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1 Overview

HP Toptools for Unicenter TNG is a HP Toptools Enterprise Product that enhances CA Unicenter TNG’s ability to access the manageability built into HP computing products. HP Toptools for Unicenter customizes the TNG environment to discover and monitor HP products while integrating or ‘bridging’ toptools applications into the TNG console.

HP Toptools is a collection of applications and agents that enable fault, configuration, performance, security, and asset management of HP Netserver, Visualize, Kayak, Omnibook, Vectra, NetPC, Advancestack, Procurve, palmtop, Surestore and LaserJet products. At the center of toptools solutions is the toptools server, a web-based device management application which generates web pages to display information obtained from managed devices, permitting monitoring and administration of HP hardware from anywhere on the network through the use of a web browser.

![Figure 1-1. The HP Toptools Device Manager consists of a Toptools Server and a browser-based console.](image)

The HP Toptools server includes integrated modules that may be obtained and deployed independently, such as HP Toptools for Hubs and Switches, HP Toptools for Servers, and HP Web JetAdmin.

HP Toptools Enterprise Products is an accessory product. For more information on HP Toptools products, visit the HP Toptools website at [www.hp.com/toptools](http://www.hp.com/toptools).

For information on which toptools products are supported by HP Toptools for Unicenter TNG, check the "Requirements" section of this document.
HP Toptools for Unicenter TNG increases your management control of HP products through:

- Automatic discovery and identification of HP products in TNG browsers and maps
- Automatic reception of events into the TNG Event Console
- DSM management of HP Netserver, Toptools Remote Control card, and LaserJet products
- Access to toptools actions on selected devices
- Launching toptools property pages to ‘drill down’ on device configuration

1.1 Before You Begin

Which HP products do you need to manage?

The HP Toptools for Unicenter TNG installation wizard offers two options:

- **HP Toptools for Unicenter TNG** – Integrates management of HP Netserver, Kayak, Vectra, Omnibook, Visualize, ProCurve, AdvanceStack, and LaserJet products into TNG and links to a HP Toptools server.


You must first decide which product types you wish to manage. If you wish to manage only LaserJet products, you may elect to install HP Web JetAdmin for Unicenter TNG. Web JetAdmin provides management for an unlimited number of printers and may be installed on a variety of operating systems such as Solaris or Windows NT. It may also be used in combination with the HP JetDirect Trap Proxy Server available in the contributed library.

If you wish to manage other HP products (including LaserJets), you should install HP Toptools for Unicenter TNG. HP Toptools integrates with Web JetAdmin and enables LaserJet management as part of the overall solution. As you install the HP Toptools server, you will be prompted to select which types of devices you wish to manage.

Which components will you need to install?

HP Toptools for Unicenter consists of 6 components (Figure 1-2):

- The HP Toptools server (or Web JetAdmin) application
- The CA Unicenter TNG application
- Management agents on HP devices
- A web browser installed on the TNG console
- Integration software, referred to as the ‘platform bridge’ installed on the TNG server
- Integration software, referred to as the ‘server bridge’ installed on the toptools server
Where will you install toptools?

HP Toptools for Unicenter TNG supports two options:

- Toptools installed on a separate system (preferred as shown in Figure 1-2)
- Toptools installed on the same system as Unicenter TNG (also referred to as a single system installation)

Installing toptools on separate system will result in better system performance for both toptools and Unicenter TNG. However, depending on the size of your network and available resources, you may wish to have a single, centralized system. More information on using HP Toptools for Unicenter TNG in distributed TNG environments is provided in the “Advanced Configuration” section of this Guide.

Do you need to use pcAnywhere or the System Performance Advisor?

HP Toptools 5.5 for Unicenter TNG now provides access to pcAnywhere and System Performance Advisor from the TNG console, please refer to the “Advanced Configuration” section for additional information.

For more information on installing these solutions:

<table>
<thead>
<tr>
<th>Solution</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP Toptools for Unicenter TNG on a TNG server and toptools server</td>
<td>Installation sections in this User Guide</td>
</tr>
<tr>
<td>HP Toptools</td>
<td>HP Toptools User Guide</td>
</tr>
<tr>
<td>HP Web JetAdmin</td>
<td>HP Web JetAdmin User Guide</td>
</tr>
<tr>
<td>HP JetDirect Trap Proxy Server (Contributed Library)</td>
<td>HP JetDirect Trap Proxy Server User Guide</td>
</tr>
<tr>
<td>HP Toptools for Unicenter TNG with pcAnywhere or System Performance Advisor</td>
<td>Advanced Configuration section in this User Guide</td>
</tr>
</tbody>
</table>
1.2 Requirements

Prior to installing the server and platform bridge components, supported versions of HP Toptools, CA Unicenter TNG and a web browser must be installed and verified operational.

1.2.1 Supported HP Toptools Configuration

HP Toptools 5.5 for Unicenter TNG supports one version of the HP Toptools server:

- HP Toptools 5.5 (Build A.05.51) included on the HP Toptools 5.5 Enterprise Products CD.

**NOTE:** There is only one version of HP Toptools that will operate with HP Toptools 5.5 for Unicenter TNG. Previous releases are NOT supported.

Documentation describing HP Toptools 5.5 server software installation is included on the HP Toptools CD is provided in the *readme* file located at the root of the CD-ROM, as well as in the HP Toptools User's Guide (/Manuals/Users_Manual.pdf).

The installation of HP Toptools 5.5 permits the selection of which management components are installed. Any combination of the four components (“desktops”, “servers”, “printers”, or “hubs and switches”) may be selected for operation with this bridge. In addition, “Advanced Configuration” should be selected at the end of that installation and all discovery categories (IPX, WMI, etc) enabled as appropriate*. Discovery should NOT be scheduled. Note that you may be prompted to overwrite existing files during the TT 5.5 install. You MUST choose to overwrite existing files or the installation will fail.

*Unless you intend to use HP Toptools for Hubs and Switches management features, do not enable 'Topology' discovery.

1.2.2 Supported TNG Configuration

The following versions of TNG are supported by HP Toptools for Unicenter TNG:

- CA Unicenter TNG or framework v.2.2 on Microsoft NT patch genlevel 9907 and higher
- CA Unicenter TNG or framework v.2.4 on Microsoft NT or Windows 2000 patch genlevel 0000 and higher

1.2.3 Supported HP Computing Products

The following HP computing products are supported by HP Toptools for Unicenter TNG:

- HP Netserver and Toptools Remote Control card
- HP Visualize workstations
- HP Kayak workstations
- HP Vectra desktops
- HP Omnibook notebooks
- HP LaserJet printers and plotters
- HP Advancestack and ProCurve networking products
HP Toptools Remote Control card, Advancestack, and ProCurve devices support firmware agent software. Firmware may be updated using HP Toptools. HP Netserver, Visualize, Kayak, Vectra, and Omnibook products support HP Toptools agents that are loaded into the Operating System.

All agents and firmware are provided with purchased products and may also be downloaded from the HP website. Upgrading agents and firmware to current versions is highly recommended.

*Support for Windows-Based Terminals is limited to early models.

1.2.4 Supported Web Browsers and Configuration

The toptools console is accessed using a web browser. A web browser must be installed on each TNG console on which you intend to install the bridge. Microsoft Internet Explorer v.5.0 is included on the HP Toptools 5.5 CD. To enable operation of the toptools console you must:

- Use a supported web browser application and version.
- Be authenticated with HP Toptools (the web server application).

Make sure that the platform user is a member of the toptools “admin” group on the toptools server. Use the NT User Manager add authorized users to the toptools server. Only members of the toptools groups can access toptools.

You can access toptools from any system using browser versions in the table below:

<table>
<thead>
<tr>
<th>Browser System</th>
<th>Browsers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 2000, NT, or 9x</td>
<td>IE 4.01 SP2 (JVM 2436)</td>
</tr>
<tr>
<td></td>
<td>IE 5.0 (JVM 3167)</td>
</tr>
<tr>
<td></td>
<td>IE 5.5</td>
</tr>
<tr>
<td></td>
<td>IE 6.0</td>
</tr>
<tr>
<td></td>
<td>Netscape 4.61</td>
</tr>
<tr>
<td></td>
<td>Netscape 4.72</td>
</tr>
</tbody>
</table>

**Browser Settings**

To configure the browser on your management platform:

1. Set your browser to exclude using a proxy to access your toptools server. This can be done for your entire domain or just for the server depending on your network requirements.
   
   - **IE 401.SP2:** Internet Options => Connections => Advanced => Exceptions
   - **IE 5.0:** Tools => Internet Options => Connections => LAN Settings => Advanced
   - **Netscape:** Edit => Preferences => Advanced => Proxies => Manual => View

2. On IE, check **Bypass proxy server for local addresses** as well as entering the domain in the **Exceptions** list on the Advanced configuration page.
3. The URL to the management server should include your domain: http://TTManagementServerName.company.com/hptt
4. Always accept cookies and always refresh new page.
5. Enable **Basic Authentication** for the IIS service on the toptools server.

It is also helpful to set your browser to check for newer versions of stored pages on every visit to the page.

To verify correct operation of browser connection to the toptools server, perform the following test:

1. Launch toptools from your browser (the URL to the toptools server should include your domain (e.g., http://machine.company.com/hptt).
2. The product will start up. If you set up NTFS on the management server, and set your IIS to BASIC security (required for using Netscape), you will be challenged for your username and password (domain\username for Netscape).
Notes on Netscape:
Installation of the bridge sets the Directory Security on the following virtual directories to Basic Authentication on the toptools server:

<table>
<thead>
<tr>
<th>Installed Components</th>
<th>Virtual Directories to set “Basic Authentication”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device Manager</td>
<td>Hptt, Viewer</td>
</tr>
<tr>
<td>Device Manger + Desktops or Netervers or Windows Based Terminals</td>
<td>Hptt, Viewer</td>
</tr>
<tr>
<td>Hubs &amp; Switches</td>
<td>HpttTopology, Scripts</td>
</tr>
</tbody>
</table>

To Configure Access on the Toptools Server:
1. Start the Internet Service Manager
2. **Start->Programs->Windows NT 4.0 Option Pack->Microsoft II or PW Server->Internet Service Manager**
3. Select the Hptt virtual directory, right mouse to bring up the context menu and select Properties.
4. Select Directory Security, click Edit, select Basic Authentication, and OK. Do not change any other settings in this dialog.
5. Repeat for the Viewer virtual directory.
6. Repeat for the hpttTopology virtual directory if you installed Toptools for Hubs & Switches.
7. Repeat for the Scripts virtual directory if you installed Toptools for Hubs & Switches.
8. Stop the Toptools Services.
10. Start the WW Web Service (last entry in the services menu).
11. Start the Toptools Services

In all cases of using Netscape, the “afc11.zip” file must be present in the java\classes directory. Toptools will sense the presence or absence of this file the first time you connect to it via Netscape and walk you through installation of this file. Do not unzip it.
1.2.5 Disk Space Usage
Approximately 5 MB on the Unicenter TNG system, 1 MB on the toptools system. The 1 MB on the toptools system is in addition to the disk space required for the toptools installation. Refer to the toptools documentation for additional information on toptools requirements.

1.2.6 Memory Requirements
HP Toptools for Unicenter TNG uses approximately 4 MB of memory in background processes on the Unicenter TNG system, and approximately 2 MB of memory on the toptools server. If both Unicenter TNG and toptools are installed on the same system along with the bridge, the system should have a minimum of 196 MB. (It is recommended that two separate systems be used.)

1.2.7 Processor Requirements
The requirements for the bridge are the same as the requirements for Unicenter TNG and toptools. If Unicenter TNG and toptools are installed on the same system, a minimum of a 300 MHz Pentium is suggested for adequate performance. Note toptools can only be installed on “Pentium” brand CPUs from Intel Corporation; The toptools installations checks the CPU brand and will not install on systems using CPUs from AMD, Cyrix, IBM or other clone CPU makers.

1.2.8 Single System Installation
HP Toptools and CA Unicenter TNG may be installed on the same system.
1. Make sure the system has enough memory for both programs. A minimum of 256 MB of memory is required, with higher amounts recommended. Beyond the disk space requirements of Unicenter TNG and toptools, an additional 10MB of disk space is required for HP Toptools for Unicenter TNG bridge components.
2. Install Microsoft SQL Server and TNG first as the toptools server installation will update the Data Access Components.
3. Install the toptools server.

The following are REQUIREMENTS for a supported single system installation on Windows NT (not required for Windows 2000):

4. Remove the SNMP services.
5. Reboot the system.
6. Reinstall SNMP Services.
7. Reboot the system and reinstall Service Pack 5 and above.
8. Verify that traps are being received in TNG. If not repeat steps 4 and 7.
9. Install the Tt4tng server bridge component.
10. Reboot the system.
11. Install the Tt4tng platform bridge component.
12. Reboot the system.

For older model HP hubs the toptools action items “Properties (Device View)”, “SNMP/Trap Configuration”, and “Update firmware” are only available when the toptools server is installed on the same system as Unicenter TNG.

1.2.9 Evaluation and Registration

The HP Toptools Enterprise Products CD provides a 60-day, full featured evaluation of each HP Toptools Enterprise Product that expires unless a free license key is obtained by registration. To enable evaluation, follow the installation instructions as described below.

Registration: To obtain a free license key for HP Toptools for TNG, go to the HP Toptools website (www.hp.com/Toptools/entsols) and click on “registration key”. 
Fill in the registration form. Be sure to enter a valid email address as this is where your license file will be sent.

- You must provide the IP address of the TNG server.

When you register to receive your license key, you will be emailed a new license.dat file.

**License Installation:**

- Copy the license file to <drive>:\<TNG-Home directory>\BIN\license.dat on the TNG system.

**Activation:**

Activate and verify the new license by stopping and then restarting TNG. You should be able to access toptools features for HP devices.

### 1.2.10 Support and Contact information

Both pre- and post-sales support for HP Toptools for TNG is provided free-of-charge and may be obtained from the HP Customer Care Centers: [http://www.hp.com/cposupport/mail_support.html](http://www.hp.com/cposupport/mail_support.html). Also refer to the HP Toptools web site [www.hp.com/Toptools](http://www.hp.com/Toptools) for updates and information on and future releases.

Training modules describing toptools are provided on the toptools web site ([www.hp.com/Toptools/techsupport/support.html](http://www.hp.com/Toptools/techsupport/support.html)).
2 Installing the HP Toptools Server Bridge Component

There are two bridge components that compose HP Toptools for Unicenter TNG, a toptools server bridge (hpttsrvrbrdg) and a platform bridge (platfrmbrg). The server bridge must be installed on the toptools server as described below, while the platform bridge must be installed on the Unicenter TNG system as described later.

2.1 Preparing the Toptools Server

The toptools Device Manager must be installed and accessible to the system running Unicenter TNG. Using the browser, invoke the URL http://<Toptools_Server>/hptt where <Toptools_Server> is the fully-qualified DNS hostname or IP address of the system running the toptools Device Manager. If you are unable to access the toptools server, consult the toptools Device Manager documentation to troubleshoot the problem. Refer to Section 1.

You may be prompted for a login. Only members of one of the three toptools user groups “toptools”, “toptools operator”, or “toptools admin” are authenticated to access the toptools server.

**WARNING:**

Discovery is turned off by this installation. Proper operation of both toptools and the bridge require that it NOT be turned on again.

To simplify logins from the Unicenter TNG server, use the Windows NT User Manager to add Unicenter TNG users to the the appropriate toptools group(s) on the toptools server. Otherwise, each browser launch will be accompanied by an authentication prompt.
2.2 **Step-by-Step Instructions**

The toptools server bridge component is installed on the toptools system. It must be installed prior to installing the platform bridge component.

The toptools server bridge component installation process consists of the following:

1. Verify that the toptools server is operational. (Refer to Section 1.)
2. Install the toptools server bridge component on the toptools server.

### 2.2.1 Installation

To install the server bridge component, go to the Enterprise\Tt4tng\SrvrBrdg directory and run Setup.exe. You will see the following screen:

![Figure 2-1. Opening screen of installation program for Toptools Server bridge component.](image)

After a few moments, the license agreement screen is displayed as shown below. Notice that the version number for the HP Toptools Server Bridge, the Toptools Server bridge component, is displayed.
After accepting the software agreement, setup asks for a directory to install to and permits you to specify a different directory as shown in Figure 2-3.

![Figure 2-3. The Toptools Server Bridge uses a default install directory of c:\TTBridge.](image)

The setup program stops and restarts the toptools server services:
Setup displays the port number on which it intends to service requests. The default is 5041. If for some reason this TCP port is not available on your system, select an available port, and specify it here. A list of reserved TCP ports is available in the \winnt\system32\drivers\etc\services file. Listed ports may not be in use, but have already been specified for use by other applications. You can see a list of actively used ports by using ‘netstat –p tcp’.

Regardless of which free TCP port you select, make a note of it as you will be prompted to enter the port during the platform bridge component installation.

Next, setup requests the address of the TNG system. Enter the Community string and IP address into the fields.
Figure 2-6. Enter the IP address of the system running Unicenter TNG.

When installation is complete, you will see the following screen:

Figure 2-7. Final screen of server bridge installation.


2.3 Post Installation Recommendations

The toptools server must have its discovery database cleared AFTER the installation of the toptools server bridge component. This is because the devices discovered by TNG are sent to toptools to populate MEDS (the toptools database).

To clear the toptools database:

- Reboot the system.
- Select Start->Programs->HP Toptools->Clear Database to launch the following screen:

![TTDbErase](image)

- Select “Discovered Devices (MEDS)” and press the OK button to completely clear the database.
- On the Windows NT Service Control Panel, change “HP Toptools Services” to automatic startup.

2.4 Verifying a Successful Installation

There are two simple ways of verifying that the installation of the server bridge was successful. First, after the system has rebooted a new process should be listed in the task manager: HPTTsrvbrg.exe as shown below.
Figure 2-8. The Toptools Server bridge component uses a background process called "HPTTSrvbrg.exe".

Second, this process should be listed as one of the toptools services managed by the RViewSCM.exe manager, a toptools server process called the Service Control Manager. You can verify this by launching a console session directly to toptools. (As indicated by an icon on the workspace of the system running the toptools server, or by launching IE with the URL http://<Toptools_Server_IP address>/hptt.) From the main screen shown by the browser, select Settings->Toptools Services and verify the status of the toptools server bridge as shown in the following figure.

![Figure 2-9. The Toptools Services window displays the status of the Toptools Server Bridge.](image)

The toptools server bridge background task should be “Active” and the current activity should be “Bridge running normally”. Reboot is not required, but recommended.
3 Installing the CA Unicenter TNG Platform Bridge Component

The platform bridge component (platfrmbrg) must be installed on the Unicenter TNG system following the installation of the server bridge component on the toptools server.

The Unicenter TNG platform bridge component installation process consists of the following:

1. Prepare the TNG console for installation by following the steps listed in this section.
2. Run the platform bridge installation wizard.
3. Perform post-installation wizard steps for TNG as specified in “Step-by-Step Instructions”.

3.1 Preparing the Unicenter TNG System

In addition to having a properly installed and functioning CA Unicenter TNG for Windows NT version 2.2 or 2.4 system, the platform bridge component requires the installation of Microsoft Internet Explorer version 4.01 or greater. Refer to the “Requirements” section of this Guide for more information on supported web browsers and their configuration.

3.1.1 Pre-installation Check and Configuration

Before installing the platform bridge component do the following:

- Verify that Unicenter TNG is installed and functioning properly.
- Verify that Microsoft Internet Explorer 4.01 or greater is installed and configured properly and can connect to the toptools server. Configure the browser to “Bypass Proxy Server for local addresses” and specify the IP address and host name of the toptools server as a system to access by bypassing.
- Enter SNMP communities for managed HP devices.
- Use the browser to verify that the HP Toptools Server bridge component has been successfully installed, is running, and is reachable over the network:
  
  1. On the Unicenter TNG system Telnet to the toptools IP address and port number.
     
     At the DOS prompt enter "Telnet" <Toptools server address>
     
     Example: Telnet 25.27.40.51 5041
     
     2. A flashing cursor indicates a successful connection. If it fails to connect it will display the message, "failure to connect". If you receive a failure, verify the IP address and port number that you entered matches the address of the toptools server and the port you entered during installation of the server bridge.

- Activate the SNMP trap server for Unicenter TNG

  1. Select Start->Programs->CA-Unicenter TNG->Enterprise Management.
2. Select Windows NT, Configuration, Settings.

3. This brings up the CA-Unicenter TNG Settings window as shown below:

![Figure 3-2. Both Client and Server Preferences must have SNMP Trap Server activated.](image)

4. Select both “Component Activation Flags” on the bottom tab, and “Client Preferences” on the right tab.

5. Find the row “SNMP Trap Server Activated”. The value should be “Yes”. Double-click on the settings column to set this value to “Yes”.

6. Select both “Component Activation Flags” on the bottom tab, and “Server Preferences” on the right tab.

7. Find the row “SNMP Trap Server Activated”. The value should be “Yes”. Double-click on the settings column to set this value to “Yes”.

- To allow reception of DMI and WMI alerts forwarded from the toptools server as SNMP traps, go to the Unicenter TNG Settings screen (Figure 3-2) and click on the Event Management tab at the bottom of the dialog. Scroll down and find the entry for Users authorized to issue commands. There should be an entry for the person who installed TNG. There should be an entry for person who installed TNG as well as TNG’s CAUNINT account. Additional users can be added if required. Refer to the Unicenter TNG documentation.

- Set the Windows NT SNMP Trap service to manual.

1. Select Start->Settings->Control Panel.
2. Select Services.
3. Select SNMP Trap service entry.

4. Set the Startup Type to Manual.

### 3.2 Step-by-Step Instructions

The platform bridge component is installed on the Unicenter TNG system running the Repository and WorldView console. To install the platform bridge component, go to the Enterprise\Tt4tng\PlatformBrdg directory on the CD and run Setup.exe. After a few moments, the license agreement screen is displayed along with the headline “HP TopTools for Unicenter TNG.”

![Welcome Screen](image)

Figure 3-4. The first screen displayed is the Welcome Screen.
The next screen allows you to select HP TopTools for Unicenter TNG or the HP Web JetAdmin for Unicenter TNG platform bridge components. For an explanation of the difference between these two products, refer to Before You Begin in the “Requirements” section of this Guide.

![Figure 3-5. Component Selection screen.](image)

Select HP TopTools for Unicenter TNG to install the HP TopTools for Unicenter TNG platform bridge component. Refer to section 4 “Installing HP Web JetAdmin for Unicenter TNG” for instructions on installing and using HP Web JetAdmin for Unicenter TNG. Additional information on Web JetAdmin is provided by the online help in the Web JetAdmin application.

![Figure 3-6. The first screen displayed by the installation is the License Agreement.](image)
Setup determines where Unicenter TNG is installed and displays this information:

![Setup indicates the destination of installation files.](image)

**Figure 3-7. Setup indicates the destination of installation files.**

Next, the installation program displays a warning about prerequisites. These were detailed in the previous section.

![Setup indicates prerequisites for this installation.](image)

**Figure 3-8. Setup indicates prerequisites for this installation.**

At this point, the installation program prompts you to enter the IP address of the system running the toptools server and server bridge, along with the TCP port number specified during server bridge installation. The default port is 5041; however, if you specified a different port number earlier, then you must enter the new number now.
This screen is shown below:

![Enter HP TopTools Server Address](image)

Figure 3-9. The TCP port number must match the port number entered previously.

After entering the toptools server information, the installation program continues installing as shown below:

![Installation of the platform bridge component](image)

Figure 3-10. Installation of the platform bridge component should complete in less than ten minutes.

Before completion, the installation program will attempt to gain access to the Unicenter database. You will be prompted to login:
Following successful login, a message will then be displayed stating that Setup is creating device classes and objects.

The following HP MIBs will be installed into Unicenter TNG. You can then use the Unicenter TNG Object (MIB) Browser to examine and modify SNMP variables for HP devices. A complete list of new MIBs is shown in the following table.

### Table 3-1. MIBs added to Unicenter TNG by the platform bridge.

<table>
<thead>
<tr>
<th>MIB File</th>
<th>Date</th>
<th>MIB File</th>
<th>Date</th>
<th>MIB File</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>config.mib</td>
<td>10/01/99</td>
<td>hpwbm.mib</td>
<td>11/24/97</td>
<td>Nsarps.mib</td>
<td>08/12/97</td>
</tr>
<tr>
<td>dma.mib</td>
<td>10/01/99</td>
<td>ifctwst.mib</td>
<td>10/01/99</td>
<td>Nsascsi.mib</td>
<td>11/15/94</td>
</tr>
<tr>
<td>drivers.mib</td>
<td>10/01/99</td>
<td>icfsecur.mib</td>
<td>10/01/99</td>
<td>Nsatrap.mib</td>
<td>12/14/99</td>
</tr>
<tr>
<td>hpbasic.mib</td>
<td>10/01/99</td>
<td>icfg.mib</td>
<td>10/01/99</td>
<td>Nsatrcfg.mib</td>
<td>08/24/95</td>
</tr>
<tr>
<td>hpchain.mib</td>
<td>10/01/99</td>
<td>ifype.mib</td>
<td>10/01/99</td>
<td>Nsavolcp.mib</td>
<td>08/24/95</td>
</tr>
<tr>
<td>hpchasis.mib</td>
<td>10/01/99</td>
<td>ipx.mib</td>
<td>10/01/99</td>
<td>Nanicmib.mib</td>
<td>01/15/98</td>
</tr>
<tr>
<td>hpdnrd.mib</td>
<td>10/01/99</td>
<td>jd_master_mib.txt</td>
<td>10/01/99</td>
<td>rfc1213.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>Hpeccmib.mib</td>
<td>10/01/99</td>
<td>j4V.mib</td>
<td>10/01/99</td>
<td>rfc1493.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hpentmib.mib</td>
<td>10/01/99</td>
<td>j5.mib</td>
<td>10/01/99</td>
<td>rfc1512.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>Hpvln.mib</td>
<td>10/22/97</td>
<td>j5Si.mib</td>
<td>10/01/99</td>
<td>rfc1650.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hjff.mib</td>
<td>10/01/99</td>
<td>j5SiMop.mib</td>
<td>10/01/99</td>
<td>rfc1749.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hjgptr.mib</td>
<td>10/01/99</td>
<td>j6P.mib</td>
<td>10/01/99</td>
<td>rfc1757.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hpsHttpMg.mib</td>
<td>10/01/99</td>
<td>j54000.mib</td>
<td>10/01/99</td>
<td>rfc1902.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hpficFlExt.mib</td>
<td>10/01/99</td>
<td>j55000.mib</td>
<td>10/01/99</td>
<td>rfc1903.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hptlst.mib</td>
<td>10/01/99</td>
<td>j58000.mib</td>
<td>10/01/99</td>
<td>rfc1906.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hpnetctz.mib</td>
<td>05/04/99</td>
<td>j58000mbm.mib</td>
<td>10/01/99</td>
<td>rfc1907.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hpoid.mib</td>
<td>10/01/99</td>
<td>mtxraid.mib</td>
<td>06/14/99</td>
<td>rfc2012.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hpprmib.mib</td>
<td>12/20/99</td>
<td>netswst.mib</td>
<td>10/01/99</td>
<td>rfc2013.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>Hora.mib</td>
<td>01/10/97</td>
<td>nsaar.mib</td>
<td>10/17/97</td>
<td>rfc2020.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hpprptr.mib</td>
<td>10/01/99</td>
<td>Nsaimd.mib</td>
<td>08/12/97</td>
<td>rfc2037.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hpsf2.mib</td>
<td>09/09/98</td>
<td>Nsaeisa.mib</td>
<td>11/12/96</td>
<td>rfc2108.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hpsstack.mib</td>
<td>10/01/99</td>
<td>Nsaenv.mib</td>
<td>08/24/95</td>
<td>rfc2233.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>Hpswa.mib</td>
<td>05/17/99</td>
<td>Nsaevent.mib</td>
<td>01/27/99</td>
<td>rfc2239.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hptat.mib</td>
<td>06/25/99</td>
<td>Nsahswp.mib</td>
<td>05/18/98</td>
<td>stat.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hpvptr.mib</td>
<td>10/01/99</td>
<td>Nsainfo.mib</td>
<td>12/21/99</td>
<td>vg.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>hpsvf.mib</td>
<td>10/01/99</td>
<td>Nsapci.mib</td>
<td>04/10/97</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The installation wizard completes by displaying this final screen:

Figure 3-12. The platform bridge component will finish by requesting a reboot.

This screen indicates that the installation wizard has completed successful. A reboot is required for proper operation. Installation is complete.

**Note:** If you integrate new components into your toptools server, such as HP Web JetAdmin or Toptools for Hubs and Switches, you must uninstall and then reinstall the platform bridge component in order for these new capabilities to be recognized in the Unicenter console.

### 3.2.1 Configuring DSM

The following examples will demonstrate configuring DSM (Distributed State Machine) to manage Netservers. However, it is necessary to perform the same steps for other HP device classes, in particular the DSM policies. The following example illustrates selecting (ex. HP JetDirect Agents, HP RMC agents, or HP NSA agents) agents for DSM to monitor.

Launch the DSM wizard by invoking `Start->Programs->Unicenter TNG Agent Technology->DSM Wizard`.

Continue to the screen shown in the following figure:
Enter the password for the Object Repository and select “Next” to get to the screen shown in Figure 3-14.

![Figure 3-13. Login to the Repository.](image)

This screen permits you to select all agents (e.g. NSAAgent or Ping) that may be applied to HP Netservers (or other HP devices). The number of agents selected affects TNG performance. Consult Unicenter TNG documentation for more details.

When “Next” is selected, the following screen will be displayed:

![Figure 3-14. Select all the agents that may be loaded onto HP Netservers.](image)
Press Next.

The table in Figure 3-16 should list all the classes on the right hand side for the “NSAAgent”. Repeat this for “Ping” and the Netservers classes.

When you are done adding the Netserver classes to agents of interest, press the “Next” button. This will bring up the following screen:

Select the subnets on which management of these agents should take place. Unlike auto-discovery, which takes place interactively using the Unicenter TNG auto-discovery window, DSM actively contacts agents to determine their state. For example, the Ping Agent is using the ICMP layer of the IP stack on the end nodes. The Ping Agent is polled, by default, every 5 minutes to determine if the system is up and running. By selecting a subnet in this screen, you configure what networks are actively monitored using the DSM. Complete this screen and press “Next”.

Figure 3-15. HP Netserver Node Classes (right panel).

Figure 3-16. Select subnets where these agents should be managed.
Figure 3-17. It may take some time for agent checks to update map status.

Even though you may indicate that the Ping Agent should be monitored on HPNetserver classes, it will take another 5 minutes before the next round of ping checks are executed and the status of the Ping agent in the submap updated.

3.2.2 Running ResetDSM

You must run “resetdsm” after DSM wizard is executed.

Run “resetdsm” and “awservices start” to make these changes take affect:

1. At the DOS prompt enter:  
   resetdsm
2. Run HP Reclassification, World View-> HP Reclassification
3. Make sure the Setting entries on the TNG Event Management tab are "yes".
4. At the DOS prompt enter:  
   unicntrl start all
   Watch performance meter, this step may take 2-5 minutes. Wait. Do not do next step until the system stabilizes.
5. At the DOS prompt enter:  
   awservices start
   Watch performance meter, this step may take 10-15 minutes. Wait. Do not do next step until the system stabilizes. Virtual memory consumption will grow.

Bring up 2-D or object view and look for Netserver Agents as depicted in the figure below. If agents are not present, execute resetdsm and repeat steps 4 and 5.

The HPNetserver is a unispace now and is populated with agent icons for each SNMP agent loaded on the HP Netserver. This can be seen in the Unicenter TNG WorldView 2d map, 3d map, or NodeView. If an alert is received from an agent, the agent color is changed and propagates up the hierarchy. The agent color is changed on the 2d map, 3d map, and in the Node View. For more details on Unicenter TNG’s DSM refer to Unicenter TNG product documentation.

3.3 Reclassify HP Devices

HP Toptools for Unicenter TNG adds processes to complement the native TNG discovery service.

The platform bridge discovery program attempts to classify all devices in the Unicenter TNG repository by doing extended SNMP, DMI, and WMI discovery on those devices. For each HP device discovered, the icon on the Unicenter TNG map is changed and additional functionality is enabled via the toptools menu in Unicenter TNG. The discovery process is not instantaneous; extended DMI, WMI, and SNMP requests can take some time. A file, 

*Repository Data to Toptools.log*, can be generated to monitor the status of the reclassification. For instructions on enabling logging read the section “Useful Log Files”.

Each time the “HP Reclass Service” service is restarted using the Windows NT Service manager, all objects in the Repository are transferred to the HP Toptools Server. Note that a new reclassification (HP discovery) is not started as a result of this action. To start a new reclassification, the menu item 

**Start->Programs->Unicenter TNG WorldView->Reclassify HP Devices**

must be selected. This is automatically launched following TNG Autodiscovery. The following panel is displayed:
For more information on the discovery process, refer to the Theory of Operation section of this Guide.

Figure 3-18. The Netserver UniSpace has three Agents: WBEM Agent, Ping Agent, and NSAAgent.
3.4 Verifying a Successful Installation

There are a few ways to check that the platform bridge has installed successfully.

- Launch the Unicenter TNG Class Browser. New classes should be placed in the hierarchy as appropriate. Highlighted below is Workstation->HPDesktop->HPDesktop_DMI_2X:

![Figure 3-19. Unicenter TNG Class tree now includes HP specific classes.](image)

- **Create HP Device Classes** can be used to recreate the classes shown above. This may be useful if the class repository is cleared.
- **Reclassify HP Devices** provides a manual mechanism for starting the complete reclassification of all nodes in the Unicenter TNG repository.
- **Remove HP Device Classes** cleans up the class repository, if this is ever required.
Check the status of new processes. Looking at the Windows NT Service Control Manager, the “HP Toptools for Unicenter TNG” service corresponds to “HP Reclassification Service.exe”:

Figure 3-21. HP Toptools for Unicenter TNG service should be Automatically started.

Under Task Manager, an indication that the platform bridge is working is that the background process HP Reclass Serv (full name is “HP Reclassification Service.exe”) which corresponds to the service “HP Toptools for Unicenter TNG”, is listed as shown below:
After the initial installation, node reclassification can take 15-30 minutes. During this time, the process **HP Reclassification** (full name is “HP Reclassification.exe”) will be running as shown in the previous diagram. Look for changes in the TNG map. Unicenter TNG maps will now have customized icons and images that represent devices determined to be HP devices. During reclassification, each node in the Unicenter TNG database is queried using SNMP or DMI to determine which class it belongs to. While the maps are usable immediately, not all HP nodes will properly reflect their final classification until this discovery process completes.

The following 2d map shows a number of HP desktops, one Omnibook notebook computer, and one HP printer:
4 Installing HP Web JetAdmin for Unicenter TNG

HP Web JetAdmin is a web-based tool designed to manage HP printing products. HP Web JetAdmin for Unicenter TNG integrates management of HP printers into Unicenter TNG. If you need to manage only HP printers from TNG, this is solution links directly to Web JetAdmin providing unlimited management of HP printing products.

If you need to manage HP printers and other HP products such as HP Vectras or HP Netservers, you should install HP Toptools for Unicenter TNG with Web JetAdmin integrated into the toptools environment. Instructions on installation of HP Toptools for Unicenter TNG is provided in Section 3 of this Guide.

Refer to HP Web JetAdmin documentation for more information on using HP Web JetAdmin.

4.1 Step-by-Step Instructions

1. To install HP Web JetAdmin for Unicenter TNG Bridge, run CD\Enterprise\Tt4tng\PlatformBrdg\Setup.exe.

   ![Figure 4-1. Product Selection Dialog.](image)

2. Select **HP Web JetAdmin for Unicenter TNG** and click **Next**.

3. A license agreement will be displayed. Click on **Yes** to accept the agreement and continue. A Welcome page will be displayed.
4. Click on **Next** to continue.

5. You will be asked to input the address and port for the address of your Web JetAdmin server. The default port is 8000. If the address and port are incorrect an error message will be displayed. Enter the address and click on **Next**.

This will cause the HP printer MIB files to be installed. The printer MIBs installed are listed in the following table.
Table 4-1. MIBs added by HP Web JetAdmin for Unicenter TNG.

<table>
<thead>
<tr>
<th>MIB File</th>
<th>Date</th>
<th>MIB File</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ljS5000.mib</td>
<td>10/01/99</td>
<td>lj5.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>ljS8000.mib</td>
<td>10/01/99</td>
<td>lj5Si.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>ljSmbm.mib</td>
<td>10/01/99</td>
<td>lj5SiMop.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>ljS8000stapler.mib</td>
<td>10/01/99</td>
<td>lj6P.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>jd_master_mib.txt</td>
<td>10/01/99</td>
<td>ljS4000.mib</td>
<td>10/01/99</td>
</tr>
<tr>
<td>lj4V.mib</td>
<td>10/01/99</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. When the MIB files have been installed a **Setup Complete** dialog will be displayed. Click **Finish**.

You do not need to reboot your system. Note, some of these MIBs are also added as part of HP Toptools for Unicenter TNG.

### 4.1.1 Reinitialize Unicenter TNG

After installing the HP Web JetAdmin for Unicenter TNG bridge you should reinitialize Unicenter TNG by running the resetdsm program. Refer to “Step-by-Step Instructions” in Section 3.2.1 of this Guide for instructions on configuring and resetting DSM for Unicenter TNG environments.

### 4.2 Verifying a Successful Installation

Quick steps to verifying a successful installation:

- The Unicenter TNG Worldview menu should now display an entry for Uninstall HP Web JetAdmin for Unicenter TNG.
- Open a 2D map and look for new HP printer icons on systems known to be manufactured by HP.
- Select a HP printer on the map and raise the popup menu. The menu entry “HP Web JetAdmin Properties” should appear.
- A new agent should appear within the printer Unispace.

### 4.3 Using HP Web JetAdmin for Unicenter TNG

HP Web JetAdmin for Unicenter TNG adds:

- Printer MIBs into TNG that can be accessed from the Object Browser.
- The ability to receive and monitor events through DSM.
- Customized icons that appear in browsers and maps.
- A launch to Web JetAdmin from TNG popup menus (as shown below).
4.3.1 Accessing Printer Properties

**HP Web JetAdmin Printer Properties** opens Web JetAdmin for the selected printer in your default browser. To access printer properties:

1. Right-click on a printer from a TNG map or browser to bring up the popup menu as shown in the figure below.
2. Select **HP WebJetAdmin Printer Properties**.

![Printer Properties Menu](image)

More information on managing HP printers from within an integrated TNG environment is provided in the Using HP Toptools for Unicenter TNG section of this Guide.

**Printer Trap Proxy**

A proxy program for sending printer traps to the TNG console is provided in the contributed library directories of the TNG bridge components on the Enterprise CD. It is also available from the HP Toptools web site. This program is not supported and is made available for use only where needed for customer convenience. Refer to the readme file in the contributed software directory for additional information.

**Uninstalling HP Web JetAdmin for Unicenter TNG**

To uninstall, click **Start, Programs, Unicenter TNG, Worldview, Uninstall HP Web JetAdmin for Unicenter TNG**. After performing the uninstall, run resetdsm to reinitialize Unicenter TNG’s DSM following removal of printer agents.

**4.3.2 Verifying a Successful Uninstall**

To verify a successful uninstall:
- HP printers should no longer be identified with customized icons.
- HP printers should no longer have a HP JetDirect Agent in Unispace.
- The menu item “Uninstall HP Web JetAdmin for Unicenter TNG” should be removed.
- The menu items for HP Web JetAdmin should no longer be listed in the Tools menu.
5 Using HP Toptools for Unicenter TNG

HP Toptools for Unicenter TNG customizes TNG to be able to manage HP products while integrating HP Toptools applications into the TNG console.

5.1 New Management Features

The following management features are added with HP Toptools:
- Discovery and identification of HP products
- Toptools Applications are added to the TNG menus
- Enhanced event management

5.1.1 Discovery and Identification of HP Products

As a result of enhanced discovery services that identify and classify HP products, HP devices are displayed with a custom HP icon. HP PCs running Windows 2000 are shown using the standard TNG icon.

Table 5-1. Customized HP Icons for Unicenter TNG

<table>
<thead>
<tr>
<th>HP Product</th>
<th>HP Icon</th>
<th>HP Icon</th>
<th>HP Icon</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP Vectra</td>
<td><img src="image1" alt="HP Vectra Icon" /></td>
<td><img src="image2" alt="HP AdvanceStack Switching Hub Icon" /></td>
<td><img src="image3" alt="HP Fiber-Optic Hub Icon" /></td>
</tr>
<tr>
<td>HP Vectra Visualize Workstation</td>
<td><img src="image4" alt="HP Vectra Visualize Workstation Icon" /></td>
<td><img src="image5" alt="HP AdvanceStack 10/100 Lan Switch-16 Icon" /></td>
<td><img src="image6" alt="HP AdvanceStack Switch 800T Icon" /></td>
</tr>
<tr>
<td>HP NetVectra</td>
<td><img src="image7" alt="HP NetVectra Icon" /></td>
<td><img src="image8" alt="HP AdvanceStack Hub Icon" /></td>
<td><img src="image9" alt="HP AdvanceStack 100VG Hub Icon" /></td>
</tr>
<tr>
<td>HP Kayak</td>
<td><img src="image10" alt="HP Kayak Icon" /></td>
<td><img src="image11" alt="HP 12-Port Hub Icon" /></td>
<td><img src="image12" alt="HP AdvanceStack Switch 2000 (B) Icon" /></td>
</tr>
<tr>
<td>HP Omnibook</td>
<td><img src="image13" alt="HP Omnibook Icon" /></td>
<td><img src="image14" alt="HP AdvanceStack 100Base-T Hub Icon" /></td>
<td><img src="image15" alt="HP AdvanceStack Switch 100, 200 Icon" /></td>
</tr>
<tr>
<td>HP PalmTop</td>
<td><img src="image16" alt="HP PalmTop Icon" /></td>
<td><img src="image17" alt="HP Remote Bridge Icon" /></td>
<td><img src="image18" alt="HP AdvanceStack Switch 2000 Icon" /></td>
</tr>
<tr>
<td>HP Netserver NT</td>
<td><img src="image19" alt="HP Netserver NT Icon" /></td>
<td><img src="image20" alt="HP LAN Bridge Icon" /></td>
<td><img src="image21" alt="HP AdvanceStack Switch 208, 224 Icon" /></td>
</tr>
<tr>
<td>HP Netserver Windows 2000</td>
<td><img src="image22" alt="HP Netserver Windows 2000 Icon" /></td>
<td><img src="image23" alt="HP ThinLAN Hub Icon" /></td>
<td><img src="image24" alt="HP 48-Port Hub Icon" /></td>
</tr>
<tr>
<td>HP Netserver NetWare</td>
<td><img src="image25" alt="HP Netserver NetWare Icon" /></td>
<td><img src="image26" alt="HP 24-Port Hub Icon" /></td>
<td><img src="image27" alt="HP ProCurve Routing Switch Icon" /></td>
</tr>
<tr>
<td>HP Netserver OS/2</td>
<td><img src="image28" alt="HP Netserver OS/2 Icon" /></td>
<td><img src="image29" alt="HP ProCurve Switch 4000M Icon" /></td>
<td><img src="image30" alt="HP ProCurve Routing Switch 6308-SX Icon" /></td>
</tr>
<tr>
<td>HP Netserver Linux</td>
<td><img src="image31" alt="HP Netserver Linux Icon" /></td>
<td><img src="image32" alt="HP ProCurve Switch 1600M Icon" /></td>
<td><img src="image30" alt="HP ProCurve Routing Switch 6308-SX Icon" /></td>
</tr>
<tr>
<td>HP Toptools Remote Control card</td>
<td><img src="image33" alt="HP Toptools Remote Control card Icon" /></td>
<td><img src="image34" alt="HP Printer (requires Web Jetadmin bridge) Icon" /></td>
<td><img src="image34" alt="HP Printer (requires Web Jetadmin bridge) Icon" /></td>
</tr>
<tr>
<td>HP Printer (requires Web Jetadmin bridge)</td>
<td><img src="image34" alt="HP Printer (requires Web Jetadmin bridge) Icon" /></td>
<td><img src="image34" alt="HP Printer (requires Web Jetadmin bridge) Icon" /></td>
<td><img src="image34" alt="HP Printer (requires Web Jetadmin bridge) Icon" /></td>
</tr>
</tbody>
</table>
5.1.2 Toptools Applications added to TNG Menus

Once HP devices are classified, new toptools menu items become enabled based on HP device classes. Right-clicking the mouse over an HP node will display the HP TopTool menus as an additional entry to the standard pop-up menu box. The following is an example of the menu items for an HP hub:

![Menu Items for HP Hub](image)

Notice that there are five new actions available for an HP hub: launching the “HP Toptools Properties” web page, changing the SNMP password, or updating the firmware. (Properties (Device View) requires that the toptools server and Unicenter TNG system are installed on the same system.) In addition, the action “Management Home Page” will be present for web enabled devices.

A left-click over a node will display the standard object hint, which displays the new class that this object belongs to. The following diagram shows an HP Omnibook’s hint box:

![Hint Box for HP Omnibook](image)

Figure 5-1. A Left-click on the Unicenter TNG Map displays a hint box.

5.1.3 Enhanced Event Management

Through HP Toptools for Unicenter TNG you will automatically receive alerts from HP Netservers and HP PC products. Alert forwarding is automated during the TNG and toptools discovery processes.

HP ProCurve and AdvanceStack products may be configured to automatically forward traps to TNG through toptools. See Section 5.9 for further information.

HP printers may be configured to send traps directly to TNG, or customers may implement the HP JetDirect Trap Proxy Server to automate reception, filtering, and forwarding of printer alerts to TNG. The JetDirect Trap Proxy Server software is included in the Contributed Library on the HP Toptools Enterprise Products CD.

HP Netservers, Toptools Remote Control cards, and printers are managed through DSM. HP PC and networking product alerts may be viewed from the Event Console.

The following sections will provide specific information about using HP Toptools for Unicenter TNG, and how to manage specific HP devices. For more information on how HP Toptools for Unicenter works (such as the discovery or event management process), refer to the Theory of Operation section of this Guide.
5.2 **Toptools Authentication and Unicenter TNG**

As Unicenter TNG and toptools are both applications that provide extensive management access to valuable network resources, it is important to consider security when deploying HP Toptools for Unicenter TNG.

### 5.2.1 Toptools Considerations

Because toptools is a web-based application, security is configured through file and web server application permissions.

If you install the toptools server on the same system as Unicenter TNG, security settings for access to toptools will not be an issue. However, if the toptools server is installed on a separate system, authentication for requests from the system running Unicenter TNG may occur.

By default, only users in one of the toptools groups (“toptools”, “toptools operator”, “toptools admin”) on the toptools server are permitted access to toptools pages. You must add TNG users to one of the toptools groups. If no additional users are added, then the first attempt to launch a browser on the TNG system will result in an authentication prompt. Once you have added users to one or more of the toptools groups on the toptools server subsequent toptools page requests will be authenticated using Basic Authentication.

Basic Authentication prompts you for a password. Care must be exercised in this approach in order to avoid permitting unauthorized access to toptools. Users logging into the user account used to operate TNG can now gain access to the toptools actions (such as locking or rebooting all the HP devices in your organization).

More information configuring Microsoft IIS and browser security is also located in the Requirements and Installation sections of this Guide.

### 5.2.2 Device Security

In addition to securing the toptools and TNG applications, security can be implemented at managed devices through deploying passwords on managed device agents (SNMP, webagent, DMI). Passwords are typically stored in the databases of the management consoles (e.g. TNG or toptools server) which should also be secured through login and file permission restrictions.

SNMP managed devices such as HP Netservers and ProCurve switches can be configured with SNMP communities that must be entered into TNG. HP Toptools for Unicenter TNG synchronizes SNMP communities between TNG and toptools.

If you enable login security to a webagent device, you will be prompted to enter the account and password to the agent each time you try to access management information on the device (e.g. HP Toptools Remote Control card pages).

Every desktop that runs DMI or WMI in an organization should be protected by the use of a DMI or WMI password. An intruder could easily just invoke the DMI or WMI operations such as flashing the BIOS, locking out the keyboard, or rebooting a device. HP PC passwords (DMI or WMI passwords) may be configured through HP Toptools property pages or through the toptools actions added to the TNG menu.
5.3 Reclassifying HP Devices

HP Toptools for Unicenter TNG adds processes to complement the native TNG discovery service.

The platform bridge discovery program attempts to classify all devices in the Unicenter TNG repository by doing extended SNMP, DMI, and WMI discovery on those devices. For each HP device discovered, the icon on the Unicenter TNG map is changed and additional functionality is enabled via the toptools menu in Unicenter TNG. The discovery process is not instantaneous; extended DMI, WMI, and SNMP requests can take some time. A file, Repository Data to Toptools.log, can be generated to monitor the status of the reclassification. For instructions on enabling logging read the section “Useful Log Files”.

Each time the “HP Reclass Service” service is restarted using the Windows NT Service manager, all objects in the Repository are transferred to the HP Toptools Server. Note that a new reclassification (HP discovery) is not started as a result of this action. To start a new reclassification, the menu item Start->Programs->Unicenter TNG WorldView->Reclassify HP Devices must be selected. This is automatically done whenever TNG Autodiscovery is run. The following panel is displayed:

![Figure 5-2. HP Reclassification Display.](image)

For more information on the discovery process, refer to the Theory of Operation section of this Guide.

5.4 HP Device Actions

Once you have located the desired HP device, you can right click on the device to perform a variety of actions. The actions available will vary depending on the device type. The following actions are available for most HP PCs:

- Manage Drivers/Firmware consists of distributing BIOS, agent, or driver packages to one or more Vectras, Kayaks, or Omnibooks, scheduling the software upgrade to occur on the next reboot, and then rebooting the system. Updating the diagnostics consists of distributing a diagnostics package using a technique similar to the system software upgrade.
- Power On/Power Off allows you to turn systems on and off remotely.
- pcAnywhere launches the pcAnywhere application for remote access. If you click on the pcAnywhere command in the menu and pcAnywhere has been enabled on the remote device, toptools will launch pcAnywhere Express and attempt to connect to the remote device. (You may need to enter a valid user and password.) If connection to the remote device is successful, a window will be opened on your system displaying the screen for the remote system. Refer to the toptools online help for additional information.
- View System Performance allows you to monitor system resources. Clicking on View System Performance opens the System Performance Analysis page for the selected device. On this page you can view the CPU, Memory, Disk I/O, or Storage utilization and configuration for the selected device.
- Reboot allows you to restart a system remotely.
- Change Support Information allows you to update system support information.
- Set System Passwords allows you to set passwords to limit system access.
- Change Security Settings offers the administrator the option to prevent access to various hardware devices such as removable and bootable drives, serial ports, or printer ports.
- Lock/Unlock System allows you to limit keyboard access to the system.
• **Protect/Unprotect System** access to the system front panel and power controls (see Figure 5-5).
• **Set Identification String**, also referred to as the “tattoo” string, is useful for configuring your environment to support asset management.
• **Add Printer** allows you to remotely configure a printer on the system.
• **e-Diagtools** lets you perform system diagnostics remotely.

The most important menu item for each HP device is **Properties**. For PCs such as HP Kayaks, Vectras, or Omnibooks, Property pages are generated with information collected through a connection to a toptools agent running on the PC. Property pages are similar for HP Kayaks, Vectras, and Omnibooks. See the section on Vectras for a more in-depth overview of Property pages.

The remaining menu items invoke management operations such as “Reboot”, “Lock system”, or “Manage Drivers/Firmware”. Figure 5-3 shows the screen that is displayed after selecting the reboot menu entry.

**Figure 5-3. One or more HP PCs can be rebooted.**

Figure 5-4 shows the Lock system dialog, which has several useful applications such as restricting access to a system during a remote control session, or when implementing organizational security policies. Example: An unauthorized user is trying to log into a critical PC as the local Administrator to change configuration settings. The HP PC generates and sends DMI alerts to indicate an unauthorized user is making several unsuccessful attempts to log in as the local Administrator. The OpenView NNM event log provides notification of this event. In response, the NNM console operator can invoke the toptools action “Lock System”. This action dynamically locks the keyboard and mouse of the selected system preventing further unauthorized access.

Toptools actions can be performed against single or multiple targets. For example, a group of PC’s can be prevented from a power-off via the front panel prior to a network-wide backup routine.
Some toptools actions directly control the power-state of the PC. The ability to power-on a system can be very useful. For example: An administrator wants to install a new system software package on all the Kayaks in a company. This can be done very quickly from the NNM station by executing a Find By-> Attribute – isHPKayak, to select all Kayaks, going to the Tools -> HP Toptools -> Power On to awaken the Kayaks, then selecting the Manage Drivers/Firmware menu item to distribute the new package.

The power-on password is also referred to as the DMI or WMI password. As DMI and WMI offer administrators an extensive range of remote manageability, it is important to use DMI/WMI passwords to protect access to remote management actions. The toptools menu item Set System Password gives the administrator access to change DMI/WMI passwords for the protection of a single system, or for a collection of systems on a periodic security maintenance schedule.

Refer to the HP Toptools User’s Guide and toptools online help for more information on device actions.
5.5 Managing HP Kayaks, Vectras, and Visualize Workstations

HP TopTools for Unicenter TNG enables extensive DMI and WMI management capability of HP desktop and workstation products within TNG environments:

- Automatic discovery and identification
- Toptools actions and property pages
- Event management

Managing HP Kayak, Vectra, and Visualize systems requires DMI or WMI software be installed and running. The DMI or WMI software, called HP TopTools agent, can be downloaded from the HP web site at [http://www.hp.com/toptools](http://www.hp.com/toptools) or installed from the HP Toptools Enterprise Products CD.

Toptools menu items are displayed on the menu shown when right clicking the mouse on a selected HP desktop icon.

Of the toptools actions added to the menu, the most important menu item for each HP device is typically “HP Toptools Properties”. For HP Kayaks, Vectras, or Omnibooks, toptools property pages are generated by interfacing with the service layer running on the PC. Property pages will be described in great detail later in this section. Most of the toptools actions enabled in the menu are also available within the property pages of the device.

- **Power On, Power Off, Reboot** - These options provide direct access to the power state of the managed PC.

![Figure 5-6](image.png)  
**Figure 5-6. Actions added by HP Toptools for Unicenter TNG for DMI 2.x systems.**

![Figure 5-7](image.png)  
**Figure 5-7. This Screen powers off a HP desktop.**
Lock/Unlock System, Protect/Unprotect System – Dynamically controls access to the PC. Protect/Unprotect system prevents local user interaction with the mouse and keyboard while Lock/Unlock provides the protect feature plus preventing or enabling power off of the system through the power button.

Managing Drivers/Firmware — Consists of distributing BIOS, driver, or diagnostic packages to Vectras, Kayaks, or Omnibooks, scheduling the update to occur on the next reboot, and then rebooting the system.

Change Security Settings — Offers the ability to prevent access to various hardware devices such as floppy disk drives, serial ports, or printer ports.

Set Identification String – Also called the “tattoo” string and is used for asset management.
• **Set System Password** – Also referred to as the power-on password or the DMI password. As DMI offers administrators an extensive range of remote manageability, it is important to use DMI passwords to authorize remote management actions. This toptools menu item gives the administrator the ability to change the DMI password in accordance with the general security policy of periodic changes in critical passwords.

• **pcAnywhere** – Launches the pcAnywhere application for remote access. If you click on the pcAnywhere command in the menu and pcAnywhere has been enabled on the remote device, toptools will launch pcAnywhere Express and attempt to connect to the remote device. (You may need to enter a valid user and password.) If connection to the remote device is successful, a window will be opened on your system displaying the screen for the remote system. Refer to the Toptools online help for additional information.

• **View System Performance** – Allows you to monitor system resources. Clicking on View System Performance opens the System Performance Analysis page for the selected device. On this page you can view the CPU, Memory, Disk I/O, or Storage utilization and configuration for the selected device.

Toptools actions can be used in cooperation to perform complex tasks: Imagine a situation where an administrator wants to install a new BIOS package on a Kayak. This can be done quickly from the Unicenter TNG console by selecting Kayaks one at a time, powering on the system (in case the owner has turned it off), and then selecting the Manage Drivers/Firmware menu item.

5.5.1 Property Pages

Property pages for a HP Vectra are displayed in the following figures. Property pages contain up to seven sub-pages selectable via tabs with the labels: Identity, Status, Configuration, Security, Reports, e-Diagtools, and Support. The main difference between pages for HP Vectras, Kayaks, and Omnibooks is the Identity page, where different banners and photos are used depending on the remote system’s identity.

![Property Pages](image)

**Figure 5-10.** HP Vectra Property Pages are similar to Kayak and Omnibook pages.

The information displayed in property pages is obtained from two locations: a small amount of information pulled from the discovery database on the toptools server and information obtained from direct requests to the managed system.

The Identity page provides a short summary of the system identity and configuration. The words “Connected” or “Not Connected” displayed above the photograph of the system are used to indicate whether or not the toptools server can directly connect to the system. If the toptools server cannot connect to the system, only the information from the toptools server discovery database is used to generate the property pages that will consist of the Identity, Report, and Support pages.
The Status page displays a range of status categories that are dependent on management agent technology installed on the Vectra. In this case the Vectra supports SNMP, DMI, and WMI, so nine system status entries are available, ranging from Power-On Self Test, Disk Reliability, and Network Interface statistics to what processes and services are currently running on the Vectra.

The Configuration page consists of three parts: Configuration, Explore PC, and User Settings. Figure 5-12 shows the Configuration page, with the main Configuration part selected. This displays an organized view of the extensive management information available from the DMI layers of the HP Vectra. In this case, details of the System memory are being examined. Comparably in-depth information is available for various parts of the HP Vectra using this section’s formatted report of the system.
The Explore PC part of the Configuration page provides a more unformatted view of the information available from the DMI layer of the remote system. Figure 5-13 shows a sample of this information, with the window displaying the DMI Service Layer (SP) Indication Subscription part of the HP Vectra PC MIF. ‘Subscribers’ are addresses to which the DMI agent will send alerts to. With HP TopTools for Unicenter TNG, the toptools server subscribes the TNG server to the PC so that the PC will send DMI alerts directly to TNG.

![Figure 5-13. Every DMI variable can be examined via the Configuration page.](image)

The Security tab contains three sub-sections: Passwords, Settings, and Actions. The Passwords page is shown in Figure 5-14. This page permits modifications of the power-on password and power-on password control.

The DMI or WMI power-on passwords are stored in encrypted form on the toptools server system. If you attempt to invoke a DMI or WMI action, these passwords are used to request authorization. If you attempt an action with the wrong password, the toptools web page will prompt you to enter the correct one.

![Figure 5-14. The power-on passwords can be changed using the Security page.](image)
The Settings portion of the Security page is the same page that can be directly invoked from the toptools menu of the Unicenter TNG map. This screen is shown in Figure 5-15.

![Figure 5-15. Extensive control over the Vectra can be exercised from the Security page.](image)

The Reports tab displays a formatted summary of the information about this particular system. This can be printed or saved.

The Support tab displays information on obtaining assistance for the HP device.

### 5.6 Managing HP Omnibooks

HP Omnibooks are displayed on the Unicenter TNG map with a customized icon as shown in Table 5-1. The enabled toptools menu actions are comparable to the HP Vectra, Kayak, and Visualize systems. For an overview of the menu items, refer to the previous section.

![Figure 5-16. Omnibook management is comparable to HP Vectra, Kayak and Visualize products.](image)

When notebook computers are disconnected from the network, they may appear down in the Unicenter TNG map and not have extensive data displayed in toptools property pages.
5.7 Managing HP Netservers

HP Netservers are supported by HP TopTools for Unicenter TNG through:

- Automatic discovery and identification within the TNG Repository
- Access to HP TopTools property pages from the TNG popup menu
- Association with HP TopTools Remote Control cards
- Compiling current MIBS into TNG
- Event and status monitoring through DSM

HP Netservers support both DMI and SNMP management technologies. To manage HP Netservers, the TopTools for Servers agents must be installed on each Netserver you wish to manage. These agents are included on the Navigator CD shipped with Netservers, on the HP TopTools Enterprise Products CD or may be downloaded from the HP web site at [http://www.hp.com/toptools](http://www.hp.com/toptools).

If you wish to access SNMP management capability (such as viewing HP NetRAID configuration) for Netservers through toptools, you must also install the HP TopTools for Servers component during the installation of the toptools server.

Finally, if you have configured a SNMP community other than the default ‘public’ on the toptools agent, you must specify the community within TNG prior to running discovery.

5.7.1 Discovery and Classification

HP Netservers are sorted into four classes, depending on the general form factor of the packaging: small, medium, large, or rack. These classes are sub-classed based on OS: Novell NetWare, SCO, Linux, Windows NT, or Windows 2000. Different types of icons are used to represent Netservers on 2D maps, depending on the OS type.

5.7.2 HP TopTools Property Pages and Actions

Figure 5-17 displays the menu items enabled for a HP Netserver.

![Figure 5-17. The HP Netserver menu.](image)

- **Set SNMP Passwords** raises a dialog that allows the user to set the SNMP community that should stored in the toptools database and used by toptools to communicate with the Netserver.

- **HP TopTools Properties** launches property pages for HP Netservers. A quick overview of features will be presented with the following figures.

The **Identity page** shown in the figure below provides a brief summary of the configuration of the Netserver, including model, operating system, hostname, and location.
The **Status page** shows CPU utilization, memory utilization, storage capacity, and network statistics in a graphical and tabular format.

The exploded Storage Capacity pane of the Status page is shown in Figure 5-20. In addition to reporting the actual volume capacity, this screen allows users to modify the storage capacity alert levels by clicking on indicators and dragging them to new values.
The **Tools page** lists software resources available to administrators for managing HP Netservers.

The remainder of property pages (Configuration, Report, and Support) for Netservers is comparable to the Properties pages shown for HP Vectras. See the Toptools for Servers documentation for full details.

### 5.7.3 Association with the HP Toptools Remote Control Card

HP Netservers with an HP Toptools Remote Control card installed have the associated card moved into the submap of the server object that physically contains them. For more information on the management of Netserver using the HP Toptools Remote Control card and management of the card, refer to the next section of this User Guide, “Managing HP Toptools Remote Control Cards”.

### 5.7.4 Compiled MIBS

During installation of the platform bridge, current Netserver MIBS are loaded into Unicenter TNG. This means that you can use the Unicenter TNG Object Browser to GET and SET SNMP MIB variables for the Netservers. In addition, most SNMP traps received from Netservers are now formatted within the TNG Event Console.

### 5.7.5 Event and Status Monitoring through DSM

HP Toptools for Unicenter TNG supports event management for HP Netservers through:

- Loading trap definitions for HP Netserver traps as described in the section above.
- Automatically setting the trap destination on HP Netservers during the platform bridge discovery process
- Adding NSAAgent to DSM

A submap is automatically generated for each HP Netserver. The NSAAgent icon is added to the submap. Status conditions associated with the icon are propagated up to the Netserver icon on the main map. The NSAAgent icon is shown in the Figure 5-21.
The NSAAgent agent in the Netserver Unispace is also shown in NodeView (Figure 5-22). This agent will change state and reflect status upon reception of traps from a HP Netserver. Because the hpnsaSystemInfo MIB is loaded into the DSM mib browser directory during installation, you can perform MIB browsing from within NodeView.

5.7.6 Resetting Status on the NSAAgent

NSAAgent status reflects the severity of the last trap received by the Netserver. To reset the status of the NSAAgent:

1. Open the submap of the managed system (Netserver)
2. Double click on the unispace icon to display the system's unispace window
3. Right click on the NSAAgent and select View Node.
4. Right click on the NSAAgent box and select Reset Status from the action menu.

For more information on event management with HP TopTools for Unicenter TNG, consult the Theory of Operation section.
5.8 Managing HP Toptools Remote Control Cards

The HP Toptools Remote Control card is a HP Netserver accessory product that provides in-band and out-of-band management of HP Netservers, even when a server is down, offline, or ‘hung’. The card installs into a slot within the Netserver and provides both a serial and ethernet interface.

HP Toptools 5.5 for Unicenter TNG provides the following for the HP Toptools Remote Control card:

- Automatic discovery and classification
- Placement within the Netserver submap that physically contains it
- HP Toptools actions to manage both the card and the Netserver
- Event management through DSM

During platform bridge discovery, cards and their host servers are identified. Once reclassification has completed, the cards are moved into the submaps of the servers that contain them. Figure 5-23 depicts the card pc051 which is installed into the Netserver PC046.

![Figure 5-23. HP RMC card Submap.](image)

Menu items (as shown below) are enabled within the popup menu for the card object. The menu items Add User, Delete User, Change Password, Update Software, View Users, Replicate Configuration, and HP Toptools Properties are actions used to manage the card’s configuration and administrative user access.

The items Power On and Power Off are used to remotely boot or shutdown the Netserver that the card is installed in.
The HP Toptools Remote Control card uses both SNMP and webagent technology. When selecting the item HP Toptools Properties, the browser request is sent to the toptools server which then redirects the request directly to the card’s webagent. If you have configured a user account and password, you will be prompted for this information before being able to access configuration pages or, for example, power down the server.

Card events are managed through DSM. Like the Netserver, a new agent is added to Unispace that may also be browsed through NodeView.

To reset the status of the HP RMC Agent, follow the same instructions provided in section 5.5 on resetting agent status.
5.9 Managing HP LaserJet Products

HP Web Jetadmin is available on the Enterprise Products CD or may be downloaded from the HP web site at http://www.hp.com/go/webjetadmin. To manage HP printers, you must install and set up a link to HP Web JetAdmin during the installation of the HP Toptools server.

HP Web Jetadmin supports the following HP printing products (HP Jetdirect Connect Peripherals):

- HP LaserJets
- HP DeskJets
- HP PrintJets
- HP DesignJets
- HP 2000C
- HP Digital Sender

The platform bridge discovers and reclassifies all HP printing products within the TNG Repository. Each HP printer is identified on the NNM map by a customized printer icon. To access HP management actions, select a printer and invoke toptools from the context menu (Figure 5-26).

Figure 5-26. The map shows customized icons and actions for HP printers.
5.9.1 HP Printer Properties Page

A Property page for an HP printer is displayed in the figure below. HP printer Property pages are different from the Property pages of other HP devices. They consist of a menu bar containing: Status, Configuration, Install, Diagnostics, Alerts, Print Jobs, Refresh/Expand All and Context-sensitive Help. The Status button displays a realistic representation of the HP printer, a stop light status indicator with accompanying status message, network details, and a description of hardware capabilities for the particular model.

![Printer Properties Display](image)

Figure 5-27. Printer Properties Display.

Once raised, specific pages are opened by clicking from the buttons at the top of the status page.

- **Configuration.** The Configuration button brings up a screen with extensive information and control capabilities as shown in the figure below. The range of manageability is dependent on the printer model.

![Configuration - Quick Set](image)

Figure 5-28. Extensive information and control is available on the Configuration page.

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• **Install.** The Install button can be used to configure new printers. The Diagnostics button displays a list of 7 categories of diagnostics: Device, JetDirect, TCP/IP, NetWare, IPX/SPX, EtherTalk, and DLC/LLC. Selecting a category displays information and diagnostics.

• **Diagnostics.** This button takes displays diagnostic information to help troubleshoot printer problems.

![Diagnostics Page](image)

Figure 5-29. The Diagnostics page features a wide range of diagnostics.

• **Alerts** – The Alerts button displays alerts configuration for the printer.

![Alerts Configuration](image)
• **Print Jobs** - The Print Jobs button displays a list of print jobs, the originator of the job, and their completion status. Each print job can be cancelled as shown in the figure below.

![Print Jobs](image)

**Figure 5-30.** Print jobs can be monitored and controlled.

- **Refresh** - This button updates the information being displayed.
- **Context Help** - The final button on the HP printer Properties page is Context Help. This button generates context-sensitive help screens.

### 5.9.2 DSM Management of HP Printing Products

Version 5.5 provides DSM management of HP printing products. During platform bridge installation, a new agent called the HP JetDirect Agent is added and placed within the Unispace of products classified as HP printers (As shown in the figure below which is the Unispace of printer pc112).

As printer traps are received by TNG, DSM changes the state of the JetDirect agent to reflect the severity of the most recent trap received.

Traps may be configured to be forwarded to TNG through two options:

- Individually configure each printer to send traps directly to TNG
- Use the HP JetDirect Trap Proxy Server to receive and forward events to TNG from printers (available in the Contributed Library)

For more information on the trap proxy, consult the HP JetDirect Trap Proxy Server User Guide included in the Contributed Library on the HP Toptools Enterprise Products CD.
The HP JetDirect Agent can also be browsed through NodeView.

To reset the status of the agent within Unispace:

1. Open the submap of the managed system (LaserJet)
2. Double click on the unispace icon to display the printer’s Unispace window
3. Right click on the HP JetDirect Agent and select View Node.
4. Right click on the JetDirect Agent box and select Reset Status from the action menu.

**5.10 Managing HP ProCurve and AdvanceStack Networking Devices**

HP Toptools for Unicenter TNG provides management support for HP ProCurve and AdvanceStack devices:

- Automatic discovery and identification
- HP Toptools property pages or device webagent pages
- HP Toptools actions
- Compilation of current MIBS and trap definitions

To manage HP ProCurve and AdvanceStack devices, SNMP management must be enabled on the device. For full functionality, the device webagent should also be enabled. Prior to running TNG discovery, be certain to specify any SNMP communities that are not the default ‘public’ into the TNG console.

As the platform bridge performs its discovery and reclassification of HP networking products, their respective icons are changed within TNG browsers and maps (Figure 5-31).
Following installation, new menu items are enabled. Right clicking on an HP hub icon displays the menu shown in Figure 5-32.

The degree of manageability depends on the capabilities of the particular HP device.

**HP TopTools Properties** opens a browser to the toptools server and displays the toptools property page for the device as shown in Figure 5-33.

**Properties(Device View)** provides a visual representation of the configuration and status of networking devices that do not support webagents. This feature is supported with single system installations only.

**Node Port Table** provides a list of the ports on the device, their type and the subnets or devices to which they are connected. A sample Node port table that can be displayed using the HP TopTools Node Port Table Action is shown in Figure 5-34.

**SNMP/Trap Configuration** allows the administrator to set the trap Thresholds, Trap Receivers, SNMP Community Names and Authorized Managers for the device. This feature is supported with single system installations only.

**Update Firmware** allows you to select and install updated firmware for the device.

**HP TopTools Home Page** opens a browser window to the toptools server.

**Management Home Page** launches the web page for web-enabled devices.
Figure 5-33. Web-enabled Hubs and Switches generate Property pages directly.

Properties(Device View) and SNMP/Trap Configuration are only supported if the toptools server is installed on the same system as the TNG server running the platform bridge component, as shown in the message depicted below:

If toptools is not installed on the same system you can use the HP TopTools Home page feature to access toptools and perform actions on the device using toptools. Refer to the toptools documentation and online help for a description of how to use toptools.
Note that all HP hub and switch MIBS are now loaded into Unicenter TNG. This means that hub and switch traps will be formatted, and the Unicenter TNG MIB browser can be used to GET and SET SNMP MIB variables.

Unrecognized HP hubs and switches are displayed under the class “HP_Device” and will attempt to display SNMP Property pages or Management Home pages when such an action is selected. The following figure shows how such a device will be displayed in the 3d map:

To receive traps from HP networking products, use the following options:

- Manually configure each device to send its traps to the TNG server.
- Use HP Toptools for Hubs and Switches SNMP/Trap Configuration to automatically configure multiple devices to send traps to TNG.
- Use Properties(Device View) and click the Security button to configure trap destinations on devices not supported by SNMP/Trap Configuration or Automatic Management. (Requires single system installation.)
- Use SNMP/Trap Configuration against a specific device to configure its trap destinations remotely. (Requires single system installation.)
The models listed in the table below can be configured using SNMP/Trap Configuration or Automatic Management.

<table>
<thead>
<tr>
<th>Models supported by SNMP/Trap Configuration and Automatic Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>AdvanceStack 10 Base-T Switching Hub</td>
</tr>
<tr>
<td>AdvanceStack Switch 800T, 2000B</td>
</tr>
<tr>
<td>ProCurve 10 Base-T hub 12M, 24M</td>
</tr>
<tr>
<td>ProCurve 10/100 hub 12M, 24M</td>
</tr>
<tr>
<td>ProCurve Switch 2400, 2424, 4000, 1600, 8000</td>
</tr>
</tbody>
</table>

To automatically configure HP networking products to send traps to the NNM server, there are two options:

1. Use the SNMP/Trap Configuration menu item (Figure 5-36) to configure thresholds and trap destinations on the selected device.

   ![Figure 5-36. SNMP/Trap Configuration dialog](image)

2. Access HP Toptools for Hubs and Switches SNMP/Trap Configuration using the following procedure. Select **Toptools Home** to launch the Toptools Server home page. In toptools, display the available devices by selecting **Devices, Devices by Type, Networking Devices**. Right click on the desired device(s) and select **SNMP/Trap Configuration** from the action menu. This will display the Device Configuration dialog. To configure a new trap destination select the **Trap Receivers** tab. Enter the address of the new device to receive traps. Click **Add, Apply**. You will be asked to enter a password to log on to the device(s) to complete the configuration. By selecting multiple devices in the list, you are able to specify trap destinations for all of them that support the SNMP/Trap Configuration feature.

   Note: To use Device View or SNMP/Trap Configuration to set trap destinations, the read community for the selected device must be set to public. You will be prompted to enter the correct write community.
5.11 Unicenter TNG Severity Browser

The Unicenter TNG Severity Browser can be used to give a quick status of the systems on your network, including the status of HP hardware being managed. Figure 5-37 shows the Unicenter TNG Severity Browser, indicating the status of the Unicenter Agents (the SQL Server Agent and Performance Agent II) and an HP Management Agent (NSAAgent). The Unicenter TNG Severity Browser provides you with a quick overview of systems that are in a degraded or failed state.

![Figure 5-37. Unicenter TNG Severity Browser displaying HP system status.](image-url)
5.12 Unicenter TNG Report Explorer

HP TopTools for CA Unicenter TNG allows you to create Unicenter TNG reports containing HP-specific information. You can use the Unicenter TNG Report Explorer to create a variety of reports. The following are examples of how to generate HP information reports.

5.12.1 Creating an HP Netserver Event Report

You can generate a report from the Enterprise Management Console Log showing only HP events.

1. Start the Report Explorer. Click **Start, Programs, Unicenter TNG, Utilities, Report Explorer**.
2. Select **TNG Reports, Enterprise Management, Event, Console Logs**.
3. Select the **Console Log by Disposition Detail** report.
4. Right-click and select **Setup Reports**. This will display the Event Management Reports window.
5. Click **Add**. This will display the Event Management Report Filter window.
6. Enter `*hptsdtrpmsg*` in the **Process Info** field.
7. Enter “Netserver Messages” (or some other name) in the **Name** field.
8. Click **OK**. This returns you to the Event Management Reports window.
9. Ensure that the Data Filter Netserver Messages entry is highlighted. Click **OK**.
10. Right-click on the **Console Log by Disposition Detail** report. Select **Reload Report Database**.
11. Double-click on the **Console Log by Disposition Detail** report. This will display the report with the new HP Netserver Messages filter.

**NOTE:** The HP Netserver Messages filter can be used with any of the Console Log reports shown.

![Figure 5-38. Unicenter HP Netserver Events Report.](image)
5.12.2 Creating an HP Management Agents Report

This example provides a report of the HP Management Agents that have been discovered and placed in the Unicenter TNG repository. The report created should be similar to the one shown in Figure 5-39.

2. Select **TNG Reports**, **Agent Technologies**.
3. Select **TNG Agents by Domain, General State and Specific State** report.
4. Right-click and select **Setup Reports**.
5. Select an appropriate **Domain Manager**.
6. In the Agents window, select the Agents to include in the report (i.e. NSAAgent). Multiple agents can be selected.
7. Click **OK**.
8. Right-click on the **TNG Agents by Domain, General State and Specific State** report. Select **Reload Report Database**.
9. Double-click **TNG Agents by Domain, General State and Specific State** report to display the report.

**NOTE:** You can use this agent selection with any Agent Technology report.

![Figure 5-39. Unicenter HP Management Agents Report.](image-url)
6 Advanced Configuration

6.1 Using HP Toptools in Standalone Mode

The HP Toptools Device Manager has a simple workgroup level enterprise management console that can frequently meet the needs of quick enterprise management. Using the HP Toptools for Unicenter TNG bridge does not prevent a user from using this console. However, this may cause discrepancies between the view seen from Unicenter TNG and HP Toptools Device Manager consoles. For example, if a node is added to the HP Toptools Device Manager discovery database from the toptools console, Unicenter TNG has no way of knowing about this node; so, the node will be displayed in the toptools console but NOT in the Unicenter TNG map.

Installation of the HP Toptools Server bridge alters the setup of the HP Toptools server by turning off DMI and WMI alerts and SNMP trap reception and scheduled discoveries.

Note: Do NOT schedule discovery on the toptools server! The discovery completion signal is sent by the bridge and will not be recognized if discovery is scheduled independently. The toptools server database is dependent on Unicenter TNG discovery and the bridge components to populate MEDS.

6.2 Integrating TNG and HP Toptools 5.5 pcAnywhere and System Performance Advisor Features

HP Toptools 5.5 for TNG adds to toptools functionality the following features:

- Enhanced discovery
- Improved alert reception and actions on events
- Customizable inventory reporting
- Remote control
- System performance monitoring

A collection of these features complement CA Unicenter TNG or framework environments:

- Customizable inventory reporting. In a bridged environment, the toptools database is populated with data about the devices TNG sends to the toptools server. Administrators may take advantage of reports included with the toptools to run quick, but comprehensive reports such as displaying the total list and location of networking devices or a Windows 2000 migration report that checks configuration requirements for supporting HP PCs.

- Performance monitoring with System Performance Advisor. As an alternative to TNG’s performance monitoring agent, the System Performance Advisor provides a tool set of system performance monitoring to framework’s basic network management capabilities. With a single click from the TNG map, administrators can view attributes such as CPU utilization and disk I/O on MS Windows systems. System Performance Advisor agents are provided free-of-charge for HP systems such as Netservers and Vectras.

- Remote control with Symantec’s pcAnywhere. TNG console operators can access full remote control sessions of Windows NT servers and Windows PC’s using Symantec’s web-based pcAnywhere.

6.2.1 Using pcAnywhere and the System Performance Advisor with NNM

To start using pcAnywhere or the System Performance Advisor from the TNG console, a few configuration steps must be taken:

- Install and enable pcAnywhere host service on all systems you wish to remotely control.
- Configure custom groups and push System Performance Advisor agents (start collection) to monitored systems (up to 500).
Once these steps are taken, a full discovery cycle must run within the bridged environment before being able to access pcAnywhere and System Performance Advisor features from the TNG map. For Netservers, access the system performance function through toptools. For more information on configuring and using the System Performance Advisor, refer to the Toptools User’s Guide.

### 6.3 Using HP Toptools for Unicenter TNG in Large and Distributed TNG Environments

**HP Toptools for Unicenter TNG**

Important considerations when planning deployment of HP Toptools for Unicenter TNG:

- The product is designed to integrate a single TNG server to a single toptools server.
- HP Toptools 5.5 will support unlimited nodes in its database subject to system resources.
- HP Toptools for Unicenter TNG does not support remote Worldview clients. The platform bridge must be installed on the system with the TNG Repository.

As TNG discovers devices and populates its Repository, all devices that TNG discovers are sent to toptools to populate its database (MEDS). Devices will still be identified and events will be received from HP SNMP-based devices, but the following two features will be limited to HP devices included within the MEDS database:

- Automatic reception of DMI and WMI alerts for HP PC’s.
- All toptools menu actions

When managing large networks, it is recommended for performance that you distribute TNG and toptools servers together to manage sites or networks of less than 5000 nodes, such as shown in the figure below:

By distributing TNG and toptools together, full functionality of HP Toptools for Unicenter TNG is available, while keeping node counts down and thus improving the performance of the TNG server.
HP Web JetAdmin does not specify a maximum node count. As a result, you may scale Web JetAdmin with your TNG server or distribute as depicted in the figure above.

### 6.4 Application Notes

Integration between HP Toptools and Unicenter TNG provides for many additional management application opportunities. Administrators, third party consultants, operations staff, and even end-users with the appropriate authority, can add considerable value to the HP Toptools for Unicenter TNG integration by defining enterprise management policies. For example, Unicenter TNG could be directed to generate a helpdesk trouble ticket automatically whenever a critical event takes place on a HP device. Another useful application policy might be to lock a user’s keyboard whenever a security breach or virus is detected.

A variety of events or traps can be managed utilizing the same procedures outlined below. The following examples provide a step-by-step procedure for developing integrated policies for HP devices and Unicenter TNG using Event Management.

The Event Management component of Unicenter TNG is comprised of three parts: Event Console, Message Records, and Message Actions. Event Management intercepts the system log as part of a regular installation. When a Message Record is matched against a console message, a Message Action is then carried out. Wildcard characters, such as * and ? can be used to further refine a Message Record match. For additional information on Event Management, please refer to TNG Reference Guide in the Unicenter TNG Books Online.

Unicenter TNG policies can be defined to Event Management through CAUTIL (CA’s Command Line Interface), the Enterprise Management GUI, or the Unicenter TNG API. The following examples will employ CAUTIL record definitions for easy deployment to external client sites running Unicenter TNG. These definitions can be entered into a file with a simple text editor and then executed at the client site. Note: %HOST% is a variable name for the Event Management machine where these definitions are to be defined. For information on using Unicenter TNG Event Management, please refer to the TNG Reference Guide in the Unicenter TNG Books Online.

#### 6.4.1 Helpdesk Application

This example detects a disk nearly full situation and then opens a helpdesk trouble ticket on the Unicenter TNG Problem component.

1. Determine the event to be managed and the policy you wish to administer. Make a note of the precise textual syntax of the event or trap message. For example, SNMPTRAP – C:\ is 90% full

2. Define the Message Record to match the console message. For example,
   ```bash
   CAUTIL -D=%HOST% DEFINE MSGRECORD MSGID='SNMPTRAP – ?:\ is 9?% full ' TYPE=MSG
   ```
   This example will only confirm a match when any disk usage exceeds 89%. Note the use of the two question mark wildcard characters in the MSGID text string relative to the example trap.

3. Define the Message Action to create the helpdesk trouble ticket. For example,
   ```bash
   CAUTIL -D=%HOST% DEFINE MSGACTION NAME=(*,*) ACTION=COMMAND
   TEXT="""C:\path\dsktrap.bat &userid &datem &time8 &nodeid &5""
   ```
   We have used a Message Action to execute a batch file located in the directory called path, which, in this case, will execute another CAUTIL command. This Message Action example passes five parameters that will be used in the batch file to create the trouble ticket. The &5 is a variable, which corresponds to the fifth field of the Unicenter TNG Event Console text message, in this case is ‘90%’. For more information about creating Message Actions, refer to MSGACTIONS in the TNG Reference Guide.
4. Create the batch file that will be executed by the Message Action. Using a text editor enter the CAUTIL command to create the helpdesk trouble ticket. For example,

CAUTIL “DEFINE PROBLEM SYMTPON='Disk is %5 full!' occurred=(%1,%2,%3,%4) priority=01”

Now, whenever a message matching the one in step 1 comes across the event console, a trouble ticket will be automatically generated contain important information including the node id, date and time.

6.4.2 Using CA Software Delivery or CA ShipIT

Two management tasks can be incorporated into software delivery using CA’s Software Delivery or ShipIT programs. The first task is distributing BIOS updates to desktop computers such as HP Vectras, Kayaks, or Omnibooks. The second task is distributing the toptools agent software to desktop computers. Having the agent running on desktop computers is required in order to manage these systems.

First, the distribution packages must be created using the CA SD Explorer. The source for the distribution packages comes from the HP web site [http://www.hp.com](http://www.hp.com). Each download package is downloaded from the HP site, then used to create a sealed distribution package inside the SD Explorer.

**Updating the BIOS**

For BIOS packages, these files come from [http://www.hp.com/desktop/support](http://www.hp.com/desktop/support), specifically the BIOS package under each type of desktop. From the support page, select “Software and Drivers”. Then select the particular model. This brings up a page that contains a list of drivers specific to the particular model. Download the package. (For some models, there are two types of BIOS packages: a standalone version and a toptools version. Download the toptools version.) Run the program to extract the files. (Note that the toptools version may generate a warning dialog indicating that toptools is not installed on this system. This is ok.) Note where the files are extracted to: this is usually some directory called c:\bios\<family>\disk1 but may be elsewhere. (The toptools version typically puts the files into c:\temp\<Toptools>\<family>.) These files need to be distributed to the desktops that need their BIOS flashed.

The directory contains several files, but there are two that do most of the work: phlash32.exe and <family>.ful. The <family>.ful file, where <family> is replaced by ha0709us or something comparable, is the name of the BIOS family. The phlash32.exe file is the Windows NT file that installs the *.ful file containing the BIOS update software.

Manually, the BIOS update could take place using this procedure:

- Go to the HP Desktop and copy the directory of files extracted above.
- Open an MS-DOS window (cmd.exe) and cd to the directory.
- Run “phlash32 –c –q *.ful” where *.ful is replaced by the name of the .ful file in the directory
- Reboot the system

To create the new BIOS package for use with CA ShipIT or Software Delivery, launch the SD Explorer to define a new Software Library item. Use the previous procedure to define a new sealed package. Be sure to define “Install programs..” as appropriate as well as indicating that “Boot after job completed” is required. Only HP desktops running Windows NT can be updated.

**Installing Toptools Agent**

For the toptools agent, the web site [http://www.hp.com/toptools](http://www.hp.com/toptools) contains the distribution package. This agent contains both the DMI Service Layer as well as the Crash Monitor. By default the web distribution installs interactively. After downloading the agent, extract the files and modify “dmisetup.ini” so that InteractiveInstall=0. This will permit the package to be used for distribution, by allowing it to install in a non-interactive mode. Once again, select “Install Program” and “Boot after job completed”.
7 Theory of Operation

HP TopTools for Unicenter TNG installs software, also referred to as bridge components, on both the TNG console and toptools server.

7.1 HP TopTools for Unicenter TNG Platform Bridge Component Processes

The platform bridge installation adds the following processes to the TNG console:

<table>
<thead>
<tr>
<th>Process</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>HpttReclassification.exe</td>
<td>Prompts user for a Unicenter TNG Repository name. After connecting, it traverses the Repository for probable HP PC’s and servers performing a second-level SNMP and/or DMI discovery. When a HP system is identified, it is reclassified. User can stop this process any time by clicking the Stop button, and by clicking the Cancel button, the user can exit the process</td>
</tr>
<tr>
<td>HpttOneTimeReclass.exe</td>
<td>Reclassifies HP SNMP-based devices based on SNMP system object ID. (OID).</td>
</tr>
<tr>
<td>HpttDMIAlert.exe</td>
<td>Processes incoming DMI alerts from HP PC’s.</td>
</tr>
<tr>
<td>HPTTLaunchAction.exe</td>
<td>Launches selected toptools menu item actions</td>
</tr>
<tr>
<td>HpttHomePageLaunch.exe</td>
<td>Launches toptools home page when invoked from menu</td>
</tr>
<tr>
<td>HpttRMCMenuActionLaunch.exe</td>
<td>Launches HP Toptools Remote Control card menu actions that are directed at a Netserver.</td>
</tr>
<tr>
<td>HPTTfor UNicenterTNG_Service.exe</td>
<td>Service that runs HP Reclassification following TNG discovery.</td>
</tr>
<tr>
<td>HpttRepository Data to Toptools.exe</td>
<td>Transfers TNG Repository discovery data to toptools.</td>
</tr>
<tr>
<td>HpttmodifyDSM.exe</td>
<td>Modifies DSM configuration.</td>
</tr>
<tr>
<td>HpttmvHPJDAgt.exe</td>
<td>Removes JetDirect Agent</td>
</tr>
<tr>
<td>HpttSdTrpMsg.exe</td>
<td>Sends trap messages to TNG Event Console.</td>
</tr>
<tr>
<td>HpttUnclassify.exe</td>
<td>Unclassifies HP devices.</td>
</tr>
</tbody>
</table>

7.2 HP TopTools for Unicenter TNG Server Bridge Component Process

The HP TopTools for Unicenter TNG server bridge component installs on the toptools server. The installation wizard adds the hpttSrvrBrg process to toptools that is controlled by the toptools services manager `rviews.cm.exe`. The hpttSrvrBrg process receives 1st level discovery information (e.g. node address) from the `HpttRepository Data to Toptools.exe` process on the platform bridge. Discovery information from TNG populates the toptools database.

7.3 Modifications Done By Installation

On the toptools Server, the HP TopTools for Unicenter TNG component registers with the toptools server as a process controlled via the toptools Service Control Manager (RViewSCM process), therefore providing the toptools server console control over stopping, starting, or monitoring status of this component process.

Installation of the server bridge also makes changes on the event management functions of the toptools server. Platform bridge installation performs the following modifications to the TNG console:

- Copies files
- Creates HP classes within TNG Repository
- Loads trap definitions and MIBS
- Performs HP Reclassification
- Runs DSM wizard to create associations for new classes
- Resets DSM
7.4 Discovery and Applications

HP Toptools for Unicenter TNG enhances and extends TNG discovery in two ways:

- Configuring TNG discovery to recognize and classify HP SNMP managed devices such as switches and printers.
- Adding a discovery service that identifies and reclassifies HP systems such as Netserver and PC’s.

As TNG is performing discovery, the platform bridge discovery process checks the Repository for likely HP system candidates (e.g. Windows NT Workstations), and then performs extended discovery on those systems to determine through DMI and WMI if they are HP PC’s, or through SNMP, if they are HP Netserver. This process and its progress is visible through the utility HP Reclassification.

At the end of discovery, the platform bridge checks HP Toptools Remote Control cards and HP Netserver for an association. If one exists, the HP Toptools Remote Control card is placed within the host Netserver’s submap.

Once HP devices are classified within the Repository, menu items and icons associated with their respective classes become enabled, and the contents of the Repository are sent to the toptools server.

The toptools server performs second level discovery to populate MEDS with the data necessary to respond to requests from the platform bridge on the TNG console (e.g. responding to a request for Property pages).

7.4.1 Event Management

HP Toptools for Unicenter TNG configures TNG to recognize and process HP alerts, and to automatically receive alerts from HP products.

- During the platform bridge discovery process, HP Netserver have their trap destinations automatically set to send traps to the TNG server.
- During discovery, the toptools server subscribes for DMI and WMI alerts from HP PC’s. The server bridge configures toptools to then forward DMI and WMI alerts as SNMP traps to the TNG server.
- Customers may use Toptools SNMP/Trap Configuration to configure HP networking devices to send traps directly to the TNG server.
- Customers may use the HP JetDirect Trap Proxy (available in the Contributed Library) to automatically receive, filter, and forward printer traps to the TNG server.

CA Unicenter TNG will natively receive and process SNMP traps through message records and DSM. HP Toptools for Unicenter TNG provides DSM agents for HP Netserver, HP LaserJet, and HP Toptools Remote Control cards. When traps are received from these devices, DSM changes the status on the agent which is then propagated up the map. To reset status on the agent, you must select the agent and the menu item “Reset Status”.

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8 Troubleshooting Problems

Note that troubleshooting should proceed in the sequence listed below, as each item is dependent on the proper behavior of the items listed before it.

8.1 Verifying Toptools Device Manager

Since all Unicenter TNG menu item actions involve launching a web browser with a URL, it is important to verify that this can be done outside of Unicenter TNG. From the system running Unicenter TNG, launch Internet Explorer (version 4.01 or greater) with the following URL:

http://<Toptools_Server_DNS_name>/hptt

This should bring up opening screen of HP Toptools. If this fails, refer to the HP Toptools Device Manager documentation to isolate and fix the problem.

8.2 Verifying Toptools Server Bridge

First, from the opening screen of HP Toptools select Settings from the left-hand panel. Select the last item on the pull-down menu, Services. This should bring up a status list of all the HP Toptools services in the right-hand panel of the web browser. One of the services should be called HP Toptools Server Bridge. This service should be running. If it is not listed, this means that this component has been uninstalled, and needs to be reinstalled. If it is not running, the services should be started, which can be done from this screen. If it is running, try running “telnet <toptools_server_dns_name> 5041” which should successfully connect you to the port which this component uses.

Note that the telnet should not provide you with any other indication of success other than an error-free connect; a failure would be a message indicating that it was unable to connect to this port. If you encounter a failure, try rebooting the system.

8.3 Verifying The Platform Bridge

From the Windows NT Services Control Manager window, make sure that the “HP Toptools for Unicenter TNG” service is set to “Automatic” and is started. This global process is used to manage all the bridge processes.

From the Unicenter TNG Class Browser, verify that the HP classes have been entered. The following figure shows what classes should be visible. If you do not see similar classes, use the menu option “Create HP Device Classes” to recreate these classes.

![Figure 8-1. The Bridge creates new Agent and Host classes](image-url)
Next, verify that nodes are being transmitted to the toptools server. Launch the “Reclassify HP Devices” action from the Windows Unicenter menu. Press “start”. All the nodes in the Unicenter database should get retransferred to the HP Toptools Server. Launch a web browser after this completes and try the URL “http://<toptools_server>/hptt”. From the HP Toptools Devices window, select the “All Devices” category and look at the bottom left corner of the screen to see how many devices are in the toptools database. Compare this to the number in the Unicenter TNG database. Furthermore, look at the number of Servers or Desktops and compare this from system to system. This can indicate whether or not the transfer was successful. If this is failing, verify that the toptools server is working in stand-alone mode. Refer to the documentation that accompanies the toptools server for more details.

Try selecting an HP device and launching a toptools menu action. The browser should be launched with the appropriate URL. Select a second HP device and then launch another toptools menu action. The existing instance of IE should be reused for this new URL.

8.4 Useful Log Files

HP Toptools for Unicenter TNG creates log files on both the toptools server and the Unicenter TNG console.

8.4.1 Log Files on Toptools Server

The Toptools Server Bridge component can create a log file called ttbrg.log in c:\winnt\system32 if certain registry settings are modified. By default, logging is turned off. To activate logging, edit the key.

\HKEY_LOCAL_MACHINE\SOFTWARE\Hewlett-Packard\TTBridge\DEBUGLEVEL

<table>
<thead>
<tr>
<th>DEBUGLEVEL</th>
<th>Description of Logging</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No logging</td>
</tr>
<tr>
<td>15</td>
<td>Full logging</td>
</tr>
</tbody>
</table>

Note that if an error occurs, the Toptools Server Bridge appends error messages into a file called ttbrgerr.log regardless of the registry settings.

To enable toptools server logging:

1. Run the program regedit.exe in the WINNT directory.
2. Use the explorer on the left-hand side of the program to open the folder [My Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Hewlett Packard\HP Toptools\Toptools Server].
3. When you open the “Top Tools Server” folder you will see a list of registry names with their corresponding data values on the right hand side of the program. In the list of registry names you will see “Log Node Transfer” registry name.
4. To enable logging of the node transfer process, right click the “Log Node Transfer” registry name. A popup menu will appear on the screen.
5. Chose the “modify” menu item of the popup menu. This action will bring up a dialog box that has a “Value name:” text field and a “Value data:” text field.
6. Type “yes” in the “Value data:” field and press the OK button to enable logging.
7. Exit from the regedit.exe program by clicking the close button.

To turn off logging, follow the same instructions as above but type “no” in the “Value Data” field.

8.4.2 Log Files on Unicenter TNG Server

If you want to enable logging for a bridge component, set the “Data” value for the component to 15. To disable logging for a component set its “Data” value to zero.
Table 8-2. Platform Bridge Components

<table>
<thead>
<tr>
<th>Log file</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>HpttRepository Data to Toptools.log</td>
<td>Logs transfer of nodes from TNG to toptools over bridge components</td>
</tr>
<tr>
<td>HpttReclassification.log</td>
<td>Logs reclassification of HP systems</td>
</tr>
<tr>
<td>HpttDMIAlert.log</td>
<td>Tracks incoming DMI alert sources</td>
</tr>
<tr>
<td>HPTTLaunchAction.log</td>
<td>Logs URLs returned by Plug-In Manager</td>
</tr>
<tr>
<td>HpttHomePageLaunch.log</td>
<td>Logs browser activity in launching toptools home page or RMC pages</td>
</tr>
<tr>
<td>HpttRMCMenuActionLaunch.log</td>
<td>Tracks success of attempts to power on or off server from RMC menu actions</td>
</tr>
<tr>
<td>HpttSdTrpMsg.log</td>
<td>Logs trap messages</td>
</tr>
</tbody>
</table>

8.4.3 How to Interpret the Log

If logging is enabled, a "HpttRepository Data to Toptools.log" file will be put in the TNG;BIN directory whenever "HpttRepository data to Toptools or "HP Reclassification" is executed. The file is of the form:

Total number of nodes: <number of nodes that were transferred>

------------------------------------------------------------------------
Node#: 1
Class name: <name of the TNG class this node is in>
Node name: <the network name of this machine>
Node address: <the IP address of this machine>
Subnet mask: <the subnet mask this machine was found under>
Date: <the date of when the node was transferred to toptools>
Time: <the time of when the node was transferred to toptools>
Size of structure: <the size of the data structure that held the node information>
Size of variable: <the instance of the >
no indication of error <this line can be “indication of error” or “an error has occurred,” depending on whether an error has occurred while attempting to send the node>

------------------------------------------------------------------------
Node#: 2

Figure 8-2. Platform Bridge Component Registry Entries.
8.4.4 Verify Product Version Numbers
The toptools server bridge component has a version number located in the C:\TTBridge\HPTTBrng.txt file. It contains a build number similar to this:

```
hpttSrvrBrdgVersion X.XX, build Y, mm/dd/yy
hpttPlatformBrdgVersion X.XX, build Y, mm/dd/yy
```

The platform bridge component indicates its version number during installation.

8.5 Troubleshooting Tips

Problem: All the HP computers are highlighted in black on the Unicenter 2d WorldView map.

- DSM is not looking for the Ping Agent. Try ‘resetdsm’ and then restart the services via ‘awservices start’. Then wait 5 minutes (the default polling interval for the Ping Agent is 300 seconds). If this does not solve the problem, reinvoke the DSM Wizard and ensure that DSM looks for the Ping Agent on the new HP classes, as documented in the Section 4.9.

Problem: When selecting a menu item from Unicenter TNG, you get a windows socket error or a connection error.

- Verify that the toptools server bridge is running by making a telnet connection to the same port number and verifying that a connection is made. From the command line, run ‘telnet Ipaddress port number’, using the IP address of the toptools server system and the port number, typically 5041.

- Verify that the HPTTsrvbrg.exe process is running in the Task Manager on the toptools server. If it is not, then stop and start the HP Toptools services from the control panel’s NT service manager.

Problem: Connection is being made by telnet on the same port number and all the menu items are showing up correctly, but the browser doesn’t get launched when you try to carry out some action

- Check and see in the task manager that HPTTLaunchAction.exe is running. If it is running and still the browser doesn’t come up, the problem is likely that there isn’t enough memory for the browser to start up.

- Check to see if memory is the problem. Start up the browser beforehand and then try an action from the menu. If this time the browser shows up with the correct URL, memory is the likely problem.

Problem: You get a message stating that actions for an HP icon cannot execute because the node is not yet in the toptools database.

- It may take some time to reclassify all nodes. First, the platform bridge sends all the nodes (1st level discovery information) from the Unicenter TNG server to the toptools server. Then, simultaneously, the platform bridge is doing a 2nd level discovery, using SNMP, DMI, or WMI, to classify these nodes, at the same time that the toptools server is performing discovery to populate its database. Until these complete, the bridge is unable to launch an action from the toptools server.

Problem: After discovery if you invoke a URL for an action it returns an error message “Unable to invoke URL”.

- If this message comes before launching the browser it indicates that HPTTLaunchAction has had a problem. Check and see if HPTTLaunchAction is running in the task manager once you click on an action menu item.

- If the browser is invoked and it gives a message about invoke URL the plug in manager on the toptools server returned an incorrect URL. Refer to the toptools documentation to verify operation of the toptools server.
9 Uninstalling the Server Bridge Component

9.1 Step-by-Step Instructions

The Toptools Server Bridge component should be uninstalled using the menu option from the Start->Programs->HP Toptools menu as shown below:

![Figure 9-1. Uninstalling the HP Toptools Server bridge.](image)

9.2 Verifying a Successful Uninstall

Launch toptools and select Settings->Services. The list of toptools services should no longer include an entry called “Toptools Server Bridge”.

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10 Uninstalling the Platform Bridge Component

10.1 Step-by-Step Instructions

The uninstall process has the side affect of deleting all the objects that have been reclassified as HP devices, which means that they will be removed from your database. Therefore, it is recommended that the Unicenter TNG Autodiscovery be run after the uninstall process completes, so that HP devices are placed back into their original class settings.

To uninstall, use the Windows Add/Remove Programs control window as shown in the following figure:

![Uninstall the platform bridge component.](image)

Figure 10-1. Uninstall the platform bridge component.

Remember to run reset DSM once the platform bridge has been uninstalled and HP classes removed.

10.2 Verifying a Successful Uninstall

Run the Class Browser and verify that HP classes have been removed. Run the 2d and 3d map applications to verify that HP nodes no longer have unique icons or menus.