

Quick Installation and Startup for HP-UX

Enterprise NMS is a client/server network management system for Nortel enterprise data networks. You install server software on one machine, and you can install client software on one or more other machines.

This quick reference guide provides abbreviated instructions for installing and getting started with Enterprise NMS 10.5 for HP-UX platforms. It is assumed that you are familiar with installing applications on an HP-UX management station. See the *Installation* guide (part number 321537-C) for more detailed installation information.

Nortel recommends that you review the *Release Notes* (part number 205970-K) before proceeding with the installation.



Caution: Enterprise NMS installation supports the English language set and English operating system only.

Caution: If you are integrating Enterprise NMS with an umbrella management system such as HP OpenView or IBM Tivoli NetView, review Chapter 3, “Integrating Enterprise NMS with HP OpenView or IBM Tivoli NetView,” of the *Installation* guide (part number 321537-C) before proceeding with the instructions in this chapter.

System requirements

Item	Requirement
Hardware	System; minimum processor speed; RAM; hard drive: • Large network (10,000 managed IP interfaces): HP-UX (PA-RISC) C seris; 1 GHz; 2 GB RAM; 60 GB Hard Drive • Medium network (5,000 managed IP interfaces): HP-UX (PA-RISC) C seris; 1 GHz; 2 GB RAM; 60 GB Hard Drive • Small network (500 managed IP interfaces): HP-UX (PA-RISC) C seris; 900 MHz; 2 GB RAM; 60 GB Hard Drive
Minimum partition sizes	For Oracle database: — disk space: 3.6 GB — space in temp directory: 400 MB For Enterprise NMS 10.5: — client/server: 1 GB — Oracle database: 6.7 GB Full install: 12.1 GB
Swap space	Disk space not less than the system's physical memory, or 1 GB, whichever is greater. To check: \$ /usr/sbin/swapinfo -dq

Item	Requirement
tmp space	The Oracle Universal Installer requires up to 400 MB of space in the /tmp directory as a temporary location for files during the installation process. If there is insufficient space in the /tmp directory, set the TMPDIR and TMP environment variables to specify a directory with sufficient space
Console session	CDE or Java Desktop session
Supported shells	Enterprise NMS only supports the following UNIX shells: • TC-shell (tcsh) • korn shell (ksh) • Bash-shell (bash)
Operating system requirements:	HP-UX version 11.11 v.1 (64-bit) To check: \$ uname -a
JDK and JRE	Minimum JDK 1.3.1_02 & 1.1.8.06
Supported umbrella management platform	On HP-UX 11.11, Enterprise NMS 10.5 supports the HP OpenView Network Node Manager 7.5 SE umbrella management platform. For details, refer to the <i>Installation</i> guide (part number 321537-C).
Language	Enterprise NMS only supports English-language installations of HP-UX.
OS packages	For HP-UX 11.11 you must install the June 2005 Quality Pack (Gold Patch Set) or higher.
Web browser	Microsoft Internet Explorer Mozilla for HP-UX, versions 1.7.8 or 17.11
Web browser issues	Mozilla for HP-UX does not support IPv6-enabled applications (HP case ID: 3212431806)
Read-only File System	You cannot install Enterprise NMS 10.5 on a read-only file system.

Pathnames



Warning: The space character is not allowed in the pathnames to Enterprise NMS directories, including the Oracle database. The underscore character is allowed.

Install patches

The following patches must be installed:

For Oracle 9i:

- PHCO_24402 (or later)
- PHCO_28427 (or later)
- PHCO_31903 (or later)
- PHKL_25506 (or later)
- PHNE_28568 (or later)
- PHSS_26263 (or later)

- PHSS_24638 (or later)

For Java 1.5

- PHSS_30966 (or later)
- PHKL_32457 (or later)
- PHKL_32927 (or later)

Verify kernel parameters, assembly tool executables, and X library symbolic links

Refer to the *Installation* guide (part number 321537-C) and verify that the required kernel parameters, assembly tool executables, and X library symbolic links are available and configured correctly.

Install JDK 1.3.0 (or higher) and Transport Optional Upgrade Release 2.5

Refer to the *Installation* guide (part number 321537-C) for more information.

Install Rock Ridge Extension patches

- PHKL_32035 (or later)
- PHCO_25841 (or later)
- PHKL_26269 (or later)



Note: The *Installation* guide (part number 321537-C) guide details a procedure for mounting a DVD using Rock Ridge extensions.

HP OpenView

If you are integrating Enterprise NMS with HP OpenView, refer to Integrating Enterprise NMS with HP OpenView or IBM Tivoli NetView in the *Installation* guide (part number 321537-C).

Obtain the Enterprise NMS software and license key

Enterprise NMS software can be downloaded from the Internet or ordered as a DVD/CD set.

A Secure Access Module (SAM) user ID and password is required for either option. To order the DVD/CD set, you must be the Customer Support Contract prime as designated on your support contract with Nortel.

To download the files or order the DVD/CD set:

- 1 Start a web browser.
- 2 Go to <http://www.nortel.com/> > **Support & Training** menu > **Technical Support** item > **Software Downloads** item > **Browse product support** tab > **Products A-Z** tab > **E** > **Enterprise Network Management System** entry > **Software** link.
- 3 If you are downloading the files, select and download all HP-UX files. Also download the Associated Documentation listed at the bottom of the page.
If you are ordering the DVD/CD set, select the HP-UX set, click the **Order DVD** button, and complete and submit the order form. Orders are shipped within three business days.
- 4 Follow the instructions in the *Release Notes* (part number 205970-K) file to extract and concatenate the files. These instructions are included in print form in the DVD/CD kit.

5 For details on the directory structures of the download and DVD/CD file sets, refer to the *Installation* guide (part number 321537-C).

The license key is provided to your Customer Support Contract prime.

Installation executables

Executable	Function	Location*	
		Download files	DVD
dm	To migrate an Enterprise NMS 10.4 database to Enterprise NMS 10.5	Enms/dm	<root level>/ENMS/dm
installoracle	To install the Enterprise NMS 10.5 Oracle database software	Oracle	<root level>
response.rsp	A text file that is used during silent installation of the Oracle database.	Oracle/resp_files	<root level>/Oracle/resp_files
installenms	To install Enterprise NMS 10.5 server/client software	Enms	<root level>
template.rsp	A text file that is used during silent installation of Enterprise NMS 10.5 server/client software.	Enms/install	<root level>/ENMS/install
*Location: The path provided in the Location column is relative to the top level on the DVD or CD, or the directory to which the files were downloaded and extracted.			

Determine the installation start point

Enterprise NMS version currently installed	Installing the Enterprise NMS server/client software
None	Go to “Install the Oracle database software” on page 7.
10.4	- To preserve your Enterprise NMS 10.4 database, go to “Migrate an Enterprise NMS 10.4.x or 10.4.1.x database to Enterprise NMS 10.5 format” on page 4. - If you do not need to preserve your Enterprise NMS 10.4 database, go to “Remove Enterprise NMS 10.4 or earlier releases” on page 6.
10.4.x or 10.4.1.x (where ‘x’ represents a positive integer)	- To preserve your Enterprise NMS 10.4.x or 10.4.1.x database, go to “Migrate an Enterprise NMS 10.4.x or 10.4.1.x database to Enterprise NMS 10.5 format” on page 4. - If you do not need to preserve your Enterprise NMS 10.4.x database, go to “Remove Enterprise NMS 10.4.1, 10.4.1.x, or 10.4.2 maintenance releases” on page 5.
10.3 or prior	Go to “Remove Enterprise NMS 10.4 or earlier releases” on page 6.

Migrate an Enterprise NMS 10.4.x or 10.4.1.x database to Enterprise NMS 10.5 format

To migrate an Enterprise NMS 10.4.x.x database to Enterprise NMS 10.5 format:

1 Login as root.

- 2 Open a terminal window.
- 3 Refer to [“Installation executables” on page 4](#) and change to the directory where the dm script is located.
- 4 Invoke the dm script.

```
./dm
```

The data migration (dm) script migrates customizations and, optionally, backs up the topology (smop) database and the end node (waldo) database.

- 5 If you want to back up the smop or waldo database, enter Y when prompted.



Note: Use only the dm script to migrate the data from Enterprise NMS 10.4.x to Enterprise NMS 10.5. The script performs data conversions that are required for Enterprise NMS 10.5, in addition to backing up the databases.

- 6 The program prompts for a directory to which to back up the database.

The program backs up the database to the selected directory and converts the data to Enterprise NMS 10.5 format.



Note: The space character is not allowed in the pathnames to Enterprise NMS directories. The underscore character is allowed.

- 7 After you have completed Enterprise NMS installation, use the Database Admin Tool or the “input_db_contents” script to import the smop and waldo databases.
- 8 If you have upgraded with maintenance release version 10.4.1, 10.4.1.x, or 10.4.2, proceed to [“Remove Enterprise NMS 10.4.1, 10.4.1.x, or 10.4.2 maintenance releases” on page 5](#).
If your software version is 10.3 or earlier, proceed to [“Remove Enterprise NMS 10.4 or earlier releases” on page 6](#).

Remove Enterprise NMS 10.4.1, 10.4.1.x, or 10.4.2 maintenance releases

To remove the Enterprise NMS 10.4.1, 10.4.1.x, or 10.4.2 maintenance release software and revert to version 10.4:

- 1 Login in as root.
- 2 If root is not configured to run Enterprise NMS, then run one of the following commands:

korn shell:

```
./usr/lnms/bin/opt_kshrc
```


tc-shell:

```
source /usr/lnms/bin/opt_cshrc
```


bash shell

```
/usr/lnms/bin/opt_cshrc
```
- 3 Exit/Close all Enterprise NMS client applications (examples: InfoCenter, Fault Summary, Expanded View).
- 4 Stop all UMP daemons (integrated environment only).
- 5 Determine which maintenance release has been installed:

Change to the directory %Inmshome% and look for subdirectories named p1041, p10411, p10412, or p1042.

If	Then
Only p1041 is present	Only 10.4.1 maintenance release is installed.
Both p10411 and p1041 are present	Both the 10.4.1.1 and 10.4.1 maintenance releases are installed.
p10412, p10411, p1041 are present	Three maintenance releases are installed: 10.4.1.2, 10.4.1.1, and 10.4.1.
Only p1042 is present	Only the 10.4.2 maintenance release is installed.
Both p1041 and p1042 are present	Both the 10.4.1 and 10.4.2 maintenance releases are installed.
p1041, p10411, and p1042 are present	Three maintenance releases are installed: 10.4.1, 10.4.1.1, and 10.4.2.
p1041, p10411, p10412, and p1042 are present	Four maintenance releases are installed: 10.4.1, 10.4.1.1, 10.4.1.2, and 10.4.2.

- 6 Change directory (cd) to the subdirectory for the latest (numerically greatest) maintenance release.

For example, if both %Inmshome%\p10411 and %Inmshome%\p1041 are present, cd to %Inmshome%\p10411.

- 7 Run the uninstall batch file for the latest maintenance release:

```
uninstall<subdirectory>
```

where <subdirectory> is the subdirectory name of the release to be uninstalled.

For example: `uninstallp10411`

The batch file removes the maintenance release software.

- 8 Repeat the preceding step until all maintenance releases have been removed.

All releases must be removed, from latest to first.

- 9 Restart the UMP daemons (integrated environment only) if you are not going to remove Enterprise NMS 10.4 immediately.
- 10 Proceed to ["Remove Enterprise NMS 10.4 or earlier releases" on page 6](#).

Remove Enterprise NMS 10.4 or earlier releases



Caution: During the removal of Enterprise NMS 10.4, you are prompted to back up the database. Backing up the database at this point generates an Enterprise NMS 10.4 format that is not compatible with Enterprise NMS 10.5. If you want to back up your database so that it can be used by Enterprise NMS 10.5, use ["Migrate an Enterprise NMS 10.4.x or 10.4.1.x database to Enterprise NMS 10.5 format" on page 4](#) before removing the Enterprise NMS 10.4 software.

To remove Enterprise NMS 10.4 earlier software:

- 1 Login in as root.

- 2 Exit/Close all Enterprise NMS client applications (examples: InfoCenter, Fault Summary, Expanded View).
- 3 Stop all UMP daemons (integrated environment only).
- 4 Change directory (cd) to the /opt/nortel/install directory.
- 5 Invoke the following script:

```
./uninstall
```

The script uninstalls the software. Respond to the prompts as appropriate.

- 6 Restart the UMP daemons (integrated environment only).
- 7 Proceed to [“Install the Oracle database software” on page 7](#).

Install the Oracle database software

Installation options

The Enterprise NMS 10.5 server application requires Oracle 9i (Oracle 9.2.0.1) and the Oracle 9.2.0.8 patch. Use the following table to establish the correct workflow for your installation.

If	Then
No Oracle database software is installed,	Go to “Install the Oracle components: the Oracle 9.2.0.1 database software and the Oracle 9.2.0.8 patch” on page 7 .
You are upgrading from Optivity NMS 10.3 or Enterprise NMS 10.4, and Oracle 9.2.0.1, or Oracle 9.2.0.1 plus the 9.2.0.4 patch, are installed,	Go to “Install the Oracle components: the Oracle 9.2.0.1 database software and the Oracle 9.2.0.8 patch” on page 7 .
Oracle 9.2.0.1 is installed, or a patch to Oracle 9.2.0.1 has been installed, but not by an Enterprise NMS/Optivity NMS installation process,	Refer to the <i>Installation</i> guide (part number 321537-C).
You have a version of Oracle other than 9i installed, or if the Oracle 9.2.0.1 or 9.2.0.4 installation processes did not complete properly,	Refer to the <i>Installation</i> guide (part number 321537-C)

Install the Oracle components: the Oracle 9.2.0.1 database software and the Oracle 9.2.0.8 patch

The Oracle installation script, `installoracle`, examines the system to determine if Oracle 9.2.0.1 is installed. If it is, then `installoracle` only installs the 9.2.0.8 patch. User intervention is not required.

- 1 Login as root.
- 2 Refer to [“Installation executables” on page 4](#) and change to the directory where the `installoracle` script is located..
- 3 From a shell window (korn, tc, or bash), execute:

```
./installoracle -k
```

to check that the kernel parameters are set appropriately (refer to [“System requirements” on page 1](#) for details). If you change the parameters, reboot the system in order for the changes to take effect. Begin this procedure again after the machine has rebooted.

- 4 From a shell window (korn, tc, or bash), execute:
`./installoracle -i`
- 5 Answer the installer questions when prompted.

Installation of the 9.2.0.8 patch proceeds automatically after the 9.2.0.1 installation is complete. Java “1.3.1_02” version is also installed during this process.
- 6 Proceed to [“Install the Enterprise NMS 10.5 server/client software” on page 8](#) when installation is complete.

Install the Enterprise NMS 10.5 server/client software

- 1 Login as root.
- 2 Refer to [“Installation executables” on page 4](#) and change to the directory where the `installenms` script is located.
- 3 Execute:
`./installenms -c`
- 4 Enter `a` to accept the software license agreement and continue.

(Enter `r` to read the agreement, `q` to quit installation.)
- 5 Respond to the installation program prompts for information about Enterprise NMS components you want to install, and where you want to install them.

When specifying pathnames, note that the space character is not allowed in the pathnames to Enterprise NMS directories. The underscore character is allowed.

Enterprise NMS daemons start automatically when installation completes. The daemons take three to five minutes to start.

- 6 Proceed to [“Modify Enterprise NMS user login scripts” on page 8](#).

Modify Enterprise NMS user login scripts

Using vi or another text editor, add the following lines to each Enterprise NMS user's login script:

- For the Korn shell, add the following lines to the `.kshrc` file:

```
umask 022
if [ -f /opt/lnms/bin/opt_kshrc ];then
. /opt/lnms/bin/opt_kshrc
fi
```
- For the TC shell, add the following lines to the `.cshrc` file:

```
umask 022
if ( -f /opt/lnms/bin/opt_cshrc ) then
source /opt/lnms/bin/opt_cshrc
endif
```
- For the Bash shell, add the following lines to the `.cshrc` file:

```
umask 022
if ( -f /opt/lnms/bin/opt_cshrc ) then
/opt/lnms/bin/opt_bashrc
endif
```

To update your environment, close all of your terminal windows, then open new terminal windows. (When you open new terminal windows, your `.cshrc`, `.kshrc`, or `.profile` file is automatically sourced and your environment is updated.)

Proceed to [“Enter your Enterprise NMS software license key”](#) on page 9.

Enter your Enterprise NMS software license key

- 1 Login as root.
- 2 Stop all Enterprise NMS daemons:
enms_apps stop
- 3 Verify that all Enterprise NMS daemons are stopped:
optstatus -f
- 4 Kill any processes that are still running.
- 5 Create or open the following file in a text editor:
`/usr/lnms/registration/weboptsrvr/license.dat`
To open the file using vi, enter:
vi /usr/lnms/registration/weboptsrvr/license.dat
- 6 Type your license key number in the file.
- 7 Use the **:wq!** command to save the file and exit vi.
- 8 Open a UNIX terminal window.
- 9 Set the environment:
 - For the Korn shell:
`. /opt/lnms/bin/opt_kshrc`
 - For the TC shell:
`source /opt/lnms/bin/opt_cshrc`
 - For the Bash shell:
`/opt/lnms/bin/opt_cshrc`
- 10 Restart the Enterprise NMS daemons:
enms_apps start
- 11 Verify that all Enterprise NMS daemons started:
optstatus -fe

Begin using Enterprise NMS

After completing the applicable installation procedures, you have installed the Enterprise NMS server software. Now you are ready to start using InfoCenter. The following sections describe how to get started using InfoCenter and other Enterprise NMS applications to discover, view, and manage your network.

Start InfoCenter

InfoCenter is the command center for Enterprise NMS. To start InfoCenter:

- 1 Open a terminal window and at the command line, enter **infocenter**
- 2 In the Connect to Enterprise NMS Server dialog box, type a valid user name, password, and the server host name or IP address to which you want to connect.
The Enterprise NMS InfoCenter window opens.

Start Community Strings Editor and add community strings entries

You use the Enterprise NMS Community Strings Editor to manage SNMP community strings, SNMPv3 information, Telnet, and SSL settings when Enterprise NMS is installed standalone. However, when integrated with an umbrella management platform such as HP OpenView Network Node Manager or Tivoli NetView, Enterprise NMS uses the community strings of the platform software, and the Telnet, SSL, and SNMPv3 settings entered in the Enterprise NMS Community Strings Editor.

- 1 From the InfoCenter menu bar, choose Admin > Community Strings. The Community Strings Editor window opens.
- 2 Use the Community Strings Editor to create community strings entries as appropriate for your network devices. Some typical requirements are:
 - For IP telephony devices and components, create community string and Telnet entries
 - For MCS 5100 devices, create community string, SSL, and Telnet entries
 - For Nortel Ethernet Switches, create community string and Telnet entries (to use protocol visualization features)
 - For SNMPv3 devices, create Enterprise user entries and enter authentication information and optionally private protocol information.

Start AutoTopology Manager and discover your network resources

- 1 From the InfoCenter menu bar, choose Admin > AutoTopology Manager. The AutoTopology Manager window opens.
- 2 From the AutoTopology Manager menu bar, choose Discovery > Enter Seed Specification. The Seed Information dialog box opens.
- 3 Create a discovery seed. Type the following: Discovery seed name; IP address of the router from which to start the topology discovery process; IP address range. Click Apply. Click Close.
- 4 Set discovery options: From the AutoTopology Manager menu bar, choose Setting > Options. Select Network layer options for device discovery, and Protocol Discovery options for specific features.
- 5 Start Discovery: From the AutoTopology Manager menu bar, choose Discovery > Start Discovery.
- 6 In the InfoCenter Contents pane, open your resource folders to view your discovered network resources.

Where to go from here

For further information, familiarize yourself with the following Enterprise NMS 10.5 documents, in the given order:

- *Release Notes* (part number 205970-K) (part number 205970-K)
- *Installation* guide (part number 321537-C)
- *Security* guide (part number 321536-B)
- *Network Discovery and InfoCenter* guide (part number 207569-H).

For more information about specific Enterprise NMS 10.5 applications, use the online Help. Help is available by choosing Help > Using [application name], or by clicking the Help button in a dialog box.



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