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Finding Online Help

The *Problem Diagnosis Online Help* contains a wealth of user information beyond what is available in these *Release Notes*. You can reach the online help (and also these *Release Notes*) from the links on the Problem Diagnosis launch page, which are highlighted here.



Overview of HP OpenView Problem Diagnosis

HP OpenView Problem Diagnosis is a powerful, automated IP network path analysis tool that presents end-to-end path information clearly and concisely. Furthermore, Problem Diagnosis lets you see detailed information from nodes and devices in a particular path, and can be launched from other OpenView products (like Network Node Manager [NNM] and VantagePoint applications).

With HP OpenView Problem Diagnosis, NOC and Service Desk (IP Network Operators & Engineers) have a tool for fast problem diagnosis and resolution in IP-based networks. In particular, Problem Diagnosis offers two powerful tools:

- **NetPath:** A probe-based path tool that finds and monitors the paths between itself and any reachable node that it is configured to test. A NetPath probe collects data over time, and generates statistical and usage data about the paths it monitors.
- **ShowPath:** A path tool that uses topology data from Network Node Manager to find the active path between any two nodes in the NNM discovery domain.

Problem Diagnosis also offers:

- **Integration with NNM** provides launch points in NNM's interface.
- **Integration with VPO and VPW** provides path data to the Network SPI.

Problem Diagnosis has three primary components:

The Graphical User Interface (GUI)

The GUI for Problem Diagnosis is a Java applet. Like all applets, it runs in the context of a Web

browser. It can be launched in a separate window or within the same browser window. The Problem Diagnosis GUI is simple to use and presents data in easy-to-understand ways.

The Problem Diagnosis Server

The engine behind the GUI is the Problem Diagnosis server. This component runs on a host system and is the intelligence behind Problem Diagnosis functionality. The Problem Diagnosis server gets its topology data from NNM, from NetPath probes, and other HP OpenView applications.

The Problem Diagnosis server is based on Java "servlet" technology, and requires a servlet-enabled web server to function. The web server included in this release of Problem Diagnosis is the Jakarta Tomcat web server from Apache Software.

The NetPath Probe(s)

The Problem Diagnosis NetPath probes are key suppliers of data to the Problem Diagnosis system. A probe is a small, independent program. As the probe runs, it collects topology and performance information for the network paths between itself and any configured node on the network. When you request probe data, the Problem Diagnosis server contacts the probe for current data, so you see the latest information.

Probes can reside anywhere, and there is no limit to the number of probes you can install, or the number of paths a probe can monitor.



Installation Steps

Attention!

The following high-level instructions refer you to other sections that provide important detailed information. Your system *must* conform to the stated prerequisites, or you may not be able to run Problem Diagnosis successfully!

Upgrading an Evaluation License to a Permanent License:

See the license upgrade instructions on the Problem Diagnosis CD-ROM:
`§CD_mount_directory/UpgradeLicense/Upgrade.html`

Installing Problem Diagnosis involves several high-level steps. Carefully review the instructions below.

Platform	Condensed Installation Instructions
UNIX [®]	<p>Note: If installing Problem Diagnosis on a Japanese system, ensure the system uses SJIS character encoding.</p> <p>For the Problem Diagnosis server (see full details):</p> <ol style="list-style-type: none"> 1. Ensure that the system is running all necessary system patches. Both HP-UX and Solaris require patches to support the required Java Runtime Environment (JRE). 2. Obtain and install the correct JRE from either Hewlett-Packard (for HP-UX) or Sun Microsystems (for Solaris). 3. Install the server. 4. Start the server (the Problem Diagnosis server is <i>not</i> automatically started).

For the Problem Diagnosis NetPath probe (see [full details](#)):

1. Ensure that the system is running all necessary system patches. Both HP-UX and Solaris require patches to support the required Java Runtime Environment (JRE).
2. Obtain and install the correct JRE from either Hewlett-Packard (for HP-UX) or Sun Microsystems (for Solaris).
3. Install the NetPath probe. The probe automatically starts. You need to configure the probe to find and monitor paths to specific nodes. See the [Online Help](#) for details.

For the Problem Diagnosis web-based User Interface (see [full details](#)):

1. Ensure the system is running all necessary system patches. Both HP-UX and Solaris require patches to support the required Java browser plug-in.
2. Obtain and install the correct Java browser plug-in from either Hewlett-Packard (for HP-UX) or Sun Microsystems (for Solaris).
3. Start the web browser.
4. Enter the URL for the desired Problem Diagnosis server (as [described below](#)). The server must be running.

Windows[®]

For the Problem Diagnosis server (see [full details](#)):

1. Obtain and install the correct Java Runtime Environment (JRE) from Sun Microsystems.
2. Install the server.
3. Start the server (the Problem Diagnosis server is *not* automatically started).

For the Problem Diagnosis NetPath probe (see [full details](#)):

1. Obtain and install the correct Java Runtime Environment (JRE) from Sun Microsystems.
2. Install the NetPath probe. The probe automatically starts as a Windows[®] service. You need to configure the probe to find and monitor paths to specific nodes. See the [Online Help](#) for details.

For the Problem Diagnosis web-based User Interface (see [full details](#)):

1. Obtain and install the correct Java browser plug-in from Sun Microsystems.
2. Start the web browser.
3. Enter the URL for the desired Problem Diagnosis server (as [described below](#)). The server must be running.



About the Problem Diagnosis User Interface

Supported Platforms

Any computer that has a compatible browser with a compatible Java plug-in can run the Problem Diagnosis Java-based user interface. The browsers supported in this release include:

- Netscape Navigator, version 4.72 and above
- Microsoft Internet Explorer, version 5.0 and above

Java Plug-ins for the Browser

For Problem Diagnosis to function properly, your browser needs to have a Java plug-in installed (version 1.2.2 or higher). If your browser does not have a compatible plug-in, you may be prompted to install it from a web page where the plug-in is available.

Java 1.2.2 Users Note: For security reasons, HP recommends that the Java plug-in be at least version 1.2.2_07 on Solaris and Windows NT[®]. HP-UX users are required to use version 1.2.2_08.

Platform	Instructions
Windows [®] and Solaris	<p>Sun's Java plug-in page has plug-ins for Windows[®] and Solaris systems. (The 1.2.2 releases are on the Previous Releases page; if you have trouble, see Sun's plugin FAQ for additional information.)</p> <p>Note: System patches are required to support the Java plug-in. Check Sun's Solaris patch requirements for details.</p> <p>Solaris 2.7 Note: Netscape does not recognize the Java 1.2.2 plug-in after it has been installed on Solaris 2.7. You need to create a symbolic link from the directory where Netscape looks for its plug-ins to the directory where the Java 1.2.2 plug-in is installed. Follow these steps:</p> <ol style="list-style-type: none"> 1. <code>cd ~/.netscape</code> 2. <code>ln -s /opt/NSCPcom/plugins plugins</code> (assumes you installed the plug-in in the default directory) 3. Start Netscape. 4. Select <code>Help->About Plug-ins</code> menu option. 5. Confirm that the plug-in is now recognized by the browser. <p>Solaris 2.8 Note: Solaris 2.8 comes with a version of Netscape that includes the Java 1.2.1_04c plug-in. Sun has not released upgraded Java plug-ins for this platform, so you must use the Java plug-in that comes with the browser.</p>
HP-UX	<p>Plug-ins for HP-UX are available at the HP-UX Software Downloads for Java page. You must use version 1.2.2_08 or above. Lower versions are not supported.</p> <p>Note: System patches are required to support the Java plug-in. See the HP-UX Patch Information page for a current list.</p> <p>Note: You must create and set an environment variable called <code>JAVA_FONTS</code> for Problem Diagnosis applets to display properly. This is also true in any shell from which NNM is launched. Enter:</p> <pre>export JAVA_FONTS=/usr/lib/X11/fonts/ms.st/typefaces</pre>

Starting the Problem Diagnosis User Interface

Once installed and configured, Problem Diagnosis is easy to use.

1. Start the Problem Diagnosis server that you will connect with, if it isn't already running.
2. Start all NetPath probes for that server, if they aren't already running. It may take a few minutes before Problem Diagnosis has access to all NetPath probes.
3. Access the Problem Diagnosis web-based user interface manually as follows:
 - a. Open a Netscape (4.72 or later) or Internet Explorer (5.0 or later) browser window.
 - b. Enter the following URL:

```
http://[Problem Diagnosis server]:[port]/
```

 For example: `http://robot.cnd.hp.com:9085/`
4. You can also [launch Problem Diagnosis from NNM](#).

See also the "[CLASSPATH conflict](#)" and "[MOZILLA_HOME](#)" items in the Known Limitations section of these notes.



About the Problem Diagnosis Server

Supported Platforms

The Problem Diagnosis server supports any of the following operating systems:

- Hewlett-Packard HP-UX 11.0 and 11.11
- Sun Solaris versions 2.6, 2.7, and 2.8
- Microsoft Windows[®] (NT 4.0 and 2000)

Java Runtime Environment

To run the Problem Diagnosis server, the default version of the Java Runtime Environment (JRE) for the system must be version 1.2.2 or higher. Use the command `java -version` to determine the current default Java version.

Java 1.2.2. Users Note: For security reasons, HP recommends that the JRE be at least version 1.2.2_07 (and at least version 1.2.2_08 on HP-UX).

The path to the default version of `java.exe` must appear in the PATH environment variable *before* the path to any other `java.exe` versions on your system.

To obtain and install a compatible JRE, follow these steps:

Platform	Instructions
HP-UX	<p>For an HP-UX-compatible version of Java, see the HP-UX Software Downloads for Java page. You must use version 1.2.2_08 or above. Lower versions are not supported.</p> <p>Note: System patches are required to support the JRE. See the HP-UX Patch Information page for a current list.</p>
Solaris	<p>For a Solaris-compatible version of Java, follow the links from Sun's JRE for Solaris page.</p> <p>Note: System patches are required to support the JRE. They are available from the Solaris JRE download page, for convenient download at the same time as the JRE itself.</p>

Windows[®] For a Windows[®]-compatible version of the JRE, see [JavaSoft's JRE for Windows[®]](#) download page.

Installing the Problem Diagnosis Server

Important! To run Problem Diagnosis, your system must have the latest version of the Java run-time environment (JRE), Java browser plug-ins, and system patches (especially for UNIX[®] systems). Check the technical requirements of the Problem Diagnosis server and web-based user interface, as well as the requirements of the NetPath probe before installing this product.

UNIX[®] Note: You must install the Problem Diagnosis Server as ROOT. If you install using ! (bang) or sudo, some files won't inherit proper user IDs and won't install properly.

Windows[®] Note: You can not install one component (server or probe) and then later install the other. If you want to install both components on one system, use the `Custom` button on the installer to install both components at once. If you *must* install one component after the other, first uninstall the existing component (your data and configuration will be saved), and then install both components simultaneously.

An automated installation package in the Problem Diagnosis distribution guides you through the installation process on the HP-UX, Sun Solaris, or Windows[®] system that will host the Problem Diagnosis server:

- UNIX[®]:
1. Insert the Problem Diagnosis CD-ROM.
 2. Mount the CD-ROM drive, and `cd` to it.
 3. Enter: `sh install.bin`
 4. Follow the on-screen instructions. Choosing a "Custom" installation lets you install the Problem Diagnosis server and NetPath probe in one pass.
- Windows[®]:
1. Insert the Problem Diagnosis CD-ROM in the CD-ROM drive.
 2. Double-click on the `MyComputer` desktop icon, then double-click on the drive-letter representing your CD-ROM drive.
 3. Double-click on the `Setup.exe` icon.
 4. Follow the on-screen instructions. Choosing a "Custom" installation lets you install the Problem Diagnosis server and NetPath probe in one pass.

Be sure to select the JRE you want to use; no default JRE is selected (even if you have only one). If you have not installed a JRE or Java Plug-in, the installation fails.

The server uses ports 9085 and 9086 to communicate with the NetPath probes. HP recommends you accept this default if at all possible. If you must configure the Problem Diagnosis server to use a different port, follow the instructions in the Online Help. Any probe that is used by a server using a non-default port must be configured to accommodate this, and its data will not be available to any server using another (such as the default) port.

Problem Diagnosis places the following components on your system:

- The **Jakarta Tomcat web server**, which provides the supporting infrastructure for Problem Diagnosis.

Note the following:

- It is installed in
 - UNIX[®]: `/opt/OV/pd/app-server`
 - Windows[®]: `C:\Program Files\HP OpenView\pd\app-server`
 and runs on IP port 9085 (If you must change this port number, see the [online help](#)).
- Log files for the web server are in
 - UNIX[®]: `/opt/OV/pd/app-server/logs`
 - Windows[®]: `C:\Program Files\HP OpenView\pd\app-server\logs`.

The `tomcat.log` file contains web server messages.

- The **Problem Diagnosis server**, which runs under the umbrella of the Jakarta Tomcat web server.

The default Problem Diagnosis server log files are:

- UNIX[®]: `/opt/OV/pd/app-server/logs/servlet.log`
- Windows[®]: `C:\Program Files\HP OpenView\pd\app-server\logs\servlet.log`

Starting and Stopping the Problem Diagnosis Server

The commands for starting and stopping the Problem Diagnosis server differ slightly according to the platform ([Windows[®]](#) or [UNIX[®]](#)) it is on.

On Windows[®]

To **start** the Problem Diagnosis server, select `Start->Programs->HP OpenView->Problem Diagnosis->PD Server`

To **stop** the Problem Diagnosis server, select `Start->Programs->HP OpenView->Problem Diagnosis->PD Server` .

On UNIX[®]

To **start** the Problem Diagnosis server, enter `/usr/local/bin/ovpdstart`

To **stop** the Problem Diagnosis server, enter `/usr/local/bin/ovpdstop`

UNIX[®] note: The first time the Jakarta Tomcat web server is started, several files are created. Because these files are used during subsequent startups, their ownership and access permissions determine who can run the server. For example, if the web server is first started under the `root` login, only users with `root`-level privileges can start it later. Any attempt to start the server by a user with lesser privileges generates file access violations.

Permissions on the following files determine who can start the Problem Diagnosis server:

- `/opt/OV/pd/app-server/conf/tomcat-apache.conf`
- `/opt/OV/pd/app-server/conf/iis_redirect.reg-auto`
- `/opt/OV/pd/app-server/conf/obj.conf-auto`
- `/opt/OV/pd/app-server/conf/mod_jk.conf-auto`
- `/opt/OV/pd/app-server/conf/uriworkermap.properties-auto`

- /opt/OV/pd/app-server/logs/jasper.log
- /opt/OV/pd/app-server/logs/servlet.log
- /opt/OV/pd/app-server/logs/tomcat.log
- /opt/OV/pd/app-server/webapps/zephyr/conf/probeList.xml

To solve start-up privilege problems, you have two choices:

- You can delete these files, and then restart the Problem Diagnosis server as a user that has the desired privilege. The server recreates these files with that user's permissions. It can take up to an hour for the server to resynchronize with its probes.
- You can change the file ownership and/or permissions to achieve the desired privilege. This approach is probably better if you have manually linked the server to additional probes. See the [Online Help](#) for further information.



About the NetPath Probe

Supported Platforms

The NetPath probe supports any of the following operating systems:

- Hewlett-Packard HP-UX 11.0 and 11.11
- Sun Solaris versions 2.6, 2.7, and 2.8
- Microsoft Windows[®] (NT 4.0 and 2000). In a Windows[®] environment, the NetPath probe runs as a service.

See also the "[NetPath notes](#)" item in the Known Limitation section of these notes.

Installation

An automated installation package in the Problem Diagnosis distribution guides you through the installation process on the HP-UX, Sun Solaris, or Windows[®] system. Consider installing NetPath probes in key locations in the network, where they can monitor crucial paths. During installation, you assign the probe to a Problem Diagnosis server by providing the following information about the server:

- DNS name
- IP address
- HTTP port. This is the port the Problem Diagnosis server (which you have just identified) uses. The default is 9085, and HP recommends that you accept this default. If you must configure the Problem Diagnosis server to use a different port, see the [Online Help](#).

UNIX[®] Notes:

- The NetPath probe is installed as a daemon process that starts immediately. It is configured to run automatically at system startup.
- You must install the NetPath probe as ROOT. If you install using ! (bang) or sudo, some files won't inherit proper user IDs and won't install properly.

Windows[®] Note:

The NetPath probe is installed as a service that starts immediately. It is configured to run automatically at system startup. You can remove the NetPath probe from the Windows[®] services (or add it back) by selecting:

- Start->Programs->HP OpenView->Problem Diagnosis->Probe->Remove from Services
- Start->Programs->HP OpenView->Problem Diagnosis->Probe->Add to Services

Installing a NetPath probe places a number of files on the system, listed in the table below. In this table, the <netpathRoot> should be interpreted as (assuming a default installation):

UNIX[®]: /opt/OV/pd/netpath

Windows[®]: C:\Program Files\HP OpenView\pd\netpath

This table also uses the UNIX[®] convention for directory delimiters except where noted; Windows[®] users should replace "/" with "\".

Probe Files	
<netpathRoot>/bin/cfaUtil.jar	utility Java classes
<netpathRoot>/bin/netpathUtil.jar	more utility Java classes
<netpathRoot>/bin/jmngmt.jar	SNMP Java classes
<netpathRoot>/bin/npprobe.jar	the NetPath probe Java classes
<netpathRoot>/bin/netpath (UNIX [®] only)	the NetPath executable; it must be owned by root and have permissions of -r-sr-xr-x (e.g., chmod 4555 netpath)
<netpathRoot>/bin/npprobe.sh (UNIX [®] only)	a convenience script for starting and stopping the probe
<netpathRoot>\bin\netpath.exe (Windows [®] only)	a wrapper that lets the NetPath probe run as a Windows [®] service
<netpathRoot>\bin\npprobe.bat (Windows [®] only)	a convenience script for adding and removing the probe from Windows [®] services
<netpathRoot>/config/npprobe.conf	the probe configuration file; must be in exactly this path with exactly this name
<netpathRoot>/config/UpdateNppconfig	script for updating npprobe.conf at installation time
<netpathRoot>/log/	directory for log files
<netpathRoot>/data/	directory for data files
<netpathRoot>/archive	directory for archive data

Starting and Stopping

Note: If you are running an HP OpenView VantagePoint product (VP Operations or VP Windows[®]), ignore this topic. The VantagePoint software controls starting and stopping the NetPath probe (which is managed as a sub-agent).

The commands for starting and stopping the probe differ according to the platform ([UNIX](#), [Windows[®] NT](#), or [Windows[®] 2000](#)) it is on.

On UNIX

NOTE: The `npprobe.sh` command must run *inside* the NetPath probe's `bin` directory.

To start the NetPath probe, execute the following commands:

1. `cd /opt/OV/pd/netpath/bin`
2. `./npprobe.sh -start [-debug]`

The `-debug` option turns on debug output. This generates a large amount of log output, and should only be used to troubleshoot a known problem.

To stop the NetPath probe, execute the following commands:

1. `cd /opt/OV/pd/netpath/bin`
2. `./npprobe.sh -stop`

Warning: Do not force termination of the NetPath Java process (`kill -9`); doing so may cause irrevocable corruption of the probe data.

On Windows NT[®]

The NetPath probe is installed as a service, which runs automatically at system startup. (See [Windows[®] Services Note](#) below.)

To manually stop or start the NetPath probe service:

1. Select `Start->Settings->Control Panel`.
2. In the Control Panel window, double-click on the `Services` icon.
3. Select the NetPath service, and click on the `Start` button or `Stop` button, as desired.

Warning: Do not use the Windows[®] Task Manager to terminate the NetPath Java process! Doing so may cause irrevocable corruption of probe data.

On Windows[®] 2000

The NetPath probe is installed as a service, which runs automatically at system startup. (See [Windows[®] Services Note](#) below.)

To manually stop or start the NetPath probe service:

1. Right-click on the `My Computer` desktop icon, and choose the `Manage` menu item.
2. In the navigator pane, double-click on `Services and Applications`
3. Double-click on `Services`
4. In the details pane, select the NetPath service, and click on the `Start` button or `Stop` button, as desired, in the applet tool bar.

Warning: Do not use the Windows[®] Task Manager to terminate the NetPath Java process! Doing so may cause irrevocable corruption of probe data.

Windows[®] Services Note

On some systems, running the NetPath probe as a service caused the screen-saver to stop working. This can be a security hazard if the computer will not lock when unattended. If this happens, you may want to run the probe in "standalone" mode rather than as a service.

To remove the NetPath probe from the Windows[®] services (or add it back), select:

- Start->Programs->HP OpenView->Problem Diagnosis->Probe->Remove from Services
- Start->Programs->HP OpenView->Problem Diagnosis->Probe->Add to Services

To run the NetPath probe in standalone mode, issue the following commands from a command window prompt (steps assume the default installation directory, and quotes are required):

1. c:
2. cd "/Program Files/HP OpenView/pd/netpath/bin"
3. nprobe.bat -runnosrv

Troubleshooting

Messages and errors from the probe are logged to `<PD_install_directory>/netpath/log/nprobe.log`, which is always available for examination.

If you encounter unexplained behavior or data from a NetPath probe, you can take another optional step.

Stand-alone Testing of Probe Function

If the web-based user interface is unable to contact the probe or appears to display incorrect data, you need to verify the output at the probe system. To do this issue a command that simulates a request from the Problem Diagnosis user interface applet. The XML output of this request is dumped to standard out and can be quite large, so you should redirect the output to a file. The commands as well as the redirect is as follows:

- UNIX:
1. cd /opt/OV/pd/netpath/bin
 2. ./nprobe.sh -stop
 3. nprobe.sh -client -d [*destination name*] > /tmp/dest.out

- Windows NT[®]:
1. Click on the Start->Settings->Control Panel menu item.
 2. In the Control Panel window, double-click on the Services icon.
 3. Select the NetPath service, and click on the Stop button.
 4. Click on the Close button.
 5. In a command window, enter the following commands at a prompt (quotes required):
 - a. C:
 - b. cd "/Program Files/HP OpenView/pd/netpath/bin"
 - c. nprobe.bat -client -runnosrv -d [*destination name*] > C:\temp\dest.out

Windows®
2000:

1. Right-click on the `My Computer` desktop icon, and choose the `Manage` menu item.
2. In the navigator pane, double-click on `Services and Applications`
3. Double-click `Services`.
4. In the details pane, select the `NetPath` service, and click on the `Stop` button in the applet tool bar.
5. In a command window, enter the following commands at a prompt (quotes required):
 - a. `C:`
 - b. `cd "/Program Files/HP OpenView/pd/netpath/bin"`
 - c. `npprobe.bat -client -runnosrv -d [destination name] > C:\temp\dest.out`

If the probe responds properly by writing an XML data file, the issue resides in either the Problem Diagnosis server or the user interface applet. Otherwise, there may be a problem with the probe software; contact your product support representative.

If you run the NetPath probe manually, you may see one of the following error codes at the end of the output lines:

Code	Meaning
!N	Network unreachable
!H	Host unreachable
!P	Protocol unreachable

See also the [NetPath notes](#).



Integrating Problem Diagnosis with Network Node Manager

Problem Diagnosis can be integrated with HP OpenView Network Node Manager (NNM) to provide instant access to path information. After integration, Problem Diagnosis has access to NNM's topology data via the ShowPath feature, and NNM users can easily launch Problem Diagnosis as part of a troubleshooting effort.

The ShowPath feature draws network maps using topology data supplied by NNM. The Problem Diagnosis server and NNM must reside on the same system, and NNM must be running for ShowPath to work.

You have to install the integration files into NNM before ShowPath is available in the NNM interface. See the [Online Help](#) for detailed instructions. See also the [ShowPath notes](#).

Note: Every time you launch Problem Diagnosis from NNM, a new instance of your browser starts running. This can result in many copies of the browser running simultaneously. To avoid this, close the Problem Diagnosis applet and its host browser before launching Problem Diagnosis again.



Uninstalling Problem Diagnosis Software

You can easily remove Problem Diagnosis components (the server and probe at once) from a system. The method you use depends on your platform.

UNIX[®]

1. /opt/OV/pd/bin/Uninstall.sh

Windows[®]
(NT and
2000)

1. Click on Start->Programs->HP OpenView->Problem Diagnosis->PD Server - Stop
2. Click on Start->Programs->HP OpenView->Problem Diagnosis->Uninstall Problem Diagnosis

IMPORTANT: The steps above removes all Problem Diagnosis components. You cannot remove the probe and keep the server, or remove the server and keep the probe. You can, however, disable probe functionality and keep the server active. There is no need to actually remove the probe or its data (which together occupy under a megabyte of storage).

To disable the probe, follow these steps:

Platform	Instructions
HP-UX	<p>Enter the following commands:</p> <ol style="list-style-type: none"> 1. cd /opt/OV/pd/netpath/bin 2. ./nprobe.sh -stop 3. mv /sbin/rc3.d/S750Netpath <savedRCfile> <p>You can later restore the probe by entering the following commands:</p> <ol style="list-style-type: none"> a. mv <savedRCfile> /sbin/rc3.d/S750Netpath b. cd /opt/OV/pd/netpath/bin c. ./nprobe.sh -start
Solaris	<p>Enter the following commands:</p> <ol style="list-style-type: none"> 1. cd /opt/OV/pd/netpath/bin 2. ./nprobe.sh -stop 3. mv /etc/rc3.d/S750Netpath <savedRCfile> <p>You can later restore the probe by entering the following commands:</p> <ol style="list-style-type: none"> a. mv <savedRCfile> /etc/rc3.d/S750Netpath b. cd /opt/OV/pd/netpath/bin c. ./nprobe.sh -start
Windows NT [®]	<ol style="list-style-type: none"> 1. Click on the Start->Settings->Control Panel menu item. 2. In the Control Panel window, double-click on the Services icon. 3. Select the NetPath service, and click the Stop button. 4. Click on Start->Programs->HP OpenView->Problem Diagnosis->Probe->Remove from Services <p>You can later restore the probe:</p> <ol style="list-style-type: none"> a. Click on

	<p>Start->Programs->HP OpenView->Problem Diagnosis->Probe->Add to Services</p> <p>b. Reboot, or use the Control Panel as above to start the probe.</p>
Windows [®] 2000	<ol style="list-style-type: none"> 1. Right-click on the <code>My Computer</code> desktop icon, and choose the <code>Manage</code> menu item. 2. In the navigator pane, double-click on <code>Services and Applications</code> 3. Double-click on <code>Services</code> 4. In the details pane, select the <code>NetPath</code> service, and click on the <code>Stop</code> button in the applet tool bar. 5. Click on <ul style="list-style-type: none"> Start->Programs->HP OpenView->Problem Diagnosis->Probe->Remove from Services <p>You can later restore the probe:</p> <ol style="list-style-type: none"> a. Click on <ul style="list-style-type: none"> Start->Programs->HP OpenView->Problem Diagnosis->Probe->Add to Services b. Reboot, or use the <code>My Computer - Manage</code> utility as above to start the probe.



Known Limitations of Problem Diagnosis

These are the limitations and special behaviors in this release of Problem Diagnosis. Categories include:

- [General notes](#)
- [Install notes](#)
- [User Interface](#)
- [ShowPath notes](#)
- [NetPath notes](#)
- [NNM Integration notes](#)
- [CLASSPATH conflict](#)
- [MOZILLA_HOME setting](#)

• General notes:

- If non-ASCII characters are added to XML, XSL, or JSP files, you must preserve the UTF-8 codeset for these characters.

The Microsoft Windows[®] 2000 Notepad editor allows files to be saved in UTF-8 code set.

Microsoft Windows NT[®] does not supply an editor that can edit UTF-8 code set. On many UNIX platforms, the `iconv` command can be used to translate from ShiftJIS (or any other code set) into UTF-8 to make editing in a non-UTF-8 code set simpler.

- What You Can Expect From OVPD 1.1:
 - Installs under any language on any language system.
 - Uses locale-specific formats for date and time.
 - Does locale-specific string comparison.
 - Does locale-specific sorting
 - Supports one Web browser codeset-UTF-8.
 - Displays localized data from NNM (e.g. Error Messages, time, date, etc.)
 - Supports non-ASCII string data specific to OVPD1.1 as long as it is in the UTF-8 codeset. This includes:
 - Directory names

- Help files
 - Supports ASCII string data only for:
 - File names
 - IP Address and Hostname
 - URLs
 - Limitations
 - OVPD 1.1 does not ship the Java converters necessary to convert non-UTF-8 codeset data into UTF-8 codeset. OVPD 1.1 assumes that these will be part of the JRE on each platform.
 - OVPD 1.1 has only been tested in a "mono-lingual" environment where all servers and clients were in the same locale.
- **Windows[®] 2000 System only:** The current installer fails to start the probe as a service automatically on a Windows[®] 2000 system. A manual service install and start is required. Mouse click the following sequence after Problem Diagnosis has been installed: *Start->Programs->HP OpenView->Problem Diagnosis->Probe->Add to Services*. This will add the probe to the W2K autostart services and start it.
- In some circumstances, the Problem Diagnosis server triggers a stack trace (visible in the Java console and/or the server error log) when you exit the browser. The exception is non-fatal, and is ignored. The operation of the server is not affected.
- Sometimes a DNS name resolves to multiple hosts, as in the case of a web farm. To improve performance, web farms and similar scenarios distribute incoming requests to one of an array of hosts, always choosing the least-busy host.

For example, the DNS name of `www.yahoo.com` does not refer to just one host. At this writing, `www.yahoo.com` resolves to at least eight different IP addresses.

The final host (the one that is assigned to respond to your query) responds with its IP address, and *not* the generic DNS name. In a case like this, the map and tables that Problem Diagnosis displays include the DNS name or IP address of the final host, which is not necessarily the name you selected for the target.

This kind of name discrepancy can also occur if the target name is aliased.
- **X-Windowing:** Severe display problems (including a complete failure to display the applet) have been observed when using X-windowing programs to redirect the Java applet display from UNIX[®] systems to Windows[®] systems.
- **Windows[®] systems only:** If HP OpenView VPIS is also installed on the same system as NNM, and if it was installed before NNM, you may have problems with the Problem Diagnosis/NNM integration. A symptom of this conflict is an error message similar to this (depending on your JRE):

The procedure entry point `??1List@@UAE@XZ` could not be located in the dynamic link library `ovutil.dll`.

To solve this problem:

- | | |
|----------------------------|--|
| Windows
NT [®] | <ol style="list-style-type: none"> 1. Right-click on the <code>My Computer</code> desktop icon, and choose the <code>Properties</code> menu item. 2. Click on the <code>Environment</code> tab. 3. Find the System Variable named <code>Path</code>, and edit its Value so that the NNM <code>bin</code> directory (e.g. <code>C:\Program Files\HP OpenView\nnm\bin</code>) comes <i>before</i> the VPIS <code>bin</code> directory (e.g. <code>C:\rpmtools\bin</code>). 4. Click <code>Apply</code>, then <code>Close</code>. |
|----------------------------|--|

Windows[®] 2000

1. Right-click on the `My Computer` desktop icon, and choose the `Properties` menu item.
 2. Click on the `Advanced` tab.
 3. Click on the `Environment Variables` button.
 4. Find the System Variable named `Path`, and edit its Value so that the `NNM bin` directory (e.g., `C:\Program Files\HP OpenView\nnm\bin`) comes *before* the `VPIS bin` directory (e.g., `C:\rpmtools\bin`).
 5. Click `Apply`, then `Close`.
-

• Install notes:

- You must have a Java 1.2 or later JRE in the `PATH` on your system. If not, the installer may abort without any message, or it may send a message to `STDOUT` stating that no JRE could be found.
 - The installer can not use the JRE from Symantec. You must have a different JRE in the `PATH` ahead of the Symantec JRE.
 - **Windows[®] only:**
 - You can not install one component (server or probe) and then later install the other. If you want to install both components on one system, use the `Custom` button on the installer to install both components at once. If you *must* install one component after the other, first uninstall the existing component (your data and configuration will be saved), and then install both components simultaneously.
 - If you have Symantec JVM installed on the `C:` drive and your true JVM is on the `D:` drive, the installer will fail. Open a command prompt window, remove the Symantec JRE from that window's `PATH`, and rerun the installer from that command prompt window.
 - **HP-UX 11.11 only:** If the Problem Diagnosis installer crashes when a custom install is chosen and patch `PHSS_24638` is installed, do the following:
 1. Type `export _M_SBA_OPTS=0:0:0`
 2. Press `enter`
 3. Restart the installer
 - **Japanese only:** If installing the Japanese version, make sure the `LANG` variable is *not* set to `ja_JP.eucJP`.
-

• User Interface:

- **Japanese only:**
 - Use Netscape 4.78 with Java plugin 1.3.1. Note that when Problem Diagnosis starts, some characters are garbled on the status bar at the bottom of the screen. This is due to a Netscape defect.
 - Do the following before installing Problem Diagnosis 1.1:
 - For HP-UX 11.0:
 1. Apply Patch `PHSS_25091`
 2. Apply patch `PHSS_24931` (no reboot is needed)
 - For HP-UX 11.11:
 1. Apply Patch `PHSS_25092`
 2. Apply Patch `PHSS_24932` (no reboot is needed)
- This will add TrueType Japanese fonts to your system.
- Before running the installer or your browser, do the following in your shell environment:

- sh/ksh:


```
export JAVA_FONTS=/usr/lib/X11/fonts/TrueType/japanese.st/typefaces
```
- csh:


```
set JAVA_FONTS=/usr/lib/X11/fonts/TrueType/japanese.st/typefaces
```

- Run the installer and your browser only in shells where JAVA_FONTS has been set as detailed above.

• ShowPath notes:

- ShowPath functions only with an installation of NNM.
- Neither endpoint of a ShowPath trek can be a Layer 2 device, as defined by NNM. That is, neither endpoint can have its NNM `isHub` or `isBridge` object attribute set `TRUE`. NNM must also have SNMP access to both.
- Node names must be fully qualified (i.e., `grinch.cnd.hp.com`, not just `grinch`).
- In order for ShowPath to find a path that crosses router boundaries, the underlying NNM *must* have SNMP access to every router in the path. Therefore, it is very helpful to Problem Diagnosis if NNM has SNMP access to every router in the domain it manages.
- An inaccuracy occurs when the `ovwid` attribute of an object is zero, or when it does not support SNMP communication. In these situations, Problem Diagnosis assumes its device type to be `HOST`, which is not always true.
- Sometimes Problem Diagnosis cannot obtain any ShowPath information on the path whose starting and ending nodes have been specified. When this happens, an error message is displayed in the GUI which lists one of several possible causes:
 - Network Node Manager is not running.
 - Our attempt to programmatically load the activeRoute library (`libactiveRoute.sl` on HP-UX, `libactiveRoute.so` on Solaris, or `activeroute.dll` on Windows[®]) failed.
 - `nnmPath` returns null, meaning that no ShowPath data was available from Network Node Manager.
 - The specified starting node does not respond to SNMP queries.
 - ShowPath could not open the NNM database.

• NetPath notes:

- When you first install a probe, the associated server should be running. If it is not, *and* if it is not started within an hour of the probe's installation, then it may take up to an hour after the server *is* started for it to establish communications with the probe. You can eliminate this lag by stopping and restarting the probe after starting the server.
- A default gateway must be permanently configured for any system that hosts a NetPath probe. If the default gateway is not set, you will see routing loop error messages when no such loop necessarily exists (click the `Trek Error Log` button for details).
- A NetPath trek whose endpoints are the same device (e.g., from `rantrave.diatrube.com` to `rantrave.diatrube.com`) has unpredictable results. Don't do it.
- If one or more configured destinations become unreachable for an extended amount of time, the NetPath probe will begin to accumulate threads and slow dramatically. The probe may become unresponsive and the log file will begin to fill with messages similar to:

```
October 30, 2001 3:54:15 PM CET : (NPProbe) : WARNING : (NPRunProgram) failed to run
"/opt/OV/pd/netpath/bin/netpath -l2 -q 5 -w 2 nodename.hp.com". Memory =
2,041,488:65,404,928
```

If the probe reaches this state, the user must stop and restart the probe. How long a destination can be unreachable before this problem occurs is dependent upon the number of destinations and

the intervals.

The options to prevent this from occurring are:

- If it is known that a destination will be unreachable for more than a few hours, then disable the destination by setting the interval to zero. The destination can be re-enabled by setting the interval back to the desired value.
 - Increase the interval. The problem is typically seen with short intervals such as one minute. Setting the interval to 5 minutes or more can resolve the problem.
 - If you are still seeing the problem, make sure you are running on the latest JAVA JRE or JDK. If your system is swapping a great deal, you may need more physical memory to prevent this problem from occurring.
- **Windows[®] only:** The NetPath probe depends on the `tracert.exe` and `ping.exe` that are part of the Windows[®] distribution (`<system_directory>/system32`). Other versions of these utilities are likely to cause errors in the NetPath probe.
- **Windows[®] only:** On some systems, running the NetPath probe as a service has caused the screen-saver to stop working. This can be a security hazard if the computer will not lock when unattended. If this happens, you may want to run the probe in standalone mode rather than as a service.

To remove the NetPath probe from the Windows[®] services (or add it back), use these menu items:

- Start->Programs->HP OpenView->Problem Diagnosis->Probe->Remove from Services
- Start->Programs->HP OpenView->Problem Diagnosis->Probe->Add to Services

To run the NetPath probe in stand-alone mode, issue the following commands from a command window prompt (steps assume the default installation directory):

1. `c:`
2. `cd /Program Files/HP OpenView/pd/netpath/bin`
3. `npprobe.bat -runnosrv`

- **HP-UX only:** Occasionally when you start the probe configuration applet, the window does not open correctly. It displays only a title bar and the "Applet Window" warning message. If this happens, drag the corner to enlarge the window; the content will be displayed correctly.
- **Japanese only:** In some situations, `npprobe.sh` prints out an error message that is not readable on Japanese systems. To view the output correctly, set `LANG` to `JP.UTF-8` on Solaris and `ja_JP.SJIS` on HP-UX.

- **NNM Integration notes:**

- **UNIX[®] only:** NNM integration does not work with Netscape version 4.76 on UNIX[®] systems. This version of Netscape prevents Problem Diagnosis from invoking the browser with a specific URL, which necessary for integration. Use a different version of Netscape.

- **CLASSPATH conflict:**

- In some situations, your system's Java `CLASSPATH` environment variable can cause problems starting or running any Java-based interface in Problem Diagnosis. Typical symptoms of this are:
 - The Problem Diagnosis application window fails to launch, and the browser status line reads "Applet not inited".
 - Netscape gives errors when you try to open the Online Help, and the navigation panel in the help window is blank.

If you see these symptoms (or other unexplained failures in the Java interfaces), you should run Problem Diagnosis under a shell with an empty `CLASSPATH`, as follows:

- UNIX®:
1. Open a new terminal window.
 2. `export CLASSPATH=""`
 3. `netscape &`
 4. Start Problem Diagnosis from the resulting browser as usual.
- Windows®:
1. Open a command window.
 2. Type the following command: `set CLASSPATH=""`
 3. Start Problem Diagnosis by launching your browser *from this command window!*
Under default installations, the commands to launch Netscape and Internet Explorer are:
 - Netscape:
`"C:\Program Files\Netscape\Communicator\Program\netscape.exe"`
 - Internet Explorer:
`"C:\Program Files\Plus!\Microsoft Internet\iexplore.exe"`

See also [MOZILLA_HOME setting](#) for a similar issue.

• MOZILLA_HOME setting:

- On UNIX systems Problem Diagnosis applets and/or Online Help may not launch correctly in Netscape. If you have trouble, follow these steps:
 1. Exit Netscape.
 2. `export MOZILLA_HOME=<Netscape_Installation_Directory>`
 3. Restart Netscape.
 4. Restart Problem Diagnosis.

See also [CLASSPATH conflict](#) for a similar issue.

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