Quick Start Installation Guide
for
HP OpenView Network Node Manager
and
HP OpenView Customer Views for NNM

Solaris

Manufacturing Part Number: J1240-90064

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Installation Overview

This guide will help you install HP OpenView Network Node Manager version 6.1 or later and, optionally, HP OpenView Customer Views for NNM on a Solaris system.

There are seven tasks to complete during the installation process:

- Match your system's setup to the NNM minimum requirements.
- Complete any necessary pre-installation steps.
- Install the NNM software.
- Configure SNMP agents
- Run the NNM software.
- Obtain a permanent password for your NNM software.
- Configure NNM to access the HP OpenView Web interface.

Once you have successfully installed NNM, refer to the last section in this guide, for "where-to-go-next" information on configuring and using your NNM product.

Task 1: Checking System Requirements

Before starting, you or your system administrator should check that your system meets the minimum hardware and software requirements listed below. (Note that the installation program will automatically check the amounts of RAM, swap, and free disk space for you):

Refer to the Release Notes for system requirements information. You can access the Release Notes from the CD. The Release Notes are in the `README.html` file

From the left pane of the Release Notes, double-click on `Supported Configurations`.

Task 2: Completing Pre-Installation Steps

To ensure that all products installed on your system run compatibly and efficiently with NNM, there are several preparatory steps you need to do before you actually install the NNM product itself.

General Configuration

1. If your system has other HP OpenView products installed on it (such as Perfview or IT/Operations), refer to the HP OpenView Network Node Manager Migration Guide. This guide describes which HP OpenView products are compatible with the version of NNM that you are now installing.

2. If your system has any third-party OpenView applications installed on it, check to see that they have been tested with NNM 6.1 or later. The current version of most of these third-party applications have been tested to work on NNM 6.1 or later. The following World Wide Web URL lists the application names and versions that run on each of the supported HP OpenView platforms. Also found at this URL are supplementary instructions for installing these third-party applications with NNM 6.1 or later.

   `http://ovweb2.external.hp.com/solutions/technical`

3. If you have an NNM product already on your system, and its version number is earlier than 5.X (such as 3.0 or 3.31), then you must upgrade NNM to either an NNM 5.0X or 6.0X release and apply the latest consolidated patch for that release before going any further. This is a separate task that is not done by the NNM installation program provided with this manual. Stop using this manual and contact your sales representative for help in upgrading to NNM 5.0X or 6.0X.

   If you have an NNM product already on your system, and its version number is 5.X or later, then you must apply the latest consolidated patch for that release before going any further. This is a separate task that is not done by the NNM installation program provided with this manual. Stop using this manual and contact your sales representative for help in downloading and installing patches.

4. Install any needed patches as listed in the Release Notes. You can access the Release Notes from the CD. The Release Notes are in the `README.html` file

    From the left pane of the Release Notes, double-click on `Supported Configurations`.

5. Install the products described in the remainder of this section. Some of these products must be installed before you install NNM, while others are optional or not relevant to your network's environment.

    •   DHCP setup...depends on your network environment

    •   Web browser installation...required

    •   CDE Help file installation...required

    •   Semaphore enabling...required

    •   Set the DISPLAY environment variable to the appropriate value. Also, run the `xhost` command to allow connection from the system running NNM to the system displaying NNM.

DHCP Setup

Users of the Dynamic Host Configuration Protocol (DHCP) need to ensure that their NNM management station is assigned the same IP address each time it runs NNM.

You can specify a range of IP addresses that your network is configured to assign dynamically for mobile devices. NNM keeps the map clean and the Alarm Browser list free of unnecessary messages about devices within this address range as they are repeatedly attached and detached from your network. See *Managing Your Network with HP OpenView Network Node Manager* for more information.

Web Browser Installation

Several of the NNM features are web-based, and require a web browser to be installed on the same system where NNM is installed.

The Java-based graphical interfaces require the Java plug-in (JPI).

Refer to the Release Notes for supported web browsers and JPI installation information. You can access the Release Notes from the CD. The Release Notes are in the `README.html` file.

From the left pane of the Release Notes, double-click on `Supported Configurations`.

To install the browser, follow the instructions that came with it. Be sure to configure any web proxies according to the browser's instructions.

CDE Help Installation

The NNM installation program will check for these files and, if they are missing, give you instructions on how to obtain them.

Semaphore Enabling

In order for the NNM installation program to run successfully on Solaris system, semaphores must be enabled. These semaphores and any shared memory are usually enabled the first time they are referenced. You can verify whether the semaphores on your system have been enabled by typing the following at a command prompt:

`ipcs`

The return from this command may indicate that no semaphores are currently enabled. On most Solaris systems, this is acceptable, as the semaphores will be enabled automatically when they are needed. On some Solaris systems however, the `ipcs` command will not enable semaphores at all during the NNM installation process. In this case, do the following steps:

1. Enter the lines shown below in your `/etc/system` file.

   ```
   forceload: sys/shmsys
   forceload: sys/semsys
   set semsys:seminfo_semaem=16384
   set semsys:seminfo_semmap=66
   set semsys:seminfo_semmni=70
   set semsys:seminfo_semmns=200
   set semsys:seminfo_semmnu=30
   set semsys:seminfo_semume=10
   set semsys:seminfo_semvmx=32767
   ```

2. Close and save the file.

3. Reboot your Solaris system.

4. Rerun the NNM installation program to enable the semaphores.

Task 3: Installing Network Node Manager

This section describes the ways you can install your NNM product:

- On a local Solaris system (the most common type of installation).

- From a different Solaris machine that has a CD-ROM drive (if your system does not).

- On a local Solaris system to act as a management console connected to a management server (the console has HP OpenView Windows processes installed on it, while the server has NNM common databases and background processes on it).

Installing NNM on a Local System

The following procedure will help you install the NNM product on your local system. If you purchased HP OpenView Customer Views for NNM, you received two CDs. Each CD is installed separately.

1. Log in as root to the system where you will install NNM.

2. If you are upgrading from a previous version of NNM, make sure no HP OpenView processes are running.

3. Insert your NNM CD into the CD-ROM drive.

4. Mount the CD-ROM disk by typing

   cd /cdrom/cdrom0

5. Type **ls -l** to see a listing of the files in cdrom0.

6. Start the installation program by typing

   ./install

7. An installation program will appear on screen. It will display messages about the various NNM components being installed. The program will also occasionally prompt you to answer specific questions about the type of NNM installation you want.

   Should an error occur, a message will appear on screen that describes the error and ways to fix it.   Should a fatal error occur, the installation program will stop, terminate itself, and display a message on screen that describes the problem. At this point, you must

fix the error, then re-run the installation program in order to install NNM.

8. Remove the NNM CD from the CD-ROM drive by typing:

    ```
    cd /
    ```

    ```
    eject cdrom
    ```

9. If you also purchased HP OpenView Customer Views for NNM, insert that CD into the CD-ROM drive. Follow the installation procedures outlined for the NNM installation.

Installing NNM from a Remote System with a CD-ROM Drive

If your system (the target system) does not have a CD-ROM drive attached, you can use another system (the source system) with a CD-ROM drive to install NNM on your system. The source system must have the same version of the Solaris operating system as the target system.

On the source system where the CD-ROM drive is located, do the following:

1. Log in as root.

2. Insert your NNM CD into the CD-ROM drive.

3. Mount the CD-ROM disk by typing

    ```
    cd /cdrom/cdrom0
    ```

4. Type **ls -l** to see a listing of the files in cdrom0.

    Share the CD-ROM. (In the examples below, marion is the name of the source workstation where the CD-ROM drive is physically mounted, and marvin is the name of the target workstation.) Add the following line to the file /etc/dfs/dfstab on marion:

    ```
    share -F nfs -o ro,nosuid,root=marvin /cdrom/cdrom0
    ```

5. Verify that the correct NFS services are running on the source workstation by typing:

    ```
    ps -ef | grep nfs
    ```

    You should see the following services:

    ```
    /usr/lib/nfs/statd
    ```

```
/usr/lib/nfs/lockd

/usr/lib/nfs/mountd

/usr/lib/nfs/nfsd -a 16
```

All four services must be present. If mountd and nfsd are not started
then notify any users of the source system that NFS will be
momentarily interrupted.

6. As root, type:

   /etc/rc3.d./S15nfs.server stop

   /etc/rc3.d/S15nvs.server start

7. Verify that the mountd and nfsd services are running by typing:

   ps -ef | grep nfs

8. Verify that the CD-ROM is shared by typing:

   share

   You will see a list of all shared directories.

On the target system where you want to install the NNM product, do the
following:

1. If you are upgrading from a previous version of NNM, make sure that
   no HP OpenView processes are running.

2. NFS mount the CD-ROM file system (at /cd_mnt, for example).
   Execute the commands:

   mkdir /cd_mnt

   mount marion:/cdrom/cdrom0   /cd_mnt

   Do not use cdrom as a directory name.

3. Change to the directory where you mounted the CD-ROM file system.
   Execute

   cd /cd_mnt

4. Install your NNM product. Execute

   ./install

5. An installation program will appear on screen. It will display
   messages about the various NNM components being installed. The

program will also occasionally prompt you to answer specific questions about the type of NNM installation you want.

Should an error occur, a message will appear on screen that describes the error and ways to fix it. Should a fatal error occur, the installation program will stop, terminate itself, and display a message on screen that describes the problem. In this case, you must fix the error, then re-run the installation program in order to install NNM.

6. Unmount the `cd_mnt` directory by typing:

   cd /

   umount /cd_mnt

7. If you also purchased HP OpenView Customer Views for NNM, insert that CD into the CD-ROM drive. Follow the installation procedures outlined for the NNM installation.

Installing NNM on a Local Solaris System as a Management Console

For this type of installation, please refer to the printed manual, *A Guide to Distribution and Scalability for Network Node Manager*. This guide contains planning guidelines as well as installation procedures for setting up a management console/server-based network.

Task 4: Configuring Agents for Solaris

Once NNM is successfully installed on your Solaris system, you need to ensure that two agents, the Emanate Master Agent (snmpdm) and the Solaris Native Agent (snmpdx), are set up and running correctly.

On the system where NNM has been installed, do the following:

1. At a command prompt, type

   ps -ef | grep snmpd

2. You will see two lines displayed: one for snmpdm and the other for snmpdx.

3. Kill the snmpdm and snmpdx processes. Type

   kill -9 *snmpdm_PID*

   kill -9 *snmpdx_PID*

   where ***snmpdm_PID*** and ***snmpdx_PID*** are the process IDs for snmpdm and snmpdx.

4. Start the Emanate Master Agent by typing

   /usr/sbin/snmpd

5. Start the Solaris Native Agent on an unused port (for example, 50161) by typing

   /usr/lib/snmp/snmpdx -p *port_no*

6. At a command prompt, type

   ps -ef | grep naaagt

7. Kill the naaagt process by typing

   kill -9 *naaagt_PID*

   where ***naaagt_PID*** is the process ID for the Native Adapter Agent (naaagt).

8. Set the Native Adapter Agent port to the same port number as snmpdx, by typing

   export HP_NAA_PORT=*port_no*

To make this change permanent, as `root`, edit the
`/etc/rc.config.d/SnmpNaa` file. Add the following lines:

`HP_NAA_PORT=`*`port_no`*

`export NAA_PORT`

9. Start the Native Adapter Agent by typing

   `/usr/sbin/naaagt`

Task 5: Running Network Node Manager

In this task, you will verify that NNM was installed and runs correctly within its native graphical user interface (GUI), HP OpenView Windows.

1. If NNM is not currently running, start it up. As root, type

   /opt/OV/bin/ovstart -c

2. Make sure the NNM background processes have started. As root, type

   /opt/OV/bin/ovstatus -c

   You should see on the screen several lists of the processes (such as netmon, ovtopmd, and pmd) that are running.

3. Start the HP OpenView Windows GUI. Type

   /opt/OV/bin/ovw

   You will see the HP OpenView welcome banner, followed by an NNM Root submap window with a default map in it.

4. Each time you start the NNM GUI, it will encourage you to register your NNM product if you have not already done so. You have 60 days from the date of installation to complete this registration process (described in Task 6).

5. Note that some of the NNM new features are web-based, meaning they won't run within the HP OpenView Windows GUI. To use these features, see Task 7 for instructions on how to configure NNM to run within the HP OpenView Web environment.

NOTE   When running Customer Views for NNM, you should modify the IP Map configuration to set the persistence level to ALL LEVELS (Map Properties menu, Configure IP Map dialog box, OnDemand:All Levels). When these configuration items are not set as recommended, you may see irregularities in the status presentation of network resources with the Customer View submaps. This is characterized by symbols that are presented with a status of "Unknown" while, within the submap hierarchy, the node has some other, known status value.

Task 6: Registering Your Network Node Manager Product

Your NNM product was shipped with a license that includes a temporary, "Instant-On" password. This password allows you to use the product for 60 days after you install it. Once you have installed NNM, optionally, HP OpenView Customer Views for NNM, you should register them with Hewlett-Packard as soon as possible in order to obtain a permanent password.

A permanent password is required if you want to run NNM on a management station or collection station. An additional password is not required to run NNM on a remote console.

One permanent password is required for NNM and a second one is required if you purchased and installed HP OpenView Customer Views for NNM. You need to follow these steps for each of these product components.

There are three steps to do in this task:

- Gathering information needed in the License Request Form.

- Completing this form and sending it by any of several methods to a Hewlett-Packard Password Delivery Center (HP PDC).

- Installing into your NNM product the permanent password that the HP PDC sends back to you.

Step 1: Gathering Information for the License Request Form

You will need to locate several pieces of information in order to fill out the License Request Form. This information appears in two places: on the Entitlement Certificate shipped with NNM and HP OpenView Customer Views for NNM and in an online dialog box (described in Step 5 below).

1. On your Entitlement Certificate, find the two numbers listed below and write them down:

For NNM:

HP order number _____

HP product number _____

For HP OpenView Customer Views for NNM, if installed:

HP order number _____

HP product number _____

2. If NNM

- is already running and displaying a dialog box which asks, `Request your password now?`, select `OK`.

- is already running, but no dialog box is showing, you can do one of two things:

    — In the `Options` pull-down menu, select `License Password`.

    — Open a terminal window. At its command line, type

      `/opt/OV/bin/ovnnmPassword`

- is not currently running, open a terminal window. Type

    `/opt/OV/bin/ovnnmPassword`

3. The `License Password` dialog box appears. This box has three options:

- `Current Password` lists any passwords already assigned to the NNM product you are currently running.

- `Request Password` takes you to the next step in requesting a permanent password.

- An empty field box lets you enter a permanent password into your NNM product's files.

4. Select the `Request Password` button.

5. The `Request Password` dialog box appears. This box will display your IP address. Write it below:

IP address _____

Step 2: Completing and Sending the License Request Form

In this step, you first need to choose the method for sending your license request to the HP PDC. Once you select a method, you will be given the correct License Request Form to complete. There are four ways to send your License Request Form:

- By using the online HP PDC web site.
- By sending electronic mail (e-mail) to the HP PDC.
- By faxing a form to the HP PDC.
- By telephoning the HP PDC.

The web site is the quickest method, as it will return to you a permanent password immediately after you send in your request form. The e-mail, fax, and telephone methods will deliver a permanent password to you within 24 hours.

1. The `Request Password` dialog box should still be on screen. Select either the `Web` button to go to the web site, or the `Form` button to request your license by e-mail, fax, or telephone.

   If this dialog box is not on your screen, you can either run the `ovnnmPassword` utility again and then select the appropriate button; or you can go directly to the web site by typing the following URL in your web browser's `Location` field:

   `http://www.webware.hp.com`

2. Fill out the License Request Form that is displayed. (Note: if you are using the web method, write down the Session ID number displayed in the top right corner of the Password Delivery Service window. This number will be helpful should you need to contact the HP PDC about your password.)

3. To send your completed License Request Form to an HP PDC:

   - At the web site, follow the instructions shown there.
   - By e-mail, save the form as a file and then use your mail program to send it to the appropriate location shown in the following table.
   - By fax, print out the form and then fax this printout to the appropriate telephone number shown in the following table.

- By telephone, print out the form to refer to, and call the appropriate telephone number shown in the following table.

Your Geographic Region	E-mail Address Fax Number Telephone Number	Hours of Operation (local time)
North & South America	americas_password@cnd.hp.com Fax: (USA) +1 (801) 431-3654 Telephone: (USA) +1 (801) 431-1597	8 a.m. - 8 p.m. (EST)
Asia/Pacific	asia_password@cnd.hp.com Fax inside Japan: (03) 3227-5238 Fax outside Japan: +81 (3) 3227-5238 Telephone inside Japan: (03) 3227-5264 Telephone outside Japan: +81 (3) 3227-5264	9 a.m. - 5 p.m. (JST)
Europe/Africa	europe_password@cnd.hp.com Fax: (Holland) +31 55-543-4645 Telephone: (Holland) +31 55-543-4642	8 a.m. - 5 p.m. (UK)

4. The HP PDC will send you your permanent password by the same method you requested it; occasionally, a different method might be used in case of problems, such as a fax machine being turned off or an e-mail message being mis-sent.

   If you have not received your permanent password within 24 hours, contact the HP PDC at the telephone numbers shown in the preceding table.

5. If you have HP OpenView Customer Views for NNM installed, repeat these steps to obtain your password for it.

Step 3: Installing the Permanent Password into NNM

The final step in this task is to install the permanent password into NNM. If you have HP OpenView Customer Views for NNM installed, you need to perform this task twice, once for each of the passwords that you received. There are two ways to do this.

If your "Instant-On" temporary password is still valid, use the following method:

1. Start NNM, if it is not already running. The `License Password` dialog box will appear.

2. If you received your permanent password from the web site, move the window containing the password certificate to one side of your screen so you can see it as well as the `License Password` dialog box.

3. From the dialog box, cut and paste, or type, the permanent password (and any string enclosed in double quotation marks appearing after the password) in the blank field.

4. Select `Apply`. A dialog box appears, confirming your password's installation.

5. If you have HP OpenView Customer Views for NNM installed, repeat these steps for your second password.

If your "Instant-On" temporary password has expired and you cannot start up NNM, use the method below instead.

1. Run the `ovnnmPassword` utility at a command prompt. Type

   `/opt/OV/bin/ovnnmPassword`

2. The `License Password` dialog box appears. Type the permanent password (and any string enclosed in double quotation marks appearing after the password) in the blank field.

3. Select `Apply`. A dialog box appears, confirming your password's installation.

4. If you have HP OpenView Customer Views for NNM installed, repeat these steps for your second password.

Task 7: Configuring Network Node Manager for the Web

In Task 7, you will configure NNM so that you can also run it within the HP OpenView Web environment, via the HP OpenView Launcher GUI. Doing so will enable you to use the NNM features that are web-based. (In Task 5, you had configured NNM to work only via its native HP OpenView Windows GUI.)

Running NNM on the Web

1. Install, if necessary, your web browser product. (The NNM installation program automatically installed a web server product for you during the NNM installation.)

2. Make sure the NNM background processes are running. As root, type at a command prompt

   /opt/OV/bin/ovstart -c

3. Start the NNM HP OpenView Windows GUI. Type

   /opt/OV/bin/ovw

   The HP OpenView welcome banner appears, followed by the NNM Root submap window.

4. Start up, if necessary, your web browser product.

5. To run NNM within the HP OpenView Web environment via the HP OpenView Launcher GUI, use either method below:

   - If NNM is running on your system, select the Tools:HP OpenView Launcher item from the NNM menu bar. The Launcher window will appear.

   - If NNM is running on a system other than yours, open up a web browser on your system. In the browser's Location field, specify one of the following URLs:

     — (For a system running HP-UX/Solaris)

       ```
       http://hostname:8880/OvCgi/ovlaunch.exe
       ```

— **(For a system running Windows NT or Windows 2000
operating systems)**

```
http://hostname/OvCgi/ovlaunch.exe
```

where `hostname` **is the full domain name of your web server
(such as** `mymachine.myco.com`**).**

Uninstalling Network Node Manager or Customer Views for NNM

If you need to remove Network Node Manager or HP OpenView Customer Views for NNM from your computer, follow these steps.

1. Stop any HP OpenView processes by executing **ovstop**.

2. Run the remove script located in $OV_BIN. To remove Network Node Manager, run **remove.nnm**. To remove HP OpenView Customer Views for NNM, run **remove.ovcv**.

Where to go Next...

Once you have installed and licensed your NNM product, you will want to configure it to best meet your needs. Refer to *Managing Your Network with HP OpenView Network Node Manager* for guidance about configuring NNM. The following table lists several sources that can help you get started using NNM. A more comprehensive list of information sources is provided in Chapter 3 of the printed manual, *Managing Your Network with HP OpenView Network Node Manager*.

Type of Information	Specific Sources
Hewlett-Packard Support	Go to the HP OpenView web site at the following URL: `http://www.openview.hp.com/`
User Documentation	These are available in printed format, online format, or both. - For document descriptions, refer to Chapter 3 of the printed manual, *Managing Your Network with HP OpenView Network Node Manager*. - To access these documents online, in the NNM menu bar select the `Help:Online Manuals` item.
Other Online Documentation	- Online Help System: In the NNM menu bar, select the `Help:Online Help` item. - Release Notes: These are in the `/opt/OV/www/htdocs/$LANG/ReleaseNotes` directory. - *Get Acquainted with HP OpenView Network Node Manager: Training for NNM Operators*: This tutorial is on the CBT CD-ROM included with your NNM product.