

Lucent Technologies
Bell Labs Innovations



Navis™ Optical Element Management System (EMS)

Installation Guide

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About This Information Product

Purpose	The <i>Navis™ Optical Element Management System (EMS) Installation Guide</i> provides application information for the installation, turn-up, and configuration of the Navis™ Optical EMS.
Reason for issue	This <i>Installation Guide</i> is a new document that supports Navis™ Optical EMS Release 7.0 (R7.0).
Safety labels	Safety labels are not applicable to this document.
Intended audience	<p>This document is intended for system administrators or operations personnel who are responsible for the installation and administration of Navis™ Optical EMS.</p> <p>Users should thoroughly understand the UNIX® operating system and should be familiar with the administration of computers that run the UNIX operating system. Users should also understand the functioning of Local Area Networks (LANs) in order to install and administer the Navis™ Optical EMS system.</p>
How to use this information product	<p>This document, which should be used as a guide to installing this release of Navis™ Optical EMS, is organized into the following parts:</p> <ul style="list-style-type: none">• The front matter of the document consists of a title page, copyright page, customer comment form, a contents section, and this preface. The customer comment form should be used to provide

feedback on the document. The contents section, which is titled *Contents*, should be used to locate a particular numbered procedure.

- The body of the document consists of nine chapters and six appendices that are detailed in the *Contents*. The chapters contain numerous procedures, which should be used for the actual installation and/or upgrade of the product. The appendices contain useful reference material. Many of the procedures refer to technical material provided in the appendices.
- The back matter of the document consists of a cross-referenced index, which should be used to access topics quickly.

Conventions used This document uses the following typographical conventions:

- The names of commands, any text entered by the user, and selections made by the user appear in **boldface type**.
- The names of documents, document parts, directories, files, and words being defined appear in *italics*.
- System messages and output appear in `monospace type`.

How to comment Customer satisfaction is extremely important to Lucent Technologies and we at Lucent welcome your comments. All of our users are encouraged to provide feedback on the Navis™ Optical EMS documents using the customer comment form that appears immediately after the title page of this document. Please complete the form and fax it to the number provided.





1 Getting Started with the Basics

Overview

Purpose This chapter provides general information about the overall installation of Navis™ Optical EMS.

Contents The following topics are discussed in this chapter.

Before You Begin	1-2
The Order of the Installation	1-5
Procedure 1-1 Configuring the Southbound LAN	1-6
Procedure 1-2 Adding an Entry to the /etc/hosts File	1-8



Before You Begin

Ignite-UX! and a Set of Software Tools

A set of software tools is used to install all Navis™ Optical EMS applications. These tools help to configure logical volumes and file systems, add logins and groups, and set up various files that support the Navis™ Optical EMS application.

The installation process is performed through *Ignite-UX!*, which has scripts that guide you from the installation of the Core OS, HP OpenView, and the Navis™ Optical EMS tools through the installation and the configuration of the Navis™ Optical EMS application.

Check the System Configuration

Before you begin any installation, refer to the *Navis™ Optical EMS Applications and Planning Guide* and *Appendix E, HP Server Specifications* to determine whether you have the current hardware configuration that is supported for this release.

Check the GUI and Firewall Ports

For the GUI to work properly, certain firewall ports must be unassigned. Therefore, before the installation process commences, these firewall ports must remain open:

1570, 2000, 3000, 4000, 4998, 4999

The following output illustrates the method in which the status of these ports can be verified:

```
siren: psit | grep GUI*
GUI_Server          *  cdr  tcp  2000  manual  ---  6323
GUI_AdminServer    *  cdr  tcp  4999  manual  ---  6318
```

The current, unassigned port numbers are **2000** and **4999**; the ports used for Navis™ Optical EMS features, such as cut-through and software download, are 6323 and 6318.

Know How to Get Help for snmsInstall

At any time during the installation, you can interrupt the Ignite-UX! process by inputting the interrupt character, which is, in most cases, **<Control> <C>**.

By interrupting the Ignite-UX! process, you can verify hardware or a log file, or start the Ignite-UX! process from a particular installation or loading point. Such interruptions of Ignite-UX! are facilitated with the **snmsInstall** command. For on-line help with **snmsInstall**, type:

snmsInstall - ?

The **snmsInstall** parameters and a brief explanation appear as shown.

snmsInstall [-R|-p|-o|-h|-t|-c|-i|-a|-e] [-r] [-s] [-S]

Where:

- R** Restore the system configuration. i.e., /startup and VGs.
- p** Start **snmsInstall** from the installation of the Navis™ Optical EMS OS Patch bundle.
- o** Start **snmsInstall** from the installation of the HP OpenView.
- h** Start **snmsInstall** from the installation of the H/A software.
- t** Start **snmsInstall** from the loading Navis™ Optical EMS Tools; i.e. Informix, Orbix, and Patches.
- c** Start **snmsInstall** from the loading Navis™ Optical EMS ColdStart.
- i** Start **snmsInstall** from the running init_disk.
- a** Start **snmsInstall** from the configuration of the application.
- e** End the installation—set the state to *Done*.
- r** Only reset the new state; do not execute.
- s** Display the current Navis™ Optical EMS installation state.
- S** Execute one option only—do not continue to the next state.
- ?** Print this message for help.

Syntax Examples:

To reset to a different state, execute the following command line:

```
snmsInstall -r [ -p|-o|-h|-t|-c|-i|-a|-e ]
```

To retrieve the current state, execute the following command line:

```
snmsInstall -s
```

To run a single command only, execute the following command line:

```
snmsInstall [ -p|-o|-h|-t|-c|-i|-a ] -S
```

Verify the Checklists and Complete the Worksheets Thoroughly

The forms in *Appendix F, Checklists and Worksheets* will help you to gather essential information that is needed to upgrade existing systems and to install redundant systems.

Use the checklists to verify that you have the appropriate information and materials at hand before beginning.

When installing redundant systems, accurate cluster installation and configuration information is vital to the success of the installation; therefore, it is important to complete these worksheets in detail because:

- They provide input for the **init_disk** template modification.
- They provide input for the **installHA** script.
- They document the configured system for future maintenance.

Useful Commands

When completing the worksheets, the following commands are useful to determine the correct and needed information:

- **uname -a**
- **dmesg**
- **ioscan -fn**
- **lanscan**
- **vgdisplay -v [/dev/vgXX]**



The Order of the Installation

- Order of the Items** During installation, the order for installing the items must proceed as follows:
1. WebConsole, for HP's L-Class and N-Class servers only
 2. Ignite-UX! process in which the HP-UX[®] 11.0 OS, the drivers, and the OS patches are installed
 3. HP OpenView[®], which is optional
 4. Navis[™] Optical EMS High Availability (HA), which is optional
 5. Navis[™] Optical EMS Tools, which include Informix[®], Orbix[®], and Perl
 6. snmsInstall -c, which includes the following:
 - loading ColdStart (from the Navis[™] Optical EMS Application CD-ROM)
 - formatting disks (init_disk utility)
 - running the ColdStart script
 - installing and configuring the Navis[™] Optical EMS Application (ems)
 - configuring the ACC/X.25 software, which is optional
 7. HP OpenView License installation (optional)



Procedure 1-1 Configuring the Southbound LAN

Overview The System Administration Manager (SAM) and the **ifconfig** command are used to configure and verify the southbound LAN interface to the network elements (NEs).

Use Separate Subnets The IP address of the LAN card used for the southbound traffic must be on a separate subnet than the LAN card selected as the local TCP/IP.

Assign REAL versus DUMMY Southbound IP Addresses If the communication protocol to the NEs is pure OSI, use SAM to assign a *dummy* IP address to the southbound LAN card. For example, 17.17.17.xxx (where: xxx equals any three numbers that are to be used) and a netmask of 255.255.255.0.

If the communication protocol to the NEs is OSI over TCP/IP, use SAM to assign a *real* IP address that is on a separate subnet to the southbound LAN card, which is the same IP address that is to be used on the NEs as the IP address of the DSA (assuming the NE is provisioned as a transport bridge and the DSA is on the Navis™ Optical EMS host). The netmask for this LAN interface is provided by the customer.

Default Gateway Routing SAM assigns the same default gateway router IP address to all LAN cards. This default gateway router IP address is the address that is entered when loading HP-UX 11.0 or changed via the **set_parms addl** command.

Depending on the type of subnet, the LAN cards will likely use different default gateway routers. (Remember, physical routers allow multiple logical subnets and gateways to be created.) If the LAN cards use different default gateways, manually edit the */etc/rc.config.d/netconf* file and follow the documented format in the file to assign a different default gateway IP address to each LAN card.

Duplicate IP to Name Resolution in /etc/hosts SAM forces an alias to be created for each additional LAN card that is configured because the Navis™ Optical EMS host system name is used for each interface. Check the */etc/hosts* file to ensure that duplicate IP to host name resolutions do not exist. See *Procedure 1-2 Adding an Entry to the /etc/hosts File*.

Task Use these steps to configure Network Interface Cards (NICs) using the System Administration Manager (SAM).

- 1** At the # prompt, enter sam:
sam

- 2** While SAM is coming up, press **Enter** to specify all the defaults.

- 3** When SAM appears, use the arrow keys to go to **Networking and Communications**.

- 4** Use the arrow keys to select **Network Interface Cards**.

- 5** Press **Enter**.

- 6** Select the correct Network Interface Card (NIC).

- 7** Tab to **Actions**.

- 8** Use the arrow keys to select **Configure**.

- 9** Insert the IP address, the host name alias, and the subnetwork mask.

- 10** Select **OK**.

END OF STEPS



Procedure 1-2 Adding an Entry to the /etc/hosts File

Purpose This procedure is used to add an entry to the */etc/hosts* file.

Task Use these steps to add an entry to the */etc/hosts* file.

1 Login as **root**.

2 Use the **vi** editor to access the */etc/hosts* file:
vi /etc/hosts

3 Add a command line entry using the following format:
<IP address> <Tab> <hostname> <space> <optional fully qualified host name>
Example: **135.17.13.252 <Tab> timon timon.ho.lucent.com**

4 Save the changes you have made.

5 Logoff the system.

END OF STEPS





2 HP Web Console Installation

Overview

Purpose This chapter provides the procedures that are needed to install and/or configure HP's WebConsole on the its L-Series and N-Series servers.

Important! The tasks/procedures documented in this chapter should be performed by HP specialists; therefore the tasks/procedures provided in this chapter are for reference purposes only.

Contents This provides information on the following topics:

Procedure 2-1	Cabling the HP WebConsole	2-2
Procedure 2-2	Setting Up the HP WebConsole	2-4
Procedure 2-3	Creating the First Administrator Account Screen	2-6
Procedure 2-4	Configuring the IP Screen	2-7
Procedure 2-5	Resetting the HP WebConsole to its Initial Configuration	2-9
Procedure 2-6	Setting up the Emulation Mode	2-10



Procedure 2-1 Cabling the HP WebConsole

Purpose The L-Series and N-Series servers can support a typical system console; however, HP ships these servers with its secure WebConsole.

The WebConsole, which resides at the back of the L-Series or N-Series server, enables installers and administrators to access the server remotely via a LAN connection, a Web browser, and an IP address.

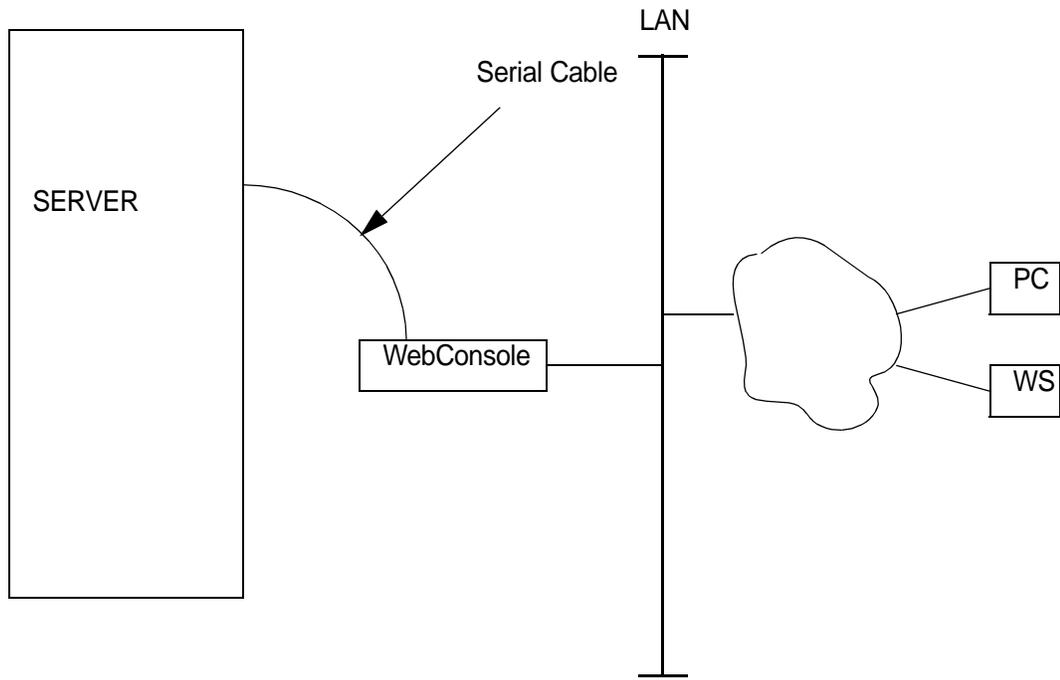
The WebConsole is connected to the office LAN and has a unique IP address—meaning, its IP address is different from the server’s IP address. It is connected to the server by a serial cable.

Before you begin You will need a laptop computer and a serial cable.

The serial cable is attached between the WebConsole and server **after** the WebConsole is configured.

Task The following figure illustrates how to install the hardware. The serial cable should be attached between WebConsole and server **after** the WebConsole is configured.

Figure 2-1 WebConsole Configuration and Installation



□

Procedure 2-2 Setting Up the HP WebConsole

Purpose For the initial setup, the HP WebConsole must be on the same physical LAN as the client PC, which is where the Web browser is running and where the initial configuration is to be performed. The most convenient method is to use a twisted Ethernet cable between WebConsole and client PC.

Before you begin Before beginning, have the following ready:

- the IP address and subnet mask for WebConsole
- the MAC address of the WebConsole
- the name of the server to be administrated

Task Use these steps to initially configure the HP WebConsole.

- 1** Verify that the client PC and WebConsole connect to the same physical LAN.

- 2** Verify that a Java™-enabled Web browser, such as Netscape 4.x or higher or IE 4.x or higher, is available on the client PC.

- 3** Power off any devices having the IP address of 192.0.0.192, which is pre-configured as the WebConsole.

- 4** Detach the serial cable between WebConsole and server for the security protection of the server.

- 5** Power on WebConsole.

- 6** If the WebConsole was previously configured, reset the WebConsole to the pre-configured address of 192.0.0.192. See *Procedure 2-5 Resetting the HP WebConsole to its Initial Configuration*.

7 Disable proxies on the browser or add 192.0.0.192 to the No Proxy needed list.

8 Add 192.0.0.192 to routing table:
route add 192.0.0.192 [client_host IP address]

9 Enter the command: **ping 192.0.0.192**

Result: If **ping** is not successful, configure using the MAC address:
arp -s 192.0.0.192 [MAC_address]. The Welcome Screen from the Web browser appears on *http://192.0.0.192*.

END OF STEPS



Procedure 2-3 Creating the First Administrator Account Screen

Purpose This procedure is used to create the first administrator account screen.

Before you begin You will need to provide the name, login, and password of WebConsole administrator. The password must contain at least six characters.

To login to the server from the WebConsole, the server's login and password are also needed. Once the WebConsole is reset (see Configuration Reset Procedure), this user information is lost.

Task Use these steps to configure the first administrator account screen.

- 1 Click **OK** at the Welcome Screen.

Result: The Create First Administrator Account screen appears.

- 2 For Name, provide the name of the WebConsole administrator.
-

- 3 For Information, type **Miscellaneous Information**.
-

- 4 For Login, supply the user name of the WebConsole administrator.
-

- 5 For Password, supply the password, which must be at least 6 characters, of the WebConsole administrator.
-

- 6 Click **OK**.

END OF STEPS



Procedure 2-4 Configuring the IP Screen

Purpose This procedure is used to configure the HP WebConsole's IP address, gateway, and system name.

After the IP configuration, the WebConsole assumes the name and the IP address supplied by the user. The WebConsole's default IP address of 192.0.0.192 will no longer be the IP address of WebConsole.

Before you begin You will need the name given to the WebConsole; the IP addresses of the WebConsole, the subnet mask, and the gateway of the WebConsole; and the name of system to which the WebConsole is attached.

Task Use these steps for the IP configuration.

- 1 Follow the guide from the **Create First Administrator Account** screen to the **Configure IP** screen.
- 2 For the Secure Console Name, provide the name given to WebConsole (for example: web+"name of the server").
- 3 For the IP address, provide the IP address for the WebConsole.
- 4 For the IP subnet mask, provide the IP address of the subnet mask.
- 5 For the IP gateway, provide the IP address for the gateway address.
- 6 For the System Name, provide the name of the system to which this WebConsole is attached.
- 7 Click **OK**.
- 8 Click **OK** to reboot.

Result: The system reboots.

9 Unplug the power lead to power off the WebConsole.

10 Click **Reload** on the web browser screen.

11 Proceed to *Procedure 2-6 Setting up the Emulation Mode*.

END OF STEPS



Procedure 2-5 Resetting the HP WebConsole to its Initial Configuration

Purpose This procedure is used to perform a configuration reset on the WebConsole, which restores the WebConsole to its original factory settings. For example: the IP address for the WebConsole will become 192.0.0.192 again.

This procedure should only be performed when required—for example: when a password has been lost.

Before you begin Since all previously configured information is lost during a configuration reset, note any existing configuration information that you would like to keep.

Task Use these steps for a configuration reset.

1 Power off the console by unplugging the power cord.

2 Press down the button on the console while powering on the console.

3 Release the button after a few second to reset the HP secure WebConsole to its original factory settings.

END OF STEPS



Procedure 2-6 Setting up the Emulation Mode

Purpose This procedure is used to set up the emulation mode. Once the emulation mode has been set up, HP OpenView can be accessed through the WebConsole.

Before you begin Before you begin this procedure, the WebConsole must be installed and configured.

Related information When this procedure is completed, proceed with installation of HP OpenView, which is documented in *Procedure 3-3 Installing HP OpenView*.

Task Use these steps to set up the emulation mode.

1 Click **Access Console**.

2 Select **Zoom In/Out** or **In/Out**.

3 On the top of menu, select **Settings->Emulation**.

Result: An **Emulation Settings** screen appears.

4 Click **Emulation**.

5 Change [Alpha Emulation] to **2392A**.

6 Click **OK**.

7 Close the WebConsole screen.

8 From the left side, click **Network**.

9 Change the Terminal Type variable to **hp2392**.

10 Proceed with the HP OpenView installation, which is documented in *Procedure 3-3 Installing HP OpenView*.

END OF STEPS





3 Ignite-UX! Tasks

Overview

Purpose This chapter provides the procedures that are needed to install and/or configure HP-UX software and the Navis™ Optical EMS application.

Contents This provides information on the following topics:

Procedure 3-1	Booting the HP Servers	3-3
Procedure 3-2	Installing HP-UX 11.0	3-5
Procedure 3-3	Installing HP OpenView	3-9
Procedure 3-4	Installing HA Software	3-13
Procedure 3-5	Installing MirrorDisk Software	3-14
Procedure 3-6	Installing Navis™ Optical EMS Tools	3-16
Procedure 3-7	Loading the ColdStart Utility	3-17
Procedure 3-8	Running the init_disk Utility	3-18
Procedure 3-9	Executing undo_disk	3-20
Procedure 3-10	Running the ColdStart Utility	3-22
Procedure 3-11	Installing the Navis™ Optical EMS Application (installEms)	3-25
Procedure 3-12	Installing the Permanent Navis™ Optical EMS Application License Key	3-27
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Procedure 3-15	Configuring the Navis™ Optical	

EMS Application (installEms)

[3-33](#)



Procedure 3-1 Booting the HP Servers

Purpose This procedure is used to boot the HP Series 9000 Servers. The HP K-Class, L-Class, and N-Class servers boot via the autoboot process; however, the server autoboot process can be halted and booting can be redirected to a device of your choice.

Before you begin Before the HP servers can be booted or before operating system software can be installed on the HP L-Series or N-Series servers, the WebConsole must be configured. Refer to procedures previously supplied in *Chapter 2, HP Web Console Installation*.

You need the appropriate Navis™ Optical EMS R7.0 CD-ROM for the server on which the software is being installed:

- HP-UX 11.0 Core OS-64 Bit is for HP L-Class and N-Class servers.
- HP-UX 11.0 Core OS-32 Bit is for HP K-Class servers.

To redirect the autoreboot process, you need to know the hardware path of the boot device that contains the Navis™ Optical EMS R7.0 CD-ROM. To find the address of the CD-ROM drive, use the **search IPL** command and look for the line that shows *sescsi.2*.

Task Use these steps to boot the HP Series 9000 Servers.

1 Power up the system.

2 Insert the appropriate Navis™ Optical EMS R7.0 Core CD-ROM into the drive.

Result: The system begins to autoboot. The HP copyright screen appears along with the message Processor is booting from first available device . . .

3 To discontinue and/or redirect the autoboot procedure, press any key during the first 10 seconds of the autoboot process.

Result: The **Main Menu** appears.

-
- 4** To redirect the autoboot process, specify the hardware path to the CD-ROM:

BOot <hardware path>

Result: The system boots from the device residing at the hardware path specified.

- 5** Respond **N** to the question `Interact with IPL (Y or N)?` **N**

Result: The system loads the Kernel, which takes about three to five minutes. The Welcome to Ignite-UX! screen appears.

END OF STEPS



Procedure 3-2 Installing HP-UX 11.0

Purpose This procedure is used to install HP-UX 11.0 operating system from the Welcome to Ignite-UX! screen via the Advanced Installation screen tabs, which are used to configure the disk and file system. This task includes verifying configured memory, supplying the appropriate boot paths and devices, selecting file systems, setting system parameters, and modifying the file system.

Before you begin The previous procedure, *Procedure 3-1 Booting the HP Servers*, must be completed.

In steps 8 through 12, you must supply the following information, so make sure it is handy:

- host name
- IP address of the host
- root password
- network services, such as the name of the static router, NIS, DNS, and XNTP
- time zone

Related information Ignite-UX! provides a simplified, menu-driven method of installing HP-UX 11.00 on HP's K-Class, L-Class, and N-Class servers.

The Advanced Installation option consists of the following screen tabs:

- Basic, which automatically supplies configuration information such as the operating system version and revision, the operating environment, the root disk, the file system, memory size data, and GUI language.

Either of these two options appear for File System:

- ***EMS K/18GB*** is used for K-Class servers.
- ***EMS Root Disk*** is used for L-Class and N-Class servers, or for K-Class servers configured with 9GB disks.

- Software, which automatically lists the software product and a description of that product.

Either of these two options appear for Product:

- ***EMS32BitDrivers*** is used for K-Class servers.

– **EMS64BitDrivers** is used for L-Class and N-Class servers.

Each driver file contains the 100BaseT LAN drivers plus patches, the X.25 driver, and the Unlimited User License.

- **System**, which requires you to supply the name of the host, the IP address of the host, the appropriate time zone, the root password, and for redundant configurations, network services.
- **File System**, which enables you to do a variety of file system and disk configuration tasks. It is at this tab that disk configuration information automatically appears for VG00 and VG01. This information should match your system configuration requirement. For redundant configurations, the default disk selected by Ignite-UX! might not be the disk you want.

Task Use these steps to install HP-UX 11.0 using Ignite-UX!.

-
- 1 At the Welcome to Ignite-UX! screen, tab to **Install HP-UX** and press **Enter**.

Result: The User Interface and Media Options screen appears.

-
- 2 Under the Source Location Options, tab to **Media only installation** and press **space**.

-
- 3 Under User Interface Options, tab to **Advanced Installation** and press **space**.

-
- 4 Tab to **OK** and press **Enter**.

Result: An *opt/ignite/bin/itool* () menu screen appears that shows specifications for the tab **Basic**.

-
- 5 Under the **Basic** tab at the **Root Disk** line, verify that the root disk is set to the correct destination drive.

Result: If the root disk is set to the correct destination drive, enter the correct information. The system automatically selects all other configuration assignments.

6 Tab to **Software** and press **Enter**.

Result: A menu screen appears that shows specifications for the tab **Software**.

7 At the Software tab, do not deselect any choices for the driver package or the Hardware Enablement and Critical Patch bundle. Tab to **System** and press **Enter**.

Result: A menu screen appears that shows specifications for the tab **System**, which is where you will set the final system parameters.

8 At the System tab, tab to the **Hostname** and supply the name of the host.

9 Tab to the **IP Address** and supply the IP address of the host.

10 Tab to **Set Time Zone** and supply the time zone.

11 Tab to **Set Root Password** and supply the root password.

12 For redundant configurations or for those standalone systems that need to communicate with other machines, tab to **Network Services** and supply the static router, DNS, NIS, and XNTP information for the particular customer site.

13 You can also add other LAN interfaces, such as OSI LANs via the **Additional Interfaces** option.

14 Tab to **File System** and press **Enter**.

Result: A menu screen appears that shows specifications for the tab *File System*. It is at this tab that a variety of file system and disk configuration tasks can be performed.

-
- 15** At the File System tab, disk configuration information automatically appears for VG00 and VG01. Verify that this information matches your system configuration requirement.
-



WARNING

In a local redundancy configuration, an incorrect VG01 disk could be chosen. A shared disk from the other processor could be chosen instead of a disk located on the current processor.

- 16** Make any file system and/or disk configuration changes needed. In any Ignite-UX tab screen that you happen to be in, tab to **Go!** and press **Enter** to execute any changes made.

Result: If the system was not previously installed, screens appear that indicate `Starting system configuration...` and the final OK screen appears. The system reboots and returns the login prompt. Go to step 17. If the system was previously installed, a warning might appear. Ignore the warnings and go to the next step. If the installation cannot complete, `Failure` appears.

- 17** If warning messages appeared, ignore the warning, tab to **Go!** and press **Enter** again to execute any changes made.

Result: Screens appear that indicate `Starting system configuration...` and the final OK screen appears. The system reboots and returns the login prompt. Go to the next step.

- 18** Continue with *Procedure 3-3 Installing HP OpenView*.

END OF STEPS



Procedure 3-3 Installing HP OpenView

Purpose This procedure is used to install HP OpenView, which is only required for the WaveStar® OLS 1.6T NEs.

Before you begin You must have installed HP-UX 11.0 using Ignite-UX!. Refer to *Procedure 3-2 Installing HP-UX 11.0*.

You need the HP OpenView CD-ROM.

Related information This procedure is related to *Procedure 3-13 Installing the HP OpenView License*.

Task Use these steps to install the HP OpenView product.

-
- 1 If you are already logged in as root, go to step 2. If you are not logged in as root, at the login prompt, login as **root**.

Result: The HP Restricted Rights screen appears and warns that you are logged on as superuser.

-
- 2 Answer **y** when the system prompts Do you want to install HP OpenView (y/n)? **y**

Result: The system responds with Installing HP Openview... and tells you to insert the HP OpenView CD-ROM.

-
- 3 At the prompt Please insert the HP OV CD into the drive and press Enter, press **Enter**.

-
- 4 Answer **y** to the prompt Do you plan to install any DM products? (y/n) **y**

-
- 5 Answer **y** to the prompt Do you want to continue and install the Bundled RFC1006 product? (y/n) **y**

6 Answer **y** to the prompt Do you still want to continue?
(y/n) **y**

7 Answer **n** to the prompt Do you want to install the OTS
manpages? (y/n) **n**

8 Answer **n** to the prompt Do you want to start OTS at boot
time?(y/n) **n**

Result: The system begins to install the first set of OTS files for
OTS/9000 and RFC1006. When it completes, the following
message appears: You must now configure an IP
address for RFC1006. The script will start
the OTS configuration tool...

9 Press **Enter** to start the configuration tool.

Result: The RFC1006 Configuration/Set Configuration Mode
screen appears.

10 Press the **Perform Task** button when in the HP terminal mode or press
[<Ctrl> <f>] <4> when in the VT100 terminal mode.

Result: The following warning appears: The osiconfchk
program reported a validation warning....

11 Press **Space**.

Result: The system requires you to perform an add, view/modify,
or delete on the RFC1006 Subnetwork.

12 Select **Add**.

Result: The Add RFC1006 Subnetwork screen appears.

-
- 13** Enter the IP address of the current host.
-
- 14** Press the **Perform Task** button when in the HP terminal mode or press [**<Ctrl> <f>**] **<4>** when in the VT100 terminal mode.
- Result:** The message `Task completed. You'll be returned to the previous menu... appears.`
-
- 15** Press **Space**.
- Result:** The previous menu appears.
-
- 16** Select the **Exit OSICONF** button when in the HP terminal mode or press [**<Ctrl> <f>**] **<4>** when in the VT100 terminal mode.
- Result:** The message `Changes have been made that will not take effect unit OTS has been (re)started.... appears`
-
- 17** Press **Space**.
- Result:** A confirmation message appears and the system reboots.
-
- 18** At the login prompt, login as **root**.
- Result:** The installation continues and the system once again warns you that you are logged in as superuser.
-
- 19** At the prompt, Continue installing HP OpenView, hit **<Return>** when ready, press **Enter**.
-
- 20** When prompted to select a supported language, enter **1** for English.

Result: The system responds with a list of the HP OpenView telecommunications products that you can install.

21 When prompted for the numbers of the products that you want to install, enter first the number **1** for the DM TMN Agent Platform.

22 Enter the number **2** for the DM TMN Agent Platform Man Pages.

23 When prompted for the next product number, enter **q** to quit.

24 Answer **y** when the system prompts whether you want to continue with this installation.

Result: The installation continues. When completed, an `Execution succeeded` screen appears.

25 If you are installing a high availability redundant system, continue with the installation of the Navis™ Optical EMS HA product, which is explained in *Procedure 3-4 Installing HA Software*.

26 If you are not installing a high availability redundant system, bypass the HA installation by pressing **n** when prompted.

Result: The system then prompts you to install the Navis™ Optical EMS Tools product, which is explained in *Procedure 3-6 Installing Navis™ Optical EMS Tools*.

END OF STEPS



Procedure 3-4 Installing HA Software

Purpose This procedure is used to install Navis™ Optical EMS High Availability (HA) software (installHA), which includes the MirrorDisk, MC/ServiceGuard, the HA Monitor, and EMS.



WARNING

Before you proceed, verify that the site of installation has already purchased and secured a license for MirrorDisk, MC/ServiceGuard, and the HA Monitor.

Before you begin You will need the Navis™ Optical EMS HA CD-ROM.

Task Use these steps to install the Navis™ Optical EMS HA fileset.

1 Login as **root**.

2 At the prompt, Do you want to install H/A software (y/n) : answer **y**.

3 Insert the Navis™ Optical EMS HA CD-ROM into the drive.

Result: The system instructs you to press <Return> when ready.

4 Press **Return**.

Result: The system begins to install the HA software and when completed, reboots the system.

5 Proceed to *Procedure 3-6 Installing Navis™ Optical EMS Tools*.

END OF STEPS



Procedure 3-5 Installing MirrorDisk Software

Purpose This procedure is used to install Navis™ Optical EMS MirrorDisk software. Any installation site can now choose to mirror all disks without a HA redundancy host.



WARNING

Before you proceed, verify that the site of installation has already purchased and secured a license for MirrorDisk.

Before you begin You will need the Navis™ Optical EMS HA CD-ROM.

Task Use these steps to install the Navis™ Optical EMS MirrorDisk fileset.

1 Login as **root**.

2 At the prompt, Do you want to install H/A software (y/n)?, answer **n**.

3 At the prompt, Do you want to install Disk Mirroring software (y/n)?, answer **y**.

4 Insert the Navis™ Optical EMS HA CD-ROM into the drive.

Result: The system instructs you to press <Return> when ready.

5 Press **Return**.

Result: The system begins to install the HA software and when completed, reboots the system.

-
- 6** Proceed to *Procedure 3-6 Installing Navis™ Optical EMS Tools*.

END OF STEPS



Procedure 3-6 Installing Navis™ Optical EMS Tools

Purpose This procedure is used to install Navis™ Optical EMS tools, which include Informix, Orbix 3.3.2, and Perl.

Before you begin You will need the Navis™ Optical EMS Tools CD-ROM.

Task Use these steps to install Navis™ Optical EMS Tools fileset.

1 If you are not logged in, login as **root**.

2 At the prompt, Please insert the EMS Tools CD into the drive, insert the CD-ROM into the drive.

Result: The system instructs you to press <**Return**> when ready.

3 Press **Return**.

Result: The message `Installing Informix Dynamic Server` appears and loading commences. All three filesets—Informix, Orbix, and Perl—should now be loaded. When loading is completed, you will be prompted to run `ColdStart`.

END OF STEPS



Procedure 3-7 Loading the ColdStart Utility

Purpose This procedure is used to load the Navis™ Optical EMS ColdStart utility.

Before you begin You will need the Navis™ Optical EMS Application CD-ROM.

Related information Refer to *Appendix A, ColdStart Screen Output* for additional information.

Task Use these steps to load the Navis™ Optical EMS ColdStart fileset.

1 If you are not logged in, login as **root**.

2 Insert the Navis™ Optical EMS Application CD-ROM into the drive.

Result: The system instructs you to press <**Return**> when ready.

3 Press **Return**.

Result: The ColdStart fileset is now loaded. When it is completed, the message `Starting init_disk, hit <Return> when ready` is displayed.

4 Proceed to *Procedure 3-8 Running the init_disk Utility*.

END OF STEPS



Procedure 3-8 Running the init_disk Utility

Purpose This procedure is used to run the init_disk utility.

Before you begin The previous procedure, *Procedure 3-7 Loading the ColdStart Utility*, must be completed.

You will need the Navis™ Optical EMS Application CD-ROM.

Related information If init_disk is running for the first time on your system, it automatically verifies and collects hardware information on your system and then configures the hard disk with little intervention from you. The init_disk utility saves the collected configuration data in the /startup directory for future use.

At the end of the init_disk utility, the system indicates if the process is successful (`success`) or a failure (`fail`). To make sure that the init_disk process has completed properly, check for any errors in the file `/tmp/init_disk.log`.

Refer to *Appendix B, init_disk Scenario* for more information on how to respond to the prompts that are displayed.

Task Use these steps to run the **init_disk** utility.

-
- 1 When you are prompted to start init_disk, press **Return** when you are ready.

Result: The **init_disk** utility begins execution. You are now prompted to re-execute the command `/tmp/init_disk`.

-
- 2 Enter `/tmp/init_disk`.

Result: The init_disk utility begins to set up a disk configuration with Performance Monitoring (PM). When init_disk completes, the message `Starting ColdStart and configuring EMS, hit <Return> when ready` appears.

-
- 3** Go to step 4 in *Procedure 3-10 Running the ColdStart Utility*.

END OF STEPS



Procedure 3-9 Executing undo_disk

Purpose This procedure is only used to reverse the effects of the init_disk utility during the installation procedure. The undo_disk utility restores the system (file systems, logical volumes, physical volumes) to the state which existed prior to running init_disk. The undo_disk utility does not undo the ColdStart process that runs before init_disk.

If this procedure is executed after the database and TMF have been installed and configured, additional steps will be required to restore the system.

Before you begin Once undo_disk is executed, it prompts you for the following:

- **y** to undo one specific configuration
- **n** not to undo one specific configuration
- **all** to undo every configuration

Related information Refer to *Appendix B, init_disk Scenario* for more information on init_disk and undo_disk.

Task Use these steps to run undo_disk. If the database and TMF have already been installed, execute steps 1 through 10. If the database and TMF have not been installed, execute steps 1, followed by steps 6 through 10.

1 Log in as **root**.

2 Execute the following command line: **clearTmf**

3 Execute the following command line: **su -informix**

4 Execute the following command line: **onmode -yk**

5 Execute the following command line to go back to root: **exit**

-
- 6** Change directories: **cd /tmp**
-
- 7** Execute the following command line: **./undo_disk**
-
- 8** Answer the prompts for each undo task by selecting **y**, **n**, or **all**.
-
- 9** When the system prompts you to reboot, choose yes: **y**
-
- 10** Log in as **root**.
-
- 11** Enter the following commands to verify that the system is restored to its original configuration:
ls -l /dev/vg*
bdf
- Result:** You should only see the volume groups VG00 and VG01 configured and the file systems that are associated with these two volume groups. PM or DB logical volumes should not exist.
-
- 12** Reboot the system.
- END OF STEPS
-



Procedure 3-10 Running the ColdStart Utility

Purpose This procedure is used to run the Navis™ Optical EMS ColdStart utility. The Navis™ Optical EMS ColdStart utility installs the following:

- the HP OpenView ATOS patches, which reside in */tmp/installPF3000*
- the X.25/ACC, if the X.25 hardware is present
- Informix software
- Orbix software

Before you begin You will need the Informix Dynamic Server serial number and key to run the Navis™ Optical EMS ColdStart utility.

You will need the Navis™ Optical EMS Application CD-ROM for this procedure.

Related information ColdStart uses these default values, which you can change when the utility displays them for your review.

- EMS home directory is */ems*.
- EMS Group ID (GID) is 200.
- Informix Group ID (GID) is 201.
- EMS User ID (UID) is 200.
- Informix User ID (UID) is 201.
- TL1 User ID (UID) is 203.

If ColdStart is running for the first time on your system, it automatically verifies and collects hardware information on your system and then configures the hard disk with little intervention from you. The ColdStart process saves the collected configuration data in the */startup* directory for future use.

If ColdStart is interrupted before its completion or ColdStart must be re-run, the following choices are available:

- You can re-use previously collected configuration data, skip previously performed configuration steps, or start the whole ColdStart process from the beginning. (The data saved in */startup* is removed.)

- If you use previously collected configuration data, ColdStart displays information such as the EMS home directory, the user ID, and group ID. You can verify and change one item of data or you can use the saved data.
- If ColdStart was interrupted before running to its completion, it remembers where it was interrupted. For the configuration, you can then skip a particular step, re-run a step, or run all subsequent steps.

To make sure that the ColdStart process has completed properly, check the result in */tmp/coldStart.log*.

Refer to *Appendix A, ColdStart Screen Output* for a sample of ColdStart output.

Task Use these steps to run the Navis™ Optical EMS ColdStart utility.

-
- 1 If you are not logged in, at the login prompt, login as **root**.

Result: The system responds with `Loading EMS ColdStart . . .` and asks whether you want to load ColdStart from CD-ROM or tape.

-
- 2 Enter **c** for CD-ROM.

Result: The system tells you to insert the Navis™ Optical EMS Application CD-ROM into the drive.

-
- 3 Insert the Navis™ Optical EMS Application CD-ROM into the drive.

Result: The system instructs you to press **<Return>** when ready.

-
- 4 Press **Return**.

Result: The system begins execution. When completed, the message `Configuring EMS (installEMS) . . .` is displayed.

-
- 5** Go to *Procedure 3-11 Installing the Navis™ Optical EMS Application (installEms)*.

END OF STEPS



Procedure 3-11 Installing the Navis™ Optical EMS Application (installEms)

Purpose This procedure is used to install the Navis™ Optical EMS Application, which is referred to as *installEms*.

Before you begin This procedure can take up to two hours to complete, so make sure you have allotted sufficient time.

You will be prompted for the ATOS license. Have this information handy.

If X.25 or other configurations must be made, make those configurations at this time; then, return to this procedure.

Related information Refer to the first portion of *Appendix C, Navis™ Optical EMS New Installation Input/Output* for information on how to respond to the prompts.

Task Use these steps to install the Navis™ Optical EMS Application.

1 If you have just run the Navis™ Optical EMS ColdStart utility, go to step 3. If you are not logged in, login as **root** and go to step 2.

2 Enter **installEms** to execute the utility.

Result: The system outputs the message `Configuring EMS (installEMS), hit <Return> when ready.`

3 Enter **Return**.

Result: The utility checks the hardware and a Main Menu appears.

4 When the Main Menu appears, select **3** to Install/upgrade EMS software.

Result: The system responds with The EMS Application Installation is about to begin.

- 5** Answer all prompts as shown in *Appendix C, Navis™ Optical EMS New Installation Input/Output*.

Result: The utility concludes with Thank you for using "installEms"! and then proceeds to log any EMS user off.

END OF STEPS



Procedure 3-12 Installing the Permanent Navis™ Optical EMS Application License Key

Purpose This procedure is used to install the permanent Navis™ Optical EMS Application License Key.

Before you begin Beginning with Navis™ Optical EMS Release 7.0, the EMS Application requires a license key in order to run permanently.

A temporary license is installed at installation time, and this license expires 60 days from the date of installation.

The permanent license key can then be installed without shutting down the application using this procedure. If the permanent license key is entered before the temporary license expires, the EMS Application continues to run.



WARNING

All permanent licenses are required on custom installations. A temporary license key can only be used as a last resort. Have the permanent license key ready before starting any Navis™ Optical EMS installation. Once the 60 days lapse and the temporary license expires, the EMS Application automatically shuts down.

Task Use these steps to install the Navis™ Optical EMS Application Key.

- 1** Log in as root.
- 2** At the prompt, execute the following command line:
installEmsLicense
- 3** When prompted to Continue to set up the EMS license key (y/n/q)?, answer yes: **y**

Result: The licensing program displays a review of the EMS licensing information.

-
- 4 At the prompt `What would you like to do [1-3, or s], [q to quit]`, answer `2: 2`

Result: The licensing program prompts you about the TMF feature.

- 5 At the prompt `Please select the optional features?, choose the appropriate feature by entering the number to the left.`
-

- 6 At the prompt `What would you like to do [1-3, or s], [q to quit]`, answer `3:3`.
-

- 7 At the prompt `Please enter the License key!`, enter the 11 character alphanumeric string that represents the license key for the system being installed.
-

- 8 After completing all information, answer `s` to **save** at the following prompt: `What would you like to do [1-3, or s], [q to quit]: s`
-

- 9 At the prompt `Accept the current configuration (y/n/q)?` answer yes: `y`

Result: The licensing program concludes with the message `Thank you for using "installEmsLicense"!`



Procedure 3-13 Installing the HP OpenView License

Purpose This procedure is used to install the HP OpenView License. HP OpenView is only required for the WaveStar® OLS 1.6T NEs.

Before you begin Before you begin this procedure, *Procedure 3-3 Installing HP OpenView*, must be completed.

While doing this procedure, you will have to run scripts and access files. If the appropriate directories do not exist, you will have to create them.

Related information When inserting the NODELOCK license number into the `/var/opt/ifor/nodelock` file, make sure the license number appears as the first line in the file. The license number cannot appear on more than one line. In addition, do not edit any other lines in the file.

Once the HP OpenView License is installed, make sure the license is installed properly and the status of the license is PERMANENT (steps 4 and 5). If the license is not installed properly or the status of the license is TEMPORARY, the system will stop working 60 days later. The license must be PERMANENT.

Important! The permanent license is obtained from HP.

Task Use these steps to install the license for HP OpenView.

- 1 To obtain a NODELOCK license, use the SPU target for the machine, which can be obtained by executing the following script:
`/opt/ifor/ls/bin/i4target -v`

Result: Permanent and SPU Target IDs are displayed. Use this information to obtain a permanent license.

- 2 Once a permanent license has been obtained, access the following file for editing: **`vi /var/opt/ifor/nodelock`**.
-

- 3 In the first line of the file, add the NODELOCK license number as a single line. (Do not change any other lines in the file.)
-

-
- 4 Confirm that the NODELOCK license works from the main console or from a window by running **dtterm**:
/usr/bin/X11/dtterm -C -display <IP address of the workstation>
-

- 5 On the main console or in the **dtterm** window, execute the following command lines:

```
cd /opt/OV/osiam/osiam26F  
export PATH=$PATH:'pwd'  
export OSIROOT=/var/opt/osiam  
./startATOSHPOV
```

Result: The system starts the stack and HP OpenView. When HP OpenView starts, this line is displayed if the license is installed correctly: HP OpenView DM-S: license type is PERMANENT.

- 6 To shut down the stack and HP OpenView, execute the following command line:
./stopATOSHPOV.

END OF STEPS



Procedure 3-14 Installing the TMF Add-On

Purpose This optional procedure is used to install the Telecommunications Management Forum (TMF) Add-On. The TMF Add-On is used for the northbound interface.

Before you begin This optional procedure can take up to two hours to complete, so make sure you have allotted sufficient time.

You will need the Navis™ Optical EMS TMF CORBA® Interface CD-ROM for this procedure.

You will also need to obtain the proper license key to run the TMF Add-On. Please refer to *Procedure 3-12 Installing the Permanent Navis™ Optical EMS Application License Key* for instructions on how to install the permanent Navis™ Optical EMS license key.

Related information Refer to the first portion of *Appendix C, Navis™ Optical EMS New Installation Input/Output* for information on how to respond to the prompts.

This procedure also requires you to access *Procedure 1-2 Adding an Entry to the /etc/hosts File*.

Task Use these steps to install the TMF Add-On.

- 1 Login as **ems**.
- 2 Use **dn -x** to bring down Navis™ Optical EMS.
- 3 Log off.
- 4 Log in as **root**.
- 5 Insert the Navis™ Optical EMS TMF CORBA CD-ROM into the drive.

6 Mount the CD-ROM: **mount /dev/cdrom /cdrom**

7 Load the EMS-TMF fileset:
swinstall -s /cdrom -x reinstall=true EMS-TMF

Result: The TMF fileset is loaded.

8 Execute the following command: **initTmf**

Result: The utility determines if the system has enough disk space to add the tmf-db database. If enough disk space exists, the tmf-db is configured.

9 If step 7 is successful, enter the following command line: **installEms**

Result: The installEms software begins execution, checks the hardware, and displays a Main Menu.

10 When the installEms Main Menu appears, select **5** to configure EMS using a profile that was saved from the last session.

Result: The system responds with The EMS Application Installation is about to begin. The utility concludes with Thank you for using "installEms"!

11 Add the IP address for Navis™ Optical EMS by using the steps provided in *Procedure 1-2 Adding an Entry to the /etc/hosts File*.

12 Login as **ems**.

13 Bring Navis™ Optical EMS back up by executing: **up**

END OF STEPS

Procedure 3-15 Configuring the Navis™ Optical EMS Application (installEms)

Purpose This procedure is used to configure the Navis™ Optical EMS application (installEms).

Before you begin The previous procedure, *Procedure 3-11 Installing the Navis™ Optical EMS Application (installEms)*, must be completed.

Related information Refer to the second portion of *Appendix C, Navis™ Optical EMS New Installation Input/Output* for information on how to respond to the prompts.

Task Use these steps to configure the Navis™ Optical EMS application.

1 Login as **root**.

2 Enter **installEms**.

Result: The system outputs the message `Configuring EMS (installEMS), hit <Return> when ready.`

3 Enter **Return**.

Result: The system responds with `InstallEms is checking Hardware, please be patient!` and a Main Menu is displayed.

4 When the Main Menu appears, select **4** to make the provisional parameters effective.

Result: The system responds with `Starting the EMS PROVISIONING process...`

-
- 5** Answer all prompts according to the output shown in *Appendix C, Navis™ Optical EMS New Installation Input/Output*.

Result: The utility concludes with Thank you for using "installEms"! and then proceeds to log you off.

END OF STEPS





4 Navis™ Optical EMS Application Upgrade

Overview

Purpose This chapter describes the procedures for upgrading the Navis™ Optical EMS Application.

Contents The following procedures are discussed in this chapter:

Procedure 4-1	Upgrading a Standalone Navis™ Optical EMS within the Same Navis™ Optical EMS Generic	4-2
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Procedure 4-1 Upgrading a Standalone Navis™ Optical EMS within the Same Navis™ Optical EMS Generic

Purpose The following procedure is used to document the general steps required to upgrade a Navis™ Optical EMS software release within the same generic.

Before you begin In general, it is important that all steps in the Task are performed in the order documented.

You will need the Navis™ Optical EMS Application CD-ROM and the Navis™ Optical EMS Tools CD-ROM.

Related information You will be required to use information supplied in *Chapter 3, Ignite-UX! Tasks* for **installEms**.

You will be required to use information supplied in *Appendix D, Navis™ Optical EMS Standalone Upgrade Input/Output*.

Task Use these steps to upgrade a Navis™ Optical EMS software release within the same generic.

-
- 1 Log in as **ems**.

 - 2 Execute the following command to stop the application prior to loading:
dn -x

 - 3 Log off.

 - 4 Log in as **root**.

 - 5 Insert the Navis™ Optical EMS Application CD-ROM.

-
- 6** Execute the following command lines:
mount /dev/cdrom /cdrom
swinstall -s /cdrom -x reinstall =true Upgrade
umount /cdrom
-
- 7** At the prompt, execute the following command line: **snmsInstall -s -C**
-
- 8** Follow and respond to the prompts as shown in the on-line help file, which is located at */tmp/snmsUpgrade.sample* and shown in detail in *Appendix D, Navis™ Optical EMS Standalone Upgrade Input/Output*.
-
- 9** Follow the steps in *Procedure 3-11 Installing the Navis™ Optical EMS Application (installEms)* and *Procedure 3-15 Configuring the Navis™ Optical EMS Application (installEms)* to install the Navis™ Optical EMS Application.
-
- 10** Log in as **ems**.
-
- 11** Execute the following command to bring the Navis™ Optical EMS Application back online: **up**

END OF STEPS



Procedure 4-2 Upgrading Navis™ Optical EMS TMF within the Same Navis™ Optical EMS TMF Generic

Purpose The following procedure is used to document the general steps required to upgrade the Navis™ Optical EMS Telecommunications Management Forum (TMF) software release within the same generic.

Before you begin In general, it is important that all steps in the Task are performed in the order documented.

You will need the Navis™ Optical EMS Northbound TMF CORBA Interface CD-ROM.

Task Use these steps to upgrade a Navis™ Optical EMS TMF software release within the same generic.

1 Load the Navis™ Optical EMS Northbound TMF CORBA Interface CD-ROM into the appropriate drive.

2 Log in as **ems**.

3 Execute the following command to stop the application prior to loading:
dn -x

4 Log off.

5 Log in as **root**.

6 Mount the CD-ROM: **mount /dev/cdrom /cdrom**

-
- 7** Run swinstall:
swinstall -s /cdrom -x reinstall=true SNMS-TMF
Example: swinstall -s /dev/rmt/0m -x reinstall=true SNMS-TMF
-

- 8** Log off.
-

- 9** Log in as **ems**.
-

- 10** Execute the following command to bring the Navis™ Optical EMS
Application back online: **up**

END OF STEPS



Procedure 4-3 Upgrading a Redundant Navis™ Optical EMS within the Same Navis™ Optical EMS Generic

Purpose The following procedure is used to upgrade a redundant Navis™ Optical EMS system within the same Navis™ Optical EMS generic.

Before you begin The procedures provided in the Task section are for redundant configurations. These procedures require you to log on and log off the primary and the secondary/remote HP host servers.

During the upgrade of the Navis™ Optical EMS Application, the application loses its connection to its NE for a period of time. To keep data loss to a minimum, perform the upgrade procedure at a quiet period when:

- NEs are not added or deleted.
- NEs do not have any equipment changes.



WARNING

Before you begin this procedure, the primary host must be running as active and the secondary/remote host must be running as standby.

You will need the Navis™ Optical EMS Application CD-ROM and, optionally, the Navis™ Optical EMS Northbound TMF CORBA Interface CD-ROM and the Navis™ Optical EMS Tools CD-ROM.

In general, it is important that all steps in the Task are performed in the order documented.

Related information This procedure requires you to follow the steps in *Procedure 4-1 Upgrading a Standalone Navis™ Optical EMS within the Same Navis™ Optical EMS Generic* and in the procedures found in *Chapter 3, Ignite-UX! Tasks*.

Task Use these steps to upgrade a redundant Navis™ Optical EMS system within the same Navis™ Optical EMS generic.

-
- 1 On the primary host, login as **ems**.

-
- 2** Execute the following command line to kill the Orbix process ID:
kill -9 <orbixd process ID>

Result: The HA_Mgr process is being killed. Wait until the HA_Mgr process is killed before going to the next step.

- 3** On the secondary/remote host, login as **ems**.
-

- 4** For geographic redundancy configurations, execute the following command line:
HA_MgrClient -m setOperMode -o ACTIVE
-

- 5** Verify that the secondary/remote host is running as active before going to next step by executing the following command line:
showtop
-

- 6** On the primary host, follow the steps in *Procedure 4-1 Upgrading a Standalone Navis™ Optical EMS within the Same Navis™ Optical EMS Generic*. When the system prompts you to rebuild the Informix engine with EMS new host Informix Database configuration? answer **no**. In addition, follow and respond to the prompts shown in the on-line help file, which is located at */tmp/snmsUpgrade.sample* and which is shown in detail in *Appendix E, Navis™ Optical EMS Redundant Upgrade Input/Output*.
-

- 7** If the TMF Add-On has not been ordered, go to the next step. If the TMF Add-On is being installed for the first time, refer to *Procedure 3-14 Installing the TMF Add-On*. If the TMF Add-On has already been installed, follow the steps in *Procedure 4-2 Upgrading Navis™ Optical EMS TMF within the Same Navis™ Optical EMS TMF Generic*.
-

- 8** On the primary host, login as **ems**.
-

-
- 9 Execute the command: **su root** (Do not use the dash.)
-
- 10 Execute the following command line to regenerate the HA scripts:
/ems/etc/installHA
-
- 11 Execute the following command to logout: **exit**
- Result:** The system returns you to the **ems ID**.
-
- 12 Use the **vi** editor to access the */ems/etc/HA_Topology.cfg* file:
vi /ems/etc/HA_Topology.cfg
-
- 13 In the */ems/etc/HA_Topology.cfg* file, change the *status* field to **active**
where the *site* field is equal to *local_primary*.
-
- 14 In the */ems/etc/HA_Topology.cfg* file, change the *status* field to **down**
where the *site* field is equal to *local_secondary* or *remote_primary*.
-
- 15 Save the changes made to the */ems/etc/HA_Topology.cfg* file.
-
- 16 Exit out of **vi**.
- Result:** You will be in **ems** environment.
-
- 17 Execute the following command line to remove the replication
configuration:
er_remove
-
- 18 Execute the following command line to refresh the Informix engine:
er_refresh

Result: If you are on the primary host, you will receive the following message, which you should ignore: `couldn't find /tools/Informix/etc/buildsmi.snms`

19 On the secondary/remote host, login as **root**.

20 Execute the following command line:
cmhaltpkg -v sncPkg



WARNING

Wait until the HA_mgr process has been killed in this step before going to the next step.

21 On the primary host, execute the command: **su root** (Do not use the dash.)

22 Execute the following command lines:
cmmodpkg -e -n <primary host> sncPkg
cmviewcl

Result: If the package status received from the **cmviewcl** command does not display `starting`, go to the next step. If the package status received from the **cmviewcl** command does display `starting`, go to step 24.

23 If the package status received from the **cmviewcl** command does not display `starting`, execute the following command line:
cmrunpkg sncPkg

24 On the secondary/remote host, follow the steps in *Procedure 4-1 Upgrading a Standalone Navis™ Optical EMS within the Same Navis™ Optical EMS Generic*. In addition, if the TMF Add-On has not been ordered, go to the next step. If the TMF Add-On is being installed for the first time, refer to *Procedure 3-14 Installing the TMF Add-On*. If the TMF Add-On has already been installed, follow the steps in

*Procedure 4-2 Upgrading Navis™ Optical EMS TMF within the
Same Navis™ Optical EMS TMF Generic.*

- 25** On the primary host in local redundancy configurations, execute the following command line: **/ems/etc/installHA**
-
- 26** On the secondary/remote host, login as **ems**.
-
- 27** To refresh the Informix engine, execute the following command line:
er_refresh
-
- 28** Execute the command: **su root** (Do not use the dash.)
-
- 29** For local redundancy configurations, go to the next step. For geographic redundancy configurations only, execute the following command line: **/ems/etc/installHA**
-
- 30** Execute the following command line and provide the following responses:
/ems/etc/rejoin
Remove ATS/RIS Directory from standby: **Yes**
ER configuration: **Yes**
Database Resync: **Yes**

E N D O F S T E P S
-



Procedure 4-4 Upgrading a Standalone R5.0.x or Later System

Purpose The following procedure is used to upgrade a standalone Navis™ Optical EMS or a standalone WaveStar® SNMS system that is running on R5.0.x or later.

Before you begin The procedures provided in the Task section are for standalone configurations.

This procedure requires you to back up file systems to tape. Have at least eight tapes handy and label each tape clearly.

You will need the following CD-ROMs:

- Navis™ Optical EMS Core OS CD-ROM
 - Navis™ Optical EMS Core OS for 32-bit HP K-Servers
 - Navis™ Optical EMS Core OS for 64-bit HP L-Servers and N-Servers
- Navis™ Optical EMS Tools CD-ROM
- Navis™ Optical EMS Application CD-ROM
- Navis™ Optical EMS Northbound TMF CORBA Interface CD-ROM (optional)

In addition, you will need the Navis Optical EMS license key for the new generic.

In general, it is important that all steps in the Task are performed in the order documented.

Related information During this procedure, you will be required to use information supplied in *Chapter 3, Ignite-UX! Tasks*.

You will be required to use information supplied in *Appendix D, Navis™ Optical EMS Standalone Upgrade Input/Output*.

You will be required to use information supplied in *Procedure 4-10 Changing the DIB Organizational Unit Name Prefix*.

Task Use these steps to upgrade a standalone R5.0.x and later system.

- 1 Log in as **root**.

2 Insert the Navis™ Optical EMS Application CD-ROM into the drive.

3 Execute the following command lines:
mount /dev/cdrom /cdrom
swinstall -s /cdrom -x reinstall =true Upgrade
umount /cdrom

4 Execute **snmsUpgrade**.

Result: The backup will commence. The system prompts you to insert tapes. Label each tape clearly and record the date. You will need these tapes later.

5 Follow and respond to the prompts as shown in the on-line help file, which is located at */tmp/snmsUpgrade.sample* and shown in detail in *Appendix D, Navis™ Optical EMS Standalone Upgrade Input/Output*.

6 Follow the steps in *Procedure 4-10 Changing the DIB Organizational Unit Name Prefix*.

7 Bring Navis™ Optical EMS up by typing the following command: **up**
E N D O F S T E P S



Procedure 4-5 Upgrading a Redundant R5.0.x and Later System

Purpose The following procedure is used to upgrade a redundant Navis™ Optical EMS or a redundant WaveStar® SNMS R5.0.x or later system to the current release.

Before you begin The procedures provided in the Task section are for redundant configurations only.

During the upgrade of the Navis™ Optical EMS Application, the application loses its connection to its NE for a period of time. To keep data loss to a minimum, perform the upgrade procedure at a quiet period when:

- NEs are not added or deleted.
- NEs do not have any equipment changes.

In addition, this procedure requires you to log on and log off the primary and the secondary/remote HP host servers.



WARNING

Make sure the primary host is running as active and the secondary/remote host is running as standby before you begin this procedure.

You will need the following CD-ROMs:

- Navis™ Optical EMS Core OS CD-ROM
 - Navis™ Optical EMS Core OS for 32-bit HP K-Servers
 - Navis™ Optical EMS Core OS for 64-bit HP L-Servers and N-Servers
- Navis™ Optical EMS Tools CD-ROM
- Navis™ Optical EMS Application CD-ROM
- Navis™ Optical EMS Northbound TMF CORBA Interface CD-ROM (optional)

In addition, you will need the Navis Optical EMS license key for the new generic.

This procedure requires you to back up file systems to tape. Have at least eight tapes handy and label each tape clearly.

Related information During this procedure, you will be required to use information supplied in *Chapter 3, Ignite-UX! Tasks*.

You will be required to use information supplied in *Appendix E, Navis™ Optical EMS Redundant Upgrade Input/Output*.

You will be required to use information supplied in *Procedure 4-10 Changing the DIB Organizational Unit Name Prefix*.

Task Use these steps to upgrade a redundant Navis™ Optical EMS or a redundant WaveStar® SNMS R5.0.x or later system to the current release.

1 On the primary host, login as **ems**.

2 Execute the following command line to kill the Orbix process ID:
kill -9 <orbixd process id>

Result: The HA_Mgr process is being killed. Wait until the HA_Mgr process is killed before going to the next step.

3 On the secondary/remote host, login as **ems**.

4 For geographic redundancy configurations, execute the following command line:
HA_MgrClient -m setOperMode -o ACTIVE

5 Verify that the secondary/remote host is running as active before going to next step by executing the following command line:
showtop

6 Upgrade the primary host by following steps 7 through 21.

7 Log in as **ems**.

8 Disable replication by executing the following command lines:
er_remove
er_refresh

Result: If you are on the primary host, you will receive the following message, which you should ignore: `couldn't find /tools/Informix/etc/buildsmi.snms`

9 Log in as **root**.

10 Insert the Navis™ Optical EMS Application CD-ROM into the drive.

11 Execute the following command lines:
mount /dev/cdrom /cdrom
swinstall -s /cdrom -x reinstall =true Upgrade
umount /cdrom

12 Execute **snmsUpgrade**.

Result: The backup will commence. The system prompts you to insert tapes. Label each tape clearly and record the date. You will need these tapes later.

13 Follow and respond to the prompts as shown in the on-line help file, which is located at `/tmp/snmsUpgrade.sample` and which is shown in detail in *Appendix E, Navis™ Optical EMS Redundant Upgrade Input/Output*.

14 Log in as **ems**.

-
- 15** Execute the following command lines to begin to regenerate the HA configuration files and scripts on the various HA configurations:
su root (Do not use the dash.)
/ems/etc/installHA
-
- 16** Execute the following command to logout: **exit**
- Result:** The system returns you to the ems ID.
-
- 17** To complete the regeneration of the HA configuration files and scripts for local or geographic redundancy, the *HA_Topology.cfg* file must be changed as indicated. This file is accessed using the **vi** editor:
vi /ems/etc/HA_Topology.cfg
Change the *status* field to **active** where the *site* field is equal to *local_primary*.
Change the *status* field to **down** where the *site* field is equal to *local_secondary* or *remote_primary*.
Save the changes made to the file.
Exit the **vi** editor.
-
- 18** Bring **sncPkg** down on the secondary/remote host using the following command lines:
On the secondary/remote host:
login: **root**
cmhaltpkg -v sncPkg
- Result:** The HA_Mgr process is being killed. Wait until the HA_Mgr process is killed before going to the next step.
-
- 19** For the primary host, follow the steps in *Procedure 4-10 Changing the DIB Organizational Unit Name Prefix*.
-
- 20** Bring **sncPkg** up on the primary host, use the following command lines:
On the primary host:
Log in as **root**

cmrunnode -v <primary host>
cmviewcl

Result: If the package status displays the message `starting`, go to step 22. If the message `starting` does not appear, go to the next step.

21 If the message `starting` does not appear as a result of the **cmviewcl** command executed in the previous step, execute the following command line: **cmrunpkg sncPkg**

22 For local redundancy configurations, execute the following command lines on the secondary host:
Log in as **root**
cmhaltnode -v -f <secondary host>

23 Log in as **root**.

24 Insert the Navis™ Optical EMS Application CD-ROM into the drive.

25 Execute the following command lines:
mount /dev/cdrom /cdrom
swinstall -s /cdrom -x reinstall =true Upgrade
umount /cdrom

26 Execute **snmsUpgrade**.

Result: The backup will commence. The system prompts you to insert tapes. Label each tape clearly and record the date. You will need these tapes later.

27 Follow and respond to the prompts as shown in the on-line help file, which is located at `/tmp/snmsUpgrade.sample`.

-
- 28** For local redundancy on the secondary host, login as **root**.
For geographic redundancy, go to step 35.
-
- 29** Validate that the cluster lock volume is not active by executing the following command line:
vgdisplay /dev/<volume group name>
- Result:** If the group is active, it must be deactivated. Proceed to the next step. If the group is not active, go to step 31.
-
- 30** To deactivate the cluster lock volume group, execute the following command lines:
vgchange -c n /dev/<volume group name>
vgchange -a n /dev/<volume group name>
-
- 31** Log off from the secondary host by executing the following command:
exit
-
- 32** For local redundancy configurations, on the primary host login as **ems**.
-
- 33** Execute the command: **su root** (Do not use the dash.)
-
- 34** Execute the following command line: **/ems/etc/installHA**
-
- 35** On the secondary/remote host, log in as **ems**.
-
- 36** To refresh the Informix engine, execute the following command line:
er_refresh
-
- 37** On the secondary host, follow the steps in *Procedure 4-10 Changing the DIB Organizational Unit Name Prefix*

-
- 38** Execute the command: **su root** (Do not use the dash.)
-
- 39** For geographic redundancy only, execute the following:
/ems/etc/installHA
-
- 40** Execute the following command line and provide the following responses:
/ems/etc/rejoin
Remove ATS/Directory from standby? **Yes**
ER configuration? **Yes**
Database resynchronization? **Yes**
END OF STEPS
-



Procedure 4-6 Upgrading a Standalone WaveStar® SNMS R4.2.x System

Purpose The following procedure is used to upgrade a Standalone WaveStar® SNMS R4.2.x system to the current release.

Before you begin The procedures provided in the Task section are for standalone configurations.

This procedure requires you to back up file systems to tape. Have at least eight tapes handy and label each tape clearly.

You will need the following CD-ROMs:

- Navis™ Optical EMS Core OS CD-ROM
 - Navis™ Optical EMS Core OS for 32-bit HP K-Servers
 - Navis™ Optical EMS Core OS for 64-bit HP L-Servers and N-Servers
- HP OpenView DM CD-ROM, which is optional and user supplied
- Navis™ Optical EMS Tools CD-ROM
- Navis™ Optical EMS Application CD-ROM
- Navis™ Optical EMS Northbound TMF CORBA Interface CD-ROM (optional)
- Navis™ Optical EMS GUI Client CD-ROMs for Windows NT and HP-UX

Have the Informix Dynamic Server serial number and key information handy because you will have to enter this information.

When upgrading from R4.2.x, a new `del_alarmhist` script must be run prior to running the `SNMSDB4.2To5.0` script during the database retrofit. The `del_alarmhist` script helps to reduce the database conversion time when running the `SNMSDB4.2To5.0` script by purging historical alarms in the `Im_nealarm` table.

The time required to run both scripts for the database conversion depends on the size of the `Im_nealarm` table, the table's contents, and other conditions. In a laboratory environment, it takes approximately 13 hours to convert 55,000 records, approximately 70 minutes to convert 16,000 records, and approximately 6 minutes to convert 5000 records.

In general, it is important that all steps in the Task are performed in the order documented.

Related information During this procedure, you will be required to use information supplied in *Chapter 3, Ignite-UX! Tasks*.

Task Use these steps to upgrade a standalone WaveStar® SNMS R4.2.x system to the current release.

-
- 1** Log in as **ems**.

 - 2** Bring WaveStar® SNMS down by executing **dn -x**.

 - 3** Label a scratch tape *SNMS R4.2 data tar files*. Mount this scratch tape.

- 4** Back up flat files to tape using these command lines:

```
su - root
cd /
chmod -R +r /ems/dsa
chown -R ems:ems /ems/dsa
tar cvf /dev/rmt/0m \
/ems/installEms.out \
/ems/etc/SDSenv_rc \
/ems/dsa \
/ems/userdb
```

Result: A scratch tape containing the *SNMS R4.2 data tar files* has been created. Remove the tape from the drive.

- 5** Execute the following command to logout: **exit**

Result: The system returns you to the **ems ID**.

- 6** If the TMF interface is not used, go to the next step.
If the TMF interface is used, use the following command to get the

value of the EMS_CLUSTER_ID:

echo \$EMS_CLUSTER_ID

Result: When the system displays the value of the EMS_CLUSTER_ID, record the value.

- 7** At the command prompt, execute the following command:
ems_backup

Result: You will have at least six tapes containing backup data. Label each tape clearly and record the date.

- 8** Execute the following command to logout: **exit**
-

- 9** Insert the Navis™ Optical EMS Application CD-ROM into the drive.
-

- 10** Log in as **root**.
-

- 11** Execute the following command lines:
mount /dev/cdrom /cdrom
swinstall -s /cdrom -x reinstall =true Upgrade
umount /cdrom
-

- 12** Remove the Navis™ Optical EMS Application CD-ROM; and depending on the hardware type, insert the Navis™ Optical EMS CORE 32-bit (for K-Class servers) or the CORE 64-bit (for L-Class and N-Class servers) CD-ROM into the drive.
-

- 13** Mount a scratch tape and label it *snmsUpgrade backup*.
-

- 14** Execute the following command line:
snmsUpgrade

Result: A scratch backup tape has been created. Remove the tape from the drive.

-
- 15** Determine the hardware path to the CD-ROM drive by executing:
ioscan -fkC disk | egrep -i "cd|dvd"
-
- 16** Execute the following command line:
setboot -p <H/W path to CD-ROM>
For example: **setboot -p 10/12/5.2.0**
-
- 17** Execute the following command to reboot the machine: **reboot**
- Result:** The initial configuration screen associated with the Ignite process appears.
-
- 18** Proceed with the Ignite-UX! procedures provided in *Chapter 3, Ignite-UX! Tasks*.
- Result:** The system reboots twice after HP-UX 11.0 has been installed.
-
- 19** Log in as **root**.
- Result:** The system prompts you to install HP OpenView.
-
- 20** Press **Control C** or **Delete** to exit from the Guided Ignite process.
- Result:** The Guided Ignite process is terminated and the system brings you to the # prompt.
-
- 21** Insert the Navis™ Optical EMS Application CD-ROM into the drive.
-
- 22** Execute the following command lines:
mount /dev/cdrom /cdrom
swinstall -s /cdrom -x reinstall =true Upgrade
umount /cdrom

23 Mount the scratch *snmsUpgrade backup* tape that was generated in step 14.

24 Execute the following command line:
snmsUpgrade -r

25 Press **Control C** or **Delete** when you are prompted to install HP OpenView.

26 Execute the following command line:
umount /cdrom

27 Mount the HP OpenView (optional) or Navis™ Optical EMS Tools CD-ROM.

28 Execute the following command to logout: **exit**

29 Log in as **root**.

Result: The system prompts you to install HP OpenView.

30 Resume the Guided Ignite process according to the directions supplied in *Chapter 3, Ignite-UX! Tasks*.

Continue running the Guided Ignite procedure until you receive the message `Start coldstart and Configuring EMS (installEms)`, hit `<Return>` when ready.

31 Press **Control C** or **Delete** to exit the Guided Ignite process.

32 Execute the following command lines to run the ColdStart utility:
cd /tmp
./coldStart



WARNING

For the current (new) release of the Navis™ Optical EMS, the Informix version is different. You will have to enter the Informix Dynamic Server serial number and key information for the HP-UX 11.0 operating system.

- 33** Execute the following command to resume the remainder of the installation until the Navis™ Optical EMS Application is fully installed and configured:

installEms

When the system prompts you to rebuild the Informix engine with EMS new host Informix Database configuration? answer **yes**.

- 34** If the TMF Add-On has not been ordered, go to the next step. If the TMF Add-On has been ordered, follow the steps in *Procedure 3-14 Installing the TMF Add-On*.
-

- 35** Log in as **ems**.
-

- 36** If the TMF interface has been previously used, make sure the value of the EMS_CLUSTER_ID is the same value that you have recorded in step 6.

Result: If the values match, go to step 38. If the values do not match, go to the next step.

- 37** If the values shown for the EMS_CLUSTER_ID in steps 6 and 36 do not match, access the *envfile_setup* file using the **vi** editor and add the old value of the EMS_CLUSTER_ID to make sure the value is correct:
vi /ems/etc/envfile_setup
Add **EMS_CLUSTER_ID=<R4.2 value>** right before the line showing: **export EMS_CLUSTER_ID**

-
- 38** Bring down the application and the clean up the database using the following command lines:

```
dn  
drdb  
Answer y to drop dsa.
```

- 39** Restore the files from the backup tape labelled *SNMS R4.2 data tar files* using the following command lines:

```
su - root  
cd /  
tar xvf /dev/rmt/0m \  
/ems/etc/SDSenv_rc \  
/ems/dsa \  
/ems/userdb
```

- 40** Execute the following command to logout: **exit**

Result: The system returns you to the **ems ID**.

- 41** Restore the database from tapes by executing the following command:
ems_recover
-

- 42** Execute the following command lines to convert the databases to the new schema:

```
snmsInstall -u 4.2
```

Result: If you do not receive any error messages, the upgrade is completed. If you receive any error message in any step, execute **drdb**, restore the database from tapes (used in the previous step), fix the data or the procedure, and redo the conversion.

- 43** Bring the Navis™ Optical EMS up by typing the following command:
up

-
- 44** If the installation had been using Lucent's Dynamic Network Analyzer (DNA) before the upgrade, contact Lucent's DNA research and development organization to perform the corresponding upgrade on the OpenLink software. In the meantime, DNA currently loses its connection to the Navis™ Optical EMS database.

END OF STEPS



Procedure 4-7 Upgrading a Redundant WaveStar® SNMS R4.2.x System

Purpose The following procedure is used to upgrade a redundant WaveStar® SNMS R4.2.x system to the current release.

Before you begin The procedures provided in the Task section are for redundant configurations.

During the upgrade of the Navis™ Optical EMS Application, the application loses its connection to its NE for a period of time. To keep data loss to a minimum, perform the upgrade procedure at a quiet period when:

- NEs are not added or deleted.
- NEs do not have any equipment changes.

In addition, this procedure requires you to log on and log off the primary and the secondary/remote HP host servers.



WARNING

Make sure the primary host is running as active and the secondary/remote host is running as standby before you begin this procedure.

This procedure requires you to back up file systems to tape. Have at least eight tapes handy and label each tape clearly.

You will need the following CD-ROMs:

- Navis™ Optical EMS Core OS CD-ROM
 - Navis™ Optical EMS Core OS for 32-bit HP K-Servers
 - Navis™ Optical EMS Core OS for 64-bit HP L-Servers and N-Servers
- HP OpenView DM CD-ROM, which is optional and user supplied
- Navis™ Optical EMS High Availability (HA) CD-ROM
- Navis™ Optical EMS Tools CD-ROM
- Navis™ Optical EMS Application CD-ROM
- Navis™ Optical EMS Northbound TMF CORBA Interface CD-ROM (optional)

- Navis™ Optical EMS GUI Client CD-ROMs for Windows NT and HP-UX

Have the Informix Dynamic Server serial number and key information handy because you will have to enter this information.

When upgrading from R4.2.x, a new del_alarmhist script must be run prior to running the SNMSDB4.2To5.0 script during the database retrofit. The del_alarmhist script helps to reduce the database conversion time when running the SNMSDB4.2To5.0 script by purging historical alarms in the Im_nealarm table.

The time required to run both scripts for the database conversion depends on the size of the Im_nealarm table, the table's contents, and other conditions. In a laboratory environment, it takes approximately 13 hours to convert 55,000 records, approximately 70 minutes to convert 16,000 records, and approximately 6 minutes to convert 5000 records.

Related information

During this procedure, you will be required to use information supplied in *Chapter 3, Ignite-UX! Tasks* and *Chapter 9, Redundancy Installation and Operations <TBS>*.

Task

Use these steps to upgrade a redundant WaveStar® SNMS R4.2.x system to the current release.

-
- 1 On the primary host, login as **ems**.
-

- 2 Execute the following command line to kill the Orbix process ID:
kill -9 <orbixd process id>

Result: The HA_Mgr process is being killed. Once the HA_Mgr process has been killed, go to the next step.

- 3 On the secondary/remote host, login as **ems**.
-

- 4 For geographic redundancy configurations, execute the following command line:
HA_MgrClient -m setOperMode -o ACTIVE

-
- 5 Verify that the secondary/remote host is running as active before going to next step by executing the following command line:
showtop

-
- 6 Upgrade the primary host by following steps 7 through 51.

-
- 7 Log in as **ems**.

-
- 8 Disable replication by executing the following command lines:
er_remove
er_refresh

Result: If you are on the primary host, you will receive the following message, which you should ignore: `couldn't find /tools/Informix/etc/buildsmi.snms`

-
- 9 Label a scratch tape *SNMS R4.2 data tar files*. Mount this scratch tape.

-
- 10 Back up flat files to tape using these command lines:

```
su - root  
cd /  
chmod -R +r /ems/dsa  
chown -R ems:ems /ems/dsa  
tar cvf /dev/rmt/0m \  
/ems/installEms.out \  
/ems/etc/SDSenv_rc \  
/ems/dsa \  
/ems/userdb \  
/ems/HA/LOC/config
```

Result: A scratch tape containing the *SNMS R4.2 data tar files* has been created. Remove the tape from the drive.

-
- 11 Execute the following command to logout from root: **exit**

Result: The system returns you to the `ems ID`.

- 12** If the TMF interface is not used, go to the next step.
If the TMF interface is used, use the following command to get the value of the `EMS_CLUSTER_ID`:

echo \$EMS_CLUSTER_ID

Result: When the system displays the value of the `EMS_CLUSTER_ID`, record the value.

- 13** Back up the databases to tape. At the command prompt, execute the following command: **ems_backup**

Result: You will have at least six tapes containing backup data. Label each tape clearly and mark the date on each tape

- 14** Insert the Navis™ Optical EMS Application CD-ROM into the drive.
-

- 15** Log in as **root**.
-

- 16** Execute the following command lines:
mount /dev/cdrom /cdrom
swinstall -s /cdrom -x reinstall =true Upgrade
umount /cdrom
-

- 17** Remove the Navis™ Optical EMS Application CD-ROM; and depending on the hardware type, insert the Navis™ Optical EMS CORE 32-bit (for K-Class servers) or the CORE 64-bit (for L-Class and N-Class servers) CD-ROM into the drive.
-

- 18** Mount a scratch tape and label it *snmsUpgrade backup*.
-

- 19** Execute the following command line:
snmsUpgrade
-

Result: A scratch backup tape has been created. Remove the tape from the drive.

- 20** Determine the hardware path to the CD-ROM drive by executing:
ioscan -fkC disk | egrep -i "cd|dvd"
-

- 21** Execute the following command line:
setboot -p <H/W path to CD-ROM>
For example: **setboot -p 10/12/5.2.0**
-

- 22** Execute the following command to reboot the machine: **reboot**

Result: Following the reboot, the initial configuration screen associated with the Ignite process appears.

- 23** Proceed with the Ignite procedures provided in *Chapter 3, Ignite-UX! Tasks*.

Result: The system reboots twice after HP-UX 11.0 is installed.

- 24** Log in as **root**.

Result: The system prompts you to install HP OpenView.

- 25** Press **Control C** or **Delete** to exit the Guided Ignite process.

Result: The Guided Ignite process is terminated and the system brings you to the # prompt.

- 26** Insert the Navis™ Optical EMS Application CD-ROM into the drive.
-

- 27** Execute the following command lines:
mount /dev/cdrom /cdrom

**swinstall -s /cdrom -x reinstall =true Upgrade
umount /cdrom**

28 Mount the *snmsUpgrade backup* tape that was generated in step 19.

29 Execute the following command line:
snmsUpgrade -r

30 Press **Control C** or **Delete** when prompted to install HP OpenView.

31 Execute the following command line:
umount /cdrom

32 Mount the HP OpenView (Optional) or Navis™ Optical EMS HA CD-ROM.

33 Log out from the system by executing the following command: **exit**

34 Log in as **root**.

Result: The system prompts you to install HP OpenView.

35 Resume the Guided Ignite process according to the directions supplied in *Chapter 3, Ignite-UX! Tasks*. Continue Running the Guided Ignite procedure until you receive the message `Start coldstart and Configuring EMS (installEms)`, hit <Return> when ready.

36 Press **Control C** or **Delete** to exit the Guided Ignite process.

37 Execute the following command lines to execute the ColdStart utility:
cd /tmp
./coldStart



WARNING

For the current (new) release of the Navis™ Optical EMS, the Informix version is different. You will have to enter the Informix Dynamic Server serial number and key information for the HP-UX 11.0 operating system.

- 38** Execute the following command to resume the remainder of the installation until the Navis™ Optical EMS Application is fully installed and configured:

installEms

When the system prompts you to rebuild the Informix engine with EMS new host Informix Database configuration? answer **yes**.

- 39** If the TMF Add-On has not been ordered, go to the next step. If the TMF Add-On has been ordered, follow the steps in *Procedure 3-14 Installing the TMF Add-On*.
-

- 40** Log in as **ems**.
-

- 41** If the TMF interface has been previously used, make sure the value of the EMS_CLUSTER_ID is the same value that you have recorded in step 12.

Result: If the values match, go to step 43. If the values do not match, go to the next step.

- 42** If the values shown for the EMS_CLUSTER_ID in steps 12 and 41 do not match, access the *envfile_setup* file using the **vi** editor and add the old value of the EMS_CLUSTER_ID to make sure the value is correct:
vi /ems/etc/envfile_setup
Add **EMS_CLUSTER_ID=<R4.2 value>** right before the line showing: **export EMS_CLUSTER_ID**
-

-
- 43** Bring down the application and clean up the database using the following command lines:
dn
drdb
Answer **y** to drop `dsa`.
-
- 44** Restore the files from the backup tape labelled *SNMS R4.2 data tar files* using the following command lines:
su - root
**tar xvf /dev/rmt/0m **
**/ems/etc/SDSenv_rc **
**/ems/dsa **
**/ems/userdb **
/ems/HA/LOC/config
-
- 45** Execute the following command to logout: **exit**.
-
- 46** Mount the tape that is labelled *SNMS flat files*.
-
- 47** Restore the database from tapes by executing the following command:
ems_recover
-
- 48** Execute the following command lines to convert the databases to the new schema:
snmsInstall -u 4.2
- Result:** If you do not receive any error messages, the upgrade is completed. If you receive any error message in any step, execute **drdb**, restore the database from tapes (used in the previous step), fix the data or the procedure, and redo the conversion.
-
- 49** For local redundancy while installing the primary host, execute the following command lines on the secondary host:
Log in on the secondary host as: **root**
vgexport /dev/<cluster lock volume group>

exit

For example: **vgexport /dev/vg_clstr**

- 50** To regenerate the HA configuration files and scripts for a *local redundancy configuration on the primary host*, execute the following command lines and complete the following procedures from *Chapter 9, Redundancy Installation and Operations <TBS>*:

su root (Do not use the dash.)

Procedure 9-7 Doing Post Installation Tasks

Procedure 9-4 Setting up NTP with the Real Time Source Server

-OR- *Procedure 9-5 Setting up NTP between Redundancy Servers*

Procedure 9-8 Creating a Cluster Lock Volume Group

Procedure 9-9 Exporting the Cluster Lock Volume Group—execute steps 1 through 3 only

/ems/etc/installHA 2> /tmp/installHA.out

rcp <secondary host>:/etc/cmcluster/cmclconfig /etc/cmcluster

- 51** To regenerate the HA configuration files and scripts for *geographic redundancy on the primary host*, execute the following command lines and complete the following procedures from *Chapter 9, Redundancy Installation and Operations <TBS>*:

su root (Do not use the dash.)

Procedure 9-7 Doing Post Installation Tasks

Procedure 9-4 Setting up NTP with the Real Time Source Server

-OR- *Procedure 9-5 Setting up NTP between Redundancy Servers*

/ems/etc/installHA 2> /tmp/installHA.out

- 52** To complete the regeneration of the HA configuration files and scripts, the *HA_Topology.cfg* file must be changed as indicated on the primary host. This file is accessed using the **vi** editor:

vi /ems/etc/HA_Topology.cfg

Change the *status* field to **active** where the *site* field is equal to *local_primary*.

Change the *status* field to **down** where the *site* field is equal to *local_secondary* or *remote_primary*.

Save the changes made to the file.

Exit the **vi** editor.

-
- 53** Bring **sncPkg** down on the secondary/remote host using the following command lines:

On the secondary/remote host:

login: **root**

cmhaltpkg -v sncPkg

Result: The HA_Mgr process is being killed. Once the HA_Mgr process has been killed, go to the next step.

- 54** Bring **sncPkg** up on the primary host, use the following command lines:

On the primary host:

Log in as **root**

cmrunnode -v <primary host>

cmviewcl

Result: If the package status displays the message `starting`, go to step 56

. If the message `starting` does not appear, go to the next step.

- 55** If the message `starting` does not appear as a result of the **cmviewcl** command executed in the previous step, execute the following command line: **cmrunpkg sncPkg**
-

- 56** For local redundancy configurations, execute the following command lines on the secondary host:

Log in as **root**

cmhaltnode -v -f <secondary host>

- 57** This step completes the installation/upgrade of the local/geographic primary host.
-

- 58** Upgrade the secondary/remote host by executing steps 7, 12, 14 through 43.
-

-
- 59** To regenerate the HA configuration files and scripts for *local redundancy configuration on the secondary host*, execute the following command lines and complete the following procedures from *Chapter 9, Redundancy Installation and Operations <TBS>*:
- su root** (Do not use the dash.)
- Procedure 9-7 Doing Post Installation Tasks*
- Procedure 9-4 Setting up NTP with the Real Time Source Server*
- OR-** *Procedure 9-5 Setting up NTP between Redundancy Servers*
- Procedure 9-9 Exporting the Cluster Lock Volume Group*—execute steps 4 through 7 only.
-
- 60** To regenerate the HA configuration files and scripts for *geographic redundancy on the remote host*, execute the following command line and complete the following procedures from *Chapter 9, Redundancy Installation and Operations <TBS>*:
- su root** (Do not use the dash.)
- Procedure 9-7 Doing Post Installation Tasks*
- Procedure 9-4 Setting up NTP with the Real Time Source Server*
- OR-** *Procedure 9-5 Setting up NTP between Redundancy Servers*
-
- 61** This step completes the installation/upgrade procedure for the secondary/remote host. Proceed to the next step to configure the HA redundancy environment.
-
- 62** For local redundancy configurations on the primary host, login as **ems**. For geographic redundancy configurations, go to step 65.
-
- 63** Execute the command: **su root** (Do not use the dash.)
-
- 64** Execute the following command lines:
/ems/etc/installHA
-
- 65** On the secondary/remote host, login as **ems**.

66 Execute the command: **su root** (Do not use the dash.)

67 For geographic redundancy only, execute the following:
/ems/etc/installHA

68 Execute the following command line and provide the following responses:

/ems/etc/rejoin

Remove ATS/Directory from standby? **Yes**

ER configuration? **Yes**

Database resynchronization? **Yes**

69 If the installation had been using Lucent's Dynamic Network Analyzer (DNA) before the upgrade, contact Lucent's DNA research and development organization to perform the corresponding upgrade on the OpenLink software. In the meantime, DNA currently loses its connection to the Navis™ Optical EMS database.

END OF STEPS



Procedure 4-8 Upgrading a Standalone WaveStar® SNMS R4.0.x System

Purpose The following procedure is used to upgrade a standalone WaveStar® SNMS R4.0.x system to the current release.

Before you begin The procedures provided in the Task section are for standalone configurations and for different releases of WaveStar® SNMS; the differences are easily noted. Use the steps and or command iterations for your particular release.

This procedure relies on backup tapes. Should errors occur, have the appropriate backup tapes handy.

When upgrading from R4.0.x, a new del_alarmhist script must be run prior to running the SNMSDB4.2To5.0 script during the database retrofit. The del_alarmhist script helps to reduce the database conversion time when running the SNMSDB4.2To5.0 script by purging historical alarms in the Im_nealarm table.

The time required to run both scripts for the database conversion depends on the size of the Im_nealarm table, the table's contents, and other conditions. In a laboratory environment, it takes approximately 13 hours to convert 55,000 records, approximately 70 minutes to convert 16,000 records, and approximately 6 minutes to convert 5000 records.

Related information In step 12, you are required to reload the system from ground up. The procedures for this task are in *Chapter 3, Ignite-UX! Tasks*.

Task Use these steps to upgrade a standalone WaveStar® SNMS R4.0.x system to the current release.

1 Log in as **ems**.

2 Bring WaveStar® SNMS down by executing the following command:
dn

-
- 3** Label a scratch tape *SNMS R4.0 data tar files*. Mount this scratch tape.
-

- 4** Back up flat files to tape using these command lines:
su - root
cd /ems (**cd /snc** for WaveStar® SNMS 3.1 and prior)
**tar cvf /dev/rmt/0m **
**./etc/SDSenv_rc **
**./dsa **
./installEms.out (use **./installSnc.out** for WaveStar® SNMS R3.1 and prior)

Result: A scratch tape containing the *SNMS R4.0 data tar files* has been created. Remove the tape from the drive.

- 5** Execute the following command to logout: **exit**.
-

- 6** Log in as **ems**.
-

- 7** If the TMF interface is not used, go to step 8.
If the TMF interface is used, use the following command to get the value of the **EMS_CLUSTER_ID**:
echo \$EMS_CLUSTER_ID

Result: When the system displays the value of the **EMS_CLUSTER_ID**, record the value.

- 8** For WaveStar® SNMS R2.1 and prior, back up the databases to tape as shown in the command iterations that follow. If the old release is not R2.1 and prior, go to the appropriate step that follows.
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 \$SNC_DBNAME -ss
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 \$PM_DBNAME -ss
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 \$NQ_DBNAME -ss
Note: Each command iteration requires at least one tape. Mark each tape clearly.

-
- 9 For WaveStar® SNMS R3.0, back up the databases to tape as shown in the command iterations that follow. If the old release is not R3.0, go to the appropriate step that follows.
- ```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $SNC_DBNAME -ss
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $PM_DBNAME -ss
```
- Note: Each command iteration requires at least one tape. Mark each tape clearly.
- 
- 10 For WaveStar® SNMS R3.1, back up the databases to tape as shown in the command iterations that follow. If the old release is not R3.1, go to the appropriate step that follows.
- ```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $SNC_DBNAME -ss  
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $PM_DBNAME -ss  
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $NCI_DBNAME -ss
```
- Note: Each command iteration requires at least one tape. Mark each tape clearly.
-
- 11 For WaveStar® SNMS R4.0, back up the databases to tape as shown in the command iterations that follow.
- ```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $EMS_DBNAME -ss
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $PM_DBNAME -ss
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $NCI_DBNAME -ss
```
- Note: Each command iteration requires at least one tape. Mark each tape clearly.
- 
- 12 Reload the system from the ground up using the procedures provided in *Chapter 3, Ignite-UX! Tasks*.  
When the system prompts you to rebuild the Informix engine with EMS new host Informix Database configuration? answer **yes**.
- 
- 13 If the TMF Add-On has not been ordered, go to the next step. If the TMF Add-On has been ordered, follow the steps in *Procedure 3-14 Installing the TMF Add-On*.

- 
- 14** Execute the following command lines to bring down the WaveStar® SNMS application and to clean up the WaveStar® SNMS database:

Log in as **ems**.

**dn**

**drdb**

Answer **y** to drop **dsa**.

---

- 15** Restore the flat files from the *SNMS R4.0 data tar files* tape that was created in step 4 using the following command lines:

**su - root**

**cd /ems**

**tar xvf /dev/rmt/0m \**

**./etc/SDSenv\_rc \**

**./dsa**

---

- 16** Execute the following command to logout: **exit**

**Result:** The system returns you to the **ems ID**.

---

- 17** If the old release is WaveStar® SNMS R2.1 or prior, restore the database from tape by using the following command syntax. If the old release is not R2.1 or prior, go to the appropriate step that follows.

**dbimport snc\_db -d snc\_dbs -c -t /dev/rmt/0m -b 512 -s 2000000**

**dbimport pm\_db -d pm1\_dbs -c -t /dev/rmt/0m -b 512 -s 2000000**

**db\_logging -U snc\_db**

**db\_logging -U pm\_db**

If the TMF Add-On has been installed, execute the following command lines:

**dbimport q3nb\_db -d nb\_dbs -c -t /dev/rmt/0m -b 512 -s 2000000**

**db\_logging -U q3nb\_db**

If the TMF Add-On has not been installed, execute the following command lines:

**dbimport q3nb\_db -d fm2\_dbs -c -t /dev/rmt/0m -b 512 -s 2000000**

**db\_logging -U q3nb\_db**

---

- 18** If the old release is WaveStar® SNMS R3.0, restore the database from tape by using the following command syntax. If the old release is not

R3.0, go to the appropriate step that follows.

```
dbimport snc_db -d snc_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
dbimport pm_db -d pm1_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U snc_db
db_logging -U pm_db
```

---

- 19** If the old release is WaveStar® SNMS R3.1, restore the database from tape by using the following command syntax. If the old release is not R3.1, go to the appropriate step that follows.

```
dbimport snc_db -d snc_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
dbimport pm_db -d pm1_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U snc_db
db_logging -U pm_db
```

Execute the following command lines only if the TMF Add-On has been installed:

```
dbimport tmf_db -d nb_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U tmf_db
```

---

- 20** If the old release is WaveStar® SNMS R4.0, restore the database from tape by using the following command syntax:

```
dbimport ems_db -d snc_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
dbimport pm_db -d pm1_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U ems_db
db_logging -U pm_db
```

Execute the following command lines only if the TMF Add-On has been installed:

```
dbimport tmf_db -d nb_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U tmf_db
```

---

- 21** If the old release is WaveStar® SNMS R3.0 and prior, convert the databases to the new schema via the following command lines. If the old release is not R3.0 and prior, go to the appropriate step that follows.

```
export SNC_DBNAME=snc_db
export EMS_DBNAME=snc_db
```

Run the following scripts from the old release number:

```
SNMSDB2.0To2.1
SNMSDB2.1To3.0
SNMSDB3.0To3.1
```

**Result:** The screen shows the number of the current (new) release when recreating the database, which is typical.

Input the following:

```
export SNC_DBNAME=ems_db
export EMS_DBNAME=ems_db
SNMSDB3.1To4.0
fix_dbowner
SNMSDB4.0To4.2
snmsInstall -u 4.2
```

**Result:** If everything goes well, the upgrade is completed. If you receive any error message in any step, run:

```
drdb
drdb -d snc_db
```

Ignore any error messages received from **drdb** and restore the database from tape. If the old release is WaveStar® SNMS R2.1 and prior, follow the steps from step 17. If the old release is WaveStar® SNMS R3.0, follow the steps from step 18. After fixing the data or the procedure, redo the conversion.

- 
- 22** If the old release is R3.1, convert the databases to the new schema via the following command lines: If the old release is not R3.1, go to the appropriate step that follows.

```
SNMSDB3.1To4.0
fix_dbowner
SNMSDB4.0To4.2
snmsInstall -u 4.2
```

**Result:** If everything goes well, the upgrade is completed. If you receive any error message in any step, run

```
drdb
drdb -d snc_db
```

Ignore any error messages received from **drdb**, restore the database from tape (follow the steps from step 19), fix the data or the procedure, and redo the conversion.

- 
- 23** If the old release is R4.0.x, convert the databases to the new schema via the following command lines.

```
SNMSDB4.0To4.2
snmsInstall -u 4.2
```

**Result:** If you do not receive any error messages, the upgrade is completed. If you receive any error message in any step, execute **drdb**, restore the database from tapes (follow the steps from step 20), fix the data or the procedure, and redo the conversion.

---

- 24** If the TMF interface has been previously used, make sure the value of the `EMS_CLUSTER_ID` is the same value that you have recorded in step 7.

**Result:** If the values match, go to step 26. If the values do not match, go to the next step.

---

- 25** If the values shown for the `EMS_CLUSTER_ID` in steps 7 and 24 do not match, access the `envfile_setup` file using the **vi** editor and add the old value of the `EMS_CLUSTER_ID` to make sure the value is correct:  
**vi /ems/etc/envfile\_setup**  
Add **EMS\_CLUSTER\_ID=<old value>** right before the line showing:  
**export EMS\_CLUSTER\_ID**
- 

- 26** Bring Navis™ Optical EMS up by typing the following command: **up**
- 

- 27** If the installation had been using Lucent's Dynamic Network Analyzer (DNA) before the upgrade, contact Lucent's DNA research and development organization to perform the corresponding upgrade on the OpenLink software. In the meantime, DNA currently loses its connection to the Navis™ Optical EMS database.

END OF STEPS

---



## Procedure 4-9 Upgrading a Redundant WaveStar® SNMS R4.0.x System

---

**Purpose** The following procedure is used to upgrade a redundant WaveStar® SNMS R4.0.x system to the current release.

**Before you begin** The procedures provided in the Task section are for redundant configurations and for different releases of WaveStar® SNMS; the differences are easily noted. Use the steps and/or command iterations for your particular release.

During the upgrade of the WaveStar® SNMS application, the application loses its connection to its NE for a period of time. To keep data loss to a minimum, perform the upgrade procedure at a quiet period when:

- NEs are not added or deleted.
- NEs do not have any equipment changes.

In addition, this procedure requires you to log on and log off the primary and the secondary/remote HP host servers.



### **WARNING**

*Make sure the primary host is running as active and the secondary/remote host is running as standby before you begin this procedure.*

This procedure relies on backup tapes. Should errors occur, have the appropriate backup tapes handy.

When upgrading from R4.0.x, a new del\_alarmhist script must be run prior to running the SNMSDB4.2To5.0 script during the database retrofit. The del\_alarmhist script helps to reduce the database conversion time when running the SNMSDB4.2To5.0 script by purging historical alarms in the Im\_nealarm table.

The time required to run both scripts for the database conversion depends on the size of the Im\_nealarm table, the table's contents, and other conditions. In a laboratory environment, it takes approximately 13 hours to convert 55,000 records, approximately 70 minutes to convert 16,000 records, and approximately 6 minutes to convert 5000 records.

**Related information** During this procedure, you will be required to use information supplied in *Chapter 3, Ignite-UX! Tasks*.

**Task** Use these steps to upgrade a redundant WaveStar® SNMS R4.0.x to the current release.

.....  
**1** On the primary host, login as **ems**.  
.....

**2** Execute the following command line to kill the Orbix process ID:  
**kill -9 <orbixd process id>**

**Result:** The HA\_Mgr process is being killed. Once the HA\_Mgr process has been killed, go to the next step.  
.....

**3** On the secondary/remote host, login as **ems**.  
.....

**4** For geographic redundancy configurations, execute the following command line:  
**HA\_MgrClient -m setOperMode -o ACTIVE**  
.....

**5** Verify that the secondary/remote host is running as active before going to next step by executing the following command line:  
**showtop**  
.....

**6** Upgrade the primary host by following steps 7 through 35.  
.....

**7** Log in as **ems**.  
.....

- 
- 8** Disable replication by executing the following command lines:  
**er\_remove**  
**er\_refresh**

**Result:** If you are on the primary host, you will receive the following message, which you should ignore: `couldn't find /tools/Informix/etc/buildsmi.snms`

---

- 9** Label a scratch tape *SNMS R4.0 data tar files*. Mount this scratch tape.
- 

- 10** Back up flat files to tape using these command lines:  
**su - root**  
**cd /ems** (**cd /snc** for WaveStar® SNMS R3.1 and prior)  
**tar cvf /dev/rmt/0m \**  
**./etc/SDSenv\_rc \**  
**./dsa \**  
**./HA/LOC/config \**  
**./installEms.out** (use **./installSnc.out** for WaveStar® SNMS R3.1 and prior)
- 

- 11** Log out from **root**.

**Result:** You are back to the **ems** ID.

---

- 12** If the TMF interface is not used, go to the next step.  
If the TMF interface is used, use the following command to get the value of the **EMS\_CLUSTER\_ID**:  
**echo \$EMS\_CLUSTER\_ID**

**Result:** When the system displays the value of the **EMS\_CLUSTER\_ID**, record the value.

---

- 13** For WaveStar® SNMS R2.1 and prior, back up the databases to tape as shown in the command iterations that follow. If the old release is not R2.1 and prior, go to the appropriate step that follows.  
**dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 \$SNC\_DBNAME -ss**
-

```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $PM_DBNAME -ss
```

```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $NQ_DBNAME -ss
```

Note: Each command iteration requires at least one tape. Mark each tape clearly.

---

- 14** For WaveStar® SNMS R3.0, back up the databases to tape as shown in the command iterations that follow. If the old release is not R3.0, go to the appropriate step that follows.

```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $SNC_DBNAME -ss
```

```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $PM_DBNAME -ss
```

Note: Each command iteration requires at least one tape. Mark each tape clearly.

---

- 15** For WaveStar® SNMS R3.1, back up the databases to tape as shown in the command iterations that follow. If the old release is not R3.1, go to the appropriate step that follows.

```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $SNC_DBNAME -ss
```

```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $PM_DBNAME -ss
```

```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $NCI_DBNAME -ss
```

Note: Each command iteration requires at least one tape. Mark each tape clearly.

---

- 16** For WaveStar® SNMS R4.0, back up the databases to tape as shown in the command iterations that follow.

```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $EMS_DBNAME -ss
```

```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $PM_DBNAME -ss
```

```
dbexport -c -t /dev/rmt/0m -b 512 -s 2000000 $NCI_DBNAME -ss
```

Note: Each command iteration requires at least one tape. Mark each tape clearly.

---

- 17** Reload the system from the ground up using the procedures provided in *Chapter 3, Ignite-UX! Tasks*.

When the system prompts you to rebuild the Informix engine with EMS new host Informix Database configuration? answer **yes**.

---

**18** If the TMF Add-On has not been ordered, go to the next step. If the TMF Add-On has been ordered, follow the steps in *Procedure 3-14 Installing the TMF Add-On*.

---

**19** Log in as **ems**.

---

**20** If the TMF interface has been previously used, make sure the value of the `EMS_CLUSTER_ID` is the same value that you have recorded in step 12.

**Result:** If the values match, go to step 22. If the values do not match, go to the next step.

---

**21** If the values shown for the `EMS_CLUSTER_ID` in steps 12 and 20 do not match, access the `envfile_setup` file using the **vi** editor and add the old value of the `EMS_CLUSTER_ID` to make sure the value is correct:  
**vi /ems/etc/envfile\_setup**  
Add **EMS\_CLUSTER\_ID=<old value>** right before the line showing:  
**export EMS\_CLUSTER\_ID**

---

**22** Execute the following command lines to bring down the WaveStar® SNMS application and to clean up the WaveStar® SNMS database:  
Log in as **ems**.  
**dn**  
**drdb**  
Answer **y** to drop `dsa`.

---

**23** Restore the flat files from the *SNMS R4.0 data tar files* tape that was created in step 10 using the following command lines:  
**su - root**  
**cd /ems**  
**tar xvf /dev/rmt/0m \**  
**./etc/SDSenv\_rc \**  
**./dsa \**  
**./HA/LOC/config**

- 
- 24 Log out as **root**.

**Result:** You are back at the **ems** ID.

---

- 25 If the old release is WaveStar® SNMS R2.1 or prior, restore the database from tape by using the following command syntax. If the old release is not R2.1 or prior, go to the appropriate step that follows.

```
dbimport snc_db -d snc_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
dbimport pm_db -d pm1_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U snc_db
db_logging -U pm_db
```

If the TMF Add-On has been installed, execute the following command lines:

```
dbimport q3nb_db -d nb_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U q3nb_db
```

If the TMF Add-On has not been installed, execute the following command lines:

```
dbimport q3nb_db -d fm2_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U q3nb_db
```

---

- 26 If the old release is WaveStar® SNMS R3.0, restore the database from tape by using the following command syntax. If the old release is not R3.0, go to the appropriate step that follows.

```
dbimport snc_db -d snc_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
dbimport pm_db -d pm1_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U snc_db
db_logging -U pm_db
```

---

- 27 If the old release is WaveStar® SNMS R3.1, restore the database from tape by using the following command syntax. If the old release is not R3.1, go to the appropriate step that follows.

```
dbimport snc_db -d snc_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
dbimport pm_db -d pm1_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U snc_db
db_logging -U pm_db
```

Execute the following command lines only if the TMF Add-On has been installed:

```
dbimport tmf_db -d nb_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U tmf_db
```

---

- 28** If the old release is WaveStar® SNMS R4.0, restore the database from tape by using the following command syntax:

```
dbimport ems_db -d snc_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
dbimport pm_db -d pm1_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U ems_db
db_logging -U pm_db
```

Execute the following command lines only if the TMF Add-On has been installed:

```
dbimport tmf_db -d nb_dbs -c -t /dev/rmt/0m -b 512 -s 2000000
db_logging -U tmf_db
```

---

- 29** If the old release is R3.0 and prior, convert the databases to the new schema via the following command lines. If the old release is not R3.0 and prior, go to the appropriate step that follows.

```
export SNC_DBNAME=snc_db
export EMS_DBNAME=snc_db
```

Run the following scripts from the old release number:

```
SNMSDB2.0To2.1
SNMSDB2.1To3.0
SNMSDB3.0To3.1
```

**Result:** The screen shows the number of the current (new) release when re-creating the database, which is typical.

Input the following:

```
export SNC_DBNAME=ems_db
export EMS_DBNAME=ems_db
SNMSDB3.1To4.0
fix_dbowner
SNMSDB4.0To4.2
snmsInstall -u 4.2
```

**Result:** If everything goes well, the upgrade is completed. If you receive any error message in any step, run

```
drdb
drdb -d snc_db
```

Ignore any error messages received from **drdb** and restore the database from tape. If the old release is WaveStar® SNMS R2.1 and

prior, follow the steps from step 25. If the old release is WaveStar® SNMS R3.0, follow the steps from step 26. After fixing the data or the procedure, redo the conversion.

---

- 30** If the old release is R3.1, convert the databases to the new schema via the following command lines: If the old release is not R3.1, go to the appropriate step that follows.

**SNMSDB3.1To4.0**

**fix\_dbowner**

**SNMSDB4.0To4.2**

**snmsInstall -u 4.2**

**Result:** If everything goes well, the upgrade is completed. If you receive any error message in any step, run

**drdb**

**drdb -d snc\_db**

Ignore any error messages received from **drdb**, restore the database from tape (follow steps from step 27), fix the data or the procedure, and redo the conversion.

---

- 31** If the old release is R4.0.x, convert the databases to the new schema via the following command lines.

**SNMSDB4.0To4.2**

**snmsInstall -u 4.2**

**Result:** If you do not receive any error messages, the upgrade is completed. If you receive any error message in any step, execute **drdb**, restore the database from tapes (follow steps from step 28), fix the data or the procedure, and redo the conversion.

---

- 32** For local redundancy while installing the primary host, execute the following command lines on the secondary host:

Log in on secondary host: **root**

**vgexport /dev/<cluster lock volume group>**

**exit**

For example: **vgexport /dev/vg\_clstr**

- 
- 33** To regenerate the HA configuration files and scripts for a *local redundancy configuration on the primary host*, execute the following command lines and complete the following procedures from *Chapter 9, Redundancy Installation and Operations <TBS>*:
- su root** (Do not use the dash.)
- Procedure 9-7 Doing Post Installation Tasks*
- Procedure 9-4 Setting up NTP with the Real Time Source Server*
- OR-** *Procedure 9-5 Setting up NTP between Redundancy Servers*
- Procedure 9-8 Creating a Cluster Lock Volume Group*
- Procedure 9-9 Exporting the Cluster Lock Volume Group*—execute steps 1 through 3 only
- /ems/etc/installHA 2> /tmp/installHA.out**
- rcp <secondary host>:/etc/cmcluster/cmclconfig /etc/cmcluster**
- 
- 34** To regenerate the HA configuration files and scripts for *geographic redundancy on the primary host*, execute the following command lines and complete the following procedures from *Chapter 9, Redundancy Installation and Operations <TBS>*:
- su root** (Do not use the dash.)
- Procedure 9-7 Doing Post Installation Tasks*
- Procedure 9-4 Setting up NTP with the Real Time Source Server*
- OR-** *Procedure 9-5 Setting up NTP between Redundancy Servers*
- /ems/etc/installHA 2> /tmp/installHA.out**
- 
- 35** To complete the regeneration of the HA configuration files and scripts, the *HA\_Topology.cfg* file must be changed as indicated on the primary host. This file is accessed using the **vi** editor:
- vi /ems/etc/HA\_Topology.cfg**
- Change the *status* field to **active** where the *site* field is equal to *local\_primary*.
- Change the *status* field to **down** where the *site* field is equal to *local\_secondary* or *remote\_primary*.
- Save the changes made to the file.
- Exit the **vi** editor.
- 
- 36** Bring **sncPkg** down on the secondary/remote host using the following command lines:
- On the secondary/remote host:

login: **root**  
**cmhaltpkg -v sncPkg**

**Result:** The HA\_Mgr process is being killed. Once the HA\_Mgr process has been killed, go to the next step.

---

**37** Bring **sncPkg** up on the primary host, use the following command lines:

On the primary host:  
Log in as **root**  
**cmrunnode -v <primary host>**  
**cmviewcl**

**Result:** If the package status displays the message `starting`, go to step 39. If the message `starting` does not appear, go to the next step.

---

**38** If the message `starting` does not appear as a result of the **cmviewcl** command executed in the previous step, execute the following command line: **cmrunpkg sncPkg**

---

**39** For local redundancy configurations, execute the following command lines on the secondary host:

Log in as **root**  
**cmhaltnode -v -f <secondary host>**

---

**40** This step completes the installation/upgrade of the local/geographic primary host.

---

**41** Upgrade the secondary/remote host by executing steps 7, 12, 17 through 22.

---

**42** To regenerate the HA configuration files and scripts for *local redundancy configuration on the secondary host*, execute the following command lines and complete the following procedures from *Chapter 9, Redundancy Installation and Operations <TBS>*:  
**su root** (Do not use the dash.)

---

*Procedure 9-7 Doing Post Installation Tasks*

*Procedure 9-4 Setting up NTP with the Real Time Source Server*

**-OR-** *Procedure 9-5 Setting up NTP between Redundancy Servers*

*Procedure 9-9 Exporting the Cluster Lock Volume Group*—execute steps 4 through 7 only.

- 
- 43** To regenerate the HA configuration files and scripts for ***geographic redundancy on the remote host***, execute the following command lines and complete the following procedures from *Chapter 9, Redundancy Installation and Operations <TBS>*:

**su root** (Do not use the dash.)

*Procedure 9-7 Doing Post Installation Tasks*

*Procedure 9-4 Setting up NTP with the Real Time Source Server*

**-OR-** *Procedure 9-5 Setting up NTP between Redundancy Servers*

**/ems/etc/installHA 2> /tmp/installHA.out**

- 
- 44** This step now completes the installation/upgrade procedure for the secondary/remote host. Proceed to the next step to configure the HA redundancy environment.

- 
- 45** For local redundancy configurations on the primary host, login as **ems**. For geographic redundancy configurations, go to step 48.

- 
- 46** Execute the command: **su root** (Do not use the dash.)

- 
- 47** Execute the following command lines:  
**/ems/etc/installHA**

- 
- 48** On the secondary/remote host, login as **ems**.

- 
- 49** Execute the command: **su root** (Do not use the dash.)

- 
- 50** For geographic redundancy only, execute the following:  
**/ems/etc/installHA**

- 
- 51** Execute the following command line and provide the following responses:

**/ems/etc/rejoin**

Remove ATS/Directory from standby? **Yes**

ER configuration? **Yes**

Database resynchronization? **Yes**

---

- 52** If the installation had been using Lucent's Dynamic Network Analyzer (DNA) before the upgrade, contact Lucent's DNA research and development organization to perform the corresponding upgrade on the OpenLink software. In the meantime, DNA currently loses its connection to the Navis™ Optical EMS database.

END OF STEPS

---



## Procedure 4-10 Changing the DIB Organizational Unit Name Prefix

---

**Purpose** This procedure is used to change the DIB organizational unit name prefix from *SNMS1* and *SNMS2* to *EMS1* and *EMS2*.

**Before you begin** The particular Navis™ Optical EMS upgrade procedure for your installation must be completed before you begin this procedure. These procedures are either of the following:

- *Procedure 4-4 Upgrading a Standalone R5.0.x or Later System*
- *Procedure 4-5 Upgrading a Redundant R5.0.x and Later System.*

**Related information** If the Navis™ Optical EMS discovers the network NEs through DSA, these NEs will be known to the Navis™ Optical EMS via Registration Managers (RMs). Therefore, if the DSA-supported prefixes are changed to *EMS1* and *EMS2*, the prefix on the RMs should also be changed to be *EMS1* and *EMS2*. This change can be made via the **ent-rma** command.

If the Navis™ Optical EMS does **not** discover the network NEs through DSA—meaning, the network NEs are discovered through DNO (Retrieve Map Neighbor or Ring)—then, having the RMs retain the old prefixes will not have any adverse effect because the NEs will be discovered to the Navis™ Optical EMS, but the NEs will not be able to register to the DSA.

**Task** Use these steps to change the DIB organizational unit name prefix from *SNMS1* and *SNMS2* to *EMS1* and *EMS2*.

- 
- 1** Log in as **ems**.

---

  - 2** Execute the following command line to stop the application: **dn -x**

---

  - 3** Execute the following command line: **su root**

---

  - 4** Execute the following command line: **installEms**

- 
- 5 Select 4 at the prompt, Specify your choice by number, which is, Configure EMS - making provisional parameters effective: **4**

**Result:** The `installEms` responds with Starting the EMS PROVISIONING process... and tells you that you can choose a new set of environmental parameters. The system then warns you that a new host Informix Database configuration is about to begin and you can adjust your Name Service Switch accordingly.

---

- 6 When the system prompts, Do you want to continue this process (y/n/q), respond no: **n**

**Result:** The system responds with Skip Informix Database configuration!

---

- 7 Press ENTER to continue: **ENTER**
- 

- 8 At the prompt, Keep current appgconfig.local?..., answer yes: **y**
- 

- 9 When the LAN interfaces appear, press ENTER to continue: **ENTER**

**Result:** The system prompts you to confirm the current configuration information.

---

- 10 Enter s to save the next *three* sets of current configuration information (Network Service Attachment Point..., current OSI, and CMISE): **s**
- 

- 11 When the system displays the DIB PREFIX REVIEW, enter the number 3 to change the DIB Organization Unit Name prefix: **3**

.....  
**12** At the prompt, Please enter the Organization Unit Name up to 64 characters: [default=SNMS1;SNMS2], enter: **EMS1 ;EMS2**  
.....

**13** At the prompt, You have entered EMS1;EMS2 as the Organization Unit Name. Is this correct (y/n)? enter: **y**

**Result:** The system responds with the DIB PREFIX REVIEW.  
.....

**14** When the system prompts, What would you like to do [1-3, or s] [q to quit], answer save: **s**  
.....

**15** When the system prompts, Accept the current configuration (y/n/q), answer yes: **y**  
.....

**16** When the system prompts, Do you wish to change the list of PM directories (y/n), answer no: **n**

**Result:** The installEms script completes.







# 5 GUI Client Installation on a Windows Desktop

## Overview

---

**Purpose** This chapter describes the procedure to install the GUI client a Windows NT®, Windows NT® Terminal Server, or Windows 2000® platform. Collectively, these three operating system platforms are referred to in the following procedures as the *Windows desktop*.

**Contents** The following topics are discussed in this chapter:

|               |                                                               |                      |
|---------------|---------------------------------------------------------------|----------------------|
| Procedure 5-1 | Defining the HP Servers                                       | <a href="#">5-2</a>  |
| Procedure 5-2 | Creating a User Login                                         | <a href="#">5-4</a>  |
| Procedure 5-3 | Installing Adobe Acrobat                                      | <a href="#">5-6</a>  |
| Procedure 5-4 | Installing the Japanese Font Pack                             | <a href="#">5-7</a>  |
| Procedure 5-5 | Installing the GUI                                            | <a href="#">5-8</a>  |
| Procedure 5-6 | Creating a Short Cut to Run the GUI                           | <a href="#">5-10</a> |
|               | Configuring the Navis™ Optical EMS for the Navis™ Optical NMS | <a href="#">5-12</a> |
| Procedure 5-7 | Configuring the HP Server for Navis™ Optical NMS User Logins  | <a href="#">5-13</a> |
| Procedure 5-8 | Testing the GUI                                               | <a href="#">5-15</a> |



## Procedure 5-1 Defining the HP Servers

---

**Purpose** For the Windows NT or the Windows 2000 operating system, you must define the HP servers in the TCP/IP *hosts* file. This procedure is used to define the HP servers in the *hosts* file.

**Before you begin** The TCP/IP *hosts* file is similar to the */etc/hosts* file that is used on UNIX systems. (The files are so similar that the UNIX */etc/hosts* file can be **ftp'd** to Windows desktop and edited for use. See the two Tasks that are supplied in this procedure.)

The TCP/IP *hosts* file contains text that maps the host IP addresses to the host name and alias. Each entry should be kept on an individual line. The IP address should be put in the first column, followed by at least one space and the corresponding host name and alias. Comments, denoted by the # symbol, can be inserted for each line following host name or they can be put on a separate line. For example:

```
102.54.94.97 rhino.acme.com #the source server
38.25.63.10 x.acme.com #the x client server
135.17.13.256 siren SIREN siren.ho.lucent.com
#the lucent server
```

**Important!** The Navis™ Optical NMS capitalizes the names of each HP server that runs the Navis™ Optical EMS; therefore, include a capitalized host name in the host alias field. Also, include the full domain name of the HP server in the *hosts* file for systems that use the domain name service.

For a Windows NT/Windows 2000 system, the *hosts* file is in the directory `\WINNT\system32\drivers\etc`.

For a Windows NT Terminal Server system, the *hosts* file is in the directory `\WTSRV32\system32\drivers\etc`.

**Task (One Method)** Use these steps to define the HP servers in the TCP/IP *hosts* file that resides on the Windows desktop.

- 
- 1 Locate the *hosts* file in the appropriate directory in the Windows NT desktop, which is either `\WINNT\system32\drivers\etc` or `\WTSRV32\system32\drivers\etc` depending on the particular installation configuration.

- 
- 2 Make the appropriate changes to the file by mapping the IP address to the host name. Add any necessary comments.
- 

- 3 Save the changes.

END OF STEPS

---

### Task (Another Method)

Follow these steps to **ftp** the UNIX */etc/hosts* file that resides on the HP server to the Windows desktop and to overwrite the Windows *hosts* file with the UNIX */etc/hosts* file.

---

- 1 Locate the *hosts* file in the appropriate directory on the desktop, which is either `|WINNT\system32\drivers\etc` or `|WTSRV32\system32\drivers\etc` depending on the particular installation configuration.
- 

- 2 Copy all of the predefined host entries in the *hosts* file to a secure file before overwriting the *hosts* file on the Windows desktop with the */etc/hosts* from the UNIX machine.
- 

- 3 Use **ftp** to copy the */etc/hosts* file that is located on the HP server (the UNIX machine) to the Windows desktop.
- 

- 4 Make the appropriate changes to the file by mapping the IP address to the host name. Add any necessary comments.
- 

- 5 Save the changes.

END OF STEPS

---



## Procedure 5-2 Creating a User Login

---

**Purpose** The following procedure is used to create user logins on a Windows desktop.

**Before you begin** For Windows desktops already in use, customer defined logins and passwords might already be available on the desktop. If the customer requests use of one of these accounts, the installer does not have to create a new account for Navis™ Optical EMS users—proceed to the next step in the GUI installation process.

**Task** Use these steps to create user logins on a Windows desktop.

---

**1** Log in as **Admin**.

---

**2** Launch the User Manager For Domains application by navigating through the following menus:  
**Start ->Programs->Administrative Tools (Common)->User Manager For Domain**

**Result:** A User Manager screen is displayed, which contains a menu bar and a scrollable table showing all defined users.

---

**3** To create a new user, access the User pull-down menu item.

---

**4** Select the **New User...** menu item.

**Result:** A New User screen appears.

---

**5** Enter the following information in the New User screen:

Username: **ems**

Full Name: **EMS/NMS Manager**

Password: **ems123**

Confirm Password: **ems123**

Check the box **Password Never Expires** and press **Add**.

---

**Result:** The screen clears to prepare for the addition of another user.

---

- 6 Press **Close** on the New User screen to stop adding new users.

**Result:** Once the **ems** user ID is created, the User Manager application can be exited.

---

- 7 Access the User pull-down menu.
- 

- 8 Select **Exit**.

END OF STEPS

---



## Procedure 5-3 Installing Adobe Acrobat

---

**Purpose** This procedure is used to install Adobe Acrobat on a Windows desktop.

**Before you begin** The Adobe Acrobat installation file, which is named *ar40eng.exe*, is available on the Navis™ Optical EMS installation disk. If the Service Pack 4.0 installation disk is still in the CD-ROM drive, switch disks.

For Windows NT Terminal Server systems, the default installation directory is *M:\Program Files\Adobe\Acrobat 4.0*. Because the boot partition is very small, change the following:

- the default drive directory from *M:* to *C:*
- the default acrobat reader install directory to *C:\ProgramFiles\Adobe\Acrobat 4.0*.

**Task** Use these steps to install Adobe Acrobat on a Windows desktop.

---

**1** To install Acrobat Reader, open the **My Computer** desktop icon.

---

**2** Click on the CD-ROM disk drive.

**Result:** A screen appears that lists all files on the CD-ROM.

---

**3** Double click on the *ar40eng.exe* file to launch the Acrobat installation program.

---

**4** Use the default configuration parameters to install the program.

---

**5** Install Adobe Acrobat in *C:\ProgramFiles\Adobe\Acrobat 4.0*.

END OF STEPS

---



## Procedure 5-4 Installing the Japanese Font Pack

---

**Purpose** The following procedure is used to install the Japanese font pack on a Windows NT desktop.

**Before you begin** If Japanese language support is not required for this installation, this procedure can be skipped.

The Japanese font pack installation file, which is called *jpnfont.exe*, upgrades the Adobe Acrobat Reader to support the Japanese language. It is installed in the same directory as the Acrobat Reader program, which is *C:\Program Files\Adobe\Acrobat 4.0*.

**Task** Use these steps to install the Japanese font pack.

---

**1** Login as **administrator**.

---

**2** Open the **My Computer** desktop icon.

---

**3** Click on the CD-ROM disk drive.

**Result:** A screen listing all files on the CD-ROM appears.

---

**4** Double click on the *jpnfont.exe* file to launch the Adobe Acrobat installation program.

---

**5** Use all default configuration parameters to install the program.

END OF STEPS

---



## Procedure 5-5 Installing the GUI

---

**Purpose** The following procedure is used to install the GUI application on a Windows Desktop.

**Before you begin** Before installing the GUI application, determine the most appropriate disk that can accommodate the GUI software. We recommend at least 1GB of free space for the Navis™ Optical EMS Application.

More than one release of the GUI can be installed on a single workstation. For instance, a release 2.0 GUI, a release 3.0 GUI, and a release 4.0 GUI can co-exist on the same Windows desktop. We recommend that all GUI versions reside on the same disk. Each release of the GUI installs in a different root directory.

In most cases, the GUI application should not reside on the same disk as the operating system. Therefore, the GUI software should be installed on the D: or E: drive. To create a new logical disk, use the Windows administrator utility *Disk Administrator*, which can be reached from the **Start ->Programs->Administrative Tools (Common)->Disk Administrator**.

Once launched, the Disk Administrator utility graphically depicts the server disk formatting.

**Important!** For terminal server installations, the installation disk should always be the C: drive. Because the Navis™ Optical NMS and the Navis™ Optical EMS share configuration files, both applications must reside on the same disk, which should be the C: drive. The root directory of all Navis™ Optical NMS files on the Windows desktop is */jui*.

**Task** Use these steps to install the GUI application on a Windows desktop.

---

- 1 Insert the Navis™ Optical EMS installation disk in the CD-ROM drive.

---

- 2 Open the **My Computer** desktop icon.

- 
- 3** Click on the CD-ROM disk drive.

**Result:** A screen listing all files on the CD-ROM appears.

---

- 4** Double click the *snms\*.tar* file to launch the installation program.

**Result:** The installation program displays a Winzip screen requesting a directory for installation.

---

- 5** Set the installation directory. (See *Before you begin* in the beginning of this procedure for more information about installation directories.)
- 

- 6** If a previous version of the Navis™ Optical EMS or the Navis™ Optical NMS is already installed on the desktop, a warning message indicates that files are about to be overwritten. Press **Yes To All** to continue the installation.

**Result:** The GUI is installed in the root directory *\emsR7.0*.

END OF STEPS

---



## Procedure 5-6 Creating a Short Cut to Run the GUI

---

**Purpose** The following procedure is used to create a short cut to run the GUI on a Windows desktop.

**Before you begin** The GUI must already be installed on the desktop before you can create a short cut.

**Task** Use these steps to create a short cut to run the GUI on a Windows desktop.

---

**1** Right click on (the background of) your desktop screen.

---

**2** Select **New**.

---

**3** Select **Shortcut**.

---

**4** On the command line, select **Browse**.

---

**5** Look for the directory in which the GUI client resides.

---

**6** Select **SNMS.bat** and the correct directory.

---

**7** Enter a name for the shortcut that you are creating.

---

**8** Click **Finish**.

---

**9** Enter the name of the shortcut.

---

**10** Once you see the icon for the shortcut, right click on the icon.

.....  
**11** Select **Properties**.

.....  
**12** Click **Shortcut**.

.....  
**13** At the Target line, type **-host <hostname>**.

.....  
**14** Click **OK**.

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



# Configuring the Navis™ Optical EMS for the Navis™ Optical NMS

---

## Updating the WS-NMS F-interface File

The Navis™ Optical EMS software contains an F-interface configuration file that helps the Navis™ Optical NMS locate different versions of the Navis™ Optical EMS software. The pathname of this file is:

*<GUI Root Directory>/snc/fint/sncFint.cfg.*

The Navis™ Optical NMS accesses a copy of this file from the directory:

*\jui\jnm\itm\southbound\snc\sncfint*

If the *sncFint.cfg* file is not already present in that directory, a copy of the file must be put into:

*\jui\jnm\itm\southbound\snc\sncfint*

The file format for the file *sncFint.cfg* is the same in every release of the Navis™ Optical EMS software.

## Updating the WS\_NMS Classpath

The Java classpath parameter identifies the source of Java files that the GUI executes. The classpath variable for the Navis™ Optical EMS GUI is automatically set based on values in the *sncFint.cfg* file.

However, the classpath for the Navis™ Optical NMS must be updated to point to any version of the Navis™ Optical EMS GUI client. In other words, the Navis™ Optical NMS classpath variable needs to include an *\snmsR6.0* or *\snmsR7.0* or ... directory in its list of classpath directories. The Navis™ Optical NMS file that might have to be edited is:

*\jui\bin\run\_jnm.bat*

Only one Navis™ Optical EMS root directory has to be included in the Navis™ Optical NMS classpath variable.

□

## Procedure 5-7 Configuring the HP Server for Navis™ Optical NMS User Logins

---

**Purpose** The Navis™ Optical NMS uses its own login IDs in order to login to the Navis™ Optical EMS. For the Navis™ Optical EMS to support this feature, CSL support must be enabled.

**Before you begin** The default password for the Navis™ Optical EMS server is *ems123*.

**Task** Use these steps to configure CSL support.

- 1 Telnet to the Navis™ Optical EMS server.  
.....
- 2 Login to the Navis™ Optical EMS server using the **ems** login.  
.....
- 3 Access the *\$GS\_CONFIG\_PATH* file with an editor such as **vi**:  
Example: **vi \$GS\_CONFIG\_PATH**  
.....
- 4 Search for the *CSL\_ENABLE* value. The default line in the file should be **CSL\_ENABLE = 0**  
.....
- 5 Change the value of zero to one. The change line should read **CSL\_ENABLE = 1**  
.....
- 6 Save the file.  
.....
- 7 Exit out of the editor.  
.....
- 8 Execute the command: **apprestart -n GUI\_Server**

- 
- 9** Log out of the Navis™ Optical EMS server.

E N D O F S T E P S

---



## Procedure 5-8 Testing the GUI

---

**Purpose** This procedure is used to test the GUI from an MS-DOS prompt.

**Before you begin** The GUI must be installed and the Navis™ Optical EMS Application must be running on the HP server.

**Task** Use these steps to test the GUI from an MS-DOS prompt.

---

**1** Launch an MS-DOS window using the start button by navigating through the following cascading menus:  
**Start->Programs->Command Prompt**

---

**2** At the MS-DOS prompt, change the directory to the root directory of the GUI application.

---

**3** To launch an SNMS GUI, execute the command line:  
**SNMS -host <hostname>**

END OF STEPS

---







# 6 GUI Client Installation on a Sun Workstation

## Overview

---

**Purpose** This chapter describes the procedure to install the GUI client on a Sun Workstation®.

**Contents** The following topics are discussed in this chapter:

|               |                                    |                     |
|---------------|------------------------------------|---------------------|
| Procedure 6-1 | Creating an EMS User Login         | <a href="#">6-2</a> |
| Procedure 6-2 | Configuring Domain Name Resolution | <a href="#">6-3</a> |
| Procedure 6-3 | Installing Adobe Acrobat           | <a href="#">6-4</a> |
| Procedure 6-4 | Installing the Japanese Font Pack  | <a href="#">6-6</a> |
| Procedure 6-5 | Installing the GUI                 | <a href="#">6-8</a> |
| Procedure 6-6 | Testing the GUI                    | <a href="#">6-9</a> |



## Procedure 6-1 Creating an EMS User Login

---

**Purpose** The following procedure is used to create user logins for a Sun Workstation using **admintool**, which is a graphical user tool that is used to create user accounts.

**Before you begin** The Navis™ Optical EMS GUI for the Sun Workstation is delivered on the Navis™ Optical EMS GUI Client CD-ROM for HP-UX installations.

Solaris users are not prevented from invoking a Navis™ Optical EMS GUI. Therefore, any Sun user account can be used to launch the GUI. However, an **ems** user account should be created on the Sun Workstation as a default. Other users can run the GUI from the */home/ems* directory.

**Task** Use these steps to create user logins on the Sun Workstation using **admintool**.

---

**1** Login as **root**.

---

**2** Execute the command: **admintool**.

---

**3** Use the add menu item to display the new user information dialog. The following parameters should be configured:

User Name: **ems**

Login Shell: **Korn**

Create Home Directory: **<button pushed>**

Path: **/export/home/ems**

---

**4** Press **OK** to create the user account.

---

**5** Exit the tool when complete.

END OF STEPS

---



## Procedure 6-2 Configuring Domain Name Resolution

---

**Purpose** The information in this procedure is used to help configure the domain name resolution on a Sun Workstation.

**Before you begin** A Sun Workstation that is in use might already have domain name resolution properly configured. To determine the proper domain name resolution and IP connectivity, use the **ping** command. If name resolution configuration appears to be correct, skip this procedure.

**Task** Use the following information to help configure the domain name resolution on a Sun Workstation.

- 
- 1 The definition of name servers is stored in the file */etc/resolv.conf*. In the following example, the *resolve.conf* file defines the IP domain name and defines two name servers:

```
domain ho.lucent.com
nameserver 135.17.1.12
nameserver 135.3.1.13
```

- 
- 2 The file */etc/nsswitch.conf* can be used to specify the order in which IP names are resolved. To specify that the */etc/hosts* file should be checked before making a DNS query, find the line that begins with *hosts:* flag and specify the following: **hosts: files dns**

- 
- 3 Both configuration files are text files and can be edited using the **vi** editor.

END OF STEPS

---



## Procedure 6-3 Installing Adobe Acrobat

---

**Purpose** This procedure is used to install Adobe Acrobat on a Sun Workstation.

**Before you begin** The Adobe Acrobat installation file is contained on the Navis™ Optical EMS GUI installation disk. The file on the disk is called *solaris.arws-40.tar*.

If Adobe Acrobat 4.0 is already installed, this procedure can be skipped. You can check the version information on the Acrobat splash screen. The Acrobat reader executable file is called *acroread*. The Acrobat reader software is installed in the */opt/Acrobat4* directory.

**Task** Use these steps to install Adobe Acrobat on a Sun Workstation.

---

**1** Log in as **root**.

---

**2** Insert the disk into the CD-ROM drive.

**Result:** The Solaris OS automatically mounts the disk under the directory */cdrom/cdrom0* and provides a graphical browser that can display the contents of the disk.

---

**3** From the CDE tool-bar, launch a console window to access a shell prompt.

---

**4** At the shell prompt, create a temporary directory.

---

**5** Copy the file *solaris.arws-40.tar* into the temporary directory created in the previous step.

---

**6** Unpack the tar file using the command: **tar -xvf solaris.arws-40.tar**

**Result:** Unpacking the tar file creates a directory called *SSOLRS.install*.

---

- 
- 7 Go into the *SSOLRS.install* directory and execute the **INSTALL** script using the following command lines:

```
cd SSOLRS.install
./INSTALL
```

**Result:** The **INSTALL** script begins execution.

---

- 8 As the **INSTALL** scrip executes, accept the end user agreement and install the software in the default directory.

**Result:** The **INSTALL** script completes.

---

- 9 When the script completes execution, execute the following command line to enable the EMS user to access the Adobe Acrobat reader:

```
ln -s /opt/Acrobat4/bin/acroread /usr/bin/acroread
```

---

- 10 To clean up the Adobe Acrobat installation files, delete the contents of the temporary directory by executing the following command lines.

```
cd /
rm -rf <temporary directory>
```

END OF STEPS

---



## Procedure 6-4 Installing the Japanese Font Pack

---

**Purpose** This procedure is used to install the Japanese font pack for the Adobe Acrobat Reader on a Sun Workstation.

**Before you begin** The Japanese font pack installation file, which is called *jpnfont.tar*, upgrades the Adobe Acrobat Reader for Japanese Language support. It is installed in the directory that houses the Acrobat Reader program. If Japanese language support is not required for your installation, skip this procedure.

**Task** Use these steps to install the Japanese font pack on a Sun Workstation.

---

**1** At the shell prompt, make a temporary directory.

---

**2** Copy the file */cdrom/cdrom/0/jpnfont.tar* into the temporary directory created in the previous step.

---

**3** Unpack the tar file using the following command: **tar -xvf jpnfont.tar**

**Result:** Unpacking the tar file creates the directory *JPNKIT*.

---

**4** Change directories to the *JPNKIT* directory: **cd JPNKIT**

---

**5** Use the following command line to execute the *INSTALL* script:  
**./INSTALL**

**Result:** As the *INSTALL* script executes, accept the end user agreement and install the software in the default directory.

---

**6** After the script completes execution, clean up the contents of the temporary directory:

```
cd /
rm -rf <temporary directory>
```

END OF STEPS

---



## Procedure 6-5 Installing the GUI

---

**Purpose** The following procedure is used to install the GUI application on a Sun Workstation.

**Task** Use these steps to install the GUI application on a Sun Workstation.

---

**1** At the shell prompt, copy the Navis™ Optical EMS tar file from the CD-ROM to the EMS home directory.

---

**2** Once the copy is complete, set global permissions on the tar file in the *home/ems* directory by using the following command lines:  
**cp /cdrom/cdrom0/snmsR\*.tar /export/home/ems**  
**chmod 777 /export/home/ems/snmsR\*.tar**

---

**3** When completed, eject the CD-ROM from the drive using the command: **eject cdrom0**

---

**4** Log out as **root**.

---

**5** Log in as **ems**.

---

**6** To unpack the GUI tar file, use the command: **tar -xvf snmsR\*.tar**

**Result:** Unpacking the tar file creates a subdirectory that contains all Java files in their proper location.

END OF STEPS

---



## Procedure 6-6 Testing the GUI

---

**Purpose** This procedure is used to test the GUI application on a Sun Workstation.

**Before you begin** Once the GUI is installed and the Navis™ Optical EMS application is running on the HP server, you can test the GUI from the shell prompt.

**Task** Use these steps to test the GUI application on a Sun Workstation.

---

- 1** Change directories to the root directory of the GUI application:  
**cd <root directory of GUI application>**  
For example: to change to the root directory of a release 7.0 SNMS GUI, execute the command: **cd snmsR70**
- 

- 2** To launch a Navis™ Optical EMS GUI, execute the command:  
**snms.sh -host <hostname>**

END OF STEPS

---







# 7 GUI Client Installation on a HP-UX Workstation

## Overview

---

**Purpose** This chapter describes the procedure to install the GUI client on a HP-UX Workstation.

**Contents** The following topics are discussed in this chapter:

|               |                                                     |                      |
|---------------|-----------------------------------------------------|----------------------|
| Procedure 7-1 | Creating an EMS User Login                          | <a href="#">7-2</a>  |
| Procedure 7-2 | Configuring Domain Name Resolution                  | <a href="#">7-4</a>  |
| Procedure 7-3 | Mounting the CD-ROM                                 | <a href="#">7-6</a>  |
| Procedure 7-4 | Installing Adobe Acrobat                            | <a href="#">7-7</a>  |
| Procedure 7-5 | Installing the Japanese Font Pack                   | <a href="#">7-9</a>  |
| Procedure 7-6 | Installing the GUI                                  | <a href="#">7-11</a> |
| Procedure 7-7 | Configuring for Navis™ Optical NMS Interoperability | <a href="#">7-12</a> |
| Procedure 7-8 | Testing the GUI                                     | <a href="#">7-14</a> |



## Procedure 7-1 Creating an EMS User Login

---

**Purpose** The following procedure is used to create user logins for a HP-UX workstation using SAM (**sam**), a graphical tool used for creating user accounts.

**Before you begin** The Navis™ Optical EMS GUI for the HP-UX workstation is delivered on the Navis™ Optical EMS GUI Client CD-ROM for HP-UX installations.

HP-UX users are not prevented from invoking a Navis™ Optical EMS GUI. Therefore, any HP-UX user account can be used to launch the GUI. However, an **ems** user account should be created on the HP-UX workstation as a default. Other users can run the GUI from the */home/ems* directory.

**Task** Use these steps to create user logins on the HP-UX workstation using **admintool**.

---

**1** Login as **root**.

---

**2** Execute SAM: **sam**.

---

**3** Double click the following icons to navigate to the screen used to create user accounts:  
**Accounts For Users and Groups--->Local Users**

---

**4** Select the **Actions** menu bar item and the **Add..** menu item to display the new user information dialog.

---

**5** Configure the following parameters:  
User Name: **ems**  
Home Directory: **/home/ems**  
Startup Program: **/usr/bin/ksh**

---

**6** Press **OK** to create the user account.

---

**7** Exit **sam** when complete.

END OF STEPS

---



## Procedure 7-2 Configuring Domain Name Resolution

---

**Purpose** The information in this procedure is used to help configure the domain name resolution on a HP-UX workstation. The order in which IP addresses can be resolved is configured via SAM (**sam**).

**Before you begin** A HP-UX workstation that is in use might already have domain name resolution properly configured. To determine the proper domain name resolution and IP connectivity, use the **ping** command. If name resolution configuration appears to be correct, skip this procedure.

The definition of name servers is stored in the file */etc/resolv.conf*. In the following example, the *resolve.conf* file defines the IP domain name and defines two name servers:

```
domain ho.lucent.com
nameserver 135.17.1.12
nameserver 135.3.1.13
```

**Task** To specify that the */etc/hosts* file should be checked before making a DNS query, follow these steps.

- 1 Execute SAM: **sam**
- 2 Double click on the **network and communications** icon.
- 3 Double click on the **name service switch** icon.
- 4 Select the row called **hosts**.
- 5 Select the **Actions** menu bar item and the **Configure Name Service Switch** menu item.

**Result:** A name service switch dialog box appears.

.....  
**6** Set the search order to the following:

**1. /etc/hosts**

**2. DNS**

**3. NIS**

.....  
**7** Make sure that each entry has selected the Try Next Source option in case of failure.

.....  
**8** Exit SAM.

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



## Procedure 7-3 Mounting the CD-ROM

---

**Purpose** The CD-ROM that contains the Navis™ Optical EMS GUI must be mounted as a file system on the workstation before files can be accessed from it. This procedure is used to mount the CD-ROM.

**Before you begin** The CD-ROM will be mounted under the root file system in a directory called */SD\_CDROM*.

**Task** Use the following steps to mount the CD-ROM.

---

**1** Log in as **root**.

---

**2** Execute the following command to create the directory for the root file system: **mkdir /SD\_CDROM**

---

**3** Determine the CD-ROM block device name by executing the following command: **ioscan -funC disk**

**Result:** The system outputs a list of tabular information that typically contains the headings: Class, I, H/W Path, Driver, S/W State, H/W Type, and Description. The block device name is first */dev/dks/<block device name>* listed below *Description*.

In newer versions of the B3000 Workstation, the CD-ROM device is listed after the heading *MITSUMI*; therefore, the device name is first */dev/dks/<block device name>* listed after *MITSUMI*.

---

**4** To mount the CD-ROM, execute the following command line:  
**mount <CD-ROM block device name> /SD\_CDROM**

Example: **mount /dev/dsk/c1t2d0 /SD\_CDROM**

END OF STEPS

---



## Procedure 7-4 Installing Adobe Acrobat

---

**Purpose** This procedure is used to install Adobe Acrobat on a HP-UX workstation.

**Before you begin** The Adobe Acrobat installation file is contained on CD-ROM called *hpux-rs-40.tar*.

If Adobe Acrobat 4.0 is already installed, this procedure can be skipped. You can check the version information on the Acrobat splash screen. The Acrobat reader executable file is called *acroread*. The Acrobat reader software is installed in the */opt/Acrobat4* directory.

**Task** Use these steps to install Adobe Acrobat on a HP-UX workstation.

---

**1** Log in as **root**.

---

**2** Insert the *hpux-rs-40.tar* CD-ROM into the drive.

---

**3** Extract the Adobe Acrobat program into the */home* directory. (The file is too large to put into the */tmp* directory.). Execute the following command lines:

```
cd /home
```

```
tar -xvf /SC_CDROM/hpux-rs-40.tar
```

**Result:** Unpacking the tar file creates a directory called *HPUXRS.install*.

---

**4** Change directories to the *HPUXRS.install* directory:  
**cd HPUXRS.install**

---

**5** Execute the INSTALL script: **./INSTALL**

**Result:** The INSTALL script begins execution.

- 
- 6** As the INSTALL script executes, accept the end user agreement and install the software in the default directory.

**Result:** The INSTALL script completes.

---

- 7** When the INSTALL script completes, execute the following command line to allow the EMS user to access the Acrobat Reader:

**ln -s /opt/Acrobat4/bin/acroread /usr/bin/acroread**

---

- 8** To clean up the Adobe Acrobat installation files, delete the contents of the temporary directory by executing the following command lines.

**cd /**

**rm -rf HPUXRS.install**

END OF STEPS

---



## Procedure 7-5 Installing the Japanese Font Pack

---

**Purpose** This procedure is used to install the Japanese font pack for the Adobe Acrobat Reader on a HP-UX workstation.

**Before you begin** The Japanese font pack installation file, which is called *jpnfont.tar*, upgrades the Adobe Acrobat Reader for Japanese Language support. It is installed in the directory that houses the Acrobat Reader program.

If Japanese language support is not required for your installation, skip this procedure.

**Task** Use these steps to install the Japanese font pack on a HP-UX workstation.

---

**1** At the shell prompt, make a temporary directory.

---

**2** Copy the file */SC\_CDROM/jpnfont.tar* into the temporary directory created in the previous step.

---

**3** Unpack the tar file using the following command: **tar -xvf jpnfont.tar**

**Result:** Unpacking the tar file creates the directory *JPNKIT*.

---

**4** Change directories to the *JPNKIT* directory: **cd JPNKIT**

---

**5** Use the following command line to execute the *INSTALL* script:  
**.. /INSTALL**

**Result:** The *INSTALL* script begins to execute.

---

**6** As the *INSTALL* script executes, accept the end user agreement and install the software in the default directory.

- 
- 7** After the script completes execution, clean up the contents of the temporary directory:

**cd /**

**rm -rf <temporary directory>**

END OF STEPS

---



## Procedure 7-6 Installing the GUI

---

**Purpose** The following procedure is used to install the GUI application on a HP-UX workstation.

**Task** Use these steps to install the GUI application on a HP-UX workstation.

- 1 At the shell prompt, copy the Navis™ Optical EMS tar file from the CD-ROM to the EMS home directory.  

---
- 2 Once the copy is complete, set global permissions on the tar file in the *home/ems* directory by using the following command lines:  
**cp /cdrom/cdrom0/snmsR\*.tar /home/ems**  
**chmod 777 home/ems/snmsR\*.tar**  

---
- 3 When completed, eject the CD-ROM from the drive using the command: **eject cdrom0**  

---
- 4 Log out as **root**.  

---
- 5 Log in as **ems**.  

---
- 6 To unpack the GUI tar file, execute the command: **tar -xvf snmsR\*.tar**

**Result:** Unpacking the tar file creates a subdirectory that contains all Java files in their proper location.

END OF STEPS

---



## Procedure 7-7 Configuring for Navis™ Optical NMS Interoperability

---

**Purpose** This procedure is used to configure the HP-UX workstation to interwork with the Navis™ Optical NMS.

**Before you begin** Skip this procedure if the configuration does not require the Navis™ Optical NMS.

**Task** Use this procedure to configure the HP-UX workstation to interwork with the Navis™ Optical NMS.

- 
- 1 So the Navis™ Optical NMS can locate different versions of both NMS and EMS software, NMS must access a copy of the F-interface configuration file (*sncFint.cfg*) from the directory called:  
*usr/add-on/ui/jui/jnm/itm/southbound/snc/sncfint*  
If the *sncFint.cfg* file does not exist in this directory, a copy of this file must be put there from *<GUI root directory>/snc/fint/sncFint.cfg*
- 

- 2 Update the Navis™ Optical NMS classpath to include an */snmsR7.0* directory in its list of classpath directories so it points to any one version of the Navis™ Optical EMS GUI client. The Navis™ Optical NMS file that must be updated is:  
*/usr/add-on/ui/jui/bin/run\_jnm.sh*.  
(Only one Navis™ Optical EMS root directory must be included in the Navis™ Optical NMS classpath variable.)
- 

- 3 Telnet to the Navis™ Optical EMS server to configure CSL support so the HP server recognizes a Navis™ Optical NMS login by configuring CSL support.
- 

- 4 Login to the Navis™ Optical EMS server using the **ems** login.
- 

- 5 Access the *\$GS\_CONFIG\_PATH* file with an editor such as **vi**:  
Example: **vi \$GS\_CONFIG\_PATH**
-

---

**6** Search for the `CSL_ENABLE` value. The default line in the file should be **`CSL_ENABLE = 0`**

---

**7** Change the value of zero to one. The change line should read **`CSL_ENABLE = 1`**

---

**8** Save the file.

---

**9** Exit out of the editor.

---

**10** Execute the command: **`apprestart -n GUI_Server`**

---

**11** Log out of the server.

END OF STEPS

---

## Procedure 7-8 Testing the GUI

---

**Purpose** This procedure is used to test the GUI application on a HP-UX workstation.

**Before you begin** Once the GUI is installed and the Navis™ Optical EMS application is running on the HP server, you can test the GUI from the shell prompt.

**Task** Use these steps to test the GUI application on a HP-UX workstation.

---

- 1** Change directories to the root directory of the GUI application:  
**cd <root directory of GUI application>**  
For example: to change to the root directory of a release 7.0 SNMS GUI, execute the command: **cd snmsR70**
- 

- 2** To launch a Navis™ Optical EMS GUI, execute the command:  
**./snms.sh -host <hostname>**

END OF STEPS

---





# 8 Thin Client

## Overview

---

**Purpose** This chapter describes the procedure to install the GUI client on the Thin Client platform.

The Thin Client software is used to access a Windows NT Terminal Server from a UNIX workstation. The Thin Client software, called Independent Computing Architecture (ICA), treats a UNIX workstation as a dumb terminal, but with desktop access that is equivalent to a Windows NT Terminal Server. The Thin Client software is delivered on the Navis™ Optical EMS UNIX installation disk.

ICA software is supported on these installations of UNIX:

- SOLARIS 2.6+
- HP-UX 10.20 +
- AIX 4.1+
- Windows platform

**Contents** The following topics are discussed in this chapter:

Procedure 8-1 Creating a Navis™ Optical EMS User Account on a Sun Workstation [8-3](#)

Procedure 8-2 Creating a Navis™ Optical EMS User Account on a HP-UX Desktop [8-4](#)

Procedure 8-3 Creating a Navis™ Optical EMS User Account on an AIX Desktop [8-5](#)

|                                                                          |                      |
|--------------------------------------------------------------------------|----------------------|
| Procedure 8-4 Copying an ICA File from the<br>Windows NT Terminal Server | <a href="#">8-6</a>  |
| Procedure 8-5 Unpacking the ica.tar File                                 | <a href="#">8-8</a>  |
| Procedure 8-6 Configuring the ICA Software                               | <a href="#">8-9</a>  |
| Procedure 8-7 Updating the User Profile and Testing the GUI              | <a href="#">8-11</a> |



## Procedure 8-1 Creating an Navis™ Optical EMS User Account on a Sun Workstation

---

**Purpose** This procedure is used to create user UNIX logins on a Sun Workstation.

**Before you begin** To create a user UNIX login on a Sun Workstation you are to use **admintool**, which is a graphical user tool to create new user accounts.

**Task** Use these steps to create user UNIX logins on a Sun Workstation

- 1 Login as **root**.
- 2 Execute the command **admintool**.
- 3 Use the add menu item to display the new user information dialog.
- 4 Configure the following parameters as shown:  
User Name: **ems**  
Login Shell: **Korn**  
Create Home Directory: **<button pushed>**  
Path: **/home/ems**
- 5 Press **OK** to create the user account.
- 6 Exit the tool when completed.

□

## Procedure 8-2 Creating a Navis™ Optical EMS User Account on a HP-UX Workstation

---

**Purpose** This procedure is used to create user UNIX logins on an HP-UX workstation.

**Before you begin** To create a user UNIX login on an HP-UX workstation, you are to use **sam**, which is a graphical user tool used to administer an HP-UX desktop.

**Task** Use these steps to create user UNIX logins on an HP-UX workstation.

---

**1** Double click on the icons for **Accounts for Users and Groups** and **Local Users** to reach the user account management screen.

---

**2** Under the Actions menu item, use **add** to add a user account.

---

**3** Configure the following parameters as shown:  
Login Name: **ems**  
Start-up program: **/usr/bin/ksh**  
Create Home Directory: **<button pushed>**  
Home Directory: **/home/ems**

---

**4** Press **OK** to create the user account.

---

**5** Exit **sam** when complete.

END OF STEPS

---



## Procedure 8-3 Creating a Navis™ Optical EMS User Account on an AIX Desktop

---

**Purpose** This procedure is used to create user UNIX logins on an AIX desktop.

**Before you begin** To create a user UNIX login on an HP-UX desktop you are to use **smit**.

**Task** Use these steps to create user UNIX logins on an AIX desktop.

---

**1** Login as **root**.

---

**2** Execute the command **smit**.

END OF STEPS

---



## Procedure 8-4 Copying an ICA File from the Windows NT Terminal Server

---

**Purpose** This procedure is used to copy the Independent Computing Architecture (ICA) file from the Windows NT Terminal Server.

**Before you begin** Three versions of ICA installation files for different UNIX environments reside on the Navis™ Optical EMS GUI installation disk for the Windows NT Terminal Server platform:

- *solaris.ica.tar* are the ICA files for Solaris 2.6 and 2.7 systems
- *hp.ica.tar* are the ICA files for HP-UX 10.20 and HP-UX 11.0
- *aix.ica.tar* are ICA files for AIX 4.1 and 4.2

**Task** Use these steps to copy an ICA file from the Windows NT terminal server.

---

**1** Login to the Windows NT Terminal server using the appropriate login, which is **ems** or **administrator**.

---

**2** Launch an MS-DOS window by navigating through the following menus:

**Start -> Programs -> Command Prompt**

---

**3** In the MS-DOS window, change directories to the CD-ROM drive. The directory should be labeled **D**.

---

**4** Open an FTP session to the target workstation. To launch FTP, type the command: **ftp <IP address of workstation>**

---

**5** When prompted for login identification, use **root** and the root password.

- 
- 6** Using binary transfer, put the correct ICA tar file into the home directory of root by executing the following command lines:

**bin**  
**put <ica tar file>**

---

- 7** End the FTP session by typing **exit**.
- 

- 8** Log out of the Windows NT Terminal server.

END OF STEPS

---



## Procedure 8-5 Unpacking the ica.tar File

---

**Purpose** This procedure is used to unpack the *ica.tar* file.

**Task** Use these steps to unpack the *ica.tar* file.

---

**1** Log in as **root**.

---

**2** To unpack the tar file, execute the command:  
**tar -xvf *{solaris|hp|aix}.ica.tar***

**Result:** A directory */usr/add-on/ui/tools/ICA* is created that contains all the ICA files.

END OF STEPS

---



## Procedure 8-6 Configuring the ICA Software

---

**Purpose** This procedure is used to configure ICA software.

The script `/usr/add-on/ui/tools/ICA/setup_ems.sh` is used to configure the ICA client to launch the Navis™ Optical EMS GUI application on a Windows NT Terminal Server. The `setup_ems.sh` script can also be configured for ICA to launch a Windows NT desktop interface.

**Before you begin** To configure the ICA client, you will need the following information:

- IP address of the Windows NT Terminal Server
- Windows NT Terminal Server disk and the directory that contains the Navis™ Optical EMS GUI software
- the name of the Navis™ Optical EMS host
- the type of GUI, which is EMS

You need to use the `setup_ems.sh` script. The options of the `setup_ems.sh` script, in the order in which they should be input, are the following:

- `-h <Navis™ Optical EMS host name>` identifies the Navis™ Optical EMS host name. This option is used for IP address resolution. The host name must be defined in the Windows NT Terminal Server's file `M:\{WTSRC\WINNT}\System32\drivers\etc\hosts`.
- `-d <directory of GUI software>` identifies the disk and the directory of the GUI software
- `-t <IP address of Windows NT Terminal Server>` identifies the IP address of the Windows NT Terminal Server
- `-snms` is the flag for the Navis™ Optical EMS GUI
- `-nt` is the flag for the Windows NT desktop

### Examples:

To configure ICA to launch the Navis™ Optical EMS GUI, which is located in the directory `c:\snms4.0`, on a host called `dino` for a Windows NT Terminal Server with an IP address `135.17.95.127`, the following command would be executed:

```
setup_ems.sh -host dino -d c:\snms4.0 -t 135.17.95.127 -snms
```

For some users, system administration needs to be supported from a UNIX desktop. Therefore, login access to the Windows NT administrator account is necessary. To configure ICA to launch a Windows NT desktop for the Windows NT Terminal Server with an IP address 135.17.95.127, execute the following command:

```
setup_ems.sh -t 135.17.95.127 -nt
```

**Task** To configure the ICA client to launch the Navis™ Optical EMS GUI application on the Windows NT Terminal Server, execute the **setup\_ems.sh** command.

**Result:** Each invocation of the **setup\_ems.sh** command creates an alias definition in the *ems\_aliases* file, which is located in the directory */usr/add-on/ui/tools/ICA*. This alias file can be invoked from each user profile (for example: *.vueprofile*, *.dtprofile*, or *.profile*) so the alias definition is defined in the current shell at the user login.

END OF STEPS

---



## Procedure 8-7 Updating the User Profile and Testing the GUI

---

**Purpose** This procedure is used to update the user profile and to test the Navis™ Optical EMS GUI.

**Task** Use these steps to update the user profile and test the GUI.

---

**1** Log out as **root**.

---

**2** Add the following line to the user's profile:  
**. /usr/add-on/ui/tools/ICA/ems\_aliases**

---

**3** When completed, execute the profile in the current shell via the command: **./{.vueprofile | .dtprofile | .profile}**

---

**4** Test each alias created in the user profile.

END OF STEPS

---







# 9 GUI Client Installation on a Windows NT Terminal Server Platform

## Overview

---

**Purpose** This chapter describes the procedure to install the GUI client on a Windows NT Terminal Server platform.

**Contents** The following topics are discussed in this chapter:

|                                                        |                      |
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| NT Terminal Server Platform                            | <a href="#">9-2</a>  |
| Procedure 9-1 Configuring Network Attributes           | <a href="#">9-4</a>  |
| Procedure 9-2 Configuring the Paging Size              | <a href="#">9-6</a>  |
| Procedure 9-3 Upgrading to Service Pack 4              | <a href="#">9-8</a>  |
| Metaframe 1.8                                          | <a href="#">9-10</a> |
| Procedure 9-4 Installing Metaframe 1.8                 | <a href="#">9-12</a> |
| Procedure 9-5 Recording the Metaframe License Number   | <a href="#">9-15</a> |
| Procedure 9-6 Retrieving the Metaframe Activation Code | <a href="#">9-16</a> |
| Procedure 9-7 Activating the Metaframe License         | <a href="#">9-17</a> |
| Procedure 9-8 Configuring the Server Disk              | <a href="#">9-18</a> |
| Procedure 9-9 Changing the CD-ROM Drive Letter To D    | <a href="#">9-19</a> |
| Procedure 9-10 Creating a New C Drive                  | <a href="#">9-20</a> |
| Procedure 9-11 Configuring the Navis™ Optical EMS User | <a href="#">9-23</a> |
| Procedure 9-12 Configuring the Terminal Server Client  | <a href="#">9-25</a> |



# NT Terminal Server Platform

---

**Purpose** The Windows NT Server 4.0 Terminal Server Edition (or NT Terminal Server 4.0) is a variant of the NT Server 4.0 operating system that supports terminal emulation for different user desktops. Terminal emulation is achieved through the use of a thin client application, called RDP, that treats the client as a dumb terminal, thereby allowing a user access to all Windows NT functions through a Windows desktop.

Microsoft, along with several other companies, have enhanced the functionality of NT Terminal Server client/server computing. The Citrix Corporation, which specializes in thin client computing across different platforms and networks, is the company most notable in their enhancement efforts.

**Citrix Metaframe** Metaframe is a Citrix software product that extends the functionality of Microsoft's RDP software by providing server based computing to a larger variety of hardware/software platforms. Using Citrix's ICA, Metaframe can support connections to all Navis™ Optical EMS and Navis™ Optical NMS target GUI platforms including HP-UX desktops and Solaris workstations. ICA uses data compression to guarantee high performance and security between client and server. Metaframe server software is bundled with Navis™ Optical EMS and Navis™ Optical NMS software deliveries.

**Before you begin** Several steps are required to install/configure the NT Terminal Server operating environment:

- Configuration of NT Server 4.0 Terminal Server Edition
- Installation and Configuration of Metaframe 1.8
- Server Disk Configuration
- Navis™ Optical EMS User Configuration
- Terminal Server Connection Configuration
- Installation and Configuration of Each Client Workstation

The Windows NT Server software arrives pre-configured on each server ordered through Lucent. Currently, the recommended platforms are:

- HP NetServer LH4 Server
- Dell 6300 PowerEdge Server

Both platforms are identically equipped with two processors, 1 GB of RAM, three 9 GB drives configured for RAID 5, and dual Ethernet ports.

The HP and Dell factories install the NT Terminal Server Operating System with 10 user licenses. Site specific configuration, required for the Navis™ Optical EMS and the Navis™ Optical NMS, includes the following:

1. Network Configuration
2. Paging
3. Service Pack 4 Upgrade

**Installation and  
configuration of each client  
workstation**

Citrix ICA client software must be loaded on each client UNIX workstation that will launch the Navis™ Optical EMS Java GUI from the NT Terminal Server. The currently supported versions of UNIX are Solaris, AIX, and HP-UX. 3.6.1.

ICA Client software is freely available from the Citrix web site. However, the Navis™ Optical EMS and the Navis™ Optical NMS repackage the ICA Client software to include a setup file with the Citrix software. This software is available on the Navis™ Optical EMS Application Software CD-ROM.



## Procedure 9-1 Configuring Network Attributes

---

**Purpose** This procedure is used to configure the Identification, Services, Protocols, Adapters, and Bindings attributes of the network.

**Before you begin** You will be required to specify options for the Identification and Services tabs. The Protocol, Adapter, and Bindings tabs are optional.

You will need to have the following information handy:

- computer name
- workgroup (if application)
- IP Address, Subnet Mask, and Default Gateway
- each network adapter—if only one network adapter is used, connect the 10BaseT LAN connection to the configured port and test LAN connectivity through the **ping** command (via an MS-DOS window).
- the IP address of each domain name server in the network in the search order

**Task** Use these steps to configure the network.

---

- 1 Activate network configuration via the network icon on the control panel or the properties option on the Network Neighborhood desktop icon.

**Result:** A network configuration screen, called **Network**, appears.

---

- 2 In the Identification tab, configure the Computer Name and Workgroup parameters. If a workgroup is not applicable, leave the field blank.
- 

- 3 In the Services tab, select the TCP/IP Protocol list item and press **Properties**.

**Result:** A Microsoft TCP/IP Properties screen appears, which contains five configuration tabs labeled: IP Address, SNMS, WINS Address, DHCP Relay, and Routing.

---

- 
- 4 In the IP address tab, press **Specify an IP address**.

---

  - 5 Configure the associated parameters for the IP Address, Subnet Mask, and Default Gateway.

---

  - 6 Use the Adapter pull-down menu for each network adapter.

---

  - 7 If more than one gateway needs to be configured, press **Advanced** and add applicable gateways.

---

  - 8 In the DNS tab, enter the IP address for each domain name server in the network in search order, where the IP address at the top of the list is the first domain name server checked.

---

  - 9 All other tabs are for optional information. To save the entered information, press **OK**.

END OF STEPS

---



## Procedure 9-2 Configuring the Paging Size

---

**Purpose** This procedure is used to configure the paging size.

**Before you begin** Although three disks are installed on the server, the RAID controller treats all disks as one storage segment of size of 17+ GBs. (The size differs a little depending on the RAID controller manufacturer.) The Windows NT Administrator can partition this storage segment into a set of logical disk drives of NTFS or FAT format. The Windows NT utility for configuring the storage segment, which is called Disk Administrator, can be reached from the Start button:

**Start -> Programs -> Administrative Tools (Common) -> Disk Administrator**

The default configuration for each server is a single drive labeled C, with a default size of 2GBs. The format should be NTFS, but the manufacturer can deliver this drive in FAT format. The default C drive contains all Windows NT operating system files and is also to be used for operating system paging.

**Task** Use these steps to configure the paging size.

---

**1** To check the amount of existing paging space, launch the **System properties** screen from the control panel screen or from the Properties pull down menu item on the My Computer desktop icon.

---

**2** Click the **Performance** tab.

**Result:** The Total paging file size for all disk volumes appears.

---

**3** If the Total paging file size for all disk volumes is less than 1024 MB, press **Change**.

**Result:** A Virtual Memory screen appears.

---

**4** Select the C drive from the drive list.

---

**5** Enter 1024 for both the Initial Size (MB) and Maximum Size (MB) input parameters.

---

**6** Press **Set** to apply the parameters.

---

**7** Press **OK** to exit the screen.

---

**8** Press **Close** to exit the System Properties screen.

**Result:** To re-initialize the paging file, a dialog box indicates that a system reboot is needed.

---

**9** Press **OK** to reboot.

END OF STEPS

---



## Procedure 9-3 Upgrading to Service Pack 4

---

**Purpose** This procedure is used to upgrade to the Windows NT Service Pack 4.

**Before you begin** Service Pack 4 for the Windows NT Server 4.0 Terminal Server Edition contains a comprehensive set of problem fixes (including Y2K fixes) for the Windows NT Server operating system.

The installed Service Pack version is viewable from the System Properties screen. This screen is launched from the control panel screen or from the Properties pull-down menu item on the My Computer desktop icon. The Service Pack number and the NT version are displayed in the General tab folder.

The Terminal Server Service Pack 4.0 filename is called *Wtsi386.exe*.

**Task** Use the procedure to upgrade to the Windows NT Service Pack 4.

---

**1** Load the CD-ROM containing the Terminal Server Service Pack into the CD-ROM drive of the computer.

---

**2** Open the My Computer desktop icon.

---

**3** Click on the CD-ROM disk drive.

**Result:** A screen listing all files on the CD-ROM appears.

---

**4** Double click on the **Wtsi386.exe** file, which is the Terminal Server Service Pack 4.0 filename, to begin installation.

**Result:** The following prompt may be displayed during the installation: In order to install this service pack, the system must first be in INSTALL mode. To place the system in INSTALL mode, you can start this program from the Add/

Remove Programs applet from Control Panel.  
Would you like this program to place the  
system in INSTALL mode instead?

---

**5** Press **Yes**.

**Result:** The end user license agreement screen appears.

---

- 6** At the bottom of the end user license agreement screen, select both check boxes for the following:  
Accept this license agreement (must accept before installing the Service Pack)  
Backup file necessary to uninstall this Service Pack at a later time
- 

**7** Press **Install**.

---

- 8** If the following prompt: Your system is installed with 128 bit security. Do you wish to install this service pack? appears on any North American system, press **Yes**:
- 

- 9** At the final completion message: Windows NT Terminal Server 4.0 Service Pack 4 installation is complete.... press **Restart** to reboot.



## Metaframe 1.8

---

**Licensing** Metaframe 1.8 is delivered on a CD-ROM along with user documentation. It is a licensed product that must be activated 30 days after the software is installed.

Two types of licensing agreements are offered:

- The standard installation of Metaframe includes 15 user licenses. For servers with 15 Metaframe licenses, the maximum number of simultaneous users is restricted by the maximum number of NT user licenses (10).
- For low-use servers, Metaframe can be purchased with 5 user licenses. For servers with 5 Metaframe licenses, the maximum number of simultaneous users is restricted by the maximum number of Metaframe licenses (5).

Activation is accomplished by registering the software license with Citrix through their web site, which is **www.citrix.com**. Once registration is complete, the user receives an activation code that must be entered into the Metaframe program. If web access is not available on the server, any computer with web access can be used to retrieve the activation code.

**Disk Assignments** The target configuration for the terminal server defines two logical drives and one CD-ROM. The disk drives have the assigned letters C, M, and D:

- The M drive is the default boot partition. It is the original default partition labeled C, and changed to the letter M when Metaframe is installed. The recommended size for this drive is 2 GBs.
- The C drive is the Navis™ Optical EMS and Navis™ Optical NMS application drive. It consists of the original, unformatted storage space available in the server. The recommended size is 15 GBs.
- The D drive is the CD-ROM drive.

During the Metaframe software installation procedure, the installer is asked whether to re-label available server storage devices to avoid conflict with the storage devices on the client workstation. The installer replies **yes** to this prompt, which allows the installation procedure to rename the boot partition (previously labeled C drive) to drive M, and rename the CD-ROM to drive N.

Once the Metaframe software installation is complete, the installer must create a new C drive from unformatted storage space, and re-label the CD-ROM drive to D.



## Procedure 9-4 Installing Metaframe 1.8

---

**Purpose** This procedure is used to install Metaframe 1.8.

**Before you begin** The Metaframe software is delivered on a single CD-ROM. A label on the outside of the CD-ROM jewel case contains the base license number for the product. It has the format:

XXX-XXXX-XXXX-XXXX-XXXXXX.

You will need this base license number during installation.

Once installation commences in step 5, several informational screens and data prompt screens appear. Use the **Next** button to move from screen to screen. The following data is required:

- Add License Pack (step 6 and 7) requires base license pack information, which can be found on the back of the CD-ROM jewel case. Only one license pack is installed.
- Metaframe supports TCP/IP clients, IPX clients, and NetBIOS clients. For the Navis™ Optical EMS and/or the Navis™ Optical NMS, only TCP/IP clients are supported. Therefore, make sure the TCP/IP check box is the only network connection selected when prompted for Network ICA Connections (step 8).
- The Add Modems prompt should be ignored because modems are not supported (step 9).

**Related information** Refer to the previous section, **Metaframe 1.8**, before beginning this procedure.

**Task** Use these steps to install Metaframe 1.8.

---

**1** Log in to the server using the **Administrator** login.

---

**2** Insert the installation CD in the CD-ROM drive.

**Result:** The installation procedure automatically displays a splash screen with three options: Metaframe Setup, Setup ICA Client, and Browse this CD. If the splash screen does appear, go to step 3. If the splash screen does not appear after a few seconds, double click on the My Computer desktop icon.

---

- 3** When the My Computer screen is displayed, double click on the CD-ROM device to launch the Metaframe installation software.
- 

- 4** To start the installation process, press the button labeled **Metaframe Setup**.

**Result:** The Metaframe license agreement screen appears.

---

- 5** Press the **I Agree** button on the license agreement screen.

**Result:** The installation process commences. Several informational screens and data prompt screens appear. Use the **Next** button to navigate from screen to screen for information required in the next five steps.

---

- 6** When Add License Pack appears, press the button label **Add License Pack**.

**Result:** The license screen, along with a dialog box, prompts for the license.

---

- 7** Enter the license number, including the hyphens, as it appears on the jewel case.

**Result:** Only one license pack is installed.

---

- 8** When Network ICA Connection appears, check only the TCP/IP box as the network connection. Ignore the Add Modems prompt because modems are not supported.

- 
- 9** Enable the check box labeled **Remap the server drives**.

**Result:** The pull-down menu become enabled. Make sure the pull-down menu choice is **M**. When completed, the system automatically reboots.

- 
- 10** After the system reboots, logging in as any user causes the system to display a warning message indicating that 30 days remain before the Metaframe temporary license expires. This warning message is meant to prompt the administrator to activate the Citrix Metaframe license.

END OF STEPS

---



## Procedure 9-5 Recording the Metaframe License Number

---

**Purpose** When the installer enters the license from the back of the CD-ROM jewel case, Metaframe appends eight characters to the license string. You will need this complete license string to obtain an activation code from the Citrix web site.

**Before you begin** The Metaframe License can be retrieved from the Citrix Licensing Screen.

**Task** Use this procedure to activate the Metaframe License.

---

**1** Log in as **Administrator**.

---

**2** Select the Metaframe task bar.

**Result:** The Metaframe task bar contains a set of buttons, each with an associated tool tip. Passing the cursor over the each button should display the tool tip.

---

**3** Press the button (the second button from the top of the task bar) with the tool tip indicating **Citrix Licensing**.

**Result:** On the Citrix Licensing screen, each Service Pack license is listed—there should be only one Service Pack license.

---

**4** Record the license number for the Service Pack entered during installation.

**Result:** You can leave this screen open, since it will be needed to enter the activation code for this license.

END OF STEPS

---



## Procedure 9-6 Retrieving the Metaframe Activation Code

---

**Purpose** This procedure is used to activate the Metaframe license and to retrieve an activation code.

**Before you begin** To retrieve the activation code for the license, you will need web access using any standard web browser.

**Task** Use these steps to activate the Metaframe license and to retrieve the activation code.

---

**1** Navigate to the URL **www.citrix.com/activate**.

---

**2** Follow the instructions for Metaframe license activation.

**Result:** During the installation, you will be required to enter company information. Use information for yourself or information for the author. When you reach the last screen, the activation code is displayed.

---

**3** When you reach the last screen, look for the activation code and record the activation code onto the back of the CD-ROM jewel case for re-installation.

END OF STEPS

---



## Procedure 9-7 Activating the Metaframe License

---

**Purpose** This procedure is used to activate the Metaframe license from the Citrix Licensing screen.

**Task** Use these steps to activate the Metaframe license from the Citrix Licensing screen.

- 
- 1 Select the line containing the Metaframe license number. (The text line should read *Metaframe 1.8 for Windows*).

**Result:** The line only becomes highlighted when the License Description field is selected. A confirmation dialog should indicate that the license is now activated.

- 
- 2 Once the license is activated, close the Citrix Licensing Screen.

END OF STEPS

---



## Procedure 9-8 Configuring the Server Disk

---

**Purpose** This procedure is used to configure the server disk.

**Task** Use these steps to configure the server disk.

---

**1** To perform disk configuration, log in as **Administrator**.

---

**2** Launch the Disk Administrator utility from the **start** button, via the following cascading menus:

**Start-> Programs -> Administrative Tools (Common) -> Disk Administrator**

**Result:** Once launched, the Disk Administrator program graphically depicts the server disk formatting.

END OF STEPS

---



## Procedure 9-9 Changing the CD-ROM Drive Letter To D

---

**Purpose** This procedure is used to change the CD-ROM drive to the letter **D**.

**Task** Use these steps to change the CD-ROM drive to the letter **D**.

---

**1** Go to the box representing CD-ROM 0, which should be labeled as *N*.

---

**2** Use the left mouse button to select the box that represents the CD-ROM.

---

**3** Display the popup menu for the CD-ROM by pressing the right mouse button in the selected box.

---

**4** From the popup menu, choose the option labeled **Assign Drive Letter**.

**Result:** A dialog box indicates the available drive letter choices.

---

**5** Assign the drive to letter **D**.

---

**6** Press **OK**.

**Result:** A confirmation dialog indicates that the assignment will be performed immediately. You are asked whether you want to continue.

---

**7** Press **Yes**.

END OF STEPS

---



## Procedure 9-10 Creating a New C Drive

---

**Purpose** This procedure is used to create a new C drive.

**Before you begin** The size of free space on the disk should be approximately 15 GBs.

**Task** Use these steps to create a new C drive.

---

- 1 In the graphical picture depicting Disk 0, go to the box labeled **Free Space**.

**Result:** The size of the space should approximately 15 GBs.

---

- 2 Use the left mouse button to select the **Free Space** box.
- 

- 3 Display the associated popup menu by pressing the right mouse button in the selected box.
- 

- 4 Select the **Create** menu item from the popup menu.

**Result:** A dialog box indicates that this new partition may not work with MS-DOS.

---

- 5 Press **Yes** to continue the operation.

**Result:** A new screen titled *Create Primary Partition* appears, which prompts for the size of the new partition.

---

- 6 Enter the total amount of free space available in the associated text field.
- 

- 7 Press **OK** to complete the operation.

**Result:** The label on the selected box changes to unformatted.

---

---

**8** Display the popup menu again by pressing the right mouse button in the selected box.

---

**9** Select the **Assign Drive Letter** menu item from the popup menu.

**Result:** A dialog box indicates the available drive letter choices.

---

**10** Assign the drive to letter C and press **OK**.

**Result:** The letter of the drive on the selected box changes to **C**.

---

**11** Display the popup menu again by pressing the right mouse button in the selected box.

---

**12** Select the **Commit Changes Now** menu item from the popup menu.

**Result:** A dialog box asks whether the change should be written to disk.

---

**13** Press **Yes** to affirm the change.

**Result:** A dialog box indicates successful completion.

---

**14** Press **OK**.

---

**15** Display the popup menu a fourth time by pressing the right mouse button in the selected box.

---

**16** Select the **Format** menu item from the popup menu.

**Result:** A dialog box prompting the user for several items.

---

---

**17** Change the file system type from **FAT** to **NTFS**.

---

**18** Press **Start**.

---

**19** Press **OK** for all subsequent dialog box warning and status messages.

**Result:** The label on the selected box should have changed to NTFS. The disk configuration is completed.

---

**20** To exit the disk administrator program, use the **File** menu bar pull-down menu and select the **Exit** menu item.

END OF STEPS

---



## Procedure 9-11 Configuring the Navis™ Optical EMS User

---

**Purpose** This procedure is used to configure the Navis™ Optical EMS user.

**Before you begin** All Navis™ Optical EMS users access the Windows NT Terminal Server through the EMS user ID. The default EMS password, *ems123*, is used with the **ems** login ID.

This **ems** login and password are configured into the ICA software installed on each client workstation. When a user launches the GUI on the Windows NT Terminal Server, the user is automatically launched using the EMS login ID.

**Task** Use these steps to configure the Navis™ Optical EMS user.

---

**1** To perform user configuration, log in as **Admin**.

---

**2** Launch the User Manager For Domains application from the Start button, via the following cascading menus:  
**Start -> Programs -> Administrative Tools (Common) -> User Manager For Domains**

**Result:** A **User Manager** screen appears, which contains a menu bar and a scrollable table showing all defined users.

---

**3** To create a new user, access the User pull-down menu item.

---

**4** Select the **New User** menu item.

**Result:** A New User screen appears.

---

**5** On the New User Screen, enter the following information:

Username: **ems**

Full Name: **ems user**

Password: **ems123**

Confirm Password: **ems123**

---

Check the box **Password Never Expires**.

Press **Add**.

**Result:** If errors do not occur, the screen clears to add another user.

---

**6** Press **Close** on the New User screen to stop adding new users.

**Result:** Once the EMS user ID is created, the User Manager application can be exited.

---

**7** Access the User pull-down menu.

---

**8** Select **Exit**.

END OF STEPS

---



## Procedure 9-12 Configuring the Terminal Server Client

---

**Purpose** This procedure is used to configure the terminal server client.

**Before you begin** The Terminal Server defines the concept of sessions. A session is a single user connection from a client to a server. A session consists of either:

- a running Navis™ Optical EMS standalone application
- a running Navis™ Optical NMS application and all associated Navis™ Optical EMS cut-through GUIs

Exiting a running Navis™ Optical EMS standalone application or exiting a running a Navis™ Optical NMS application automatically terminates the user session.

In addition to shutting down the application, the user can close the window in which one of the above sessions is running. Closing the window also closes the associated session.

Session termination on window closure is a configurable attribute. By default, closing a session's window does not terminate the session. Instead, the session remains active, waiting for the user to reconnect to the session. Once a client workstation reconnects to the session, that user resumes interaction with the previous session at the point where that user left off.

In Windows NT Terminal Server terminology, the default behavior for a broken session is disconnection. The Windows NT Terminal Server should be configured to reset the session when it becomes broken.

**Task** Use these steps to configure the terminal server client.

---

**1** To perform session configuration, log in as **Administrator**.

---

**2** Launch the Terminal Server Connection Configuration application from the Start button by navigating through these cascading menus: **Start -> Programs -> Administrative Tools (Common) -> Terminal Server Connection Configuration**

**Result:** A Terminal Server Connection Configuration screen appears, which contains a menu bar and a scrollable table showing these two lines:

|         |     |           |     |     |
|---------|-----|-----------|-----|-----|
| ica-tcp | tcp | Citrix    | ICA | 3.0 |
| rdp-tcp | tcp | Microsoft | RDP | 4.0 |

---

- 3 Double click the line specifying the ica-tcp connection.

**Result:** An Edit Connection screen appears.

---

- 4 Press **Advanced**.

**Result:** An Advanced Connection Settings screen appears that has a configuration parameter at the bottom of the screen labeled:

```
On a broken or timed-out connection
<disconnect > the session
```

---

- 5 A check box next to this configuration parameter is labeled (Inherit User Config). Disable the inheritance option (for the above configuration parameter only) by clicking on the adjoining check box.

**Result:** The configuration parameters choice list is enabled.

---

- 6 Choose the reset value from the choice list.

**Result:** When completed, the configuration parameter should read:  
On a broken or timed-out connection <reset >  
the session.

---

- 7 Press **OK** to save the configuration.

**Result:** The Advanced Connection Settings screen closes.

---

- 8 If a dialog box indicates that the configuration change will apply to all future sessions only, press **OK**.

---

**9** On the Edit Connection Screen, press **OK**.

**Result:** The Edit Connection Screen closes.

---

**10** On the Terminal Server Connection Configuration screen, access the User pull-down menu.

---

**11** Select **Exit**.

END OF STEPS

---







# 10 Redundancy Installation and Operations

## Overview

---

**Purpose** This chapter contains the procedures needed to install and operate a redundant system.

**Contents** The following topics are covered in this chapter

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## Procedure 10-1 Creating an OS/Navis™ Optical EMS Mirrored Disk for a Root Volume Group

---

**Purpose** This procedure is used to configure an OS/Navis™ Optical EMS mirrored disk for the root volume group.

Although the configuration of disk mirroring is done automatically by the **init\_disk** command, this section briefly mentions the important steps in the procedure (root, data, database).

**Task** Use these steps to configure an OS/Navis™ Optical EMS mirrored disk for the root volume group.

- 
- 1 Create a bootable root LVM disk to be used as the mirror.

**pvcreate -B /dev/rdsk/cXtYdZ**

---

- 2 Add this disk to the current root volume group.

**vgextend -g pvgl /dev/vg00 /dev/dsk/cXtYdZ**

---

- 3 Make the new disk a boot disk.

**mkboot /dev/rdsk/cXtYdZ**

---

- 4 Copy the correct AUTO file into the new LIF area.

**mkboot -a "hpux" /dev/rdsk/cXtYdZ**

---

- 5 Mirror the root and primary swap logical volumes and all devices in Vg00, such as */usr*, */swap*. The root logical volume must be mirrored first to ensure that it occupies the first contiguous set of extents on the new disk. The command used to mirror a logical volume is:

**lvextend -m 1 /dev/vg00/lvol1 /dev/dsk/cXtYdZ**

Execute this command for each logical volume (**lvol1** through **lvol19**).

---

- 6 Determine if the BDRA is correct with the following command:

**/usr/sbin/lvlnboot -R /dev/vg00**

---

- 
- 7** Verify that the boot area was properly mirrored:  
**lvlnboot -v**

END OF STEPS

---



## Procedure 10-2 Creating an OS/Navis™ Optical EMS Mirrored Disk for all Other Volume Groups

---

**Purpose** This procedure is used to configure an OS/Navis™ Optical EMS mirrored disk for all other volume groups.

Although the configuration of disk mirroring is done automatically by the **init\_disk** command, this section briefly mentions the important steps in the procedure (root, data, database).

**Task** Use these steps to configure an OS/Navis™ Optical EMS mirrored disk for all other volume groups.

---

**1** Create an LVM disk to be used as the mirror.  
**pvccreate /dev/rdisk/cXtYdZ**

---

**2** Add this disk to the volume group.  
**vgextend -g pvgl /dev/vg0x /dev/dsk/cXtYdZ**

---

**3** Mirror all logical volumes and all devices in <volume group>. The command used to mirror a logical volume is:  
**lvextend -m 1 /dev/vg0x/lvoly /dev/dsk/cXtYdZ**  
Execute this command for each logical volume.

---

**4** Verify that all logical volumes were mirrored successfully by executing the following command line:  
**lvdisplay /dev/vg0x/lvoly**

**Result:** When the display appears, look for LVstatus=  
available/syncd and mirrored copies = 1.

END OF STEPS

---



## Procedure 10-3 Manually Synchronizing a Mirrored Logical Volume and Replacing a Disk

---

**Purpose** If the volume group is not currently active, LVM automatically synchronizes the mirrored copies of all logical volumes at boot time or later with the **vgchange** command; otherwise, manual synchronization is needed.

**Before you begin** The **vgcfgrestore** command sequence, which you will execute in step 4, replaces the **pvcreate**, **vgcreate**, and **lvcreate** commands. This entire step assumes that a valid *lvm* configuration file exists to restore. Check */etc/lvmconf* for *vg0x.conf*, which is created when changes are made to the logical volume configuration by the command **vgcfgbackup**.

**Task** Use these steps to do a manual synchronization.

---

**1** Deactivate the volume group by executing: **vgchange -a n vg0x**

---

**2** Replace the disk.

---

**3** Verify that **ioscan** recognizes the disk.

---

**4** Execute **vgcfgrestore** to restore the physical volume data, volume group, and logical volume data to the new disk. For example:  
**vgcfgrestore -n /dev/vg0x /dev/rdisk/cXtYdZ** (path to the replaced disk).

---

**5** Activate the volume group: **vgchange -a y vg0x**

**Result:** When the volume group is activated, the new disk automatically is synchronized to the existing disk. Depending on the size of the disk and the number of logical volumes, this process

can take from 35 to 60 minutes. Once completed, the logical volumes are synchronized. The **cmcluster** commands then execute and the application comes up.

---

- 6** Verify the mirror status by executing the following command line:  
**vgdisplay -v vg0x | grep "LV Status"**

**Result:** The system returns `available/syncd` for each logical volume one the disks are fully mirrored. The system returns `available/stale` if the disks are not fully mirrored.

---

- 7** If the disk contains any DB spaces, execute the following command to activate the dbspaces:  
login as **informix**  
**onspaces -s dbspname -p /dev/informix/pathname -o offset -O -y**

END OF STEPS

---



## Procedure 10-4 Setting up NTP with the Real Time Source Server

---

**Purpose** This procedure is used to setup NTP with the Real Time Source Server.

**Before you begin** We strongly recommend that you enable NTP with the Real Time Source Server on all redundancy nodes. The use of NTP ensures that the system time on all nodes is consistent, resulting in consistent and stable Informix ER, consistent timestamps in log files, and consistent behavior of message services.

**Task** To enable NTP on all redundancy nodes, use these steps for all servers configured in a redundant system.

---

**1** Login as **root**.

---

**2** Make sure that an **xntpd** process is not currently running by executing the following command line:  
**ps -ef | grep xntpd**

**Result:** If an **xntpd** process is running, go to the next step. If an **xntpd** process is not running, go to step 4.

---

**3** If an **xntpd** process is running, manually stop it by executing the following command line:  
**/sbin/init.d/xntpd stop**

---

**4** Access the file */etc/ntp.conf* using the **vi** editor:  
**vi /etc/ntp.conf**

---

**5** Insert the following information into the */etc/ntp.conf* file:  
**server <TimeServer> [version <version>]**

Where: *TimeServer* is a real network time source server, which can be a hostname or an IP address. If it is a hostname, make sure the *TimeServer*'s hostname can be referenced by the host—if it cannot, add

TimeServer's hostname and IP in the */etc/hosts* file. TimeServer differs based on availability and customer preference. The *version#* is version of NTP run on the TimeServer.

For example: **server 135.1.1.200 version 3**

- 
- 6** Access the file */etc/rc.config.d/netdaemons* for editing using the **vi** editor:  
**vi /etc/rc.config.d/netdaemons**

- 
- 7** In the */etc/rc.config.d/netdaemons* file, set environment variable XNTPD to 1: **XNTPD=1**

- 
- 8** In the */etc/rc.config.d/netdaemons* file, set the environment variable NTPDATE\_SERVER:  
**export NTPDATE\_SERVER=<TimeServer>**

- 
- 9** Save the changes that you just made to the file.

**Result:** The **xntpd** process starts at boot time.

- 
- 10** The **xntpd** process can be started manually by executing the following command line:  
**/sbin/init.d/xntpd start**

END OF STEPS



## Procedure 10-5 Setting up NTP between Redundancy Servers

---

**Purpose** The two procedures in this section are used to set up NTP between redundancy servers.

**Before you begin** Designating one of the redundancy hosts as the local primary (time) server provides a temporary solution for NTP in the redundancy system. This configuration might result in error when the designated source goes down completely (losses of power). Using a real network time source is strongly recommended.

Setting up NTP by using the local primary host as the time server takes approximately 15 minutes before it goes into effect. An error message might warn about a lack of the proper time source.

**Task** Use these steps to set up the source server (local primary).

---

- 1 On the local primary, login as **root**.

---

- 2 Start SAM by executing the following command: **sam**

---

- 3 Navigate to **Time**.

---

- 4 From Time, navigate to **NTP Network Time Sources**.

---

- 5 Select **Actions**.

---

- 6 Select **Configure the NTP Local Clock**.

---

- 7 Select **Lock Clock**.

- .....  
**8** Click **OK**.  
.....
- 9** Select **Actions**.  
.....
- 10** Select **Add the Remote Server or Peer**.  
.....
- 11** Enter the host name (the name of the local primary).  
.....
- 12** Click **OK**.  
.....
- 13** Select **Actions**.  
.....
- 14** Select **Start NTP**.  
.....
- 15** Exit SAM.  
.....
- 16** Enter the command **ntpq -p** to verify the configuration.  
.....
- 17** Use the **vi** editor to access */etc/ntp.conf* and change the source server at the end of the file to the following address: **127.127.1.1**  
.....
- 18** Start SAM by executing the following command: **sam**  
.....
- 19** Navigate to **Time**.  
.....
- 20** From Time, navigate to **NTP Network Time Sources**.  
.....
- 21** Select **Actions**.  
.....

.....

**22** Select **Stop NTP**.

.....

**23** Select **Actions**.

.....

**24** Select **Start NTP**.

.....

**25** Enter the command **ntpq -p** to verify the that two entries have been made for the local host.

.....

E N D O F S T E P S

.....

**Task** Use these steps to set up the client (all other hosts):

.....

**1** On the client server, login as **root**.

.....

**2** Start SAM by executing the following command: **sam**

.....

**3** Navigate to **Time**.

.....

**4** From Time, navigate to **NTP Network Time Sources**.

.....

**5** Select **Actions**.

.....

**6** Select **Add the Remote Server or Peer**.

.....

**7** Enter the synchronized server name (the name of the local primary).

.....

**8** Select **OK**.

.....  
**9** Select **Actions**.

.....  
**10** Select **Start NTP**.

.....  
**11** Exit SAM.

.....  
**12** Enter the command **ntpq -p** to verify the existence of the primary server.

.....  
**13** Access the */var/adm/syslog/syslog.log* file to verify that tick adjust is working. The hosts must be synchronized within a minute so they can be rejoined.

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



## Procedure 10-6 Connecting the RS-232 MC/ServiceGuard Cluster for the K-Class Server

---

**Purpose** This procedure is used to connect the RS-232 MC/ServiceGuard cluster for the K-Class servers that are configured for local redundancy.

**Before you begin** This procedure is **only** needed for the HP K-Class servers in a local redundancy configuration because a serial line (RS-232) heartbeat must be configured. The L-Class servers and the N-Class servers do not support a serial line (RS-232) heartbeat configuration.

Before you configure the serial line (RS-232) to carry heartbeat, determine the serial device file that corresponds with the serial port on each node.

**Task** Use these steps to connect the RS-232 MC/ServiceGuard cluster.

---

**1** Use an RS-232 cable with null modem to connect to the serial port on each node. Port 6 is recommended.

---

**2** If the host comes with a MUX MDP panel, use **ioscan -fnC** to display hardware addresses and device file names. For example:  
**ioscan -fnC tty**

---

**3** Once the device file has been identified, verify the connection from a terminal on the primary by executing: **cat < /dev/tty0p6**.

---

**4** Verify the connection from a terminal on the secondary by executing:  
**cat /etc/passwd > /dev/tty0p6**

- 
- 5** Repeat the same test with the servers reversed.

END OF STEPS

---



## Procedure 10-7 Doing Post Installation Tasks

---

**Purpose** The following procedure is used to check various files and perform miscellaneous housekeeping functions after Navis™ Optical EMS has been installed.

**Before you begin** Navis™ Optical EMS must be installed before beginning this procedure.

**Task** Use these steps on all nodes in the redundancy configuration (both local and geographic redundancy).

- 
- 1 Verify that the `/etc/lvmrc` file sets `AUTO_VG_ACTIVATE` to 1 to allow the OS to activate all volume groups at boot time.
- 

- 2 Check `/etc/services` for these MC/ServiceGuard related entries:

```
hacl-hb 5300/tcp # High Availability (HA) Cluster
heartbeat
hacl-gs 5301/tcp # HA Cluster General Services
hacl-cfg 5302/tcp # HA Cluster TCP configuration
hacl-cfg 5302/udp # HA Cluster UDP configuration
hacl-probe 5303/tcp # HA Cluster TCP probe
hacl-probe 5303/udp # HA Cluster UDP probe
hacl-local 5304/tcp # HA Cluster Commands
hacl-test 5305/tcp # HA Cluster Test
hacl-dlm 5408/tcp # HA Cluster distributed lock manager
```

---

- 3 Check `/etc/inetd.conf` for these MC/ServiceGuard related entries:

```
hacl-cfg dgram udp wait root /usr/sbin/cmclconfd
cmclconfd -p
phacl-cfg stream tcp nowait root /usr/sbin/cmclconfd
cmclconfd -c
```

---

- 4 Check `/etc/resolv.conf` to determine if a DNS server has been added. The DNS server entry should resemble the format:  
**nameserver xxx.xxx.xxx.xxx**

Where: xxx.xxx.xxx.xxx is the IP address, in dotted notation, of the DNS server that can send e-mail. This address is used for the Navis™ Optical EMS monitoring function of geographic redundancy. It is used to send email or a text pager to the operator after Navis™ Optical EMS detects that the host on the remote site cannot be reached. If a domain needs to be added, the syntax is: domain xxx.yyy.com.

- 
- 5** If a mail server has not been added to */etc/resolv.conf*, add a DNS entry in the */etc/resolv.conf* file so Navis™ Optical EMS can determine the server for mail relay.
- 
- 6** Check */etc/fstab* to verify that a cluster shared volume group does not require mount.
- 
- 7** Check */etc/rc.config.d/cmcluster* to verify that AUTOSTART\_CMCLD is set to 0.
- 
- 8** Comment out the automated startup of the Navis™ Optical EMS Application by editing the */etc/snc.rc* file and commenting out the following line:  
**su - ems -c “up -b -n”**
- 
- 9** Configure all required network interface cards via SAM.
- 
- 10** On the primary host, login once as **root** and once as **ems**, and add the secondary/remote host name to the *.rhosts* files as follows:  
**echo “<secondary hostname>” >> /.rhosts**  
**echo “<secondary hostname>” >> ~ems/.rhosts**  
 For example:  
**echo “pumbaa” >> /.rhosts**  
**echo “pumbaa” >> ~ems/.rhosts**
- 
- 11** On the secondary/remote host, login once as **root** and once as **ems**, and add the primary host name to the *.rhosts* files as follows:  
**echo “<primary hostname>” >> /.rhosts**  
**echo “<primary hostname>” >> ~ems/.rhosts**

For example:

```
echo "timon" >> /.rhosts
```

```
echo "timon" >> ~ems/.rhosts
```

---

- 12** Add an entry in the */etc/hosts* file on each host containing the name and the IP address of the other host, along with the floating IP address for the local redundant host.

For example, on pumbaa add:

```
135,17.13.252 <tab> timon timon.ho.lucent.com
```

END OF STEPS

---



## Procedure 10-8 Creating a Cluster Lock Volume Group

---

**Purpose** MC/ServiceGuard requires a cluster lock volume group to be created in order to resolve conflicts within the clustered arrangement.

**Task** Use these steps to create a clustered lock volume group.

- 1 Login as **root**.
- 2 Execute the following command:  
**sam**
- 3 Click on **Disks and File Systems**.
- 4 Click on **Volume Groups**.
- 5 Click on **Actions**.
- 6 Click on **Create**.
- 7 Click on **Select New Volume Group**.
- 8 Enter volume group name and click **OK**.
- 9 Click on **Select Disk(s)**.
- 10 Select the disk and click **OK**.
- 11 Click on **OK** again.

---

**12** Click on **File** and then on **Exit**.

---

**13** Click on **File** and then exit SAM.

END OF STEPS

---



## Procedure 10-9 Exporting the Cluster Lock Volume Group

---

- Purpose** This procedure is used to explore the Cluster Lock Volume group.
- Before you begin** The Cluster Lock Volume group should first be created on the primary host and then it should be exported to the secondary host.
- Related information** Refer to *Procedure 10-8 Creating a Cluster Lock Volume Group* to first create a cluster lock volume group.
- Task** Use these steps to export the cluster lock volume group. As an example, `/dev/clvg00` has been created for Cluster Lock Volume Group on the primary host.

---

**1** Log in as **root** on the primary host.

---

**2** Take the cluster off line:  
**vgchange -a n /dev/clvg00**

---

**3** Copy the mapping of the volume group to a specified file:  
**vgexport -p -s -m /tmp/clvg00.map /dev/clvg00**

---

**4** Put the cluster back on line:  
**vgchange -a y /dev/clvg00**

---

**5** Copy the map file to the secondary nodes:  
**rcp /tmp/clvg00.map secondary:/tmp/clvg00.map**

---

**6** On the secondary host, login in as **root**.

---

**7** Make a directory:  
**mkdir -p /dev/clvg00**

- 
- 8** Create a control file by running:  
**mknod /dev/clvg00/group c 64 0xhh0000**  
Where: hh is unique (hh=value of shared lock volume).
- 
- 9** Import the volume group data using the map file from primary node.  
**vgimport -v -s -m /tmp/clvg00.map /dev/<cluster VG name>**

END OF STEPS

---



## Procedure 10-10 Executing the installHA Script

---

**Purpose** This procedure is used to install the high availability (HA) related scripts and to set up cluster configuration files.

**Before you begin** To set up a local redundancy configuration, the installHA script only has to be run on the local primary host. To set up a geographic redundancy configuration, the installHA script has to be run on the local primary host first, then on the remote primary host.

The installHA script prompts the administrator for information that is covered in the planning session. An empty string is not allowed when entering information during installation. Based on the correct information, the installHA can customize all cluster and package files.

The installHA script generates and copies the binary cluster configuration file to the other node. During a cluster configuration, errors should not occur; if errors do occur, the cluster binary file will not be created correctly.

The installHA script distributes package control scripts and all OA&M scripts to all nodes.

**Task** Use these steps to execute the installHA script.

---

**1** Login as **ems**.

---

**2** Enter the command: **su root**.

---

**3** To launch the installHA script through installEms, execute the following command line and make the following selection:  
**installEms**  
Select option 6, **Configure Redundancy**

---

**4** To launch the installHA script directly, enter:  
**/ems/etc/installHA**

---

**5** If configuring local redundancy, select **Option 1 Local Redundancy Only**.

---

**6** If configuring geographic redundancy on the primary host, select **Option 2 Geographic Redundancy Only** and then select the **Production** option.

---

**7** If configuring geographic redundancy on the remote primary host, select **Option 2 Geographic Redundancy Only** and then the **Disaster Recovery** Option.

END OF STEPS

---



## Procedure 10-11 Starting the Event Monitoring Service (EMS)

---

**Purpose** This procedure is used to start the Event Monitoring Service (EMS).

**Before you begin** Before you begin this procedure, EMS must be installed.

**Task** Use these steps to start the EMS.

- 1 Verify that the following links exist under `/sbin/SnmpAgent.d` after the HP bundle is installed.

```
lrwxrwxrwx 1 root sys 23 May 11 19:20
K435SnmpHpunix -> /sbin/init.d/SnmpHpunix
lrwxrwxrwx 1 root sys 21 May 11 19:20
K435SnmpMib2 -> /sbin/init.d/SnmpMib2
lrwxrwxrwx 1 root sys 23 May 11 19:20
K435SnmpTrpDst -> /sbin/init.d/SnmpTrpDst
lrwxrwxrwx 1 root sys 23 May 11 19:21
K440SnmpMaster -> /sbin/init.d/SnmpMaster
lrwxrwxrwx 1 root sys 23 May 11 19:22
S560SnmpMaster -> /sbin/init.d/SnmpMaster
lrwxrwxrwx 1 root sys 23 May 11 19:22
S565SnmpHpunix -> /sbin/init.d/SnmpHpunix
lrwxrwxrwx 1 root sys 21 May 11 19:22
S565SnmpMib2 -> /sbin/init.d/SnmpMib2
lrwxrwxrwx 1 root sys 23 May 11 19:21
S565SnmpTrpDst -> /sbin/init.d/SnmpTrpDst
```

**Result:** If the links shown exist, go to step 3. If the links shown do not exist, go to step 2.

- 2 If the links shown in step 1 do not exist, create them.

- 3 Start the WaveStar SNMP Master Network Management daemon, `/usr/sbin/snmpdm`

**Result:** Go to *Procedure 10-12 Configuring EMS for Event Monitoring*.

END OF STEPS

---



## Procedure 10-12 Configuring EMS for Event Monitoring

---

**Purpose** This procedure is used to configure EMS for event monitoring, which includes the following:

- monitoring disk status (step 5)
- monitoring the status of the LAN interface (step 30)
- notifying events via TCP (steps 11 and 36) and/or email (steps 24 and 48)

**Before you begin** EMS must be installed and started before you can begin this procedure. During this procedure, you will need access to the SAM utility.

**Task** Use these steps to configure EMS for event monitoring.

---

**1** Execute SAM by typing: **sam**.

---

**2** Go to **Resource Management**.

---

**3** Go to **Event Monitoring Service**.

---

**4** To setup disk monitoring execute steps 5 through 29. To setup LAN monitoring execute steps 30 through 52.

---

**5** Click on the **Actions** pulldown from main menu bar.

---

**6** Select **Add Monitoring Request**.

**Result:** The Add or Copy Monitoring Request window appears.

---

**7** In the **Resource Classes** subwindow, do the following:  
Double click **vg**  
Double click a **vg volume group**

---

Double click **pv-pvlink**

Double click **status**

In the **Resource Instances** subwindow, select \* **disk**

---

**8** Click **OK**.

**Result:** The Monitoring Request Parameters window is displayed

---

**9** For the Notify field select: **When value changes**

---

**10** For the Polling Interval field select: **30 seconds**

---

**11** For the Notify via field select: **TCP**

---

**12** For the Host field enter: **<hostname>**

---

**13** For the Port field enter: **32000**

---

**14** For the Comment field enter: **vgXX disk problem**

---

**15** Click **OK**.

**Result:** The Note window appears.

---

**16** Click **OK**.

**Result:** You are returned to the Event Monitoring Service window.

---

**17** Repeat steps 5 through 16 for each volume group.

---

**18** Click the **Actions** pulldown from the main menu bar.

---

**19** Select **Add Monitoring Request**.

**Result:** The add or Copy Monitoring Request window appears.

---

**20** In the **Resource Classes** subwindow, double click the following:

Double click **vg**

Double click a **vg volume group**

Double click **pv-pvlink**

Double click **status**

In the **Resource Instances** subwindow, select **\*disk**.

---

**21** Click **OK**.

**Result:** The Monitoring Request Parameters window appears.

---

**22** For the Notify field select: **When value is = "DOWN"**

---

**23** For the Polling Interval field select: **30 seconds**

---

**24** For the Notify via field select: **Email**

---

**25** For the Email Address field enter: **<id>@xxx.com**

---

**26** For the Comment field enter: **vgXX disk is down**

---

**27** Click **OK**.

**Result:** The Note window appears.

---

**28** Click **OK**.

**Result:** You are returned to the Event Monitoring Service window.

---

.....

**29** Repeat steps 18 through 28 for each volume group.

.....

**30** Click the **Actions** pulldown from the main menu bar.

.....

**31** Select **Add Monitoring Request**.

**Result:** The Add or Copy Monitoring Request window appears.

.....

**32** In the **Resource Classes** subwindow, do the following:

Select **net**

Select **interfaces**

Select **lan**

Select **status**

In the **Resource Instances** subwindow, select \* (**All Instances**).

.....

**33** Click **OK**.

**Result:** The Monitoring Request Parameters window appears.

.....

**34** For the Notify field select: **When value changes**

.....

**35** For the Polling Interval field select: **30 seconds**

.....

**36** For the Notify via field select: **TCP**

.....

**37** For the Host field enter: **<hostname>**

.....

**38** For the Port field enter: **32000**

.....

**39** For the Comment field enter: **lan problem**

---

**40** Click **OK**.

**Result:** The Note window appears.

---

**41** Click **OK**.

**Result:** You are returned to the Event Monitoring Service window.

---

**42** Click on the **Actions** pulldown from the main menu bar.

---

**43** Select **Add Monitoring Request**.

**Result:** The Add or Copy Monitoring Request window appears.

---

**44** In the **Resource Classes** subwindow, do the following:

Select **net**

Select **interfaces**

Select **lan**

Select **status**

In the **Resource Instances** subwindow, select \* (**All Instances**)

---

**45** Click **OK**.

**Result:** The Monitoring Request Parameters window appears.

---

**46** For the Notify field select: **When value is = "DOWN"**

---

**47** For the Polling Interval field select: **30 seconds**

---

**48** For the Notify via field select: **Email**

---

**49** For the Email Address field enter: **<id>@xxx.com**

---

.....  
**50** For the Comment field enter: **lan is down**  
.....

**51** Click **OK**.

**Result:** The Note window is displayed.  
.....

**52** Click **OK**.

**Result:** You are returned to the Event Monitoring Service window.  
.....

**53** Click on the **File** pulldown from the main menu bar.  
.....

**54** Click on **Exit**.

**Result:** You are returned to the SAM main window.  
.....

**55** Click on the **File** pulldown from the main menu bar.  
.....

**56** Click on **Exit SAM**.

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



## Procedure 10-13 Viewing Cluster Status

---

**Purpose** This procedure is used to view cluster status.

**Before you begin** All Navis™ Optical EMS specific redundancy files are initially loaded in */ems/etc*. Later, by running */ems/etc/installHA*, the *installHA* script customizes and distributes these specific redundancy files into several directories.

Native MC/ServiceGuard executables are stored in */usr/sbin*. Cluster and package related files are in */etc/cmcluster*.

This procedure provides two methods to view cluster status:

- a brief status of the cluster, node, and package with **cmviewcl**
- detailed status of all aspects of the cluster, node, and package with **cmviewcl -v**

**Task** Use these steps to check an MC/ServiceGuard cluster status.

---

**1** Login as **root** or **ems**.

---

**2** For a brief status of the cluster, node, and package, run **cmviewcl**

**Result:** A brief status appears.

---

**3** For detailed information for all aspects of the cluster, node, and package, run **cmviewcl -v**

**Result:** A detailed status appears.

END OF STEPS

---



## Procedure 10-14 Starting a Cluster

---

**Purpose** This procedure is used to start a cluster.

**Before you begin** Before you run any redundancy operation procedure, make sure that the cluster is actually ready to run. Verify the following:

- Is the primary host ready (OS, hardware, and software)?
- Is Navis™ Optical EMS loaded correctly? You might want to try to bring up Navis™ Optical EMS manually as a simplex system outside the redundancy.
- Is redundancy configured correctly?
- Is the Informix ER ready to run? Has the ER configuration part of the installHA finished successfully?

This procedure is used to start a cluster; however, if AUTOSTART\_CMCLD is set to 1, which is not recommended, in */etc/rc.config.d/cmcluster*, the cluster starts automatically while booting.

**Task** Use these steps to start a cluster.

---

**1** If the MC/ServiceGuard cluster is currently down, login as **root** on the local host that you want to become active.

---

**2** Check the topology file */ems/etc/HA\_Topology.cfg* to verify that the status field for this host is *active* and that the status field for any other host is *down*.

---

**3** Execute the command: **cmruncl -v** on that particular host.

**Result:** The cluster and the package sncPkg start.

---

**4** Logout from the local host.

END OF STEPS

---



## Procedure 10-15 Starting the sncPkg Package

---

**Purpose** This procedure is used to start the sncPkg package, which is the primary package that runs on local cluster or remote cluster.

**Before you begin** The startup process for the sncPkg package performs the following tasks:

- directory clean up
- starts Informix ER
- brings up Navis™ Optical EMS
- starts a monitor process
- resynchronizes topology among all redundancy nodes

When the cluster is first started, it attempts to start sncPkg on an active host. However, sncPkg might be down. If sncPkg is down, start it in the local cluster or the remote cluster.

As long as sncPkg is running, a **dn** command is not allowed because it causes unnecessary package switching.

**Task** Use these steps to start sncPkg.

---

**1** Login as **root**.

---

**2** To start sncPkg on a particular Node\_Switching enabled node, enter the command line:

**cmrunpkg -n <active node name> sncPkg**

**Result:** The sncPkg on the particular node is started.

END OF STEPS

---



## Procedure 10-16 Starting the standbyPkg Package

---

**Purpose** This procedure is used to start the standbyPkg package.

**Before you begin** The standbyPkg only runs when a standby node exists in an MC/ServiceGuard Cluster (not in a single node cluster). When the standby node first rejoins the redundancy, it attempts to start the standbyPkg on the node if an sncPkg is running on some other node in the cluster. However, the standbyPkg can be down, which can be attributed to various reasons.

**Task** To start the standbyPkg in the local cluster or the remote cluster, use *Procedure 10-17 Rejoining a Node in Redundancy*.

END OF STEPS

---



## Procedure 10-17 Rejoining a Node in Redundancy

---

**Purpose** This procedure is used to bring a node from the state of *down* to the state of standby *ready* in a redundancy configuration. This procedure is used for both local and geographic redundancy configurations.

**Before you begin** Before you do the steps in this procedure, make sure a host is running in active mode.

This procedure resynchronizes the database and flat files, and starts the application on the standby host. It also notifies MC/ServiceGuard that the standby host is ready to receive the package.

Running the **rejoin** command in a local cluster configurations results in the startup of the standbyPkg. Running the **rejoin** command in a geographic cluster configuration results in the startup of the sncPkg.

The database resynchronization process consists of the following parts (stop points):

- remove replication definition associated with this node
- drop and recreate database
- redefine replication
- activate replication
- suspend replication to keep all new data into a queue
- data resynchronized by unloading from active node and loading at this node
- resume replication

Data is resynchronized in two parts:

- The first part, critical data, which is that data that is needed when the system is coming up, is resynchronized out front.
- The second part, historical related information—such as historical alarms and command/response information—is resynchronized through background processing while the rest of the rejoin process is still occurring. Tables that will be resynchronized in the background are defined in */ems/etc/dbconfig/sncdb\_tabs.skip*.

The entire resynchronization process could take from 30 minutes to over several hours depending upon the size of the database. At the end of the second part of data resynchronization, a `skipped table copy completed` message is put into the */tmp/er\_resync.log* file.

Before running the **rejoin** command, make sure that the active node is up and running normally.

**Task** Use these steps to rejoin a node that is down in a redundant configuration.

.....

**1** On a node that is down, login as **ems**.

.....

**2** Enter the command: **su root** (Do not use the minus sign.)

.....

**3** Execute the following command line:  
**/ems/etc/rejoin**

.....

**4** Answer **Y** to all the prompts.

.....

END OF STEPS

.....



## Procedure 10-18 Halting the sncPkg Package

---

- Purpose** This procedure is used to halt the sncPkg package, which will:
- kill the HA\_Mgr process and some other process
  - stop ER replication
  - clean up Event Forwarding directories
  - shut down Navis™ Optical EMS and send an alarm to the console

- Before you begin** Before you run this procedure, realize the following:
- Halting a sncPkg with the application running in active mode results in not having an active Navis™ Optical EMS anywhere. Switching of the sncPkg package will not occur. Therefore, use this procedure with caution.
  - Halting a sncPkg with the application running in standby mode removes the particular node from redundancy. Package switching does not occur. To rejoin this node again use *Procedure 10-17 Rejoining a Node in Redundancy*.

- Task** Use the following steps to halt sncPkg.

---

**1** Login as **root**.

---

**2** To shutdown a running sncPkg on an active node, use the following command line:

**cmhaltpkg -n <active node name> sncPkg**

**Result:** The console message "!! EMS application is Shutting down!!" appears.

END OF STEPS

---



## Procedure 10-19 Halting the standbyPkg Package

---

**Purpose** This procedure is used to halt the standbyPkg.

**Before you begin** Halting the standbyPkg removes this node from the redundancy configuration and switching does not occur.

The package will be halted and disabled and the Navis™ Optical EMS Application will also be shutdown. However, the Navis™ Optical EMS Application can also be shut down using the **dn -x** command on the standby node.

**Related information** To bring this node back into the redundancy configuration, use *Procedure 10-17 Rejoining a Node in Redundancy*.

**Task** Use these steps to halt standbyPkg.

---

**1** Login as **root**.

---

**2** To shutdown a running standbyPkg on nodeS, execute:  
**cmhaltpkg -n <standby node name> standbyPkg**

END OF STEPS

---



## Procedure 10-20 Halting a Node in the MC/ServiceGuard Cluster

---

**Purpose** This procedure is used to halt a node in the MC/ServiceGuard cluster, which causes the node to halt its cluster daemon and remove itself from the existing cluster. This procedure also moves all running packages to the standby node if the standby node is ready to receive them.

**Related information** To bring the node back in the cluster again, use *Procedure 10-17 Rejoining a Node in Redundancy*.

**Task** Use these steps to halt a node in the MC/ServiceGuard cluster.

---

**1** Login as **root**.

---

**2** To force a node to halt even if packages are running, execute:  
**cmhaltnode -f**

END OF STEPS

---



## Procedure 10-21 Enabling/Disabling Package Switching

---

**Purpose** This procedure is used to enable and/or disable package switching.

**Task** Use these steps to enable/disable package switching.

---

**1** Login as **root**.

---

**2** When the cluster status shows that package switching is disabled, which usually occurs true after a failover, execute the following:

**cmmodpkg [-e|-d] sncPkg**

Where: **-e** is to used to enable and **-d** is used to disable.

---

**3** When the cluster status shows that one node is disabled from running the package (switching the package to it from other node), execute the following to enable/disable it:

**cmmodpkg -n node1 [-e|-d] sncPkg**

Where: **-e** is to used to enable and **-d** is used to disable.

---

END OF STEPS

---



## Procedure 10-22 Shutting Down a Running Cluster

---

**Purpose** This procedure is used to shut down a running cluster.

**Before you begin** When this procedure is executed, all packages are shut down first and then the cluster is shut down; therefore, proceed with caution.

**Task** To shut down a running cluster, execute the following:  
**cmhaltcl -f**

END OF STEPS

---



## Procedure 10-23 Shutting Down Replication

---

**Purpose** This procedure is used to execute `er_remove`.

**Before you begin** The `er_remove` script completely removes replication definitions from all nodes defined in `redstat`.

After `er_remove` executes, `er_status` reports on all nodes that are down.

**Task** Use these steps to run `er_remove`.

---

**1** Login as user **ems**.

---

**2** Execute the following command:  
**`er_remove`**

`END OF STEPS`

---



## Procedure 10-24 Checking Application Status

---

**Purpose** This procedure is used to check the status of the application with the **showtop** command, which displays the current redundancy topology adopted by this node and the mode in which the Navis™ Optical EMS Application is running.

**Task** Use these steps to check application status.

---

**1** Login as user **ems**.

---

**2** As user **ems**, run the following command:  
**showtop**

END OF STEPS

---



## Procedure 10-25 Checking Replication Status

---

**Purpose** This procedure is used to check the status of **er** with the **er\_status** command, which shows the Informix replication status from this node.

**Before you begin** All redundancy nodes should have same redundancy information, but the status report will not be exactly the same. If any one of hosts return different redundancy information, some corrective action needs to be performed immediately.

**Task** Use these steps to check **er\_status**.

---

**1** Login as user **ems**.

---

**2** Execute the following command:  
**er\_status**

END OF STEPS

---



## Procedure 10-26 Switching Packages Manually within the Local MC/Service Guard Cluster

---

**Purpose** This procedure is used to switch packages manually from the current node to the local standby node within an MC/ServiceGuard cluster.

**Before you begin** If packages must be switched manually from the current node to the standby node, it must be done carefully. Check whether the receiving standby node is in good health by checking cluster status, application status, and ER status.

**Related information** To check cluster status, application status, and ER status refer to *Procedure 10-13 Viewing Cluster Status*, *Procedure 10-24 Checking Application Status*, and *Procedure 9-25 Executing er\_status*.

**Task** Use these steps to switch packages manually from the current node to the standby node.

---

**1** Login as **root**.

---

**2** If the switchover should occur within the MC/ServiceGuard cluster, the following commands are recommended:  
**cmhaltpkg -n <current node> sncPkg**  
**cmmodpkg -e -n <standby node> sncPkg**  
**cmrunpkg -n <standby node> sncPkg**

END OF STEPS

---



## Procedure 10-27 Switching Packages Manually between Local and Remote Clusters

---

**Purpose** This procedure is used to switch packages manually from the current node to the standby node if a site switchover is needed between local and remote clusters.

**Before you begin** If packages must be switched manually from the current node to the standby node, it must be done carefully. Check whether the receiving standby node is in good health by checking cluster status, application status, and ER status.

**Related information** To check cluster status, application status, and ER status refer to *Procedure 10-13 Viewing Cluster Status*, *Procedure 10-24 Checking Application Status*, and *Procedure 9-25 Executing er\_status*.

If a site switchover is needed (because of an active host failure or a user on-demand request) in a geographic redundancy configuration in which one host is active and the other host is standby, login to the Cluster Administration GUI to do the switchover. Refer to the section titled *Cluster Administration GUI Operations* in the *Navis™ Optical EMS Administration Guide*.

**Task** Use these steps to switch packages manually from the current node to the standby node.

- 
- 1 Halt the sncPkg running ACTIVE application by executing the following command line:

**cmhaltpkg -n <current node> sncPkg**

**Result:** Wait until the halt package command finishes.

---

- 2 Log in to the remote host in the other cluster as **ems**.
- 

- 3 Execute the following command line:

**HA\_MgrClient -m setOperMode -o ACTIVE**

**Result:** The manual switch over for the active package executes.  
Do not do a manual switch for the standbyPkg because it is not  
necessary.

END OF STEPS

---



## Procedure 10-28 Testing for Hardware Failover

---

**Purpose** This procedure is used to perform a quick test to determine if a hardware failover has occurred in a redundancy configuration.

**Task** To perform quick redundancy testing for hardware failover, use these steps.

---

**1** Disconnect primary office LAN connection on active/standby hosts.

---

**2** Disconnect primary OSI LAN connection on active/standby hosts.

---

**3** Disconnect SCSI connection on primary disk array on active/standby hosts.

---

**4** Disconnect both of primary and backup office LAN connections on active hosts.

END OF STEPS

---



## Procedure 10-29 Testing for Software Failover

---

**Purpose** This procedure is used to perform a quick test to determine if a software failover has occurred in a redundancy configuration.

**Before you begin** This procedure must be performed on the active host.

**Task** To perform quick redundancy testing for software failover, use these steps.

---

**1** Kill Orbix daemon by executing the following command lines:  
**ps -ef | grep orbix**  
**kill -9 <orbix process id>**

---

**2** Kill the appmon daemon.

---

**3** Fill the Navis™ Optical EMS disk space up to 98%.

END OF STEPS

---







# A ColdStart Screen Output

**Output** The following messages are displayed when `./coldStart` is run:

```
login (as root)
cd /tmp
./coldStart
```

```
=====
START: INSTALLATION Thu Jan 7 15:59:17 EST 2002
```

```
EMS SYSTEM INITIALIZATION PROGRAM
```

```
This is a fresh start of coldStart
CHECK_POINT=0
```

The EMS new host initialization is about to begin. You will be prompted for user information next. After all user input has been entered, the installation will continue automatically. This process may take up to 2 hours to complete and should not require user interaction until completed.

```
Do you wish to continue with this initialization (y/n/q)? y
```

```
EMS_HOST_MODEL_NUM=L200
EMSROOT=/ems
EMS_GID=200
INFORMIX_GID=201
EMS_UID=200
INFORMIX_UID=201
TL1_UID=203
```

-----  
coldStart performs getInformix() function .....

INFORMIX LICENSE INFORMATION:

License information is required to validate the INFORMIX fileset.

Do you wish to specify INFORMIX license information at this time (y/  
n/q)? **y**

Please enter the Serial Number for the INFORMIX DynamicServer  
package: **<ABC>**

You have entered **<ABC>** as INFORMIX DynamicServer Serial  
Number.

Is this correct?

Press [y] for yes or [n] for no, then press [Return]: **y**

Please enter the Key for the INFORMIX DynamicServer package:  
**<DEF>**

You have entered **<DEF>** as INFORMIX DynamicServer Key.

Is this correct?

Press [y] for yes or [n] for no, then press [Return]: **y**

-----  
coldstart performs getDomain() function.....  
-----

Please enter your local DNS domain name (blank for none): [Return]

You have entered as local DNS domain name.

Is this correct?

Press [y] for yes or [n] for no, then press [Return]: **y**

INPUT REVIEW

The following is a review of the required information:

1. EMS Home Directory = /ems
2. EMS Group ID (GID) = 200
3. INFORMIX Group ID (GID) = 201
4. EMS User ID (UID) = 200
5. INFORMIX User ID (UID) = 201
6. TL1 User ID (UID) = 203
7. INFORMIX DynamicServer Serial Number = **<ABC>**
8. INFORMIX DynamicServer Key= **<DEF>**
9. Local DNS Domain Name =

**WARNING**

*If communicating with ITM-NM (SONET), the Local DNS Domain Name MUST NOT be set.*

Enter the item number [1-9] to change the current value.  
Enter "s" to save the above input and continue.

What would you like to do [1-9 or s][q to quit]: s

EMS System Initialization will continue automatically.  
Check /tmp/coldStart.log file for logged messages.

-----  
coldStart performs setUpGroup() function .....

Setting up groups.....

-----  
coldStart performs setUpUser() function .....

Setting up user logins.....

-----  
coldStart performs setUpInformix() function .....

Installing DynamicServer license will take about 10 minutes!

Informix Dynamic Server Version 7.31.UC3  
Copyright (C) 1986-1999 Informix Software, Inc.

### Installation and Configuration Script

This installation procedure must be run by a privileged user (Super User)

It will change the owner, group, mode, (and other file attributes on Secure systems) of all files of this package in this directory.

There must be a user "informix" and a group "informix" known to the system.

Press RETURN to continue,  
or the interrupt key (usually CTRL-C or DEL) to abort.

Enter your serial number (for example, INF#X999999) >  
Enter your serial number KEY (uppercase letters only) >

**WARNING!**

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Press RETURN to continue,  
or the interrupt key (usually CTRL-C or DEL) to abort.

Installing directory .  
Installing directory aadir  
Installing directory bin  
Installing directory snmp  
Installing directory snmp/snmp  
Installing directory snmp/peer  
Installing directory dbssodir  
Installing directory lib  
Installing directory lib/csm  
Installing directory msg  
Installing directory msg/en\_us  
Installing directory msg/en\_us/0333  
Installing directory etc  
Installing directory incl  
Installing directory incl/hpl  
Installing directory incl/esql  
Installing directory release  
Installing directory release/en\_us  
Installing directory release/en\_us/0333  
Installing directory forms  
Installing directory demo  
Installing directory demo/dbaccess  
Installing directory hhelp  
Installing directory hhelp/xprinter  
Installing directory hhelp/xprinter/FontMetrics  
Installing directory hhelp/xprinter/FontMetrics/AFM  
Installing directory hhelp/xprinter/FontMetrics/TFM  
Installing directory hhelp/xprinter/PCLPPDS  
Installing directory hhelp/xprinter/PPDS  
Installing directory hhelp/xprinter/PSPPDS  
Installing directory ism  
Installing directory gls  
Installing directory gls/cm3

Installing directory gls/cv9  
Installing directory gls/lc11  
Installing directory gls/lc11/cs\_cz  
Installing directory gls/lc11/da\_dk  
Installing directory gls/lc11/de\_at  
Installing directory gls/lc11/de\_ch  
Installing directory gls/lc11/de\_de  
Installing directory gls/lc11/en\_au  
Installing directory gls/lc11/en\_gb  
Installing directory gls/lc11/en\_us  
Installing directory gls/lc11/es\_es  
Installing directory gls/lc11/fi\_fi  
Installing directory gls/lc11/fr\_be  
Installing directory gls/lc11/fr\_ca  
Installing directory gls/lc11/fr\_ch  
Installing directory gls/lc11/fr\_fr  
Installing directory gls/lc11/is\_is  
Installing directory gls/lc11/it\_it  
Installing directory gls/lc11/ja\_jp  
Installing directory gls/lc11/ko\_kr  
Installing directory gls/lc11/nl\_be  
Installing directory gls/lc11/nl\_nl  
Installing directory gls/lc11/no\_no  
Installing directory gls/lc11/os  
Installing directory gls/lc11/pl\_pl  
Installing directory gls/lc11/pt\_br  
Installing directory gls/lc11/pt\_pt  
Installing directory gls/lc11/ru\_ru  
Installing directory gls/lc11/sk\_sk  
Installing directory gls/lc11/sv\_se  
Installing directory gls/lc11/th\_th  
Installing directory gls/lc11/zh\_cn  
Installing directory gls/lc11/zh\_tw  
Installing directory bit maps

Installing Shared Libraries in System Directories ...

Linking /usr/lib/iosm07a.sl from lib/iosm07a.sl

Linking /usr/lib/ipldd07a.sl from lib/ipldd07a.sl

Installation of Informix Dynamic Server complete.

Done for installing DynamicServer!!!

Installing IECC license will take about 5 minutes!

### Installation Script

This installation procedure must be run by root (super-user).  
It will change the owner, group, and mode of all files of this  
package in this directory. There must be a user "informix" and a  
group "informix" known to the system.

Press RETURN to continue,  
or the interrupt key (usually CTRL-C or DEL) to abort.

Enter your serial number (for example, INF#X999999) >

Enter your serial number KEY (uppercase letters only) >

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SEVERE CIVIL AND CRIMINAL LIABILITIES.**

Press RETURN to continue,  
or the interrupt key (usually CTRL-C or DEL) to abort.

Installing directory .  
Installing directory bin  
Installing directory lib  
Installing directory msg  
Installing directory msg/en\_us  
Installing directory msg/en\_us/0333  
Installing directory release  
Installing directory release/en\_us  
Installing directory release/en\_us/0333  
Installing directory etc

Installing Shared Libraries in System Directories ...

Linking /usr/lib/liborb\_r.sl from lib/liborb\_r.sl

Installation of INFORMIX-Enterprise Command Center complete.

Done for installing IECC!!!

-----  
coldStart performs setUpOrbix() function .....

Install Orbix License.....

Orbix Daemon v3.0.1 (PATCH\_60)

s1477-3.0.1 (PATCH\_60): Orbix Version v3.0.1 (PATCH\_60) for HP  
aCC A.03.13 on HP/UX 11.00

Implementation Repository Path :/ems/Orbix/config/Repositories/  
ImpRep

Daemon Port :1570

Daemon Port Base :1590

Daemon Port Range :1000

Orbix Errors File :/ems/Orbix/config/ErrorMsgs

Orbix Locator Path :/ems/Orbix/config/

Interface Repository Path :/ems/Orbix/Interfaces

Local Host :oz

Local domain :

Java Interpreter :/ems/Orbix/bin/jre

Default Classpath :/ems/Orbix/config:/ems/Orbix/lib/  
classes.zip:/ems/Orbix/bin/NSclasses.zip:/ems/Orbix/lib/rt.jar:/ems/  
Orbix/bin/orbixweb.jar:/ems/Orbix/tools/NamingServiceGUI/  
marimba.zip:/ems/Orbix/tools/NamingServiceGUI/bongo.zip:/ems/  
Orbix/tools/NamingServiceGUI/NSGUI.jar

Done for installing Orbix!!!

-----  
coldStart performs setCronAt() function .....

-----  
coldStart performs chgFSPerm() function .....

Set file system ownership, group and permission

-----  
coldStart performs setUpFTP() function .....

Adding FTP related entries into /etc/passwd and /etc/group

Creating new home directory for FTP user

Setting up FTP home directory

Check /tmp/coldStart.log file for logged messages.

END: INSTALLATION Thu Jan 7 16:02:30 EDT 2002

□





## B init\_disk Scenario

### **init\_disk help and examples**

The `init_disk` script enables you to work with standard and non-standard client configurations. Non-standard configurations are disk configurations that meet the total capacity requirement and have at least as many physical disks as volume groups. For example, having many 4Gb disks and the proper total capacity is a possibility. Conversely, meeting the capacity requirement with two 35Gb disks does not suffice.

### **Starting init\_disk**

`init_disk` uses the **script** command to save its output into a log file. The **script** command cannot run in the background—that is, it cannot be coded like **script &** in the `init_disk` script, which means that you need to start `init_disk` twice, if **script** is not running:

- During the first run, `init_disk` starts the script and exits.
- During the second run, `init_disk` detects whether the **script** command is running. It does not restart it again and begins the configuration task.

Init\_disk has a **-t** option, which is used for testing. When **-t** is used, init\_disk does not configure the disk—it displays messages and creates undo\_disk scripts based on the configuration. If you removed the undo\_disk files, but you need them, use **-t** to re-create it (assuming you did not change the hardware and the configuration file).

### Checking The Hardware Configuration

When started, init\_disk collects and displays all hardware system data, which includes CPU, memory, disks, and LAN card parameters. If init\_disk was run before, you can review and use the saved parameters or let init\_disk re-collect the data.

After the hardware and memory are checked, init\_disk checks the disks and lists the disk path, size, and disk usage (y or n). Below is a sample output from an ST system:

```
/dev/rdisk/c0t3d0 8891556 n
/dev/rdisk/c0t4d0 8891556 n
/dev/rdisk/c0t5d0 8891556 n
/dev/rdisk/c0t6d0 8891556 n
/dev/rdisk/c1t3d0 8891556 n
/dev/rdisk/c1t4d0 8891556 n
/dev/rdisk/c1t6d0 8891556 y
```

### Disk Configuration Templates

For each supported machine model, a disk template configuration file is delivered with init\_disk. This file is based on the hardware configuration requirement. At run time, init\_disk selects the default template configuration based on the machine model and the number of CPUs described in the requirement.

### Saved Master Configuration File or User Supplied Configuration File

If init\_disk was previously run and a master configuration file was saved, init\_disk asks whether the saved configuration file or the default template configuration file should be used. If neither file should be used, specify the path of a different configuration file. Once a configuration file is specified, a temporary file is created for review and modification.

The templates are stored under /tmp. The names appear as a form of *disk\_temp*. (Use the \* for the many configurations.) The default templates for K-Class servers are for 9G disks. However, if the machine has 18G disks, the templates for 18G disks are to be used.

For example: the default template for a K380 with one CPU is /tmp/disk\_temp.K380X1. If that system has 18G disks, the template to use is /tmp/disk\_temp.K380X1\_18G. The script asks if the default template is to be used. In this case, that answer would be **n**. The full path of the 18G template must be given.

### Review and Modify the Configuration File

During an init\_disk session, you can review and modify the temporary configuration file selected.

After the temporary configuration is modified and saved, **init\_disk** validates its contents, which includes the syntax and the availability of disks and amount of disk space available for each volume group. Init\_disk displays the validation results and you can modify the configuration file again. If the configuration file is error free, you can save it as the master configuration file. The modification, validation, and updating of the master configuration file continues until you decide that the process is complete. Once the process is complete, init\_disk configures the disk based on the contents of the master configuration file. The results of each step are displayed.

### Undo\_disk

The undo\_disk script is generated while creating the disk configuration. If the disks need to be restored to the configuration that existed before the init\_disk was performed, run undo\_disk to undo init\_disk.

### Tailor the Disk Configuration

You can tailor your disk configuration by modifying the disk configuration file. The following section provides you the definition and syntax of the disk configuration file.

#### Disk Configuration File Syntax

The disk configuration file syntax is as follows:

- A line starts with # is a comment line. It is ignored.
- Each row has four parameters.
  - The first parameter defines the volume group number, such as VG00, VG01
  - The second parameter defines the mount point or directory, such as ems, reports, dbbsp2\_1G, dbbsp2\_1G. The first character cannot be a /. (You can specify ems and tools, but not /ems and /tools.)
  - The third parameter defines the size (in M-bytes) of the disk space that the second parameter requires.

- The fourth parameter defines a keyword. Valid keywords are: *data*, *dbspace*, *home*, *omni*, *pmspace*, *reports*, *tools*, *vgroup*, *vgdisk*. Each keyword indicates the usage of the space.

*data* is for /data.

*home* is for /ems.

*reports* is for /reports.

*tools* is for /tools.

*omni* is for /var/opt/omni.

*dbspace* is for database space.

*pmspace* is for performance monitoring space.

*vgroup* is for volume group. If Type is *vgroup*, the size (the third parameter) specifies the total disk size required for the vgroup and the second parameter should be a - (dash). For each vgroup (VG01), one and only one entry with type *vgroup* must be specified, which is the first entry of that volume group.

*vgdisk* is for disk assignment, which is an optional entry. If *vgdisk* is not specified for a *vgroup*, *init\_disk* automatically selects and assigns the disk for that volume group. If *vgdisk* is specified, the second parameter must be a *pv\_path* (e.g., *c0t1d0*) that is the block device path name of a physical volume and the size should be a - (dash). Once a disk (e.g., *c0t2d0*) is used in a *vgdisk* assignment, it is not selected by *init\_disk* in the automatic select mode; meaning, *init\_disk* does not assign the disk (e.g., *c0t2d0*) to other volume groups unless it is explicitly used in a *vgdisk* of another *vgroup*.

### Allocate More than One Disks for One Volume Group

You can allocate more than one disk for one volume group. For example, you can use **vgdisk** to assign two disks (*c0t3d0* and *c0t4d0*) for one vgroup (VG02).

```
VG02 - 9000 vgroup
VG02 c0t3d0 - vgdisk
VG02 dbsp1_1G 1000 dbspace
VG02 pmsp1_2G 2000 pmspace
VG02 c0t4d0 - vgdisk
VG02 pmsp2_2G 1000 pmspace
VG02 pmsp3_2G 1000 pmspace
```

In this example, disk c0t3d0 is used by volume group VG02 and dbbsp1\_1G and pmsp1\_2G are allocated on c0t3d0. Also disk c0t4d0 is used by volume group VG02 and pmsp2\_2G and pmsp3\_2G are allocated on c0t4d0.

The order of the vgdisk row and the dbspace and pmspace rows are important. A dbspace or a pmspace gets space allocated to the disk assigned by a vgdisk (or assigned by init\_disk automatically) that appears right before the dbspace or a pmspace line.

In this example, c0t3d0 and c0t4d0 are not assigned by init\_disk for other vgroups. Make sure that the total disk space of c0t3d0 and c0t4d0 are fully used. You can assign c0t3d0 and c0t4d0 to other vgroups via the vgdisk statement.

Once a vgdisk is used in a vgroup, you must explicitly assign the disk for all mount points or directories (all second parameters), which means the following is an error, because automatic disk assignment and explicit disk assignment cannot be mixed:

```
VG02 - 9000 vgroup
#VG02 c0t3d0 - vgdisk --- commented out or does not exist
VG02 dbbsp1_1G 1000 dbspace
VG02 pmsp1_2G 2000 pmspace
VG02 c0t4d0 - vgdisk
VG02 pmsp2_2G 1000 pmspace
VG02 pmsp3_2G 1000 pmspace
```

### Allocate Space of One Disk for More than One Volume Group

You cannot use the **vgdisk** to assign one disk for more than one **vgroups**. For example, the following is an error:

```
VG02 - 9000 vgroup
VG02 c0t3d0 - vgdisk
VG02 dbbsp1_1G 1000 dbspace
VG02 pmsp1_2G 2000 pmspace
VG02 pmsp2_2G 1000 pmspace
VG02 pmsp3_2G 1000 pmspace
#
VG03 - 9000 vgroup
VG03 c0t3d0 - vgdisk
VG03 dbbsp2_1G 1000 dbspace
```

```
VG03 dbsp3_2G 1000 dbSPACE
VG03 pmsp4_2G 1000 pmspace
VG03 pmsp5_2G 2000 pmspace
```

For a redundancy configuration, specify the **pv\_path** of the primary and secondary disks for all volume groups. The keywords are **vgdiskpri** and **vgdisksec**.

You also can specify swap space in the configuration. The keyword is **swap**. The **init\_disk** utility only performs a limited validation for redundancy configurations.

Several redundancy configuration templates are provided with **init\_disk**. It is better to modify a proper template for your system before starting **init\_disk** and copying the configuration to `/startup/disk_cfg` and then start **init\_disk**.





# C Navis™ Optical EMS New Installation Input/Output

**Main Menu Choice: 3  
Install/Upgrade EMS  
Software**

installEms is checking Hardware, please be patient!

The current EMS run level is "Shutdown".

=====  
EMS INSTALLATION AND CONFIGURATION PROGRAM 12-07-01

Current EMS Version: 7.0.0-129

Main Menu:

- 1) Backup the current EMS database
- 2) Restore a previously saved EMS database
- 3) Install/Upgrade EMS software
- 4) Configure EMS - making the provisioned parameters effective
- 5) Configure EMS using profile saved from last session
- 6) Configure Redundancy
- 7) Display EMS system information
- 8) Reenter ATOS license
- 0) Exit

NOTE: Root permission ("su" without -) is required for all tasks

Specify your choice by number: 3

The EMS Application installation is about to begin.  
Do you wish to continue with this installation (y/n)? y

WARNING:

The EMS Application database should be backed up prior to upgrading the software.

Do you wish to backup the EMS application database(y/n/q)?

n  
User bypassed backup prior to performing the upgrade  
Starting the APPLICATION LOADING process ...

What software media will be used to load the EMS Application:

1. CD-ROM
2. Digital Audio Tape (DAT)

Please enter the software media type [1/2/q]? 2

Saving existing EMS setup files ...

Saving the existing setup files ...  
If this is an upgrade operation, it will destroy existing files in the following directories:

- bin,
- tbin,
- lib,
- etc

- Orbix/Interfaces
- Orbix/config/Repositories/NamesRep
- Orbix/config/Repositories/ImpRep/NS.imp

However, existing setup files have been saved for you to restore later.

Are you ready to proceed? (y) to proceed, <CR> to skip, or (q) to quit: y

Removing files from /ems/bin ...  
 Removing files from /ems/Orbix/Interfaces ...  
 Removing files from /ems/Orbix/config/Repositories/NamesRep ...  
 Removing file /ems/Orbix/config/Repositories/ImpRep/NS.imp ...  
 Removing files from /ems/tbin ...  
 Removing files from /ems/lib ...  
 Removing files from /ems/etc ...  
 Write-protect the delivery tape and put it in the tape drive.

Hit <CR> to continue .....  
Reading table of content on Tape ....

This MEDIA contains the following filesets:

| FILESET                       | SIZE(KB)  | DESCRIPTION                 |
|-------------------------------|-----------|-----------------------------|
|                               | 0.0       |                             |
| ColdStart.ColdStart           | 16471.5   |                             |
| EMS.snmsFixDir.snmsInterfaces | 1208.0    | "interface files for Orbix" |
| EMS.snmsFixDir.snmsRogue      | 2739.6    | "RogueWave library for EMS" |
| EMS.snmsRelease.snms          | 1677734.7 | "snms application software" |
| Upgrade.Upgrade               | 23.3      |                             |
| EMSROOT                       | 677734.7  |                             |

```

/tools 3947.5
Total 1681682.2

```

Available space at /ems is: 5593598 Kbytes

Going ahead with the assumption that space is OK.

The new EMS files will be installed ...

Are you ready to proceed? (y) to proceed, <CR> to skip, or (q) to quit: y

```

===== 12/07/01 05:47:28 EST BEGIN swinstall SESSION
(non-interactive)

```

- \* Session started for user "root@luna".
- \* Beginning Selection
- \* Target connection succeeded for "luna:/".
- \* Source connection succeeded for "135.17.95.37:/depot/F7.0/bld129\_bttest".
- \* Source: 135.17.95.37:/depot/F7.0/bld129\_bttest
- \* Targets: luna:/
- \* Software selections:
  - EMS.snmsInterfaces,r=F7.0
  - EMS.snmsRogue,r=F7.0
- \* Selection succeeded.
- \* Beginning Analysis
- \* Session selections have been saved in the file "/.sw/sessions/swinstall.last".
- \* "luna:/": There will be no attempt to mount filesystems that appear in the filesystem table.
- \* Analysis succeeded.
- \* Beginning Execution
- \* The execution phase succeeded for "luna:/".
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is luna:/var/adm/sw/swagent.log).

```

===== 12/07/01 05:48:13 EST END swinstall SESSION (non-interactive)

```

OS and Package files loaded.

```

===== 12/07/01 05:48:14 EST BEGIN swinstall SESSION
(non-interactive)

```

- \* Session started for user "root@luna".
- \* Beginning Selection
- \* Target connection succeeded for "luna:/ems".
- \* Source connection succeeded for

"135.17.95.37:/depot/F7.0/bld129\_btest".

- \* Source: 135.17.95.37:/depot/F7.0/bld129\_btest
- \* Targets: luna:/ems
- \* Software selections:  
EMS.snms,r=F7.0
- \* Selection succeeded.

- \* Beginning Analysis
- \* Session selections have been saved in the file  
"/.sw/sessions/swinstall.last".
- \* "luna:/ems": There will be no attempt to mount filesystems  
that appear in the filesystem table.
- \* Analysis succeeded.

- \* Beginning Execution

WARNING: "luna:/ems": 1 postinstall or postremove scripts had  
warnings.

- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is luna:/ems/var/adm/sw/swagent.log).

=====  
12/07/01 05:54:06 EST END swinstall SESSION (non-interactive)

Navis(TM) Optical EMS release files are loaded.

ems  
luna

Setting up .profile for user tl1 ...

Starting the EMS PROVISIONING process ...

At this time, you may choose a new set of environment parameters  
for the new EMS configuration.

WARNING:

The EMS new host Informix Database configuration is about to begin.  
The Informix Database configuration will use socket instead of share  
memory. Please adjust your Name Service Switch accordingly.

Do you want to continue this process (y/n/q):

y

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Your EMS environment:

APPTAG = EMS  
EMSROOT = /ems  
APPCONFIG = /ems/etc/appconfig  
APPMON\_PORT= 7578  
ROAMLOG = /ems/log/data

Set up configuration files...  
Reinitialize informix online...  
Waiting for system related databases to be built...

Parse configuration file and start to create dbspaces ...  
WARNING: /dev/informix/pmsp29\_2G is not available, pm2\_dbs skipped....  
WARNING: /dev/informix/pmsp30\_2G is not available, pm2\_dbs skipped....  
WARNING: /dev/informix/pmsp31\_2G is not available, pm2\_dbs skipped....  
WARNING: /dev/informix/pmsp32\_2G is not available, pm2\_dbs skipped....  
WARNING: /dev/informix/pmsp33\_2G is not available, pm2\_dbs skipped....  
WARNING: /dev/informix/pmsp34\_2G is not available, pm2\_dbs skipped....  
WARNING: /dev/informix/pmsp35\_2G is not available, pm2\_dbs skipped....  
WARNING: /dev/informix/pmsp36\_2G is not available, pm2\_dbs skipped....  
WARNING: /dev/informix/pmsp37\_2G is not available, pm2\_dbs skipped....  
WARNING: /dev/informix/pmsp38\_2G is not available, pm2\_dbs skipped....  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
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Chunk successfully added.

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 Chunk successfully added.  
 Verifying physical disk space, please wait ...  
 Chunk successfully added.  
 Verifying physical disk space, please wait ...  
 Chunk successfully added.  
 Verifying physical disk space, please wait ...  
 Chunk successfully added.  
 Verifying physical disk space, please wait ...  
 Chunk successfully added.  
 Verifying physical disk space, please wait ...  
 Chunk successfully added.  
 Verifying physical disk space, please wait ...  
 Chunk successfully added.  
 Verifying physical disk space, please wait ...  
 Chunk successfully added.  
 Verifying physical disk space, please wait ...  
 Chunk successfully added.  
 Verifying physical disk space, please wait ...  
 Chunk successfully added.  
 Verifying physical disk space, please wait ...  
 Chunk successfully added.  
 Verifying physical disk space, please wait ...  
 Chunk successfully added.  
 Verifying physical disk space, please wait ...  
 Chunk successfully added.  
 Re-start Informix Online ...

11 dbspace(s) created and 26 chunks added successfully ...

++++  
 Informix configuration completed.

You have to re-login as ems to establish variables  
 before move-on.

++++  
 logout

Press [ENTER] to continue.

The following LAN interface(s) have been detected:

|     |   |         |        |         |           |                                               |
|-----|---|---------|--------|---------|-----------|-----------------------------------------------|
| lan | 0 | 0/0/0/0 | btlan3 | CLAIMED | INTERFACE | HP PCI 10/<br>100Base-TX Core                 |
| lan | 1 | 0/1/0/0 | btlan5 | CLAIMED | INTERFACE | HP A5230A/<br>B5509BA PCI 10/100Base-TX Addon |
| lan | 2 | 0/1/1/0 | btlan5 | CLAIMED | INTERFACE | HP A5230A/<br>B5509BA PCI 10/100Base-TX Addon |
| lan | 3 | 0/2/0/0 | btlan5 | CLAIMED | INTERFACE | HP A5230A/<br>B5509BA PCI 10/100Base-TX Addon |
| lan | 4 | 0/5/0/0 | btlan5 | CLAIMED | INTERFACE | HP A5230A/<br>B5509BA PCI 10/100Base-TX Addon |

Press [Enter] to continue

1. Network Service Attachment Point (NSAP) forms (Fixed/Flexible)?: Fixed
2. Activate SONET Directory Services (y/n)?: Y
3. NE PROTOCOL INFORMATION

The current configuration is displayed:

CMISE: (y/n) Y  
OSI TL1: (y/n) Y  
X.25 TL1: (y/n) N

4. Double Acknowledgement Feature (Enabled/Disabled)?: Enabled

Please enter the item number [1-4] to make change.  
Enter "s" to save the above input and continue.  
Enter "q" to quit. s

The current OSI Configuration is summarized as following:

1. lan 0 0/0/0/0 - N/C
2. lan 1 0/1/0/0 - Primary 000000 0000 BB00
3. lan 2 0/1/1/0 - N/C
4. lan 3 0/2/0/0 - N/C
5. lan 4 0/5/0/0 - N/C

Please use the following menu to customize your local configuration

1. Primary OSI LAN interface number= 2
2. Organization Identifier= 000000
3. Routing Domain= 0000
4. OSI Area= BB00
5. OSI Idp= 39840F
6. OSI Dfi= 80
7. OSI Lan Redundancy is not configured
8. IP address for OSI over TCP/IP= 172030002070

Enter the item number [1-8] to change the current value.  
Enter "s" to save the above input and continue.  
What would you like to do [1-8, or s] [q to quit]: s

#### CMISE INFORMATION REVIEW

The following is a review of Network Element protocol information:

1. EMS Name = ems123
2. Presentation Selector = 70737431
3. Session Selector = 73657331
4. Transport Selector = 747030
5. OLS-400G Support = YES

Enter the item number [1-5] to change the current value.  
Enter "s" to save the above input and continue.  
What would you like to do [1-5, or s] [q to quit]: s

DIB PREFIX REVIEW:

The following is a review of DIB prefix:

1. DIB Country Name prefix = US
2. DIB Organization Name prefix = LUCENT
3. DIB Organization Unit Name prefix = SNMS1;SNMS2

Enter the item number [1-3] to change the current value.

Enter "s" to save the above input and continue.

What would you like to do [1-3, or s] [q to quit]: s

Accept the current configuration (y/n/q)?

y

Saving the configuration.....Configuration saved.

EMS-TMF is installed, configuring.....

License information is required to validate the ATOS OSI Package.

Do you wish to specify ATOS license information at this time (y/n)? y

Please enter very carefully for the following information!!

Please enter the license code: 76136C7C0BDC

Please enter ck number of this machine: 170

Your EMS environment:

APPTAG = EMS  
EMSROOT = /ems  
APPCONFIG = /ems/etc/appconfig  
APPMON\_PORT= 7578  
ROAMLOG = /ems/log/data

Running Setup from scratch.

EMS is being reconfigured.

Successful Validation. Created appconfig from appconfig.t

Change permission of files.....

The following directories are currently defined for PM data collection -

/reports/pm

Do you wish to change the list of PM directories(y/n)?

n

Creating link for OXC\_LR...

Creating link for W2\_5G\_10G...

Creating link for OLS40G\_80G...

Creating link for WBWM...

Creating link for ABM...

Creating link for UNITE\_LR...

Creating link for STM64NE...

Creating link for OXC1024\_LR...

Creating link for NCC...

Creating link for OXC128\_LR...

Creating link for DMX...

Creating link for DMXPRESS...

Done creating links

Creating database...

After installEms exited, you may be logged out automatically.  
If not, logout yourself. Login again as a EMS user, then  
start EMS with the "up" command.

iversity

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forth in FAR 52.227-19(c)(1,2).

Your EMS environment:

APPTAG = EMS

EMSROOT = /ems

APPCONFIG = /ems/etc/appconfig

APPMON\_PORT= 7578

ROAMLOG = /ems/log/data

provEms[30]: 5930 Killed

**Main Menu Choice: 4  
Configure EMS - Making  
the Provisioned  
Parameters Effective**

installEms is checking Hardware, please be patient!

The current EMS run level is "Shutdown".

=====  
EMS INSTALLATION AND CONFIGURATION PROGRAM 12-07-01

Current EMS Version: None

Main Menu:

- 1) Backup the current EMS database
- 2) Restore a previously saved EMS database
- 3) Install/Upgrade EMS software
- 4) Configure EMS - making the provisioned parameters effective
- 5) Configure EMS using profile saved from last session
- 6) Configure Redundancy
- 7) Display EMS system information
- 8) Reenter ATOS license
- 0) Exit

NOTE: Root permission ("su" without -) is required for all tasks

Specify your choice by number: 4

Starting the EMS PROVISIONING process ...

At this time, you may choose a new set of environment parameters for the new EMS configuration.

WARNING:

The EMS new host Informix Database configuration is about to begin. The Informix Database configuration will use socket instead of share memory. Please adjust your Name Service Switch accordingly.

Do you want to continue this process (y/n/q):

n

Skip Informix Database configuration!

Press [ENTER] to continue.

The following LAN interface(s) have been detected:

lanmux 0 10/4/8 lanmux0 CLAIMED INTERFACE HP J2146A -  
802.3 LAN  
lan 2 10/12/6 lan2 CLAIMED INTERFACE Built-in LAN  
lan 1 10/4/16 btlan1 CLAIMED INTERFACE HP HP-PB 100  
Base TX card

Press [Enter] to continue

1. Network Service Attachment Point (NSAP) forms (Fixed/Flexible)?: Fixed
2. Activate SONET Directory Services (y/n)?: Y
3. NE PROTOCOL INFORMATION

The current configuration is displayed:

CMISE: (y/n) Y  
OSI TL1: (y/n) Y  
X.25 TL1: (y/n) Y

Please enter the item number [1-3] to make change.  
Enter "s" to save the above input and continue.  
Enter "q" to quit. s

The current OSI Configuration is summarized as following:

1. lanmux 0 10/4/8 - N/C
2. lan 2 10/12/6 - Primary 000000 0000 0000
3. lan 1 10/4/16 - N/C

Please use the following menu to customize your local configuration

1. Primary OSI LAN interface number= 2
2. Organization Identifier= 000000
3. Routing Domain= 0000
4. OSI Area= 0000
5. OSI Idp= 39840F
6. OSI Dfi= 80
7. OSI Lan Redundancy is not configured
8. IP address for OSI over TCP/IP= 017017017114

Enter the item number [1-8] to change the current value.  
Enter "s" to save the above input and continue.  
What would you like to do [1-8, or s] [q to quit]: s

#### CMISE INFORMATION REVIEW

The following is a review of Network Element protocol information:

1. EMS Name = ems123
2. Presentation Selector = 70737431
3. Session Selector = 73657331
4. Transport Selector = 747030
5. OLS-400G Support = YES

Enter the item number [1-5] to change the current value.  
Enter "s" to save the above input and continue.  
What would you like to do [1-5, or s] [q to quit]: s

#### DIB PREFIX REVIEW:

The following is a review of DIB prefix:

1. DIB Country Name prefix = US
2. DIB Organization Name prefix = LUCENT
3. DIB Organization Unit Name prefix = SNMS1;SNMS2

Enter the item number [1-3] to change the current value.

Enter "s" to save the above input and continue.

What would you like to do [1-3, or s] [q to quit]: s

Accept the current configuration (y/n/q)?

y

Saving the configuration.....Configuration saved.

Your EMS environment:

```
APPTAG = EMS
EMSROOT = /ems
APPCONFIG = /ems/etc/appconfig
APPMON_PORT= 7578
ROAMLOG = /ems/log/data
```

Running Setup from scratch.

EMS is being reconfigured.

Successful Validation. Created appconfig from appconfig.t

Change permission of files.....

The following directories are currently defined for PM data collection -

/reports/pm

Do you wish to change the list of PM directories(y/n)?

n

Creating link for OXC\_LR...

Creating link for W2\_5G\_10G...

Creating link for OLS40G\_80G...

Creating link for WBWM...

Creating link for ABM...

Creating link for UNITE\_LR...

Creating link for STM64NE...

Creating link for OXC1024\_LR...

Creating link for NCC...

Creating link for OXC128\_LR...

Creating link for DMX...

Creating link for DMXPRESS...

Done creating links

Creating database...

After installEms exited, you may be logged out automatically.  
If not, logout yourself. Login again as a EMS user, then  
start EMS with the "up" command.

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forth in FAR 52.227-19(c)(1,2).

Your EMS environment:

APPTAG = EMS  
EMSROOT = /ems  
APPCONFIG = /ems/etc/appconfig  
APPMON\_PORT= 7578  
ROAMLOG = /ems/log/data

provEms[30]: 7030 Killed

**Main Menu Choice: 5  
Configure EMS Using a  
Profile Saved from the Last  
Session**

installEms is checking Hardware, please be patient!

The current EMS run level is "Shutdown".

=====  
EMS INSTALLATION AND CONFIGURATION PROGRAM 12-07-01

Current EMS Version: 7.0.0-129

Main Menu:

- 1) Backup the current EMS database
- 2) Restore a previously saved EMS database
- 3) Install/Upgrade EMS software
- 4) Configure EMS - making the provisioned parameters effective
- 5) Configure EMS using profile saved from last session
- 6) Configure Redundancy
- 7) Display EMS system information
- 8) Reenter ATOS license
- 0) Exit

NOTE: Root permission ("su" without -) is required for all tasks

Specify your choice by number: 5

Starting the EMS PROVISIONING process ...

At this time, you may choose a new set of environment parameters for the new EMS configuration.

The following LAN interface(s) have been detected:

```

lan 0 0/0/0/0 btlan3 CLAIMED INTERFACE HP PCI 10/
100Base-TX Core
lan 1 0/1/0/0 btlan5 CLAIMED INTERFACE HP A5230A/
B5509BA PCI 10/100Base-TX Addon
lan 2 0/1/1/0 btlan5 CLAIMED INTERFACE HP A5230A/
B5509BA PCI 10/100Base-TX Addon
lan 3 0/2/0/0 btlan5 CLAIMED INTERFACE HP A5230A/
B5509BA PCI 10/100Base-TX Addon
lan 4 0/5/0/0 btlan5 CLAIMED INTERFACE HP A5230A/
B5509BA PCI 10/100Base-TX Addon

```

- 1. Network Service Attachment Point (NSAP) forms (Fixed/Flexible)?: Fixed
- 2. Activate SONET Directory Services (y/n)?: Y
- 3. NE PROTOCOL INFORMATION

The current configuration is displayed:

```

CMISE: (y/n) Y
OSI TL1: (y/n) Y
X.25 TL1: (y/n) N

```

4. Double Acknowledgement Feature (Enabled/Disabled)? : Enabled

The current OSI Configuration is summarized as following:

1. lan 0 0/0/0/0 - N/C
2. lan 1 0/1/0/0 - Primary 000000 0000 BB00
3. lan 2 0/1/1/0 - N/C
4. lan 3 0/2/0/0 - N/C
5. lan 4 0/5/0/0 - N/C

#### CMISE INFORMATION REVIEW

The following is a review of Network Element protocol information:

1. EMS Name = ems123
2. Presentation Selector = 70737431
3. Session Selector = 73657331
4. Transport Selector = 747030
5. OLS-400G Support = YES

#### DIB PREFIX REVIEW:

The following is a review of DIB prefix:

1. DIB Country Name prefix = US
2. DIB Organization Name prefix = LUCENT
3. DIB Organization Unit Name prefix = SNMS1;SNMS2

Saving the configuration.....Configuration saved.

EMS-TMF is installed, configuring.....

Your EMS environment:

```
APPTAG = EMS
EMSROOT = /ems
APPCONFIG = /ems/etc/appconfig
APPMON_PORT= 7578
ROAMLOG = /ems/log/data
```

Running Setup from scratch.

EMS is being reconfigured.

Successful Validation. Created appconfig from appconfig.t

Change permission of files.....

Creating link for OXC\_LR...

Creating link for W2\_5G\_10G...

Creating link for OLS40G\_80G...

Creating link for WBWM...

Creating link for ABM...

Creating link for UNITE\_LR...

Creating link for STM64NE...

Creating link for OXC1024\_LR...

Creating link for NCC...

Creating link for OXC128\_LR...

Creating link for DMX...

Creating link for DMXPRESS...

Done creating links

Creating database...

After installEms exited, you may be logged out automatically.  
If not, logout yourself. Login again as a EMS user, then  
start EMS with the "up" command.

Thank you for using "installEms"!

---





# D Navis™ Optical EMS Standalone Upgrade Input/Output

**Screen Output** #####  
# UPGRADE FROM GENERIC F5.1 (also for F5.0 and F6.0) TO F7.0#  
# LOG FILES: #  
# 1. /tmp/snmsUpgrade.out.F51toF70 #  
# 2. /tmp/snmsInstall.out.F51toF70 #  
#PLEASE NOTE: After the first system reboots, the log file #  
# switches from log file 1 to log file 2. #  
#####

Logging snmsUpgrade output to /tmp/snmsUpgrade.out.F51toF70

01/08/02 14:37:59: Upgrade from F5.1 to F7.0 ...

EMS is still running, shutting down EMS.

**Your Input** ==> Press <Enter> when ready...ENTER

*<Copyright and Legal Notices Deleted for Brevity!>*

Your SNMS environment:

APPTAG = EMS  
EMSROOT = /ems  
APPCONFIG = /ems/etc/appconfig  
APPMON\_PORT= 7578  
ROAMLOG = /ems/log/data

=====  
[25534: New Connection (ajax,IT\_daemon,\*,ems,pid=17536,optimised) ]

Trying to kill NS ...  
dead.  
CURRENT RUN LEVEL IS: Running

Killing Demon Process ...  
 <“Killing process....” Output Deleted for Brevity!>

NEW RUN LEVEL: Shutdown  
 Process <appmon> killed

=== EMS Application Processes and appmon are stopped =====  
 logout

Saving installEms.out... cp /ems/installEms.out /ems/installEms.out.010802

**Your Input** ==> Do you want to backup EMS data (y/n)? y

Restart informix engine...  
 onmode -ky;sleep 2;oninit

<Copyright and Legal Notices Deleted for Brevity!>

logout

Backing up EMS data files and databases.  
 Please have EMS database backup tape(s) ready.

**Your Input** ==> Press <Enter> when ready... ENTER

su - ems -c "ems\_backup -o /tmp/emsbackup"

<Copyright and Legal Notices Deleted for Brevity!>

Your SNMS environment:

```

APPTAG = EMS
EMSROOT = /ems
APPCONFIG = /ems/etc/appconfig
APPMON_PORT= 7578
ROAMLOG = /ems/log/data

```

SNMS backup starts at Tue Jan 8 14:51:30 EST 2002  
 Backup SNMS databases and application data to directory </tmp/  
 emsbackup>

Backup application data to </tmp/emsbackup>

```

a ./etc/SDSenv_rc 8 blocks
a ./dsa/DB/DB 1 blocks
a ./dsa/DB/DB.att 50 blocks
a ./dsa/DB/DB.obc 733 blocks
a ./dsa/DB/DB.ncx 7 blocks
a ./dsa/DB/DB.pfx 1 blocks
a ./dsa/DB/DB.crf 97 blocks
a ./dsa/DB/DB.dsa 47 blocks
a ./dsa/DB/baaaaaaaa.iDB 97 blocks
a ./dsa/DB/aaaaaaaa.vDB 48 blocks
a ./dsa/DB/aaaaaaaa.iDB 97 blocks
a ./dsa/isactive 1 blocks

```

Back up SNMS application data successfully.

Backup database <ems\_db>...  
Export DB ems\_db successfully.

Backup database <cf\_db1>...  
Export DB cf\_db1 successfully.

Backup database <pm\_db>...  
Export DB pm\_db successfully.

Backup database <q3nb\_db>...  
Export DB q3nb\_db successfully.

SNMS databases and application data have been saved in directory </tmp/  
emsbackup>  
logout

**Your Input** ==> EMS backup is done, press <Enter> to continue... ENTER

Need to upgrade the OS patches and remove HP/OV and X.25.

Upgrading OS patches... exec /usr/sbin/snmsInstall -p -D tonto:/home/tonto/  
jrs/F7.0/server  
Using EMS Disk Backup directory: /tmp/emsbackup  
Using EMS Depot: tonto:/home/tonto/jrs/F7.0/server  
Upgrading from EMS "F5.1" to "F7.0"

Logging snmsInstall output to /tmp/snmsInstall.out.F51toF70...

Installing Hardware Enablement and Critical Patch Bundle

**Your Input** ==> Please insert the EMS Core OS CD to the drive.

==> Press <Enter> when ready... ENTER

```
cd /tmp/depot;gunzip -c /cdrom/XSWHWCR1100.tar.gz | tar xf -
swinstall -s /tmp/depot/XSWHWCR1100 -x "logfile=/tmp/
instXSWHWCR1100.out" -x "mount_all_filesystems=false" -x
patch_match_target=true -x autoreboot=true -x patch_save_files=false
XSWHWCR1100
```

```
===== 01/08/02 15:09:07 EST BEGIN swinstall SESSION
(non-interactive)
```

```
* Session started for user "root@ajax".
```

```
* Beginning Selection
```

```
* Target connection succeeded for "ajax:/".
```

```
* Source connection succeeded for "ajax:/tmp/depot/XSWHWCR1100".
```

```
WARNING: The software specification "XSWHWCR1100" refers to a bundle
(or to a product, subproduct or fileset within a bundle). Only
some of the software specified could be selected. The messages
```

below show those items which could not be selected and those items which were selected but generated a warning:

\* Could not apply the software selection  
 "PHKL\_17036,r=1.0,a=HP-UX\_B.11.00\_64,v=HP"; it is not available from depot or root "ajax:/tmp/depot/XSWHWCR1100".

<Some Output Deleted for Brevity!>

\* Could not apply the software selection  
 "PHNE\_22245,r=1.0,a=HP-UX\_B.11.00\_64,v=HP"; it is not available from depot or root "ajax:/tmp/depot/XSWHWCR1100".

NOTE: The patch match operation failed to find patches for target software on "ajax" which passed the filter.

WARNING: The software specified contains a kernel fileset. It will be necessary to reconfigure and reboot the system to make the kernel software functional.

\* Source: /tmp/depot/XSWHWCR1100

\* Targets: ajax:/

\* Software selections:

XSWHWCR1100,r=B.11.00.54.6,a=HP-UX\_B.11.00\_32/64,v=HP

PHCO\_13809.CORE-ENG-A-MAN,r=1.0,a=HP-UX\_B.11.00\_32/

64,v=HP,fa=HP-UX\_B.11.00\_32/64

PHCO\_14198.UX-CORE,r=1.0,a=HP-UX\_B.11.00\_32/

<Some Output Deleted for Brevity!>

64,v=HP,fa=HP-UX\_B.11.00\_32/64

PHSS\_24105.KERN-RUN,r=1.0,a=HP-UX\_B.11.00\_32/

64,v=HP,fa=HP-UX\_B.11.00\_32/64

\* Selection succeeded.

\* Beginning Analysis

\* Session selections have been saved in the file

"/.sw/sessions/swinstall.last".

WARNING: "ajax:/": There will be no attempt to mount filesystems that appear in the filesystem table.

\* "ajax:/": 103 filesets have the selected revision already installed.

ERROR: "ajax:/": The software dependencies for 114 products or filesets cannot be resolved.

\* The analysis phase failed for "ajax:/".

\* Analysis had errors.

\* Beginning Execution

ERROR: "ajax:/": 216 filesets were determined to be skipped in the analysis phase.

WARNING: "ajax:/": 1 postinstall or postremove scripts had warnings.

\* The execution phase failed for "ajax:/".

\* Execution had errors.

NOTE: More information may be found in the agent logfile (location is ajax:/var/adm/sw/swagent.log).

==== 01/08/02 15:26:33 EST END swinstall SESSION (non-interactive)

## System Reboots Now

\*\*\*System Reboots\*\*\*

Upgrading from EMS "F5.1" to "F7.0"

Logging snmsInstall output to /tmp/snmsInstall.out.F51toF70...

Installing Hardware Enablement and Critical Patch Bundle

## Your Input

==> Please insert the EMS Core OS CD to the drive.

==> Press <Enter> when ready... ENTER

```
cd /tmp/depot;gunzip -c /cdrom/XSWHWCR1100.tar.gz | tar xf -
swinstall -s /tmp/depot/XSWHWCR1100 -x "logfile=/tmp/
instXSWHWCR1100.out" -x "mount_all_filesystems=false" -x
patch_match_target=true -x autoreboot=true -x patch_save_files=false
XSWHWCR1100
```

```
===== 01/08/02 15:09:07 EST BEGIN swinstall SESSION
(non-interactive)
```

\* Session started for user "root@ajax".

\* Beginning Selection

\* Target connection succeeded for "ajax:/".

\* Source connection succeeded for "ajax:/tmp/depot/XSWHWCR1100".

WARNING: The software specification "XSWHWCR1100" refers to a bundle (or to a product, subproduct or fileset within a bundle). Only some of the software specified could be selected. The messages below show those items which could not be selected and those items which were selected but generated a warning:

\* Could not apply the software selection

"PHKL\_17036,r=1.0,a=HP-UX\_B.11.00\_64,v=HP"; it is not available from depot or root "ajax:/tmp/depot/XSWHWCR1100".

<Some Output Deleted for Brevity!>

\* Could not apply the software selection

"PHNE\_22245,r=1.0,a=HP-UX\_B.11.00\_64,v=HP"; it is not available from depot or root "ajax:/tmp/depot/XSWHWCR1100".

NOTE: The patch match operation failed to find patches for target software on "ajax" which passed the filter.

WARNING: The software specified contains a kernel fileset. It will be necessary to reconfigure and reboot the system to make the kernel software functional.

\* Source: /tmp/depot/XSWHWCR1100

\* Targets: ajax:/

\* Software selections:

XSWHWCR1100,r=B.11.00.54.6,a=HP-UX\_B.11.00\_32/64,v=HP

PHCO\_13809.CORE-ENG-A-MAN,r=1.0,a=HP-UX\_B.11.00\_32/

64,v=HP,fa=HP-UX\_B.11.00\_32/64

PHCO\_14198.UX-CORE,r=1.0,a=HP-UX\_B.11.00\_32/

<Some Output Deleted for Brevity!>

64,v=HP,fa=HP-UX\_B.11.00\_32/64

\* Selection succeeded.

\* Beginning Analysis

\* Session selections have been saved in the file

"./.sw/sessions/swinstall.last".

WARNING: "ajax:/" : There will be no attempt to mount filesystems that appear in the filesystem table.

\* "ajax:/" : 103 filesets have the selected revision already installed.

ERROR: "ajax:/" : The software dependencies for 114 products or filesets cannot be resolved.

\* The analysis phase failed for "ajax:/" .

\* Analysis had errors.

\* Beginning Execution

ERROR: "ajax:/" : 216 filesets were determined to be skipped in the analysis phase.

WARNING: "ajax:/" : 1 postinstall or postremove scripts had warnings.

\* The execution phase failed for "ajax:/" .

\* Execution had errors.

NOTE: More information may be found in the agent logfile (location is ajax:/var/adm/sw/swagent.log).

=====  
01/08/02 15:26:33 EST END swinstall SESSION (non-interactive)

## System Reboots Now

\*\*\*System Reboots Now\*\*\*

Upgrading from EMS "F5.1" to "F7.0"

Logging snmsInstall output to /tmp/snmsInstall.out.F51toF70...

Removing older version of SNMS32BitDrivers...

swremove -x autoreboot=true -x mount\_all\_filesystems=false -x  
autoselect\_dependents=true SNMS32BitDrivers

=====  
01/08/02 16:01:37 EST BEGIN swremove SESSION  
(non-interactive)

\* Session started for user "root@ajax".

\* Beginning Selection

\* Target connection succeeded for "ajax:/" .

WARNING: The software specification "SNMS32BitDrivers" refers to a bundle (or to a product, subproduct or fileset within a bundle). Only some of the software specified could be selected. The messages below show those items which could not be selected and those items which were selected but generated a warning:

\* Could not apply the software selection

"LAN100BT-PB-KRN.HPBT-KRN64,r=B.11.00.06,a=HP-

UX\_B.11.00\_32/64,v=HP";

it is not available from depot or root "ajax:/" .

\* Could not apply the software selection

"PHNE\_21883.HPBT-KRN64,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP"; it

is not available from depot or root "ajax:/" .

\* Could not apply the software selection

```
"SX25-HPerf.COM-64ALIB,r=B.11.00.07,a=HP-UX_B.11.00_32/
64,v=HP,fr=8.61";
 it is not available from depot or root "ajax:/".
 * Could not apply the software selection
 "SX25-HPerf.IP-64ALIB,r=B.11.00.07,a=HP-UX_B.11.00_32/
64,v=HP,fr=8.61";
 it is not available from depot or root "ajax:/".
 * Could not apply the software selection
 "SX25-HPerf.PA-64ALIB,r=B.11.00.07,a=HP-UX_B.11.00_32/
64,v=HP,fr=8.61";
 it is not available from depot or root "ajax:/".
 * Could not apply the software selection
 "SYNC-WAN.SYNC-64ALIB,r=B.11.00.07,a=HP-UX_B.11.00_32/
64,v=HP,fr=5.15";
 it is not available from depot or root "ajax:/".
```

NOTE: One or more patch filesets were automatically selected or deselected to maintain patch integrity. Please refer to the swremove.log logfile for details.

```
* Software selections:
 SNMS32BitDrivers,r=A.1.0,a=HP-UX_B.11.00_32/64
* Selection succeeded.
```

```
* Beginning Analysis
* Session selections have been saved in the file
 "/.sw/sessions/swremove.last".
* "ajax:/": There will be no attempt to mount filesystems that
 appear in the filesystem table.
* Analysis succeeded.
```

```
* Beginning Execution
* The execution phase succeeded for "ajax:/".
* Execution succeeded.
```

NOTE: More information may be found in the agent logfile (location is ajax:/var/adm/sw/swagent.log).

```
===== 01/08/02 16:02:07 EST END swremove SESSION (non-
interactive)
```

## System Reboots Now

```
System Reboots
```

```
Upgrading from EMS "F5.1" to "F7.0"
```

```
Logging snmsInstall output to /tmp/snmsInstall.out.F51toF70...
```

## Your Input

```
==> Continue installing EMS HP-UX Drivers, press <Enter> when ready...
ENTER
```

```
Cleaning up temporary depot of XSWHWCR1100, please wait...
swinstall -s /cdrom/depot/EMS32BitDrivers -x "logfile=/tmp/
instEMS32BitDrivers.out" -x "mount_all_filesystems=false" -x
patch_match_target=true -x autoreboot=true -x patch_save_files=false
EMS32BitDrivers
```

=====  
 01/08/02 16:04:51 EST BEGIN swinstall SESSION  
 (non-interactive)

\* Session started for user "root@ajax".

\* Beginning Selection

\* Target connection succeeded for "ajax:/".

\* "ajax:/cdrom/depot/EMS32BitDrivers": Cannot open the logfile on this target or source. Possibly the media is read-only or there is a permission problem. Check the daemon logfile and "/var/tmp/swagent.log" on this host for more information.

NOTE: The software item "EMS32BitDrivers" is a bundle (or a product, subproduct or filesset contained within a bundle). This item was successfully marked, but difficulties were encountered while marking some items that it depends on. The messages below show which software items encountered difficulties and exactly what these difficulties were:

\* The software

"100BT-GSC-KRN,r>=B.11.00.05,a=HP-UX\_B.11.00\_32/64,v=HP" was successfully marked, but it depends on the following software items which could not be found in the source. However, these items may already be in the target. This will be checked during the Analysis Phase:

OS-Core.CORE-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,v=HP  
 Networking.LAN-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,v=HP  
 Networking.LAN-RUN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,v=HP  
 Networking.NET-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,v=HP  
 Streams.STREAMS-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/

64,v=HP

\* The software

"100BT-GSC-RUN,r>=B.11.00.05,a=HP-UX\_B.11.00\_32/64,v=HP" was successfully marked, but it depends on the following software items which could not be found in the source. However, these items may already be in the target. This will be checked during the Analysis Phase:

OS-Core.CORE-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,v=HP  
 Networking.LAN-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,v=HP  
 Networking.NET-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,v=HP  
 Streams.STREAMS-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/

64,v=HP

Networking.LAN-RUN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,v=HP

\* The software

"LAN100-FRMT-COM,r>=B.11.00.06,a=HP-UX\_B.11.00\_32/64,v=HP"

was

successfully marked, but it depends on the following software items which could not be found in the source. However, these items may already be in the target. This will be checked during the Analysis Phase:

OS-Core.CORE-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP

Networking.LAN-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP

Networking.NET-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP  
Streams.STREAMS-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP  
Networking.LAN-RUN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP  
Networking.NETTL-RUN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP

\* The software

"LAN100BT-PB-KRN,r=B.11.00.06,a=HP-UX\_B.11.00\_32/64,v=HP"

was

successfully marked, but it depends on the following software items which could not be found in the source. However, these items may already be in the target. This will be checked during the Analysis Phase:

OS-Core.CORE-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP  
Networking.LAN-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP  
Networking.NET-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP  
Streams.STREAMS-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP

\* The software

"LAN100BT-PB-RUN,r=B.11.00.06,a=HP-UX\_B.11.00\_32/64,v=HP"

was

successfully marked, but it depends on the following software items which could not be found in the source. However, these items may already be in the target. This will be checked during the Analysis Phase:

OS-Core.CORE-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP  
Networking.LAN-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP  
Networking.NET-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP  
Streams.STREAMS-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP  
Networking.LAN-RUN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP  
OS-Core.CORE-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP  
Networking.NETTL-RUN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP

\* The software

"UserLicense,r=B.11.00.02,a=HP-UX\_B.11.00\_32/64,v=HP" was

successfully marked, but it depends on the following software items which could not be found in the source. However, these items may already be in the target. This will be checked during the Analysis Phase:

OS-Core.CORE-KRN,r>=B.11.00.%23,a=HP-UX\_B.11.00\_32/  
64,fa=HP-UX\_B.11.00\_32/64,v=HP

\* The software

"100BT-GSC-FMT,r=B.11.00.05,a=HP-UX\_B.11.00\_32/64,v=HP" was successfully marked, but it depends on the following software items which could not be found in the source. However, these items may already be in the target. This will be checked during the Analysis Phase:

OS-Core.CORE-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,v=HP  
Networking.LAN-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,v=HP  
Networking.NET-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,v=HP  
Streams.STREAMS-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/  
64,v=HP

Networking.LAN-RUN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,v=HP

NOTE: The patch match operation failed to find patches for target software on "ajax" which passed the filter.

WARNING: The software specified contains a kernel fileset. It will be necessary to reconfigure and reboot the system to make the kernel software functional.

\* Source: /cdrom/depot/EMS32BitDrivers

\* Targets: ajax:/

\* Software selections:

EMS32BitDrivers,r=A.1.0,a=HP-UX\_B.11.00\_32/64  
+ J2759BA,r=B.11.00.06,a=HP-UX\_B.11.00\_32/64,v=HP  
+ J3514A,r=B.11.00.05,a=HP-UX\_B.11.00\_32/64,v=HP  
+ UnlimUserLic,r=B.11.00.02,a=HP-UX\_B.11.00\_32/64,v=HP  
+ Z7476AA,r=B.03.10.01,a=HP-UX\_B.11.00\_32/64,v=HP  
100BT-GSC-FMT.100BT-FORMAT,r=B.11.00.05,a=HP-  
UX\_B.11.00\_32/64,v=HP,fr=B.11.00.05,fa=HP-UX\_B.11.00\_32/64  
100BT-GSC-KRN.100BT-KRN,r=B.11.00.05,a=HP-UX\_B.11.00\_32/  
64,v=HP,fr=B.11.00.05,fa=HP-UX\_B.11.00\_32  
100BT-GSC-RUN.100BT-INIT,r=B.11.00.05,a=HP-UX\_B.11.00\_32/  
<Some Output Deleted for Brevity!>

64,v=HP,fr=5.15,fa=HP-UX\_B.11.00\_32/64

UserLicense.UNL-USER,r=B.11.00.02,a=HP-UX\_B.11.00\_32/  
64,v=HP,fr=B.11.00.02,fa=HP-UX\_B.11.00\_32

\* A "+" indicates an automatic selection due to dependency or the automatic selection of a patch or reference bundle.

\* Selection succeeded.

\* Beginning Analysis

\* Session selections have been saved in the file  
"/.sw/sessions/swinstall.last".

\* "ajax:/": There will be no attempt to mount filesystems that appear in the filesystem table.

\* "ajax:/": 40 filesets have the selected revision already installed.

\* "ajax:/": 4 bundles have the selected revision already installed.

\* "ajax:/": 4 bundles cannot be installed because none of their filesets can be installed.

\* Analysis succeeded.

- \* Beginning Execution
- \* "ajax:/" : 44 filesets were determined to be skipped in the analysis phase.
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is ajax:/var/adm/sw/swagent.log).

===== 01/08/02 16:07:19 EST END swinstall SESSION (non-interactive)

## System Reboots Now

\*\*\*System Reboots\*\*\*

Upgrading from EMS "F5.1" to "F7.0"

Logging snmsInstall output to /tmp/snmsInstall.out.F51toF70...

Removing older release of the General Release Patches bundle...  
swremove -x autoreboot=true -x mount\_all\_filesystems=false -x  
autoselect\_dependents=true XSWGR1100

===== 01/08/02 16:18:10 EST BEGIN swremove SESSION  
(non-interactive)

\* Session started for user "root@ajax".

\* Beginning Selection

\* Target connection succeeded for "ajax:/".

WARNING: The software specification "XSWGR1100" refers to a bundle (or to a product, subproduct or fileset within a bundle). Only some of the software specified could be selected. The messages below show those items which could not be selected and those items which were selected but generated a warning:

\* Could not apply the software selection

"PHCO\_14773,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP"; it is not available from depot or root "ajax:/".

\* Could not apply the software selection

"PHCO\_14774,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP"; it is not available from depot or root "ajax:/".

\* Could not apply the software selection

"PHSS\_21782,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP"; it is not available from depot or root "ajax:/".

NOTE: One or more patch filesets were automatically selected or deselected to maintain patch integrity. Please refer to the swremove.log logfile for details.

WARNING: The software specified contains a kernel fileset. It will be necessary to reconfigure the kernel and reboot the system to remove the functionality from the kernel.

\* Software selections:

XSWGR1100,r=B.11.00.51.2,a=HP-UX\_B.11.00\_32/64,v=HP

PHCO\_12555.UX-CORE,l=/,r=1.0,a=HP-UX\_B.11.00\_32/  
64,v=HP,fr=1.0,fa=HP-UX\_B.11.00\_32/64

```

PHCO_13205.UX-CORE,l=/,r=1.0,a=HP-UX_B.11.00_32/
64,v=HP,fr=1.0,fa=HP-UX_B.11.00_32/64
PHCO_13349.C-INC,l=/,r=1.0,a=HP-UX_B.11.00_32/
<Some Output Deleted for Brevity!>
UX_B.11.00_32/64,v=HP,fr=1.0,fa=HP-UX_B.11.00_32/64
PHSS_21663.AUDIO-SRV,l=/opt/audio,r=1.0,a=HP-UX_B.11.00_32/
64,v=HP,fr=1.0,fa=HP-UX_B.11.00_32/64
PHSS_21670.IMAGE-SHLIBS,l=/opt/image,r=1.0,a=HP-
UX_B.11.00_32/64,v=HP,fr=1.0,fa=HP-UX_B.11.00_32/64
* Selection succeeded.

```

- \* Beginning Analysis
- \* Session selections have been saved in the file  
"/.sw/sessions/swremove.last".
- \* "ajax:/" : There will be no attempt to mount filesystems that  
appear in the filesystem table.
- \* Analysis succeeded.
  
- \* Beginning Execution
- \* The execution phase succeeded for "ajax:/" .
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is ajax:/var/adm/sw/swagent.log).

=====  
01/08/02 16:40:34 EST END swremove SESSION (non-  
interactive)

## System Reboots Now

\*\*\*System Reboots\*\*\*

Upgrading from EMS "F5.1" to "F7.0"

Logging snmsInstall output to /tmp/snmsInstall.out.F51toF70...

Installing Quality Pack for HP-UX 11.00

## Your Input

==> Please insert the EMS Tools CD to the drive.

==> Press <Enter> when ready... ENTER

WARNING: Exiting due to keyboard interrupt.

```

swinstall -s /cdrom/depot/QPK1100 -x "logfile=/tmp/instQPK1100.out" -x
"mount_all_filesystems=false" -x patch_match_target=true -x autoreboot=true
-x patch_save_files=false QPK1100

```

=====  
01/08/02 17:27:14 EST BEGIN swinstall SESSION  
(non-interactive)

- \* Session started for user "root@ajax".
  
- \* Beginning Selection
- \* Target connection succeeded for "ajax:/" .
- \* "ajax:/cdrom/depot/QPK1100": Cannot open the logfile on this  
target or source. Possibly the media is read-only or there is

a permission problem. Check the daemon logfile and "/var/tmp/swagent.log" on this host for more information.  
 WARNING: The software specification "QPK1100" refers to a bundle (or to a product, subproduct or fileset within a bundle). Only some of the software specified could be selected. The messages below show those items which could not be selected and those items which were selected but generated a warning:

\* Could not apply the software selection  
 "PHKL\_21276,r=1.0,a=HP-UX\_B.11.00\_64,v=HP"; it is not available from depot or root "ajax:/cdrom/depot/QPK1100".

<Some Output Deleted for Brevity!>

\* Could not apply the software selection  
 "PHNE\_22245,r=1.0,a=HP-UX\_B.11.00\_64,v=HP"; it is not available from depot or root "ajax:/cdrom/depot/QPK1100".

NOTE: The patch match operation failed to find patches for target software on "ajax" which passed the filter.

WARNING: The software specified contains a kernel fileset. It will be necessary to reconfigure and reboot the system to make the kernel software functional.

\* Source: /cdrom/depot/QPK1100

\* Targets: ajax:/

\* Software selections:

QPK1100,r=B.11.00.54.7,a=HP-UX\_B.11.00\_32/64,v=HP

PHCO\_12555.UX-CORE,r=1.0,a=HP-UX\_B.11.00\_32/

64,v=HP,fr=1.0,fa=HP-UX\_B.11.00\_32/64

PHCO\_13205.UX-CORE,r=1.0,a=HP-UX\_B.11.00\_32/

<Some Output Deleted for Brevity!>

64,v=HP,fr=1.0,fa=HP-UX\_B.11.00\_32/64

PHSS\_24206.CORE-SHLIBS,r=1.0,a=HP-UX\_B.11.00\_32/

64,v=HP,fr=1.0,fa=HP-UX\_B.11.00\_32/64

\* Selection succeeded.

\* Beginning Analysis

\* Session selections have been saved in the file  
 "/.sw/sessions/swinstall.last".

\* "ajax:/" : There will be no attempt to mount filesystems that appear in the filesystem table.

\* "ajax:/" : 284 filesets have the selected revision already installed.

\* "ajax:/" : The software dependencies for 239 products or filesets cannot be resolved.

\* "ajax:/" : 20 filesets were determined to be skipped in the analysis phase.

\* Analysis succeeded.

\* Beginning Execution

\* "ajax:/" : 533 filesets were determined to be skipped in the analysis phase.

\* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is ajax:/var/adm/sw/swagent.log).

=====  
01/08/02 17:49:59 EST END swinstall SESSION (non-interactive)

**System Reboots Now**

\*\*\*System Reboots\*\*\*

Upgrading from EMS "F5.1" to "F7.0"

Logging snmsInstall output to /tmp/snmsInstall.out.F51toF70...

**Your Input**

==> Do you want to install H/A Software (y/n)? n

==> Do you want to install Disk Mirroring software (y/n)? n

==> Please insert the EMS Tools CD to the drive.

==> Press <Enter> when ready... ENTER

WARNING: Exiting due to keyboard interrupt.

Saving informix configuration files to /tmp...

Reinstalling Informix Dynamic Server...

swremove -x autoreboot=true -x mount\_all\_filesystems=false -x  
autoselect\_dependents=true DynamicServer

=====  
01/09/02 09:05:27 EST BEGIN swremove SESSION  
(non-interactive)

\* Session started for user "root@ajax".

\* Beginning Selection

\* Target connection succeeded for "ajax:/".

\* Software selections:

DynamicServer.DynamicServer,l=/,r=7.31.UC3.1

\* Selection succeeded.

\* Beginning Analysis

\* Session selections have been saved in the file  
"/.sw/sessions/swremove.last".

\* "ajax:/": There will be no attempt to mount filesystems that  
appear in the filesystem table.

\* Analysis succeeded.

\* Beginning Execution

\* The execution phase succeeded for "ajax:/".

\* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is ajax:/var/adm/sw/swagent.log).

=====  
01/09/02 09:06:00 EST END swremove SESSION (non-  
interactive)

swinstall -s /cdrom -x "logfile=/tmp/instDynamicServer.out" -x  
"mount\_all\_filesystems=false" DynamicServer

===== 01/09/02 09:06:01 EST BEGIN swinstall SESSION  
(non-interactive)

- \* Session started for user "root@ajax".
- \* Beginning Selection
- \* Target connection succeeded for "ajax:/".
- \* "ajax:/cdrom": Cannot open the logfile on this target or source. Possibly the media is read-only or there is a permission problem. Check the daemon logfile and "/var/tmp/swagent.log" on this host for more information.
- \* Source: /cdrom
- \* Targets: ajax:/
- \* Software selections:  
DynamicServer.DynamicServer,r=7.31.UC3.1
- \* Selection succeeded.
- \* Beginning Analysis
- \* Session selections have been saved in the file  
"/.sw/sessions/swinstall.last".
- \* "ajax:/": There will be no attempt to mount filesystems that appear in the filesystem table.
- \* Analysis succeeded.
- \* Beginning Execution
- \* The execution phase succeeded for "ajax:/".
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is ajax:/var/adm/sw/swagent.log).

===== 01/09/02 09:09:41 EST END swinstall SESSION (non-interactive)

Reinstalling ITorbix...

swremove -x autoreboot=true -x mount\_all\_filesystems=false -x  
autoselect\_dependents=true ITorbix

===== 01/09/02 09:09:41 EST BEGIN swremove SESSION  
(non-interactive)

- \* Session started for user "root@ajax".
- \* Beginning Selection
- \* Target connection succeeded for "ajax:/".
- \* Software selections:  
ITorbix.ITorbix,l=/,r=3.0.1
- \* Selection succeeded.
- \* Beginning Analysis
- \* Session selections have been saved in the file  
"/.sw/sessions/swremove.last".
- \* "ajax:/": There will be no attempt to mount filesystems that appear in the filesystem table.
- \* Analysis succeeded.

- \* Beginning Execution
- \* The execution phase succeeded for "ajax:/".
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is ajax:/var/adm/sw/swagent.log).

=====  
01/09/02 09:10:16 EST END swremove SESSION (non-interactive)

swinstall -s /cdrom -x "logfile=/tmp/instlTorbix.out" -x  
"mount\_all\_filesystems=false" lTorbix

=====  
01/09/02 09:10:16 EST BEGIN swinstall SESSION  
(non-interactive)

- \* Session started for user "root@ajax".

- \* Beginning Selection
- \* Target connection succeeded for "ajax:/".
- \* "ajax:/cdrom": Cannot open the logfile on this target or source. Possibly the media is read-only or there is a permission problem. Check the daemon logfile and "/var/tmp/swagent.log" on this host for more information.
- \* Source: /cdrom
- \* Targets: ajax:/
- \* Software selections:  
lTorbix.lTorbix,r=3.3.2
- \* Selection succeeded.

- \* Beginning Analysis
- \* Session selections have been saved in the file  
"/.sw/sessions/swinstall.last".
- \* "ajax:/": There will be no attempt to mount filesystems that appear in the filesystem table.
- \* Analysis succeeded.

- \* Beginning Execution
- \* The execution phase succeeded for "ajax:/".
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is ajax:/var/adm/sw/swagent.log).

=====  
01/09/02 09:12:14 EST END swinstall SESSION (non-interactive)

Re-install ColdStart: ...removing F5.1 ColdStart..  
swremove -x autoreboot=true -x mount\_all\_filesystems=false -x  
autoselect\_dependents=true ColdStart

=====  
01/09/02 09:12:17 EST BEGIN swremove SESSION  
(non-interactive)

- \* Session started for user "root@ajax".
- \* Beginning Selection
- \* Target connection succeeded for "ajax:/".
- \* Software selections:
  - ColdStart.ColdStart,l=/,r=F5.1
- \* Selection succeeded.
  
- \* Beginning Analysis
- \* Session selections have been saved in the file  
"/.sw/sessions/swremove.last".
- \* "ajax:/": There will be no attempt to mount filesystems that  
appear in the filesystem table.
- \* Analysis succeeded.
  
- \* Beginning Execution
- \* The execution phase succeeded for "ajax:/".
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is ajax:/var/adm/sw/swagent.log).

=====  
01/09/02 09:12:44 EST END swremove SESSION (non-  
interactive)

Cleaning up old SNMS package...  
swremove SNMS

=====  
01/09/02 09:12:44 EST BEGIN swremove SESSION  
(non-interactive)

- \* Session started for user "root@ajax".
- \* Beginning Selection
- \* Target connection succeeded for "ajax:/".
- \* Software selections:
  - SNMS.snmsInterfaces,l=/,r=F5.1
  - SNMS.snmsRogue,l=/,r=F5.1
- \* Selection succeeded.
  
- \* Beginning Analysis
- \* Session selections have been saved in the file  
"/.sw/sessions/swremove.last".
- \* The analysis phase succeeded for "ajax:/".
- \* Analysis succeeded.
  
- \* Beginning Execution
- \* The execution phase succeeded for "ajax:/".
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is ajax:/var/adm/sw/swagent.log).

=====  
01/09/02 09:13:21 EST END swremove SESSION (non-interactive)

Loading EMS ColdStart...

```
swinstall -s /dev/rmt/0m -x "logfile=/tmp/instColdStart.out" -x
"mount_all_filesystems=false" -x reinstall=true ColdStart
```

=====  
01/09/02 09:13:21 EST BEGIN swinstall SESSION  
(non-interactive)

\* Session started for user "root@ajax".

\* Beginning Selection

\* Target connection succeeded for "ajax:/".

\* Source connection succeeded for  
"/dev/rmt/0m".

\* Source: /dev/rmt/0m

\* Targets: ajax:/

\* Software selections:  
ColdStart.ColdStart,r=F7.0

\* Selection succeeded.

\* Beginning Analysis

\* Session selections have been saved in the file  
"/.sw/sessions/swinstall.last".

\* "ajax:/": There will be no attempt to mount filesystems that  
appear in the filesystem table.

\* Analysis succeeded.

\* Beginning Execution

\* The execution phase succeeded for "ajax:/".

\* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is ajax:/var/adm/sw/swagent.log).

=====  
01/09/02 09:15:05 EST END swinstall SESSION (non-interactive)

Starting coldStart and EMS configuration...

Choose '3' at the EMS installation menu to install EMS application.

**Your Input** ==> Press <Enter> when ready... ENTER

Restoring informix configuration files from /tmp...Done

You have to choose the 'Tape' device while installing EMS application.

```
installEms -c
```

=====  
START: INSTALLATION Wed Jan 9 09:24:42 EST 2002

EMS SYSTEM INITIALIZATION PROGRAM

EMS\_HOST\_MODEL\_NUM=K360  
EMSROOT=/ems  
EMS\_GID=200  
INFORMIX\_GID=201  
EMS\_UID=200  
INFORMIX\_UID=201  
TL1\_UID=203

-----  
coldStart performs getInformix() function .....

DS\_SERIAL=AAC#J764221  
DS\_KEY=ISXRKG

-----  
coldStart performs getDomain() function .....

DOMAIN=

INPUT REVIEW

The following is a review of the required information:

1. EMS Home Directory = /ems
2. EMS Group ID (GID) = 200
3. INFORMIX Group ID (GID) = 201
4. EMS User ID (UID) = 200
5. INFORMIX User ID (UID) = 201
6. TL1 User ID (UID) = 203
7. INFORMIX DynamicServer Serial Number = AAC#J764221
8. INFORMIX DynamicServer Key = ISXRKG
9. Local DNS Domain Name =

**Your Input** ==> Enter the item number [1-9] to change the current value.  
==> Enter "s" to save the above input and continue.  
==> What would you like to do [1-9 or s][q to quit]: s

EMS System Initialization will continue automatically.  
Check /tmp/coldStart.log file for logged messages.

-----  
coldStart performs setUpGroup() function .....

Setting up groups.....

-----  
coldStart performs setUpUser() function .....

Setting up user logins.....

-----  
coldStart performs setUpInformix() function .....

Installing DynamicServer license will take about 10 minutes!

Informix Dynamic Server Version 7.31.UC3

Copyright (C) 1986-1999 Informix Software, Inc.

Installation and Configuration Script

This installation procedure must be run by a privileged user (Super User)  
It will change the owner, group, mode, (and other file attributes on  
Secure systems) of all files of this package in this directory.

There must be a user "informix" and a group "informix" known to the system.

**Your Input** ==> Press RETURN to continue, or the interrupt key (usually CTRL-C or  
DEL) to abort.  
==> Enter your serial number (for example, INF#X999999) >  
==> Enter your serial number KEY (uppercase letters only) >

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subject to the applicable license agreement with Informix Software, Inc.  
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be prevented from using the software. UNAUTHORIZED USE OR  
COPYING MAY  
SUBJECT YOU AND YOUR COMPANY TO SEVERE CIVIL AND CRIMINAL  
LIABILITIES.

**Your Input** ==> Press RETURN to continue, or the interrupt key (usually CTRL-C or  
DEL) to abort. ENTER

Installing directory .

*<"Installing directory...." Output Deleted for Brevity!>*

Installing directory bitmaps

Installing Shared Libraries in System Directories ...

Linking /usr/lib/iosm07a.sl from lib/iosm07a.sl

Previous version of /usr/lib/iosm07a.sl saved as /usr/lib/iosm07a.sl.020109

Linking /usr/lib/ipldd07a.sl from lib/ipldd07a.sl

Previous version of /usr/lib/ipldd07a.sl saved as /usr/lib/ipldd07a.sl.020109

Installation of Informix Dynamic Server complete.

Done for installing DynamicServer!!!

Installing CONNECT license will take about 5 minutes!

INFORMIX-Connect Version 2.10.UC4

Copyright (C) 1984-1999 Informix Software, Inc.

Extracting files from conncontent file...

IVODBC.LIC

etc/Connect-cr

etc/connfiles

etc/brand

<Some Filenames Deleted for Brevity!>

gls/lc11/os/turkish@fold  
gls/lc11/os/turkish@fold.lc  
gls/lc11/os/turkish@nofold  
57970 blocks  
gls/lc11/os/turkish@nofold.lc

Installing I-Connect as user "root"...

Installation Script

Installation Script Requirements:

- A user "informix" and a group "informix" must be known to the system.
- The product source files must have been loaded by user root
- This installation procedure must be run by user root.

This script will change the owner, group, and mode of many of the files of this package in this directory.

==> Serial Number set to "AAC#J764221"

==> Serial Number Key set to "ISXRKG"

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Installing directory .

<"Installing directory...." Output Deleted for Brevity!>

Installing directory gls/lc11/zh\_tw

Informix Product: INFORMIX-Connect  
Installation Directory: /tools/informix

Performing root portion of installation of INFORMIX-Connect...

Installation of INFORMIX-Connect complete.

Done for installing CONNECT!!!

-----  
coldStart performs setUpOrbix() function .....

Install Orbix License.....

Orbix 3.3.2

Orbix C++ Daemon version 3.3.2

for HP aC++ B3910B A.03.13

Implementation Repository Path :/ems/Orbix/config/Repositories/ImpRep

Daemon Port :1570

Daemon Port Base :1590

Daemon Port Range :1000  
Orbix Errors File :/ems/Orbix/config/ErrorMsgs  
Orbix Locator Path :/ems/Orbix/config/  
Interface Repository Path :/ems/Orbix/Interfaces  
Local Host :ajax  
Local Domain :  
  
Java Interpreter :/opt/java/bin/java  
Default Classpath :/ems/Orbix/config:/ems/Orbix/lib/  
OrbixNames.jar:/ems/Orbix/lib/OrbixOTS.jar:/ems/Orbix/lib/OrbixSSL.jar/  
ems/Orbix/lib/OrbixWeb.jar:/ems/Orbix/demos/classes/

Done for installing Orbix!!!

-----  
coldStart performs setCronAt() function .....

-----  
coldStart performs chgFSPerm() function .....

Set file system ownership, group and permission

-----  
coldStart performs setUpFTP() function .....

Adding FTP related entries into /etc/passwd and /etc/group  
Creating new home directory for FTP user  
Setting up FTP home directory

Check /tmp/coldStart.log file for logged messages.

END: INSTALLATION Wed Jan 9 09:28:47 EST 2002

=====

installEms is checking Hardware, please be patient!

The current EMS run level is "Shutdown".

=====

EMS INSTALLATION AND CONFIGURATION PROGRAM 01-09-02

Current EMS Version: 5.1.2-188

Main Menu:

- 1) Backup the current EMS database
- 2) Restore a previously saved EMS database
- 3) Install/Upgrade EMS software
- 4) Configure EMS - making the provisioned parameters effective
- 5) Configure EMS using profile saved from last session
- 6) Configure Redundancy
- 7) Display EMS system information
- 8) Reenter ATOS license
- 0) Exit

NOTE: Root permission ("su" without -) is required for all tasks

**Your Input** ==> Specify your choice by number: 3

The EMS Application installation is about to begin.

Software version will be upgraded from 5.1.2 to 7.0.0.

**Your Input** ==> Do you wish to continue with this installation (y/n)? y

WARNING:

The EMS Application database should be backed up prior to upgrading the software.

**Your Input** ==> Do you wish to backup the EMS application database(y/n/q)? n

User bypassed backup prior to performing the upgrade

Starting the APPLICATION LOADING process ...

Saving existing EMS setup files ...

Saving the existing setup files ...

If this is an upgrade operation, it will destroy existing files in the following directories:

bin,  
tbin,  
lib,  
etc

Orbix/Interfaces  
Orbix/config/Repositories/NamesRep  
Orbix/config/Repositories/ImpRep/NS.imp

However, existing setup files have been saved for you to restore later.

**Your Input** ==> Are you ready to proceed? (y) to proceed, <CR> to skip, or (q) to quit: y

Removing files from /ems/bin ...

Removing files from /ems/Orbix/Interfaces ...

Removing files from /ems/Orbix/config/Repositories/NamesRep ...

Removing file /ems/Orbix/config/Repositories/ImpRep/NS.imp ...

Removing files from /ems/tbin ...

Removing files from /ems/lib ...

Removing files from /ems/etc ...

Write-protect the delivery tape and put it in the tape drive.

**Your Input** ==> Hit <CR> to continue ..... ENTER

Reading table of content on Tape ....

This MEDIA contains the following filesets:

| FILESET | SIZE(KB) | DESCRIPTION |
|---------|----------|-------------|
|         | 0.0      |             |

```

ColdStart.ColdStart 16473.6
EMS.snmsFixDir.snmsInterfaces 1208.0 "interface files for Orbix"
EMS.snmsFixDir.snmsRogue 2739.6 "RogueWave library for EMS"
EMS.snmsRelease.snms 1682058.8 "snms application software"
Upgrade.Upgrade 76.5

EMSROOT 1682058.8
/tools 3947.6

Total 1686006.4

```

Available space at /ems is: 5658609 Kbytes

Going ahead with the assumption that space is OK.

The new EMS files will be installed ...

**Your Input** ==> Are you ready to proceed? (y) to proceed, <CR> to skip, or (q) to quit:  
y

```

===== 01/09/02 09:31:45 EST BEGIN swinstall SESSION
 (non-interactive)

```

\* Session started for user "root@ajax".

\* Beginning Selection

\* Target connection succeeded for "ajax:/".

\* Source connection succeeded for  
"/dev/rmt/0m".

\* Source: /dev/rmt/0m

\* Targets: ajax:/

\* Software selections:

EMS.snmsInterfaces,r=F7.0

EMS.snmsRogue,r=F7.0

\* Selection succeeded.

\* Beginning Analysis

\* Session selections have been saved in the file  
"/.sw/sessions/swinstall.last".

\* "ajax:/": There will be no attempt to mount filesystems that  
appear in the filesystem table.

\* Analysis succeeded.

\* Beginning Execution

\* The execution phase succeeded for "ajax:/".

\* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is ajax:/var/adm/sw/swagent.log).

```

===== 01/09/02 09:33:52 EST END swinstall SESSION (non-interactive)

```

OS and Package files loaded.

=====  
01/09/02 09:33:52 EST BEGIN swinstall SESSION  
(non-interactive)

\* Session started for user "root@ajax".

\* Beginning Selection

\* Target connection succeeded for "ajax:/ems".

\* Source connection succeeded for  
"/dev/rmt/0m".

\* Source: /dev/rmt/0m

\* Targets: ajax:/ems

\* Software selections:  
EMS.snms,r=F7.0

\* Selection succeeded.

\* Beginning Analysis

\* Session selections have been saved in the file  
"/.sw/sessions/swinstall.last".

\* "ajax:/ems": There will be no attempt to mount filesystems  
that appear in the filesystem table.

\* Analysis succeeded.

\* Beginning Execution

WARNING: "ajax:/ems": 1 postinstall or postremove scripts had  
warnings.

\* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is ajax:/ems/var/adm/sw/swagent.log).

=====  
01/09/02 10:06:31 EST END swinstall SESSION (non-interactive)

Navis(TM) Optical EMS release files are loaded.

ems

ajax

Setting up .profile for user tl1 ...

Starting the EMS PROVISIONING process ...

At this time, you may choose a new set of environment parameters  
for the new EMS configuration.

WARNING:

The EMS new host Informix Database configuration is about to begin.  
The Informix Database configuration will use socket instead of share  
memory. Please adjust your Name Service Switch accordingly.

**Your Input** ==> Do you want to continue this process (y/n/q): y

Set up configuration files...  
Reinitialize informix online...  
Waiting for system related databases to be built...

Parse configuration file and start to create dbspaces ...  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.

<Some Output Deleted for Brevity!>

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Re-start Informix Online ...

11 dbspace(s) created and 10 chunks added successfully ...

+++++

Informix configuration completed.

You have to re-login as ems to establish variables  
before move-on.

+++++

logout

**Your Input** ==> Press [ENTER] to continue. ENTER

The following LAN interface(s) have been detected:

```
lanmux 0 10/4/8 lanmux0 CLAIMED INTERFACE HP J2146A -
802.3 LAN
lan 2 10/12/6 lan2 CLAIMED INTERFACE Built-in LAN
lan 1 10/4/16 btlan1 CLAIMED INTERFACE HP HP-PB 100
Base TX card
```

**Your Input** ==> Press [Enter] to continue: ENTER

1. Network Service Attachment Point (NSAP) forms (Fixed/Flexible)?: Fixed
2. Activate SONET Directory Services (y/n)?: Y
3. NE PROTOCOL INFORMATION

The current configuration is displayed:

```
CMISE: (y/n) Y
OSI TL1: (y/n) Y
X.25 TL1: (y/n) Y
```

4. Double Acknowledgement Feature (Enabled/Disabled)?: Enabled

Please enter the item number [1-4] to make change.

**Your Input** Enter "s" to save the above input and continue.

==> Enter "q" to quit. s

The current OSI Configuration is summarized as following:

1. lanmux 0 10/4/8 - Primary 000000 0000 0000
2. lan 2 10/12/6 - N/C
3. lan 1 10/4/16 - N/C

Please use the following menu to customize your local configuration

1. Primary OSI LAN interface number= 1
2. Organization Identifier= 000000
3. Routing Domain= 0000
4. OSI Area= 0000
5. OSI Idp= 39840F
6. OSI Dfi= 80
7. OSI Lan Redundancy is not configured
8. IP address for OSI over TCP/IP= 135017013016

**Your Input** ==> Enter the item number [1-8] to change the current value.

==> Enter "s" to save the above input and continue.

==> What would you like to do [1-8, or s] [q to quit]: s

### CMISE INFORMATION REVIEW

The following is a review of Network Element protocol information:

1. EMS Name = ems123
2. Presentation Selector = 70737431
3. Session Selector = 73657331
4. Transport Selector = 747030
5. OLS-400G Support = YES

**Your Input** ==> Enter the item number [1-5] to change the current value.  
==> Enter "s" to save the above input and continue.  
==> What would you like to do [1-5, or s] [q to quit]: s

### DIB PREFIX REVIEW:

The following is a review of DIB prefix:

1. DIB Country Name prefix = US
2. DIB Organization Name prefix = LUCENT
3. DIB Organization Unit Name prefix = SNMS1;SNMS2

**Your Input** ==> Enter the item number [1-3] to change the current value.  
==> Enter "s" to save the above input and continue.  
==> What would you like to do [1-3, or s] [q to quit]: s  
==> Accept the current configuration (y/n/q)? y

Saving the configuration.....Configuration saved.

Your EMS environment:

```
APPTAG = EMS
EMSROOT = /ems
APPCONFIG = /ems/etc/appconfig
APPMON_PORT= 7578
ROAMLOG = /ems/log/data
```

Running Setup from scratch.  
EMS is being reconfigured.

Successful Validation. Created appconfig from appconfig.t

Change permission of files.....

The following directories are currently defined for PM data collection -  
/reports/pm

**Your Input** ==> Do you wish to change the list of PM directories(y/n)? n

Creating link for OXC\_LR...

Creating link for W2\_5G\_10G...

Creating link for OLS40G\_80G...

Creating link for WBWM...

Creating link for ABM...

Creating link for UNITE\_LR...

Creating link for STM64NE...

Creating link for OXC1024\_LR...

Creating link for NCC...

Creating link for OXC128\_LR...

Creating link for DMX...

Creating link for DMXPRESS...

Done creating links

Creating database...

After installEms exited, you may be logged out automatically.  
If not, logout yourself. Login again as a EMS user, then  
start EMS with the "up" command.

Thank you for using "installEms"!

**Your Input** ==> Do you want to install TMF Software (y/n)? n

You are about to enter the license key for EMS release

**Your Input** ==> Continue to set up the EMS license key (y/n/q)? y

EMS LICENSE INFORMATION REVIEW

The following is a review of EMS LICENSE INFORMATION:

1. EMS release =7.0
2. EMS optional features=NONE
3. EMS license key=TEMPORARY

**Your Input** ==> Enter the item number [1-3] to change the current value.

==> Enter "s" to save the above input and continue.

==> What would you like to do [1-3, or s] [q to quit]: 3

==> Please enter the License key! <key value>

EMS LICENSE INFORMATION REVIEW

The following is a review of EMS LICENSE INFORMATION:

1. EMS release =7.0
2. EMS optional features=NONE
3. EMS license key=<key value>

**Your Input** ==> Enter the item number [1-3] to change the current value.

==> Enter "s" to save the above input and continue.

==> What would you like to do [1-3, or s] [q to quit]: s

==> Accept the current configuration (y/n/q)? y

Thank you for using "installEmsLicense"!

**Your Input** ==> Do you want to restore the database and flat files <y/n>? y

Removing PM cache... rm -rf /ems/.pm/DbManager  
Dropping EMS databases...  
Do you want to drop DSA database(y/n)? DSA database dropped  
Dropping database <ems\_db>...  
Database dropped.  
Dropping database <cf\_db1>...  
Database dropped.  
Dropping database <pm\_db>...  
Database dropped.

logout

Restore EMS flat data files.

Restoring EMS databases and/or data files from /tmp/emsbackup  
Press <Enter> when ready...

su - ems -c "ems\_recover -i /tmp/emsbackup"  
EMS recover starts at Wed Jan 9 10:17:59 EST 2002  
Recover EMS databases and application data from directory </tmp/  
emsbackup>

Drop ems\_db first  
Recover ems\_db from </tmp/emsbackup>...  
ems\_db has been imported successfully

Recover flat files from </tmp/emsbackup>...  
ret=0

Drop cf\_db1 first  
Recover cf\_db1 from </tmp/emsbackup>...  
cf\_db1 has been imported successfully

Drop pm\_db first  
Recover pm\_db from </tmp/emsbackup>...  
pm\_db has been imported successfully  
logout

About to convert databases (DB retrofit).  
Press <Enter> when ready...  
Converting database (DB retrofit)...

SNMSDB5.1To6.0  
Rights for non-DOD U.S. Government Departments and Agencies are as set  
forth in FAR 52.227-19(c)(1,2).

Your EMS environment:

APPTAG = EMS  
EMSROOT = /ems  
APPCONFIG = /ems/etc/appconfig  
APPMON\_PORT= 7578  
ROAMLOG = /ems/log/data

Starting database upgrade from R5.1 to R6.0 at Wed Jan 9 10:19:48 EST 2002...

(logfile: /tmp/SNMSDB5.1To6.0.log)

Drop all indexes

Dropping constraints for ems\_db...

Dropping indexes for ems\_db...

-- In upd\_ne\_ne Wed Jan 9 10:19:51 EST 2002

-- Updating ne\_ne table...

-- Exit from upd\_ne\_ne Wed Jan 9 10:19:51 EST 2002

-- In upd\_sm\_secparam Wed Jan 9 10:19:51 EST 2002

-- Updating sm\_secparam table...

-- Exit from upd\_sm\_secparam Wed Jan 9 10:19:52 EST 2002

-- In cleanup\_nq Wed Jan 9 10:19:52 EST 2002

-- Clean up q3nb\_db...

-- Exit from cleanup\_nq Wed Jan 9 10:19:52 EST 2002

-- In upd\_act\_ne Wed Jan 9 10:19:52 EST 2002

-- Updating activation in ne\_ne table...

-- Exit from upd\_act\_ne Wed Jan 9 10:19:53 EST 2002

-- In upd\_sm\_user Wed Jan 9 10:19:53 EST 2002

-- Updating sm\_user table to correct cg\_name...

Database selected.

1 row(s) updated.

Database closed.

-- Exit from upd\_sm\_user Wed Jan 9 10:19:53 EST 2002

Execute crdb to create new tables and databases

Creating database ems\_db in snc\_dbs

Database ems\_db created previously.

0 new tables created, 61 new indexes created

Loading data in ems\_db ...

loading load\_cmddict -r 0 ...

loading load\_gdb\_dft -view ...

loading load\_gdb\_dft -aggr ...

Loading stored procedures in ems\_db ...

Creating database cf\_db1 in snc\_dbs

Database cf\_db1 created previously.

0 new tables created, 0 new indexes created  
Load crSP\_CFDelNe

Creating database pm\_db in pm1\_dbs  
Database pm\_db created previously.  
1 new tables created, 1 new indexes created  
Loading stored procedures in pm\_db ....

Database upgrade from R5.1 to R6.0 completed.

logout

SNMSDB6.0To7.0

Starting database upgrade from R6.0 to R7.0 at Wed Jan 9 10:20:38 EST 2002...

(logfile: /tmp/SNMSDB6.0To7.0.log)

-- In upd\_snc\_element Wed Jan 9 10:20:38 EST 2002

-- Updating snc\_element table...

-- In cf\_db1 ..

-- Exit from upd\_snc\_element Wed Jan 9 10:20:39 EST 2002

-- No TMF DB conversion.

-- In upd\_sm\_user Wed Jan 9 10:20:39 EST 2002

-- Updating sm\_user table...

-- unload sm\_user table..

Checking column 'password'3

Checking column 'password1'0

Checking column 'password2'0

Checking column 'password3'0

Checking column 'password4'0

Checking column 'password5'0

Checking column 'password6'0

Checking column 'password7'0

Checking column 'password8'0

Checking column 'password9'0

-- Creating SQL statement...

3 record(s) will be updated

-- Updating <ems\_db> database...

-- Exit from upd\_sm\_user Wed Jan 9 10:20:43 EST 2002

Execute crdb to create new tables and databases

Creating database ems\_db in snc\_dbs  
Database ems\_db created previously.  
0 new tables created, 0 new indexes created  
Loading data in ems\_db ....  
loading load\_cmddict -r 0 ...  
loading load\_gdb\_dft -view ...

loading load\_gdb\_dft -aggr ...  
Loading stored procedures in ems\_db ....

Creating database cf\_db1 in snc\_dbs

Database cf\_db1 created previously.  
0 new tables created, 0 new indexes created  
Load crSP\_CFDelNe

Creating database pm\_db in pm1\_dbs  
Database pm\_db created previously.  
0 new tables created, 0 new indexes created  
Loading stored procedures in pm\_db ....

Database upgrade from R6.0 to R7.0 completed.

logout

If you encountered any errors, DB retrofit has to be performed again.

**Your Input** ==> Are you done with DB restore <y/n>? y

SnmsInstall done.







# E Navis™ Optical EMS Redundant Upgrade Input/Output

**Screen Output** 1/15/02 11:46:45: Upgrade from F5.1 to F7.0 ...  
Saving installEms.out... cp /ems/installEms.out /ems/installEms.out.011502

**Your Input** ==> Do you want to backup EMS data (y/n)? y

Directory /data/DB\_backup already exists.

**Your Input** ==> Do you want to clean it up (y/n)? y

Restart informix engine...  
onmode -ky;sleep 2;oninit

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Backing up EMS data files and databases.  
Please have EMS database backup tape(s) ready.  
Press <Enter> when ready...su - ems -c "ems\_backup -o /data/DB\_backup"

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EMS backup starts at Tue Jan 15 11:48:03 EST 2002  
Backup application data ...  
tar: cannot stat /tmp/snms\_backup.020115. Not dumped.  
a ./dsa/DB/DB 1 blocks  
*<Some Output Deleted for Brevity!>*  
a /ems/sw/data/W4F192 symbolic link to /data/ftp/pub/sw/W4F192  
ret=1280  
Back up EMS application data sucessfully. Please label tape 'EMS flat files'.

**Your Input** ==> Please load a blank tape, hit <ENTER> when ready ENTER

==> Hit <ENTER> when ready, or q to exit: ENTER

Backing up database <ems\_db> at `date`. It may take a while.  
Check /tmp/db\_exp.log for progress  
Export DB ems\_db successfully. Please label tape ems\_db.

**Your Input** ==> Please load a blank tape, hit <ENTER> when ready ENTER  
==> Hit <ENTER> when ready, or q to exit: ENTER

Backing up database <cf\_db1> at `date`. It may take a while.  
Check /tmp/db\_exp.log for progress  
Export CF DB(s) successfully. Please label tape cf\_db1.

**Your Input** ==> Please load a blank tape, hit <ENTER> when ready ENTER  
==> Hit <ENTER> when ready, or q to exit: ENTER

Backing up database <cf\_db2> at `date`. It may take a while.  
Check /tmp/db\_exp.log for progress  
Export CF DB(s) successfully. Please label tape cf\_db2.

**Your Input** ==> Please load a blank tape, hit <ENTER> when ready ENTER  
==> Hit <ENTER> when ready, or q to exit: ENTER

Backing up database <cf\_db3> at `date`. It may take a while.  
Check /tmp/db\_exp.log for progress  
Export CF DB(s) successfully. Please label tape cf\_db3.

**Your Input** ==> Please load a blank tape, hit <ENTER> when ready ENTER  
==> Hit <ENTER> when ready, or q to exit: ENTER

Backup up database <pm\_db> at `date`. It may take a while.  
Check /tmp/db\_exp.log for progress  
Export DB pm\_db successfully. Please label tape pm\_db

**Your Input** ==> Please load a blank tape, hit <ENTER> when ready ENTER  
==> Hit <ENTER> when ready, or q to exit: ENTER

Backup up database <q3nb\_db> at `date`. It may take a while.  
Check /tmp/db\_exp.log for progress  
Export DB q3nb\_db successfully. Please label tape q3nb\_db

Backup is done successfully at `date`  
>  
logout

**Your Input** ==> EMS backup is done, press <Enter> to continue...

Saving the current TMF CLUSTER\_ID in /startup/TMF\_cluster\_id.  
EMS\_CLUSTER\_ID: SNMS\_laredo  
Removing TMF (clearTmf)

Checking DB replicator Status....

**Your Input** ==> Do you wish to Backup the tmf database (y/n)? y  
==> Are you sure (y/n)? y

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EMS backup starts at Tue Jan 15 11:50:22 EST 2002

**Your Input** ==> Please load a blank tape, hit <ENTER> ENTER  
==> Hit <ENTER> when ready, or q to exit: ENTER

-- Backing up q3nb\_db at Tue Jan 15 11:55:2  
2 EST 2002. It may take a while.  
Check /tmp/db\_exp.log for progress  
Export DB q3nb\_db successfully.  
Please label tape 'q3nb\_db'.

Ejecting tape ....

logout

**Your Input** ==> The tmf database will be dropped, and all the data will be lost,  
==> Do you wish to continue clearing out the tmf database: (Y/N)? Y

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.  
.Dropping database <tmf\_db>....

Database dropped.

Space successfully dropped.  
\*\* WARNING \*\* A level 0 archive will need to be done before any chunks  
from  
DBspace nb\_dbs can be reused (see Dynamic Server Administrator's  
manual).

logout

Logical volume "/dev/vg01/nbsp1\_2G" has been successfully removed.  
Volume Group configuration for /dev/vg01 has been saved in /etc/lvmconf/  
vg01.con

f

Logical volume "/dev/vg04/nbsp2\_2G" has been successfully removed.  
Volume Group configuration for /dev/vg04 has been saved in /etc/lvmconf/  
vg04.con

f

swremove SNMS-TMF

=====  
01/15/02 11:56:28 EST BEGIN swremove SESSION  
(non-interactive)

\* Session started for user "root@laredo".

- \* Beginning Selection
- \* Target connection succeeded for "laredo:/".
- \* Software selections:  
    SNMS-TMF.tmf,l=/,r=F5.1
- \* Selection succeeded.
  
- \* Beginning Analysis
- \* Session selections have been saved in the file  
    "/.sw/sessions/swremove.last".
- \* The analysis phase succeeded for "laredo:/".
- \* Analysis succeeded.
  
- \* Beginning Execution
- \* The execution phase succeeded for "laredo:/".
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is laredo:/var/adm/sw/swagent.log).

===== 01/15/02 11:56:37 EST END swremove SESSION (non-interactive)

Need to upgrade the OS patches and remove HP/OV and X.25.

Installing Hardware Enablement and Critical Patch Bundle

**Your Input**

==> Please insert the EMS Core OS CD to the drive.

==> Press <Enter> when ready... ENTER

```
cd /tmp/depot;gunzip -c /cdrom/XSWHWCR1100.tar.gz | tar xf -
swinstall -s /tmp/depot/XSWHWCR1100 -x "logfile=/tmp/
instXSWHWCR1100.out" -x "mount_all_filesystems=false" -x
patch_match_target=true -x autoreboot=true -x patch_save_files=false
XSWHWCR1100
```

===== 01/16/02 09:57:51 EST BEGIN swinstall SESSION  
(non-interactive)

- \* Session started for user "root@largo".
  
  - \* Beginning Selection
  - \* Target connection succeeded for "largo:/".
  - \* Source connection succeeded for  
    "largo:/tmp/depot/XSWHWCR1100".
- WARNING: The software specification "XSWHWCR1100" refers to a bundle (or to a product, subproduct or filesset within a bundle). Only some of the software specified could be selected. The messages below show those items which could not be selected and those items which were selected but generated a warning:
- \* Could not apply the software selection  
    "PHNE\_17942,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP"; it is not available from depot or root "largo:/tmp/depot/XSWHWCR1100".
  - \* Could not apply the software selection  
    "PHNE\_22814,r=1.0,a=HP-UX\_B.11.00\_32,v=HP"; it is not

available from depot or root "largo:/tmp/depot/XSWHWCR1100".  
 \* Could not apply the software selection  
 "PHNE\_23981,r=1.0,a=HP-UX\_B.11.00\_32,v=HP"; it is not  
 available from depot or root "largo:/tmp/depot/XSWHWCR1100".  
 NOTE: The patch match operation failed to find patches for target  
 software on "largo" which passed the filter.  
 WARNING: The software specified contains a kernel fileset. It will be  
 necessary to reconfigure and reboot the system to make the  
 kernel software functional.  
 \* Source: /tmp/depot/XSWHWCR1100  
 \* Targets: largo:/  
 \* Software selections:  
 XSWHWCR1100,r=B.11.00.54.6,a=HP-UX\_B.11.00\_32/64,v=HP  
 PHCO\_13809.CORE-ENG-A-MAN,r=1.0,a=HP-UX\_B.11.00\_32/  
 64,v=HP,fa=HP-UX\_B.11.00\_32/64

<Some Output Deleted for Brevity!>

64,v=HP,fa=HP-UX\_B.11.00\_32/64  
 PHSS\_24105.KERN-RUN,r=1.0,a=HP-UX\_B.11.00\_32/  
 64,v=HP,fa=HP-UX\_B.11.00\_32/64  
 \* Selection succeeded.

\* Beginning Analysis  
 \* Session selections have been saved in the file  
 "/.sw/sessions/swinstall.last".  
 WARNING: "largo/": There will be no attempt to mount filesystems that  
 appear in the filesystem table.  
 \* "largo/": 114 filesets have the selected revision already  
 installed.  
 ERROR: "largo/": The software dependencies for 89 products or  
 filesets cannot be resolved.  
 \* The analysis phase failed for "largo/".  
 \* Analysis had errors.

\* Beginning Execution  
 ERROR: "largo/": 202 filesets were determined to be skipped in the  
 analysis phase.  
 WARNING: "largo/": 1 postinstall or postremove scripts had warnings.  
 \* The execution phase failed for "largo/".  
 \* Execution had errors.

NOTE: More information may be found in the agent logfile (location  
 is largo:/var/adm/sw/swagent.log).

==== 01/16/02 10:08:50 EST END swinstall SESSION (non-interactive)

**System Reboots Now**

\*\*\*System Reboots\*\*\*

**Your Input**

==> Log in as root

Removing older version of SNMS64BitDrivers...

```
swremove -x autoreboot=true -x mount_all_filesystems=false -x
autoselect_dependents=true SNMS64BitDrivers
```

```
===== 01/16/02 10:45:38 EST BEGIN swremove SESSION
(non-interactive)
```

```
* Session started for user "root@largo".
```

```
* Beginning Selection
```

```
* Target connection succeeded for "largo:/".
```

```
WARNING: The software specification "SNMS64BitDrivers" refers to a
bundle (or to a product, subproduct or fileset within a
bundle). Only some of the software specified could be
selected. The messages below show those items which could not
be selected and those items which were selected but generated
a warning:
```

```
* Could not apply the software selection
```

```
"100BT-PCI-KRN.100BT-KRN32,r=B.11.00.05,a=HP-UX_B.11.00_32/
64,v=HP";
```

```
it is not available from depot or root "largo:/".
```

```
* Could not apply the software selection
```

```
"PHNE_22542.100BT-KRN32,r=1.0,a=HP-UX_B.11.00_32/64,v=HP"; it
is not available from depot or root "largo:/".
```

```
* Software selections:
```

```
SNMS64BitDrivers,r=A.1.0,a=HP-UX_B.11.00_32/64
```

```
* Selection succeeded.
```

```
* Beginning Analysis
```

```
* Session selections have been saved in the file
```

```
"/.sw/sessions/swremove.last".
```

```
* "largo:/": There will be no attempt to mount filesystems that
appear in the filesystem table.
```

```
* Analysis succeeded.
```

```
* Beginning Execution
```

```
* The execution phase succeeded for "largo:/".
```

```
* Execution succeeded.
```

```
NOTE: More information may be found in the agent logfile (location
is largo:/var/adm/sw/swagent.log).
```

```
===== 01/16/02 10:45:52 EST END swremove SESSION (non-
interactive)
```

## Your Input

```
==> Continue installing EMS HP-UX Drivers, press <Enter> when ready...
ENTER
```

```
Cleaning up temporary depot of XSWHWCR1100, please wait...
```

```
swinstall -s /cdrom/depot/EMS64BitDrivers -x "logfile=/tmp/
instEMS64BitDrivers.out" -x "mount_all_filesystems=false" -x
patch_match_target=true -x autoreboot=true -x patch_save_files=false
EMS64BitDrivers
```

===== 01/16/02 10:47:33 EST BEGIN swinstall SESSION  
(non-interactive)

\* Session started for user "root@largo".

\* Beginning Selection

\* Target connection succeeded for "largo:/".

\* "largo:/cdrom/depot/EMS64BitDrivers": Cannot open the logfile on this target or source. Possibly the media is read-only or there is a permission problem. Check the daemon logfile and "/var/tmp/swagent.log" on this host for more information.

WARNING: The software specification "EMS64BitDrivers" refers to a bundle (or to a product, subproduct or fileset within a bundle). Only some of the software specified could be selected. The messages below show those items which could not be selected and those items which were selected but generated a warning:

\* The software

"100BT-PCI-KRN,r=B.11.00.05,a=HP-UX\_B.11.00\_32/64,v=HP" was successfully marked, but it depends on the following software items which could not be found in the source. However, these items may already be in the target. This will be checked during the Analysis Phase:

OS-Core.CORE-KRN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP

*<Some Output Deleted for Brevity!>*

Networking.LAN-RUN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP

Networking.NETTL-RUN,r>=B.11.00.%,a=HP-UX\_B.11.00\_32/64,fa=HP-UX\_B.11.00\_32/64,v=HP

NOTE: The patch match operation failed to find patches for target software on "largo" which passed the filter.

WARNING: The software specified contains a kernel fileset. It will be necessary to reconfigure and reboot the system to make the kernel software functional.

\* Source: /cdrom/depot/EMS64BitDrivers

\* Targets: largo:/

\* Software selections:

EMS64BitDrivers,r=A.1.0,a=HP-UX\_B.11.00\_32/64

+ A3739B,r=B.11.00.15,a=HP-UX\_B.11.00\_32/64,v=HP

+ A5230A,r=B.11.00.05,a=HP-UX\_B.11.00\_32/64,v=HP

+ UnlimUserLic,r=B.11.00.02,a=HP-UX\_B.11.00\_32/64,v=HP

+ Z7476AA,r=B.03.10.01,a=HP-UX\_B.11.00\_32/64,v=HP

100BT-PCI-FMT.100BT-FORMAT,r=B.11.00.05,a=HP-UX\_B.11.00\_32/64,v=HP,fr=B.11.00.05,fa=HP-UX\_B.11.00\_32/64

100BT-PCI-KRN.100BT-KRN64,r=B.11.00.05,a=HP-UX\_B.11.00\_32/

*<Some Output Deleted for Brevity!>*

64,v=HP,fr=B.11.00.02,fa=HP-UX\_B.11.00\_64

\* A "+" indicates an automatic selection due to dependency or

the automatic selection of a patch or reference bundle.  
 \* Selection succeeded.

\* Beginning Analysis  
 \* Session selections have been saved in the file  
 "/.sw/sessions/swinstall.last".  
 \* "largo:/" : There will be no attempt to mount filesystems that  
 appear in the filesystem table.  
 \* "largo:/" : 34 filesets have the selected revision already  
 installed.  
 \* "largo:/" : 2 bundles have the selected revision already  
 installed.  
 \* "largo:/" : 3 bundles cannot be installed because none of  
 their filesets can be installed.  
 \* Analysis succeeded.

\* Beginning Execution  
 \* "largo:/" : 37 filesets were determined to be skipped in the  
 analysis phase.  
 \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
 is largo:/var/adm/sw/swagent.log).

=====  
 01/16/02 10:49:12 EST END swinstall SESSION (non-interactive)

**System Reboots Now**

\*\*\*System Reboots Now\*\*\*

**Your Input**

==> Log in as root

Removing older release of the General Release Patches bundle...  
 swremove -x autoreboot=true -x mount\_all\_filesystems=false -x  
 autoselect\_dependents=true XSWGR1100

=====  
 01/16/02 11:23:31 EST BEGIN swremove SESSION  
 (non-interactive)

\* Session started for user "root@largo".

\* Beginning Selection  
 \* Target connection succeeded for "largo:/".

WARNING: The software specification "XSWGR1100" refers to a bundle (or  
 to a product, subproduct or fileset within a bundle). Only  
 some of the software specified could be selected. The messages  
 below show those items which could not be selected and those  
 items which were selected but generated a warning:

\* Could not apply the software selection  
 "PHCO\_14773,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP"; it is not  
 available from depot or root "largo:/".

<Some Output Deleted for Brevity!>

\* Could not apply the software selection

"PHSS\_21782,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP"; it is not available from depot or root "largo:/".

NOTE: One or more patch filesets were automatically selected or deselected to maintain patch integrity. Please refer to the swremove.log logfile for details.

WARNING: The software specified contains a kernel fileset. It will be necessary to reconfigure the kernel and reboot the system to remove the functionality from the kernel.

\* Software selections:

XSWG1100,r=B.11.00.51.2,a=HP-UX\_B.11.00\_32/64,v=HP

PHCO\_12555.UX-CORE,l=/,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP,fr=1.0,fa=HP-UX\_B.11.00\_32/64

<Some Output Deleted for Brevity!>

PHSS\_21670.IMAGE-SHLIBS,l=/opt/image,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP,fr=1.0,fa=HP-UX\_B.11.00\_32/64

\* Selection succeeded

\* Beginning Analysis

\* Session selections have been saved in the file "/.sw/sessions/swremove.last".

\* "largo:/": There will be no attempt to mount filesystems that appear in the filesystem table.

\* Analysis succeeded.

\* Beginning Execution

\* The execution phase succeeded for "largo:/".

\* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is largo:/var/adm/sw/swagent.log).

=====  
01/16/02 11:35:23 EST END swremove SESSION (non-interactive)

## System Reboots Now

\*\*\*System Reboots\*\*\*

### Your Input

==> login as root

Installing Quality Pack for HP-UX 11.00

### Your Input

==> Please insert the EMS Tools CD to the drive.

==> Press <Enter> when ready... ENTER

```
swinstall -s /cdrom/depot/QPK1100 -x "logfile=/tmp/instQPK1100.out" -x
"mount_all_filesystems=false" -x patch_match_target=true -x autoreboot=true
-x patch_save_files=false QPK1100
```

=====  
01/16/02 11:57:50 EST BEGIN swinstall SESSION  
(non-interactive)

\* Session started for user "root@largo".

\* Beginning Selection

\* Target connection succeeded for "largo:/".

\* "largo:/cdrom/depot/QPK1100": Cannot open the logfile on this target or source. Possibly the media is read-only or there is a permission problem. Check the daemon logfile and "/var/tmp/swagent.log" on this host for more information.

WARNING: The software specification "QPK1100" refers to a bundle (or to a product, subproduct or fileset within a bundle). Only some of the software specified could be selected. The messages below show those items which could not be selected and those items which were selected but generated a warning:

\* Could not apply the software selection "PHNE\_17942,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP"; it is not available from depot or root "largo:/cdrom/depot/QPK1100".

\* Could not apply the software selection "PHNE\_22814,r=1.0,a=HP-UX\_B.11.00\_32,v=HP"; it is not available from depot or root "largo:/cdrom/depot/QPK1100".

\* Could not apply the software selection "PHNE\_23981,r=1.0,a=HP-UX\_B.11.00\_32,v=HP"; it is not available from depot or root "largo:/cdrom/depot/QPK1100".

NOTE: The patch match operation failed to find patches for target software on "largo" which passed the filter.

WARNING: The software specified contains a kernel fileset. It will be necessary to reconfigure and reboot the system to make the kernel software functional.

\* Source: /cdrom/depot/QPK1100

\* Targets: largo:/

\* Software selections:

QPK1100,r=B.11.00.54.7,a=HP-UX\_B.11.00\_32/64,v=HP

PHCO\_12555.UX-CORE,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP,fr=1.0,fa=HP-UX\_B.11.00\_32/64

*<Some Output Deleted for Brevity!>*

PHSS\_24206.CORE-SHLIBS,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP,fr=1.0,fa=HP-UX\_B.11.00\_32/64

\* Selection succeeded.

\* Beginning Analysis

\* Session selections have been saved in the file "/.sw/sessions/swinstall.last".

\* "largo/": There will be no attempt to mount filesystems that appear in the filesystem table.

\* "largo/": 310 filesets have the selected revision already installed.

\* "largo/": The software dependencies for 210 products or filesets cannot be resolved.

\* "largo/": 23 filesets were determined to be skipped in the analysis phase.

\* Analysis succeeded.

\* Beginning Execution

- \* "largo:/" : 533 filesets were determined to be skipped in the analysis phase.
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is largo:/var/adm/sw/swagent.log).

=====  
01/16/02 12:12:01 EST END swinstall SESSION (non-interactive)

## System Reboots Now

\*\*\*System Reboots\*\*\*

### Your Input

==> login as root

Removing older version of SNMSHA ...

swremove -x autoreboot=true -x mount\_all\_filesystems=false -x autoselect\_dependents=true SNMSHA

=====  
01/16/02 12:29:49 EST BEGIN swremove SESSION  
(non-interactive)

\* Session started for user "root@largo".

\* Beginning Selection

\* Target connection succeeded for "largo:/".

WARNING: The software specification "SNMSHA" refers to a bundle (or to a product, subproduct or fileset within a bundle). Only some of the software specified could be selected. The messages below show those items which could not be selected and those items which were selected but generated a warning:

\* Could not apply the software selection

"PHSS\_21046.AGENT-MAN,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP"; it

is

not available from depot or root "largo:/".

\* Could not apply the software selection

"PHSS\_22540.CM-DLM,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP"; it is not available from depot or root "largo:/".

\* Could not apply the software selection

"PHSS\_22540.CM-DLM-CMDS,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP";

it

is not available from depot or root "largo:/".

NOTE: One or more patch filesets were automatically selected or deselected to maintain patch integrity. Please refer to the swremove.log logfile for details.

\* Software selections:

SNMSHA,r=A.1.0,a=HP-UX\_B.11.00\_32/64

EMS-DiskMonitor.DISKMON-RUN,l=/,r=A.03.20,a=HP-UX\_B.11.00\_32/64,v=HP,fr=A.03.20,fa=HP-UX\_B.11.00\_32/64

EMS-RdbmsMon.RDBSMON-RUN,l=/,r=A.03.20,a=HP-UX\_B.11.00\_32/64,v=HP,fr=A.03.20,fa=HP-UX\_B.11.00\_32/64

PHSS\_21046.MASTER,l=/,r=1.0,a=HP-UX\_B.11.00\_32/64,v=HP,fr=1.0,fa=HP-UX\_B.11.00\_32/64

PHSS\_21046.SUBAGT-HPUNIX,l=/,r=1.0,a=HP-UX\_B.11.00\_32/64

<Some Output Deleted for Brevity!>

- \* Beginning Analysis
- \* Session selections have been saved in the file  
"/.sw/sessions/swremove.last".
- \* "largo:/" : There will be no attempt to mount filesystems that  
appear in the filesystem table.
- \* Analysis succeeded.
  
- \* Beginning Execution
- \* The execution phase succeeded for "largo:/".
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is largo:/var/adm/sw/swagent.log).

=====  
01/16/02 12:30:28 EST END swremove SESSION (non-  
interactive)

**Your Input** ==> Do you want to install H/A Software (y/n)? y

Installing all H/A Related software...

**Your Input** ==> Please insert the EMS HA CD into the drive  
==> Press <Enter> when ready: ENTER

=====  
01/16/02 12:31:34 EST BEGIN swinstall SESSION  
(non-interactive)

- \* Session started for user "root@largo".
  
- \* Beginning Selection
- \* Target connection succeeded for "largo:/".
- \* "largo:/cdrom/EMSHA": Cannot open the logfile on this target  
or source. Possibly the media is read-only or there is a  
permission problem. Check the daemon logfile and  
"/var/tmp/swagent.log" on this host for more information.

NOTE: The software item "EMSHA" is a bundle (or a product,  
subproduct or filesset contained within a bundle). This item  
was successfully marked, but difficulties were encountered  
while marking some items that it depends on. The messages  
below show which software items encountered difficulties and  
exactly what these difficulties were:

- \* The software  
"LVM,r=B.11.00,a=HP-UX\_B.11.00\_32/64,v=HP,fr=B.11.00" was  
successfully marked, but it depends on the following software  
items which could not be found in the source. However, these  
items may already be in the target. This will be checked  
during the Analysis Phase:  
LVM.LVM-RUN,r>=B.11.00.%23,a=HP-UX\_B.11.00\_32/64,fa=HP-  
UX\_B.11.00\_32/64,v=HP

WARNING: The software specified contains a kernel filesset. It will be

necessary to reconfigure and reboot the system to make the kernel software functional.

\* Source: /cdrom/EMSHA

\* Targets: largo:/

\* Software selections:

EMSHA,r=A.1.0,a=HP-UX\_B.11.00\_32/64

+ B2491BA,r=B.11.00,a=HP-UX\_B.11.00\_32/64,v=HP

+ B3935DA,r=A.11.09,a=HP-UX\_B.11.00\_32/64,v=HP

+ B7609BA,r=A.03.20,a=HP-UX\_B.11.00\_32/64,v=HP

ATS-CORE.ATS-MAN,r=A.11.09,a=HP-UX\_B.11.00\_32/64,v=HP,fr=A.11.09,fa=HP-UX\_B.11.00\_32/64

ATS-CORE.ATS-RUN,r=A.11.09,a=HP-UX\_B.11.00\_32/64

*<Some Output Deleted for Brevity!>*

64,v=HP,fr=A.11.09,fa=HP-UX\_B.11.00\_32/64

ServiceGuard.CM-SG,r=A.11.09,a=HP-UX\_B.11.00\_32/64

64,v=HP,fr=A.11.09,fa=HP-UX\_B.11.00\_32/64

\* A "+" indicates an automatic selection due to dependency or the automatic selection of a patch or reference bundle.

\* Selection succeeded.

\* Beginning Analysis

\* Session selections have been saved in the file

"/.sw/sessions/swinstall.last".

\* "largo:/" : There will be no attempt to mount filesystems that appear in the filesystem table.

\* "largo:/" : 16 filesets have the selected revision already installed.

\* "largo:/" : 3 filesets were determined to be skipped in the analysis phase.

\* "largo:/" : The software dependencies for 4 products or filesets cannot be resolved.

\* "largo:/" : 3 bundles have the selected revision already installed.

\* "largo:/" : 3 bundles cannot be installed because none of their filesets can be installed.

\* Analysis succeeded.

\* Beginning Execution

\* "largo:/" : 24 filesets were determined to be skipped in the analysis phase.

\* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is largo:/var/adm/sw/swagent.log).

==== 01/16/02 12:33:17 EST END swinstall SESSION (non-interactive)

## System Reboots Now

\*\*\*System Reboots\*\*\*

## Your Input

==> Log in as root

==> Please insert the EMS Tools CD to the drive.

==> Press <Enter> when ready... ENTER

=====  
01/16/02 13:14:59 EST BEGIN swreg SESSION (non-interactive)

\* Session started for user "root@largo".

\* Beginning Selection

\* Targets: largo

\* Objects: /cdrom

\* Selection succeeded.

=====  
01/16/02 13:14:59 EST END swreg SESSION (non-interactive)

Saving informix configuration files to /tmp...

Reinstalling Informix Dynamic Server...

swremove -x autoreboot=true -x mount\_all\_filesystems=false -x  
autoselect\_dependents=true DynamicServer

=====  
01/16/02 13:15:10 EST BEGIN swremove SESSION  
(non-interactive)

\* Session started for user "root@largo".

\* Beginning Selection

\* Target connection succeeded for "largo:/".

\* Software selections:

DynamicServer.DynamicServer,l=/,r=7.31.UC3.1

\* Selection succeeded.

\* Beginning Analysis

\* Session selections have been saved in the file

"/.sw/sessions/swremove.last".

\* "largo:/": There will be no attempt to mount filesystems that  
appear in the filesystem table.

\* Analysis succeeded.

\* Beginning Execution

\* The execution phase succeeded for "largo:/".

\* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is largo:/var/adm/sw/swagent.log).

=====  
01/16/02 13:15:28 EST END swremove SESSION (non-  
interactive)

swinstall -s /cdrom -x "logfile=/tmp/instDynamicServer.out" -x  
"mount\_all\_filesystems=false" DynamicServer

=====  
01/16/02 13:15:28 EST BEGIN swinstall SESSION  
(non-interactive)

```
* Session started for user "root@largo".

* Beginning Selection
* Target connection succeeded for "largo:".
* "largo:/cdrom": Cannot open the logfile on this target or
 source. Possibly the media is read-only or there is a
 permission problem. Check the daemon logfile and
 "/var/tmp/swagent.log" on this host for more information.
* Source: /cdrom
* Targets: largo:/
* Software selections:
 DynamicServer.DynamicServer,r=7.31.UC3.1
* Selection succeeded.

* Beginning Analysis
* Session selections have been saved in the file
 "/.sw/sessions/swinstall.last".
* "largo:": There will be no attempt to mount filesystems that
 appear in the filesystem table.
* Analysis succeeded.

* Beginning Execution
* The execution phase succeeded for "largo:".
* Execution succeeded.
```

NOTE: More information may be found in the agent logfile (location is largo:/var/adm/sw/swagent.log).

===== 01/16/02 13:17:11 EST END swinstall SESSION (non-interactive)

Reinstalling ITorbix...

```
swremove -x autoreboot=true -x mount_all_filesystems=false -x
autoselect_dependents=true ITorbix
```

===== 01/16/02 13:17:11 EST BEGIN swremove SESSION  
(non-interactive)

```
* Session started for user "root@largo".

* Beginning Selection
* Target connection succeeded for "largo:".
* Software selections:
 ITorbix.ITorbix,l=/,r=3.0.1
* Selection succeeded.

* Beginning Analysis
* Session selections have been saved in the file
 "/.sw/sessions/swremove.last".
* "largo:": There will be no attempt to mount filesystems that
 appear in the filesystem table.
* Analysis succeeded.

* Beginning Execution
* The execution phase succeeded for "largo:".

```

\* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is largo:/var/adm/sw/swagent.log).

=====  
01/16/02 13:17:27 EST END swremove SESSION (non-interactive)

swinstall -s /cdrom -x "logfile=/tmp/instlTorbix.out" -x "mount\_all\_filesystems=false" lTorbix

=====  
01/16/02 13:17:27 EST BEGIN swinstall SESSION (non-interactive)

\* Session started for user "root@largo".

\* Beginning Selection

\* Target connection succeeded for "largo:/".

\* "largo:/cdrom": Cannot open the logfile on this target or source. Possibly the media is read-only or there is a permission problem. Check the daemon logfile and "/var/tmp/swagent.log" on this host for more information.

\* Source: /cdrom

\* Targets: largo:/

\* Software selections:

lTorbix.lTorbix,r=3.3.2

\* Selection succeeded.

\* Beginning Analysis

\* Session selections have been saved in the file "/.sw/sessions/swinstall.last".

\* "largo:/": There will be no attempt to mount filesystems that appear in the filesystem table.

\* Analysis succeeded.

\* Beginning Execution

\* The execution phase succeeded for "largo:/".

\* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is largo:/var/adm/sw/swagent.log).

=====  
01/16/02 13:18:42 EST END swinstall SESSION (non-interactive)

Re-install ColdStart: ...removing F5.1 ColdStart..

swremove -x autoreboot=true -x mount\_all\_filesystems=false -x autoselect\_dependents=true ColdStart

=====  
01/16/02 13:18:44 EST BEGIN swremove SESSION (non-interactive)

\* Session started for user "root@largo".

- \* Beginning Selection
- \* Target connection succeeded for "largo:/".
- \* Software selections:
  - ColdStart.ColdStart,l=/,r=F5.1
- \* Selection succeeded.
  
- \* Beginning Analysis
- \* Session selections have been saved in the file  
"/.sw/sessions/swremove.last".
- \* "largo:/": There will be no attempt to mount filesystems that  
appear in the filesystem table.
- \* Analysis succeeded.
  
- \* Beginning Execution
- \* The execution phase succeeded for "largo:/".
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is largo:/var/adm/sw/swagent.log).

=====  
01/16/02 13:18:56 EST END swremove SESSION (non-  
interactive)

Cleaning up old SNMS package...  
swremove SNMS

=====  
01/16/02 13:18:56 EST BEGIN swremove SESSION  
(non-interactive)

- \* Session started for user "root@largo".
  
- \* Beginning Selection
- \* Target connection succeeded for "largo:/".
- \* Software selections:
  - SNMS.snmsInterfaces,l=/,r=F5.1
  - SNMS.snmsRogue,l=/,r=F5.1
- \* Selection succeeded.
  
- \* Beginning Analysis
- \* Session selections have been saved in the file  
"/.sw/sessions/swremove.last".
- \* The analysis phase succeeded for "largo:/".
- \* Analysis succeeded.
  
- \* Beginning Execution
- \* The execution phase succeeded for "largo:/".
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is largo:/var/adm/sw/swagent.log).

=====  
01/16/02 13:19:15 EST END swremove SESSION (non-  
interactive)

Loading EMS ColdStart...

**Your Input** ==> Do you want to load from CD (c) or TAPE (t)? c  
 ==> Please insert the EMS Application CD to the drive.  
 ==> Press <Enter> when ready... ENTER

```
swinstall -s /cdrom -x "logfile=/tmp/instColdStart.out" -x
"mount_all_filesystems=false" -x reinstall=true ColdStart
```

```
===== 01/16/02 13:26:21 EST BEGIN swinstall SESSION
(non-interactive)
```

```
* Session started for user "root@largo".
```

```
* Beginning Selection
```

```
* Target connection succeeded for "largo:/".
```

```
* "largo:/cdrom": Cannot open the logfile on this target or
source. Possibly the media is read-only or there is a
permission problem. Check the daemon logfile and
"/var/tmp/swagent.log" on this host for more information.
```

```
* Source: /cdrom
```

```
* Targets: largo:/
```

```
* Software selections:
```

```
 ColdStart.ColdStart,r=F7.0
```

```
* Selection succeeded.
```

```
* Beginning Analysis
```

```
* Session selections have been saved in the file
"/.sw/sessions/swinstall.last".
```

```
* "largo:/": There will be no attempt to mount filesystems that
appear in the filesystem table.
```

```
* Analysis succeeded.
```

```
* Beginning Execution
```

```
* The execution phase succeeded for "largo:/".
```

```
* Execution succeeded.
```

```
NOTE: More information may be found in the agent logfile (location
is largo:/var/adm/sw/swagent.log).
```

```
===== 01/16/02 13:27:03 EST END swinstall SESSION (non-interactive)
```

Starting coldStart and EMS configuration...

EMS-TMF was installed before. You have to CHOOSE OPTION '5'  
 from the EMS configuration menu to clear TMF environment.  
 Also, at the prompt to configure Informix Database,  
 please enter 'n' to skip it for now.

**Your Input** ==> Press <Enter> when ready... ENTER

Restoring informix configuration files from /tmp...Done

installEms -c

=====  
START: INSTALLATION Wed Jan 16 13:27:18 EST 2002

EMS SYSTEM INITIALIZATION PROGRAM

EMS\_HOST\_MODEL\_NUM=L2000  
EMSROOT=/ems  
EMS\_GID=200  
INFORMIX\_GID=201  
EMS\_UID=200  
INFORMIX\_UID=201  
TL1\_UID=203

-----  
coldStart performs getInformix() function .....

DS\_SERIAL=AAC#J764221  
DS\_KEY=ISXRKG

-----  
coldStart performs getDomain() function .....

DOMAIN=ho.lucent.com

INPUT REVIEW

The following is a review of the required information:

1. EMS Home Directory = /ems
2. EMS Group ID (GID) = 200
3. INFORMIX Group ID (GID) = 201
4. EMS User ID (UID) = 200
5. INFORMIX User ID (UID) = 201
6. TL1 User ID (UID) = 203
7. INFORMIX DynamicServer Serial Number = AAC#J764221
8. INFORMIX DynamicServer Key = ISXRKG
9. Local DNS Domain Name = ho.lucent.com

**Your Input** ==> Enter the item number [1-9] to change the current value.  
==> Enter "s" to save the above input and continue.  
==> What would you like to do [1-9 or s][q to quit]: s

EMS System Initialization will continue automatically.  
Check /tmp/coldStart.log file for logged messages.

-----  
coldStart performs setUpGroup() function .....

Setting up groups.....

-----  
coldStart performs setUpUser() function .....

Setting up user logins.....

-----  
coldStart performs setUpInformix() function .....

Installing DynamicServer license will take about 10 minutes!

Informix Dynamic Server Version 7.31.UC3  
Copyright (C) 1986-1999 Informix Software, Inc.

Installation and Configuration Script

This installation procedure must be run by a privileged user (Super User)  
It will change the owner, group, mode, (and other file attributes on  
Secure systems) of all files of this package in this directory.

There must be a user "informix" and a group "informix" known to the system.

Press RETURN to continue,  
or the interrupt key (usually CTRL-C or DEL) to abort.

Enter your serial number (for example, INF#X999999) >  
Enter your serial number KEY (uppercase letters only) >

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subject to the applicable license agreement with Informix Software, Inc.  
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be prevented from using the software. **UNAUTHORIZED USE OR  
COPYING MAY  
SUBJECT YOU AND YOUR COMPANY TO SEVERE CIVIL AND CRIMINAL  
LIABILITIES.**

Press RETURN to continue,  
or the interrupt key (usually CTRL-C or DEL) to abort.

Installing directory .  
*<Some Output Deleted for Brevity!>*  
Installing directory bitmaps

Installing Shared Libraries in System Directories ...

Linking /usr/lib/iosm07a.sl from lib/iosm07a.sl  
Previous version of /usr/lib/iosm07a.sl saved as /usr/lib/iosm07a.sl.020116

Linking /usr/lib/ipldd07a.sl from lib/ipldd07a.sl  
Previous version of /usr/lib/ipldd07a.sl saved as /usr/lib/ipldd07a.sl.020116

Installation of Informix Dynamic Server complete.

Done for installing DynamicServer!!!

Installing CONNECT license will take about 5 minutes!  
INFORMIX-Connect Version 2.10.UC4  
Copyright (C) 1984-1999 Informix Software, Inc.

Extracting files from conncontent file...

IVODBC.LIC  
etc/Connect-cr  
etc/connfiles  
<Some Filenames Deleted for Brevity!>  
gls/lc11/os/turkish@nofold.lc  
57970 blocks

Installing I-Connect as user "root"...

Installation Script

Installation Script Requirements:

- A user "informix" and a group "informix" must be known to the system.
- The product source files must have been loaded by user root
- This installation procedure must be run by user root.

This script will change the owner, group, and mode of many of the files of this package in this directory.

**Your Input**

==> Serial Number set to "AAC#J764221"

==> Serial Number Key set to "ISXRKG"

**WARNING!**

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Installing directory

<Some Directory Names Deleted for Brevity!>

Installing directory gls/lc11/zh\_tw

Informix Product: INFORMIX-Connect

Installation Directory: /tools/informix

Performing root portion of installation of INFORMIX-Connect...

Installation of INFORMIX-Connect complete.

Done for installing CONNECT!!!

-----  
coldStart performs setUpOrbix() function .....

Install Orbix License.....

Orbix 3.3.2

Orbix C++ Daemon version 3.3.2

for HP aC++ B3910B A.03.13

Implementation Repository Path :/ems/Orbix/config/Repositories/ImpRep  
Daemon Port :1570  
Daemon Port Base :1590  
Daemon Port Range :1000  
Orbix Errors File :/ems/Orbix/config/ErrorMsgs  
Orbix Locator Path :/ems/Orbix/config/  
Interface Repository Path :/ems/Orbix/Interfaces  
Local Host :largo.ho.lucent.com  
Local Domain :ho.lucent.com

Java Interpreter :/opt/java/bin/java  
Default Classpath :/ems/Orbix/config:/ems/Orbix/lib/  
OrbixNames.jar:/ems/Orbix/lib/OrbixOTS.jar:/ems/Orbix/lib/OrbixSSL.jar/  
ems/Orbix/lib/OrbixWeb.jar:/ems/Orbix/demos/classes/

Done for installing Orbix!!!

-----  
coldStart performs setCronAt() function .....

-----  
coldStart performs chgFSPerm() function .....

Set file system ownership, group and permission

-----  
coldStart performs setUpFTP() function .....

Adding FTP related entries into /etc/passwd and /etc/group

Creating new home directory for FTP user

Setting up FTP home directory

Check /tmp/coldStart.log file for logged messages.

END: INSTALLATION Wed Jan 16 13:30:17 EST 2002

=====  
installEms is checking Hardware, please be patient!

The current EMS run level is "Shutdown".

=====  
EMS INSTALLATION AND CONFIGURATION PROGRAM 01-16-02

Current EMS Version: 5.1.3-211

Main Menu:

- 1) Backup the current EMS database
- 2) Restore a previously saved EMS database
- 3) Install/Upgrade EMS software
- 4) Configure EMS - making the provisioned parameters effective
- 5) Configure EMS using profile saved from last session
- 6) Configure Redundancy
- 7) Display EMS system information
- 8) Reenter ATOS license
- 0) Exit

NOTE: Root permission ("su" without -) is required for all tasks

**Your Inut** ==> Specify your choice by number: 5

Starting the EMS PROVISIONING process ...

At this time, you may choose a new set of environment parameters for the new EMS configuration.

WARNING:

The EMS new host Informix Database configuration is about to begin. The Informix Database configuration will use socket instead of share memory. Please adjust your Name Service Switch accordingly.

**Your Input** ==> Do you want to continue this process (y/n/q): n

Skip Informix Database configuration!

**Your Input** ==> Press [ENTER] to continue. ENTER

The following LAN interface(s) have been detected:

```
lan 0 0/0/0/0 btlan3 CLAIMED INTERFACE HP PCI 10/
100Base-TX Core
lan 1 0/3/0/0 btlan5 CLAIMED INTERFACE HP A5230A/
B5509BA PCI 10/100Base-TX Addon
lan 2 0/6/0/0 btlan5 CLAIMED INTERFACE HP A5230A/
B5509BA PCI 10/100Base-TX Addon
```

1. Network Service Attachment Point (NSAP) forms (Fixed/Flexible)?: Fixed
2. Activate SONET Directory Services (y/n)?: Y
3. NE PROTOCOL INFORMATION

The current configuration is displayed:

```
CMISE: (y/n) Y
OSI TL1: (y/n) Y
X.25 TL1: (y/n) N
```

4. Double Acknowledgement Feature (Enabled/Disabled)?: Enabled

The current OSI Configuration is summarized as following:

1. lan 0 0/0/0/0 - N/C
2. lan 1 0/3/0/0 - Primary 000000 0000 BB00
3. lan 2 0/6/0/0 - N/C

CMISE INFORMATION REVIEW

The following is a review of Network Element protocol information:

1. EMS Name = ems123
2. Presentation Selector = 70737431

3. Session Selector = 73657331
4. Transport Selector = 747030
5. OLS-400G Support = YES

DIB PREFIX REVIEW:

The following is a review of DIB prefix:

1. DIB Country Name prefix = US
2. DIB Organization Name prefix = LUCENT
3. DIB Organization Unit Name prefix = SNMS1;SNMS2

Saving the configuration.....Configuration saved.

Your SNMS environment:

```
APPTAG = EMS
EMSROOT = /ems
APPCONFIG = /ems/etc/appconfig
APPMON_PORT= 7578
ROAMLOG = /ems/log/data
```

Running Setup from scratch.  
EMS is being reconfigured.

Successful Validation. Created appconfig from appconfig.t

Change permission of files.....  
/ems/etc/osicfg: No such file or directory  
chmod: can't access /ems/etc/osicfg  
Creating link for OXC\_LR...

```
Creating link for W2_5G_10G...
Creating link for OLS40G_80G...
Creating link for WBWM...
Creating link for ABM...
Creating link for UNITE_LR...
Creating link for STM64NE...
Creating link for OXC1024_LR...
Creating link for NCC...
Creating link for OXC128_LR...
Creating link for DMX...
Creating link for DMXPRESS...
Done creating links
```

WARNING:

Informix Engine is currently not running. Informix engine has to be up in order to create EMS databases.

**Your Input** ==> Do you want to bring Informix engine up (b), or run DB configuration (c) or quit (q): Starting up informix oninit.. q

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CHOOSE OPTION '3' at the EMS installation menu to install EMS application.

Also, at the prompt to configure Informix Database, please enter 'y' to configure it this time.

installEms is checking Hardware, please be patient!

The current EMS run level is "Shutdown".

```
=====
EMS INSTALLATION AND CONFIGURATION PROGRAM 01-16-02
```

Current EMS Version: 5.1.3-211

Main Menu:

- 1) Backup the current EMS database
- 2) Restore a previously saved EMS database
- 3) Install/Upgrade EMS software
- 4) Configure EMS - making the provisioned parameters effective
- 5) Configure EMS using profile saved from last session
- 6) Configure Redundancy
- 7) Display EMS system information
- 8) Reenter ATOS license
- 0) Exit

NOTE: Root permission ("su" without -) is required for all tasks

**Your Input** ==> Specify your choice by number: 3

The EMS Application installation is about to begin.

Software version will be upgraded from 5.1.3 to 7.0.0.

**Your Input** ==> Do you wish to continue with this installation (y/n)? y

WARNING:

The EMS Application database should be backed up prior to upgrading the software.

**Your Input** ==> Do you wish to backup the EMS application database(y/n/q)? n

User bypassed backup prior to performing the upgrade

Starting the APPLICATION LOADING process ...

What software media will be used to load the EMS Application:

1. CD-ROM

2. Digital Audio Tape (DAT)

**Your Input** ==> Please enter the software media type [1/2/q]? 1

Saving existing EMS setup files ...

Saving the existing setup files ...

If this is an upgrade operation, it will destroy existing files in the following directories:

bin,  
tbin,  
lib,  
etc

Orbix/Interfaces  
Orbix/config/Repositories/NamesRep  
Orbix/config/Repositories/ImpRep/NS.imp

However, existing setup files have been saved for you to restore later.

**Your Input** ==> Are you ready to proceed? (y) to proceed, <CR> to skip, or (q) to quit: y

Removing files from /ems/bin ...  
Removing files from /ems/Orbix/Interfaces ...  
Removing files from /ems/Orbix/config/Repositories/NamesRep ...  
Removing file /ems/Orbix/config/Repositories/ImpRep/NS.imp ...  
Removing files from /ems/tbin ...  
Removing files from /ems/lib ...  
Removing files from /ems/etc ...  
Insert the delivery CD and mount it to /cdrom.

**Your Input** ==> Hit <CR> to continue ..... ENTER

Reading table of content on CDRom ....

This MEDIA contains the following filesets:

| FILESET                       | SIZE(KB)  | DESCRIPTION                 |
|-------------------------------|-----------|-----------------------------|
|                               | 0.0       |                             |
| ColdStart.ColdStart           | 16473.6   |                             |
| EMS.snmsFixDir.snmsInterfaces | 1208.0    | "interface files for Orbix" |
| EMS.snmsFixDir.snmsRogue      | 2739.6    | "RogueWave library for EMS" |
| EMS.snmsRelease.snms          | 208239.1  | "snms application software" |
| Upgrade.Upgrade               | 76.8      |                             |
| EMSROOT                       | 1684601.1 |                             |
| /tools                        | 3947.6    |                             |
| Total                         | 1688548.7 |                             |

Available space at /ems is: 5653104 Kbytes  
Going ahead with the assumption that space is OK.

The new EMS files will be installed ...

**Your Input** ==> Are you ready to proceed? (y) to proceed, <CR> to skip, or (q) to quit: y

```
===== 01/16/02 13:34:11 EST BEGIN swinstall SESSION
(non-interactive)
```

- \* Session started for user "root@largo".
- \* Beginning Selection
- \* Target connection succeeded for "largo:/".
- \* "largo:/cdrom": Cannot open the logfile on this target or source. Possibly the media is read-only or there is a permission problem. Check the daemon logfile and "/var/tmp/swagent.log" on this host for more information.
- \* Source: /cdrom
- \* Targets: largo: /
- \* Software selections:
  - EMS.snmsInterfaces,r=F7.0
  - EMS.snmsRogue,r=F7.0
- \* Selection succeeded.
- \* Beginning Analysis
- \* Session selections have been saved in the file "/.sw/sessions/swinstall.last".
- \* "largo:/": There will be no attempt to mount filesystems that appear in the filesystem table.
- \* Analysis succeeded.
- \* Beginning Execution
- \* The execution phase succeeded for "largo:/".
- \* Execution succeeded.

NOTE: More information may be found in the agent logfile (location is largo:/var/adm/sw/swagent.log).

```
===== 01/16/02 13:35:04 EST END swinstall SESSION (non-interactive)
```

OS and Package files loaded.

```
===== 01/16/02 13:35:04 EST BEGIN swinstall SESSION
(non-interactive)
```

- \* Session started for user "root@largo".
- \* Beginning Selection
- \* Target connection succeeded for "largo:/ems".
- \* "largo:/cdrom": Cannot open the logfile on this target or source. Possibly the media is read-only or there is a permission problem. Check the daemon logfile and "/var/tmp/swagent.log" on this host for more information.
- \* Source: /cdrom
- \* Targets: largo:/ems

\* Software selections:  
EMS.snms,r=F7.0  
\* Selection succeeded.

\* Beginning Analysis  
\* Session selections have been saved in the file  
"/.sw/sessions/swinstall.last".  
\* "largo:/ems": There will be no attempt to mount filesystems  
that appear in the filesystem table.  
\* Analysis succeeded.

\* Beginning Execution  
WARNING: "largo:/ems": 1 postinstall or postremove scripts had  
warnings.  
\* Execution succeeded.

NOTE: More information may be found in the agent logfile (location  
is largo:/ems/var/adm/sw/swagent.log).

=====  
01/16/02 13:35:54 EST END swinstall SESSION (non-interactive)

x etc/dbconfig/dbconfig.COMPACT, 2332 bytes, 5 tape blocks

*<Some Output Deleted for Brevity!>*

x bin/SB\_Q3\_400gr2, 47873888 bytes, 93504 tape blocks  
Navis(TM) Optical EMS release files are loaded.  
ems  
largo

Setting up .profile for user tl1 ...

Starting the EMS PROVISIONING process ...

At this time, you may choose a new set of environment parameters  
for the new EMS configuration.

WARNING:

The EMS new host Informix Database configuration is about to begin.  
The Informix Database configuration will use socket instead of share  
memory. Please adjust your Name Service Switch accordingly.

**Your Input** ==> Do you want to continue this process (y/n/q): y

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Your EMS environment:  
APPTAG = EMS  
EMSROOT = /ems  
APPCONFIG = /ems/etc/appconfig  
APPMON\_PORT= 7578  
ROAMLOG = /ems/log/data

Set up configuration files...  
Reinitialize informix online...  
Waiting for system related databases to be built...

Parse configuration file and start to create dbspaces ...  
WARNING: /dev/informix/pm2sp61\_2G is not available, pm2\_dbs skipped...  
<Some Output Deleted for Brevity!>  
WARNING: /dev/informix/pm2sp73\_2G is not available, pm2\_dbs skipped...  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.

<Some Output Deleted for Brevity!>

Verifying physical disk space, please wait ...  
Space successfully added.

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Space successfully added.

<Some Output Deleted for Brevity!>

\*\* WARNING \*\* A level 0 archive of Root DBSpace will need to be done.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.

<Some Output Deleted for Brevity!>

Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Verifying physical disk space, please wait ...  
Chunk successfully added.  
Re-start Informix Online ...

12 dbspace(s) created and 59 chunks added successfully ...

+++++

Informix configuration completed.

You have to re-login as ems to establish variables before move-on.

++++  
logout

**Your Input** ==> Press [ENTER] to continue. ENTER

The following LAN interface(s) have been detected:

```
lan 0 0/0/0/0 btlan3 CLAIMED INTERFACE HP PCI 10/
100Base-TX Core
lan 1 0/3/0/0 btlan5 CLAIMED INTERFACE HP A5230A/
B5509BA PCI 10/100Base-TX Addon
lan 2 0/6/0/0 btlan5 CLAIMED INTERFACE HP A5230A/
B5509BA PCI 10/100Base-TX Addon
```

**Your Input** ==> Press [Enter] to continue ENTER

1. Network Service Attachment Point (NSAP) forms (Fixed/Flexible)?: Fixed
2. Activate SONET Directory Services (y/n)?: Y
3. NE PROTOCOL INFORMATION

The current configuration is displayed:

```
CMISE: (y/n) Y
OSI TL1: (y/n) Y
X.25 TL1: (y/n) N
```

4. Double Acknowledgement Feature (Enabled/Disabled)?: Enabled

**Your Input** ==> Please enter the item number [1-4] to make change.  
==> Enter "s" to save the above input and continue.  
==> Enter "q" to quit. s

The current OSI Configuration is summarized as following:

1. lan 0 0/0/0/0 - N/C
2. lan 1 0/3/0/0 - Primary 000000 0000 BB00
3. lan 2 0/6/0/0 - N/C

Please use the following menu to customize your local configuration

1. Primary OSI LAN interface number= 2
2. Organization Identifier= 000000
3. Routing Domain= 0000
4. OSI Area= BB00
5. OSI Idp= 39840F
6. OSI Dfi= 80

- 7. OSI Lan Redundancy is not configured
- 8. IP address for OSI over TCP/IP= 172030002064

**Your Input** ==> Enter the item number [1-8] to change the current value.  
==> Enter "s" to save the above input and continue.  
==> What would you like to do [1-8, or s] [q to quit]: s

CMISE INFORMATION REVIEW

The following is a review of Network Element protocol information:

- 1. EMS Name = ems123
- 2. Presentation Selector = 70737431
- 3. Session Selector = 73657331
- 4. Transport Selector = 747030
- 5. OLS-400G Support = YES

**Your Input** ==> Enter the item number [1-5] to change the current value.  
==> Enter "s" to save the above input and continue.  
==> What would you like to do [1-5, or s] [q to quit]: s

DIB PREFIX REVIEW:

The following is a review of DIB prefix:

- 1. DIB Country Name prefix = US
- 2. DIB Organization Name prefix = LUCENT
- 3. DIB Organization Unit Name prefix = SNMS1;SNMS2

Enter the item number [1-3] to change the current value.  
Enter "s" to save the above input and continue.

**Your Input** ==> What would you like to do [1-3, or s] [q to quit]: s  
==> Accept the current configuration (y/n/q)? y

Saving the configuration.....Configuration saved.

Your EMS environment:

APPTAG = EMS  
EMSROOT = /ems  
APPCONFIG = /ems/etc/appconfig  
APPMON\_PORT= 7578  
ROAMLOG = /ems/log/data

Running Setup from scratch.  
EMS is being reconfigured.

Successful Validation. Created appconfig from appconfig.t

Change permission of files.....

The following directories are currently defined for PM data collection -

/reports/pm

**Your Input** ==> Do you wish to change the list of PM directories(y/n)? n

Creating link for OXC\_LR...  
 Creating link for W2\_5G\_10G...  
 Creating link for OLS40G\_80G...  
 Creating link for WBWM...  
 Creating link for ABM...  
 Creating link for UNITE\_LR...  
 Creating link for STM64NE...  
 Creating link for OXC1024\_LR...  
 Creating link for NCC...  
 Creating link for OXC128\_LR...  
 Creating link for DMX...  
 Creating link for DMXPRESS...

Done creating links

Creating database...

After installEms exited, you may be logged out automatically.  
 If not, logout yourself. Login again as a EMS user, then  
 start EMS with the "up" command.

Thank you for using "installEms"!

**Your Input** ==> Upgrading TMF with EMS\_CLUSTER\_ID: SNMS\_laredo, press  
 <Enter> when ready... ENTER

Installing EMS-TMF...

**Your Input** ==> Please insert the EMS TMF CD to the drive.  
 ==> Press <Enter> when ready... ENTER

swinstall -s /cdrom -x "logfile=/tmp/instEMS-TMF.out" -x  
 "mount\_all\_filesystems=false" EMS-TMF

=====  
 01/16/02 13:56:34 EST BEGIN swinstall SESSION  
 (non-interactive)

\* Session started for user "root@largo".

\* Beginning Selection

\* Target connection succeeded for "largo:/".

\* "largo:/cdrom": Cannot open the logfile on this target or  
 source. Possibly the media is read-only or there is a  
 permission problem. Check the daemon logfile and  
 "/var/tmp/swagent.log" on this host for more information.

\* Source: /cdrom

```
* Targets: largo:/
* Software selections:
 EMS-TMF.tmf,r=F7.0
* Selection succeeded.

* Beginning Analysis
* Session selections have been saved in the file
 "/.sw/sessions/swinstall.last".
* "largo:/" : There will be no attempt to mount filesystems that
 appear in the filesystem table.
* Analysis succeeded.

* Beginning Execution
WARNING: Exiting due to keyboard interrupt.
* The execution phase succeeded for "largo:/" .
* Execution succeeded.
```

NOTE: More information may be found in the agent logfile (location is largo:/var/adm/sw/swagent.log).

===== 01/16/02 13:57:49 EST END swinstall SESSION (non-interactive)

```
Running initTmf
Checking DB replicator Status....
Checking disk spaces.....
```

You have HA software installed!

```
Your Input ==> Please remove the shared disk from the disk list!
==> Keep /dev/rdisk/c6t8d0? (y/n/q) n
==> Keep /dev/rdisk/c6t9d0? (y/n/q) n
==> Keep /dev/rdisk/c6t10d0? (y/n/q) n
==> Keep /dev/rdisk/c7t12d0? (y/n/q) n
```

You didn't specify any disk to keep!

Checking existing volume group for space.

Working on it.....

OK, configuring 4000 MB as TMF database space.

```
lvcreate -L 2000 -n nbsp1_2G vg01
ln -s /dev/vg01/mbsp1_2G /dev/informix/nbsp1_2G
lvcreate -L 2000 -n nbsp2_2G vg04
ln -s /dev/vg04/mbsp2_2G /dev/informix/nbsp2_2G
```

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```
Your EMS environment:
 APPTAG = EMS
 EMSROOT = /ems
```

```

APPCONFIG = /ems/etc/appconfig
APPMON_PORT= 7578
ROAMLOG = /ems/log/data

```

```

Parse configuration file and start to create dbspaces ...
Verifying physical disk space, please wait ...
Space successfully added.

```

```

** WARNING ** A level 0 archive of Root DBSpace will need to be done.
Verifying physical disk space, please wait ...
Chunk successfully added.

```

```

1 dbspace(s) created and 1 chunks added successfully ...

```

```

Creating database ems_db in snc_dbs
Database ems_db created previously.
 0 new tables created, 0 new indexes created
Loading data in ems_db
 loading load_cmddict -r 0 ...
 loading load_gdb_dft -view ...

```

```

 loading load_gdb_dft -aggr ...
Loading stored procedures in ems_db
<Some Output Deleted for Brevity!>
Creating database tmf_db in nb_dbs
Generate schema file file for tmf_db
 26 new tables created, 26 new indexes created
Load trigger/stored procedure in NCI DB
logout

```

```

Re-configuring EMS for TMF ... installEms -b 5

```

```

installEms is checking Hardware, please be patient!
The current EMS run level is "Shutdown".

```

```

Starting the EMS PROVISIONING process ...

```

```

At this time, you may choose a new set of environment parameters
for the new EMS configuration.

```

```

The following LAN interface(s) have been detected:

```

```

lan 0 0/0/0/0 btlan3 CLAIMED INTERFACE HP PCI 10/
100Base-TX Core
lan 1 0/3/0/0 btlan5 CLAIMED INTERFACE HP A5230A/
B5509BA PCI 10/100Base-TX Addon
lan 2 0/6/0/0 btlan5 CLAIMED INTERFACE HP A5230A/
B5509BA PCI 10/100Base-TX Addon

```

```

1. Network Service Attachment Point (NSAP) forms (Fixed/Flexible)?: Fixed

```

```

2. Activate SONET Directory Services (y/n)?: Y

```

```

3. NE PROTOCOL INFORMATION

```

The current configuration is displayed:

CMISE: (y/n) Y  
OSI TL1: (y/n) Y  
X.25 TL1: (y/n) N

4. Double Acknowledgement Feature (Enabled/Disabled)? : Enabled

The current OSI Configuration is summarized as following:

1. lan 0 0/0/0/0 - N/C
2. lan 1 0/3/0/0 - Primary 000000 0000 BB00
3. lan 2 0/6/0/0 - N/C

#### CMISE INFORMATION REVIEW

The following is a review of Network Element protocol information:

1. EMS Name = ems123
2. Presentation Selector = 70737431
3. Session Selector = 73657331
4. Transport Selector = 747030
5. OLS-400G Support = YES

#### DIB PREFIX REVIEW:

The following is a review of DIB prefix:

1. DIB Country Name prefix = US
2. DIB Organization Name prefix = LUCENT
3. DIB Organization Unit Name prefix = SNMS1;SNMS2

Saving the configuration.....Configuration saved.  
EMS-TMF is installed, configuring.....

Your EMS environment:

APPTAG = EMS  
EMSROOT = /ems  
APPCONFIG = /ems/etc/appconfig  
APPMON\_PORT= 7578  
ROAMLOG = /ems/log/data

Running Setup from scratch.  
EMS is being reconfigured.

Successful Validation. Created appconfig from appconfig.t

Change permission of files.....  
Creating link for OXC\_LR...  
Creating link for W2\_5G\_10G...  
Creating link for OLS40G\_80G...  
Creating link for WBWM...  
Creating link for ABM...

Creating link for UNITE\_LR...  
Creating link for STM64NE...  
Creating link for OXC1024\_LR...  
Creating link for NCC...  
Creating link for OXC128\_LR...  
Creating link for DMX...  
Creating link for DMXPRESS...

Done creating links

Creating database...

After installEms exited, you may be logged out automatically.  
If not, logout yourself. Login again as a EMS user, then  
start EMS with the "up" command.

Thank you for using "installEms"!

You are about to enter the license key for EMS release

**Your Input** ==> Continue to set up the EMS license key (y/n/q)? y

EMS LICENSE INFORMATION REVIEW

The following is a review of EMS LICENSE INFORMATION:

1. EMS release =7.0
2. EMS optional features=NONE
3. EMS license key=TEMPORARY

**Your Input** ==> Enter the item number [1-3] to change the current value.

==> Enter "s" to save the above input and continue.

==> What would you like to do [1-3, or s] [q to quit]: 2

Please select the Optional features?

- 1) RPT
- 2) TMF
- 3) RPT, TMF
- 4) NONE

**Your Input** ==> #? 3

EMS LICENSE INFORMATION REVIEW

The following is a review of EMS LICENSE INFORMATION:

1. EMS release =7.0
2. EMS optional features=RPT, TMF
3. EMS license key=TEMPORARY

Enter the item number [1-3] to change the current value.

Enter "s" to save the above input and continue.

**Your Input** ==> What would you like to do [1-3, or s] [q to quit]: 3  
==> Please enter the License key! <key value>

EMS LICENSE INFORMATION REVIEW

The following is a review of EMS LICENSE INFORMATION:

1. EMS release =7.0
2. EMS optional features=RPT,TMF
3. EMS license key=<key value>

Enter the item number [1-3] to change the current value.  
Enter "s" to save the above input and continue.

**Your Input** ==> What would you like to do [1-3, or s] [q to quit]: s  
==> Accept the current configuration (y/n/q)? y

Thank you for using "installEmsLicense"!

**Your Input** ==> Do you want to restore the database and flat files <y/n/? y

Removing PM cache... rm -rf /ems/.pm/DbManager  
Dropping EMS databases...

*<Copyright and Legal Notices Deleted for Brevity!>*

**Your Input.** ==> Do you want to drop DSA database(y/n)? y

DSA database dropped  
Dropping database <ems\_db>....

Database dropped.  
Dropping database <cf\_db1>....  
Database dropped.  
Dropping database <cf\_db2>....  
Database dropped.  
Dropping database <cf\_db3>....  
Database dropped.  
Dropping database <pm\_db>....  
Database dropped.  
Dropping database <tmf\_db>....  
Database dropped.

logout

Restore EMS flat data files.

==> NOTE: This is a restore from directory and not from tape

Restoring EMS databases and/or data files from /data/DB\_backup

Press <Enter> when ready...

```
su - ems -c "ems_recover -i /data/DB_backup"
```

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Please follow the installation guide to finish the HA upgrade.

SnmsInstall done.

Your EMS environment:

```
APPTAG = EMS
EMSROOT = /ems
APPCONFIG = /ems/etc/appconfig
APPMON_PORT= 7578
ROAMLOG = /ems/log/data
```

EMS recover starts at Tue Jan 15 14:49:38 EST 2002

Recover EMS databases and application data from directory </data/DB\_backup>

Drop ems\_db first

Recover ems\_db from </data/DB\_backup>...

ems\_db has been imported successfully

Recover flat files from </data/DB\_backup>...

ret=0

*<Some Output Deleted for Brevity!>*

Drop tmf\_db first

Recover tmf\_db from </data/DB\_backup>...

tmf\_db has been imported successfully

logout

About to convert databases (DB retrofit).

Press <Enter> when ready...

Converting database (DB retrofit)...

SNMSDB5.1To6.0

*<Copyright and Legal Notices Deleted for Brevity!>*.

Your EMS environment:

```
APPTAG = EMS
EMSROOT = /ems
APPCONFIG = /ems/etc/appconfig
APPMON_PORT= 7578
ROAMLOG = /ems/log/data
```

Starting database upgrade from R5.1 to R6.0 at Tue Jan 15 14:52:02 EST 2002...

(logfile: /tmp/SNMSDB5.1To6.0.log)

Drop all indexes

Dropping constraints for ems\_db...  
Dropping indexes for ems\_db...  
-- In upd\_ne\_ne Tue Jan 15 14:52:03 EST 2002  
-- Updating ne\_ne table...  
-- Exit from upd\_ne\_ne Tue Jan 15 14:52:04 EST 2002  
  
-- In upd\_sm\_secparam Tue Jan 15 14:52:04 EST 2002  
-- Updating sm\_secparam table...  
-- Exit from upd\_sm\_secparam Tue Jan 15 14:52:04 EST 2002  
  
-- In cleanup\_nq Tue Jan 15 14:52:04 EST 2002  
-- Clean up q3nb\_db...  
-- Exit from cleanup\_nq Tue Jan 15 14:52:04 EST 2002  
  
-- In upd\_act\_ne Tue Jan 15 14:52:04 EST 2002  
-- Updating activation in ne\_ne table...  
-- Exit from upd\_act\_ne Tue Jan 15 14:52:04 EST 2002  
  
-- In upd\_sm\_user Tue Jan 15 14:52:04 EST 2002  
-- Updating sm\_user table to correct cg\_name...

Database selected.

1 row(s) updated.

Database closed.

-- Exit from upd\_sm\_user Tue Jan 15 14:52:05 EST 2002

Execute crdb to create new tables and databases

Creating database ems\_db in snc\_dbs  
Database ems\_db created previously.  
0 new tables created, 61 new indexes created  
Loading data in ems\_db ...  
loading load\_cmddict -r 0 ...  
loading load\_gdb\_dft -view ...

loading load\_gdb\_dft -aggr ...  
Loading stored procedures in ems\_db ...

*<Some Output Deleted for Brevity!>*

Creating database tmf\_db in nb\_dbs  
Database tmf\_db created previously.  
0 new tables created, 0 new indexes created  
Load trigger/stored procedure in NCI DB

Database upgrade from R5.1 to R6.0 completed.

logout

SNMSDB6.0To7.0

*<Copyright and Legal Notices Deleted for Brevity!>*

```
Your EMS environment:
 APPTAG = EMS
 EMSROOT = /ems
 APPCONFIG = /ems/etc/appconfig
 APPMON_PORT= 7578
 ROAMLOG = /ems/log/data
```

```
Starting database upgrade from R6.0 to R7.0 at Tue Jan 15 14:53:05 EST
2002...
```

```
(logfile: /tmp/SNMSDB6.0To7.0.log)
```

```
-- In upd_snc_element Tue Jan 15 14:53:05 EST 2002
-- Updating snc_element table...
-- In cf_db1 ..
-- In cf_db2 ..
-- In cf_db3 ..
-- Exit from upd_snc_element Tue Jan 15 14:53:06 EST 2002

-- In drop_nci_pm_tp Tue Jan 15 14:53:06 EST 2002
-- dropping nci_pm_tp table...
-- Exit from drop_nci_pm_tp Tue Jan 15 14:53:06 EST 2002

-- In upd_sm_user Tue Jan 15 14:53:06 EST 2002
-- Updating sm_user table...
-- unload sm_user table..
 Checking column 'password' 3
 Checking column 'password1' 0
 Checking column 'password2' 0
 Checking column 'password3' 0
 Checking column 'password4' 0
 Checking column 'password5' 0
 Checking column 'password6' 0
 Checking column 'password7' 0
 Checking column 'password8' 0
 Checking column 'password9' 0
-- Creating SQL statement...
 3 record(s) will be updated
-- Updating <ems_db> database...
-- Exit from upd_sm_user Tue Jan 15 14:53:09 EST 2002
```

```
Execute crdb to create new tables and databases
```

```
Creating database ems_db in snc_dbs
Database ems_db created previously.
 0 new tables created, 0 new indexes created
Loading data in ems_db
 loading load_cmddict -r 0 ...
 loading load_gdb_dft -view ...

 loading load_gdb_dft -aggr ...
Loading stored procedures in ems_db
<Some Output Deleted for Brevity!>
Creating database tmf_db in nb_dbs
Database tmf_db created previously.
```

0 new tables created, 0 new indexes created  
Load trigger/stored procedure in NCI DB

Database upgrade from R6.0 to R7.0 completed.

logout

If you encountered any errors, DB retrofit has to be performed again.

**Your Input** ==> Are you done with DB restore <y/n>? y

Please follow the installation guide to finish the HA upgrade.

SnmsInstall done.







# F rejoin Command Execution Screen Output

**Screen Output** The following pages show screen output that appears during the **rejoin** command execution:

```
/ems/etc/rejoin
Checking application status...
Get topology file and resync on all hosts...
Establishing connection to HA_Mgr.
Resync Database...
(c)Copyright 1983-1997 Hewlett-Packard Co., All Rights Reserved.
(c)Copyright 1979, 1980, 1983, 1985-1993 The Regents of the Univ. of
California
(c)Copyright 1980, 1984, 1986 Novell, Inc.
(c)Copyright 1986-1992 Sun Microsystems, Inc.
(c)Copyright 1985, 1986, 1988 Massachusetts Institute of Technology
(c)Copyright 1989-1993The Open Software Foundation, Inc.
(c)Copyright 1986 Digital Equipment Corp.
(c)Copyright 1990 Motorola, Inc.
(c)Copyright 1990, 1991, 1992 Cornell University
(c)Copyright 1989-1991 The University of Maryland
(c)Copyright 1988 Carnegie Mellon University=
(c)Copyright 1991-1997 Mentat, Inc.
(c)Copyright 1996 Morning Star Technologies, Inc.
(c)Copyright 1996 Progressive Systems, Inc.
(c)Copyright 1997 Isogon Corporation
```

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3000 Hanover Street  
Palo Alto, CA 94304 U.S.A.

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Your SNMS environment:

APPTAG = EMS

EMSROOT = /ems

APPCONFIG = /ems/etc/appconfig

APPMON\_PORT= 7578

ROAMLOG = /ems/log/data

Establishing connection to HA\_Mgr.

Resync start at Tue Jan 25 14:13:41 EDT 2002.....

Bring informix down ....

Bring informix up ....

er\_status is DOWN, Skipped ER remove...

Running buildsmi ....

Bring informix down ....

Bring informix up ....

Dropping/Create database on STANDBY HOST (luna)...

ReConfig ER ...

ER Configuration between lahore and luna (as), (y/n)?y

ER Configuration between lahore and luna ...

Config module: EAPP

Config module: FM

Config module: LM

Config module: NM

Config module: CF

Config module: SDS

Config module: SM

Config module: UI

Config module: CFS1 CFS2 CFS3

Config module: PM1

Config module: PM2

Config module: PM3

Config module: PM4  
Config module: PM5  
Config module: NCI  
Start replication...  
Suspending replication to luna...  
Do you need to do database resync ? (y/n) y  
The data resync process might take hours to complete...  
Unloading/Loading data...  
directory lahore:/reports/resync not found, so created...  
directory luna:/reports/resync not found, so created...  
Do all snms copy w/o skip tables...  
Clean ...  
copybytable ems\_db cf\_ne2db 2  
4 unloaded/4 loaded  
copybytable ems\_db cf\_global\_prov 2  
3 unloaded/3 loaded  
copybytable ems\_db nt\_trail 10  
4 unloaded/4 loaded  
copybytable ems\_db nt\_xcgroup 5  
0 unloaded/skip loading  
copybytable ems\_db nt\_userxc 12  
0 unloaded/skip loading  
copybytable ems\_db ne\_ne 36  
4 unloaded/4 loaded  
copybytable ems\_db ne\_subnet 6  
4 unloaded/4 loaded  
copybytable ems\_db ne\_dccsn 4  
4 unloaded/4 loaded  
copybytable ems\_db ne\_sonetnetwrk 2  
1 unloaded/1 loaded  
copybytable ems\_db fm\_dbactivelog 17  
6 unloaded/6 loaded  
copybytable ems\_db fm\_dbiafparams 5  
0 unloaded/skip loading  
copybytable ems\_db fm\_dbusam 9  
0 unloaded/skip loading  
copybytable ems\_db fm\_lastmessage 14  
1 unloaded/1 loaded  
copybytable ems\_db fm\_preference 3  
7 unloaded/7 loaded  
copybytable ems\_db sm\_user 20  
3 unloaded/3 loaded  
copybytable ems\_db sm\_cmddict 10

1544 unloaded/1544 loaded  
copybytable ems\_db sm\_cmdgrp 2  
7 unloaded/7 loaded  
copybytable ems\_db sm\_cmdgrpdict 2  
0 unloaded/skip loading  
copybytable ems\_db sm\_tgtgrp 2  
2 unloaded/2 loaded  
copybytable ems\_db sm\_tgtgrpdict 2  
0 unloaded/skip loading  
copybytable ems\_db sm\_neuser 4  
9 unloaded/9 loaded  
copybytable ems\_db sm\_secparams 8  
1 unloaded/1 loaded  
copybytable ems\_db oam\_schedinfo 19  
0 unloaded/skip loading  
copybytable ems\_db oam\_schedstat 5  
0 unloaded/skip loading  
copybytable ems\_db oam\_prntgrp 4  
0 unloaded/skip loading  
copybytable ems\_db oam\_pmfiles 6  
0 unloaded/skip loading  
copybytable ems\_db lm\_ps\_neevent 12  
0 unloaded/skip loading  
copybytable ems\_db sds\_prefix 4  
3 unloaded/3 loaded  
copybytable ems\_db sds\_ne 10  
3 unloaded/3 loaded  
copybytable ems\_db sds\_ae 6  
3 unloaded/3 loaded  
copybytable ems\_db ui\_cpack 7  
0 unloaded/skip loading  
copybytable ems\_db ui\_node 4  
0 unloaded/skip loading  
copybytable ems\_db ui\_view 3  
0 unloaded/skip loading  
copybytable ems\_db ui\_aggr 4  
0 unloaded/skip loading  
copybytable ems\_db ui\_aggrchild 4  
0 unloaded/skip loading  
copybytable ems\_db ui\_user 4  
2 unloaded/2 loaded  
copybytable ems\_db ui\_usrprt 5  
0 unloaded/skip loading

copybytable ems\_db ui\_dbactivelog 21  
0 unloaded/skip loading  
copybytable ems\_db eapp\_fmprofile 6  
97 unloaded/97 loaded  
copybytable ems\_db eapp\_fmmap 6  
14 unloaded/14 loaded  
copybytable ems\_db eapp\_pmprofile 7  
30 unloaded/30 loaded  
copybytable ems\_db eapp\_pmmap 6  
12 unloaded/12 loaded  
copybytable cf\_db1 snc\_assoc 12  
0 unloaded/skip loading  
copybytable cf\_db1 snc\_bay 15  
1 unloaded/1 loaded  
copybytable cf\_db1 snc\_cktpack 14  
11 unloaded/11 loaded  
copybytable cf\_db1 snc\_ctp 12  
214 unloaded/214 loaded  
copybytable cf\_db1 snc\_ctpattribute 4  
1536 unloaded/1536 loaded  
copybytable cf\_db1 snc\_discrete 4  
0 unloaded/skip loading  
copybytable cf\_db1 snc\_discattribute 4  
0 unloaded/skip loading  
copybytable cf\_db1 snc\_element 20  
2 unloaded/2 loaded  
copybytable cf\_db1 snc\_eqptattribute 4  
1731 unloaded/1731 loaded  
copybytable cf\_db1 snc\_neattribute 4  
22 unloaded/22 loaded  
copybytable cf\_db1 snc\_port 9  
0 unloaded/skip loading  
copybytable cf\_db1 snc\_portattribute 4  
0 unloaded/skip loading  
copybytable cf\_db1 snc\_pgattribute 4  
31 unloaded/31 loaded  
copybytable cf\_db1 snc\_protgroup 6  
4 unloaded/4 loaded  
copybytable cf\_db1 snc\_shelf 16  
1 unloaded/1 loaded  
copybytable cf\_db1 snc\_slot 19  
26 unloaded/26 loaded  
copybytable cf\_db1 snc\_ttp 12

14 unloaded/14 loaded  
copybytable cf\_db1 snc\_ttpattribute 4  
316 unloaded/316 loaded  
copybytable cf\_db1 snc\_xc2tprel 3  
1 unloaded/1 loaded  
copybytable cf\_db1 snc\_xcattribute 4  
6 unloaded/6 loaded  
copybytable cf\_db1 snc\_xconn 7  
1 unloaded/1 loaded  
copybytable cf\_db2 snc\_assoc 12  
0 unloaded/skip loading  
copybytable cf\_db2 snc\_bay 15  
1 unloaded/1 loaded  
copybytable cf\_db2 snc\_cktpack 14  
10 unloaded/10 loaded  
copybytable cf\_db2 snc\_ctp 12  
154 unloaded/154 loaded  
copybytable cf\_db2 snc\_ctpattribute 4  
1344 unloaded/1344 loaded  
copybytable cf\_db2 snc\_discrete 4  
0 unloaded/skip loading  
copybytable cf\_db2 snc\_discattribute 4  
0 unloaded/skip loading  
copybytable cf\_db2 snc\_element 20  
1 unloaded/1 loaded  
copybytable cf\_db2 snc\_eqptattribute 4  
1946 unloaded/1946 loaded  
copybytable cf\_db2 snc\_neattribute 4  
21 unloaded/21 loaded  
copybytable cf\_db2 snc\_port 9  
0 unloaded/skip loading  
copybytable cf\_db2 snc\_portattribute 4  
0 unloaded/skip loading  
copybytable cf\_db2 snc\_pgattribute 4  
36 unloaded/36 loaded  
copybytable cf\_db2 snc\_protgroup 6  
4 unloaded/4 loaded  
copybytable cf\_db2 snc\_shelf 16  
1 unloaded/1 loaded  
copybytable cf\_db2 snc\_slot 19  
26 unloaded/26 loaded  
copybytable cf\_db2 snc\_ttp 12  
18 unloaded/18 loaded

copybytable cf\_db2 snc\_ttpattribute 4  
468 unloaded/468 loaded  
copybytable cf\_db2 snc\_xc2tprel 3  
0 unloaded/skip loading  
copybytable cf\_db2 snc\_xcattribute 4  
0 unloaded/skip loading  
copybytable cf\_db2 snc\_xconn 7  
0 unloaded/skip loading  
copybytable cf\_db3 snc\_assoc 12  
0 unloaded/skip loading  
copybytable cf\_db3 snc\_bay 15  
1 unloaded/1 loaded  
copybytable cf\_db3 snc\_cktpack 14  
12 unloaded/12 loaded  
copybytable cf\_db3 snc\_ctp 12  
162 unloaded/162 loaded  
copybytable cf\_db3 snc\_ctpattribute 4  
1296 unloaded/1296 loaded  
  
copybytable cf\_db3 snc\_discrete 4  
0 unloaded/skip loading  
copybytable cf\_db3 snc\_discattribute 4  
0 unloaded/skip loading  
copybytable cf\_db3 snc\_element 20  
1 unloaded/1 loaded  
copybytable cf\_db3 snc\_eqptattribute 4  
1964 unloaded/1964 loaded  
copybytable cf\_db3 snc\_neattribute 4  
21 unloaded/21 loaded  
copybytable cf\_db3 snc\_port 9  
0 unloaded/skip loading  
copybytable cf\_db3 snc\_portattribute 4  
0 unloaded/skip loading  
copybytable cf\_db3 snc\_pgattribute 4  
37 unloaded/37 loaded  
copybytable cf\_db3 snc\_protgroup 6  
4 unloaded/4 loaded  
copybytable cf\_db3 snc\_shelf 16  
1 unloaded/1 loaded  
copybytable cf\_db3 snc\_slot 19  
26 unloaded/26 loaded  
copybytable cf\_db3 snc\_ttp 12  
26 unloaded/26 loaded

copybytable cf\_db3 snc\_ttpattribute 4  
468 unloaded/468 loaded  
copybytable cf\_db3 snc\_xc2tprel 3  
1 unloaded/1 loaded  
copybytable cf\_db3 snc\_xcattribute 4  
6 unloaded/6 loaded  
copybytable cf\_db3 snc\_xconn 7  
1 unloaded/1 loaded  
copybytable pm\_db pm\_monitorheader 6  
0 unloaded/skip loading  
copybytable pm\_db pm\_monitorlookup 6  
0 unloaded/skip loading  
copybytable pm\_db pm\_datamap 2  
32 unloaded/32 loaded  
copybytable tmf\_db nci\_snc 9  
0 unloaded/skip loading  
copybytable tmf\_db nci\_snc\_xc 5  
0 unloaded/skip loading  
copybytable tmf\_db nci\_snc\_tp 5  
0 unloaded/skip loading  
copybytable tmf\_db nci\_snc\_tp\_tr\_pars 5  
0 unloaded/skip loading  
  
copybytable tmf\_db nci\_snc\_tp\_assoc 4  
0 unloaded/skip loading  
copybytable tmf\_db nci\_snc\_xc\_tp\_asso 4  
0 unloaded/skip loading  
copybytable tmf\_db nci\_snc\_add\_info 3  
0 unloaded/skip loading  
copybytable tmf\_db nci\_userlabel 5  
0 unloaded/skip loading  
copybytable tmf\_db nci\_pm\_tp 4  
0 unloaded/skip loading  
copybytable tmf\_db nci\_tp 7  
0 unloaded/skip loading  
copybytable tmf\_db nci\_nf\_alarm 5  
0 unloaded/skip loading=  
copybytable tmf\_db nci\_nf\_alarm\_atp 2  
0 unloaded/skip loading  
copybytable tmf\_db nci\_nf\_tca 11  
0 unloaded/skip loading  
copybytable tmf\_db nci\_nf\_co 7  
0 unloaded/skip loading

```
copybytable tmf_db nci_nf_co_me 11
0 unloaded/skip loading
copybytable tmf_db nci_nf_co_tp 20
0 unloaded/skip loading
copybytable tmf_db nci_nf_co_tp_lp 5
0 unloaded/skip loading
copybytable tmf_db nci_nf_co_snc 24
0 unloaded/skip loading
copybytable tmf_db nci_nf_co_snc_tp 6
0 unloaded/skip loading
copybytable tmf_db nci_nf_co_pgp 16
0 unloaded/skip loading
copybytable tmf_db nci_nf_co_pgp_tp 7
0 unloaded/skip loading
copybytable tmf_db nci_nf_do 6
0 unloaded/skip loading
copybytable tmf_db nci_nf_ps 12
0 unloaded/skip loading
copybytable tmf_db nci_nf_sps 16
0 unloaded/skip loading
copybytable tmf_db nci_nf_avcsc 11
0 unloaded/skip loading
copybytable tmf_db nci_nf_client_id 4
0 unloaded/skip loading
copybytable tmf_db nci_nf_filters 4
0 unloaded/skip loading

snms copy completed...
Sending 2nd large data files in background...
Resume replication to luna...
Resync completed at Tue Jan 25 14:24:22 EDT 2002...
logout
Resync flat files...
lahoreis active machine.
process not attached to terminal
Usage:who [-rbtpludAasHTqRm] [am i] [utmp_like_file]

r run level
b boot time
t time changes
p processes other than getty or users
l login processes
u useful information
d dead processes
```

A accounting information  
a all (rbtpludA options)  
s short form of who (no time since last output or pid)  
H print header  
T status of tty (+ writable, - not writable, x exclusive open, ? hung)  
q quick who  
R print host name  
/ems/etc/BR\_rc  
/ems/etc/CF\_rc  
/ems/etc/CM\_Server\_rc  
/ems/etc/CM\_rc  
/ems/etc/CSB\_rc  
/ems/etc/EAPP\_rc  
/ems/etc/FM\_rc  
/ems/etc/LD\_rc  
/ems/etc/LM\_Client\_rc  
/ems/etc/LM\_rc  
/ems/etc/NM\_rc  
/ems/etc/OBR\_rc  
/ems/etc/OA\_LogPurger\_rc  
/ems/etc/OSB\_rc  
/ems/etc/OSWDL\_rc  
/ems/etc/PM\_DbManager.rc  
/ems/etc/PM\_FTAM.rc  
/ems/etc/PM\_rc  
/ems/etc/RP\_rc  
/ems/etc/SDSenv\_rc  
/ems/etc/SF\_rc  
/ems/etc/SM\_Sec\_rc  
  
/ems/etc/SNC\_MON\_rc  
/ems/etc/TLA\_CMD\_rc  
/ems/etc/X25\_rc  
/ems/etc/foldtrc  
/ems/etc/globalenv.rc  
/ems/etc/trc  
/ems/etc/vuewmrc  
290 blocks  
/ems/etc/CF\_CktPackInfo  
20 blocks  
/ems/etc/OL\_.config  
10 blocks  
/ems/etc/duainit

10 blocks  
/ems/config/OA/scheduler/MultiNeJob.config  
10 blocks  
10 blocks  
/ems/neData  
10 blocks  
/ems/.pm  
/ems/.pm/.pm\_global  
/ems/.pm/DbManager  
/ems/.pm/DbManager/.purge\_mon\_lookup.sql  
/ems/.pm/DbManager/.PM\_PurgeFile.sql  
/ems/.pm/DbManager/.Pm\_DbDataMap\_PurgeFile  
/ems/.pm/FTAM  
/ems/.pm/.aid  
/ems/.pm/.pm\_divisors  
/ems/.pm/.sondre  
/ems/.pm/.sondre/lost.2001062  
/ems/.pm/.sondre/lost.20010623  
/ems/.pm/.sondre/lost.20010624  
/ems/.pm/.sondre/lost.20010625  
/ems/.pm/.sondre/lost.20010626  
/ems/.pm/mapping  
/ems/.pm/mapping/attributename  
/ems/.pm/mapping/dirn  
/ems/.pm/mapping/locn  
/ems/.pm/mapping/mfamodifier  
/ems/.pm/mapping/tca  
/ems/.pm/mapping/validity  
20 blocks  
/ems/config/FM  
/ems/config/FM/FM.cfg  
/ems/config/FM/FM\_Conditions  
/ems/config/FM/GA\_PATTERNTABLE  
  
20 blocks  
/reports/pm  
10 blocks  
/ems/userdb  
/ems/userdb/GUI\_Server  
/ems/userdb/GUI\_Server/port\_label  
/ems/userdb/GUI\_Server/Port\_Mapping  
/ems/userdb/tfwdata  
10 blocks

/ems/dsa/DB-bk  
/ems/dsa/DB-bk/DB  
/ems/dsa/DB-bk/DB.pfx  
/ems/dsa/DB-bk/DB.att  
/ems/dsa/DB-bk/DB.obc  
/ems/dsa/DB-bk/DB.ncx  
/ems/dsa/DB-bk/DB.dsa  
/ems/dsa/DB-bk/DB.crf  
/ems/dsa/DB-bk/aaaaaaaa.iDB  
/ems/dsa/DB-bk/aaaaaaaa.vDB  
/ems/dsa/DB-bk/baaaaaaaa.iDB  
/ems/dsa/DB-bk/BACKUP\_ID

1180 blocks

1180 blocks

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Your SNMS environment:  
APPTAG = EMS  
EMSROOT = /ems  
APPCONFIG = /ems/etc/appconfig  
APPMON\_PORT= 7578  
ROAMLOG = /ems/log/data

logout

Resync NE SW files...

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APPMON\_PORT= 7578  
ROAMLOG = /ems/log/data

logout

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Your SNMS environment:

APPTAG = EMS  
EMSROOT = /ems  
APPCONFIG = /ems/etc/appconfig  
APPMON\_PORT= 7578  
ROAMLOG = /ems/log/data

.ci

Appmon process is currently not running, it will now be started..

Appmon is already running

The old log will be cleared.

Current EMS Version: 5.1.0-152

Skip DB table creation because DB replication is on !!

Appmon is already running

===== Start EMS Application Processes=====

CURRENT RUN LEVEL IS: Shutdown

</tmp/SNC\_LogDaemon.lock locked>.

Process <logdaemon> Started. "SNC\_LogDaemon"

</tmp/SNC\_LogDaemon.lock released>.

Process <orbixd> Started. "orbixd -u -c \$ROAMLOG/  
OrbixCheckpoint.dat > \$ROAMLOG/OR.out 2>&1"

</tmp/stackHpov.lock locked>.

Process <stackHpov> Started. "startksh OsiStack /tmp/stackHpov.lock"

APPMON WARNING: waiting for /tmp/stackHpov.lock to be  
unlocked for 1 minute

</tmp/stackHpov.lock released>.

Process <GUIunlock> Started. "rm -f /tmp/GUI\_Wait\_Locks/\* /tmp/  
CN\_ttylocks/\*"

Process <GUIunlock> Completed.

Process <sncCron> Started. "Crontab /ems/etc/cronProc"

Process <sncCron> Completed.

Process <ifr> Started. "ifr -L > \$ROAMLOG/IFR.out 2>&1"

Process <putitNS> Started. "putit -port 7007 NS /ems/Orbix/bin/ns"

Process <putitNS> Completed.

<delay 1 second>

Process <tryNS> Started. "lsns"

Process <tryNS> Completed.

Process <chmodNS> Started. "chmodit i+all NS;chmodit l+all NS"

Process <chmodNS> Completed.

<delay 1 second>

</tmp/dsa.lock locked>.

Process <DsaStack> Started. "DsaStack /tmp/dsa.lock > /dev/null  
2>&1"

</tmp/dsa.lock released>.

</tmp/HA\_Mgr.lock locked>.

Process <HA\_Mgr> Started. "HA\_Mgr -server HA\_Mgr -lockfile /tmp/

```
HA_Mgr.lock > /dev/null 2>&1"
</tmp/HA_Mgr.lock released>.
Process <putit2000> Started. "putit -port 2000 GUI_Server -persistent"
Process <putit2000> Completed.
<delay 2 seconds>
Process <putit3000> Started. "putit -port 3000 GDB_ServerFile -
persistent"
Process <putit3000> Completed.
<delay 2 seconds>
Process <putit4000> Started. "putit -port 4000 GDB_Server -
persistent"
Process <putit4000> Completed.
<delay 2 seconds>
Process <putitGDB> Started. "putit -port 4998 GDB_ServerNtwk -
persistent"
Process <putitGDB> Completed.
<delay 2 seconds>
Process <GDBchmodNtwk> Started. "chmodit GDB_ServerNtwk
i+all"
Process <GDBchmodNtwk> Completed.
<delay 2 seconds>
Process <putitGUI> Started. "putit -port 4999 GUI_AdminServer -
persistent"
Process <putitGUI> Completed
<delay 2 seconds>
Process <GUIchmodSrv> Started. "chmodit GUI_AdminServer i+all"
Process <GUIchmodSrv> Completed.
<delay 2 seconds>
Process <GUIchmod> Started. "chmodit GUI_Server i+all"
Process <GUIchmod> Completed.
Process <GDBchmodFile> Started. "chmodit GDB_ServerFile i+all"
Process <GDBchmodFile> Completed.
Process <GDBchmod> Started. "chmodit GDB_Server i+all"
Process <GDBchmod> Completed.
</tmp/GUI_TrServer.lock locked>.
Process <GUI_TrServer> Started. "GUI_TrServer
TRACE_SERVER > $ROAMLOG/TRACE_SERVER.out"
</tmp/GUI_TrServer.lock released>.
Process <DSA_Prov> Started. "DSA_Prov"
</tmp/LD_Manager.lock locked>.
Process <LD_Manager> Started. "LD_Manager -d 1 -t 5 -k /tmp/
LD_Manager.lock > $ROAMLOG/LD.out 2>&1"
</tmp/LD_Manager.lock released>.
```

```

</tmp/LM_Logger.lock locked>.
Process <LM_Logger> Started. "LM_Logger -s $LML_SIZE -t
$LML_TIMER -d $LML_DEBUG -u $LML_MTB -m
$LML_LOGMODE -k /tmp/LM_Logger.lock > /dev/null 2>&1"
</tmp/LM_Logger.lock released>.
</tmp/LM_Browser.lock locked>.
Process <LM_Browser> Started. "LM_Browser -k /tmp/
LM_Browser.lock"
</tmp/LM_Browser.lock released>.
Process <PM_DbManager> Started. "PM_DbManager -server
PM_DbManager"
Process <PM_DbServer> Started. "PM_DbServer -server
PM_DbServer"
</tmp/SB_Q3_400g.01.lock locked>.
Process <SB_Q3_400g01> Started. "startksh run400gq3 -i 01 /tmp/
SB_Q3_400g.01.lock"
</tmp/SB_Q3_400g.01.lock released>.
</tmp/SB_Q3_400g.02.lock locked>.
Process <SB_Q3_400g02> Started. "startksh run400gq3 -i 02 /tmp/
SB_Q3_400g.02.lock"
</tmp/SB_Q3_400g.02.lock released>.
</tmp/CM.lock locked>.
Process <CM_Server> Started. "CM_Server -l /tmp/CM.lock >
$ROAMLOG/CM.out 2>&1"
</tmp/CM.lock released>.
</tmp/NEH_Server.lock locked>.
Process <NEH_Server> Started. "NEH_Server -server NEH_Server -
lockfile /tmp/NEH_Server.lock"
</tmp/NEH_Server.lock released>.
</tmp/SDS_Server.lock locked>.
Process <SDS_Server> Started. "SDS_Server -l /tmp/
SDS_Server.lock"
</tmp/SDS_Server.lock released>.
</tmp/CS_SbOsi.lock locked>.
Process <CS_SbOsi> Started. "CS_SbOsi -s CS_SbOsi -i 01 -m dlp -t 3
-l /tmp/CS_SbOsi.lock"
</tmp/CS_SbOsi.lock released>.
</tmp/CS_Southbound.lock locked>.
Process <CS_Southbound> Started. "CS_Southbound -s
CS_Southbound01 -i 01 -t 3 -l /tmp/CS_Southbound.lock"
</tmp/CS_Southbound.lock released>.
</tmp/SB_TL1Mgr.lock locked>.
Process <SB_TL1Mgr> Started. "SB_TL1Mgr -server SB_TL1Mgr -

```

```
lockfile /tmp/SB_TL1Mgr.lock"
</tmp/SB_TL1Mgr.lock released>.
Process <PT_Mgr> Started. "PT_Mgr -server PT_Mgr"
</tmp/CF_NeProxy.lock locked>.
Process <CF_NeProxy> Started. "CF_NeProxy -server CF_NeAgent -
lockfile /tmp/CF_NeProxy.lock"
</tmp/CF_NeProxy.lock released>.
</tmp/CF_NeAgent_1.lock locked>.
Process <CF_NeAgent_1> Started. "CF_NeAgent -server
CF_NeAgent_1 -lockfile /tmp/CF_NeAgent_1.lock -S Agent0001"
</tmp/CF_NeAgent_1.lock released>.
Process <CF_NeAgent_2> Started. "CF_NeAgent -server
CF_NeAgent_2 -lockfile /tmp/CF_NeAgent_2.lock -S Agent0001"
Process <CF_NeAgent_3> Started. "CF_NeAgent -server
CF_NeAgent_3 -lockfile /tmp/CF_NeAgent_3.lock -S Agent0001"
</tmp/CF_DbServer.lock locked>.
Process <CF_DbServer> Started. "CF_DbServer -server CF_DbServer
-lockfile /tmp/CF_DbServer.lock"
</tmp/CF_DbServer.lock released>.
</tmp/NT_Manager.lock locked>.
Process <NT_Manager> Started. "NT_Manager -server NT_Manager -
lockfile /tmp/NT_Manager.lock"
</tmp/NT_Manager.lock released>.
Process <NT_Application> Started. "NT_Application -server
NT_Application"
</tmp/SNC_Mon.lock locked>.
Process <SNC_Mon> Started. "SNC_Mon SNC_Mon FM_Server /
tmp/SNC_Mon.lock > $ROAMLOG/SNC_Mon.out 2>&1"
</tmp/SNC_Mon.lock released>.
</tmp/FM_Db.lock locked>.
Process <FM_DbServer> Started. "FM_DbServer FM_Db /tmp/
FM_Db.lock"
</tmp/FM_Db.lock released>.
Process <DeviceMon> Started. "DeviceMon FM_server 32000 >
$ROAMLOG/DeviceMon.out"
</tmp/FM.lock locked>.
Process <FM_Server> Started. "FM_Server FM_Server /tmp/FM.lock"
</tmp/FM.lock released>.
</tmp/PROF.lock locked>.
Process <PROF_Prov> Started. "PROF_Prov PROF_Prov /tmp/
PROF.lock"
</tmp/PROF.lock released>.
</tmp/SB_Q3Gateway.lock locked>.
```

```

Process <SB_Q3Gateway> Started. "SB_Q3Gateway -f $SNCR00T/
etc/gwConfig.txt"
</tmp/SB_Q3Gateway.lock released>.
</tmp/BR_bacres.lock locked>.
Process <BR_bacres> Started. "BR_bacres -server BR_bacres -trace
BR=3 -lockfile /tmp/BR_bacres.lock > $ROAMLOG/BR.out 2>&1"
</tmp/BR_bacres.lock released>.
</tmp/SM_Security.lock locked>.
Process <SM_Security> Started. "SM_Security -lockfile /tmp/
SM_Security.lock -server SM_Security -trace SecServ=5 >
$ROAMLOG/SM.out 2>&1"
</tmp/SM_Security.lock released>.
Process <GDB_Server> Started. "GDB_Server GDB_Server"
Process <GDB_ServerFile> Started. "GDB_ServerFile
GDB_ServerFile > $ROAMLOG/GDB_File.out 2>&1"
Process <GDB_ServerNtwk> Started. "GDB_ServerNtwk
GDB_ServerNtwk > $ROAMLOG/GDB_Ntwk.out 2>&1"
Process <OBR_Main3K> Started. "OBR_Main3K -server
OBR_Main3K"
</tmp/SWM_Gateway.lock locked>.
Process <SWM_Gateway> Started. "SWM_Gateway -server
SWM_Gateway -lockfile /tmp/SWM_Gateway.lock -m dlp >
$ROAMLOG/SWM.out 2>&1"
</tmp/SWM_Gateway.lock released>.
</tmp/OAM_Scheduler.lock locked>.
Process <OAM_Scheduler> Started. "OAM_Scheduler -server
OAM_Scheduler -lockfile /tmp/OAM_Scheduler.lock > $ROAMLOG/
SCHED.out 2>&1"
</tmp/OAM_Scheduler.lock released>.
Process <GUI_Server> Started. "GUI_Server GUI_Server
>$ROAMLOG/GS.out 2>&1"
Process <GUI_AdminServer> Started. "UI_AdminServer
GUI_AdminServer >$ROAMLOG/GA.out 2>&1"
Process <GUI_JvmLauncher> Started. "GUI_JvmLauncher"
Process <PM_FTAM_1> Started. "PM_FTAM -server PM_FTAM_1"
Process <PM_FTAM_2> Started. "PM_FTAM -server PM_FTAM_2"
</tmp/PM_Dc.lock locked>.
Process <PM_Dc> Started. "PM_Dc -server PM_Dc -lockfile /tmp/
PM_Dc.lock"
</tmp/PM_Dc.lock released>.
</tmp/OAM_BcServer.lock locked>.
Process <OAM_BcServer> Started. "OAM_BcServer -server
OAM_BcServer -lockfile /tmp/OAM_BcServer.lock > $ROAMLOG/

```

```
BS.out 2>&1"
</tmp/OAM_BcServer.lock released>.
Process <putit6000> Started. "putit -port 6000 TMFNotifService -
persistent"
Process <putit6000> Completed.
Process <chmodtmf> Started. "chmodit TMFNotifService i+all"
Process <chmodtmf> Completed.
<delay 2 seconds>
</tmp/tmf_notifsvr.lock locked>.
Process <tmf_notifsvr> Started. "tmf_notifsvr -server
TMFNotifService -lockfile /tmp/tmf_notifsvr.lock -t $LML_TIMER"
</tmp/tmf_notifsvr.lock released>.
</tmp/tmf_gateway.lock locked>.
Process <tmf_gateway> Started. "tmf_gateway -server NetworkR1 -
lockfile /tmp/tmf_gateway.lock"
</tmp/tmf_gateway.lock released>.
Process <MTA> Started. "MTA MTA /tmp/MTA"
```

NEW RUN LEVEL IS: Running

===== EMS Application Processes are running=====

logout

Join to the cluster...

cmruncl : Cluster is already running on "lahore".

cmruncl : Cluster is already running on "luna".

cmrunnode : Cluster is already running on "luna".

cmmodpkg : Warning: Package sncPkg is already able to be switched.

cmmodpkg : Completed successfully on all packages specified.

cmmodpkg : Warning: Node luna is already able to run package sncPkg.

cmmodpkg : Completed successfully on all packages specified.

cmmodpkg : Warning: Package standbyPkg is already unable to be switched.

cmmodpkg : Completed successfully on all packages specified.

cmmodpkg : Warning: Node lahore is already unable to run package standbyPkg  
cmmodpkg : Completed successfully on all packages specified.

cmmodpkg : Warning: Node luna is already able to run package standbyPkg.

cmmodpkg : Completed successfully on all packages specified.

cmrunpkg : Completed successfully on all packages specified.

Establishing connection to HA\_Mgr.

[12913: New Connection

(lahore.ho.lucent.com,IT\_daemon,\*,ems,pid=12428,optimised) ]  
[12913: New Connection  
(lahore.ho.lucent.com,FM\_Server,\*,ems,pid=12966,optimised) ]  
#







# G HP Server Specifications

## HP 9000 Servers and Peripherals

---

### **Classes of HP Servers Supported**

The HP 9000 Servers that are supported as hosts for this release of Navis™ Optical EMS are the following:

- K-Class servers, which are legacy systems. Effective September 1, 2001, the HP 9000 K-Class servers will no longer be available for purchase. HP will discontinue product development and enhancements. Refer to HP's website for additional information.
- L-Class servers, which have been recently introduced
- N-Class servers, which have also been recently introduced

### **Navis™ Optical EMS Configurations Defined**

A Navis™ Optical EMS hardware configuration is a supported set of hardware devices that function with the current release of Navis™ Optical EMS. In the broadest sense, Navis™ Optical EMS supports the following two types of hardware configurations:

- **standalone configurations**, which include any one of the supported HP servers, mirrored disks, and the appropriate number of supported GUI clients
- **redundant configurations**, which include a minimum of any two supported identical HP servers, along with mirrored disks and the appropriate number of supported GUI clients

Both standalone and redundant hardware configurations have **Performance Monitoring (PM)** of data, which measures the quality of service and identifies degrading or marginally operating systems before an alarm can be generated.

In addition, both standalone and redundant hardware configurations can have **multiple CPUs**, and redundant configurations can be configured for local or geographic (remote) redundancy.

**Standalone Configuration Options**

Standalone configurations include one HP server, the appropriate number of supported GUI clients, and mirrored disks on the L2000. Standalone configurations are provided with PM and with from one to eight CPUs.

The K-Class, L-Class, and N-Class servers are offered in standalone configurations.

**Table 10-1 HP Standalone Server Configurations**

| Standalone Model | Number of CPUs Supported | Mirrored Disk Supported? |
|------------------|--------------------------|--------------------------|
| K380             | 1                        | no                       |
|                  | 2                        | no                       |
| K580             | 4                        | no                       |
|                  | 6                        | no                       |
| L2000            | 1                        | ✓                        |
|                  | 2                        | ✓                        |
|                  | 4                        | ✓                        |
| N4000            | 8                        | no                       |

## Redundant Configuration Options

Redundant configurations apply to WaveStar SNMS R1.1 and later. A redundant configuration includes a minimum of any two supported identical HP servers, along with mirrored disks and the appropriate number of supported GUI clients. Redundant servers are configured with and/or without PM and from two to six CPUs in the following locations:

- **Local redundancy** uses two similarly equipped hosts located in the same building. Each host is configured with redundant hardware components. Should the primary host fail, the backup host is activated automatically without user intervention. The shared lock and its mirror disk must be accessible by both servers in a local redundancy configuration.
- **Geographic redundancy** relies on two similarly equipped hosts located in different geographical locations, for example: Chicago and Denver. Each host is configured with redundant hardware components, and resides on a TCP/IP WAN segment. Data replication and event forwarding via WAN are used to maintain EMS database and UNIX file system synchronization.

The K-Class and L-Class servers are both offered in redundant configurations. The N-Class server is not offered in a redundant configuration.

**Table 10-2 HP Redundant Server Configurations**

| Standalone Model | Number of CPUs Supported | Mirrored Disk Supported? |
|------------------|--------------------------|--------------------------|
| K580             | 4                        | ✓                        |
|                  | 6                        | ✓                        |
| L2000            | 2                        | ✓                        |
|                  | 4                        | ✓                        |

The kernel setting for a redundant configuration is the same as that for a standalone configuration.

Terminator cables are sometimes used in redundant configurations. If terminator cables are used, the resistors on the HSC SCSI card must be removed. Refer to the appropriate HP support person or documentation for the appropriate procedures.

## Supported Disk Enclosures

The HVD10 is the disk enclosure system that replaces the HASS for the K-Class servers.

The SC10 is the disk enclosure that interworks exclusively with the L-Class and N-Class servers.



## Local Redundancy Configuration by HP Specialists

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**Purpose** This reference section is provided for those people who must troubleshoot a hardware related problem and interwork with HP specialists. HP specialists are responsible for setting up a local redundancy hardware configuration based on Navis™ Optical EMS specifications.

**When Self- Terminating Cables are Needed** When setting up two servers in a local redundancy configuration, pay special attention to the proper termination and addressing of the SCSI because the MC/Service Guard uses a shared lock disk. This type of connection requires the installation of self-terminating SCSI cables for the disk storage device that contains the shared disk. (The self-terminating SCSI cables are black.) To avoid having SCSI connection problems:

- The SCSI termination must be disabled on each SCSI card when a terminating cable is used.
- The SCSI ID must be configured for each shared SCSI card on both servers.

**Avoid Double Termination** The SCSI bus should be properly terminated, especially for a local redundancy configuration. Double termination, which is caused by using the terminating cable while the terminating device on the SCSI adaptor (on the server) is active, is a common problem.

To avoid double termination on a local redundancy configuration, an HP specialist should perform the following:

- On a local redundancy configuration of K-Class servers, the HSC SCSI that connects to the terminating cable should have three resistors removed from the card.
- On local redundancy configuration of L-Class servers, the PCI SCSI that connects to the terminating cable should have a jumper reset to by pass termination on the card.

**Different SCSI ID Settings**

When a SCSI cable is connected between two servers in a local redundancy configuration, the SCSI interface cards at two ends of this connection should be set to different SCSI IDs.

Contact an HP specialist to perform the following:

- On the HSC card of the K-Class server, the adaptor must be physically retrieved and the jumpers must be reconfigured.
- On the PCI card of the L-Class server, a software reset is performed. The machine should be booted to the BCH prompt; and at the main menu, **user** and **sics** should be input. The information that is displayed should be similar to following (presuming 0/2/0/0 is the path where server is connected to the other server through terminating cable):

| Path    | Init | SCSI Rate |
|---------|------|-----------|
| 0/2/0/0 | 7    | no limit  |

The following command lines should be used to reset the SCSI ID and the SCSI rate:

**sics unit 0/2/0/0 6**

**sics rate 0/2/0/0 no limit**



## Kernel Configurations for HP 11.0

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### System Tunable Parameters

The HP-UX 11.0 system tunable parameters for the Navis™ Optical EMS application are provided in the following table. If a default value or formula is provided, it should be used.

**Important!** Never make the parameter value less than default value or less than the value derived from the formula provided.

The system uses a dynamic buffer cache to allocate buffer space. This preferred method allocates buffer space and supporting data structures as they are needed. It uses predefined minimum and maximum values to establish overall buffer cache space allocation limits; therefore, both *nbuf* and *bufpages* should be set to 0.

The kernel setting for a redundant configuration is the same as that for a standalone configuration.

**Table 10-3 HP-UX System Tunable Parameters for the Navis™ Optical EMS**

| Tunable Parameter | Default Value/Formula                                                                               | Description                                                          |
|-------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| dbc_min_pct       | 12                                                                                                  | Minimum dynamic buffer cache size as a percentage of system RAM size |
| dbc_max_pct       | 12                                                                                                  | Maximum dynamic buffer cache size as a percentage of system RAM size |
| maxdsiz           | 0x04000000*14<br>or<br>0x7B03A000<br>for N4000 (8 CPUs) only                                        | Maximum Data segment size (bytes)                                    |
| maxfiles          | 1024                                                                                                | Soft file limit per process                                          |
| maxfiles_lim      | 1024                                                                                                | Hard file limit per process                                          |
| maxuprc           | 1024                                                                                                | Maximum number of user processes                                     |
| maxusers          | 512                                                                                                 | Value of MAXUSERS macro                                              |
| maxswapchunks     | 1124 (K380, K580-4, L2000-1)<br>3684 (K580-6)<br>2148 (L2000-2)<br>3172 (L2000-4)<br>7268 (N4000-8) | Maximum number of swap chunks                                        |

| Tunable Parameter                   | Default Value/Formula                                 | Description                                 |
|-------------------------------------|-------------------------------------------------------|---------------------------------------------|
| maxvgs (modified for this document) | 40                                                    | Maximum number of volume group              |
| bufpages                            | 0                                                     | Number of buffer pages                      |
| nbuf                                | 0                                                     | Number of buffer cache headers              |
| npty                                | 128                                                   | Number of pty's (pseudo ttys)               |
| nstrpty                             | 60                                                    | Maximum number of streams-based PTYs        |
| nfile                               | $((16*(NPROC+16+MAXUSERS)/10+32+2*(NPTY+NSTRPTY))*4)$ | Maximum number of open files                |
| nflocks                             | NPROC                                                 | Maximum number of file locks                |
| ninode                              | $((NPROC+16+MAXUSERS)+32+(2*NPTY))*2)$                | Maximum number of inodes                    |
| msgmnb                              | 65535                                                 | Maximum number of bytes on message queue    |
| msgmax                              | 32768                                                 | Message maximum size (bytes)                |
| msgmni                              | NPROC                                                 | Number of message queue identifiers         |
| msgseg                              | 32767                                                 | Number of segments available for message    |
| msgssz                              | 128                                                   | Message segment size                        |
| msgtql                              | 32767                                                 | Number of message headers                   |
| shmmax                              | $(0X4000000*4)$                                       | Maximum shared memory segments (bytes)      |
| semaem                              | 16384                                                 | Maximum value for adjust on exit semaphores |
| semmni                              | 2048                                                  | Number of semaphore identifiers             |
| semmns                              | 4096                                                  | Maximum number of semaphores                |
| semmnu (modified since R8.0)        | 128*4                                                 | Number of semaphore undo structures         |
| semume (modified since R8.0)        | 128*4                                                 | Semaphore undo entries per process          |
| ncallout                            | nproc+16                                              | Maximum number of pending timeouts          |
| n2z_max_zstrbuf_pgs                 | 8                                                     | X.25 internal use                           |
| n2z_outb_buffer_sz                  | 4096                                                  | X.25 internal use                           |

□

## K380 (1 CPU) Standalone Configuration

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**Standalone Specifications** This table lists the specifications for a standalone K380 server with one CPU.

**Table 10-4 K380 (1 CPU) Standalone Specifications**

| Item                                                          | Standalone Specifications*            |
|---------------------------------------------------------------|---------------------------------------|
| Number of CPUs                                                | 1                                     |
| HP-UX Version                                                 | 11.00 (32 bit)                        |
| Memory                                                        | 768MB                                 |
| Swap/Dump Space                                               | 2248MB                                |
| Navis™ Optical EMS Disk Space                                 | 54GB with PM data collection          |
| with PM                                                       | six, 9GB drives or three, 18GB drives |
| without PM                                                    | three 9GB drives                      |
| Additional Disk Space for TMF                                 | Included (2GB)                        |
| DAT                                                           | DDS3                                  |
| CD-ROM Drive                                                  | DVD                                   |
| X.25 (optional)                                               | 1 ACC MUX                             |
| SCSI Controller                                               | 2                                     |
| LAN Cards                                                     | 2                                     |
| Supported Workstations/PCs                                    | 20                                    |
| Disk Enclosure                                                | HVD10                                 |
| Bus Mode                                                      | Full Bus/Dual Connection              |
| Jumper Settings                                               | 1111                                  |
| *Also applies to the K360, which HP has already discontinued. |                                       |

### 9GB Disk Partitions for a Standalone K380 with PM Support

This table shows the 9GB disk partitions for a standalone K380 (K360) with 1 CPU and PM support. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-5 9GB Disk Partitions for Standalone K380 (1 CPU) with PM Support**

| 9GB Partition Number | Mount Point | Allocated Space |
|----------------------|-------------|-----------------|
| VG#0                 | Swap1Dump   | 2248MB          |
|                      | /           | 512MB           |
|                      | /stand      | 100MB           |
|                      | /opt        | 1024MB          |
|                      | /var        | 1024MB          |
|                      | /usr        | 1024MB          |
|                      | /home       | 100MB           |
|                      | /tmp        | 1024MB          |
|                      | dbspace     | dbspe1_1G       |
| VG#1                 | /ems        | 6GB             |
|                      | /tools      | 600MB           |
|                      | /reports    | 1.8GB           |
| VG#2                 | dbspace     | dbsp1_1G        |
|                      | pmspace     | pmsp{1-3}_2G    |
| VG#3                 | dbspace     | dbsp2_1G        |
|                      | dbspace     | dbsp3_1G        |
|                      | pmspace     | pmsp{4-6}_2G    |
| VG#4                 | pmspace     | pmsp{7-8}_2G    |
|                      | pmspace     | pmsp{9-10}_2G   |
| VG#5                 | /data       | 4GB             |
|                      | nbspace     | nbsp1_2G        |
|                      | pmspace     | pmsp11_2G       |

**18GB Disk Partitions for a Standalone K380 with PM Support**

This table shows the 18GB disk partitions for a standalone K380 (K360) with one CPU and with PM support. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-6 18GB Disk Partitions for a Standalone K380 with One CPU and PM Support**

| 18GB Partition Number | Mount Point | Allocated Space |
|-----------------------|-------------|-----------------|
| VG#0                  | Swap1Dump   | 2248MB          |
|                       | /           | 512MB           |
|                       | /stand      | 100MB           |
|                       | /opt        | 1024MB          |
|                       | /var        | 1024MB          |
|                       | /usr        | 1024MB          |
|                       | /home       | 100MB           |
|                       | /tmp        | 1024MB          |
|                       | dbspace     | dbspe1_1G       |
| VG#1                  | /ems        | 6GB             |
|                       | /tools      | 600MB           |
|                       | /reports    | 1.8GB           |
|                       | dbspace     | dbsp1_1G        |
|                       | pmspace     | pmsp{1-3}_2G    |
| VG#2                  | dbspace     | dbsp2_1G        |
|                       | dbspace     | dbsp3_1G        |
|                       | pmspace     | pmsp{4-6}_2G    |
|                       | pmspace     | pmsp{7-8}_2G    |
|                       | pmspace     | pmsp{9-10}_2G   |
| VG#2                  | /data       | 4GB             |
|                       | nbspace     | nbsp1_2G        |
|                       | pmspace     | pmsp11_2G       |



## K380 (2 CPUs) Standalone Configuration

---

### Standalone and Redundant Specifications

This table lists the specifications for a standalone K380 server with two CPUs.

**Table 10-7 K380 (2 CPUs) Standalone Specifications**

| Item                                                                                                                                                                                 | Standalone Specifications**            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Number of CPUs                                                                                                                                                                       | 2                                      |
| HP-UX Version                                                                                                                                                                        | 11.00 (32 bit)                         |
| Memory                                                                                                                                                                               | 1024MB                                 |
| Swap/Dump Space                                                                                                                                                                      | 2248MB                                 |
| Navis™ Optical EMS Disk Space*                                                                                                                                                       | 99GB with PM                           |
| with PM                                                                                                                                                                              | eleven, 9GB drives or six, 18GB drives |
| without PM                                                                                                                                                                           | five, 9GB drives                       |
| Base Disk Space (minimum)                                                                                                                                                            | N/A                                    |
| PM + NB Log Disk Space (minimum)                                                                                                                                                     | N/A                                    |
| Additional Disk Space for TMF                                                                                                                                                        | Included (2GB)                         |
| DAT                                                                                                                                                                                  | DDS3                                   |
| CD-ROM Drive                                                                                                                                                                         | DVD                                    |
| X.25 (optional)                                                                                                                                                                      | 2 ACC MUX                              |
| SCSI Controller                                                                                                                                                                      | 3                                      |
| LAN Interface (including CORE I/O card)                                                                                                                                              | 3                                      |
| Cabinet                                                                                                                                                                              | 2.0m                                   |
| Supported Workstations/PCs                                                                                                                                                           | 30                                     |
| Disk Enclosure                                                                                                                                                                       | HVD10                                  |
| Bus Mode                                                                                                                                                                             | Full Bus/Dual Connection               |
| Jumper Settings                                                                                                                                                                      | 1111                                   |
| *Assumes that the user will be collecting PM data.<br>**Also applies to the K460, which HP has already MD'd, and the K580.<br>**Also applies to the K360, which HP has already MD'd. |                                        |

**9GB Disk Partitions for a Standalone K380 with PM Support**

This table shows the 9GB disk partitions for a standalone K380 (K580/460) with 2 CPUs and PM support. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-8 9GB Disk Partitions for a Standalone K380 (2 CPUs) with PM Support**

| 9GB Partition Number | Mount Point | Allocated Space |
|----------------------|-------------|-----------------|
| VG#0                 | Swap1Dump   | 2248MB          |
|                      | /           | 512MB           |
|                      | /stand      | 100MB           |
|                      | /opt        | 1024MB          |
|                      | /var        | 1024MB          |
|                      | /usr        | 1024MB          |
|                      | /home       | 100MB           |
|                      | /tmp        | 1024MB          |
|                      | dbspace     | dbspe1_1G       |
| VG#1                 | /ems        | 6GB             |
|                      | /tools      | 600MB           |
|                      | /reports    | 1.8G            |
| VG#2                 | dbspace     | dbsp1_1G        |
|                      | pmspace     | pmsp{1-3}_2G    |
| VG#3                 | dbspace     | dbsp2_1G        |
|                      | pmspace     | pmsp{4-6}_2G    |
| VG#4                 | dbspace     | dbsp3_1G        |
|                      | dbspace     | dbspe2_2G       |
|                      | pmspace     | pmsp{7-8}_2G    |
| VG#5                 | dbspace     | dbsp4_1G        |
|                      | dbspace     | dbsp5_2G        |
|                      | pmspace     | pmsp{9-10}_2G   |
| VG#6                 | pmspace     | pmsp{11-14}_2G  |
| VG#7                 | pmspace     | pmsp{15-18}_2G  |
| VG#8                 | pmspace     | pmsp{19-22}_2G  |
| VG#9                 | pmspace     | pmsp{23-26}_2G  |

| <b>9GB Partition Number</b> | <b>Mount Point</b> | <b>Allocated Space</b> |
|-----------------------------|--------------------|------------------------|
| VG#10                       | pmspace            | pmsp{27-28}_2G         |
|                             | /data              | 4GB                    |
|                             | nbspace            | nbsp1_2G               |

**18GB Disk Partitions for a Standalone K380 with PM Support**

This table shows the 18GB disk partitions for a standalone K380 (K580/K460) with two CPUs and with PM support. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-9 18GB Disk Partitions for a Standalone K380 (2 CPUs) with PM Support**

| 18GB Partition Number | Mount Point | Allocated Space |
|-----------------------|-------------|-----------------|
| VG#0                  | Swap1Dump   | 2248MB          |
|                       | /           | 512MB           |
|                       | /stand      | 100MB           |
|                       | /opt        | 1024MB          |
|                       | /var        | 1024MB          |
|                       | /usr        | 1024MB          |
|                       | /home       | 100MB           |
|                       | /tmp        | 1024MB          |
|                       | dbspace     | dbspe1_1G       |
|                       | /ems        | 6GB             |
|                       | /tools      | 600MB           |
|                       | /reports    | 1.8G            |
| VG#1                  | dbspace     | dbsp1_1G        |
|                       | pmspace     | pmsp{1-3}_2G    |
|                       | dbspace     | dbsp2_1G        |
|                       | pmspace     | pmsp{4-6}_2G    |
| VG#2                  | dbspace     | dbsp3_1G        |
|                       | dbspace     | dbspe2_2G       |
|                       | pmspace     | pmsp{7-8}_2G    |
|                       | dbspace     | dbsp4_1G        |
|                       | dbspace     | dbsp5_2G        |
|                       | pmspace     | pmsp{9-10}_2G   |
| VG#3                  | pmspace     | pmsp{11-14}_2G  |
|                       | pmspace     | pmsp{15-18}_2G  |
| VG#4                  | pmspace     | pmsp{19-22}_2G  |
|                       | pmspace     | pmsp{23-26}_2G  |

| <b>18GB Partition Number</b> | <b>Mount Point</b> | <b>Allocated Space</b> |
|------------------------------|--------------------|------------------------|
| VG#5                         | pmspace            | pmsp{27-28}_2G         |
|                              | /data              | 4GB                    |
|                              | nbspace            | nbsp1_2G               |

## K580 (4 CPUs) Standalone and Redundant Configurations

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### Standalone and Redundant Specifications

This table lists the specifications for a standalone and redundant K580 with four CPUs.

**Table 10-10 K580 (6 CPUs) Standalone and Redundant Specifications**

| Item                                            | Standalone Specification*              | Redundant Specification                |
|-------------------------------------------------|----------------------------------------|----------------------------------------|
| Number of CPUs                                  | 4                                      | 4                                      |
| HP-UX Version                                   | 11.00 (32 bit)                         | 11.00 (32 bit)                         |
| Memory                                          | 1280MB                                 | 1280MB                                 |
| Swap/Dump Space                                 | 2248MB                                 | 2248MB                                 |
| Navis™ Optical EMS Disk Space                   | 180GB with PM                          | 288GB                                  |
| with PM                                         | twenty, 9GB drives or ten, 18GB drives | twenty, 9GB drives or ten, 18GB drives |
| without PM                                      | six, 9GB drives                        | six, 9GB drives                        |
| Base Disk Space (minimum)                       | N/A                                    | 18GB x 2                               |
| PM + NB Log Disk Space (minimum)                | N/A                                    | 94GB x 2                               |
| Additional Disk Space for TMF                   | Included (4GB)                         | Included                               |
| DAT                                             | DDS3                                   | DDS3                                   |
| CD-ROM Drive                                    | DVD                                    | DVD                                    |
| X.25 (optional)                                 | 2 ACC MUX                              | N/A                                    |
| SCSI Controller                                 | 4                                      | 6                                      |
| LAN Interface Card including the CORE I/O card) | 3                                      | 5                                      |
| Cabinet                                         | 2.0m                                   | 2.0m, 2 per host                       |
| Supported Workstations/PCs                      | 30                                     | 30                                     |
| Disk Enclosure                                  | HVD10                                  | HVD10                                  |
| Bus Mode                                        | Split Bus/Dual Connection              | Split Bus/Dual Connection              |
| Jumper Settings                                 | 01111                                  | 01111                                  |

\*Also applies to the K460, which HP has already MD'd.

**9GB Disk Partitions for a Standalone K580 (4 CPUs) with PM Support**

This table shows the 9GB disk partitions for a standalone K580 (K460), with four CPUs and PM support. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-11 9GB Disk Partitions for a Standalone K580 (4 CPUs) with PM Support**

| 9GB Partition Number | Mount Point | Allocated Space |
|----------------------|-------------|-----------------|
| VG#0                 | Swap1Dump   | 2248MB          |
|                      | /           | 512MB           |
|                      | /stand      | 100MB           |
|                      | /opt        | 1024MB          |
|                      | /var        | 1024MB          |
|                      | /usr        | 1024MB          |
|                      | /home       | 100MB           |
|                      | /tmp        | 1024MB          |
|                      | dbspace     | dbspe1_1G       |
| VG#1                 | /ems        | 6GB             |
|                      | /tools      | 600MB           |
|                      | /reports    | 1.8G            |
| VG#2                 | dbspace     | dbsp1_2G        |
|                      | pmspace     | pmsp{1-3}_2G    |
| VG#3                 | dbspace     | dbsp2_2G        |
|                      | pmspace     | pmsp{4-6}_2G    |
| VG#4                 | dbspace     | dbsp3_2G        |
|                      | dbspace     | dbspe2_2G       |
|                      | pmspace     | pmsp{7-8}_2G    |
| VG#5                 | dbspace     | dbsp4_2G        |
|                      | pmspace     | pmsp{9-11}_2G   |
| VG#6                 | dbspace     | dbsp5_2G        |
|                      | pmspace     | pmsp{12-14}_2G  |
| VG#7                 | dbspace     | dbsp6_2G        |
|                      | dbspace     | dbspe3_2G       |
|                      | pmspace     | pmsp{15-16}_2G  |
| VG#8                 | pmspace     | pmsp{17-20}_2G  |

| 9GB Partition Number | Mount Point              | Allocated Space |
|----------------------|--------------------------|-----------------|
| VG#9                 | pmspace                  | pmsp{21-24}_2G  |
| VG#10                | pmspace                  | pmsp{25-28}_2G  |
| VG#11                | pmspace                  | pmsp{29-32}_2G  |
| VG#12                | pmspace                  | pmsp{33-36}_2G  |
| VG#13                | pmspace                  | pmsp{37-40}_2G  |
| VG#14                | pmspace                  | pmsp{41-44}_2G  |
| VG#15                | pmspace                  | pmsp{45-48}_2G  |
| VG#16                | pmspace                  | pmsp{49-52}_2G  |
| VG#17                | pmspace                  | pmsp{53-56}_2G  |
| VG#18                | pmspace                  | pmsp{57-60}_2G  |
|                      | nbspace                  | nbsp{1-2}_2G    |
| VG#19                | /data                    | 4GB             |
|                      | /var/opt/omni (optional) | 4GB             |

**18GB Disk Partitions for a Standalone K580 (4 CPUs) with PM Support**

This table shows the 18GB disk partitions for a standalone K580 (K460) with four CPUs and PM support. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-12 18GB Disk Partitions for a Standalone K580 (4 CPUs) with PM Support**

| 18GB Partition Number | Mount Point | Allocated Space |
|-----------------------|-------------|-----------------|
| VG#0                  | Swap1Dump   | 2248MB          |
|                       | /           | 512MB           |
|                       | /stand      | 100MB           |
|                       | /opt        | 1024MB          |
|                       | /var        | 1024MB          |
|                       | /usr        | 1024MB          |
|                       | /home       | 100MB           |
|                       | /tmp        | 1024MB          |
|                       | dbspace     | dbspe1_1G       |
|                       | /ems        | 6GB             |
| /tools                | 600MB       |                 |
| /reports              | 1.8G        |                 |
| VG#1                  | dbspace     | dbsp1_2G        |
|                       | pmspace     | pmsp{1-3}_2G    |
|                       | dbspace     | dbsp2_2G        |
|                       | pmspace     | pmsp{4-6}_2G    |
| VG#2                  | dbspace     | dbsp3_2G        |
|                       | dbspace     | dbspe2_2G       |
|                       | pmspace     | pmsp{7-8}_2G    |
|                       | dbspace     | dbsp4_2G        |
|                       | pmspace     | pmsp{9-11}_2G   |
| VG#3                  | dbspace     | dbsp5_2G        |
|                       | pmspace     | pmsp{12-14}_2G  |
|                       | dbspace     | dbsp6_2G        |
|                       | dbspace     | dbspe3_2G       |
|                       | pmspace     | pmsp{15-16}_2G  |

| 18GB Partition Number | Mount Point              | Allocated Space |
|-----------------------|--------------------------|-----------------|
| VG#4                  | pmspace                  | pmsp{ 17-20}_2G |
|                       | pmspace                  | pmsp{ 21-24}_2G |
| VG#5                  | pmspace                  | pmsp{ 25-28}_2G |
|                       | pmspace                  | pmsp{ 29-32}_2G |
| VG#6                  | pmspace                  | pmsp{ 33-36}_2G |
|                       | pmspace                  | pmsp{ 37-40}_2G |
| VG#7                  | pmspace                  | pmsp{ 41-44}_2G |
|                       | pmspace                  | pmsp{ 45-48}_2G |
| VG#8                  | pmspace                  | pmsp{ 49-52}_2G |
|                       | pmspace                  | pmsp{ 53-56}_2G |
| VG#9                  | pmspace                  | pmsp{ 57-60}_2G |
|                       | nbspace                  | nbsp{ 1-2}_2G   |
|                       | /data                    | 4GB             |
|                       | /var/opt/omni (optional) | 4GB             |

**9GBx2 Mirrored Disk Partitions for a Redundant K580 (4 CPUs)**

This table shows the 9GBx2 mirrored disk partitions for a redundant K580 with four CPUs. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-13 9GBx2 Mirrored Disk Partitions for a Redundant K580 (4 CPUs)**

| 9GBx2 Partition Numbers | Mount Point | Allocated Space |
|-------------------------|-------------|-----------------|
| VG00                    | Swap/Dump   | 2248MB          |
|                         | /           | 512MB           |
|                         | /stand      | 100MB           |
|                         | /opt        | 1024MB          |
|                         | /var        | 1024MB          |
|                         | /usr        | 1024MB          |
|                         | /home       | 100MB           |
|                         | /tmp        | 1024MB          |
|                         | dbspace     | dbspe1_1G       |
| VG01                    | /ems        | 6GB             |
|                         | /tools      | 600MB           |
|                         | /reports    | 1.8GB           |
| VG02                    | dbspace     | dbsp1_2G        |
|                         | pmspace     | pmsp{1-3}_2G    |
| VG03                    | dbspace     | dbsp2_2G        |
|                         | pmspace     | pmsp{4-6}_2G    |
| VG04                    | dbspace     | dbsp3_2G        |
|                         | dbspace     | dbspe2_2G       |
|                         | pmspace     | pmsp{7-8}_2G    |
| VG05                    | dbspace     | dbsp4_2G        |
|                         | dbspace     | dbspe3_2G       |
|                         | pmspace     | pmsp{9-10}_2G   |
| VG06                    | dbspace     | dbsp5_2G        |
|                         | pmspace     | pmsp{11-13}_2G  |
| VG07                    | dbspace     | dbsp6_2G        |
|                         | pmspace     | pmsp{14-16}_2G  |
| VG08                    | pmspace     | pmsp{17-20}_2G  |

| 9GBx2 Partition Numbers                                                                                                                                                             | Mount Point | Allocated Space |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|
| VG09                                                                                                                                                                                | pmspace     | pmsp{21-24}_2G  |
| VG10                                                                                                                                                                                | pmspace     | pmsp{25-28}_2G  |
| VG11                                                                                                                                                                                | pmspace     | pmsp{29-32}_2G  |
| VG12                                                                                                                                                                                | pmspace     | pmsp{33-36}_2G  |
| VG13                                                                                                                                                                                | pmspace     | pmsp{37-40}_2G  |
| VG14                                                                                                                                                                                | pmspace     | pmsp{41-44}_2G  |
| VG15*                                                                                                                                                                               | nbspace     | nbsp{1-2}_2G    |
|                                                                                                                                                                                     | /data       | 4GB             |
| <p>* VG16 is recommended on the secondary host. VG15 is recommended to be on one of the shared disks and to be exported without any LVs to the secondary host for cluster lock.</p> |             |                 |

**18GBx2 Mirrored Disk Partitions for a Redundant K580 (4 CPUs)**

This table shows the 18GBx2 mirrored disk partitions for a redundant K580 with four CPUs. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

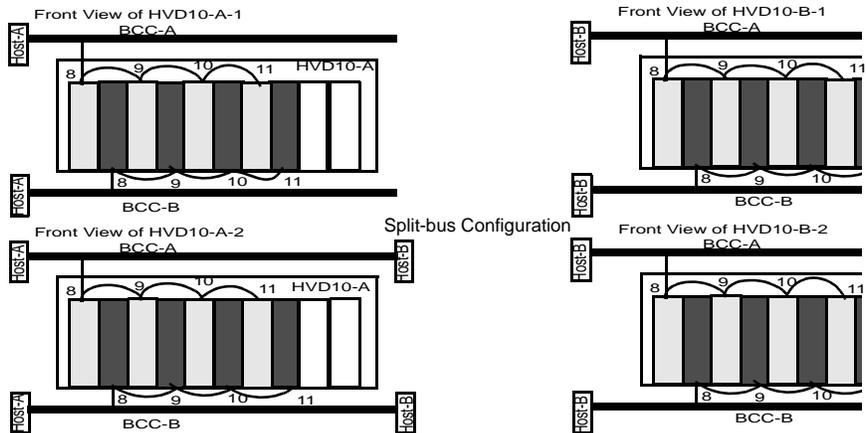
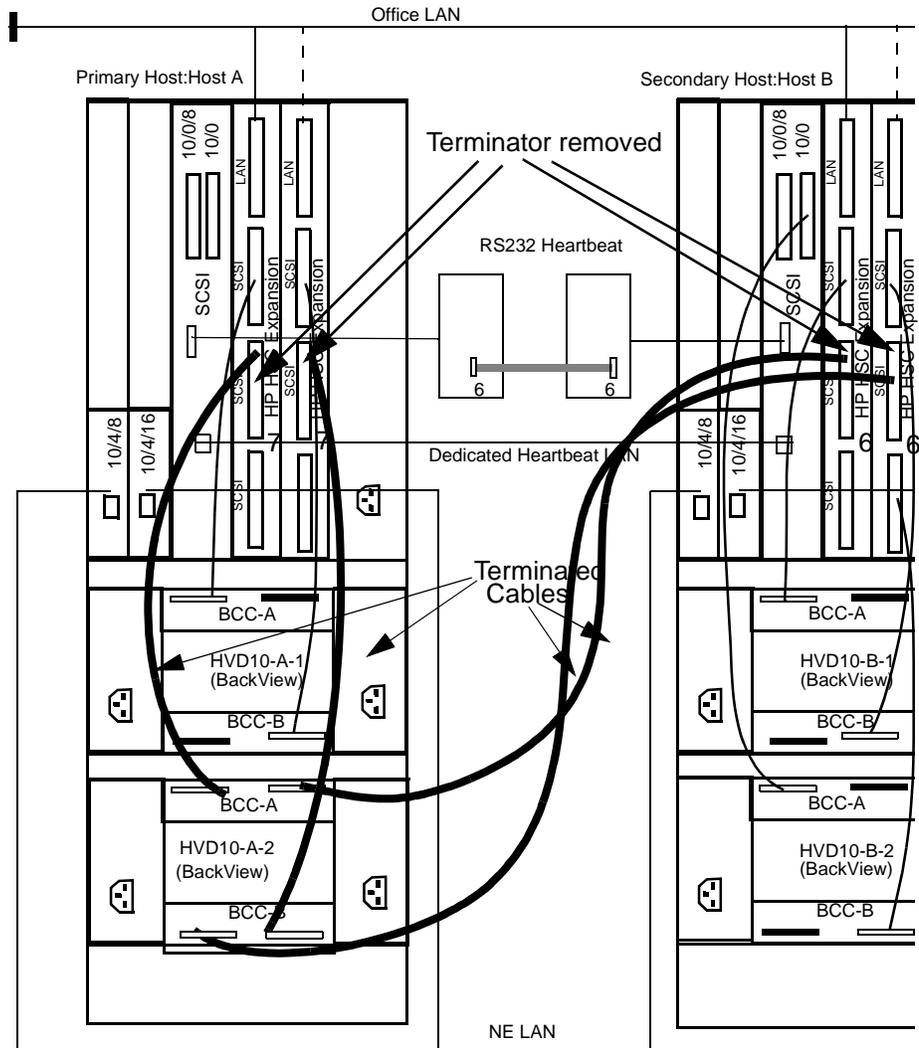
**Table 10-14 18GBx2 Mirrored Disk Partitions for a Redundant K580 (4 CPUs)**

| 18GBx2 Partition Number | Mount Point | Allocated Space |
|-------------------------|-------------|-----------------|
| VG00                    | Swap/Dump   | 2248MB          |
|                         | /           | 512MB           |
|                         | /stand      | 100MB           |
|                         | /opt        | 1024MB          |
|                         | /var        | 1024MB          |
|                         | /usr        | 1024MB          |
|                         | /home       | 100MB           |
|                         | /tmp        | 1024MB          |
|                         | dbspace     | dbspe1_1G       |
|                         | /ems        | 6GB             |
| VG01                    | dbspace     | dbsp1_2G        |
|                         | pmspace     | pmsp{1-3}_2G    |
|                         | dbspace     | dbsp2_2G        |
|                         | pmspace     | pmsp{4-6}_2G    |
| VG02                    | dbspace     | dbsp3_2G        |
|                         | dbspace     | dbspe2_2G       |
|                         | pmspace     | pmsp{7-8}_2G    |
|                         | dbspace     | dbsp4_2G        |
|                         | dbspace     | dbspe3_2G       |
|                         | pmspace     | pmsp{9-10}_2G   |
| VG03                    | dbspace     | dbsp5_2G        |
|                         | pmspace     | pmsp{11-13}_2G  |
|                         | dbspace     | dbsp6_2G        |
|                         | pmspace     | pmsp{14-16}_2G  |

| 18GBx2 Partition Number                                                                                                                                                     | Mount Point | Allocated Space |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|
| VG04                                                                                                                                                                        | pmspace     | pmsp{17-20}_2G  |
|                                                                                                                                                                             | pmspace     | pmsp{21-24}_2G  |
| VG05                                                                                                                                                                        | pmspace     | pmsp{25-28}_2G  |
|                                                                                                                                                                             | pmspace     | pmsp{29-32}_2G  |
| VG06                                                                                                                                                                        | pmspace     | pmsp{33-36}_2G  |
|                                                                                                                                                                             | pmspace     | pmsp{37-40}_2G  |
| VG07*                                                                                                                                                                       | pmspace     | pmsp{41-44}_2G  |
|                                                                                                                                                                             | nbspace     | nbsp{1-2}_2G    |
|                                                                                                                                                                             | /data       | 4GB             |
| *VG08 is recommended on the secondary host. VG07 is recommended to be on one of the shared disks and to be exported without any LVs to the secondary host for cluster lock. |             |                 |



Figure 10-2 Redundant K580 (4 CPUs) with HVD10



## K580 (6 CPUs) Standalone and Redundant Configurations

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### Standalone and Redundant Specifications

This table lists the specifications for a standalone and redundant K580 with six CPUs.

**Table 10-15 K580 (6 CPUs) Standalone and Redundant Specifications**

| Item                             | Standalone Specification               | Redundant Specification                |
|----------------------------------|----------------------------------------|----------------------------------------|
| Number of CPUs                   | 6                                      | 6                                      |
| HP-UX Version                    | 11.00 (32 bit)                         | 11.00 (32 bit)                         |
| Memory                           | 2048MB                                 | 4096MB                                 |
| Swap/Dump Space                  | 2248MB                                 | 4296MB                                 |
| Navis™ Optical EMS Disk Space    | 180GB                                  | 360GB                                  |
| with PM                          | twenty, 9GB drives or ten, 18GB drives | twenty, 9GB drives or ten, 18GB drives |
| without PM                       | six, 9GB drives                        | six, 9GB drives                        |
| Base Disk Space (minimum)        | N/A                                    | 20GB x 2                               |
| PM + NB Log Disk Space (minimum) | N/A                                    | 156GB x 2                              |
| Additional Space for TMF         | Included (4GB)                         | Included                               |
| DAT                              | DDS3                                   | DDS3                                   |
| CD-ROM Drive                     | DVD                                    | DVD                                    |
| X.25 (optional)                  | 2 ACC MUX                              | N/A                                    |
| SCSI Controller                  | 4                                      | 8                                      |
| LAN Interface Card               | 3                                      | 7*                                     |
| Cabinet                          | 2.0m                                   | 2.0m, 2 per host                       |
| Supported Workstations/PCs       | 30                                     | 30                                     |
| Disk Enclosure                   | HVD10                                  | HVD10                                  |
| Bus Mode                         | Split Bus/Dual Connection              | Split Bus/Dual Connection              |
| Jumper Settings                  | 01111                                  | 01111                                  |

\*7 LAN cards are needed because the system supports pure OSI and OSI and/or TCP/IP NEs. The Navis™ Optical EMS application, as configured in InstallEms, supports pure OSI redundancy and MC/ServiceGuard supports to redundancy TCP/IP LAN.

**9GB Disk Partitions for a Standalone K580 (6 CPUs) with PM Support**

This table shows the 9GB disk partitions for a standalone K580 (K460) with six CPUs and PM support. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-16 9GB Disk Partitions for a Standalone K580 (6 CPUs) with PM Support**

| 9GB Partition Number | Mount Point | Allocated Space |
|----------------------|-------------|-----------------|
| VG#0                 | Swap1Dump   | 2248MB          |
|                      | /           | 512MB           |
|                      | /stand      | 100MB           |
|                      | /opt        | 1024MB          |
|                      | /var        | 1024MB          |
|                      | /usr        | 1024MB          |
|                      | /home       | 100MB           |
|                      | /tmp        | 1024MB          |
|                      | dbspace     | dbspe1_1G       |
| VG#1                 | /ems        | 6GB             |
|                      | /tools      | 600MB           |
|                      | /reports    | 1.8G            |
| VG#2                 | dbspace     | dbsp1_2G        |
|                      | pmspace     | pmsp{1-3}_2G    |
| VG#3                 | dbspace     | dbsp2_2G        |
|                      | pmspace     | pmsp{4-6}_2G    |
| VG#4                 | dbspace     | dbsp3_2G        |
|                      | dbspace     | dbspe2_2G       |
|                      | pmspace     | pmsp{7-8}_2G    |
| VG#5                 | dbspace     | dbsp4_2G        |
|                      | pmspace     | pmsp{9-11}_2G   |
| VG#6                 | dbspace     | dbsp5_2G        |
|                      | pmspace     | pmsp{12-14}_2G  |
| VG#7                 | dbspace     | dbsp6_2G        |
|                      | dbspace     | dbspe3_2G       |
|                      | pmspace     | pmsp{15-16}_2G  |
| VG#8                 | pmspace     | pmsp{17-20}_2G  |

| 9GB Partition Number | Mount Point              | Allocated Space |
|----------------------|--------------------------|-----------------|
| VG#9                 | pmspace                  | pmsp{21-24}_2G  |
| VG#10                | pmspace                  | pmsp{25-28}_2G  |
| VG#11                | pmspace                  | pmsp{29-32}_2G  |
| VG#12                | pmspace                  | pmsp{33-36}_2G  |
| VG#13                | pmspace                  | pmsp{37-40}_2G  |
| VG#14                | pmspace                  | pmsp{41-44}_2G  |
| VG#15                | pmspace                  | pmsp{45-48}_2G  |
| VG#16                | pmspace                  | pmsp{49-52}_2G  |
| VG#17                | pmspace                  | pmsp{53-56}_2G  |
| VG#18                | pmspace                  | pmsp{57-58}_2G  |
|                      | nbspace                  | nbsp{1-2}_2G    |
| VG#19                | /data                    | 4GB             |
|                      | /var/opt/omni (optional) | 4GB             |

**18GB Disk Partitions for a Standalone K580 with PM Support**

This table shows the 18GB disk partitions for a K580 (K460) server with six CPUs and PM support. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-17 18GB Disk Partitions for a Standalone K580 (6 CPUs) with PM Support**

| 18GB Partition Number | Mount Point | Allocated Space |
|-----------------------|-------------|-----------------|
| VG#0                  | Swap1Dump   | 2248MB          |
|                       | /           | 512MB           |
|                       | /stand      | 100MB           |
|                       | /opt        | 1024MB          |
|                       | /var        | 1024MB          |
|                       | /usr        | 1024MB          |
|                       | /home       | 100MB           |
|                       | /tmp        | 1024MB          |
|                       | dbspace     | dbspe1_1G       |
|                       | /ems        | 6GB             |
|                       | /tools      | 600MB           |
|                       | /reports    | 1.8G            |
| VG#1                  | dbspace     | dbsp1_2G        |
|                       | pmspace     | pmsp{1-3}_2G    |
|                       | dbspace     | dbsp2_2G        |
|                       | pmspace     | pmsp{4-6}_2G    |
| VG#2                  | dbspace     | dbsp3_2G        |
|                       | dbspace     | dbspe2_2G       |
|                       | pmspace     | pmsp{7-8}_2G    |
|                       | dbspace     | dbsp4_2G        |
|                       | pmspace     | pmsp{9-11}_2G   |
| VG#3                  | dbspace     | dbsp5_2G        |
|                       | pmspace     | pmsp{12-14}_2G  |
|                       | dbspace     | dbsp6_2G        |
|                       | dbspace     | dbspe3_2G       |
|                       | pmspace     | pmsp{15-16}_2G  |

| 18GB Partition Number | Mount Point                 | Allocated Space |
|-----------------------|-----------------------------|-----------------|
| VG#4                  | pmspace                     | pmsp{ 17-20}_2G |
|                       | pmspace                     | pmsp{ 21-24}_2G |
| VG#5                  | pmspace                     | pmsp{ 25-28}_2G |
|                       | pmspace                     | pmsp{ 29-32}_2G |
| VG#6                  | pmspace                     | pmsp{ 33-36}_2G |
|                       | pmspace                     | pmsp{ 37-40}_2G |
| VG#7                  | pmspace                     | pmsp{ 41-44}_2G |
|                       | pmspace                     | pmsp{ 45-48}_2G |
| VG#8                  | pmspace                     | pmsp{ 49-52}_2G |
|                       | pmspace                     | pmsp{ 53-56}_2G |
| VG#9                  | pmspace                     | pmsp{ 57-58}_2G |
|                       | nbspace                     | nbsp{ 1-2}_2G   |
|                       | /data                       | 4GB             |
|                       | /var/opt/omni<br>(optional) | 4GB             |

**9GB/18GB Disk Partitions for a Redundant K580 (6 CPUs)**

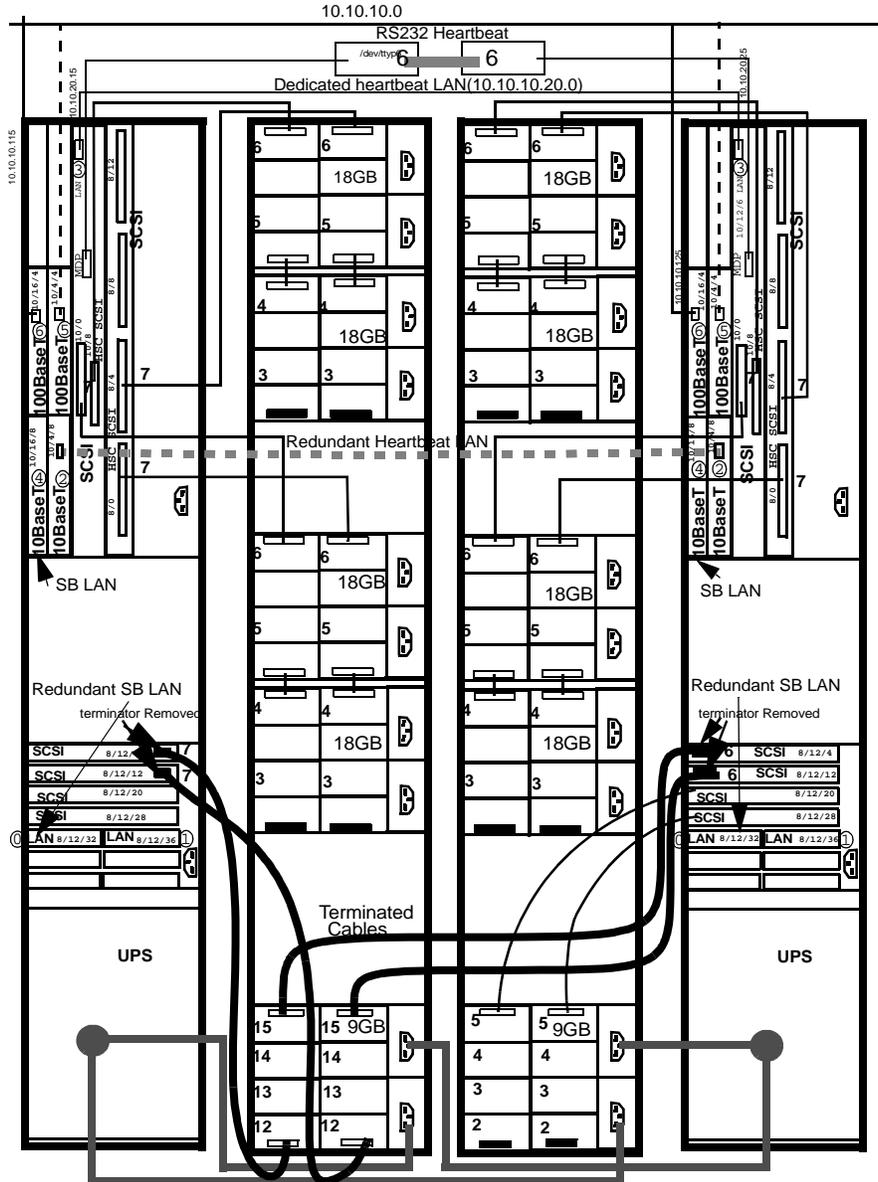
This table shows the 9GB/18GBx2 mirrored disk partitions for a redundant K580 with six CPUs. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-18 9GB/18GBx2 Mirrored Disk Partitions for a Redundant K580 (6 CPUs)**

| 9/18GBx2 Partition Number | Mount Point   | Allocated Space |
|---------------------------|---------------|-----------------|
| VG00 (18GBx2)             | Swap1/Dump    | 4296MB          |
|                           | /             | 512MB           |
|                           | /stand        | 100MB           |
|                           | /opt          | 1024MB          |
|                           | /var          | 1024MB          |
|                           | /usr          | 1024MB          |
|                           | /home         | 100MB           |
|                           | /tmp          | 1024MB          |
|                           | /ems          | 6GB             |
|                           | /tools        | 600MB           |
|                           | /reports      | 1.8G            |
|                           | (Total Used)  | 17GB            |
|                           | VG01 (18GBx2) | /data           |
| /work (all purpose)       |               | 4GB             |
| /var/opt/omni (optional)  |               | 3.5GB           |
| VG02 (18GBx2)             | dbspace       | dbsp1_2G        |
|                           | pmspace       | pmsp{1-7}_2G    |
| VG03 (18GBx2)             | Swap2         | 1024MB          |
|                           | dbspace       | dbsp2_2G        |
|                           | pmspace       | pmsp{8-14}_2G   |
| VG04 (18GBx2)             | Swap3         | 1024MB          |
|                           | dbspace       | dbsp3_2G        |
|                           | pmspace       | pmsp{15-21}_2G  |
| VG05 (18GBx2)             | Swap4         | 1024MB          |
|                           | dbspace       | dbsp4_2G        |
|                           | pmspace       | pmsp{22-28}_2G  |

| <b>9/18GBx2 Partition Number</b> | <b>Mount Point</b> | <b>Allocated Space</b> |
|----------------------------------|--------------------|------------------------|
| VG06 (18GBx2)                    | dbspace            | dbsp5_2G               |
|                                  | pmspace            | pmsp{29-35}_2G         |
| VG07 (18GBx2)                    | pmspace            | pm{36-42}_2G           |
|                                  | dbspace            | dbsp6_2G               |
| VG08 (18GBx2)                    | nbspace            | nbsp1-2                |
|                                  | dbspace            | dbspe1_1G              |
| VG09 (9GBx2)                     | pmspace            | pmsp{43-46}_2G         |
| VG10 (9GBx2)                     | pmspace            | pmsp{47-50}_2G         |
| VG12 (9GBx2)                     | dbspace            | dbspe2_2G              |

Figure 10-3 Redundant K580 (6 CPUs) with J-Box



## L2000 (1 CPU) Standalone Configurations

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**Specifications** This table lists the specifications for a standalone L2000 with one CPU.

**Table 10-19 L2000 (1 CPU) Standalone Specifications**

| Item                          | Standalone without Mirrored Disk | Standalone with Mirrored Disk |
|-------------------------------|----------------------------------|-------------------------------|
| Number of CPUs                | 1                                | 1                             |
| HP-UX Version                 | HP-UX 11.0 (64 bit)              | HP-UX 11.0 (64 bit)           |
| Memory                        | 1GB                              | 2GB                           |
| Swap/Dump Space               | 2248MB                           | 2248MB                        |
| Internal Disk                 | 0                                | 0                             |
| Navis™ Optical EMS Disk Space | 90GB                             | 360GB                         |
| Number of Disk Drives         | five, 18GB drives                | ten, 36GB drives              |
| Additional Disk Space for TMF | Included (2GB)                   | Included (2GB)                |
| DAT                           | DDS3x1                           | DDS3x1                        |
| CD-ROM Drive                  | DVDx1                            | DVDx1                         |
| SCSI Controller               | 2                                | 2                             |
| PCI LAN (100BaseT)            | 2                                | 2                             |
| X.25 (Optional)               | N/A                              | N/A                           |
| Disk Enclosure                | SC10                             | SC10                          |
| Bus Mode                      | Split Bus/Dual Connection        | Split Bus/Dual Connection     |
| Jumper Setting                | 01111                            | 01111                         |

**L2000 Racking Specifications**

HP has three specifications for server cabinets, which can be one of the following:

- E25 (25EIA units)
- E33 (33 EIA units)
- E41 (41 EIA units)

To better use floor space, the following table provides the racking specifications for L-Class server standalone configurations.

As an example, based upon the following specifications, two of any kind of L-Class servers can be put in one E33.

**Table 10-20 L2000 (1 and 2 CPUs) Standalone Server Physical and Electrical Specifications**

| Item                  | Specification |
|-----------------------|---------------|
| Server                | 7 EIA         |
| Smart Storage         | 2 EIA         |
| Disk Enclosure        | 4 EIA         |
| Total EIA Height      | 13 EIA        |
| Total Power (at 220V) | < 15 Amps     |

**18GB Disk Partitions for a Standalone L2000 (1 CPU)**

This table shows the required disk partitions for standalone L2000 with one CPU. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-21 18GB Disk Partitions for a Standalone L2000 (1 CPU) Server**

| 18GB Partition Number | Mount Point    | Allocated Space |
|-----------------------|----------------|-----------------|
| VG#0                  | Swap1/Dump     | 2248MB          |
|                       | /              | 512MB           |
|                       | /stand         | 100MB           |
|                       | /opt           | 1024MB          |
|                       | /var           | 1024MB          |
|                       | /usr           | 1024MB          |
|                       | /home          | 100MB           |
|                       | /tmp           | 1024MB          |
| VG#1                  | /ems           | 6GB             |
|                       | /tools         | 600MB           |
|                       | /reports       | 1.8GB           |
|                       | /data          | 4GB             |
| VG#2                  | dbspace        | dbsp1_1G        |
|                       | pmspace        | pmsp{1-6}_2G    |
|                       | /var/adm/crash | 3GB             |
| VG#3                  | dbspace        | dbsp2_1G        |
|                       | dbspace        | dbsp3_1G        |
|                       | pmspace        | pmsp{7-12}_2G   |
|                       | dbspace        | dbspe1_1G       |
| VG#4                  | nbspace        | nbsp1-2_2G      |

**36GB Disk Partitions for a Standalone L2000 (1 CPU)**

This table shows the required disk partitions for standalone L2000 with one CPU. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-22 36GBx2 Mirrored Disk Partitions for a Standalone L2000 (1 CPU) Server**

| 36GBx2 Partition Number | Mount Point    | Allocated Space |
|-------------------------|----------------|-----------------|
| VG#0                    | Swap1/Dump     | 2248MB          |
|                         | /              | 512MB           |
|                         | /stand         | 104MB           |
|                         | /opt           | 1024MB          |
|                         | /var           | 1024MB          |
|                         | /usr           | 1024MB          |
|                         | /home          | 104MB           |
|                         | /tmp           | 1024MB          |
| VG#1                    | /ems           | 6GB             |
|                         | /tools         | 600MB           |
|                         | /reports       | 1.8GB           |
|                         | /data          | 4GB             |
|                         | dbspace        | dbsp2_1GB       |
|                         | pmspace        | pmsp{1-6}_2G    |
| VG#2                    | dbspace        | dbsp1_1G        |
|                         | dbspace        | dbsp3_1G        |
|                         | pmspace        | pmsp{7-12}_2G   |
|                         | dbspace        | dbspe1_1G       |
|                         | /var/adm/crash | 3GB             |
| VG#3                    | nbspace        | nbsp1-2_2G      |



## L2000 (2 CPUs) Standalone and Redundant Configurations

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**Specifications** This table lists the specifications for a standalone and redundant L2000 with two CPUs.

**Table 10-23 L2000 (2 CPUs) Standalone Specifications**

| Item                          | Mirrored Standalone Specification | Redundant Specification   |
|-------------------------------|-----------------------------------|---------------------------|
| Number of CPUs                | 2                                 | 2                         |
| HP-UX Version                 | HP-UX 11.0 (64 bit)               | HP-UX 11.0 (64 bit)       |
| Memory                        | 2GB                               | 2GB                       |
| Swap/Dump Space               | 2248MB                            | 2248MB                    |
| Internal Disk                 | 0                                 | 0                         |
| Navis™ Optical EMS Disk Space | 360GB                             | 180GBx2                   |
| Number of Disk Drives         | ten, 36GB drives                  | ten, 36GB drives          |
| Additional Disk Space for TMF | Included (2GB)                    | Included                  |
| DAT                           | DDS3x1                            | 12GB DDS                  |
| CD-ROM Drive                  | DVDx1                             | DVD                       |
| SCSI Controller               | 2                                 | 5                         |
| PCI LAN (100BaseT)            | 2                                 | 5                         |
| X.25 (Optional)               | N/A                               | N/A                       |
| Disk Enclosure                | SC10                              | SC10                      |
| Bus Mode                      | Split Bus/Dual Connection         | Split Bus/Dual Connection |
| Jumper Setting                | 01111                             | 01111                     |

**L2000 Racking Specifications**

HP has three specifications for server cabinets, which can be one of the following:

- E25 (25EIA units)
- E33 (33 EIA units)
- E41 (41 EIA units)

To better use floor space, the following table provides the racking specifications for L-Class server standalone configurations.

As an example, based upon the following specifications, two of any kind of L-Class servers can be put in one E33.

**Table 10-24 L2000 (2 CPUs) Standalone Server Physical and Electrical Specifications**

| Item                  | Specification |
|-----------------------|---------------|
| Server                | 7 EIA         |
| Smart Storage         | 2 EIA         |
| Disk Enclosure        | 4 EIA         |
| Total EIA Height      | 13 EIA        |
| Total Power (at 220V) | < 15 Amps     |

**36GBx2 Mirrored Disk Partitions for a Standalone L2000 (2 CPUs)**

This table shows the 36GBx2 mirrored disk partitions for a standalone L2000 with two CPUs. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-25 36GBx2 Mirrored Disk Partitions for a Standalone L2000 (2 CPUs)**

| 36GBx2 Partition Number | Mount Point    | Allocated Space |
|-------------------------|----------------|-----------------|
| VG#0                    | Swap1/Dump     | 2248MB          |
|                         | /              | 512MB           |
|                         | /stand         | 104MB           |
|                         | /opt           | 1024MB          |
|                         | /var           | 1024MB          |
|                         | /usr           | 1024MB          |
|                         | /home          | 104MB           |
|                         | /tmp           | 1024MB          |
|                         | VG#1           | /ems            |
| /tools                  |                | 600MB           |
| /reports                |                | 2GB             |
| /data                   |                | 4GB             |
| dbspace                 |                | dbspe1_1G       |
| dbspace                 |                | dbsp2_1G        |
| pmspace                 |                | pmsp{1-7}_2G    |
| VG#2                    | dbspace        | dbsp1_1G        |
|                         | pmspace        | pmsp{8-14}_2G   |
|                         | dbspace        | dbsp3_1G        |
|                         | pmspace        | pmsp{15-21}_2G  |
| VG#3                    | dbspace        | dbsp4_1G        |
|                         | pmspace        | pmsp{22-28}_2G  |
|                         | dbspace        | dbsp5_2G        |
|                         | dbspace        | dbspe2_2G       |
|                         | nbspace        | nbsp1_2G        |
|                         | /var/adm/crash | 3GB             |

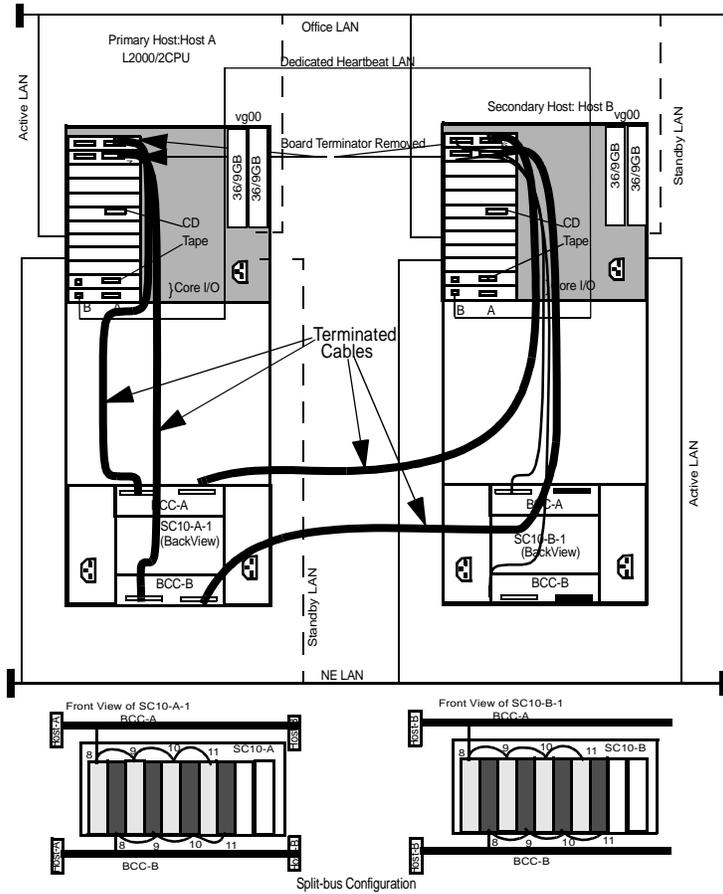
**36GBx2 Mirrored Disk Partitions for a Redundant L2000 (2 CPUs)**

This table shows the 36GBx2 mirrored disk partitions for a redundant L2000 with two CPUs.

**Table 10-26 36GBx2 Mirrored Disk Partitions for a Redundant L2000 (2 CPUs)**

| 36GBx2 Partition Number                                                                                        | Mount Point    | Allocated Space |
|----------------------------------------------------------------------------------------------------------------|----------------|-----------------|
| VG00                                                                                                           | Swap1/Dump     | 2248MB          |
|                                                                                                                | /              | 512MB           |
|                                                                                                                | /stand         | 104MB           |
|                                                                                                                | /opt           | 1024MB          |
|                                                                                                                | /var           | 1024MB          |
|                                                                                                                | /usr           | 1024MB          |
|                                                                                                                | /home          | 104MB           |
|                                                                                                                | /tmp           | 1024MB          |
| VG01                                                                                                           | /ems           | 6GB             |
|                                                                                                                | /tools         | 600MB           |
|                                                                                                                | /reports       | 2GB             |
|                                                                                                                | /data          | 4GB             |
|                                                                                                                | dbspace        | dbspe1_1G       |
|                                                                                                                | dbspace        | dbsp2_1G        |
| VG02                                                                                                           | pmospace       | pmsp{1-7}_2G    |
|                                                                                                                | dbspace        | dbsp1_1G        |
|                                                                                                                | pmospace       | pmsp{8-14}_2G   |
|                                                                                                                | dbspace        | dbsp3_1G        |
| VG03                                                                                                           | pmospace       | pmsp{15-21}_2G  |
|                                                                                                                | dbspace        | dbspe4_1G       |
|                                                                                                                | dbspace        | dbspe2_2G       |
|                                                                                                                | pmospace       | pmsp{22-28}_2G  |
|                                                                                                                | dbspace        | dbsp5_2G        |
|                                                                                                                | nospace        | nosp1_2G        |
| VG04*                                                                                                          | /var/adm/crash | 3GB             |
|                                                                                                                | cluster lock   | cluster lock    |
| * VG04 is on the shared 9GB disks that are used for cluster lock. It should be exported to the secondary host. |                |                 |

Figure 10-4 L2000 (2 CPUs) Local Redundancy



## L2000 (4 CPUs) Standalone and Redundant Configurations

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### Standalone and Redundant Specifications

This table lists the specifications for a standalone and redundant L2000 with four CPUs.

**Table 10-27 L2000 (4 CPUs) Standalone and Redundant Specifications**

| Item                          | Mirrored Standalone Specification | Mirrored Redundant Specification |
|-------------------------------|-----------------------------------|----------------------------------|
| HP System Model               | L2000                             | L2000-440                        |
| Number of CPUs                | 4                                 | 4                                |
| HP-UX Version                 | Release 11.0 (64 bit)             | Release 11.0 (64 bit)            |
| Memory                        | 4GB                               | 4GB                              |
| Swap/Dump Space               | 4296MB                            | 4296MB                           |
| Internal Disk                 | 0                                 | 0                                |
| Navis™ Optical EMS Disk Space | 504GB                             | 252GB x 2                        |
| Number of drives with PM      | fourteen, 36GB drives             | fourteen, 36GB drives            |
| Additional Disk Space for TMF | Included (4GB)                    | Included                         |
| DAT                           | DDS 3 x 1                         | 12GB DDS                         |
| CD-ROM Drive                  | DVD x 1                           | DVD                              |
| SCSI Controller               | 2                                 | 7                                |
| PCI LAN (100Base T)           | 2                                 | 5                                |
| X.25 (Optional)               | N/A                               | N/A                              |
| Cabinet                       | 1.25m                             | 1.25m, 1/host                    |
| Disk Enclosure                | SC10                              | SC10                             |
| Bus Mode                      | Split Bus/Dual Connection         | Split Bus/Dual Connection        |
| Jumper Setting                | 0111                              | 0111                             |

**L-Class Server Racking Specifications**

HP has three specifications for server cabinets, which can be one of the following:

- E25 (25EIA units)
- E33 (33 EIA units)
- E41 (41 EIA units)

To better use floor space, the following table provides the racking specifications for L-Class server standalone configurations.

As an example, based upon the following specifications, two of any kind of L-Class servers can be put in one E33.

**Table 10-28 L2000 (4 CPUs) Standalone Server Physical and Electrical Specifications**

| Item                  | Specification |
|-----------------------|---------------|
| Server                | 7 EIA         |
| Smart Storage         | 2 EIA         |
| Disk Enclosure        | 4 EIA         |
| Total EIA Height      | 13 EIA        |
| Total Power (at 220V) | < 15 Amps     |

**36GB Mirrored Disk Partitions for Standalone L2000 (4 CPUs)**

This table shows the 36GB mirrored disk partitions for a standalone L2000 with four CPUs. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-29 36GB Mirrored Disk Partitions for a Standalone L2000 (4 CPUs)**

| 36GBx2 Partition Number | Mount Point              | Allocated Space |
|-------------------------|--------------------------|-----------------|
| VG#0                    | Swap1                    | 4296MB          |
|                         | /                        | 512MB           |
|                         | /stand                   | 104MB           |
|                         | /opt                     | 1024MB          |
|                         | /var                     | 1024MB          |
|                         | /usr                     | 1024MB          |
|                         | /home                    | 104MB           |
|                         | /tmp                     | 1024MB          |
| VG#1                    | /ems                     | 6GB             |
|                         | /data                    | 10GB            |
|                         | /reports                 | 2GB             |
|                         | /tools                   | 600MB           |
|                         | /work (all purpose)      | 4GB             |
|                         | /var/opt/omni (optional) | 4GB             |
| VG#2                    | dbspace                  | dbsp1_2G        |
|                         | pmspace                  | pmsp{1-15}_2G   |
|                         | dbspace                  | dbspe1_1G       |
| VG#3                    | dbspace                  | dbsp2_2G        |
|                         | pmspace                  | pmsp{16-30}_2G  |
| VG#4                    | dbspace                  | dbsp3_2G        |
|                         | pmspace                  | pmsp{31-45}_2G  |
| VG#5                    | dbspace                  | dbsp4_2G        |
|                         | dbspace                  | dbspe2_2G       |
|                         | pmspace                  | pmsp{46-60}_2G  |

| <b>36GBx2 Partition Number</b> | <b>Mount Point</b> | <b>Allocated Space</b> |
|--------------------------------|--------------------|------------------------|
| VG#6                           | dbspace            | dbsp5_2G               |
|                                | dbspace            | dbsp6_2G               |
|                                | nbspace            | nbsp{1-2}_2G           |
|                                | /var/adm/crash     | 5GB                    |

**36GBx2 Mirrored Disk Partitions for a Redundant L2000 (4 CPUs)**

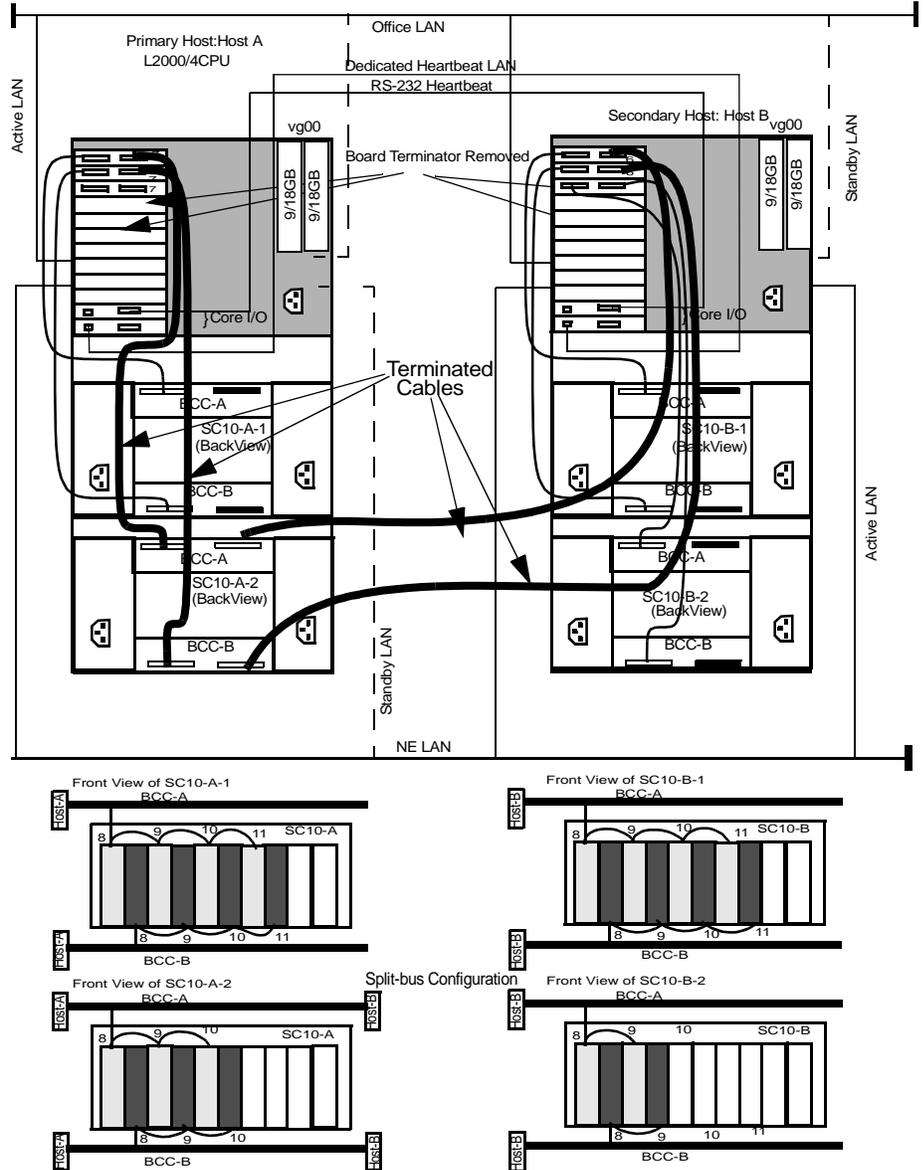
This table shows the 36GBx2 mirrored disk partitions for a redundant L2000 with four CPUs. All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-30 36GBx2 Mirrored Disk Partitions for Redundant L2000 (4 CPUs)**

| 36GBx2 Partition Number | Mount Point              | Allocated Space |
|-------------------------|--------------------------|-----------------|
| VG00                    | Swap1/Dump               | 4296MB          |
|                         | /                        | 512MB           |
|                         | /stand                   | 104MB           |
|                         | /opt                     | 1024MB          |
|                         | /var                     | 1024MB          |
|                         | /usr                     | 1024MB          |
|                         | /home                    | 104MB           |
|                         | /tmp                     | 1024MB          |
| VG01                    | /ems                     | 6GB             |
|                         | /data                    | 10GB            |
|                         | /reports                 | 2GB             |
|                         | /tools                   | 600MB           |
|                         | /work (for all purposes) | 4GB             |
|                         | /var/opt/omni (optional) | 4GB             |
| VG02                    | dbspace                  | dbsp1_2G        |
|                         | pmspace                  | pmsp{ 1-15}_2G  |
|                         | dbspace                  | dbspe1_1G       |
| VG03                    | dbspace                  | dbsp2_2G        |
|                         | pmspace                  | pmsp{ 16-30}_2G |
| VG04                    | dbspace                  | dbsp3_2G        |
|                         | pmspace                  | pmsp{ 31-45}_2G |
| VG05                    | dbspace                  | dbsp4_2G        |
|                         | dbspace                  | dbspe2_2G       |
|                         | pmspace                  | pmsp{ 46-60}_2G |

| <b>36GBx2 Partition Number</b>                                                                              | <b>Mount Point</b> | <b>Allocated Space</b> |
|-------------------------------------------------------------------------------------------------------------|--------------------|------------------------|
| VG06                                                                                                        | dbspace            | dbsp5_2G               |
|                                                                                                             | dbspace            | dbsp6_2G               |
|                                                                                                             | nbspace            | nbsp{1-2}_2G           |
|                                                                                                             | /var/adm/crash     | 5GB                    |
| VG07*                                                                                                       | cluster lock       | cluster lock           |
| *VG07 is on the shared 9GB disk that is used for cluster lock. It should be exported to the secondary host. |                    |                        |

Figure 10-5 Redundant L2000 (4 CPUs)



## N4000 (8 CPUs) Standalone Configuration

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**Standalone Specifications** This table lists the specifications for a standalone N4000 with eight CPUs.

**Table 10-31 N4000 (8 CPUs) Standalone Specifications**

| Item                          | Standalone Specification  |
|-------------------------------|---------------------------|
| HP System Model               | N4000                     |
| Number of CPUs                | 8                         |
| HP-UX Version                 | HP-UX 11.0 (64 bit)       |
| Memory                        | 8GB                       |
| Swap/Dump Space               | 8392MB                    |
| Internal Disk                 | 36GB / 9GB                |
| Navis™ Optical EMS Disk Space | 288GB                     |
| Number of Disk Drives         | eight, 36GB               |
| Additional Disk Space for TMF | Included (8GB)            |
| DAT                           | DDS3x1                    |
| CD-ROM Drive                  | DVDx1                     |
| SCSI Controller               | 2                         |
| PCI LAN (100BaseT)            | 2                         |
| X.25 (Optional)               | 2 ACC MUX                 |
| Disk Enclosure                | SC10                      |
| Bus Mode                      | Split Bus/Dual Connection |
| Jumper Settings               | 01111                     |

**N4000 Racking Specifications**

HP has three specifications for server cabinets, which can be one of the following:

- E25 (25EIA units)
- E33 (33 EIA units)
- E41 (41 EIA units)

To better use floor space, the following table provides the racking specifications for N4000 server configuration. As an example, based upon the following specifications, two of any kind of N4000 configuration can be put in one E33.

**Table 10-32 N4000 (8 CPUs) Physical and Electrical Specifications**

| Item                  | Specification |
|-----------------------|---------------|
| Server                | 10 EIA        |
| Smart Storage         | 2 EIA         |
| Disk Enclosure        | 4 EIA         |
| Total EIA Height      | 16 EIA        |
| Total Power (at 220V) | < 20 Amps     |

**36GB Disk Partitions for a Standalone N4000**

This table lists the 36GB disk partitions for a standalone N4000 (8 CPUs). All file systems should be created as **Journal File System** type (**VxFS**) except */stand*, which should be **HFS**.

**Table 10-33 36GB Disk Partitions for a Standalone N4000 (8 CPUs)**

| 36GB Partition Number | Mount Point              | Allocated Space |
|-----------------------|--------------------------|-----------------|
| VG#0 (36GB/9GB)*      | Swap1                    | 8392MB/2248MB   |
|                       | /                        | 512MB           |
|                       | /stand                   | 104MB           |
|                       | /opt                     | 1024MB          |
|                       | /var                     | 1024MB          |
|                       | /usr                     | 1024MB          |
|                       | /home                    | 104MB           |
|                       | /tmp                     | 1024MB          |
| VG#1                  | /ems                     | 6GB             |
|                       | /data                    | 10GB            |
|                       | /reports                 | 2GB             |
|                       | /tools                   | 600MB           |
|                       | /work (all purpose)      | 4GB             |
|                       | /var/opt/omni (optional) | 4GB             |
| VG#2                  | dbspace                  | dbsp1_2G        |
|                       | Swap2                    | 1024MB          |
|                       | pmspace                  | pmsp{1-15}_2G   |
|                       | dbspace                  | dbspe1_1G       |
| VG#3                  | dbspace                  | dbsp2_2G        |
|                       | Swap3                    | 1024MB          |
|                       | pmspace                  | pmsp{16-30}_2G  |
| VG#4                  | dbspace                  | dbsp3_2G        |
|                       | Swap4                    | 1024MB          |
|                       | pmspace                  | pmsp{31-45}_2G  |

| 36GB Partition Number                                                                                                                                                                                                 | Mount Point    | Allocated Space |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------|
| VG#5                                                                                                                                                                                                                  | dbspace        | dbsp4_2G        |
|                                                                                                                                                                                                                       | Swap5          | 1024MB          |
|                                                                                                                                                                                                                       | pmspace        | pmsp{46-50}_2G  |
|                                                                                                                                                                                                                       | nbspace        | nbsp{1-4}_2G    |
| VG#6                                                                                                                                                                                                                  | dbspace        | dbsp5_2G        |
|                                                                                                                                                                                                                       | Swap6          | 1024MB          |
|                                                                                                                                                                                                                       | /var/adm/crash | 9GB             |
| VG#7                                                                                                                                                                                                                  | dbspace        | dbsp6_2G        |
|                                                                                                                                                                                                                       | Swap7          | 1024MB          |
| VG#8                                                                                                                                                                                                                  | dbspace        | dbsp7_2G        |
|                                                                                                                                                                                                                       | dbspace        | dbsp8_2G        |
|                                                                                                                                                                                                                       | dbspace        | dbsp9_2G        |
|                                                                                                                                                                                                                       | dbspace        | dbsp10_2G       |
|                                                                                                                                                                                                                       | dbspace        | dbspe2_2G       |
|                                                                                                                                                                                                                       | pmspace        | pmsp{51-60}_2G  |
| <p>* If the 36GB disk is used as the root disk, set the Swap1/Dump equal to the memory size to accommodate the system core dump. If the 9GB disk is used as the root disk, set the Swap1/Dump 2248MB for standard</p> |                |                 |







# H Checklists and Worksheets

## Overview

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**Purpose** The following checklists and worksheets will help you to gather essential information that is needed to upgrade existing systems and to install redundant systems.

- CD-ROM Checklist
- License Checklist
- Hardware/Software Checklist
- Hardware Planning per Node Worksheet
- Volume Group and Physical Volume per Node Worksheet
- Local Cluster Configuration Planning Worksheet
- Redundant Installation Worksheet
- installHA Worksheet
- Navis™ Optical EMS Upgrade Worksheets and Checklists



## CD-ROM Checklist

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**Checklist** For a complete installation of a new system for this release of Navis™ Optical EMS, you will need the following CD-ROMs:

| ✓ | CD-ROMs Needed                                                                           | Description                                                                                                                                     |
|---|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Navis™ Optical EMS Core OS CD-ROM                                                        | Contains Navis™ Optical EMS Core OS for 32-bit HP® K-Series Servers and Navis™ Optical EMS Core OS for 64-bit HP L-Series and N-Series Servers. |
|   | HP OpenView DM CD-ROM                                                                    | Optional and user supplied. HP OpenView is used only for the WaveStar® OLS 1.6T NEs.                                                            |
|   | Navis™ Optical EMS High Availability (HA) CD-ROM Release 7.0                             | Contains the MirrorDisk, HA Monitor, EMS, and MC/ServiceGuard.                                                                                  |
|   | Navis™ Optical EMS Tools CD-ROM                                                          | Contains Informix, Orbix, and Perl                                                                                                              |
|   | Navis™ Optical EMS Application CD-ROM                                                    | Contains the ColdStart utility and the Application                                                                                              |
|   | Navis™ Optical EMS GUI Client CD-ROMs                                                    | One CD-ROM is for a Windows NT desktop and the other CD-ROM is for an HP-UX desktop.                                                            |
|   | Navis™ Optical EMS Northbound Telecommunications Management Forum (TMF) CORBA® Interface |                                                                                                                                                 |

## License Checklist

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**Checklist** For a complete installation of a new system for this release of Navis™ Optical EMS, you will need the following licenses/codes:

| ✓ | License Needed                                                       |
|---|----------------------------------------------------------------------|
|   | Navis™ Optical EMS Application License Key                           |
|   | Informix® Dynamic Server serial number and key                       |
|   | HP OpenView license for your machine<br>(optional—for CMISE NE only) |
|   | ATOS license for your machine                                        |
|   | HP MirrorDisk/UX (optional)                                          |
|   | HP MC/ServiceGuard (optional)                                        |
|   | HP HA Monitor (optional)                                             |



## Hardware/Software Components Checklist

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**Checklist** For a complete installation of a new system for this release of Navis™ Optical EMS, you will need the following hardware items and software components:

| ✓ | <b>Hardware/Software Components Needed</b>                                                   |
|---|----------------------------------------------------------------------------------------------|
|   | a LAN interface card for host access                                                         |
|   | a host IP address                                                                            |
|   | a subnet mask for the host IP                                                                |
|   | a LAN interface card for Open Systems Interconnect (OSI)                                     |
|   | an IP address for the southbound LAN                                                         |
|   | a subnet mask for OSI LAN IP                                                                 |
|   | a laptop PC and a serial cable to install the WebConsole on HP L-Series and N-Series servers |
|   | the IP address and subnet mask for the WebConsole, if the WebConsole is used                 |



# Special Purchase Third Party Software Checklist

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**Checklist** For a complete installation of a new system for this release of Navis™ Optical EMS, you will need the following third party software items:

| ✓                                                                                                                                   | Third Party Software Needed | Description                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------|
|                                                                                                                                     | Application Software        | Navis™ Optical EMS Application Software, R7.0                                                         |
|                                                                                                                                     | Operating System*           | HP-UX 11.0<br>(32-bit version for K-Class servers;<br>64-bit version for L-Class and N-Class Servers) |
|                                                                                                                                     | Informix - Online DS        | Release 7.31uc3-1<br>(32-bit version on HP-UX 11.0)                                                   |
|                                                                                                                                     | Persistence™                | R3.562                                                                                                |
|                                                                                                                                     | IONA OrbixMT                | R3.2.2                                                                                                |
|                                                                                                                                     | IONA OrbixWeb               | R3.01 (for HP workstations serving as the GUI client)                                                 |
|                                                                                                                                     | HP JRE (Java GUI Client)    | R1.1.8 (for HP workstations serving as the GUI client)                                                |
|                                                                                                                                     | HP OpenView® DM             | R5.03 (for CMISE NEs only)                                                                            |
|                                                                                                                                     | ATOS OSIAM                  | R2.6F                                                                                                 |
|                                                                                                                                     | X.25/ACC                    | Z7476AA<br>B.03.10.01 (for X.25 NEs only)                                                             |
|                                                                                                                                     | HP MC/ServiceGuard**        | A.11.09 (for redundant configurations only)                                                           |
|                                                                                                                                     | HP Mirrored Disk/UX**       | B.11.00 (for Mirrored Disk Setup for redundant configurations only)                                   |
|                                                                                                                                     | HP EMS (HA Monitors)**      | A.03.20 (for redundant configurations only)                                                           |
| * Resides on the HP-UX 11.00 Core CD-ROM, November 1999<br>**Resides on the HP-UX 11.00 Application Software CD-ROM, September 2000 |                             |                                                                                                       |

## HP-Related Software Checklist

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**Checklist** For a complete installation of a new system for this release of Navis™ Optical EMS, you will need the following HP-Related software:

| ✓                                                                       | HP-Related Software Needed              | Description                       |
|-------------------------------------------------------------------------|-----------------------------------------|-----------------------------------|
|                                                                         | Driver for the HSC 100BT LAN Card*      | J3514A<br>B.11.00.05              |
|                                                                         | Driver for the PB 100BT LAN Card*       | J2759BA<br>B.11.00.06             |
|                                                                         | Driver for the PCI 100BT LAN Card*      | J4253AA<br>B.11.00.05             |
|                                                                         | Quality Pack                            | September 2001 version            |
|                                                                         | Hardware Enablement and Critical Bundle | September 2001 version            |
|                                                                         | HP-UX Unlimited Users License           | B.11.00.02, December 2000 version |
| *Resides on the HP-UX 11.00 Application Software CD-ROM, September 2000 |                                         |                                   |

# Hardware Planning per Node Worksheet

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| <b>HARDWARE WORKSHEET</b>                      |                    |                      |                                                                   |
|------------------------------------------------|--------------------|----------------------|-------------------------------------------------------------------|
| SPU Information                                |                    |                      |                                                                   |
| S800 Host Name:                                |                    | S800 Series No. :    |                                                                   |
| Memory Capacity:                               |                    | Number of I/O Slots: |                                                                   |
| LAN Information                                |                    |                      |                                                                   |
| Name of Subnet:                                | Name of Interface: | IP Address           | Traffic Type:<br>Heartbeat/Client/NE/Standby/<br>Other (        ) |
| Name of Subnet:                                | Name of Interface: | IP Address           | Traffic Type:<br>Heartbeat/Client/NE/Standby/<br>Other (        ) |
| Name of Subnet                                 | Name of Interface: | IP Address           | Traffic Type:<br>Heartbeat/Client/NE/Standby/<br>Other (        ) |
| Name of Subnet:                                | Name of Interface: | IP Address           | Traffic Type:<br>Heartbeat/Client/NE/Standby/<br>Other (        ) |
| Serial (RS232) Heartbeat Interface Information |                    |                      |                                                                   |
| Node Name:                                     |                    | RS232 Device File:   |                                                                   |
| Node Name:                                     |                    | RS232 Device File:   |                                                                   |
| Disk I/O Information for Shared Disks          |                    |                      |                                                                   |
| Bus Type:<br>SCSI                              | Slot Number:       | Bus Address:         | Device File Name:                                                 |
| Bus Type:<br>SCSI                              | Slot Number:       | Bus Address:         | Device File Name:                                                 |
| Bus Type:<br>SCSI                              | Slot Number:       | Bus Address:         | Device File Name:                                                 |
| Bus Type:<br>SCSI                              | Slot Number:       | Bus Address:         | Device File Name:                                                 |

| <b>HARDWARE WORKSHEET</b> |              |              |                   |
|---------------------------|--------------|--------------|-------------------|
| Bus Type:<br>SCSI         | Slot Number: | Bus Address: | Device File Name: |
| Bus Type:<br>SCSI         | Slot Number: | Bus Address: | Device File Name: |
| Bus Type:<br>SCSI         | Slot Number: | Bus Address: | Device File Name: |
| Bus Type:<br>SCSI         | Slot Number: | Bus Address: | Device File Name: |

# Volume Group and Physical Volume per Node Worksheet

---

|                                      |                                       |
|--------------------------------------|---------------------------------------|
| <b>Node Name:</b>                    |                                       |
| Volume Group Name: <b>/dev/vg00</b>  |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg01</b>  |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg02</b>  |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg03</b>  |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg04</b>  |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |

|                                      |                                       |
|--------------------------------------|---------------------------------------|
| <b>Node Name:</b>                    |                                       |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg05</b>  |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg06</b>  |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg07</b>  |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg</b>    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg</b>    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |

|                                      |                                       |
|--------------------------------------|---------------------------------------|
| <b>Node Name:</b>                    |                                       |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg</b>    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg</b>    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg</b>    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg</b>    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg</b>    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg</b>    |                                       |

|                                      |                                       |
|--------------------------------------|---------------------------------------|
| <b>Node Name:</b>                    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg</b>    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg</b>    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg</b>    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Volume Group Name: <b>/dev/vg</b>    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |

|                                      |                                       |
|--------------------------------------|---------------------------------------|
| <b>Node Name:</b>                    |                                       |
| Volume Group Name: <b>/dev/vg</b>    |                                       |
| Name of First Physical Volume Group: | Name of Second Physical Volume group: |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |
| Physical Volume Name:                | Physical Volume Name:                 |

# Local Cluster Configuration Planning Worksheet

---

| Cluster Configuration Worksheet                 |                                                 |
|-------------------------------------------------|-------------------------------------------------|
| Cluster Name:                                   | Virtual IP Address for sncPkg:                  |
| Primary Node Name:                              | subnet for sncPkg:                              |
| Secondary Node Name:                            | Cluster Volume Groups:                          |
| Information for Primary Node                    | Information for Secondary Node                  |
| Active Office LAN Name:                         | Active Office LAN Name:                         |
| Active Office LAN IP:                           | Active Office LAN IP:                           |
| Standby Office LAN Name:                        | Standby Office LAN Name:                        |
| Dedicated Heartbeat LAN name:                   | Dedicated Heartbeat LAN name:                   |
| Dedicated Heartbeat LAN IP:                     | Dedicated Heartbeat LAN IP:                     |
| Active OSI/TCPIP LAN name:                      | Active OSI/TCPIP LAN name:                      |
| Active OSI/TCPIP LAN IP:                        | Active OSI/TCPIP LAN IP:                        |
| Standby OSI/TCPIP LAN name:                     | Standby OSI/TCPIP LAN name:                     |
| Subnet Address for OSI LAN:                     | Subnet Address for OSI LAN:                     |
| Heartbeat Serial Device File:                   | Heartbeat Serial Device File:                   |
| Physical Volume name for the Cluster Lock Disk: | Physical Volume name for the Cluster Lock Disk: |
| First Lock Volume group:                        |                                                 |

| <b>Cluster Configuration Worksheet</b> |                                       |
|----------------------------------------|---------------------------------------|
| Number of Shared Volume Groups:        |                                       |
| Remote Cluster Name:                   |                                       |
| Primary Node Name:                     |                                       |
| Secondary Node Name:                   |                                       |
| Information for Remote Primary Node    | Information for Remote Secondary Node |
| Active Office LAN Name:                | Active Office LAN Name:               |
| Active Office LAN IP:                  | Active Office LAN IP:                 |
| Heartbeat Interval                     | 2 sec                                 |
| Node Timeout                           | 4 sec                                 |
| Network Polling Interval               | 2 sec                                 |
| Autostart Delay                        | 0 sec                                 |

# Redundant Installation Worksheet

---

**Worksheet**    Supply the names of the device files for the volume groups on the primary and standby servers.

| <b>Volume Group</b> | <b>Primary</b> | <b>Standby</b> |
|---------------------|----------------|----------------|
| Vg00 (root)         |                |                |
| Vg01                |                |                |
| Vg02                |                |                |
| Vg03                |                |                |
| Vg04                |                |                |
| Vg05                |                |                |
| Vg06                |                |                |
| Vg07                |                |                |
| Vg08                |                |                |
| Vg09                |                |                |
| Vg10                |                |                |
| Vg11                |                |                |
| Vg12                |                |                |
| Vg13                |                |                |
| Vg14                |                |                |
| Vg15                |                |                |
| Vg16                |                |                |
| Vg17                |                |                |
| Vg18                |                |                |
| Vg19                |                |                |
| Vg20                |                |                |

# installHA Worksheet

---

**Checklist** Supply the needed information for the primary and standby servers.

| Item                                                    | Primary | Standby |
|---------------------------------------------------------|---------|---------|
| Machine Name                                            |         |         |
|                                                         |         |         |
| Primary NB LAN Interface                                |         |         |
| Primary NB LAN IP                                       |         |         |
| Standby/Backup NB LAN Interface                         |         |         |
|                                                         |         |         |
| Subaddress<br>(from <code>netstat -in NB</code> )       |         |         |
|                                                         |         |         |
| Primary SB LAN Interface                                |         |         |
| Primary SB LAN IP                                       |         |         |
| Standby/Backup SB LAN                                   |         |         |
|                                                         |         |         |
| Dedicated Heartbeat LAN                                 |         |         |
| Dedicated Heartbeat IP                                  |         |         |
| Dedicated HB Serial                                     |         |         |
|                                                         |         |         |
| Floating IP Address                                     |         |         |
|                                                         |         |         |
| Physical Volume Name<br>( <code>dev/dks/c2t5d0</code> ) |         |         |
| Cluster Lock Volume Group<br>( <code>/dev/vg12</code> ) |         |         |

# Navis™ Optical EMS Upgrade Worksheets and Checklists

---

**Host information worksheet**      Supply the following information for the host server being used in the configuration.

| <b>Host Information</b>                          |  |
|--------------------------------------------------|--|
| Host Name and System ID<br>(uname -a)            |  |
| Host IP Address Local LAN<br>(nslookup hostname) |  |
| SCSI Address                                     |  |
| Subnetwork Mask                                  |  |
| Gateway IP<br>(/etc/rc.config.d/netconf)         |  |

**Checklist of files to be copied (tar cv)**      The files listed in the following table are those to be copied.

| <b>Files to be Copied (tar cv)</b> |                                    |                                                    |
|------------------------------------|------------------------------------|----------------------------------------------------|
| <b>✓</b>                           | <b>File Location</b>               | <b>Description</b>                                 |
|                                    | /home                              | User information for HP-UX 10.0                    |
|                                    | /etc/hosts                         | IP information                                     |
|                                    | /etc/passwd                        | Login information                                  |
|                                    | /etc/group                         | Group information                                  |
|                                    | /opt/OV/osiam/osiam26F/license.dat | ATOS license file                                  |
|                                    | /var/opt/ifor/nodelock             | HP OpenView License                                |
|                                    | /ems/etc/SDSenv_rc                 | DIB information                                    |
|                                    | /ems/installEms.out                | Configuration information                          |
|                                    | /ems/etc/CM_Server.cfg             | CM configuration file                              |
|                                    | /ems/etc/400gr2Config.txt          | WaveStar® OLS 1.6T (400G) file<br>OpenLink License |
|                                    | /ems/dsa                           | DSA directory                                      |
|                                    | /var/adm/sw/.codewords             | HP Codewords                                       |

**Checklist of files used in redundancy configurations**

The following checklist shows the files that are used in redundancy configurations.

| <b>Files Used for Redundancy Configurations</b> |                                         |                             |
|-------------------------------------------------|-----------------------------------------|-----------------------------|
| <b>✓</b>                                        | <b>Location</b>                         | <b>Description</b>          |
|                                                 | /ems/HA/LOC/config/cluster.conf         | installHA history           |
|                                                 | /ems/etc/HA_Topology.cfg                | Topology information        |
|                                                 | /etc/cmcluster/sncCluster.ascii         | Cluster configuration       |
|                                                 | /etc/cmcluster/pkglist                  | Package list                |
|                                                 | /etc/cmcluster/packages/pkgSnc.conf     | SNC package information     |
|                                                 | /etc/cmcluster/packages/pkgStandby.conf | Standby package information |

**Backup files for redundancy**

The following table lists the command iterations needed to create a set of files that contain enough information to recreate pertinent information from scratch should the need arise.

| <b>Recreation Files</b> |                                         |                                                        |
|-------------------------|-----------------------------------------|--------------------------------------------------------|
| <b>✓</b>                | <b>Command Iteration</b>                | <b>Description</b>                                     |
|                         | dsp ne_ne> sel.rsf                      | Database information                                   |
|                         | dsp sds_ne > sds.rsf                    | WaveStar® OLS 1.6T NSAP information                    |
|                         | dsp sds_ae >> sds.rsf                   | WaveStar® OLS 1.6T NSAP information                    |
|                         | lanscan > lan.out                       | Shows mac and dn/up                                    |
|                         | cat /etc/rc.config.d/netconf >> lan.out | LAN configuration file                                 |
|                         | /etc/lvmtab                             | Disk layout                                            |
|                         | ifconfig lan? >> lan.out                | Use this command sequence for each LAN card configured |
|                         | vgdisplay -v > vg.out                   | Machine setup                                          |

**Checklist of Files for R3.0 and Later Support**    The following table contains files that are useful for R3.0 and later support.

| <b>Files for R3.0 and Later</b> |                              |                    |
|---------------------------------|------------------------------|--------------------|
| <b>✓</b>                        | <b>Location</b>              | <b>Description</b> |
|                                 | /etc/x25/x25_config          | X.25 information   |
|                                 | /opt/acc/cfg/x25_config.answ | X.25 information   |
|                                 | /etc/inittab                 | SAAI data          |



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