms—such as the user ID, time, screen, and operation.

The User Transaction Log records the transaction requests from the desktop and the Navis™ Optical PM - NP acceptance of the request. The Log does not track the downstream end result of a network element or an EMS transaction. For any given user transaction attempt, only one Transaction Record is logged. The successful beginning of a transaction is logged or the failed attempt is logged in order to gather the user's intentions for the transactions that were not successful. Transactions over the Northbound interface are not logged.

All user sessions are logged with the following fields for each attempted transaction:

- user ID
- the desktop name used for the session (client name)
- the date and time of the transaction in time/date format: 24HH:MI:SS in the Navis™ Optical PM - NP time zone
- the attempted transaction in the form of: ***Transaction Name: Screen/Operation: Transaction Outcome: Fields***

The User Transaction Log supports on-line storage and retrieval capabilities for the most recent 31 days, which is subject to the disk space allocated during installation. When the logs are accessed, output files are created for viewing or printing—the placement of these output files is the customer's option and the housekeeping of these output files is the customer's responsibility.

The compressed Transaction Log storage is limited to a maximum of 44Mb or 220k Transaction Records. Beyond this limit, a portion of the oldest records are deleted automatically and the logging continues without user notification.

Before you begin

The User Transaction Log is only accessible to users who have `dascan` privileges.

The format of the `display_userlog` command is:

`display_userlog user=<username> start_date="<dd/mm/year>" end_date="<dd/mm/year> time"`

Example: `display_userlog user=jll start_date="18/09/2000" end_date="29/02/2000 12:12"`

Task

Use this step to access the User Transaction Log:

1 Log on to the HP server that is running the Navis™ Optical PM - NP application.

2 Input the following command line: `display_userlog`.

Result:

The system outputs the User Transaction Log.

3 To exit the User Transaction Log, enter: `q`.

END OF STEPS

□

Section IV: Delete History Order

Overview

Purpose This section describes the Delete History Order off-line tool.

Contents

Delete History Order Tool

Features

The Delete History Order off-line tool is a script that is run automatically to rid the database of any ***redundant*** History Order (Type HI) that appears for a given CAC number and associated record. Only the HI order with the most-recent in-service date is identified and retained.

The Delete History Order off-line tool runs as a cron job and as a database upgrade tool.

Note: Once the Navis™ Optical PM - NP application is installed, no practical need exists for on-going system administrator access to the Delete History Order tool. The upgrade script and the setting of the cron job are done during installation, so the `Delete-HI` script is executed automatically every 24 hours as part of `hot_backup`. If the backup tape is not in place, daily backup is not run and the HI orders accumulate until the next daily backup.

The Delete History Order is only accessible to users who have system administrator privileges.

□

8 EMS Management

Overview

Purpose

This chapter explains the tasks needed to interact with subsystems in the network.

Contents

Section I: Interaction with the Navis™ Optical EMS

Overview

Purpose

This section explains how to administer the Navis™ Optical EMS, which is management system for the Navis™ product family, providing Element Management Layer (EML) management functions for the Navis™ optical products. This system has configuration management, fault management, performance management, and security management functions.

Contents

Add a new Navis™ Optical EMS

Purpose

This procedure relies on an off-line tool to add a new Navis™ Optical EMS to the Navis™ Optical PM - NP application or to establish a cut-through to Navis™ Optical EMS.

Important! This task must be run for each Navis™ Optical EMS to be added.

Before you begin

Collect the following information for the particular Navis™ Optical EMS system:

- system name
- IP address

Task

Use these steps to add a new Navis™ Optical EMS:

1 Log in as `root` to the Navis™ Optical PM - NP host.

2 At the prompt, enter `ksh /usr/dacscan/bin/add.controller` and press Enter.

Result:

The following prompt is displayed along with a menu of all possible controllers:

```
Which Controller do you want to add to this WS-NMS?
```

3 At the prompt, enter `17`, which is `External SNMS (SDH add/drop multiplexers)`and press Enter.

Result:

The following prompt is displayed :

```
What is the name of the SNMS?
```

4 Enter the name of the Navis™ Optical EMS, then press `Enter`.

Result:

You are prompted to confirm your entry.

5 View the entry, then enter `y` if it is correct, or `n` if it is not correct, and then enter the correct entry to continue.

Result:

You are prompted to enter the IP address for the Navis™ Optical EMS.

6 Enter the `IP address` for the Navis™ Optical EMS server, then press `Enter`.

Result:

You are prompted to confirm your entry.

7 View the entry, then enter `y` if it is correct, or `n` if it is not correct, and then enter the correct entry to continue.

Result:

You are prompted to enter the Acronym.

8 Enter the acronym using all CAPS. Note that this entry is a unique identifier, which should not be more than four characters long. Generally, the first four characters of the Navis™ Optical EMS hostname are used.

Result:

You are prompted to confirm your entry.

9 View the entry, then enter `y` if it is correct, or `n` if it is not correct, and then enter the correct entry to continue.

Result:

The original activity screen is displayed.

10 Continue with one of the following steps.

- If you have ***have*** additional Navis™ Optical EMSs to add, repeat Step 4 through Step 9 to continue.
- If you ***do not have*** additional Navis™ Optical EMSs to add, proceed to the next step.

11 Enter `quit` to exit the script.

Result:

The script is exited.

12 Using the system console, log in to the new EMS as `root`.

END OF STEPS

□

Establish a cut-through to the Navis™ Optical EMS

Purpose This procedure is used to establish a cut-through to the Navis™ Optical EMS.

Before you begin Verify that:

- the Navis™ Optical EMS server is running when this task is being performed
- the Navis™ Optical EMS server has an entry in its host file for the Navis™ Optical PM - NP server to allow Orbix to communicate successfully

It is essential that SAGE is enabled at the Navis™ Optical EMS for the cut-through to work.

Task Use these steps to establish a cut-through to the Navis™ Optical EMS:

1 Log in as `root` to the Navis™ Optical PM - NP host.

2 At the prompt, enter `who -r`

Result:

The current run-level is displayed.

3 If the run-level value is 3 or less, proceed to the next step.

If the run-level value is greater than 3, type `init 3` and proceed to the next step.

4 At the prompt, enter `ksh /usr/dacscan/bin/add.controller` and press `Enter`.

Result:

A list is displayed.

5 At the prompt, enter `17`, which is `External SNMS (SDH add/drop multiplexers)`and press Enter.

Result:

The following prompt is displayed:

```
What is the name of the SNMS?
```

6 Enter the name of the Navis™ Optical EMS then press `Enter`.

Result:

You are prompted to confirm your entry.

7 View the entry, then enter `y` if it is correct, or `n` if it is not correct, and then enter the correct entry to continue.

Result:

You are prompted to enter the IP address for the Navis™ Optical EMS.

8 Enter the `IP address` then press `Enter`.

Result:

You are prompted to confirm your entry.

9 View the entry, then enter `y` if it is correct, or `n` if it is not correct, and then enter the correct entry to continue.

Result:

You are prompted to enter the Acronym.

10 Enter the acronym using all CAPS. Note that this entry is a unique identifier, which should not be more than four characters long. Generally, the first four characters of the Navis™ Optical EMS hostname are used.

Result:

You are prompted to confirm your entry.

11 View the entry, then enter `y` if it is correct, or `n` if it is not correct, and then enter the correct entry to continue.

Result:

The script is exited.

---

12 At the prompt, enter `chown dacscan /var/dacscan/log/data/orbixd.log*`

Result:

The owner of the `orbixd.log` file is changed.

---

13 At the prompt, enter `/usr/dacscan/bin/AddEMS.sh` to add any joint Navis™ Optical EMS/Navis™ Optical PM - NP clients to the Navis™ Optical EMS server.

Result:

A menu is displayed.

---

14 Select option **2** for the Navis™ Optical EMS server.

---

15 At the `Enter the SNMS Server Name, then press [return]:?` prompt, enter the hostname of the Navis™ Optical EMS.

---

16 At the `Enter the Version of the SNMS <SNMS Name>, then press [return]:` prompt, enter the Navis™ Optical EMS version.

Important! Press **Return** if this is not applicable.

---

17 At the `Are the WS-NMS GUI and SNMS GUI installed on the same desktop(y/n)?` prompt, enter `y` if a joint workstation is deployed or `n` if the Navis™ Optical PM - NP and Navis™ Optical EMS GUIs are running on separate machines.

---

18 Continue with one of the following options.

- If `n` was selected in the last step, go to step 20.
- If `y` was selected in the last step, enter the IP address of the Navis™ Optical PM - NP and Navis™ Optical EMS GUIs (when prompted) then go to the next step.

---

19 Review the displayed prompt, then enter `y` if the information is correct.

Result:

The original list is displayed.

20 Select `quit` from the displayed list.

21 Use the "Start the Navis™ Optical PM - NP application on a single server" (3-5) task to start the Navis™ Optical PM - NP application.

22 At the prompt, enter **who -r**.

Result:

The run-level status is displayed.

END OF STEPS

□

Cut-through to an EMS

Purpose This task is used to cut-through to the Navis™ Optical EMS using the Navis™ Optical PM - NP.

Task Use the step below to cut-through to the Navis™ Optical EMS.

1 On the Network Map or the Network Controller Map, right-click on an EMS, then select then select **Session > Login to EMS**.

Result:

A dialog box is displayed, indicating that the request is processing.

END OF STEPS

□

Synchronize the Navis™ Optical PM - NP database with the Navis™ Optical EMS database

Purpose This procedure is used to synchronize the Navis™ Optical PM - NP database with the Navis™ Optical EMS database.

Task Use these steps to synchronize the Navis™ Optical PM - NP database with the Navis™ Optical EMS database:

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

Result:

The Controller Map is displayed.

2 On the Network Controller Map, right-click the desired EMS node, then select **Node -> Session -> Start Database Synchronization**.

Result:

The Database Download/Synchronization form is displayed and its **EMS ID** field is pre-populated with the name of the Navis™ Optical EMS.

3 From the **Type** field's drop-down menu, select a synchronization type then press **Apply**.

4

IF	THEN
You select **Alarm**,	an alarm synchronization occurs with all the network elements under control of this EMS.
You select **Port**,	a port synchronization is initiated.
You select **Switch**,	a switch synchronization is initiated.
You select **All**,	a full frame synchronization process occurs, including alarm, equipment, switch, cross-connect, and protection group synchronization.

Synchronize the Navis™ Optical PM - NP database with the Navis™ Optical EMS database

IF	THEN
You select **Cross Connect**,	a cross-connections synchronization process occurs to update the From Port, To Port, and type of cross-connection information in the Cross-Connection Map database.
You select **Protection Group**,	a synchronization occurs to the listed protection groups.

END OF STEPS

□

Refederate a Navis™ Optical EMS server

Purpose

This procedure is used to refederate a Navis™ Optical EMS server.

When the Navis™ Optical EMS application is upgraded to a new release, the Navis™ Optical EMS servers must be refederated, which involves re-establishing the association between the Navis™ Optical PM - NP and the Navis™ Optical EMS Orbix instances.

Before you begin

Be sure that the Navis™ Optical PM - NP server is at run level 4. See "run level 4" (2-5) for details.

Task

Use these steps to refederate Navis™ Optical EMS server(s) from a Navis™ Optical PM - NP server:

1. Using a terminal window on the Navis™ Optical PM - NP server, log in as `dacscan`.

2. At the prompt, enter `cd #/usr/dacscan/toolbin`.

3. At the prompt, enter `. #/refederate_snms <Navis™ Optical EMS_hostname>`.

4. Using a terminal window on the Navis™ Optical PM - NP server, log in as `root`.

5. Determine whether or not the version of the Navis™ Optical EMS has changed.
   - If the version of the Navis™ Optical EMS ***has not changed***, go to Step 16 .
   - If the version of the Navis™ Optical EMS ***has changed***, go to the next step.

6. At the prompt, enter `init 3` to bring Navis™ Optical PM - NP to run level 3.

7 At the prompt, enter `/usr/dacscan/bin/AddEMS.sh`

8 Select option **2** (for Navis™ Optical EMS server).

9 At the `Enter the SNMS Server Name, then press [return]:?` prompt, enter the hostname of the Navis™ Optical EMS.

10 At the `Enter the Version of the SNMS <SNMS Name>, then press [return]:` prompt, enter the Navis™ Optical EMS version.

11 At the `Are the WS-NMS GUI and SNMS GUI installed on the same desktop(y/n)?` prompt, enter `y` if a joint workstation is deployed or `n` if the Navis™ Optical PM - NP and Navis™ Optical EMS GUIs are running on separate machines.

12 If `y` was selected in the last step, enter the IP address of the Navis™ Optical PM - NP and Navis™ Optical EMS GUIs (when prompted).

13 Review the displayed prompt, then enter `y` if the information is correct.

14 Select `quit` from the displayed list.

15 At the prompt, enter `init 4` to bring Navis™ Optical PM - NP to run level 4.

16 At the Navis™ Optical PM - NP GUI client, click the desired Navis™ Optical EMS server icon, then select **Session > Start Communication**.

Result:

A dialog box containing the following text is displayed: `START SESSION COMMAND SENT FOR FRAME:<ems_ name>`

17 On the dialog box, click **OK**.

Result:

Communication is re-established between the Navis™ Optical EMS and Navis™ Optical PM - NP servers. The *emsmap.cfg* file is also automatically updated where necessary, therefore, editing this file is not required.

If communication cannot be immediately established with the refederated Navis™ Optical EMS server, restart the Navis™ Optical PM - NP application using the **init 3** and/or **init 4** commands. See ***Start the host application*** in Chapter 3, "System Administration" for details.

18 For each Navis™ Optical EMS server to be refederated, repeat Step 1 through Step 16 of this task.

END OF STEPS

□

Section II: Database Audit and Synchronization

Overview

Purpose

This section describes alarm database audits and database synchronization processes and their impact to stored data.

Contents

Alarm database audit

Overview

To optimize certain searches, the Navis™ Optical PM - NP fault management module has data storage redundancy, which results in an occasional deviation in data. The Alarm Database Audit feature corrects this deviation.

A nightly cron job triggers—according to a schedule defined during installation—an Alarm Database Audit.

The cron job is not triggered if an alarm synchronization with an EMS is currently in progress. An automatic audit occurs after a manually triggered alarm synchronization with an EMS.

At the end of an Alarm Database Audit, a message indicates that the audit is completed. A message is not broadcast if the Alarm Database Audit does not find any discrepancies.

□

Database synchronization

Overview

The Database Synchronization form (described in an earlier chapter) synchronizes the Controller database and the database of an individual digital cross-connect system. The synchronization can be partial or full.

The Controller supports following types of Database Synchronization processes:

- Alarm Database Synchronization
- Cross Connection Map Database Synchronization
- Equipment Database Synchronization
- Complete Database Synchronization

Facility-based port parameter data synchronization can only be performed manually (on-demand). The other three types of data synchronization can be performed either automatically or manually. The Controller displays associated commands, data and status messages on the Database Synchronization form.

□

9 Trouble Clearing

Overview

Purpose

This chapter describes how to turn on trace and view trace files.

For information on fault management and performance monitoring tasks, refer to the ***Navis™ Optical PM - NP Maintenance Guide***.

Navis™ Optical PM - NP home directory

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

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

Definition: trace file

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 as part of their remote troubleshooting activities.

Contents

Create a host trace file on a server

Purpose This procedure is used to turn on a host trace at a particular server and to create a host trace file for capturing information.

Before you begin Ensure that the application is at run level 3.

Task Use these steps to create a trace file:

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

Result:

The run level number displays, 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 Using the system console, log in to the primary host as `dacscan`.

4 At the prompt, enter **cd /usr/dacscan/bin** to change to the directory containing the **tinfo** file.

5 To edit the **tinfo** file, enter **vi tinfo**.

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

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

7 To increase the trace level from `0` (the lowest level) to `5`, press the **Esc** button, then type `:1,$s/-1 0/-1 5/` then press **Enter**.

Result:

The lines containing those entries will be substituted with the higher trace level value, such as `<servername> -1 5 <servername>.0 y`

8 Save and exit the file.

Result:

The file is saved with 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 is generated and contains a name in the following format: **<servername>.<pid><host_name>**.

10 Verify that the trace file **/dacscan/trace/<servername>.<pid>** exists.

Result:

The file appears in the appropriate directory.

11 To decrease the trace level from `5` to `0`, repeat steps Step 4 to Step 6 to bring up the `tinfo` file.

Result:

The `tinfo` file displays.

12 Press the **Esc** button, then type `:1,$s/-1 5/-1 0/` then press **Enter**.

13 Write and save the file.

Result:

The file is saved with the new trace level.

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

END OF STEPS

□

Create FM and southbound/northbound trace file

Purpose This procedure is used to create a fault management (FM) and southbound/northbound interface trace file on a particular server.

Before you begin Ensure that the application is at run level 3.

Task Use these steps to create a FM and Southbound/northbound trace file:

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

Result:

The run level number displays, 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 Using the system console, log in to the primary host as `dacscan`.

4 At the prompt, enter **cd /usr/dacscan** and type `ls` to verify that the **NMSconfig** file exists.

5

IF	THEN
the ***NMSconfig*** file exists,	proceed to the next step.

IF	THEN

the ***NMSconfig*** file does not exist,	create the file with the following information:
	`EMSTRACE fm_notif -1 -1 0`
	`EMSTRACE fm_gfs -1 -1 -1`
	`EMSTRACE fm_rms -1 -1 -1`
	`EMSTRACE fm_tt 0 -1 0`
	`EMSTRACE fm_server -1 -1 0`
	`EMSTRACE coproc -1 -1 0`
	`EMSTRACE SBGW200LSrv -1 -1 -1`
	`EMSTRACE Cor2tuxSvr -1 -1 -1`
	`EMSTRACE brokerSrv -1 -1 -1`
	`EMSTRACE I2KNL -1 -1 -1`
	`EMSTRACE fm_fls -1 -1 0`
	`EMSTRACE tmf_gateway -1 -1 0`
	`EMSTRACE STMFGWSrv -1 -1 -1`
	`EMSTRACE ExtObserverSrv -1 -1 -1`
	`EMSTRACE ExtAlarmSynchSrv -1 -1 -1`
	`TRACELOGSIZE 5000`

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 application up to run level 4.

Result:

Trace is turned on.

8 At the prompt, enter `cat NMSconfig` to verify that the trace file exists.

Result:

The file displays.

END OF STEPS

□

Create a trace file on a desktop

Purpose This procedure is used to create a trace file for capturing information on an HP-UX workstation or a PC.

Important! Trace files should never be removed.

Task Use these steps to turn create a trace file on an HP workstation or on a Windows PC:

1

IF	THEN
you want to increase global tracing and turn on F-interface tracing ***at an HP-UX*** console,	log in to the HP-UX workstation (GUI machine) as `dacscan`.
you want to increase global tracing and turn on F-interface tracing ***at a PC*** console,	log in to the PC as `sa`.

2

IF	THEN
you want to increase trace on an ***HP-UX*** workstation,	edit the **/usr/add-on/ui/jui/bin/run_jnm** file by changing `gt=1` to `gt=4 fint.tr=4`
you want to increase trace on a ***PC***,	edit the **<drive>:\jui\bin\run_jnm.bat** file by changing `gt=1` to `gt=4 fint.tr=4`

3

IF	THEN
you want to increase global tracing and turn on F-interface tracing ***at an HP-UX*** console,	edit the **/usr/add-on/ui/jui/bin/run_jnm** file by `gt=1` to `gt=4 fint.tr=4`
you want to increase global tracing and turn on F-interface tracing ***at a PC*** console,	edit the **<drive>:\jui\bin\run_jnm.bat** file and enter `set trace=5`

4 Save the edited **run_jnm** or **run_jnm.bat** file.

5 Shut down and restart the Navis™ Optical PM - NP application.

For instructions, see "Stop the Navis™ Optical PM - NP application on the User Interface" (3-13), "Start the Navis™ Optical PM - NP application on an HP-UX workstation" (3-10), and "Start the Navis™ Optical PM - NP application on a Windows PC" (3-11).

Result:

Tracing is turned on and a trace file is generated.

6 Verify that the trace file exists.

Result:

The file appears in the appropriate directory.

END OF STEPS

□

View the core file

Purpose This procedure is used to view the core file created when a server dies.

Definition: core file The core file contains information that identifies which process died and caused the core dump. It is used during troubleshooting to help identify what caused the server to die.

About the core file When a server shuts down, a core file may be created in **/usr/dacscan/bin**. The core file reveals the identity of the server. Because the server is automatically restarted, service on that particular function of the system is only impacted for a brief period. Until it has restarted, information will not be lost because the system's bulletin board will buffer services requested upon that server.

Task Use these steps to view the core file:

1 Using the system console, log in to the primary host as `dacscan`.

2 At the prompt, type: `ls -l core`

Result:

The core name displays in the following file format: `core.<PROCESS_NAME>.<process>`

3 Enter the following command: `file core`

Result:

A file is created which may be used for verification purposes. It is stored under the */usr/dacscan/bin* directory and is named *core.<PROCESS_NAME>.<process>*.

END OF STEPS

□

View the log files

Overview

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 log files are the following:

- The sys (System Event) log file records all system error messages; the filename is **nms.log.<hostname>**.
- The dcs (Digital cross connect log) records communication information with the DACS in the network. The filename is **ne.log.<hostname>**.
- The notification log filename is **notif.log.<hostname>**.
- The Orbix log filename is **orbix.log.<hostname>**.
- The HP client log filename is **console.log**; it resides at: **/home/<user_name>/NM/<workstationname> . <pid>/jui/logs/console.log**.
- The PC client log file is stored at **<drive>:\jui\logs\<user>.log**.

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

Log Files

All significant events associated with the database backup and transfer scheme are logged.

The events are also retained in log files in **/dacscan/tmp**.

Log file management for joint workstations

Joint workstation logs record all ICA client sessions from a joint workstation. The log files for the joint workstation are not automatically deleted by the system. For space consideration, it is recommended that the system administrator or user manually delete the log files that are no longer necessary.

Location of log files

Joint workstation log files are located in **c:\jui\logs** and use the format *<username><win station name>#<a random number>*, where:

- *<username>* is any valid user.
- *<win station number>* is the console on which the GUI is run.

- # is the actual character #.
- *<a random number>* is any random number assigned (<999). The random number is attached to the log file to prevent a user with the same user ID from overwriting a log file that is already in use.

□

View the log file on an HP workstation

Purpose This procedure is used to view the log file residing on an HP workstation.

Task Use these steps to view the log file:

1 Using the system console, log in to the primary host as `dacscan`

2 Change to the directory containing the log file to be viewed. Type `cd /<full_directory_pathname>`

For example, type `cd /home/<user>/NM/<workstation>.<pid>/jui/logs/console.log`

3 Enter `pg <logfilename>.log`.

Result:

The contents of the log file is displayed.

END OF STEPS

□

Clear trace files on a server

Purpose This procedure is used to trace files on a server.

Important! Before you begin this task, be sure that you are in the correct directory, or a disaster may occur. All deleted files ***will not*** be recovered.

Task Use these steps to clear trace files on a server:

1 Using the system console, log in to the primary host as `dacscan`.

2 At the prompt, type:

```
cd /dacscan/trace
```

Result:

The directory has changed to the one containing the trace files.

3 At the prompt, type:

```
for i in 'ls'
do
>$i
done
```

Result:

The trace file's contents are cleared.

END OF STEPS

□

Determine which software patch is loaded

Purpose This procedure is used to determine which software patch is loaded.

Task Use 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 is displayed.

END OF STEPS

□

Display the release and load ID

Purpose This procedure is used to display the Navis™ Optical NMS release number and load ID.

Task Use these steps to display the Navis™ Optical NMS release number and load ID.

1 Log in to 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-nmshr-loadid`.

Result:

The current load ID is displayed.

END OF STEPS

□

Create a single file for trace data

Purpose This procedure is used to create one file containing information from one or more trace files created on the server.

Task Use these steps to copy trace source into one file:

1 Using the system console, log in to the primary host as `dacscan`

2 At the prompt, type:

```
cd /dacscan/trace
```

Result:

The directory has changed to the one containing the trace files.

3 At the prompt, type:

```
tar cvf trace.tar ./*
```

Result:

The files will be copied into a single file.

END OF STEPS

□

View the console.log file on a Windows PC

Purpose This procedure is used to view the console.log file residing on a PC.

Task Use these steps to view the log file:

1 Log in to the PC as **sa**

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

Result:

The file is displayed.

END OF STEPS

□

10 Patch and Software Upgrade Tasks

Overview

Purpose This chapter provides Navis™ Optical PM - NP patch and upgrade information.

Information Information not available.

Contents

Determine which software patch is loaded

Purpose This procedure is used to determine which software patch is loaded.

Task Use 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 is displayed.

END OF STEPS

□

Appendix A: Navis™ Optical PM - NP Filesystems

Navis™ Optical PM - NP file systems

Introduction

This appendix contains a list of the Navis™ Optical PM - NP file systems.

List of file systems

The following lists the directory structure supported within the Navis™ Optical PM - NP application.

1. Root directory (**/**)
2. OS kernel (**/stand**)
3. Spool directories (**/var**)
4. Core OS components (**/usr**)
5. Optional software (**/opt**)
6. Provisioning documents directory (**/dacscan/prov**)
7. Alarms directory (**/dacscan/alarms**)
8. Three Oracle tablespace directories (**/oradb**, **/oradb2**, **/oradb3**)
9. Application logs directory (**/dacscan/log**)
10. Database redo 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. Filesystem used for the PAMs feature **(/ITM_QA)**

□

Appendix B: Navis™ Optical PM - NP Configuration Parameters

Overview

Description To change Navis™ Optical PM - NP configuration parameters, contact Lucent Customer Support.

□

Glossary

A

Action

Order Action - Represents the work activities against a facility/circuit order.

Add Channel

One direction of a bidirectional signal; a wavelength being added into the single flow.

Add Side

Hardware that handles a signal coming in from the network to an end terminal.

ADM

Add-drop multiplexer

Aggregate

A collection of one or more network elements and/or aggregates. An aggregate is represented by a single icon on the Network Map.

AIS

Alarm Indication Signal

AL

Alarm List

Alarm

An event, or a pair of events, that indicates there is a problem that must be resolved by the operator. Alarms appear in the Alarm List. There are different types of alarms, including current alarms, repeat alarms, and historic alarms.

Alarmed Object

A network resource on which a problem exists or has existed, and on which a user needs to take action. The network resource can be a piece of equipment, a port, or a trail.

Archive

The act of copying information to an external device. The file may then be referred to as an archive file.

Area

Networks managed by Navis™ Optical PM - NP can be subdivided into smaller, manageable networks called areas. An area is a collection of nodes and/or aggregates, and their associated links. An area is represented by a single icon on the Network Map. Subdividing a network into areas reduces overcrowding on the display and improves system performance because smaller amounts of information are exchanged by the subsystems.

Assignable

A characteristic of a trail set at the time of provisioning. In Navis™ Optical PM - NP, a trail should be set as assignable if it is expected that at least one client trail will be provisioned for it.

B

BBE

Background Block Errors - An errored block not occurring as part of an SES.

Black box

A functional network unit, displayed on the Network Map, that is not monitored or controlled by Navis™ Optical PM - NP. An example of a black box is a non-Lucent network element.

BLSR

Bidirectional Line Switched Ring

C

CAC

Circuit access code - A code unique to a particular circuit that equates to a particular Circuit Identification name for the same facility/circuit. The code is randomly generated in the circuit provisioning system. The CAC does not change during a facility's lifetime.

Catalogued connection

A connection that physically or logically exists in the network, and that is recorded in Navis™ Optical PM - NP.

Channel

When either a digital link, path, or facility is channelized, it is subdivided into channels. For Time Division Multiplexing (TDM) equipment, channels represent the time slots with which information is carried within a digital link or in a server trail. Channels are created by Navis™ Optical PM - NP for use during circuit/trail provisioning. When creating channels for digital links, depending on the network element capability, alternate channels are created. The channel is given an identity when it becomes either a provisioned path or facility, or a subdivision of a digital link, path, or facility.

Channel Type

Indicates the type of channel riding on a facility/circuit.

Circuit
A transmission path through the network, terminating at equipment at both the A and Z ends. The transmission path combines equipments and channels of facilities. The circuit has a defined purpose such as data, video, or voice.

Circulate
The act of moving the window at the bottom of a stack (of windows) to the top of the stack.

CKT
Circuit

CLO
Circuit Layout Order - Code (number) identifying a specific circuit layout order (configuration), and used as the work item tracking key for a circuit order.

COI
Complete Order/Item state - The last state in most circuit order life cycles.

Cold backup
A backup that is performed while Navis™ Optical PM - NP is not running.

Connection
Generic name for all transmission objects managed by Navis™ Optical PM - NP. A connection can be a trail or a subnetwork connection or a link connection.

Console
A local terminal which is dedicated to administering a single host machine, and connected directly via a console port.

Controlled network element
A network element controlled by Navis™ Optical PM - NP that displays on the network maps as nodes interconnected by digital links. These network elements are in constant communication with their EMS and are controlled by commands sent from the EMS. They also report and show alarms. ***See*** Network element.

CORBA
Common Object Resource Broker Architecture

CTM
Channel Terminations state - The state in a circuit order's life cycle where the user enters channel termination information.

Current Alarm
A new alarm received by, or generated by, Navis™ Optical PM - NP.

Customer equipment
See Equipment.

D

DA
Digital Cross Connect Alarm - Displays the type of digital cross-connect alarms that are active on the port. Possible values are: E (equipment alarm), S (signal or loss of signal alarm), P (performance), M (multiple alarms).

Days Past Due
The number of calendar days (0-30) past the due date of a pending order.

DB
Database

DB Sync
Database Synchronization - Refers to the synchronization of digital cross-connect system databases with the Navis™ Optical PM - NP database.

DCS
Display Construction Set

DD
Due date - Date when the work requested by the order is to be completed.

Default Weight
Navis™ Optical PM - NP calculated link weight.

Dense Wavelength Division Multiplexing (DWDM)
A connection that combines multiple optical signals to increase capacity. These signals are amplified as a group and then transported over a single fiber.

Digital link
Fiber or electrical connections between two points. These transport facilities are assignable to high-order and low-order circuits to carry customer services.

DISC
Disconnect (improper disconnect) - Indicates whether a facility/facility channel has been improperly disconnected. If it has, a ***D*** appears in this field and Navis™ Optical PM - NP lists it as In-Effect.

Domain
A collection of network elements that can be assigned to specific users in “database partitioning.”

Drop Channel
One direction of a bidirectional signal; a wavelength being dropped from the single flow.

Drop Side
Hardware that handles a signal leaving an end terminal and heading out to the network.

DTE
Data Terminating Equipment

DTS
Digital Transmission System

DWDM
Dense Wavelength Division Multiplexing

DXC
Digital Cross-Connect System - A generic term for electronic cross-connect systems.

DXC Model
The model of the digital cross-connect system frame.

DXCAM
Digital Cross Connect Administration and Maintenance

E E

Specifies an alarm condition for the equipment assigned to an area.

E1
International facility on which DS0 channels are multiplexed up. The E1 carries 32 channels; channel 0 is used for signaling between DACS frames. Channel 16 may be used for carrying DS0 signaling. Otherwise, channel 16 may be used for customer service and signaling is carried inband.

EBC
Errored Block Count

EML
Element Management Layer

EMS
Element Management System

Equipment
Equipment is a network element that will never be controllable. Customer equipment does not report alarms and the Navis™ Optical PM - NP does not send provisioning commands to customer equipment. Customer equipment does not appear on the Network Map but does appear at the Graphical Layout of the provisioned digital link, path, and/or circuit. Although customer equipment is not displayed on the Network Map, it can be a place holder for end lines. ***Also called*** customer equipment.

ES
Errored Seconds - A one-second period with one or more errored blocks or at least one defect.

Event
Something that has happened — either in the transmission network, or in an EMS that Navis™ Optical PM - NP is managing, or within Navis™ Optical PM - NP itself. Examples of events include an operation that has succeeded, an operation that has failed, or failure of a network resource. Failure events give rise to alarms. Some events occur as a pair (a raise followed by a clear).

External Address
Address used by Navis™ Optical PM - NP in configuration management.

F

Facility
A carrier of low-order trails. A facility is a channel-assignable trail.

Fault State
The state of an alarmed object with respect to its ability to carry traffic.

There are three fault state values:

- "Working" indicates that the object can carry traffic as intended.
- "Degraded" indicates that the object is still carrying traffic but has lost some protection or the quality of traffic is impaired.
- "Failed" indicates that the object is not carrying traffic.

Faulted connection
A connection that has an event correlated against it.

FM
Fault Management

Form
A task window where the user can enter data, perform commands, and view data from the system.

Full Geographic Redundancy
See Geographic Redundancy

G

Geographic redundancy
Geographic redundancy provides site protection by maintaining a primary server and a standby server in separate locations and ensuring that the two servers are far enough apart so that natural disasters or adverse weather conditions cannot affect the primary and standby servers at the same time. The database of the standby server is maintained as a copy of the primary server. If the primary server fails, the standby server can be manually brought on-line.

There are two types of geographic redundancy:

- ***simplified***, an optional Navis™ Optical PM - NP feature which uses nightly backups to update the database of the standby server.
- ***full***, an optional Navis™ Optical PM - NP feature which uses a mirroring facility to update the database of the standby server every 30 minutes.

The two types of geographic redundancy differ in the frequency of database updates from the primary server to the standby server.

GR
Geographic Redundancy

GUI
Graphical User Interface

H

Historic alarm
An alarm that has been deleted.

Hot backup
A backup that is performed while Navis™ Optical PM - NP is running.

I

IMP
Implementation state - The state in the life cycle of a circuit order where the digital cross-connect system commands are implemented.

IMR
Implementation Roll state - The state in the life cycle of a circuit order that permits testing between the bridge and roll commands.

Int ChType
Internal Channel Type

IOR
Inter-operable Object Reference

L

LAY
Layout state

Location
The location code of the equipment or digital cross-connect frame.

LOF
Loss of frame

Log
Record of past and/or current activities.

Logical Port Address (External or Internal)
Address of a channel (logical channel) riding on a higher-order system; the higher-order system is terminated on a physical port. There are two address formats: ***network-level*** (external) and ***EMS-level*** or ***Network Element level*** (internal).

LOM
Loss of multiframe

LOP
Loss of pointer

LOS
Loss of signal

LSR
Line-Switched Ring

M

MDI
Miscellaneous Discrete Input

MDO
Miscellaneous Discrete Output

MIB
Management Information Base. A conceptually organized database that contains the management information accessed through SNMP.

MODE
Execution (Restoration) mode of a preplan circuit.

MS
Multiplex Section

MS-SPRING
Multiplex Section-Shared Protection Ring

MSP
Multiplex Section Protection

MT
Moyens de Transmission (Transmission Means)- A digital transmission medium (facility) of specific bandwidth between A Location and Z Location. Contract circuits are routed on MTs.

N Navis™ Optical PM - NP System

The Navis™ Optical PM - NP System is a management system for the WaveStar® product family, providing Element Management Layer (EML) management functions for WaveStar® products. This system has configuration management, fault management, performance management, and security management functions.

NE
Network Element

Network
A network carries a payload from one point to another. This payload can consist of data, voice, video, or images. Only circuits carry data. Digital links, facilities, and paths carry the circuits that carry the data.

Network connection
A transport connection that is connected at each end to a trail termination point.

Network element
A network element is a functional unit in a customer's network that the Navis™ Optical PM - NP displays on the Network Map and is monitored by the Navis™ Optical PM - NP user through the graphical user interface. Network elements supply switching, transmission, or multiplexing functionality in a network. A network element is either ***controlled*** or ***noncontrolled***.

Node
Physical location representing any managed equipment, including regenerators.

Non-assignable
A characteristic of a trail set at the time of provisioning. In Navis™ Optical PM - NP, a trail should be set as non-assignable if it is expected that no client trail will be provisioned for it.

Non-service-affecting alarm
Alarms categorized as ***non-service-affecting*** indicate that at least one channelized facility, without provisioned circuits, is alarmed.

Noncontrolled network element
A noncontrolled network element is a Black box or Customer equipment that cannot be controlled by Navis™ Optical PM - NP. These network elements do not report alarms. Noncontrolled network elements support only manual provisioning and are listed in the database as a part of provisioning records. ***See*** Network element.

NSA
Non-service-affecting

NTN
Network Telephone Number - Used on a network to represent a physical address.

NTN1
Network Telephone Number - Primary telephone number of the digital cross-connect frame on the packet network.

NTN2
Network Telephone Number - Backup telephone number of the digital cross-connect frame on the packet network.

O

OA
Optical Amplifier

OCH
Optical Channel

OFS
Out-of-Frame Seconds

OLS
Optical Line System

OMS
Optical Multiplex Section

Order
Circuit Order number

OTU
Optical Translator Unit

P

PDH
Plesiochronous Digital Hierarchy

Performance Monitoring (PM) Export
An optional feature that allows performance-monitoring information to be exported to a predefined data file, which can be used for a variety of purposes.

Physical Port
The object responsible for the processing of the signal on the communication infrastructure. For an optical port, the physical port is the processing from fiber to the optical MS level.

Physical Port Address (external or internal)
Address of the port that physically terminates a facility.

Plesiochronous Digital Hierarchy
A transmission hierarchy wherein all the elements have the same nominal digital rate but are synchronized on different clocks (near synchronization).

Port
The port address of the facility.

Post
Command to initiate the continuity check of a facility/circuit layout across the network and to determine the route of a facility or circuit.

Preplan Circuit
The preplan circuit is the protecting circuit used to restore the service circuit. Also known as service circuit.

Preplan Restoration
An optional feature that allows a dedicated backup route to be specified for paths and circuits. When Preplan Restoration is used, a disrupted circuit is temporarily rerouted on an alternate route to restore service. The restoration process is triggered manually or automatically by an alarm. Once the alarm situation is resolved, the restored circuit can be manually reinstated to its original route.

Primary Alarm
An alarm that is a direct result of a failure in the network, such as Loss of Service (LOS).

Protection Path
The protection path is a backup route that protects the service path. The service path is the path that is standards operational.

PSR
Path-Switched Ring

PTI
Path Trace Identifier

R

Receive Date
The date an order is received.

Redline
Indicates whether circuit requires special service protection marking and treatment.

Refederate
The process of re-establishing the association between the Navis™ Optical PM - NP and Navis™ Optical EMS Orbix instances.

Repeat Alarm
A type of current alarm; a current alarm that has the same source as probable cause as another current alarm becomes a repeat alarm.

Response Display
You specify whether you want to see all responses from the frame, only your own responses, or your own and alarm responses.

Ring
Rings are formed when the digital links connect all participating network elements to form a closed loop.

RNAME
The system name that identifies the specific DTE to use to communicate with the packet network and the host name.

S

SA
Service affecting

Scheduled entity
A provisioning assignment for a facility, path, or circuit that has been designated to occur at a future date and time. All assignments, with the exception of digital links, can be scheduled.

Section
A trail in a section layer.

Service Circuit
See Preplan circuit.

Service Path
The path that is standards operational. The protection path is a backup route that protects the service path.

Service-affecting alarm
Alarms categorized as ***service-affecting***indicate that at least one non-channelized facility is alarmed or that at least one channelized facility with provisioned circuits is alarmed.

SES
Severely Errored Seconds - A one-second period that contains 30% or more errored blocks or at least one defect. SES is a subset of ES.

Shared Risk Group
A group of entities that share the risk among fibers which use the same conduit.

Simplified Geographic Redundancy
See Geographic Redundancy.

SNCP
Subnetwork Connection Protection

SNMP
Simple Network Management Protocol

SNMS
See Navis Optical Element Management System (EMS).

Speed
Baud rate

Status
Current condition or state of progress of an instance or object.

Subnetwork
A collection of interconnected network elements that has a certain behavior. The subnet concept allows Navis™ Optical PM - NP to manage fixed cross-connect systems and rings through multiplexers. Also called a ″subnet.″

Synchronous Digital Hierarchy
A transmission hierarchy wherein all the elements are synchronized.

Synchronous Optical NETwork (SONET)
An industry standard for high-speed transmission over optical fiber, which specifies a hierarchy of rates and formats for optical transmission ranging from 51.84 Mbps to 13.271 Gbps. These rates were created to provide the flexibility needed to transport many digital signals with different capacities and to provide a design standard for manufacturers.

The SONET protocol stack consists of the following four layers:

- The ***photonic layer*** is the electrical and optical interface for the transport of information bits across the physical medium. It converts STS-N electrical signals to OC-N optical signals. It performs functions associated with the bit rate, optical-pulse shape, power, and wavelength. It does not use any overhead.
- The ***section layer*** transports the STS-N frame across the optical cable and establishes frame synchronization and the maintenance signal. Its functions include framing, scrambling, error monitoring, and orderwire communications.
- The ***line layer*** provides the synchronization, multiplexing, and automatic protection switching (APS) for the path layer. Because it is primarily concerned with the reliable transport of the path layer payload (voice, data, or video) and overhead, it allows automatic switching to another circuit if the quality of the primary circuit drops below a specified threshold. Overhead includes line-error monitoring, maintenance, protection switching, and express orderwire.
- The ***path layer*** maps services such as DS3, FDDI, and ATM into the SONET payload format. It provides end-to-end communications, signal labeling, path maintenance, and control and is accessible only through terminating equipment. A SONET ADM accesses the path layer overhead; a cross-connect system that performs section and line layer processing does not require access to the path layer overhead.

T

Tandem connection
A sublayer between the management system connection and path layer that allows users to monitor the quality of the signal transport within its managed domain. Tandem connections also provide users with information about the total quality of a signal before the signal travels from the user's managed network to a network managed by a different user. Users can create tandem connections on paths that do not terminate in its managed network but traverse its network from other user managed networks.

TCA
Threshold Crossing Alert

TCAL
Traffic Correlated Alarm List

TCM
Tandem Connection Monitoring

Termination
Port address

TID
Target Identifier - The target identification name of the digital cross-connect frame, that is used in the network to identify a digital cross-connect frame. (Same as **NEID**.)

TMAG
See Transport Manager Application Group.

TP
Termination Point

Trail Termination Point
The transport, trail termination, and adaptation functions that terminate a trail.

TTP
Trail Termination Point

U

UAP
Unavailable Period

UAS
Unavailable Seconds - A period containing 10 or more consecutive Severely Errored Seconds.

UID
User Identification - Host login of the user.

Uncatalogued connection
A connection that physically or logically exists in the network, and that is ***not*** recorded in Navis™ Optical PM - NP.

Uncorrelated Alarm
Specifies an alarm condition that exists on ports or network elements assigned to an area that does not terminate links, trails, or circuits in Navis™ Optical PM - NP.

Uncorrelated Event
An event that does not affect any trail provisioned in Navis™ Optical PM - NP.

User defined area maps
These maps allow a specific user to define which network elements to display on the screen within a submap. See ***User defined submaps***.

User defined sub maps

These maps allow a specific user to define what areas to display on the screen. See ***Area*** and ***User defined area maps***.

User ID

A login ID. Each user ID represents a person who has been granted access to use Navis™ Optical PM - NP.

User Profile

A user profile is an association of a list of tasks with a User ID. The user profile controls which tasks the user is allowed to perform.

V

VCIT

Virtual Craft Interface Terminal

Virtual Port

Terminates the two line ports in a protection scheme. You enter the line port addresses in the normal manner. The virtual port address is in addition.

Virtual Port Address (External or Internal)

Addressing scheme that allows you to enter a virtual port address that controls the two line ports; the address allows one line port to be the service port and the other line port to be the protection port. Virtual port addressing is a protection scheme.

VPN

Virtual Private Network

W

Work Log

The history of a work item; a log of significant operations performed on work items.

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T