

# HP Network Node Manager

for the Windows operating system

Software Version: 7.53

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## Installation Guide

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# Contents

1	Install the Software	7
	Check System Requirements	8
	Complete Pre-Installation Steps	9
	General Configuration	9
	Paging File Setup	10
	TCP/IP Service Installation	10
	Microsoft SNMP Agent Installation	13
	IPX Service Installation	14
	DHCP Setup	14
	Web Browser Installation	14
	Web Server	14
	Microsoft Terminal Services--Optional	16
	Install Network Node Manager	17
	Upgrade Installations	17
	Install Network Node Manager	19
	Install NNM using Microsoft's System Management Server (SMS)	21
	Run Network Node Manager	23
	License Network Node Manager	24
	Before Installing Your Permanent License Password	24
	Obtain and Install a Permanent License Password	25
	Configure Network Node Manager for the Web	26
	Run NNM on the Web	26
	If NNM is Installed Before the Web Server	26
	Uninstall Network Node Manager	27



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# 1 Install the Software

Use this guide to help you install HP Network Node Manager on a computer using a Windows® operating system.



Installation procedures for NNM Starter Edition and NNM Advanced Edition are the same. Throughout this document, interpret references to “NNM” as a reference to either edition.

The following tasks must be completed during the installation process:

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

# Check System Requirements

Check your system, and make sure it meets the minimum hardware and software requirements.

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

Before you install this product, read the Release Notes for information about supported configurations. Point your web browser to the README.html file in the top directory of the DVD.

# Complete 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 install the product.

## General Configuration

- 1 If your system has other HP software products installed on it, refer to the HP OpenView Network Node Manager Migration Guide. The migration guide describes which HP software products are compatible with the version of NNM you are now installing.
- 2 If you have an older version of NNM already installed on your system, refer to the HP OpenView Network Node Manager Migration Guide before you proceed. The migration guide describes how to migrate from your current NNM version to the new NNM version.
- 3 Make sure that you have the required Service Pack installed.
- 4 Install the products described in the remainder of this task section. Some of these products must be installed before you install NNM while others are optional or not relevant to your network's environment.
  - Paging File setup...depends on your network environment
  - TCP/IP Service installation...required
  - Microsoft® SNMP Agent installation...required
  - IPX Service installation...optional
  - DHCP setup...depends on your network environment
  - Web browser installation...required
  - Web server installation...required
  - Microsoft data access components check...required
  - Microsoft Terminal Services...optional

## Paging File Setup

If you plan to manage more than 250 nodes on your system, you should increase the initial size of your system's paging file. To change your paging file size, complete the following steps:

- 1 Open the Control Panel, and double-click on the **System** item.
- 2 In the System Properties dialog box, select the **Advanced** tab.
- 3 On Windows XP and 2003 systems, click the **Performance** → **Settings** button.  
On Windows 2000 systems, click the **Performance** → **Options** button.
- 4 In the resulting dialog box, select the **Advanced** tab.
- 5 On Windows XP and 2003 systems, click the **Virtual Memory** → **Change** button.  
On Windows 2000, click the **Change** button.
- 6 Select your primary drive, and enter your new settings. Calculate an additional 3 MB of paging file size for each set of 250 nodes you need to manage. Click the **Set** button after the paging file size is adjusted.
- 7 Click **OK** on each successive dialog box to finish this task. In the end, you have a choice:
  - Click the **Yes** button to establish the new paging file size. This action restarts the operating system.
  - Click the **No** button to go on to the next pre-installation task.

## TCP/IP Service Installation

TCP/IP services must be installed before the NNM product. To install TCP/IP services, complete the following steps:

- 1 Make sure you are connected to the network.
- 2 Open the Control Panel.
- 3 On Windows XP and 2003 systems, double-click the **Network Connections** icon.  
On Windows 2000 systems, double-click the **Network and Dial-Up Connection** icon.

- 4 In the resulting dialog box, right-click the **Local Area Connection** icon and click on **Properties**. Look at the list. If Internet Protocol (TCP/IP) does not appear, do the following:
  - Click the **Install** button.
  - Click the **Protocol** item.
  - Click the **Add** button.
  - Select **Internet Protocol (TCP/IP)**, then click the **OK** button.
- 5 If prompted, insert the DVD and click **OK**. This depends on how your machine was originally set up.
- 6 In the Local Area Connection Properties dialog box, select the **General** tab, and do the following:
  - Select the **Internet Protocol (TCP/IP)** check box.
  - Select the **Internet Protocol (TCP/IP)** item, and click the **Properties** button.
- 7 In the Internet Protocol (TCP/IP) Properties dialog box, enter or verify the following items:
  - a Select the **Use the following IP address** option.
    - Enter a valid IP address.
    - Enter a valid subnet mask and verify that the subnet mask of your management station is correct.
    - Enter a valid default gateway and verify that the gateway of your management station is correct.
  - b Select the **Use the following DNS server addresses** option.
    - Enter a valid preferred DNS server address.
    - If applicable, enter an alternate DNS server address.
  - c Click the **Advanced** button.
    - On the **IP Settings** tab, verify the fields.
    - On the **DNS** tab, verify that the DNS server addresses are specified in the **DNS server addresses in order of use** field.
    - Select the **Append these DNS suffixes (in order)** option. Add the appropriate DNS suffixes.

- Complete the **DNS suffix for this connection** field.
  - If your DNS server supports the capability, select the check box for **Register this connection's addresses in DNS**.
  - On the **WINS** tab, add a valid WINS address in the **WINS addresses in order of use** box.
  - Select the **Enable LMHOSTS lookup** box.
  - Select the **Enable NetBIOS over TCP/IP** option.
- d Click **OK** in the Advanced TCP/IP Settings dialog box and each successive dialog box to complete this task.
- 8 Configure a primary Domain Name System (DNS) domain suffix related to your IP address (not the Windows XP operating system domain).
- a Open the System Properties dialog box.
  - b On Windows XP and 2003 systems, select the **Computer Name** tab. On Windows 2000 systems, select the **Network Identification** tab.
  - c On Windows XP and 2003 systems, click the **Change** button. On Windows 2000 systems, click the **Properties** button.
  - d Click the **More** button to open the DNS Suffix and NetBIOS Computer Name dialog box.
    - Enter a valid Primary DNS suffix in the **Primary DNS suffix of this computer** box.
    - Select the **Change primary DNS suffix when the domain membership changes** box.
  - e Click **OK** in each successive dialog box to finish this task. Take note of the settings of the machine for verification in step 8. In the end, you have a choice:
    - Click the **Yes** button to establish the new settings. This action restarts the operating system.
    - Click the **No** button to go on to the next pre-installation task.
- 9 Verify that the node name from your DNS server and the DNS name configured in the operating system match.
- a Open a separate command window, and type the following command at the prompt:

```
ping nodename
```

where *nodename* is the system name.

Verify that the IP address that was pinged matches the configured IP address noted earlier.

- b At the command prompt, type the following command:

```
ping nodename.dns_domain
```

where *dns\_domain* is the primary DNS suffix entered in step 7.

If you chose not to restart your system in step 7, this step produces a time-out message.

Verify that the IP address that was pinged matches the configured IP address noted earlier.

- c Do steps 9a and 9b on another computer to validate that your DNS works correctly.

## Microsoft SNMP Agent Installation

The Microsoft SNMP Agent must be installed before the NNM product. To install the agent, complete the following steps:

- 1 Open the Control Panel, and double-click the **Add/Remove Programs** applet.
- 2 Click the **Add/Remove Windows Components** button.
- 3 In the Windows Components wizard, scroll down and select **Management and Monitoring Tools**.
- 4 Click **Details** and select the **Simple Network Management Protocol** box.
- 5 Click the **OK** button.
- 6 Click **Next**, and wait while the wizard configures components.
- 7 When prompted, insert the Windows operating system DVD and click **OK**.
- 8 When the wizard completes the task, click **Finish** and remove the DVD.
- 9 In the Add/Remove Programs dialog box, click **Close**.



There is no need to configure the Microsoft SNMP Agent.

## IPX Service Installation

The NWLink IPX/SPX Compatible Transport (IPX) network software is an optional component of the Windows operating system, which you can install if you need to discover and monitor IPX nodes. Follow normal protocol installation steps.

## DHCP Setup

If you use the Dynamic Host Configuration Protocol (DHCP), you must ensure that your 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 since 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

Many important NNM features are web-based. For this reason, you must have a web browser installed on the same system where NNM is installed. The Java-based graphical interfaces also require a Java plug-in (JPI) for the browser.

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

To install a browser, follow the instructions provided with the browser. Be sure to configure any web proxies according to the browser instructions.

## Web Server

A web server product must run on the same system where NNM is installed.

## Install the Web Server

To verify that a web server product is installed, complete the following steps:

- 1 Open the Control Panel, and double-click the **Add/Remove Programs** applet.
- 2 Click the **Add/Remove Windows Components** button.
- 3 On Windows XP and 2000 systems, in the Windows Components wizard, scroll down and select **Internet Information Services**.  
On Windows 2003 systems, in the Windows Components wizard, scroll down and select **Application Server**.
- 4 If the box in step 3 was already selected, the web server is installed. If the box was not already selected, complete the following steps to install the web server.
- 5 Click **Next**, and wait while the wizard configures components.
- 6 When prompted, insert the Windows operating system CD/DVD and click **OK**.
- 7 When the wizard completes the task, click **Finish** and remove the CD/DVD.
- 8 In the Add/Remove Programs dialog box, click **Close**.

## Start the Web Server

After the web server is installed, make sure it is running. To start the web server, complete the following steps:

- 1 Open the Control Panel.
- 2 Double-click the **Administrative Tools** icon.
- 3 Double-click the **Internet Information Services Manager** icon.
- 4 Expand the **Local Computer and Web Sites** objects in the navigation panel.
- 5 Select the **Default Web Site**.
- 6 From the IIS Manager menu, click **Action** → **Start**.
- 7 Close the IIS Manager.

## Microsoft Terminal Services--Optional

The Microsoft Terminal Services software is an optional component of the Windows 2000 operating system. Install this software if you want to connect to NNM on a Microsoft terminal server from a remote workstation through a terminal server client.

To install the terminal services software, complete the following steps:

- 1 Open the Control Panel, and double-click the **Add/Remove Programs** applet.
- 2 Click the **Add/Remove Windows Components** button.
- 3 In the Windows Components wizard, scroll down and select **Terminal Server Services**.
- 4 Click the **OK** button.
- 5 Click **Next** and the wizard guides you through the installation.



If you install Microsoft Terminal Services in Application server mode, and if you do not use the Add/Remove installation program to install NNM, you need make sure that the Application install mode is enabled on the server to ensure that NNM installs correctly. To do this, use the change user command. Refer to the Microsoft documentation for information on this command.

# Install Network Node Manager

During installation, you are asked if you want to start an automated discovery. You may want to consider installing your permanent license password *before* you proceed with discovery for the first time.

Read [Before Installing Your Permanent License Password](#) on page 24 for important considerations.

## Upgrade Installations

If you are not upgrading from NNM 6.41 or earlier, skip this section.

Upgrades from NNM version 6.41 and earlier require a new license password. You cannot reuse the older license passwords. This creates a special situation for upgrade installations.

To ensure a smooth upgrade, be sure to read and apply all the instructions in this section.

## Check Your Managed Node Count

If you currently manage more nodes than your new permanent license supports, you should unmanage non-essential nodes to get the number of managed nodes down to the number your new license allows. Do this before you install your new license password or the NNM software.

If the number of nodes you manage is more than your license supports, when your new permanent license password takes effect, NNM automatically unmanages nodes that the software chooses to achieve the license limit. The management domain that results may not be ideal, and you will have to spend time managing and unmanaging nodes.

To determine how many nodes you are currently managing, run the following command:

```
%OV_BIN%\ovtopodump -l
```

From the output of this command, compare the MANAGED NODES value with your new license to determine if you need to unmanage some nodes. If you need to make adjustments, see *Managing Your Network with NNM* for techniques to expand or limit your management domain, either automatically or interactively.

## Before You Install the NNM Software

After you are sure that the node limit of your new license is adequate for your management domain, HP strongly recommends that you obtain and install your new license password *before* you install the software.

In the absence of a new permanent license password, NNM starts up with a temporary “Instant-On” license that has no upper limit on managed nodes.



During the time an unlimited temporary license is in effect, NNM can potentially discover and manage more nodes than your permanent license will ultimately permit. This inadvertently expands your management domain beyond the final license limit.

To avoid the possibility of managing too many nodes, take one of the following actions:

- Install your new NNM license password *before* you install the software. See [Obtain and Save Your License Password](#) on page 19, and [Pre-install Your License Password](#) on page 19 for more information.

If you decide to pre-install the NNM 7.x license password, you should plan to install the new software immediately afterward. If you continue to run NNM 6.x after you install your NNM 7.x license password, NNM can fail.

- Turn off automatic discovery before you install the new software. This prevents NNM from discovering a larger than intended management domain. After you install the new license password, you can restore automatic discovery.

Follow these steps to turn off automatic discovery before software installation:

- a With Administrator privileges, run the following command:

```
%OV_BIN%\xnmpolling
```

- b Under IP Discovery, uncheck the Discover New IP Nodes box to disable automatic discovery.



You can also turn off automatic discovery from the command line with the following command:

```
%OV_BIN%\xnmpolling -ipDiscoveryOff
```

## Obtain and Save Your License Password

If you do not have your license password yet, you need to obtain one. To request a permanent license password, follow the instructions in the NNM upgrade letter you received with the software. That document provides the information you need to access the password migration service at <http://webware.hp.com>. You need the IP address of the computer you are upgrading.

When you have your new license password, save it exactly as it was given to you, including punctuation, into a text file (for example, C:\temp\my\_pass.txt).

## Pre-install Your License Password

Install your new license password on an NNM 6.4x system as follows. With Administrator privileges, execute the following command:

```
%OV_BIN%\ovnnmInstallLic license_file
```

Versions of NNM prior to NNM 7.0 cannot display a license password for NNM 7.0 and above. You can *install* the license as shown above, but until you install the new software, you cannot *display* it in the conventional way. If necessary, you can view the license information in

```
<install_dir>\conf\license.key
```

## Install Network Node Manager

There are 2 instruction sets in this section:

- [Install NNM on page 19](#)
- [Install HP Customer Views for NNM on page 21](#)

## Install NNM

To install NNM or upgrade from NNM 7.50 or higher, complete the following steps:

- 1 Open the Control Panel, and double-click the **Add/Remove Programs** applet.
- 2 Click the **Add New Programs** button.
- 3 Insert the NNM DVD from your NNM media pack into the DVD drive. Click the **DVD** button.

- 4 The **Install Program from DVD** dialog box displays. Click **Next**.
- 5 Verify that the correct path shows, and click **Next**.

The Install Shield wizard begins and guides you through all the necessary steps in the installation process.

- 6 In the Setup Options dialog box, choose the NNM installation you want to do. The following table describes your installation choices):

<b>Installation Type</b>	<b>Installed NNM Components</b>	<b>Installation Type Description</b>
Typical	<ul style="list-style-type: none"> <li>• executable program files</li> <li>• background graphics</li> <li>• online user manuals</li> </ul>	
Remote Console	See the manual, <i>A Guide to Distribution and Scalability for Network Node Manager</i> , for instructions on doing this installation.	Your system will: <ul style="list-style-type: none"> <li>• have only HP OpenView windows processes on it.</li> <li>• connect to a management server running the NNM common databases and background processes.</li> </ul>
Compact	<ul style="list-style-type: none"> <li>• executable program files</li> </ul>	
Custom	Choose from: <ul style="list-style-type: none"> <li>• executable program files</li> <li>• background graphics</li> <li>• contributed applications</li> <li>• SNMP MIBs</li> <li>• SNMP RFC papers</li> <li>• technical white papers</li> </ul>	You can specify which NNM components you want to install.

- 7 If errors occur during the installation, the wizard asks if you want to view the setup log file.
- 8 When the Setup Complete dialog box appears, the wizard has finished the installation. You are presented with the following options:
  - Display the NNM Release Notes

- Start NNM immediately

Choose the options you would like, then click **Finish** to complete your NNM installation.

- 9 Remove the NNM DVD from the DVD drive.

## Install HP Customer Views for NNM

A version of NNM must be installed before you install Customer Views for NNM. If you purchased Customer Views for NNM and have not installed it, complete the following steps to install the product:

- 1 Stop all NNM processes. To do this, select Start → Programs → HP OpenView → Network Node Manager Admin → NNM Processes-Stop.

A dialog box confirms that the processes have stopped.

- 2 Insert the HP Customer Views for NNM DVD into the DVD drive, and follow the installation steps outlined for the NNM installation.
- 3 Remove the HP Customer Views for NNM DVD from the DVD drive.

## Install NNM using Microsoft's System Management Server (SMS)

This section provides instructions on how to install Network Node Manager using Microsoft System Management Server (SMS). The `setup.pdf` and `setup.iss` files at the root level of the NNM DVD enable NNM to meet Microsoft BackOffice Certification requirements. This section assumes that you are familiar with the general functionality of SMS.

Description of the files:

- `setup.pdf` - The package definition file for the NNM product.
- `setup.iss` - The sample response file for the NNM silent installation. This file along with `setup.pdf` can provide unattended installation through SMS.



If the flow of execution for your desired installation does not match the flow of execution when the sample `setup.iss` file was created, the silent installation will fail. Generally, you need to create your own `setup.iss` file for your specific system configuration.

To create a `setup.iss` file, complete the following steps:

- 1 Navigate to the root directory of your install DVD, and run the following command:

```
setup.exe -r
```

The `-r` option causes `setup.exe` to automatically generate the `setup.iss` response file for the NNM silent installation. The `setup.iss` file is the record of your input to the installation prompts. After the interactive installation finishes, the `setup.iss` file is stored in the Windows folder (for example, `C:\WINNT`).

- 2 Copy the newly created `setup.iss` file from the Windows folder to the same directory as the `setup.exe` file, and write over the sample file.



When the sample `setup.iss` file was created, NNM was installed in the `D:\Openview` directory. Since NNM SDK was installed after NNM runtime, the Install Shield log file name was `D:\OpenViewDeIsL1.isu` for NNM runtime, and `D:\OpenViewDeIsL2.isu` for the NNM SDK. If you are installing NNM in another directory or have different Install Shield log files (`*.isu`), you need to change the `setup.pdf` files appropriately to reflect the location of NNM installation and the Install Shield log file so that the automated uninstall through SMS can run correctly.

# Run Network Node Manager

- ▶ You may want to consider installing your permanent license password *before* you start NNM for the first time. See [Before Installing Your Permanent License Password](#) on page 24 for important considerations.

If you did not automatically launch NNM at the end of the installation process, you can use the following procedure to do so now.

- 1 Start the background processes that support the NNM native user interface. From the Start menu on the Windows operating system task bar, select Programs → HP OpenView → Network Node Manager Admin → NNM Services-Start.
- 2 To start Home Base, select Programs → HP OpenView → Network Node Manager Home Base.

This launches the NNM Home Base, the command center for Dynamic Views and for the Extended Topology features of NNM Advanced Edition.

- 3 Each time you start the NNM user interface, it encourages 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.
- 4 Note that many NNM features are web-based. See [Configure Network Node Manager for the Web](#) on page 26 for instructions on how to configure NNM to run within the HP OpenView Web environment.

# License Network Node Manager

Your NNM product includes a temporary Instant-On license password. This password lets you use the product for 60 days after you install it. After you install NNM, you should obtain and install a permanent license password as soon as possible.

A permanent license password is required if you want to run NNM on a management station or collection station. No additional license password is needed to run NNM on a remote console. See the *Guide to Scalability and Distribution* for details about remote consoles.

## Before Installing Your Permanent License Password

In the absence of a permanent license password, NNM starts up with a temporary Instant-On license that has no upper limit on managed nodes.

If you have been running NNM using the Instant-On license, you may be managing more nodes than your permanent license supports. You should unmanage non-essential nodes down to the limit of your permanent license before you install your new license password.

If the number of nodes you manage is more than your license supports, when your new permanent license password takes effect, NNM automatically unmanages nodes that the software chooses to achieve the license limit. The management domain that results may not be ideal, and you will have to spend time managing and unmanaging nodes.

To determine how many nodes you are currently managing, run the following command:

```
%OV_BIN%\ovtopodump -l
```

From the output of this command, use the MANAGED NODES value to see if your permanent license will cover the number of nodes you are actually managing. If you need to make adjustments, see *Managing Your Network with NNM* for techniques to expand or limit your management domain, either automatically or interactively.

## Obtain and Install a Permanent License Password



If you are upgrading from NNM 6.41, *do not follow the procedure described here*. See [Upgrade Installations](#) on page 17 for special instructions.

To request a permanent license password, you need the following:

- The Entitlement Certificate, which contains the HP product number and order number.
- The IP address of the server.
- Your company or organization information.

With the information listed above in hand, proceed as follows:

- 1 Launch NNM's License Password dialog in one of the following ways:
  - Execute the `%OV_BIN%\ovnnmPassword` command from a command prompt.
  - Restart NNM (ovw), and select Options → License Password from the NNM menu.
  - From the Start menu, select Programs → HP OpenView → Network Node Manager Admin → License Password
- 2 From the License Password dialog, click the Request License button to request your permanent license password.
- 3 Follow the on-screen instructions.

# Configure Network Node Manager for the Web

You can configure NNM to access it with Java-based HP OpenView Launcher interfaces. This lets you use certain web-enabled NNM features at remote workstations.

Note that these steps are *not* related to your use of Home Base or the Dynamic Views features of NNM.

## Run NNM on the Web

- 1 Start the NNM user interface. From the Start menu, select Programs → HP OpenView → Network Node Manager.
- 2 Start your web browser.
- 3 To access NNM with the HP OpenView Launcher user interface, use one of the methods listed below:
  - If NNM is running on your system, select the Tools → HP OpenView Launcher item from the NNM menu bar. The Launcher window displays.
  - If NNM is running on a system other than your system, open a web browser on your system. In the browser's Location field, specify one of the following URLs where *hostname* is the full domain name of your NNM web server, such as mymachine.myco.com.
    - For a system running a UNIX operating system:  
`http://hostname:3443/OvCgi/ovlaunch.exe`
    - For a system running a Windows operating system:  
`http://hostname/OvCgi/ovlaunch.exe`

## If NNM is Installed Before the Web Server

If your NNM system does not have a web server, see [Web Server](#) on page 14. Reinstall NNM after you install a web server. The reinstallation of NNM will properly configure it to use your web server product.

# Uninstall Network Node Manager

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

- 1 From the Start menu, select Programs → HP OpenView → Network Node Manager Admin → NNM Processes-Stop.
- 2 When the dialog box confirms that the processes have stopped, from the Start menu select Programs → HP OpenView → Network Node Manager Admin → Uninstall Network Node Manager.

