Insight Integration for HP OpenView Network Node Manager Revision 3.2

User Guide

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About this guide

Audience assumptions

This guide is designed for system administrators who use the Insight Integration for HP OpenView Network Node Manager (NNM), HP Insight Management Agents, and other HP applications such as Systems Insight Manager to manage the operation of HP systems within an HP OpenView NNM environment.

Readers of this guide should at least be familiar with the configuration and operation of HP OpenView NNM and the HP Insight Management Agents. Because of the potential risk of data loss, only individuals who are experienced in using this software should implement the procedures described in this guide.

Where to go for additional help

Additional information sources are available at:

- Frequently Asked Questions for troubleshooting
  http://h18000.www1.hp.com/products/servers/management/openview/ troubleshooting-qa.html
- HP Management Integration Support Site
  http://h18000.www1.hp.com/products/servers/management/ integrationmodule-support.html
- HP OpenView user documentation

Telephone numbers

For the name of the nearest HP authorized reseller:

- In the United States, refer to **http://www.hp.com/service_locator**.
- In other locations, refer to **http://www.hp.com**.

For HP technical support:

- In North America:
  - Call 1-800-HP-INVENT (1-800-474-6836). This service is available 24 hours a day, 7 days a week. For continuous quality improvement, calls may be recorded or monitored.
  - If you have purchased a Care Pack (service upgrade), call 1-800-633-3600. For more information about Care Packs, refer to **http://www.hp.com**.
- Outside North America, call the nearest HP Technical Support Phone Center. For telephone numbers for worldwide Technical Support Centers, refer to **http://www.hp.com**.

NOTE: Before calling HP for assistance, review the "Troubleshooting" section in Appendix A of this guide.

Product overview

Product description

The Insight Integration for HP OpenView NNM, revision 3.2, integrates hardware management and event notification for HP ProLiant, AlphaServer, and Integrity Superdome servers, Evo and Deskpro client systems, and HP storage configurations into the HP OpenView NNM management console. System administrators can easily identify, organize, and manage HP systems from within their existing HP OpenView environments.

The Insight Integration for HP OpenView NNM includes processes and specific icons that enable HP systems to be clearly identified and monitored on the NNM Management Map. It also includes event definitions to translate and display over 400 HP SNMP events in the NNM Event Console.

Revision 3.2 of the Insight Integration supersedes the previous Compaq Insight Manager for HP OpenView NNM and delivers many important enhancements, such as more direct access to detailed hardware data and additional HP management tools, and support for HP Management Agents up to version 7.40 and the latest HP OpenView NNM platforms.

The Insight Integration builds on the functionality of the Insight Management Agents and works with native HP OpenView NNM services to provide the most manageable platform for HP OpenView NNM across a wide range of host and managed operating platforms. This functionality enables systems administrators to manage events for HP server, client, and storage hardware, in addition to other enterprise resources from a common NNM console. Supported operating platforms for host and managed systems include HP-UX, Sun Solaris, Microsoft® Windows® Server 2003, Microsoft Windows 2000, Microsoft Windows NT®, Microsoft Windows XP, Novell NetWare, Linux, HP Tru64 UNIX®, and HP OpenVMS.

Additional data for individual HP servers is available through an integrated browser launch to the HP System Management Homepage, which provides access to Insight Management Agents, Version Control Agents, System Diagnostics, and Survey from the NNM console.

For advanced remote management and deployment of ProLiant systems, a link to the Remote Insight Lights-Out Edition (RILOE) II and Integrated Lights-Out (iLO) solutions are also available through the System Management Homepage and Insight Management Agents.

Where broader lifecycle management is needed for groups of HP systems, the Insight Integration for OpenView NNM includes application launches to Systems Insight Manager and the agents associated with the HP Storage Management Appliance.

What's new in Revision 3.2

- Qualified for operations on NNM 6.3x, 6.4x, 7.0x, and 7.5
- Support for SNMP events defined by HP Insight Management Agents up to version 7.40
- Support for NNM Remote Console installations on Windows
- Support for HP Web Jetadmin Integration
- OpenView NNM host support for Windows 2003, Windows XP, HP-UX 11.x, and Solaris 9
- The ability to generate NNM events directly from HP Systems Insight Manager
- New icons for Microsoft Windows Server 2003, Red Hat Linux, and SUSE Linux
- Default support for HP Systems Insight Manager with NNM running on Windows, HP-UX, and Solaris
- Flexible installation scripts that enable full NNM console integration or condensed integration for event definitions only

Features

- Automatic discovery and status monitoring of HP server and client systems on the HP OpenView NNM segment map using unique color-coded icons
- HP systems registered in the HP OpenView NNM database
- HP SNMP events translated and displayed in the HP OpenView NNM Event Console and include recommended actions
- Supported event definitions provided by HP Insight Management Agents up to version 7.40
- Qualified for use with HP OpenView NNM 6.3x, 6.4x, 7.0x, and 7.5 across supported operating platforms (HP-UX 11.x, Windows 2003, Windows XP, Windows 2000, Solaris 8, and Solaris 9)

- Instrumentation for ProLiant, AlphaServer, and Integrity Superdome servers; Evo and Deskpro client systems; and HP storage configurations
- Embedded menu items to launch HP Systems Insight Manager, HP System Management Homepage, Remote Insight technology, and the HP OpenView Storage Management Appliance from the HP OpenView NNM console
- Installation, configuration, and uninstallation scripts

System requirements

This user guide assumes that you have a working knowledge of HP OpenView NNM 6.x/7.x and the HP Insight Management Agents.

Table 1 Definitions and acronyms

Insight Integration for HP OpenView NNM	Revision 3.2 of the Insight Integration for HP OpenView NNM
Insight Integration	The Insight Integration for HP OpenView NNM
OVW	OpenView Windows
OVWDB	OpenView Windows Database
Integration events	The events used for inter-process communication among Insight Integration processes
Insight traps	SNMP traps generated by the HP Insight Management Agents that can be viewed in the HP OpenView NNM Events Window
HP Management Agents	HP Insight Management Agents
Web-enabled agents	HP web-enabled Insight Management Agent
TCP/IP	Transmission Control Protocol/Internet Protocol
Server	Any HP node running the following server operating systems and HP Insight Management Agents: • SCO OpenServer • Microsoft Windows Server 2003 • Microsoft Windows 2000 • Microsoft NT Server • SCO UnixWare • Novell NetWare • IBM OS/2 • Tru64 UNIX • OpenVMS • Red Hat Linux • SUSE Linux • UnitedLinux • VMware ESX
Desktop	Any HP node running the following non-server operating systems with HP Management Agents: • Microsoft Windows XP • Microsoft Windows 2000 • Microsoft Windows 95/Windows 98 • Microsoft Windows NT Workstation

HP Management Agent requirements

HP Insight Management Agents for Servers 5.0 or later and HP Management Agents for clients 4.20 or later are required. Revision 3.2 of the Insight Integration includes support for HP Management Agents up to version 7.40.

Management protocol requirements.

The required management protocols are SNMP and HTTP for servers and clients

Disk space requirements

The Insight Integration for HP OpenView NNM requires 10 MB of free disk space for installation.

Communication protocols supported

TCP/IP is the supported protocol.

HP hardware support

All HP hardware systems that support HP Insight Management Agents for Servers 5.0 or later (includes ProLiant, AlphaServer, and Integrity Superdome servers) and HP Management Agents for Clients 4.20 and later are supported. This support includes the latest event definitions provided with HP Management Agents 7.40.

NOTE: The Insight Integration for HP OpenView NNM does not support former HP NetServer and Vectra systems.

HP Management Agents/Managed device platform support

Server and client platforms supported by HP Insight Management Agents include:

- Microsoft Windows Server 2003
- Microsoft Windows 2000
- Microsoft Windows NT 4.0 SP 6a
- Microsoft Windows XP
- Microsoft Windows 98
- NetWare 5.x and later
- Tru64 UNIX 4.0F and later
- Open VMS 7.1 and later
- OS/2 Warp 4
- UnixWare 7 or later
- Open UNIX 8
- Linux (Red Hat, SUSE, and UnitedLinux 1.0)
- VMware ESX

Recommended browser support

The following is a list of tested configurations:

- HP Insight Management Agents for Servers
  - Microsoft Internet Explorer 6.0 or later
  - Mozilla 1.5 or later
- HP Management Agents for Clients
  - Internet Explorer 6.0 or later

Version support

Table 2 lists the operating system and HP OpenView platforms supported by the Insight Integration for OpenView NNM Revision 3.2.

Table 2 Version support

HP OpenView version	HP 9000 series 700/800 operating system HP-UX versions		
	11.0	**11.11**	**11.23**
6.3x	Yes	Yes	No
6.4x	Yes	Yes	No
7.0x	Yes	Yes	No
7.5	Yes	Yes	Yes
HP OpenView version	**Microsoft Windows for Intel® systems versions**		
	Microsoft Windows XP	**Microsoft Windows 2000**	**Microsoft Windows 2003**
6.3.1	No	Yes	No
6.4x	Yes	Yes	No
7.0x	Yes	Yes	No
7.5	Yes	Yes	Yes
HP OpenView version	**Solaris (SPARC) versions**		
	Solaris 8	**Solaris 9**	
6.3x	Yes	No	
6.4x	Yes	Yes	
7.0x	Yes	Yes	
7.5	Yes	Yes	

Product architecture

The Insight Integration is designed to perform the following functions:

- Automatically discover and display HP nodes running Insight Management Agents on the NNM management map
- Populate HP hardware status to all OpenView NNM maps
- Identify and record HP SNMP events in the NNM Event Log
- Translate and display HP SNMP events for system hardware and related services in the Event Browser

Processes

The installation of the Insight Integration for HP OpenView NNM introduces several specific background and foreground process files, which work with the native NNM processes to provide system discovery, reception and translation of HP SNMP events, and the display of system hardware status on the NNM management maps.

All Insight Integration processes are explained briefly in the following sections. The Insight Integration processes are listed in Table 3.

Table 3 Insight Integration for HP OpenView NNM process

Process number	Insight Integration for HP OpenView NNM process	Process type
1	CPQDIS	Background
2	CPQTRAPD	Background
3	CPQMAP	Foreground
4	CPQWEB	Foreground
5	CPQRILOE	Foreground
6	HPSIM (UNIX)	Foreground
7	HPSIMLNH (UNIX)	Foreground

Background processes

The operations of the background processes included with the Insight Integration are described in the following sections.

CPQDIS

CPQDIS is a background process that:

- Is started by the OVSTART command
- Uses data gathered by the HP OpenView database to redefine all discovered systems running HP Insight Management Agents
- Categorizes discovered HP nodes by system types (for example, server or client systems) and identifies the associated operating system on each discovered HP node
- Updates the overall status of the HP node
- Must be running before any of the other processes installed by the Insight Integration for HP OpenView NNM can start
- References the Discovery section of the CPQCONFIG.DAT file

For more information on CPQCONFIG.DAT, refer to the "Configuration files" section of Chapter 2.

CPQTRAPD

CPQTRAPD is the trap daemon used by the Insight Integration and is used to process all traps received from the 232 enterprise.

The HP OpenView NNM process used to receive SNMP traps is called TRAPD. The CPQTRAPD process works with TRAPD to identify HP specific traps and formulates them into a more readable format. Complex values received from the HP Insight Management Agents are converted to explanatory text strings before being displayed as messages in the NNM Event Browser.

When the Insight Integration is installed, the TRAPD configuration file (TRAPD.CONF) is modified to accept and process all events from the 232 enterprise as "Log Only," which means that the events are copied to the NNM Event Log (TRAPD.LOG) but are not displayed in the NNM Event Browser. The CPQTRAPD process translates the raw SNMP events, adding new information and recommended actions where appropriate. The translated trap is reentered through TRAPD with a "Log and Display" definition, then copied to the NNM Event Log and displayed in the NNM Event Browser.

Foreground processes

The operations of the foreground processes included with the Insight Integration are described in the following sections.

CPQMAP

CPQMAP is a foreground process started by OVW that:

- Creates and updates node or subsystem map symbols for all HP nodes identified by the CPQDIS process
- Replaces the default NNM subsystem symbols with specific symbols for HP server, client, and storage systems, and creates the web status icons in the node submaps for all identified nodes running HP Insight Management Agents

CPQWEB

CPQWEB is a foreground process used to launch the default browser specified during the installation and configuration of the Insight Integration.

This process is used to connect to the System Management Homepage of the web-enabled Insight Management Agents on a selected node.

If the web-enabled Management Agents are installed and running on a node, they will be identified in the corresponding node submap by an executable icon labeled "Insight Agents." By selecting this executable icon, the CPQWEB process will be invoked to launch the default browser, whose path information is defined in the CPQWEB.CONF file.

NOTE: For best results, use Mozilla 1.5 or later or Internet Explorer 6.0 or later.

CPQRILOE

CPQRILOE is a foreground process used to launch the default browser specified during the installation and configuration of the Insight Integration.

This process is used to connect to the RILOE, RILOE II, or iLO remote management processor features on HP ProLiant servers that have this capability installed. This connection enables administrators to perform advanced remote management and administration of ProLiant servers.

If the server has a remote management processor installed and configured with HP Insight Management Agents, it will be identified with the CPQRILOE field. Right-clicking the server enables you to launch to the RILOE, RILOE II, or iLO browser-based interface by selecting the Insight Lights-Out option.

📝 **NOTE:** For best results, use Mozilla 1.5 or later, or Internet Explorer 6.0 or later.

HPSIM

HPSIM is a foreground process used to launch the browser specified in the $OV_CON/C/cpq/CpqWeb.conf file. This process is used to connect to the HP Systems Insight Manager homepage from NNM.

HPSIMLNH

HPSIMLNH is a foreground process used to launch the browser specified in the OV_CON/C/cpq/CpqWeb.conf file. This process is used to connect to HP Systems Insight Manager and display the node selected in Network Node Manger.

General information

Table 4 lists absolute pathnames of the Insight Integration components..

Table 4 Insight Integration for HP OpenView NNM components

Component	Pathname
Executables of Insight Integration	$OV_BIN/CPQ
Application registration files (CPQINFOAPP.REG, CPQMAPAPP.REG)	$OV_REGISTRATION/$LANG/CPQ
Symbol registration file (CPQSYM.REG)	$OV_SYMBOLS/$LANG/CPQ
Field registration file (CPQFIELD.REG)	$OV_FIELDS/$LANG/CPQ
Bitmaps	$OV_BITMAPS/$LANG
Configuration files	$OV_CONF/$LANG/CPQ
Local registration files	$OV_LRF
Tools of the Insight Integration	$OV_MAIN_PATH/INSTALL/TOOLS/CPQ
Java™ interface icons	$OV_WWW/
Java interface registration files	$OV_WWW_REG/
Dynamic Views menu definition	$OV_WWW_REG/dynamicViews/$LANG

Table 5 lists the directories and contents associated with the Insight Integration deliverable.

Table 5 Insight Integration for HP OpenView NNM directories

Directory	Contents
/bin	Binaries for the Insight Integration processes
/bitmaps	Icons used by the Insight Integration

Table 5 Insight Integration for HP OpenView NNM directories

Directory	Contents
/config	The cpqconfig.dat file for HP systems discovery and the CpqWeb.conf file for configuring default browser settings
/docs	User guide for the Insight Integration for HP OpenView NNM
/dynamicViews	Menu files for Network Node Manager Home Base
/fields	Field registration files used by the Insight Integration
/hpqtraps	Files needed for the event (trap) only installation of the Insight Integration
/hpsim	Files for the HP Systems Insight Manager server
/ipf	Support files for Integrity Superdome servers
/lrf	Registration files for the Cpqdis and Cpqtrapd process
/mibs	ProLiant MIBs used by the Insight Integration
/registration	Application and menu registration information
/symbols	Updates to the symbol registration files
/tools	Tools that can be used to help verify the installation of the integration
/traps	Updates to the trap definition files. These files are used with the full installation of the Insight Integration
/wja	Files for integration with HP Web Jetadmin
/www	GIFs and registration files for use with the Java GUI

Installation

Overview

The Insight Integration for HP OpenView NNM, revision 3.2, can be installed into both UNIX and Windows NNM platforms using the following two methods to meet different environment or organizational needs.

Full Integration overview

The full installation of the Insight Integration performs the following major steps for the most complete solution:

- Installs foreground and background processes for HP systems discovery and status monitoring on the NNM segment map
- Edits the NNM configuration files to auto-initialize the processes installed by the Insight Integration
- Integrates SNMP trap definitions and message translations into the existing HP OpenView NNM TRAPD.CONF file
- Copies symbols, map icons, and field definitions into the configuration files for OpenView NNM
- Extends NNM menus with HP specific entries specific to the Insight Integration, including embedded links to Systems Insight Manager and Insight Information Menu Options for in-depth systems configuration and performance indicators

Installation information for UNIX platforms can be found in the "Installation Procedures for HP-UX and Solaris Platforms" section of this chapter. Installation information for Windows platforms can be found in the "Installation Procedures for Windows Platforms" section of this chapter.

Event-only Integration overview

Revision 3.2 of the Insight Integration for NNM includes an alternative process for installing just SNMP event definitions for HP systems hardware into an existing NNM environment:

- Receives, processes, and displays translated HP SNMP traps in the HP OpenView NNM Alarm Browser
- Does not install the NNM menu extensions, icons, symbols, or processes for HP system discovery and status monitoring through the NNM console

Further information can be found in the "Event Only Integration" section of this chapter.

Remote Console Integration overview

Revision 3.2 of the Insight Integration includes support for the NNM Remote Console installation running on Microsoft Windows. The supported Remote Console installation can be used with an NNM server running on Windows, HP-UX, or Solaris.

The full integration should be installed on the NNM server. After the full integration is installed on the server, the remote console install script in the Windows integration download should be executed on the remote console system.

HP Web Jetadmin Integration overview

Revision 3.2 of the Insight Integration includes support for HP Web Jetadmin. This support includes launching Web Jetadmin from the NNM Tools Menu, launching to Web Jetadmin in-context from the printer pop-up menus, and handling of basic printer events. Web Jetadmin support is optional and is not included in the default integration install.

Preinstallation considerations

Before attempting to install the Insight Integration for HP OpenView NNM, revision 3.2, be sure that you have read and understood the installation information provided in this chapter. Other installation requirements include:

- The target HP OpenView NNM environment must be fully configured and operational before installing the Insight Integration.
- A supported version of HP OpenView NNM must be installed. A listing of the supported software can be found in Chapter 1, "System requirements."
- A minimum of 10 MB of free disk space is required to install the integration.
- The Insight Integration for HP OpenView NNM, revision 3.2, supersedes all previous revisions of the integration referred to as Compaq Insight Manager for HP OpenView NNM.

- It is not necessary to remove previous revisions of the Insight Integration for HP OpenView NNM before installing revision 3.2. The HP Insight Integration installation script is designed to automatically overwrite any previous versions before applying the new files and configuration updates.
- HP Insight Management Agents must be installed and active on all systems to be monitored by HP OpenView NNM and the Insight Integration.
- SNMP services must be configured locally on all systems before installing the HP Insight Management Agents. If SNMP is not present when the HP Management Agents are installed, then the SNMP support elements of the agents will not be implemented.

NOTE: On an HP ProLiant system running NNM, the SNMP settings must be configured in the SNMP EMANATE agent. For more information, refer to the "Configuring SNMP on a ProLiant system running NNM" section in this chapter.

The Insight Integration includes features that require the use of a web browser to view the System Management Homepage of the HP Management Agents and other HP management tools, such as Systems Insight Manager. Java and JavaScript must be enabled in the browser configuration to properly enable these features.

Upgrading from previous version of the Insight Integration for HP OpenView NNM

The procedures for upgrading are identical to the procedures listed for the installation. The cpqinstall script preserves the current trap configuration entries. Previous trap definitions are no longer deleted during the installation of the integration.

Installation procedures for HP-UX and Solaris platforms

The following section describes the recommended steps for installing the complete Insight Integration for HP OpenView NNM on platforms running HP-UX or Solaris.

NOTE: To install just the HP SNMP trap definitions and omit HP device discovery and status monitoring using the NNM Segment Map, refer to the "Event-only integration" section in this chapter.

1. Access **http://www.hp.com/servers/integration**. Register and select the version of the Insight Integration that corresponds to your NNM operating platform. Download it to a separate directory on the system containing the NNM installation (for example, IMHPOV).

NOTE: The downloaded file is presented as a compressed .tar file; for example, <filename>.tar.Z.

2. Expand the .tar.Z file using the Uncompress utility. The uncompressed file is identified as <filename>.tar.
3. Unpack the .tar file using the command `tar xvf <filename>.tar`. This command extracts the integration into a new directory.
4. Be sure you are logged in with root privileges.
5. If the HP OpenView NNM GUI is running, close it by pressing the **Ctrl+E** keys.
6. Close all OVW sessions by entering `$OV_BIN/ovstop` from the command line.
7. From the command line, change to the directory that contains the expanded Insight Integration for HP OpenView NNM (imovhpux32 or imovsol32).
8. From the command line, enter `./cpqinstall` to initiate the installation script.
9. After the installation script completes, configure the path to the web browser used to launch HP management tools within the NNM environment by editing the CpqWeb.conf file.
   a. Change to the $OV_CONF/$LANG/cpq directory, and edit the CpqWeb.conf file.

b. Enter the path and executable for the web browser being used (for example, `/opt/Mozilla/mozilla`), and save the file. Refer to the "Configuration Files" section in this chapter for further details.

> **NOTE:** The installed browser must have Java and JavaScript enabled.

10. Include the following environment variable in the $HOME/.dtprofile file for each user ID used to view the NNM maps:

```
IPMAP_NO_SYMBOL_CHANGES=TRUE

export IPMAP_NO_SYMBOL_CHANGES
```
This environment variable ensures that the specific icons used by the Insight Integration to identify HP systems and provide hardware status will be automatically used for each discovered HP node.

11. Include the following line in the $HOME/.dtprofile file for each user ID:

```
. /opt/OV/bin/ov.envvars.sh
```

12. Configure an environment variable for HP Systems Insight Manager (optional). Include the following environment variable in the $HOME/.dtprofile file for each user ID using the integration:

```
IMADDRESS=address or hostname of Systems Insight Manager server

export IMADDRESS
```

13. Configure the NNM Java interface registration files (optional). If you intend to use the web-based interface for NNM, edit the /insight and /insighthome registration files to configure them for access to your Systems Insight Manager server as follows.

    a. Open the $OV_WWW_REG/jovw/$LANG/insight file and replace the string IM7IPADDRESS with the name or IP address of your Systems Insight Manager server.

    b. Open the $OV_WWW_REG/launcher/$LANG/insighthome file and replace the string IM7IPADDRESS with the name or IP address of your Systems Insight Manager server.

14. Configure the Alarm Browser Views for NNM 6.31 and later (optional). These versions of NNM can be configured to launch specific views in the context of an event. Edit the xnmeventsExt.conf file in the $OV_CONF/$LANG directory, and add the following line:

```
.1.3.6.1.4.1.232.*;"Insight web Agents";http://$OvNode:2301
```
This entry enables the web-enabled Insight Management Agents to be launched directly from an HP SNMP event received in the NNM Alarm Browser. A sample file (xnmeventsExt.cpq) is provided in the /traps directory of the Insight Integration. This sample file contains launches to the HP Insight Management Agents, HP Systems Insight Manager, HP Power Manager.

15. Load the HP Integrity Superdome system MIBs into the NNM database (optional). Discovery and classification of Integrity Superdome systems is provided by default in the Insight Integration. To enable more extensive alarm processing from these systems, load the Integrity MIBs by changing to the /ipf directory and executing the loadipf script.

16. Configure the Insight Integration menu option for the NNM Home Base Dynamic Views (optional).

    a. Change to the $OV_WWW_REG/dynamicViews/$LANG directory.

    b. Edit the insight.xml file. Perform a search and replace on the string "localhost," replacing the "localhost" string with the name or IP address of the Systems Insight Manager server. Save the file.

The installation of the Insight Integration takes approximately 10 minutes, and a completion message displays when the process is finished. The installation creates the /TMP/CIMINSTALL.LOG log file and the /TMP/CIMERROR.LOG file, which contain information about the installation status and any messages related to installation or configuration errors. If the CIMERROR.LOG file contains errors, fix the reported problems, and then run the `./cpqinstall` command again (step 7) to reinstall the integration software.

Installation procedures for Windows platforms

The following section describes the recommended steps for installing the complete Insight Integration for HP OpenView NNM revision 3.2 on NNM 6.3 and later platforms running Windows 2003, Windows XP, or Windows 2000.

> **NOTE:** To install just the HP SNMP trap definitions and omit HP device discovery and status monitoring using the NNM Segment Map, refer to the "Event-only Integration" section in this chapter.

1. Access http://www.hp.com/servers/integration. Register and select the Windows version of the Insight Integration for HP OpenView NNM. Download it to a separate directory on the system containing the NNM installation (for example, IMHPOV).

   NOTE: The downloaded file is presented as a compressed .zip file.

2. Decompress the .zip file using the unzip (WinZip) utility.
3. Be sure you are logged in with Administrator privileges.
4. Stop the HP OpenView NNM GUI if it is running, and close all OVW sessions by selecting the NNM Services Stop icon in the program menu or running the following command at the DOS prompt:

   ```
   %OV_BIN%\OVSTOP
   ```
5. Open a command prompt **(Start>Run>cmd),** and change to the directory that contains the expanded Insight Integration (imovwin32).
6. Run the CPQINSTALL.CMD script, and follow the instructions.

   The Insight Integration uses the default browser defined in the operating system to view the System Management Homepage of the HP Insight Management Agents and other browser-based HP management tools such as HP Systems Insight Manager.

   NOTE: The installed browser must have Java and JavaScript enabled.

7. Configure the NNM Java interface registration files (optional). If you intend to use the web-based interface for NNM, edit the \insight and \insighthome registration files to configure them for access to your Systems Insight Manager server as follows.
   a. Open the %OV_WWW_REG%\jovw\%LANG%\insight file, and replace the string IM7IPADDRESS with the name or IP address of your Systems Insight Manager server.
   b. Open the %OV_WWW_REG%\launcher\%LANG%\insighthome file, and replace the string IM7IPADDRESS with the name or IP address of your Systems Insight Manager server.
8. Configure the Alarm Browser Views for NNM 6.31 and later (optional). These versions of NNM can be configured to launch specific views in the context of an event. Edit the xnmeventsExt.conf file in the %OV_CONF%\%LANG% directory, and add the following line:

   ```
   .1.3.6.1.4.1.232.*;"Insight web Agents";http://$OvNode:2301
   ```
   This entry enables the web-enabled Insight Management Agents to be launched directly from an HP event received in the NNM Alarm Browser. A sample file (xnmeventsExt.cpq) is provided in the \traps directory of the Insight Integration.

9. Load the HP Integrity Superdome system MIBs into the NNM database (optional). Discovery and classification of HP Integrity Superdome systems is provided by default in the Insight Integration. To enable more extensive alarm processing from these systems, load the Integrity MIBs by changing to the \ipf directory and executing the loadipf script.
10. Configure the Insight Integration menu option for the NNM Home Base Dynamic Views (optional).
    a. Change to the $OV_WWW_REG/dynamicViews/$LANG directory.
    b. Edit the insight.xml file. Perform a search and replace on the string "localhost," replacing the "localhost" string with the name or IP address of the Systems Insight Manager server. Save the file.

    The installation of the Insight Integration takes approximately 10 minutes and displays a completion message when the process is finished. The installation creates the %OV_BIN%\CIMINSTALL.LOG log file and the %OV_BIN%\CIMERROR.LOG file, which contain information about the installation status and any messages related to installation or configuration errors. If the CIMERROR.LOG file contains errors, fix the reported problems, and run the CPQINSTALL.CMD again (step 6) to reinstall the integration software.

Uninstalling the Insight Integration for NNM (HP-UX and Solaris)

To uninstall the Insight Integration for HP OpenView NNM manually:

1. Log in to the HP OpenView NNM console system as `root`.
2. Delete the Insight Integration-specific objects and symbols.
   a. Start the OVW.
   b. Open the NNM map.
   c. Select **Map>Properties.**

Figure 1 Map Properties window
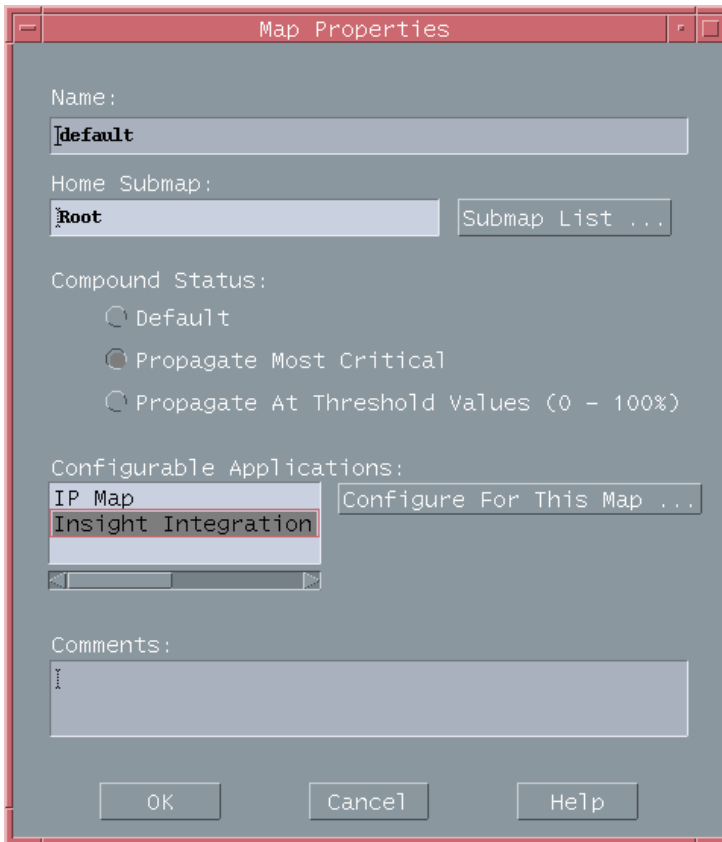
> d. Select **Insight Integration for HP OpenView NNM** from the Configurable Applications section in the Map Properties window.
>
> e. Click **Configure For This Map.**

Figure 2 Configuration window
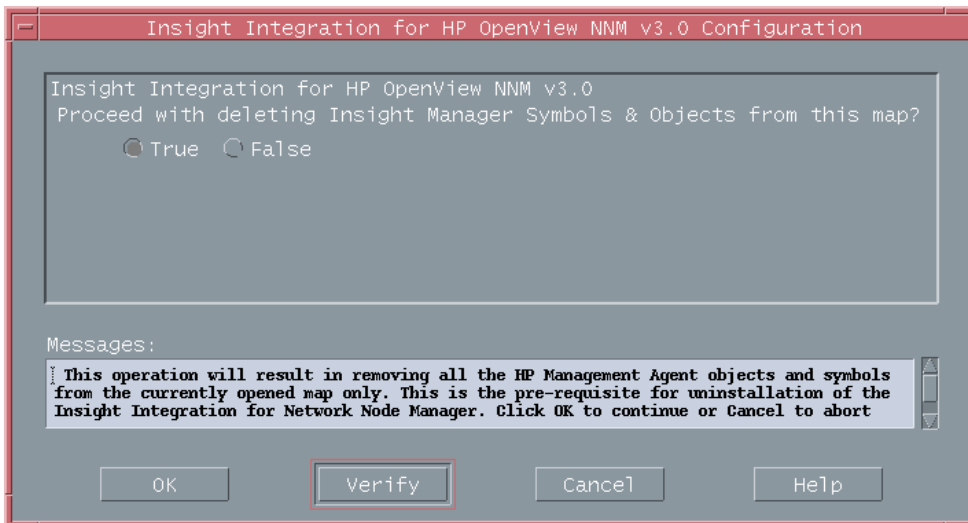
> f. Select **True.**
>
> g. Click **Verify** to confirm that the action can be performed.
>
> h. Click **OK** to complete the selection and start the deletion process.
>
> i. When the process has been completed for all NNM maps, close all open maps and exit OVW.
>
> j. Repeat steps b through i for each NNM map.

3. Remove the Insight Integration files.

NOTE: Uninstalling the Insight Integration is only necessary if you want to remove the integration components permanently. It is not necessary to uninstall if you are reinstalling over a previous revision of the Insight Integration for HP OpenView NNM or Compaq Insight Manager for OpenView NNM.

a. Exit OVW if it is running, and close all OVW sessions.

NOTE: OVW must be closed before proceeding with the uninstall process.

b. From the command line, change to the directory where the downloaded Insight Integration file was extracted, and run the following command to remove the Insight Integration files:

```
./cpquninstall
```

Uninstalling the Insight Integration for NNM (Windows)

1. Log in as Administrator.
2. Delete the Insight Integration-specific symbols from the NNM maps.
   a. Start the OVW.
   b. Open the NNM map.
   c. Select **Map>Properties.**

Figure 3 Map Properties window
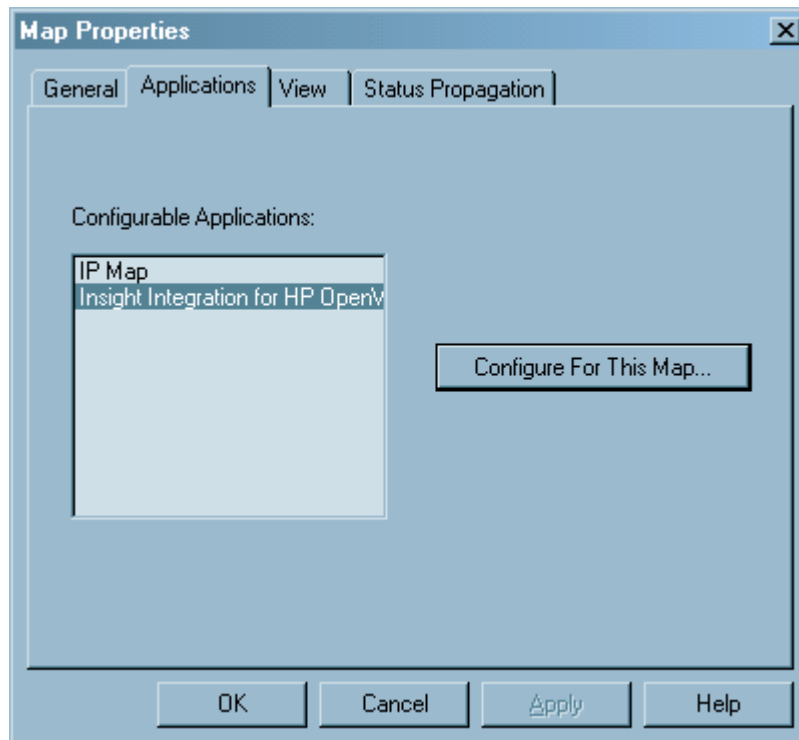
d. In the Applications tab, select **Insight Integration for HP OpenView NNM** from the Configurable Applications section.

e. Click **Configure For This Map.**

Configuration window

f. Highlight **Proceed with deleting Insight Integration Symbols & Objects from this map?,** and select **True.**
g. Click **Verify** to confirm that the action can be performed.
h. Click **OK** to complete the selection and start the deletion process.
i. Repeat steps b through h for each NNM map.

3. Remove the Insight Integration files from the hard drive of the NNM console system.

📝 **NOTE:** This section is optional if the product is being reinstalled.

a. Close the OpenView NNM GUI if it is running, and close all other OVW sessions.
b. Click the **NNM Services Stop** icon in the program menu, or run the following command at the DOS prompt:

```
%OV_BIN%\OVSTOP
```

📝 **IMPORTANT:** OVW must be closed before proceeding with the uninstall process.

c. Click the **NNM Services Status** icon in the program menu, or run the following command at the DOS prompt to verify that all OVW processes have been stopped:

```
%OV_BIN%\OVSTATUS
```

d. From the command prompt, change to the directory where the Insight Integration file was extracted (for example, c:\imovwin32).
e. From the command prompt, run cpquninstall.

Configuration files

The processes installed by the Insight Integration for HP OpenView NNM use specific configuration files to define the default browser path and a variety of operating conditions. The following two configuration files can be modified to suit individual requirements:

- CPQWEB.CONF (Web browser path configuration file for UNIX-hosted installations)
- CPQCONFIG.DAT (Insight Integration configuration file)

Refer to the "Product architecture" section in Chapter 1 for full details on the processes installed and used by the Insight Integration.

CPQWEB browser configuration

CPQWEB.CONF is the browser configuration file used by the CPQWEB process to launch the default browser. After the integration has been installed, modify this file to point to the location of the browser executable (for example, or /usr/local/mozilla/mozilla).

The CPQWEB.CONF file is only used by UNIX-hosted installations of the Insight Integration and can be found under the $OV_CONF/$LANG/cpq directory. Windows-hosted configurations use the default browser applications defined in the Windows registry.

NOTE: The Insight Integration requires the use of a web browser to view the System Management Homepage of the HP Insight Management Agents and other HP management tools such as Systems Insight Manager. Java and JavaScript must be enabled in the browser configuration to properly enable these features.

For client installations, the browser must be installed in the same path as the server. This path information is defined in the CPQWEB.CONF file.

CPQCONFIG configuration

The Insight Integration for HP OpenView NNM uses the CPQCONFIG.DAT configuration file to define discovery and update status intervals for HP nodes.

This configuration file is installed in the $OV_CONF/$LANG/cpq directory and can be modified to include custom settings. The following sections describe the elements of the configuration file that can be modified.

Changes to this configuration file take effect only after performing the following operations:

- Stop the respective processes using the OVSTOP command.
- Start the respective processes using the OVSTART command.

WARNING! Do not modify the CPQCONFIG.DAT file, except for the parameters defined in this section.

The CPQCONFIG.DAT file contains a Discovery section, which can be configured to define a number of discovery and status update intervals detailed in the following section. All comments within this section must begin with the number sign (#).

The Discovery section has two configurable parameters:

- **Discovery Interval**—The time interval, in minutes, between two successive discoveries of nodes. If no value is specified, the internal default is used.

  ```
  # Interval between successive HP node discovery in minutes
  # Valid range: 1 to 4272
  # Default value: 30
  DiscoveryInterval: 30
  ```
- **Re-discovery Interval Iteration**—Specification of the number of rediscoveries and retries before the integration node discovery process is considered complete for all the nodes present in the OVW database.

  ```
  # The Re-discovery iteration number
  # Valid range: 1 to 100
  # Default value: 10
  Re-discoveryIntervalIteration: 10
  ```

Tool Definition configuration

A Tool Definition (TDEF) file for HP Systems Insight Manager is provided with the Insight Integration for NNM. This file provides menu definitions that enable the NNM to be launched directly from Systems Insight Manager.

1. Copy the file nnm.xml from the /hpsim directory to the Systems Insight Manager\tools directory on the Systems Insight Manager server.
2. Edit the TDEF file nnm.xml, and perform a search and replace on the string "localhost," replacing "localhost" with the name or IP address of your NNM server.
3. Open a command prompt and change to the HPSIM\tools directory. Run the `mxtool` command to load the new tool definition.

```
mxtool -a -f nnm.xml
```

You must close the browser and log back into Systems Insight Manager to view the new tool menus.

The `mxtool` command can be run again to remove the tool definition as described in step 3.

Additional configuration requirements

In addition to the installation and configuration procedures noted, perform the following steps to ensure correct functionality of the Insight Integration:

1. On HP-UX and Solaris systems, include the following environment variables in the $HOME/.dtprofile file for each user ID used to view the NNM maps. This action ensures that the discovered HP nodes display using the HP specific icons.

```
IPMAP_NO_SYMBOL_CHANGES=TRUE
export IPMAP_NO_SYMBOL_CHANGES
```

2. On HP-UX and Solaris systems, include the following environment variable in the $HOME/.dtprofile file for each user ID used to view the NNM maps. This action enables you to launch to the desired HP Systems Insight Manager server.

```
IMADDRESS=IP address or hostname of the Systems Insight Manager server

export IMADDRESS
```

3. Enable Map Persistence to ensure that the HP status updates are populated on both the main map and submaps within the NNM.
4. To provide access to Systems Insight Manager from the NNM Home Base, edit the "insight.xml" file, and perform a search and replace on "localhost," replacing "localhost" with the name or address of the Systems Insight Manager Server. The file insight.xml is located in the $OV_WWW_REG/dynamicViews/$LANG directory.

The following sections describe how to implement these settings within the NNM environment on HP-UX, Solaris, and Windows platforms.

Setting map persistence in HP-UX and Solaris environments

1. From the NNM segment map, select **Map>Map Properties** to display the Map Properties window.

Figure 5 Map Properties window
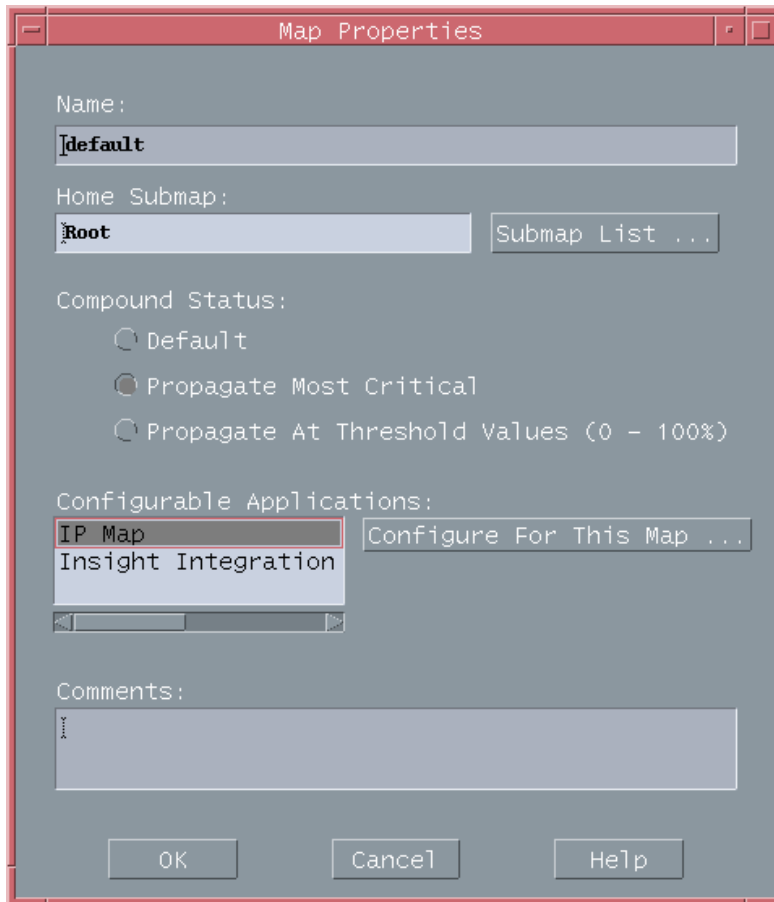
2. Highlight **IP Map** in the Configurable Applications section, and click **Configure For This Map.** The IP Map Configuration window appears.

IP Map Configuration window

3. In the On-Demand: To what level should submaps be persistent? section, set the value to **All Levels.**
4. Click **Verify** to confirm that the action can be performed.
5. Click **OK** to complete the process.
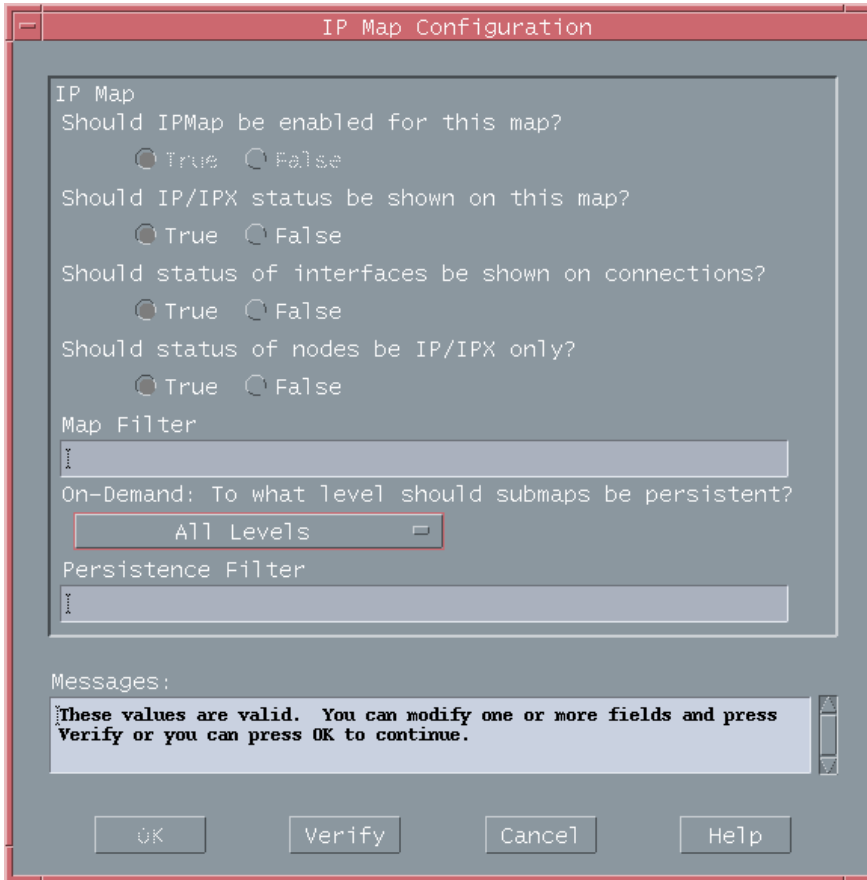
Setting map persistence in a Windows environment

1.   From the NNM segment map, select **Map>Map Properties** to display the Map Properties window.

Figure 7 Map Properties window
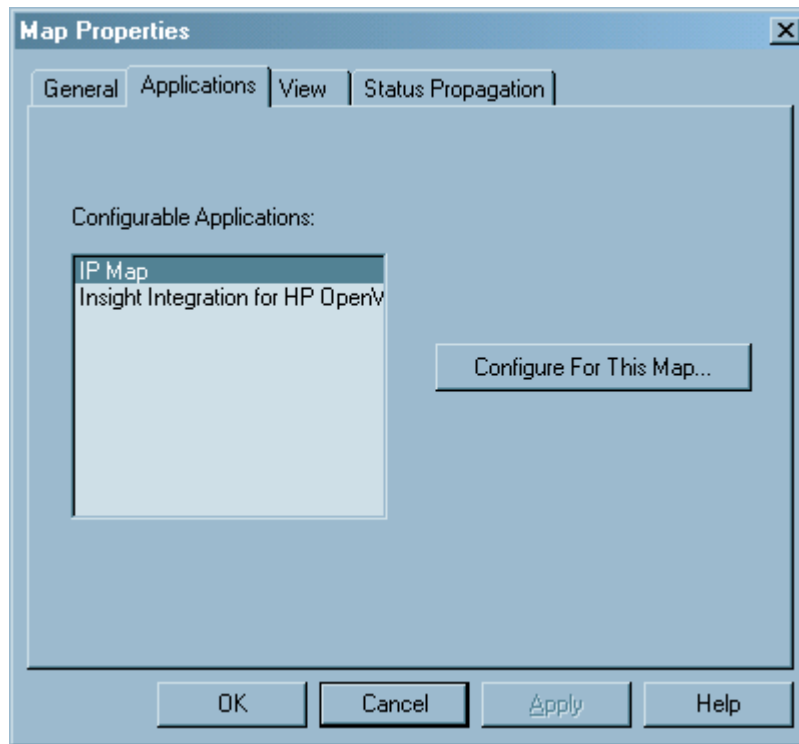
2. In the Applications tab, highlight the **IP Map** entry in the Configurable Applications section, and click **Configure For This Map.** The Configuration window appears.

Figure 8 Configuration window
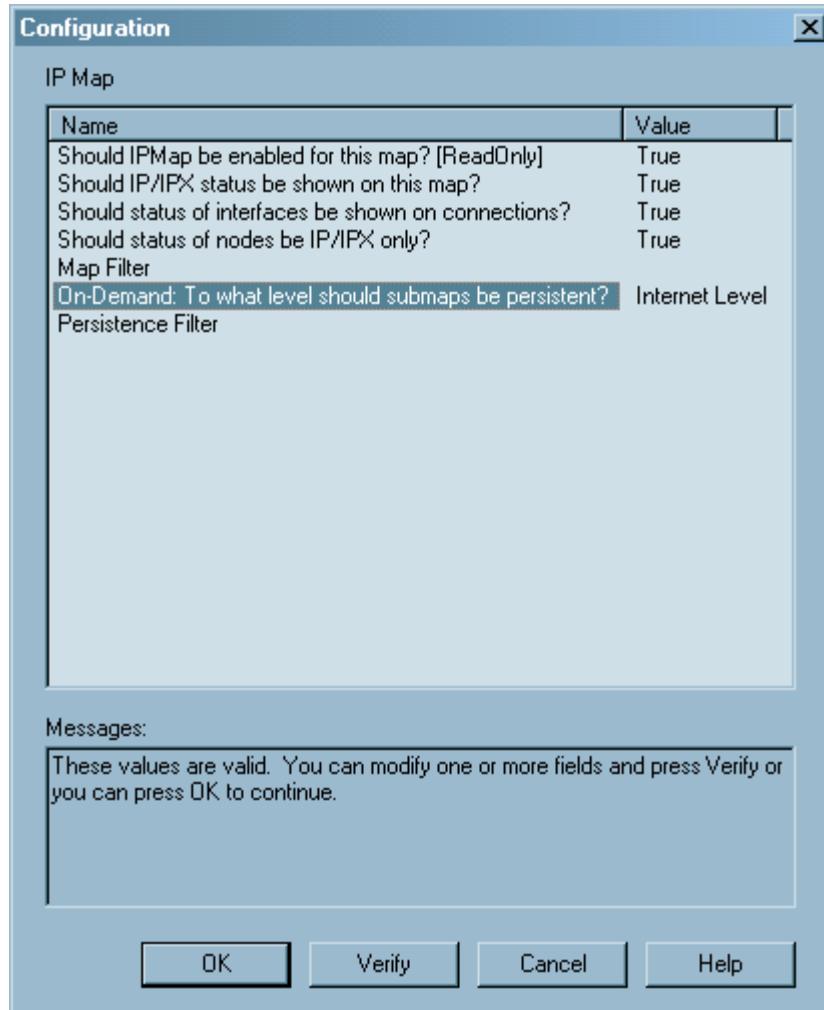
3. In the Configuration window, highlight **On Demand: To what level should submaps be persistent?** This action prompts the Set Attribute Value window.

Figure 9 Set Attribute Value window
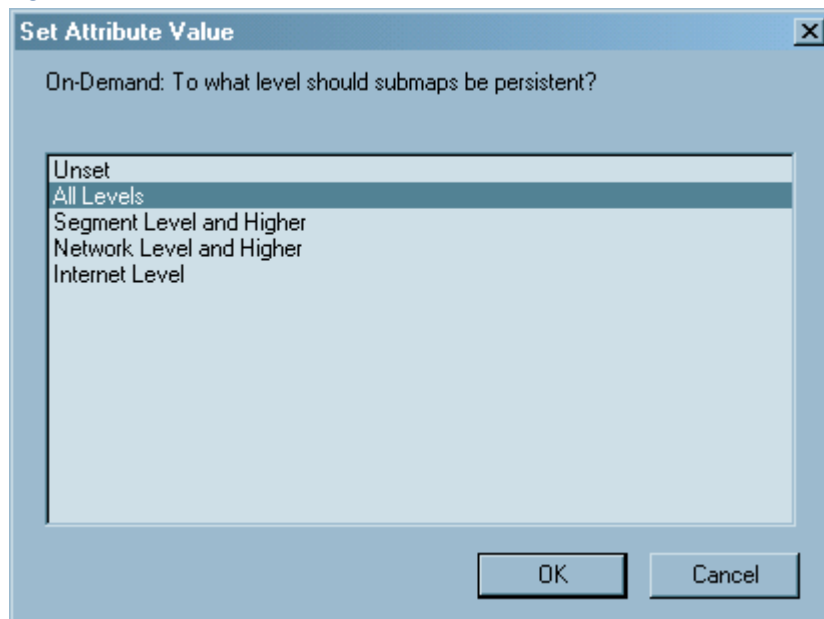
4. In the Set Attribute Value window, select **All Levels,** and click **OK.**

5. At the Configuration window, click **Verify** to confirm the action can be performed.
6. Click **OK** to complete the process.

Event-only integration

Revision 3.0 of the Insight Integration introduced an alternative installation process that integrates only the HP SNMP event definitions and MIBs into an existing NNM environment. This process provides an additional level of flexibility and is especially useful when HP ProLiant servers are used and the primary tool for monitoring the systems infrastructure is the NNM Alarm Browser.

📝 **NOTE:** This method will not install the foreground and background processes, symbols, icons, and menu extensions provided with the complete installation of the Insight Integration for HP OpenView NNM. Refer to the "Installation Procedures for HP-UX and Solaris Platforms" section or the "Installation Procedures for Windows Platforms" section in this chapter for details on the complete installation methods.

The files used for the event-only integration are separate from those used by the complete installation method and must not to be used in conjunction with the complete installation of the Insight Integration.

Differences between the event-only and full integration methods

While the HP events displayed in the NNM Alarm Browser are of similar content for both installation methods of the Insight Integration, the complete installation implements SNMP trap definition files from the \traps directory, and the event-only installation uses trap definition files from the \hpqtraps directory. Both methods display HP SNMP traps defined by Insight Management Agents up to version 7.40.

By using the event-only integration:

- Only SNMP event integration related to HP ProLiant hardware is provided.
- No discovery or status monitoring of HP systems on the NNM map occurs.
- No background or foreground processes are added to the NNM console.
- HP ProLiant MIBs must be loaded for varbind translation.

Installing the event-only integration

To provide detailed entries in the NNM Alarm Browser for HP SNMP events, the HP ProLiant MIBs and predefined HP SNMP trap definition files must be installed using the scripts provided in the \hpqtraps directory. These scripts replace any currently loaded ProLiant MIBs with the new MIB versions.

To install the event-only integration, load the ProLiant MIBs and the HP SNMP trap definitions.

📝 **NOTE:** Do not load the trap definitions directly from the MIBs. Load the ProLiant trap definition file to get detailed trap translations.

Loading HP MIBs into a Windows NNM host

1. Be sure you are logged on as an administrator.
2. Open a command prompt, and change to the integration \mibs directory.
3. Run the cpqload.cmd script.

Loading HP MIBs into an HP-UX or Solaris NNM host

1. Be sure you are logged on as `root`.
2. Change to the integration /mibs directory.
3. If the script is not executable, modify the permissions by running the command `chmod 744 cpqload`.
4. Run the cpqload script.

Loading the HP SNMP trap definitions on a Windows NNM host

1. Be sure you are logged on as an administrator.
2. Open a command prompt.
3. Change to the \hpqtraps directory.
4. Run the install-win.cmd script.

Loading the HP SNMP trap definitions on an HP-UX or Solaris NNM host

1. Be sure you are logged on as root.
2. Open a terminal window.
3. Change to the /hpqtraps directory.
4. If the script is not executable, modify the permissions by running the command `chmod 744 installtraps`.
5. Run the installtraps script.

HP SNMP event examples

The following example demonstrates the differences between loading only the HP MIBs for trap translations and loading both the HP MIBs and HP trap definition files for full event translations.

With only HP MIBs loaded

For a replaced hard drive, the event presented in the NNM Alarm Browser is similar to the following:

```
Physical Drive Status is now ok.
```

With HP MIBs and trap definition files loaded

For the same hard instance, the event displayed in the NNM Alarm Browser is similar to the following:

```
HP - Physical Drive Status has Changed to ok. (Controller: 5, Bus:1, Bay: 1,
Model: HP ST32171WC, Firmware: 0684, Serial#: JEB360690N5KWG)
```

📝 **NOTE:** The depth of information displayed in the translated trap can vary, depending on the version of HP Insight Management Agents used to generate events. For example, older versions of the HP Management Agents might not send the drive serial number with the disk drive trap. As a result, that field would be blank in the translated alarm.

Uninstalling the event-only integration

To uninstall an event-only installation of the HP Insight Integration, remove both the HP SNMP MIBs and trap definition files from Windows and UNIX NNM host systems.

Removing the HP trap definitions from a Windows NNM host

1. Be sure you are logged on as an administrator.
2. Open a command prompt.
3. Change to the \hpqtraps directory.
4. Run the remove-win.cmd script.

Removing the HP trap definitions from an HP-UX or Solaris NNM host

1. Be sure you are logged on as root.
2. Open a terminal window.
3. Change to the /hpqtraps directory.
4. If the script is not executable, modify the permissions by running the command `chmod 744 removetraps`
5. Run the removetraps script.

Unloading the HP ProLiant MIBs from a Windows NNM host

1. Be sure you are logged on as an administrator.
2. Open a command prompt.
3. Change to the \mibs directory.
4. Run the cpqunload.cmd script.

Unloading the HP ProLiant MIBs from an HP-UX or Solaris NNM host

1. Be sure you are logged on as root.
2. Open a terminal window.
3. Change to the /mibs directory.
4. If the script is not executable, modify the permissions by running the command `chmod 744 cpqunload`.
5. Run the cpqunload script.

Installing the Insight Integration on an NNM Remote Console

Before installing the Insight Integration on an NNM Remote Console, the full integration must be installed and configured on the NNM server. The NNM server can be running on Windows, HP-UX, or Solaris.

1. Download the Windows version of the Insight Integration for NNM.
2. Unzip the integration on the remote console system.
3. On the remote console system, open a command prompt and change to the integration directory.
4. Execute the rconsole-install.cmd script.

The rconsole-install.cmd script copies the necessary files from the integration into the appropriate NNM directories.

The "Monitor–HP–Discover" and "Monitor–HP–Status Update" menu items are not available on the remote console installation. These menu items are only available on the NNM server.

To remove the integration file for the remote console, change to the integration directory and run the rconsole-remove.cmd script.

Installing the Web Jetadmin Integration

The integration for HP Web Jetadmin can be installed with the other integration components or as a stand-alone piece.

1. Download the Insight Integration for NNM.
2. Unzip the integration file on the local system.
3. Open a command prompt, and change to the directory where you unzipped the integration.
4. Change to the wja directory.
5. Edit the file hpwjabridge.arf, replace the string "localhost:8000" with the name and port number of your Web Jetadmin server, and save the file.
6. Run the install.cmd script.

Creating NNM events from HP SIM

HP SIM can create events for NNM through an application launch. This option requires minimal configuration on the NNM server. Currently this option is only supported with HP SIM running on Microsoft Windows.

To configure the NNM server:

1. Copy the hpsimtraps.nnm file from the /hpsim directory to the NNM server.
2. On the NNM server, run the command `xnmevents -load hpsimtraps.nnm` to load the trap configuration file.

The hpsimtraps.nnm trap configuration file defines five events that will be added to trapd.conf. One event is defined for each possible severity level in Systems Insight Manager. The following table list the severity mapping used in the trap definition file.

Table 6 Trap configuration events

HP SIM	NNM
Critical	Critical
Major	Major
Minor	Minor
Normal	Informational
Informational	Informational

To configure the HP SIM server:

1. Install the NNM Remote Console on the HP SIM server. This action provides access to the SNMP command line utilities on the NNM server.
2. Copy the program hpsimnnm.exe to the HP SIM server.
3. Create a custom command in HP SIM for launching hpsimnnm.exe.
4. Create an Automatic Event Handling task to execute the custom command any time a new event is received.

   The executable file hpsimnnm.exe processes the environment variables created during the application launch. These variables are formatted and the snmpnotify.exe command is launched to create the event in NNM.

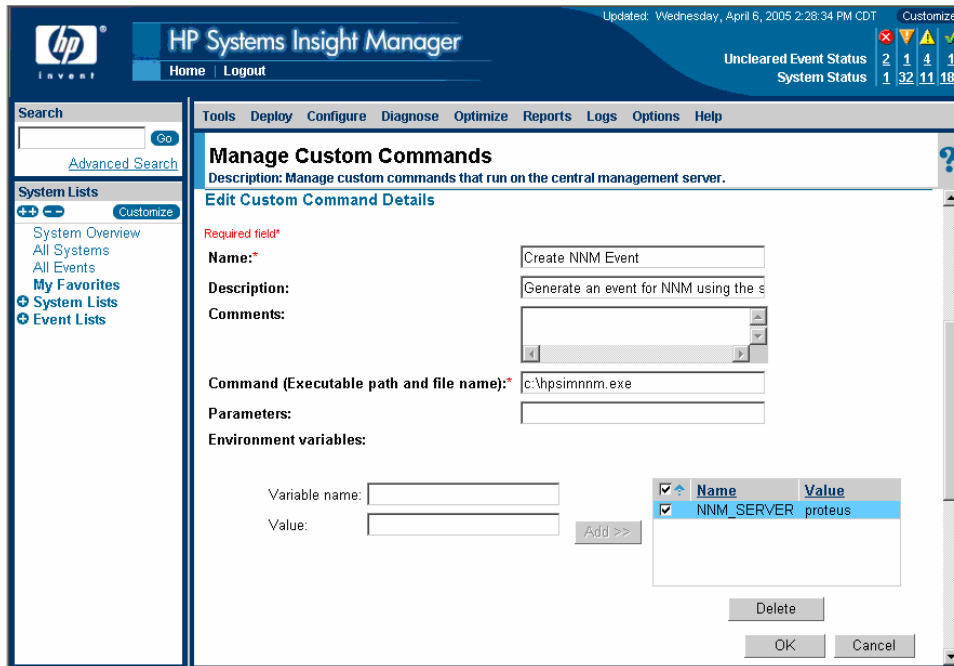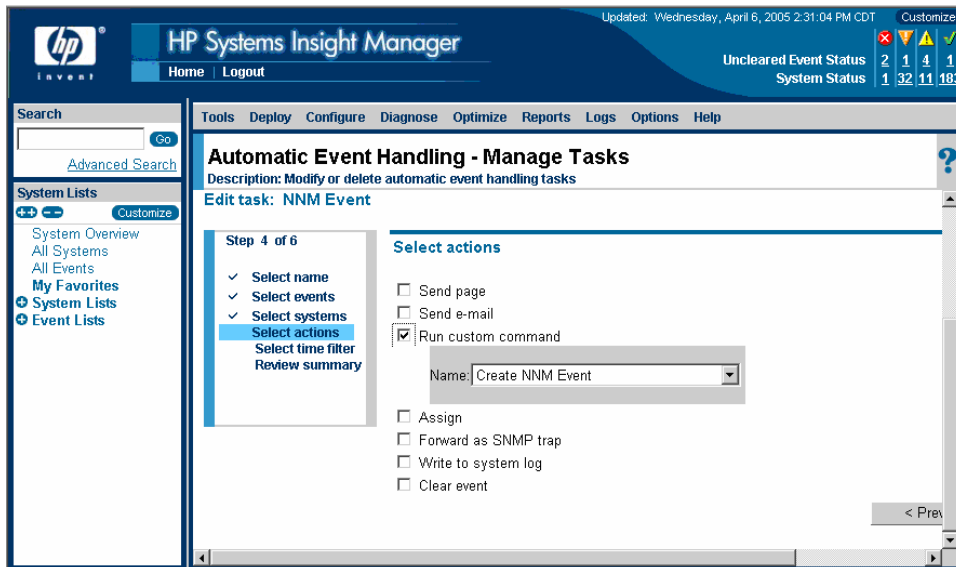**Figure 10** Creating a custom command in HP SIM

Figure 11 Creating an Automatic Event Handling Task in HP SIM

Using the hpsimnnm.exe program, only one SNMP variable is sent from HPSIM to NNM. This variable is the complete trap message from SIM in one string.

Additionally, the node that originally sent the event to HPSIM is used to display the node information in NNM, so the original node will be displayed as the source of the event.

When an event is received that meets the criteria specified in the automatic event-handling setup, the hpsimnnm.exe program will execute and send an event to NNM using the `snmpnotify` command. These events will begin with "HPSIM" so you know they were generated by the Systems Insight Manager server.

Configuring SNMP on an HP ProLiant system running NNM

On an HP ProLiant system running NNM, the SNMP settings must be configured in the SNMP EMANATE agent to enable correct operations.

The configuration settings are kept in the snmpd.conf file. This file is located in the NNM installation directory under the %OV_CONF%\SNMPagent directory (for example, \HP Openview\NNM\conf\SNMPAgent).

HP recommends that you configure the get-community-name, set-community-name, contact, location, and at least one trap-dest entry (for example, trap-dest: 127.0.0.1 to trap to the local host).

The following is a sample configuration. Other examples are provided in the snmp.conf file.

```
get-community-name:   public
set-community-name:   PUBLIC
contact: Lab Administrator
location: Integration Test Lab
trap-dest: 170.20.1.10
trap-dest: 170.20.1.11
```

Additionally, you can configure the port used by the NNM Emanate agent if you are experiencing problems with the Insight Management Agents running on the NNM server.

To move the Microsoft SNMP Agent into port 161:

1. Edit the file /%SYSTEM_ROOT%/system32/drivers/etc/services/, and change the value for SNMP to 161.
2. Stop and then start the SNMP Service.

To move the NNM Emanate Agent into port 50161:

1. Click **Start>Control Panel>System.**
2. Click the **Advanced tab.**
3. Click **Environment Variables.**
4. Enter a new System Variable called SR_SNMP_TEST_PORT, and change the port value to 50161.
5. Reboot the server.

Insight Integration for HP OpenView Network Node Manager Revision 3.2

Introduction

This chapter describes how to use the features provided with the Insight Integration for HP OpenView NNM.

Using the Insight Integration for HP OpenView NNM

The installation of the Insight Integration for HP OpenView NNM copies several background and foreground process files, which work with the native NNM processes to provide system discovery, reception and translation of HP SNMP events in the NNM Alarm Browser, and the display of HP system status on the NNM Segment Map.

To ensure correct operations of the Insight Integration, the background processes of both HP OpenView NNM and the Insight Integration must be running. Normally, these processes are started by the process management daemon, OVSPMD, when the operating system is initialized. If any of these background processes are not running, start them using the OVSTART command before starting the OVW. For more information on how to use OVSTART, refer to the *HP OpenView Network Node Manager User's Guide.*

NOTE: A full description of the process installed by the Insight Integration is provided in the "Product architecture" section of Chapter 1.

Table 7 Insight Integration for HP OpenView NNM background processes

Process number	Insight Integration for HP OpenView NNM process
1	CPQDIS
2	CPQTRAPD

Verifying the status of HP background processes

Run the OVSTATUS command from a command line prompt to verify the status of the background processes listed in Table 8. If any of these processes are not displayed as active, configuration or communications problems might exist. To confirm that the Insight Integration has installed correctly and resolve any problems, refer to the "Troubleshooting" section in Appendix A of this guide. For more information on how to use OVSTART and OVSTATUS, refer to the *HP OpenView Network Node Manager User's Guide.*

Starting the Insight Integration for HP OpenView NNM

The Insight Integration for HP OpenView NNM integrates into the existing NNM infrastructure and default processes. Therefore, the Insight Integration is started automatically with the OVW command.

If the Insight Integration is not running and cannot be resolved using the procedures detailed in the previous section, "Verifying the status of HP background processes," refer to the "Troubleshooting" section in Appendix A of this guide for further assistance.

Exiting the Insight Integration for HP OpenView NNM

To stop all foreground processes associated with the Insight Integration for HP OpenView NNM, exit the HP OpenView GUI. To stop the background processes, use the OVSTOP command.

The background and foreground processes installed by the Insight Integration are described in more detail in the "Product architecture" section in Chapter 1. For more details on how to use OVSTOP, refer to the *HP OpenView Network Node Manager User's Guide.*

Discovering HP systems in HP OpenView NNM

The Insight Integration for HP OpenView NNM installs processes and map symbols that automatically discover and reclassify HP server and client systems on the NNM Segment Map. The HP symbols also display the primary operating system associated with each individual node (presently not blade systems) and the overall system status. The list of HP systems discovered includes:

- HP ProLiant, AlphaServer, and Integrity Superdome servers
- Evo and Deskpro client systems
- HP Storage Management Appliance

The HP discovery and classification processes work with native HP OpenView NNM services to identify HP systems running HP Insight Management Agents. As HP systems are discovered, they are registered in the HP OpenView NNM database, along with all other discovered devices.

The installed HP processes perform the following primary functions:

- CPQDIS is a background process used to redefine all discovered systems running HP Insight Management Agents.
- CPQMAP is a foreground process that updates map symbols for all HP systems identified by the CPQDIS process and replaces the default NNM symbols with HP specific symbols.

📝 **NOTE:** Full details of the HP discovery and classification processes are provided in the "Product architecture" section of Chapter 1. System status identification and analysis procedures are detailed in the "Viewing HP systems information" section of this chapter.

Revision 3.2 of the Insight Integration performs discovery and reclassification of the following systems:

- HP ProLiant ML and DL servers
- Servers installed with RILOE, RILOE II, and iLO technology
- HP ProLiant BL p-Class and e-Class blade systems, including the e-Class Integrated Administrator
- Integrity Superdome servers

The following subsections provide additional details on these items.

Discovering HP ProLiant blade systems

HP ProLiant BL blade servers are discovered as either e-Class or p-Class models and displayed on the NNM Segment Map, as shown in Figure 12. The operating system associated with each blade is not discovered and displayed.

For e-Class blades, the Integrated Administrator (blade enclosure manager) is also discovered and identified on the NNM map. Right-clicking the discovered enclosure manager provides the option to launch to the Integrated Administrator interface.

After the individual ProLiant BL systems are discovered and identified, you can place them into groups for easier access and management.

Figure 12 ProLiant BL blade systems discovered by the Insight Integration
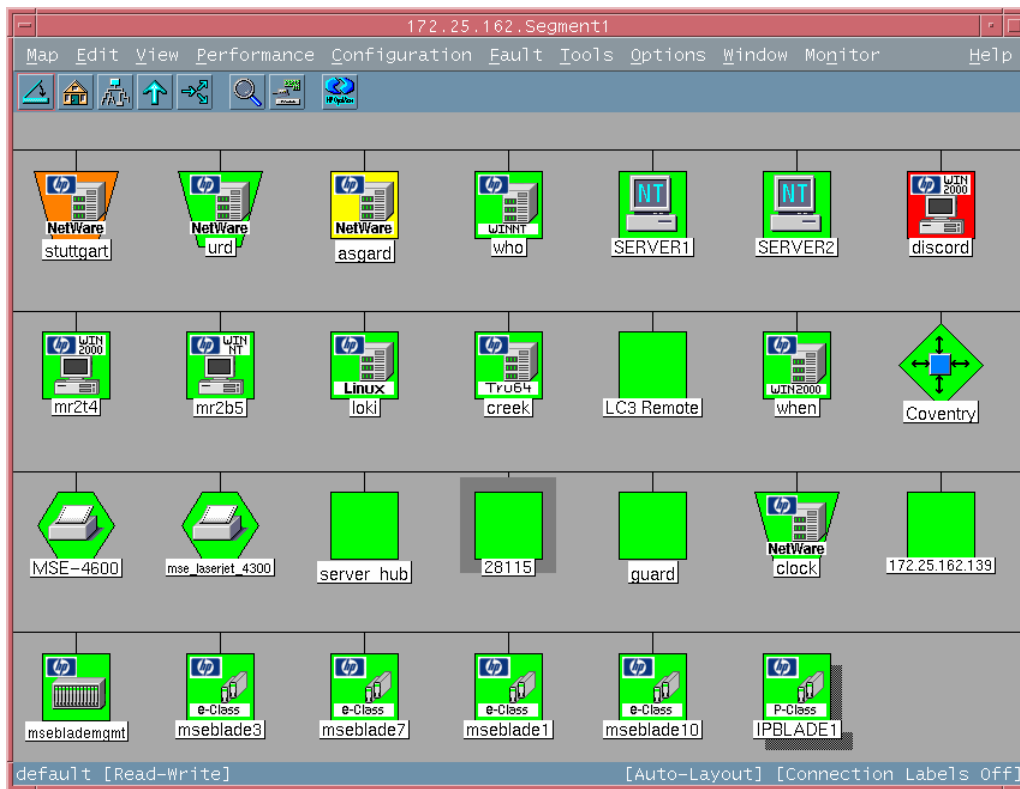
Discovering RILOE, RILOE II, and iLO

The Insight Integration includes the ability to discover ProLiant servers installed with RILOE, RILOE II, and iLO management processors. For each discovered server hosting a Lights-Out management processor, new menu items are automatically added to enable direct access to the management processor browser-based interface from the NNM Segment Map.

Right-click an individual server on the NNM Segment Map to access the management processor. If RILOE or ILO is present, the Insight Lights-Out menu option appears. Select this menu option to launch the management processor interface for the selected node.

To enable automatic RILOE and iLO discovery, the Insight Integration adds the following two new fields to the NNM database:

• isCpqRILOE—True/False
• cpqRILOEip—IP Address of the RILOE or ILO

The CPQDIS process discovers the management processor agent running on the server and then retrieves the IP address for the cpqRILOEip field.

In addition, the foreground process CPQRILOE.EXE launches to the address of the RILOE or ILO management processor from the server selected on the NNM map.

NOTE: Full details of the CPQRILOE.EXE process are provided in the "Product architecture" section of Chapter 1.

If the IP address does not appear correctly, verify the IP address returned by the host system by using the SNMPGET command (snmpget HOSTNAME 1.3.6.1.4.1.232.9.2.5.1.1.5.2).

For example:

```
D:\snmpget spiral 1.3.6.1.4.1.232.9.2.5.1.1.5.2
232.9.2.5.1.1.5.2 : IpAddress: 172.25.162.159
```

Finding systems installed with RILOE or iLO

To display all discovered HP systems installed with RILOE or iLO, perform a Find By Attribute procedure on the cpqRILOE attribute:

1. From the NNM interface, select **Edit>Find>Object by Attribute.** The Find By Attribute window appears.

Figure 13 Finding servers with iLO or RILOE
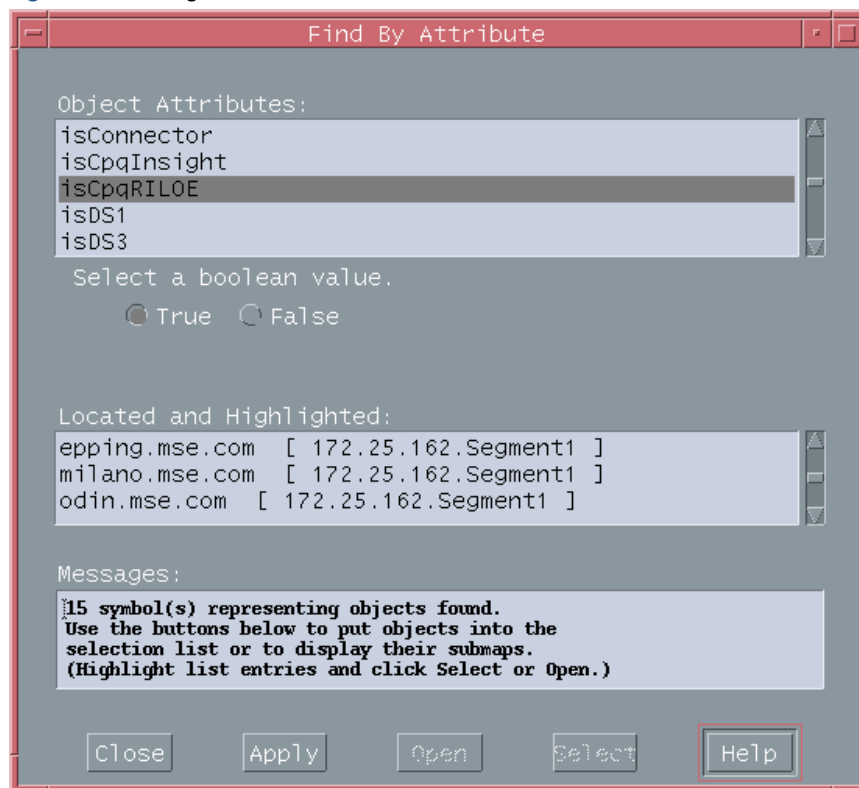
2. In the Object Attributes list, highlight the isCpqRILOE entry, and click **Apply.** All nodes matching the isCpqRILOE attribute are listed in the Located and Highlighted field, as shown in step 1.
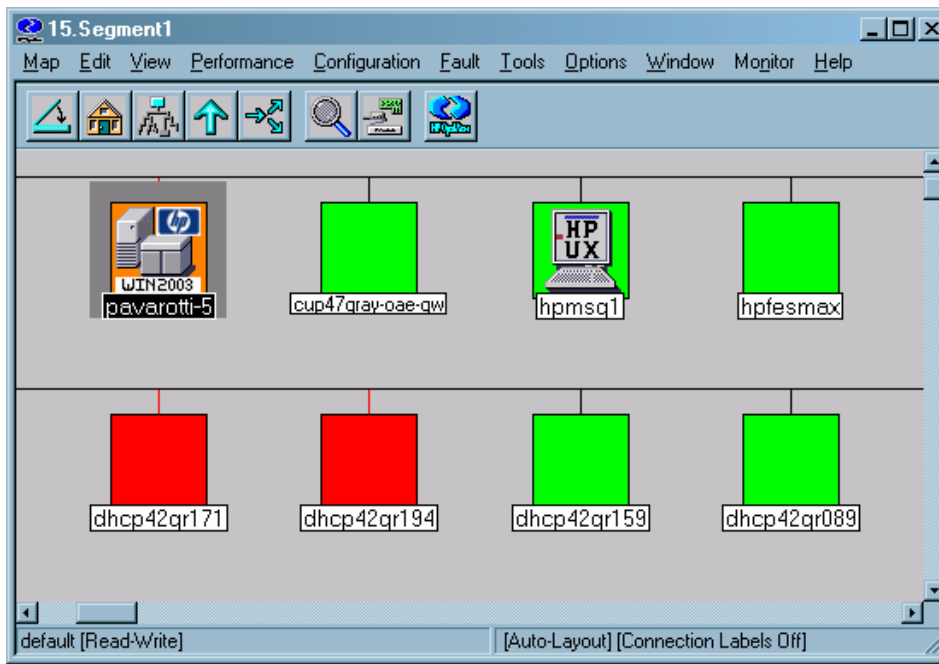
Discovering Integrity Superdome servers

Like other HP server and client systems, Integrity Superdome systems are discovered and classified by the Insight Integration with a unique symbol on the NNM Segment Map, as shown in Figure 14. The symbol displayed for each discovered server also includes the primary operating system, color-coded system status, and additional menu items that provide access to further systems data and HP management tools. Systems running Windows 2003 will be discovered with the icon shown in Figure 14. Systems running Linux will be discovered with the normal Linux server icons.

NOTE: For more information on the menu items associated with Integrity Superdome servers, refer to the "Viewing HP systems information" section of this chapter.

Figure 14 Integrity Superdome system discovered in NNM

Finding Integrity Superdome servers

To find all of the discovered Integrity Superdome servers running Windows 2003 within the managed NNM environment, perform a Find By Attribute procedure on the cpqOsType attribute, as shown in the following example:

From the NNM interface, select **Edit>Find>Object by Attribute,** which displays the Find By Attribute window, as shown in Figure 15:

1. In the Object Attributes list, highlight the **cpqOsType** entry.
2. In the Type of string search panel, click the **Pattern matching** button.
3. In the Regular Expression field, enter the identifying string for Integrity Superdome servers running Windows. For this example, the hpwin2kipf string is entered.
4. Click **Apply** to initiate the search.

All nodes matching the cpqOsType attribute and hpwin2kipf identifier are listed in the Located and Highlighted field and highlighted on the NNM Segment Map.

Figure 15 Finding Integrity servers by operating system
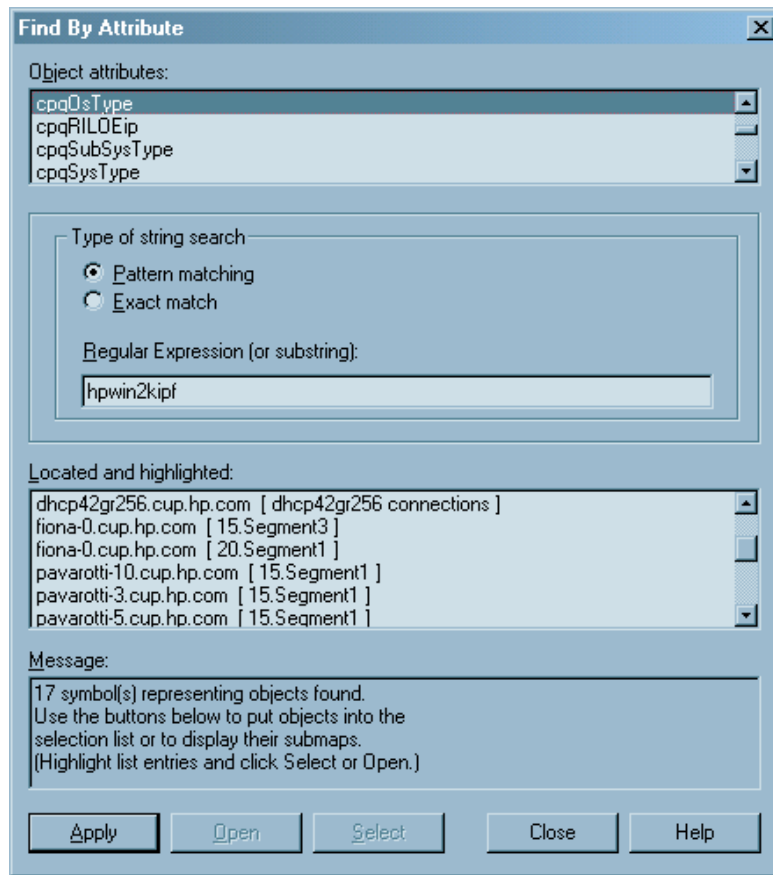
Finding HP systems in NNM by operating system or device type

After HP systems have been initially discovered and classified as described in the previous sections, groups of HP nodes can be found and displayed by means of the Find By Attribute procedure within NNM and the device identification strings provided by HP.

1. From the NNM interface, select **Edit>Find>Object by Attribute.** The Find By Attribute window appears, similar to that shown in Figure 15.
2. In the Object Attributes list, highlight the **cpqOsType** entry.
3. In the Type of string search panel, click the **Pattern matching** button.
4. In the Regular Expression field, enter the operating system string for devices to be found. Refer to Table 9 for the available device types.
5. Click **Apply** to initiate the search.

All nodes matching the search criteria are listed in the Located and Highlighted field and highlighted on the NNM Segment Map.

Table 8 Operating system strings used by the Insight Integration

Operating system	String
SCO UNIX®	scosrvr
OS2	os2srvr
UnixWare	unixsrvr
Microsoft Windows NT	ntsrvr
Microsoft Windows NT Enterprise	ntentsrvr
Microsoft Windows 2000	win2ksrvr
Microsoft Windows 2003 server	win2k3srvr
Novell NetWare	nwsrvr
OpenVMS	ovmssrvr
Tru64 UNIX	Tru64srvr
Linux	linuxsrvr
Red Hat Linux	linuxsrvrrh
SUSE LINUX	linuxsrvrsuse
HP Integrity Superdome	hpwin2kipf
HP OpenView Storage Management Appliance	SANworksApplianceServer
HP ProLiant BL10e Enclosure Manager	bladeenclmgr
HP ProLiant BL10e Server	bladesrvre
HP ProLiant BL20p/BL30p/BL40p Server	bladesrvrp
Microsoft Windows NT Workstation	ntwkstn
Microsoft Windows 95 Workstation	95wkstn
Microsoft Windows 2000 Workstation	2kwkstn
Microsoft Windows XP	winxpwkstn

Insight Integration menu options

The Insight Integration installs many additional menu items for performing administration tasks and displaying additional data on HP managed servers, clients, and storage configurations. These menu items fall into two main categories:

- HP extensions to the HP OpenView NNM map menu options
- Insight Information menu options for each individual HP node

HP extensions to the HP OpenView Map menu options

HP menu extensions provided with the Insight Integration are located under Monitor>HP, as shown in Figure 16. The HP submenu contains the following options:

- Discover
- Status Update
- Insight Agents
- Insight Manager Home

Figure 16 Insight Integration menu options
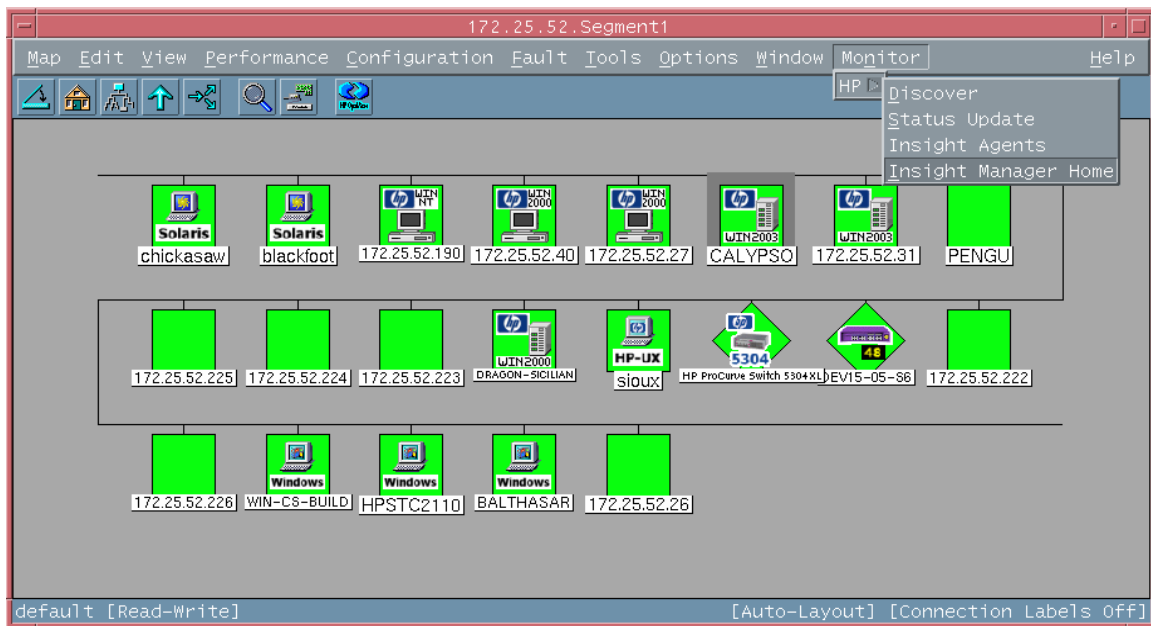
Discover

Nodes running the HP Insight Management Agents are automatically discovered by the CPQDIS background process, which is initialized by the OVSTART command. The Discover menu option can be used to manually identify new nodes as servers and desktops running the HP Insight Management Agents outside of the defined discovery parameters in the CPQCONFIG.DAT file.

NOTE: Full details of the CPQDIS process are provided in the "Product architecture" section of Chapter 1.

Refer to the "Configuration files" section of Chapter 2 for details on editing the CPQCONFIG.DAT file parameters.

NOTE: The Discover menu option is unavailable if any of the following conditions exist:

2. No nodes are selected.

3. Any of the selected nodes are of non-computer type.

Discovering the nodes

To discover nodes in the current submap:

1. Select the required nodes on the segment submap.
2. Select **Monitor>HP>Discover.**

This operation:

- Identifies nodes running HP Insight Management Agents
- Changes the symbol of all identified HP nodes to the appropriate icon provided with the Insight Integration
- Creates appropriate icons in the corresponding node submap if the HP web-enabled Management Agents are running on the identified nodes

Status update

The status of HP nodes is automatically provided and regularly updated on the NNM management map by means of the CPQMAP foreground process, which is started by OVW. The Status Update menu option can be used to manually update single or multiple node status outside of the update parameters defined in the CPQCONFIG.DAT file.

NOTE: Full details of the CPQMAP process are provided in the "Product architecture" section of Chapter 1.

Refer to the "Configuration files" section of Chapter 2 for details on editing the parameters defined in the CPQCONFIG.DAT file.

📝 **NOTE:** The Status Update menu option is unavailable if any of the following conditions exist:

4. No nodes are selected.

5. Any of the selected nodes on the Segment submap are of the Non-Computer type.

6. Any of the selected subsystems on the Node level submap are not of the Device type.

Updating node status

To manually update the status of HP nodes or subsystems in the current submap:

1. Select the required nodes or subsystems.

2. Select **Monitor>HP>Status Update.**

This operation:

- Queries the system status of each of the selected nodes
- Updates the system status for each of the selected nodes
- Updates the web-enabled agent status of the selected nodes

Insight Agents

The Insight Agents menu option launches to the HP System Management Homepage for the currently selected node on the NNM map.

Insight Manager home

The Insight Integration includes embedded links to other HP tools for managing hardware infrastructure lifecycles, such as HP SIM.

The Insight Manager Home menu option launches to the browser-based HP SIM application from an HP OpenView NNM Segment Map. Previously, this was only available in NNM running on Windows systems. Now the Insight Manager menu options are available in NNM running on Windows, HP-UX, and Solaris.

For full details on configuring and using this option, refer to the section "Using HP SIM with HP OpenView NNM" in this chapter.

Insight Information menu options for HP nodes

The Insight Integration for OpenView NNM, revision 3.2, includes additional menu entries for each individual HP managed node displayed on the NNM Segment Map. These menu entries are designed to provide quick access to a selection of key system configuration, status, and performance data obtained directly from the Insight Management Agents.

These menu options are not intended to provide all the information for a managed HP system. The most complete system configuration and status data for an individual HP system can be viewed by browsing to the web-based HP System Management Homepage of the Insight Management Agents. Details on this process are provided in this chapter.

For full details on using these new menu items, refer to the "Insight Information Menu Options" section in this chapter.

Viewing HP systems information

The Insight Integration allows detailed configuration and status information for HP servers, desktops, portables, and storage systems to be viewed from within the HP OpenView NMM environment.

Unique icons represent individual HP nodes. These icons also denote the associated primary operating system and the most critical level of system status. The following subsections detail how to view and interpret HP system data displayed in HP OpenView NNM.

System status legend

The Insight Integration updates the status of nodes running the HP Insight Management Agents. This update is performed periodically by means of the CPQMAP process or manually using the Status Update menu option described in the previous section. HP OpenView NNM uses color-coded icons to indicate the status of each node, which is propagated across all HP OpenView maps.

Table 10 shows the default color codes used by the Insight Integration.

📝 **NOTE:** The icon for the HP Insight Management Agents displayed on the device submaps no longer enters a Critical (Red) state. It now displays the Major (Orange) state.

Table 9 Color codes for status updates

Color	Status condition
Orange	Major/Failed
Blue	Unknown/Down
Yellow	Degraded
Green	Normal

Viewing subsystem information

1. Navigate through the HP OpenView submaps to the segment level submap. At the segment submap, all identified HP nodes display with specific icons provided with the Insight Integration. Figure 17 shows HP nodes identified by the Insight Integration.

Figure 17 NNM Segment submap (HP-UX)
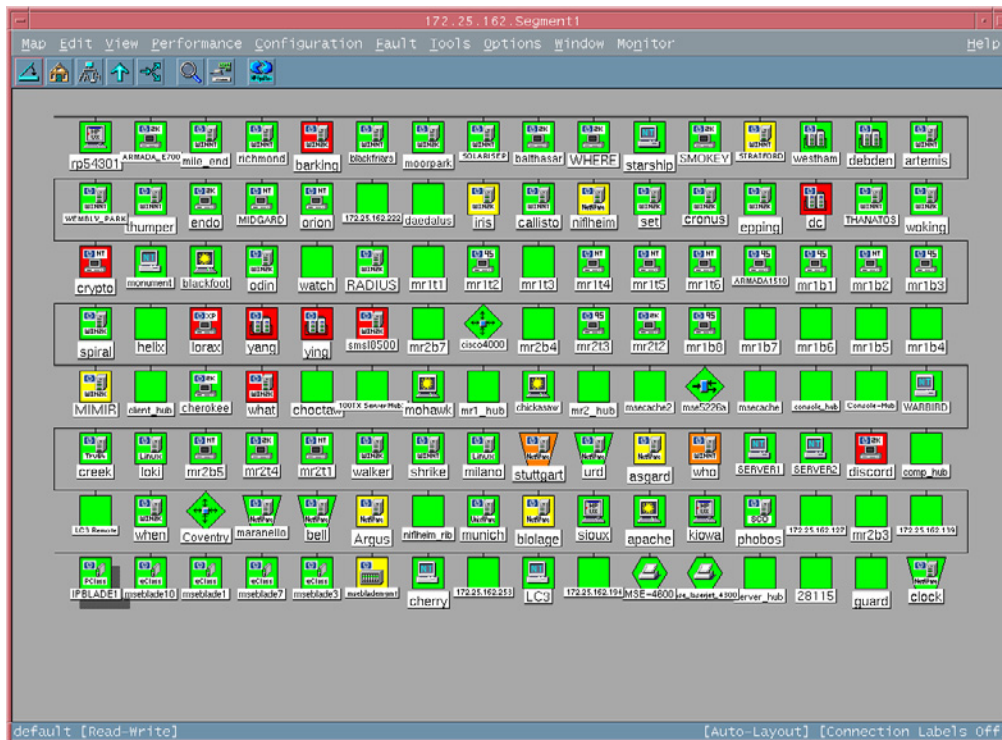
📝 **NOTE:** In the segment submap, HP nodes are distinguished from the other nodes by the HP server and desktop icons. These icons also identify the appropriate operating system running on the node.

2. Detailed subsystem information for each HP node can be viewed if the web-enabled Insight Management Agents are installed and running on the individual node. To view the details on a particular node, double-click the node icon in the NNM Segment submap to display the node submap window, as shown in Figure 18. If the web-enabled Insight Management Agent is installed, it displays with an appropriate HP symbol.

Figure 18 Node submap for an HP node with web-enabled Insight Management Agents
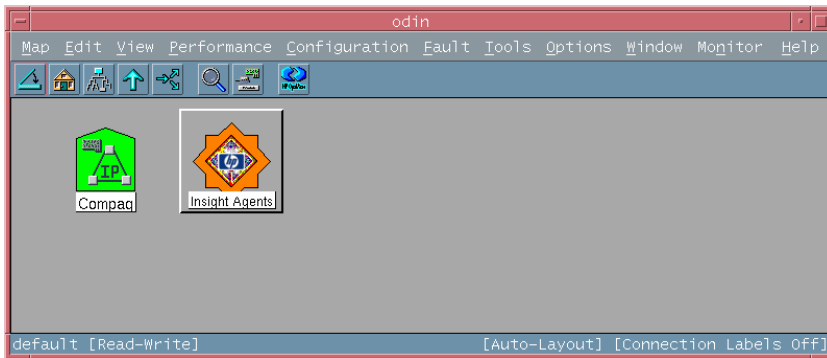
3.   Double-click the Insight Agents icon to launch the default browser (defined in CPQWEB.CONF on HP-UX and Solaris). The browser connects to the HP System Management Homepage on that individual node and displays the system status summary provided by the Insight Management Agents, similar to that shown in Figure 19.

Figure 19 HP web-enabled Agent Device home page
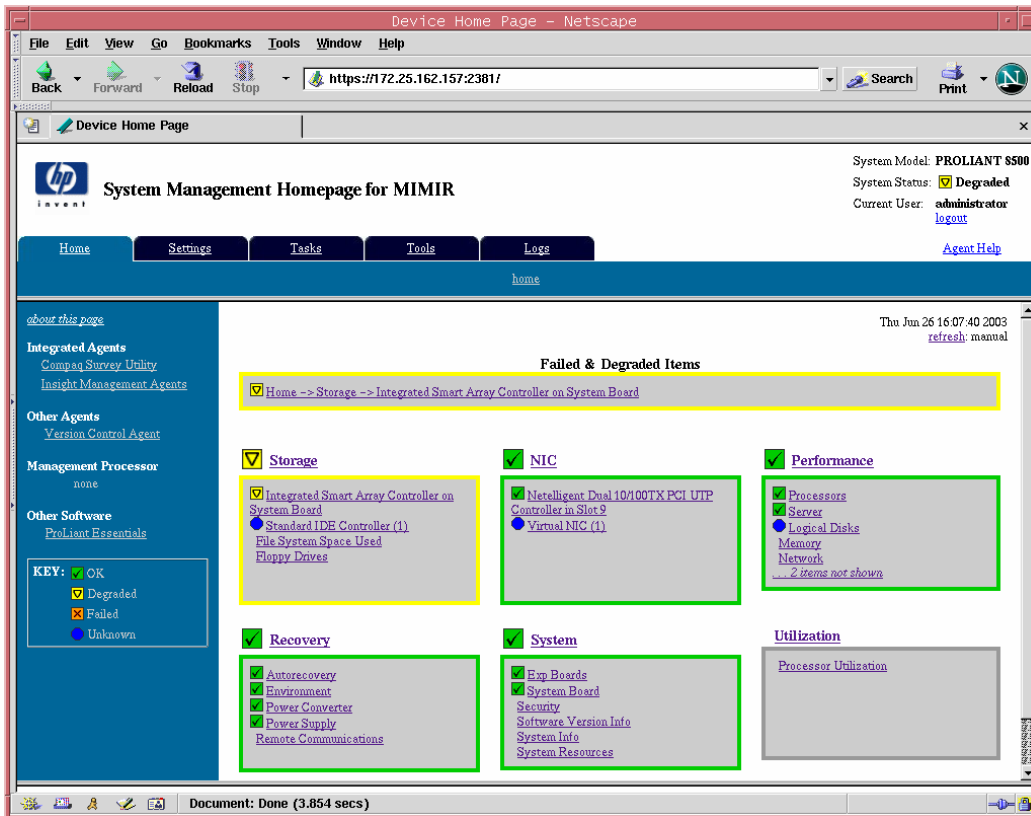
4.   Right-click an HP node on the NNM Segment Map, and select the Insight web Agents option from the menu to display the same System Management Homepage view, as shown in Figure 20.

📝 **NOTE:** This option also provides access to other HP systems information tools, such as the Insight Information Menu Options and Remote Insight solutions, both of which are described later in this chapter.

Figure 20 Segment Map menu
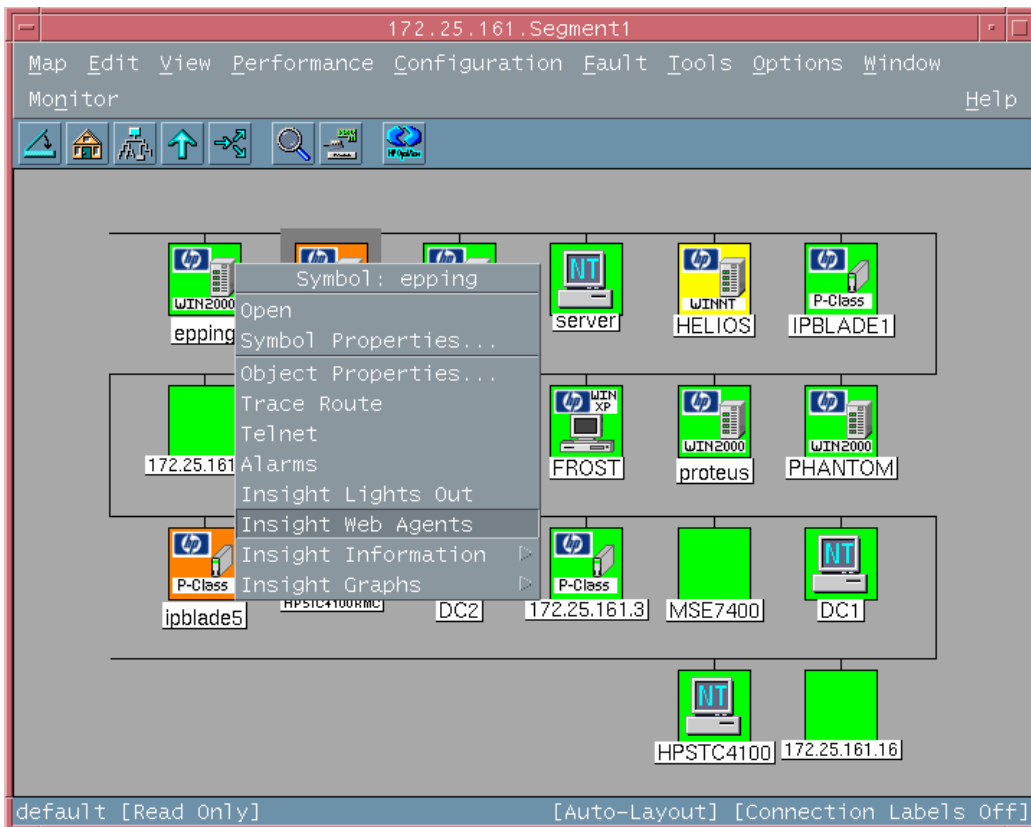
All details of the node and its hardware subsystems can be accessed through the browser, which displays data gathered by the HP Insight Management Agents. The background color of the Insight Agents icon represents the overall status of the HP node, as shown in Table 10.

Browsing to the System Management Homepage of the HP Insight Management Agents enables access to any other web-enabled HP management application installed on the target node, such as the Version Control Agents, the Array Configuration utility, or Insight Diagnostics. The HP Insight Management Agents also provide direct access to the RILOE and iLO management processor options for advanced remote systems administration, if installed on the target node.

If an HP node is not configured with web-enabled HP Insight Management Agents, the Insight Agents icon on the submap is replaced with a web DISABLED icon, as shown in Figure 21.

Figure 21 Node submap for an HP node without web-enabled Insight Management Agents

Viewing information for HP Integrity Superdome servers

The following example demonstrates how to access the HP System Management Homepage for Integrity Servers and the related Insight Management Agent data.

1. Select an Integrity server on the NNM Segment Map.
2. Right-click the node symbol, and select **Insight web Agents** from the resulting menu list, as shown in Figure 22. Alternatively, double-click the segment map symbol to display the device submap, and click the Insight Agents icon.

Figure 22 HP Integrity Server menu options
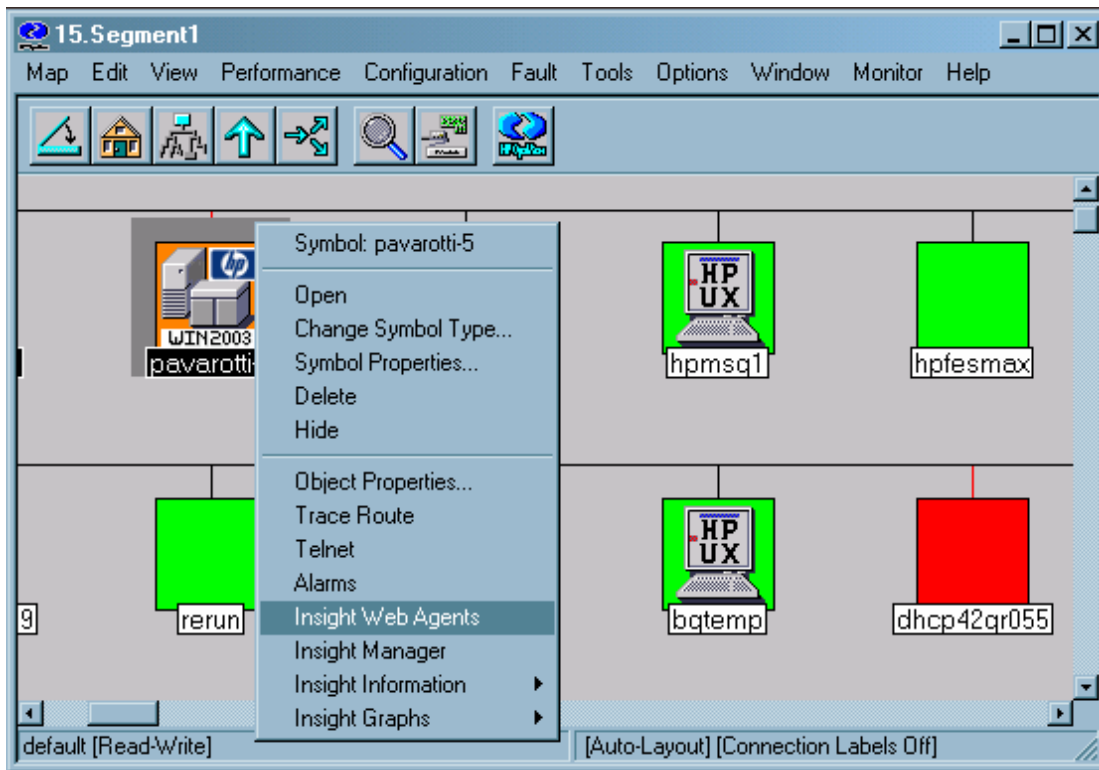
The System Management Homepage for HP Integrity Servers appears, as shown in Figure 23.

Figure 23 System Management Homepage for HP Integrity Servers device homepage
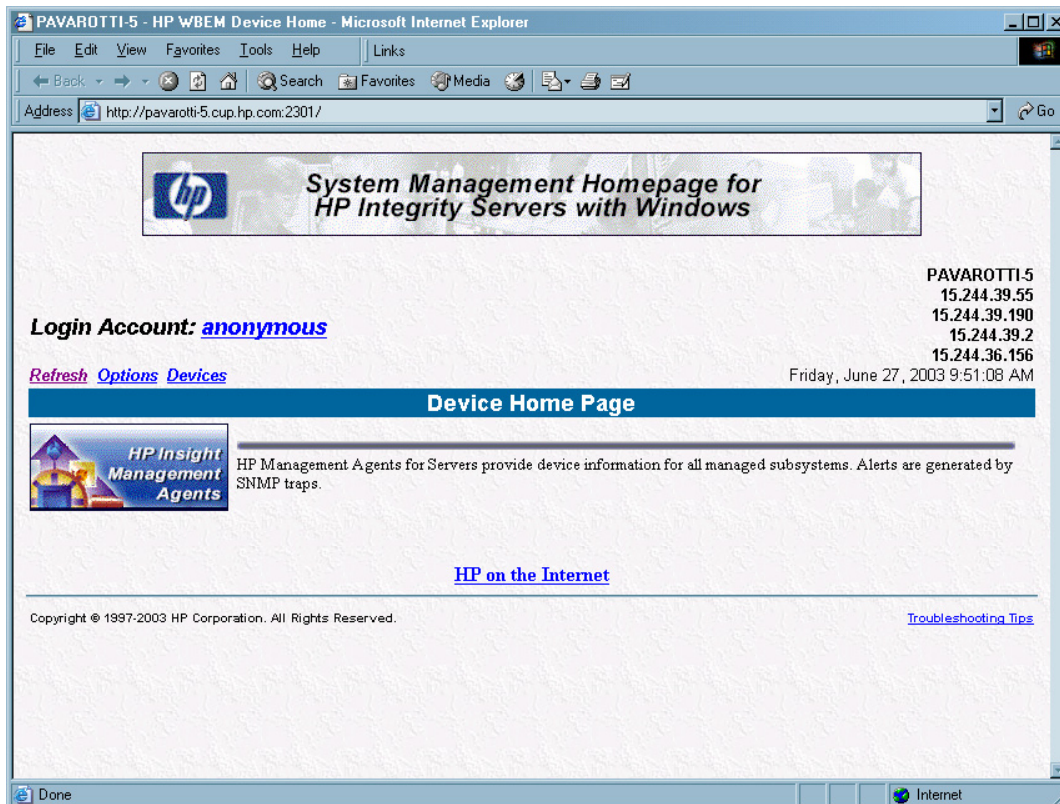
3. Click the **HP Insight Management Agent** icon to open the management summary page. This page presents details on system configuration and hardware status for the selected Integrity Superdome server.

Additional systems data for Integrity servers is also available through the Insight Information menu options on the device menu. These menu entries provide quick access to a selection of key system configuration, status, and performance data obtained directly from the HP Insight Management Agents.

These menu options are not intended to provide all the information for a managed HP system. The most complete system configuration and status data for an individual HP system can be viewed by browsing to the web-based System Management Homepage of the Insight Management Agents.

For full details on using these menu items, refer to the "Insight Information Menu options" in this chapter.

HP event management in HP OpenView NNM

The Insight Integration integrates over 400 SNMP event definitions for HP server, client, and storage configurations into the NNM Alarm Browser. All raw HP trap content is written to the NNM Event Log and then translated into plain text by means of the CPQTRAPD process before being displayed in the NNM Alarm Browser.

All HP events also include color-coded severity levels and additional information for suggested resolutions. This level of event translation makes for easier event identification and root cause analysis, which aids in faster problem resolution and higher systems availability.

All SNMP traps generated by HP Insight Management Agents and specific to the 232 enterprise are received in the Alarm Browser and grouped under the Status Alarm category. To view these events, click **Status Alarms** or **All Alarms** in the Alarm Categories window, as shown in Figure 24.

Figure 24 Alarm Categories window
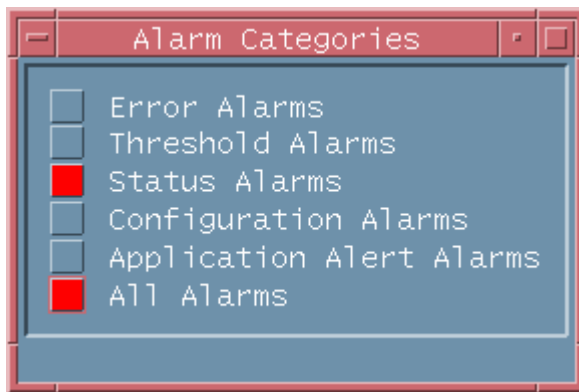
Figure 25 illustrates the Alarm Browser with events generated by HP Management Agents.

Figure 25 All Alarms Browser window
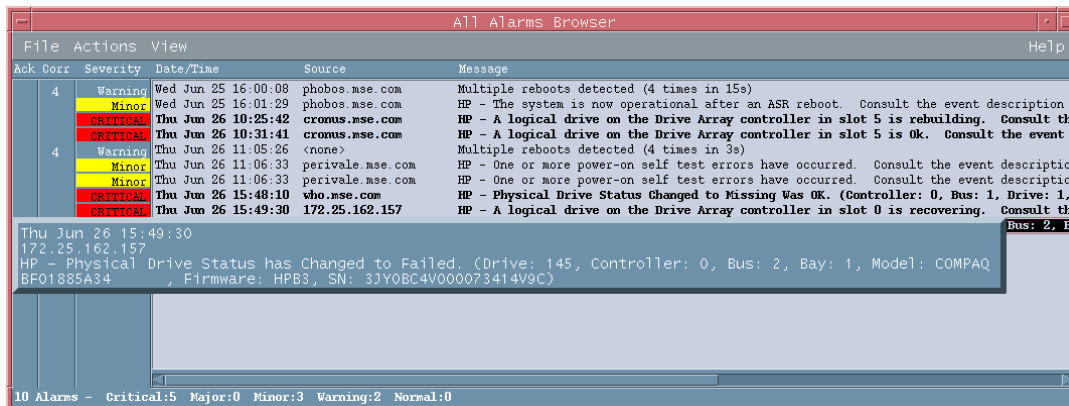
To view more detailed trap information:

1. Select an event from the Alarm Browser.
2. Select **Alarm Details** from the Actions menu. The Alarm Details window appears, which contains additional information about the trap entry selected from the Alarm Browser, including message translation and suggested resolutions. Figure 26 shows an Alarm Details window for the trap selected in the Alarm Browser.

Figure 26 Alarm Details window

For more information on the Alarm Details window, refer to the *HP OpenView Network Node Manager User's Guide.*

Launching the HP System Management Homepage from the NNM Alarm Browser

With NNM 6.31 and later, configurable views can be launched from the Alarm Browser. The xnmeventsExt.conf file is the NNM configuration file for launching specific views in the context of an event. By editing this file, as described in the "Installation" chapter of this user guide, a view can be added for the 232 enterprise (this is the MIB enterprise used by the Insight Management Agents). Any event received from this enterprise provides the option of launching to the web-enabled Insight Management Agents from the NNM Alarm Browser.

For NNM 6.31 and later, edit the xnmeventsExt.conf file to add the following entry:

```
.1.3.6.1.4.1.232.*;"Insight web Agents";http://$OvNode:2301
```

Launching HP Systems Insight Manager from the NNM Alarm Browser

The xnmeventsExt.conf file can be edited to allow launching to HP Systems Insight Manager with the appropriate device selected. Edit the xnmeventsExt.conf file to add the following entry, replacing "localhost" with the name or IP address of the Systems Insight Manager server:

```
.1.3.6.1.4.1.232.*;"Systems Insight
Manager";https://localhost:50000/mxportal/MxContextLaunch.jsp?systems=$OvNod
e&tool=DEFAULT
```

Any event from the 232 enterprise will now have the option to launch to the web agents and Systems Insight Manager from the Actions>Views menu. These entries appear for every alarm from the 232 enterprise, even if the system sending the alarm is not running the web-enabled agents.

📝 **NOTE:** Sample entries for the xnmeventsExt.conf file are provided in the xnmeventsExt.cpq file located in the \traps directory of the integration.

Figure 27 Alarm Browser with Insight web Agent view
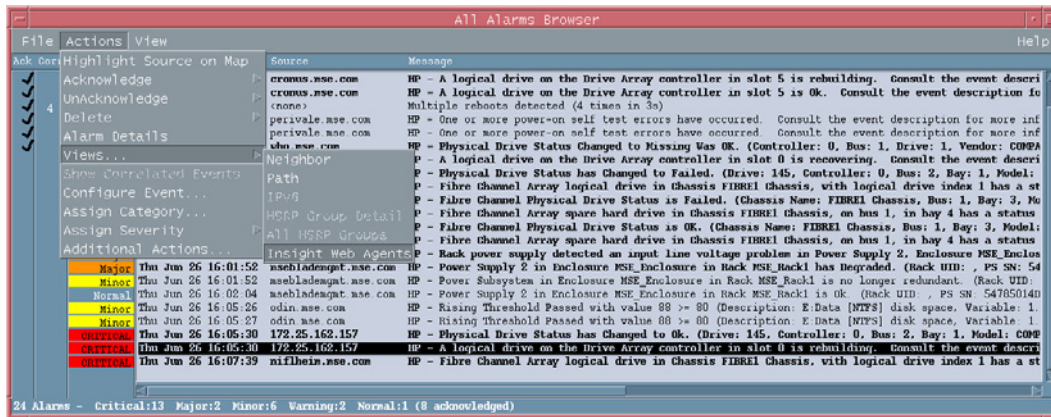
Using the HP MIBs for ProLiant servers with HP OpenView NNM

The Insight Integration for HP OpenView NNM includes predefined event definitions to provide the event reception and translation for HP SNMP traps as described in the previous section.

By default, the ProLiant MIBs are now loaded with the Insight Integration, which allows the integration to present information in an easier-to-understand format. The following sections provide details on loading and unloading the ProLiant MIBs manually. These steps are not required because the MIBs are now loaded with the integration by default.

Loading the HP MIBs

To load the HP MIBs outside of the integration installation script, run the `cpqload` batch file from a command line. This file is located in the \MIBS directory created during the Insight Integration expansion. Running this file automatically installs the HP MIBs for immediate use.

If the following message displays, unload any previous CPQ MIBs, and run cpqload again.

```
[cpqhost.mib:CPQHOST-MIB] - Line 27: MIB_MODULE: "CPQHOST-MIB" loaded from
MIB: "CPQHOST.MIB" Warning: We recommend to resolve duplicate MIB_MODULE
names by unloading required MIBs. This may create problems later.
```
If you load the MIBs with xnmloadmibs, do not load the trap definitions and click **Cancel** when prompted. The trap definitions are provided in the translation files and do not need to be loaded from the MIBs.

Unloading the HP MIBs

To unload the HP MIBs outside of the integration uninstall script, run the cpqunload batch file from a command line. This file is located in the \MIBS directory created during the Insight Integration expansion. Running this file completely uninstalls the HP MIBs.

Insight Information menu options

The Insight Integration for HP OpenView NNM, revision 3.2, includes additional menu entries for each individual HP managed node displayed on the NNM Segment Map. These menu entries provide quick access to a selection of key system configuration, status, and performance data obtained directly from the Insight Management Agents.

These menu options are not intended to provide all the information for a managed HP system. The most complete system configuration and status data for an individual HP system can be viewed by browsing to the web-based System Management Homepage of the Insight Management Agents.

To launch the Insight Information menu options, right-click any HP node on the NNM Segment Map, and select the Insight Information (or Insight Summary for HP desktops) item on the resulting menu. A list of available submenu items for specific systems or subsystems appears.

The following subsections provide additional details for each of the new Insight Information menu options.

The screenshots in this section provide an overview of the information available from each of the new menu options.

Insight Summary Launch for desktops

This operation provides quick access to some of the information provided by the HP Management Agents for desktops. It is not intended to provide all the information from the Management Agents. Full information is available through the web agents.

Figure 28 Insight Summary launch
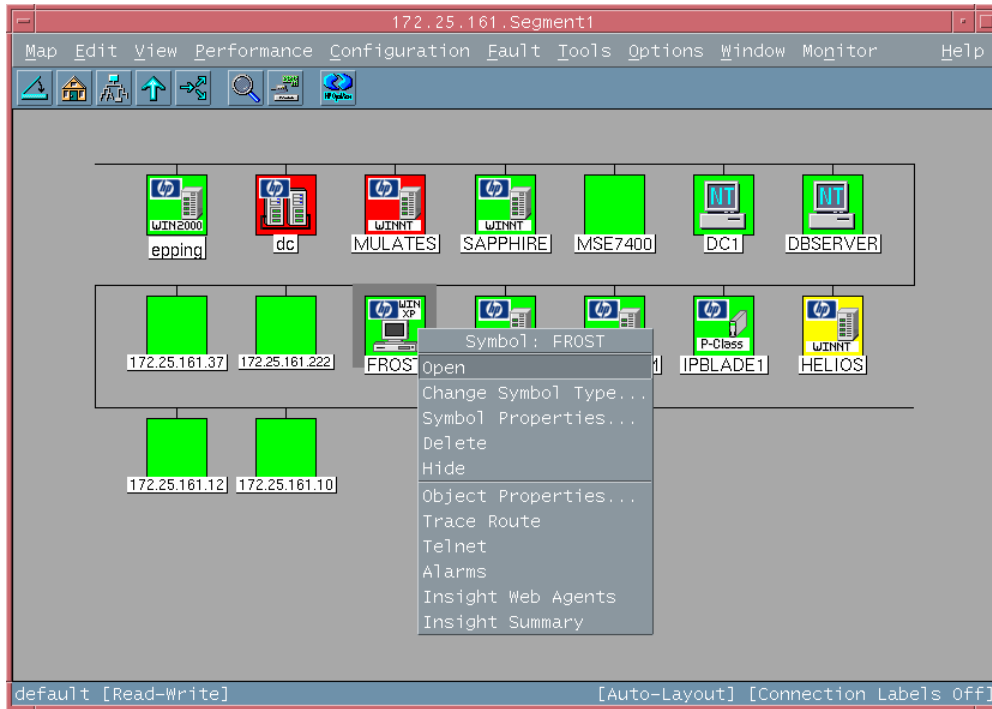
Any fields that do not apply or could not be determined appear as blank. Insight Summary provides the information presented in Table 10.

Table 10 Insight Summary information

Product name	IDE Drive Serial Number
Serial number	IDE Drive Model (only the first drive is displayed)
Asset tag (a user-configurable field)	Physical Memory (total memory in Kb installed)
Operating system (the operating system name)	Processor (only the first processor is displayed)
Operating system version	Standard Equipment Status (status reported by the standard equipment MIB)
Description (the operating system description)	System Information Status (status reported by the system information MIB)
Processor speed	Host OS Status (status reported by the host operating system MIB)
ROM version	Health Status (status reported by the health MIB)
Monitor	IDE Status (status reported by the IDE MIB)
Monitor serial number	

Figure 29 Insight Agents Summary Information (for desktops)
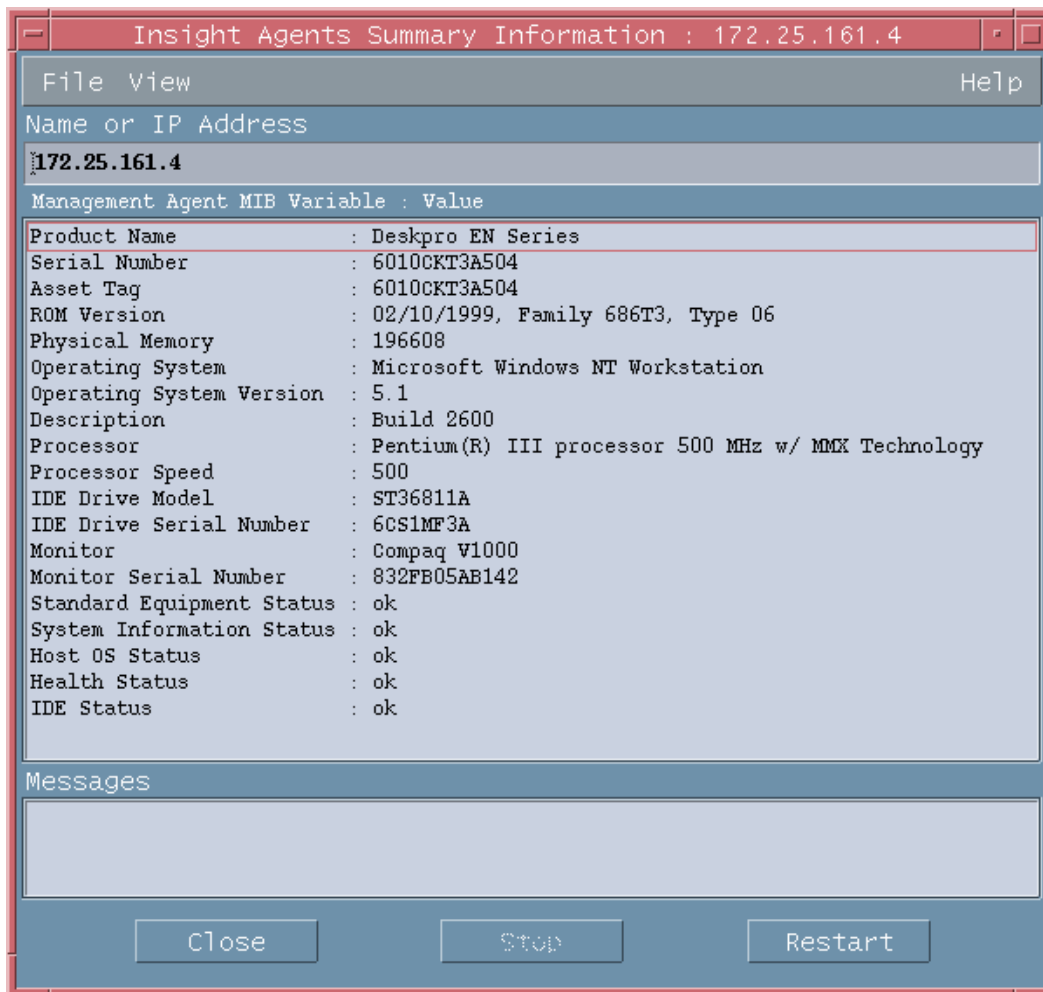
Insight Information for servers

The Insight Information option provides quick access to some of the information provided by the HP Insight Management Agents for servers. This option is not intended to provide all the information from the Management Agents. Complete information is available through the web agents.

📝 **NOTE:** Load the HP MIBs for ProLiant servers to obtain the most useful information. For example, if the MIBs are not loaded into NNM, then instead of receiving status of other, ok, degraded, or failed, you will receive status of 0, 1, 2, or 3. The MIBs are now installed with the integration by default. Refer to the previous section, "Loading the HP MIBs" and "Unloading the HP MIBs," for full implementation procedures.

If a requested option is not supported by the selected system, you will receive a message similar to the following: "Note: requested information is not available from hostname." This error might occur if you selected the SCSI Drives option for a system without any SCSI hard disks installed, as demonstrated in Figure 30.

Figure 30 Insight Information error returned
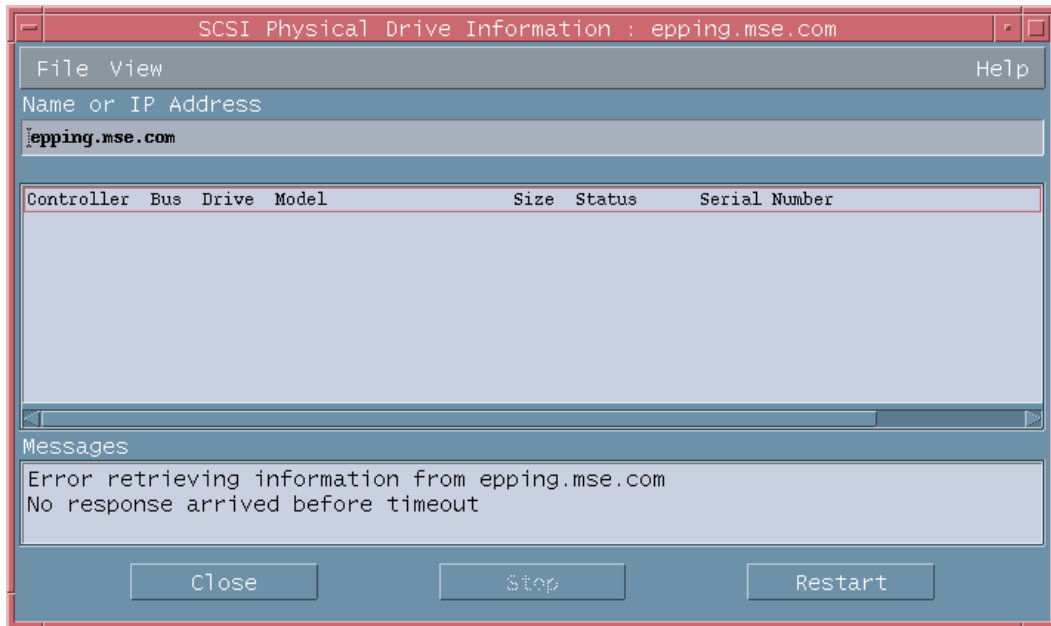
Summary

This menu option provides basic information about the selected system, including the status of each hardware subsystem. If any of the fields displayed are blank, then there was no information available for that component. For example, the cluster status field will be blank on non-cluster systems. Summary provides the information presented in Table 11.

Table 11 Summary information

Product name	Network interface status
Serial number	Threshold mgmt status
Asset tag (a user-configurable field)	Drive array status
ROM version	SCSI status
Physical memory (total memory in Kb installed)	IDE status
Operating system (the operating system name)	Windows OS status
Operating system version	Linux OS status
Description (the operating system description)	Storage system status
System role (a user-configurable field)	Fibre array status
Standard equipment status	Lights-Out status
System information status	Cluster status
Health status	Rack status
Host MIB status	

Figure 31 Insight Agents Summary Information (for servers)


```
┌─────────────────────────────────────────────────────────────────────┐
│  ─         Insight Agents Summary Information : epping.mse.com    □ □ │
├─────────────────────────────────────────────────────────────────────┤
│  File  View                                                     Help  │
├─────────────────────────────────────────────────────────────────────┤
│ Name or IP Address                                                    │
│ ┌───────────────────────────────────────────────────────────────────┐│
│ │epping.mse.com                                                     ││
│ └───────────────────────────────────────────────────────────────────┘│
│ Management Agent Variable : Value                                     │
│ ┌───────────────────────────────────────────────────────────────────┐│
│ │Product Name              : ProLiant DL360                         ││
│ │Serial Number             : 6J08FCX23037                           ││
│ │Asset Tag                 :                                        ││
│ │ROM Version               : 12/26/1999, Family 386P21, Type 03     ││
│ │Physical Memory           : 262144                                 ││
│ │Operating System          : Microsoft Windows 2000 Server          ││
│ │Operating System Version  :  5.00                                  ││
│ │Description               : Service Pack 3, Build 2195 Uniprocessor Free││
│ │System Role               :                                        ││
│ │Standard Equipment Status : ok                                     ││
│ │System Information Status : ok                                     ││
│ │Health Status             : ok                                     ││
│ │Host OS Status            : unknown                                ││
│ │Network Interface Status  : ok                                     ││
│ │Threshold Mgmt Status     : ok                                     ││
│ │Drive Array Status        : ok                                     ││
│ │SCSI Status               : other                                  ││
│ │IDE Status                : other                                  ││
│ │Storage System Status     : other                                  ││
│ │Fibre Array Status        : other                                  ││
│ │Lights-Out Status         : ok                                     ││
│ │Cluster Status            :                                        ││
│ │Rack Status               :                                        ││
│ └───────────────────────────────────────────────────────────────────┘│
│ Messages                                                              │
│ ┌───────────────────────────────────────────────────────────────────┐│
│ │                                                                   ││
│ └───────────────────────────────────────────────────────────────────┘│
│      ┌──────────┐      ┌──────────┐      ┌──────────┐                 │
│      │  Close   │      │   Stop   │      │ Restart  │                 │
│      └──────────┘      └──────────┘      └──────────┘                 │
└─────────────────────────────────────────────────────────────────────┘
```

Integrated Management Log

The Integrated Management Log (IML) is an embedded technology on all ProLiant server system boards used to track and record system POST and operational messages.

This menu item displays the information contained in the Integrated Management Log on the selected server. Entries are sorted from old to new, so the most recent entries display last. The output window follows the data to display the most recent entries, as indicated in Figure 32.

Figure 32 Integrated Management Log window
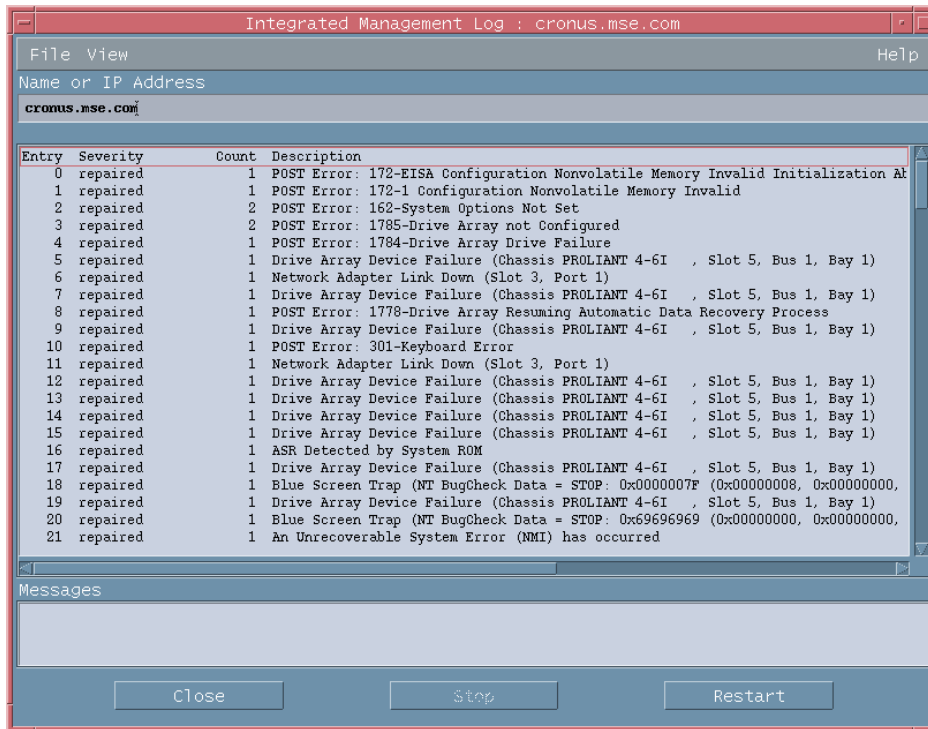
Software versions

The Software Versions option displays the names and versions of HP drivers, Management Agents, and other system-specific software installed in the selected server, as indicated in Figure 33.

Figure 33 Software Version Information window
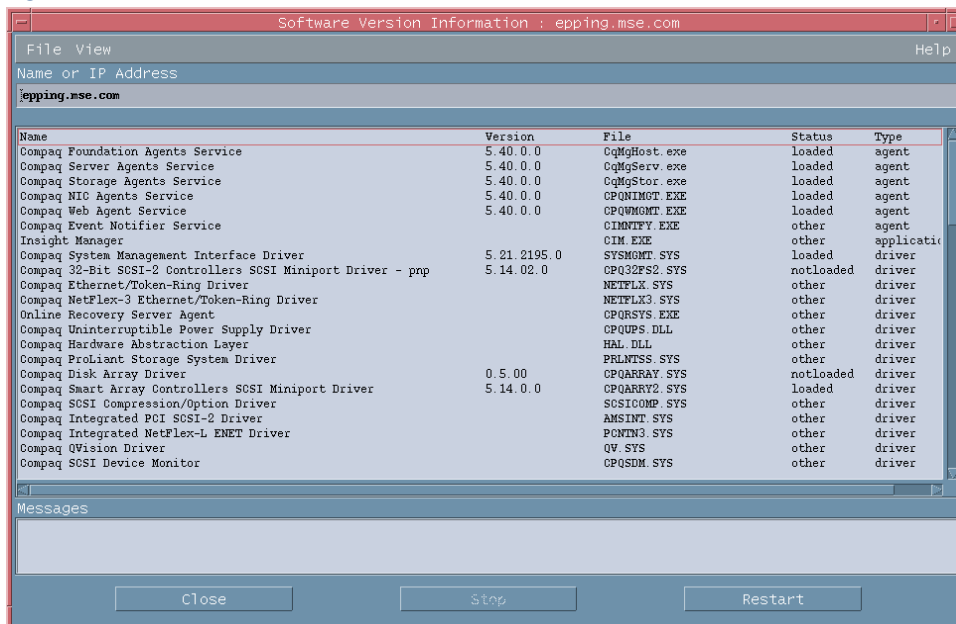
System—Processors

This option displays the type, speed, and status of all processors installed in the selected server, as shown in Figure 34. The processor location might be displayed, depending on the type of system selected. The location field is a text description of the hardware location, on complex multi-SBB hardware only, for the processor. An empty string indicates that the hardware location could not be determined or is irrelevant.

Figure 34 Processor Information window
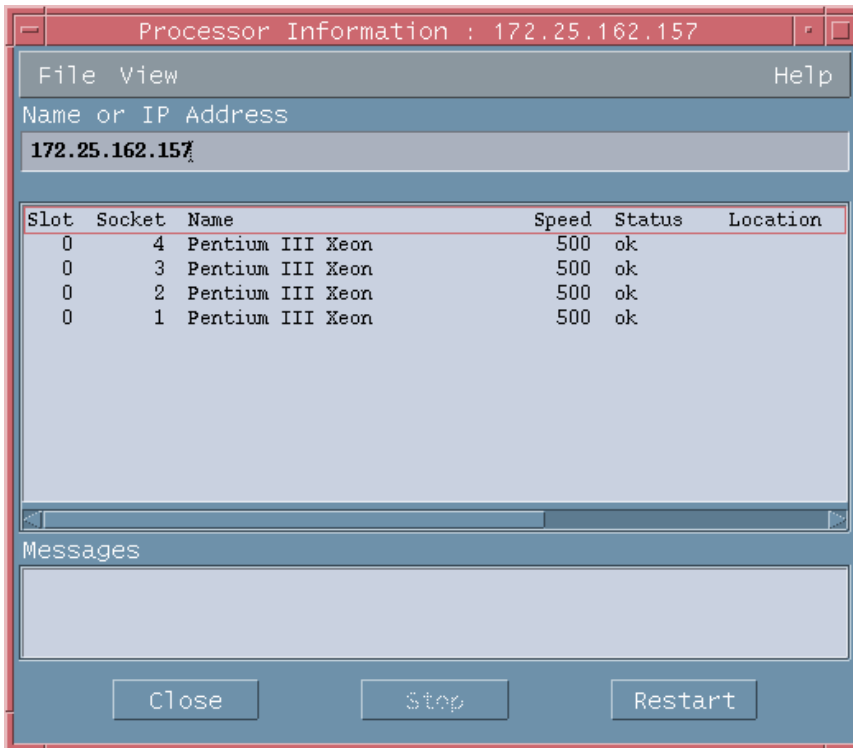
System—Memory

This option displays the location, type, and speed of all memory modules installed in the selected server, as shown in Figure 35. Some fields might be incomplete, depending on the system being queried.

Figure 35 Memory Information window
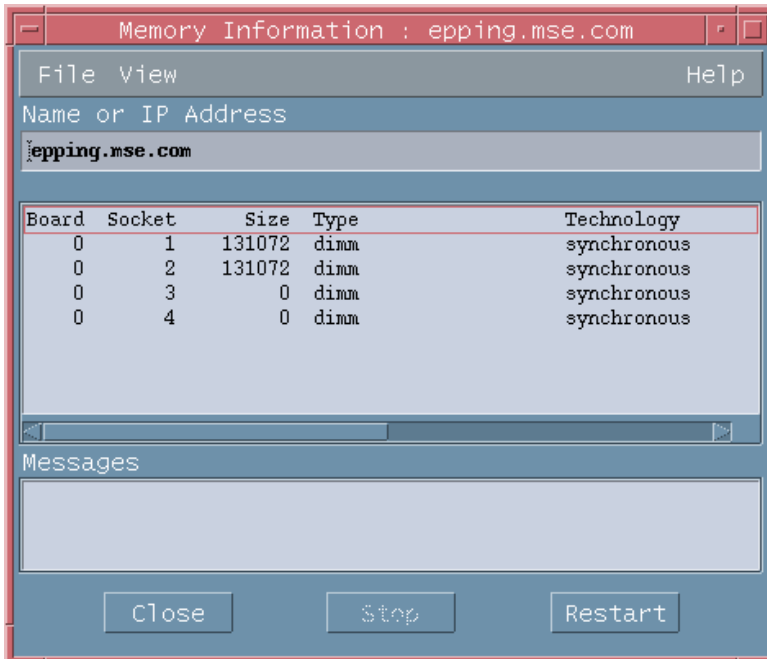
System—PCI slots

This option displays the location and type of all PCI devices installed in the selected server, as shown in Figure 36.

Figure 36 PCI Slot Information window
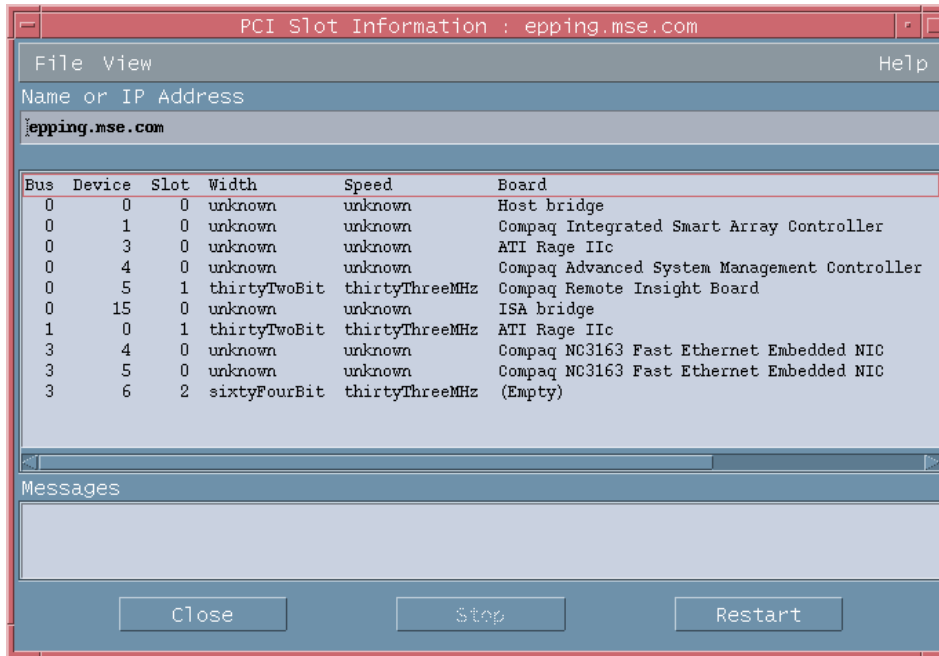
Health—Fault Tolerant Fans

This option displays the location, type, speed, and status of all redundant fans installed in the selected server, as shown in Figure 37.

Figure 37 Fault Tolerant Fan Information window
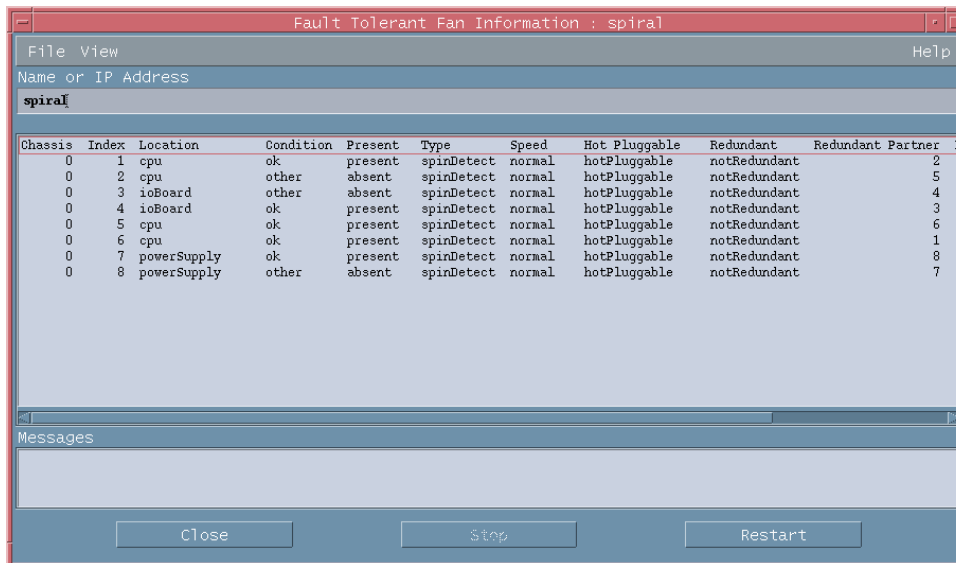
Health—Temperatures

This option displays environmental information from the HP Health Agent temperature sensor table, as shown in Figure 38.

📝 **NOTE:** If this value cannot be determined by software, a value of -1 is returned.

Figure 38 Temperature Information window
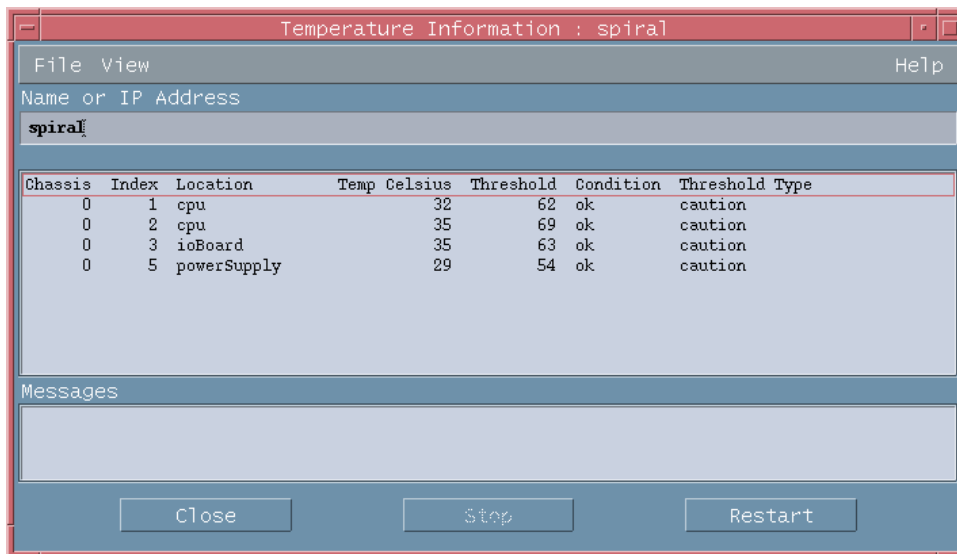
The following threshold types might be displayed in the table:

- Other (1)—Temperature threshold type could not be determined.
- Blowout (5)—If a blowout (5) temperature sensor reaches its threshold, the fans in the area of the temperature sensor increase in speed in an attempt to reduce the temperature before a caution or critical threshold is reached.
- Caution (9)—If a caution (9) temperature sensor reaches its threshold, the cpqHeTemperatureCondition is set to degraded (3) and the system either continues or shuts down, depending on the setting of cpqHeThermalDegradedAction.
- Critical (15)—If a critical (15) temperature sensor reaches its threshold, the cpqHeTemperatureCondition is set to failed (4) and the system shuts down.

Health—Thresholds

This option displays the Insight threshold table for the selected server, as shown in Figure 39. System thresholds are set through the HP System Management Homepage and the Insight Management Agents displays.

Figure 39 Insight Threshold Table window
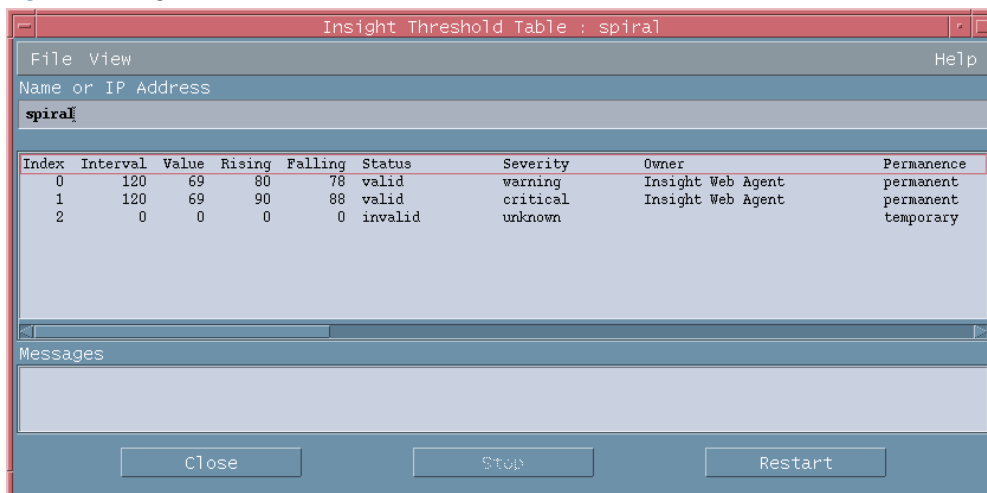
Drives—SCSI

This option provides basic model, size, serial number, and status information for the SCSI physical drives in the selected server, as shown in Figure 40.

Figure 40 SCSI Physical Drive Information window
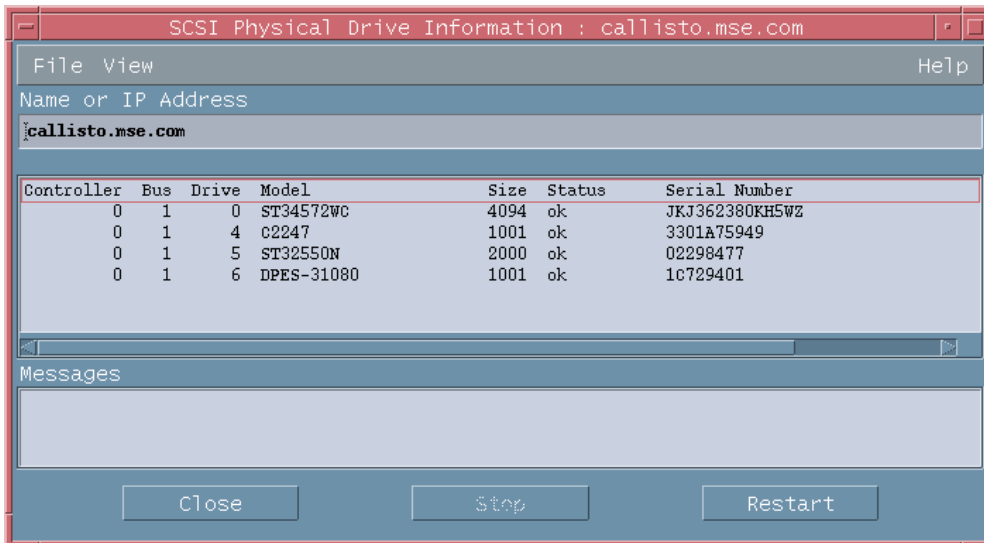
Drives—IDA

This option provides basic controller, type, size, and status information for Drive Array physical drives in the selected server, as shown in Figure 41.

Figure 41 IDA Physical Drive Information window
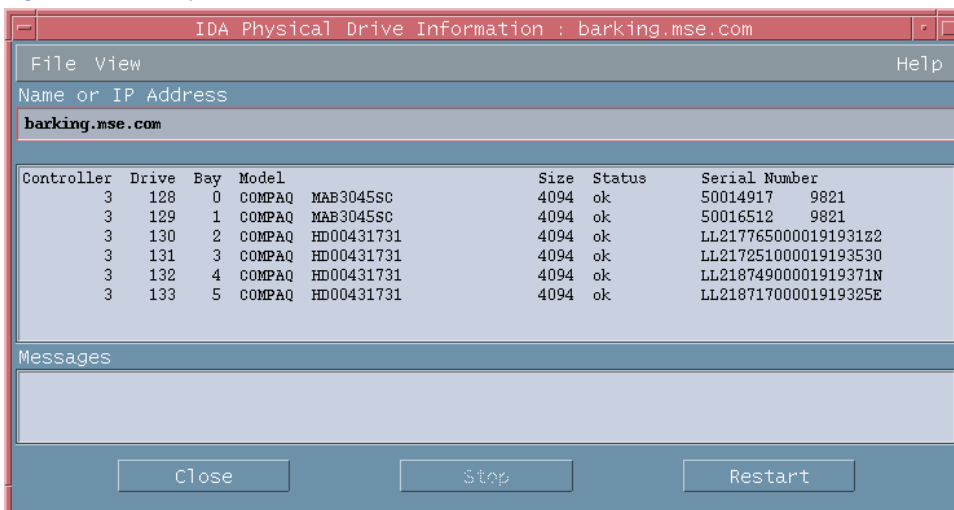
Drives—Fibre

This option provides controller, type, size, and status information for Fibre-based drives in the selected server, as shown in Figure 42.

Figure 42 Fibre Physical Drive Information window
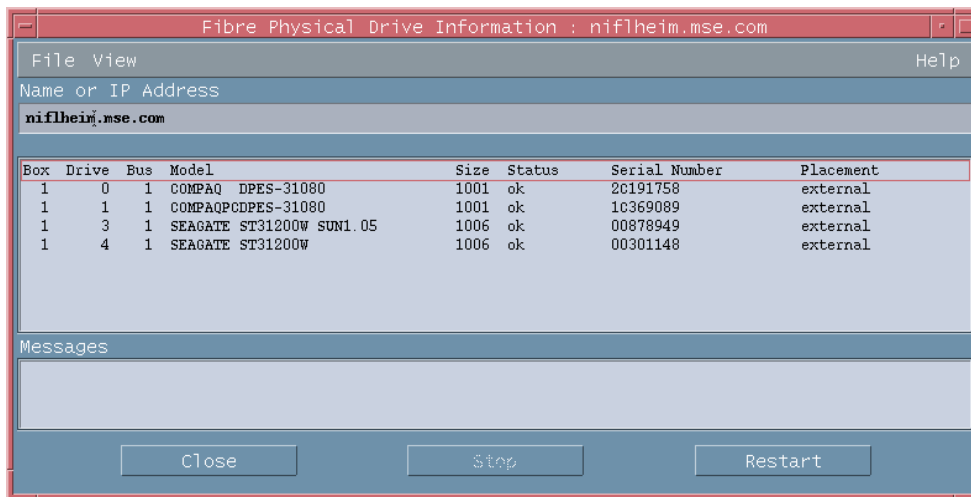
Lights-Out Information

This option provides revision, configuration, and status information for RILOE and iLO technology associated with the selected server, as shown in Figure 43. Information in this category displays only if the selected server has RILOE or iLO management processor installed.

For more detailed information, right-click the system, and select the **Insight Lights-Out** option to launch the browser interface for the management processors.

Figure 43 Insight Lights-Out Information window
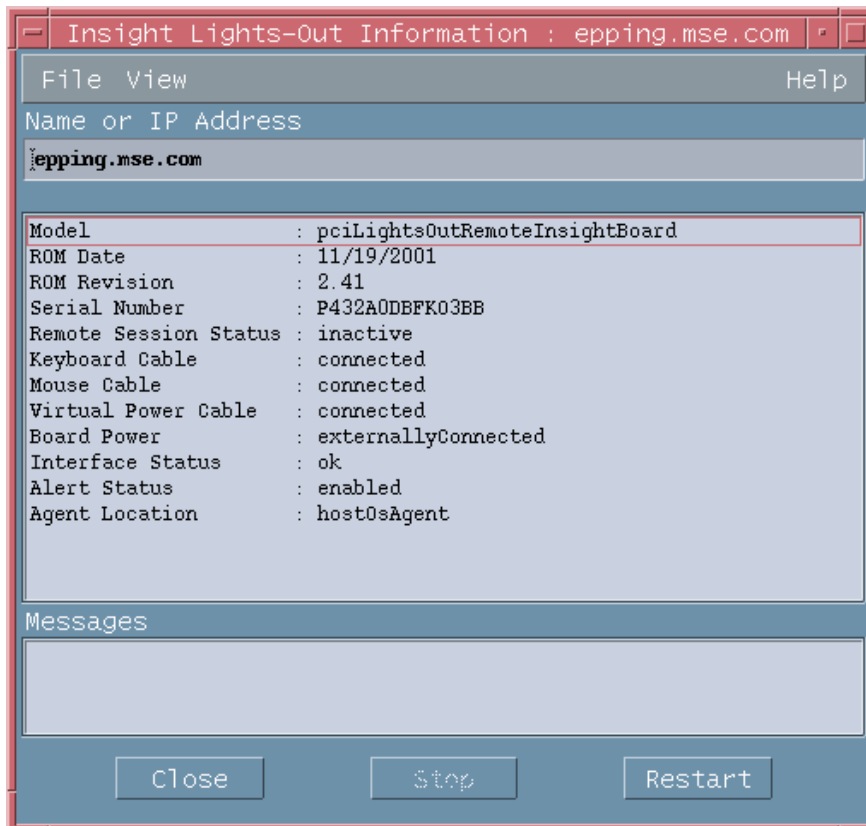
Insight Lights-Out Log

This option displays the information contained in the RILOE or iLO Message Log and only appears on systems where the RILOE or iLO management processors have been discovered. Entries are sorted from new to old for RILOE and RILOE II, so the most recent entries display first. Entries are sorted from old to new for iLO, so the most recent entries display last.

Figure 44 Insight Lights-Out Log window
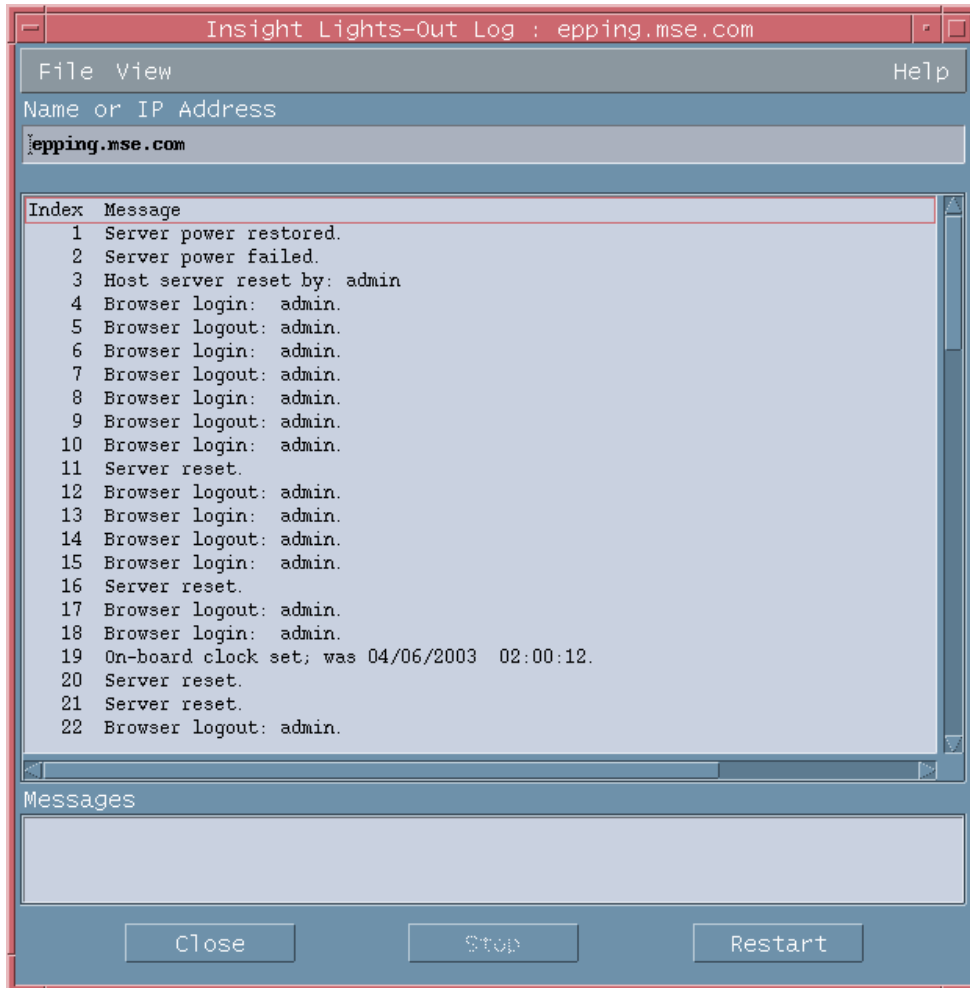
Insight Graphs

This option displays real-time graphical data for selected capacity and performance statistics, as defined by the Insight MIBs and Insight Management Agents. The `xnmgraph` command is used to present the following data. An example graph is shown in Figure 45. The following graphs are available:

- Percent Disk Space Used
- Physical Memory Free
- Paging Memory Free
- System Temperatures
- CPU Utilization—1 minute
- CPU Utilization—5 minutes
- CPU Utilization—30 minutes
- CPU Utilization—1 hour

Figure 45 Insight graphing table for processor utilization
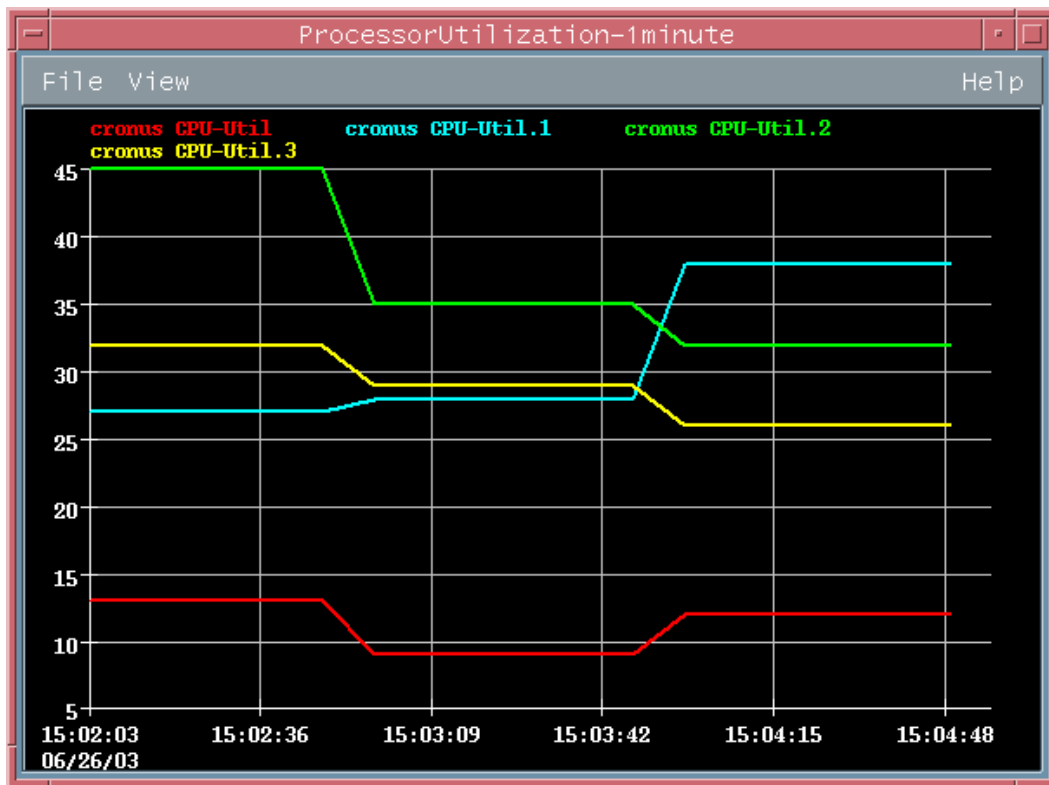
Some data items might not be supported on all systems. For example, the System Temperatures graph will return -1 for values that are not supported. Unsupported items appear as N/A in summary data presented by the web-enabled Insight Management Agents.

More useful information is provided for data collection if the MIBs are loaded into NNM. For example, instead of getting a label of 3 for data collection, you would get cpqHoCpuUtilFiveMin as a label with the MIBs loaded.

📝 **NOTE:** When using the Insight Integration, do not load the traps from the Insight MIBs. For proper operations, implement the predefined trap definitions provided in the Insight Integration configuration files.

The Insight Graphs option appears on all items with the CpqInsight property set to true. In some cases, the graphs will not apply to the system on which the option displays. For example, the ProLiant BL10e enclosure has this option, but the graphs return no data.

Using HP Systems Insight Manager with HP OpenView NNM

The Insight Integration includes a browser launch from the NNM Segment Map to the browser-based HP Systems Insight Manager application. This browser launch is used to provide additional life cycle management and administration of HP systems from within the NNM environment.

Configuring the Systems Insight Manager launch on Windows

1. From the NNM Segment Map menu, select **Map>Map Properties.** The Map Properties window appears, as shown in Figure 46.

Figure 46 Map Properties window
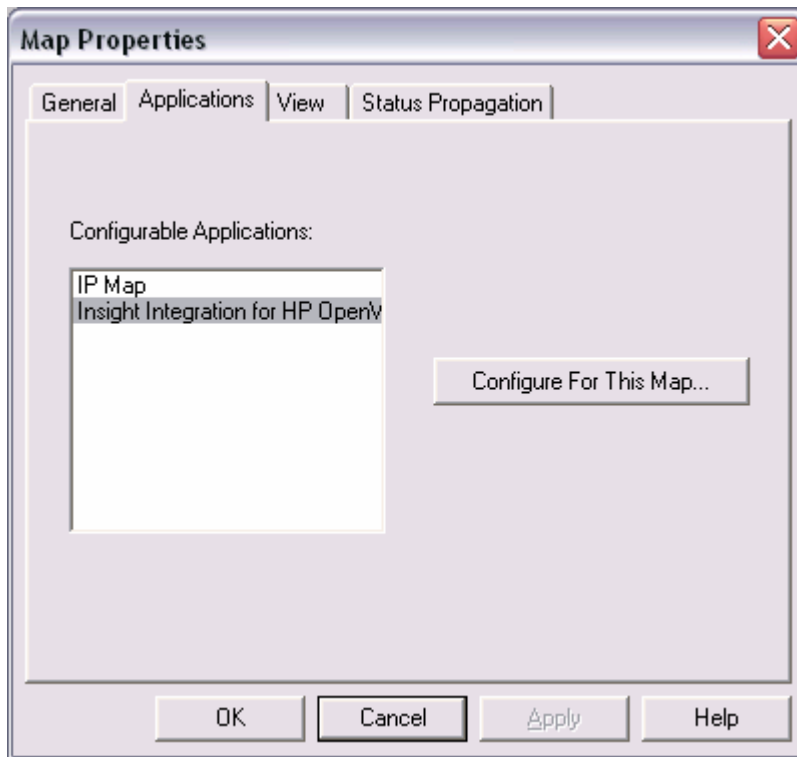
2. In the Applications tab, select **Insight Integration for HP OpenView NNM** from the Configurable Applications section.

3. Click **Configure For This Map.** The Configuration dialog box appears, as shown in Figure 47.

Figure 47 Configuration window
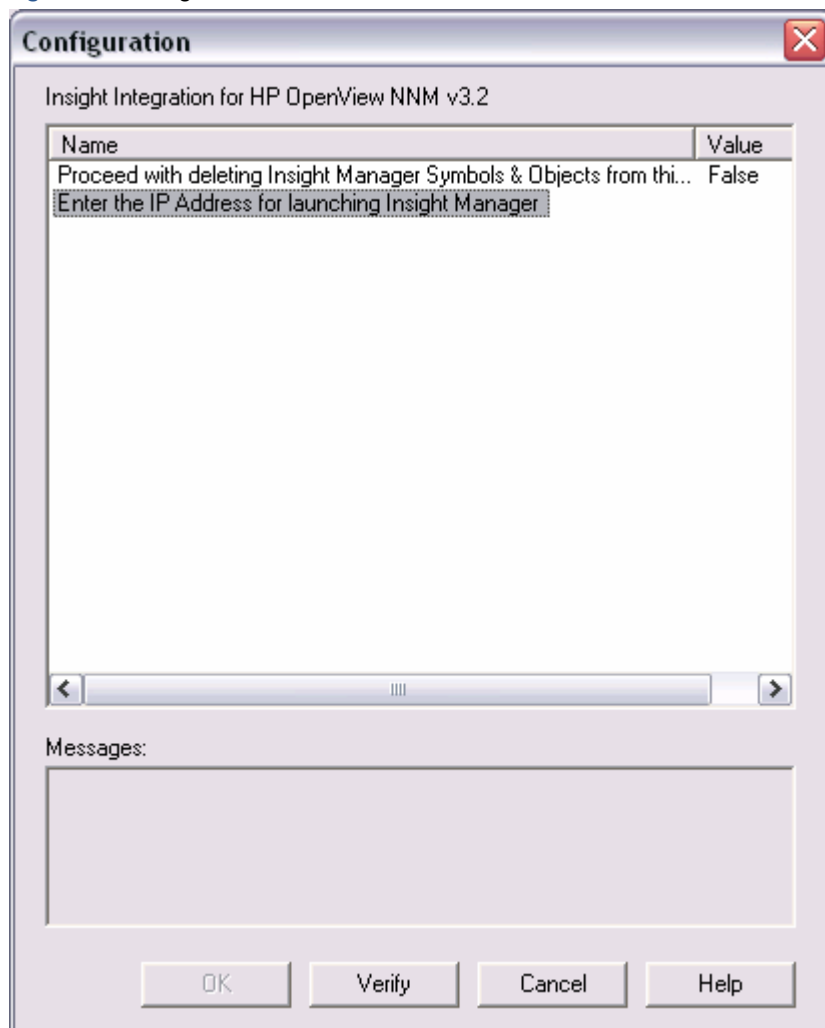
4. Highlight **Enter the IP Address for launching Insight Manager.** The Set Attribute Value window appears, as shown in Figure 48.

Figure 48 Set Attribute Value window
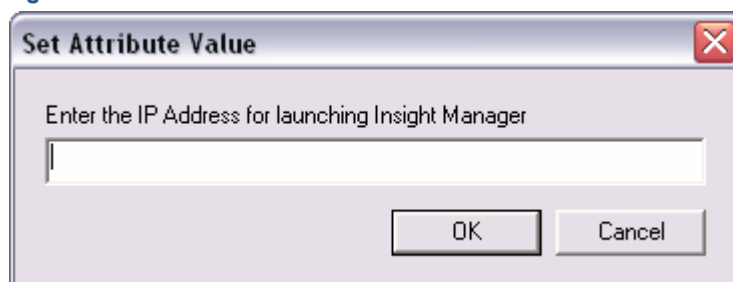
5. Enter the IP address of the host system running Systems Insight Manager, and click **OK.**
6. At the Configuration window, click **Verify** to confirm that the action can be performed, and click **OK** to complete the configuration process.

Configuring the Systems Insight Manager launch on UNIX

1. Open the profile for the desired user, and add the following entries:
   a. IMADDRESS=IP address or server name of Systems Insight Manager
   b. EXPORT IMADDRESS
2. Log out and log back into the systems for the changes to take effect.

Running the Systems Insight Manager launch

To launch Systems Insight Manager from within the NNM Segment Map, select **Monitor>HP>Insight Manager Home** on the NNM menu bar, as shown in Figure 49.

Figure 49 Launch Systems Insight Manager option
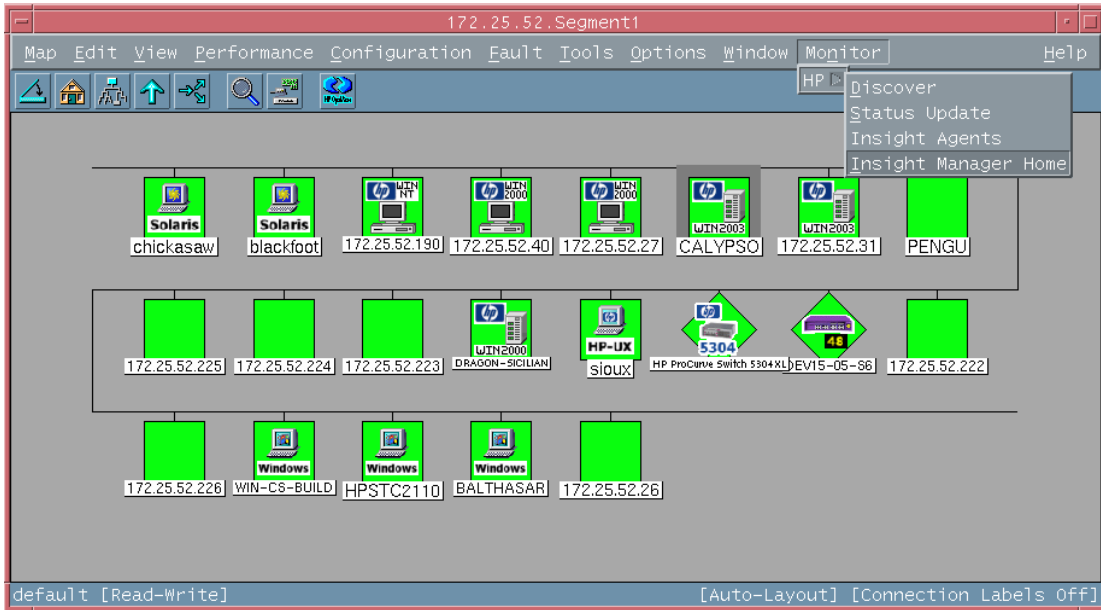
Selecting **Insight Manager Home** initiates a browser launch to the Systems Insight Manager homepage, which displays a screen similar to Figure 50. The server location was specified during the configuration described in the previous section.

Figure 50 HP Systems Insight Manager window
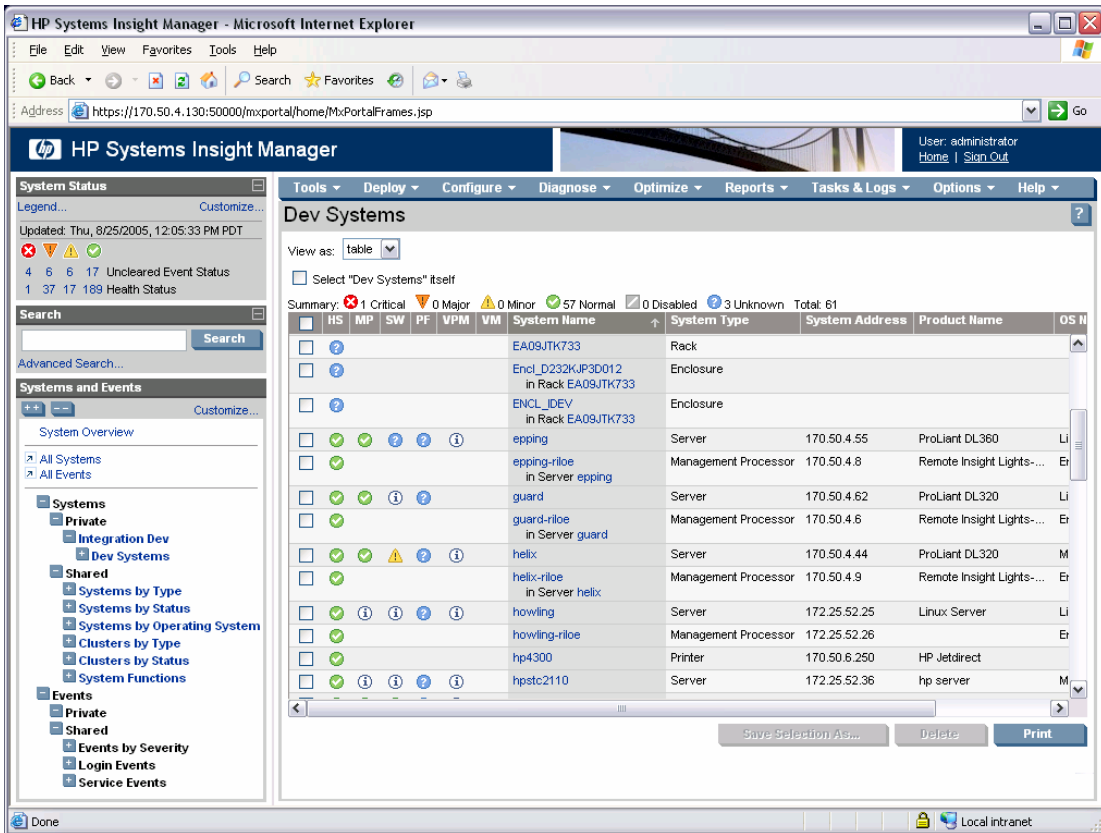
NOTE: Systems Insight Manager requires the use of Internet Explorer and the Java 1.3 Runtime Environment (JRE) update. On the HP-UX and Solaris operating platforms, the ability to support these requirements is limited.

Running an in-context launch to Systems Insight Manager

In addition to the Systems Insight Manager console launch described in the previous section, the Insight Integration includes an in-context launch to Systems Insight Manager.

The in-context launch differs to the regular application launch by presenting the device page for a selected system, as shown in Figure 52, instead of the Systems Insight Manager Homepage.

To launch Systems Insight Manager in context:

1. Right-click a node in the Segment Map to present the menu for that device, as shown in Figure 51.

2. Select **Insight Manager.** The browser to the Systems Insight Manager server launches, and the selection name for the individual system passes to Systems Insight Manager. Using this information, the Device Information page appears after you have logged in to the server.

This menu option is added to devices with isNode set to true. As a result, you can launch to the device information pages for type of devices other than HP ProLiant servers.

This feature uses the OVwSelection name to browse to a specific device in Systems Insight Manager. If the OVwSelection name and the name in Systems Insight Manager do not match, the default homepage might appear. For example, NNM might have the selection name as the fully qualified DNS name, and Systems Insight Manager might have only the server name.

Figure 51 Menu launch to Systems Insight Manager in-context
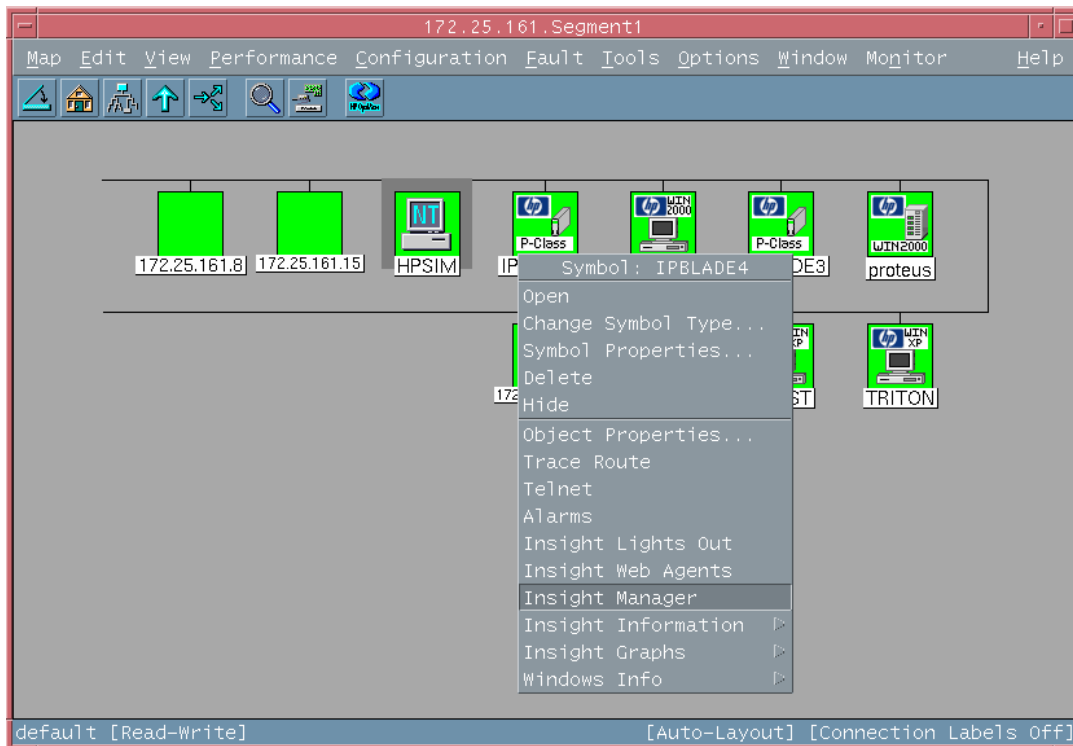
To change the name to match what is stored in the Systems Insight Manager database, right-click an object, and select **Object Properties>Set Selection Name in order.**

This feature depends on an environment variable (CIMXEIp for Windows and IMADDRESS for UNIX), which is set through the procedure described in the "Configuring the Systems Insight Manager Launch" sections.

If the menu items are launching to an incorrect address, verify the environment variable by verifying that the correct address is set in NNM. For NNM running on Windows:

1. Select the root map, and click **Map>Properties.**

2. Click the **Applications** tab in the new window, and select **Insight Integration for HP OpenView NNM.**

3. Click **Configure for this Map,** and verify the correct address is entered in the following window. For NNM running on UNIX, verify the IPADDRESS environment variable in the user profile.

Figure 52 Device information page from in-context launch to HP Systems Insight Manager
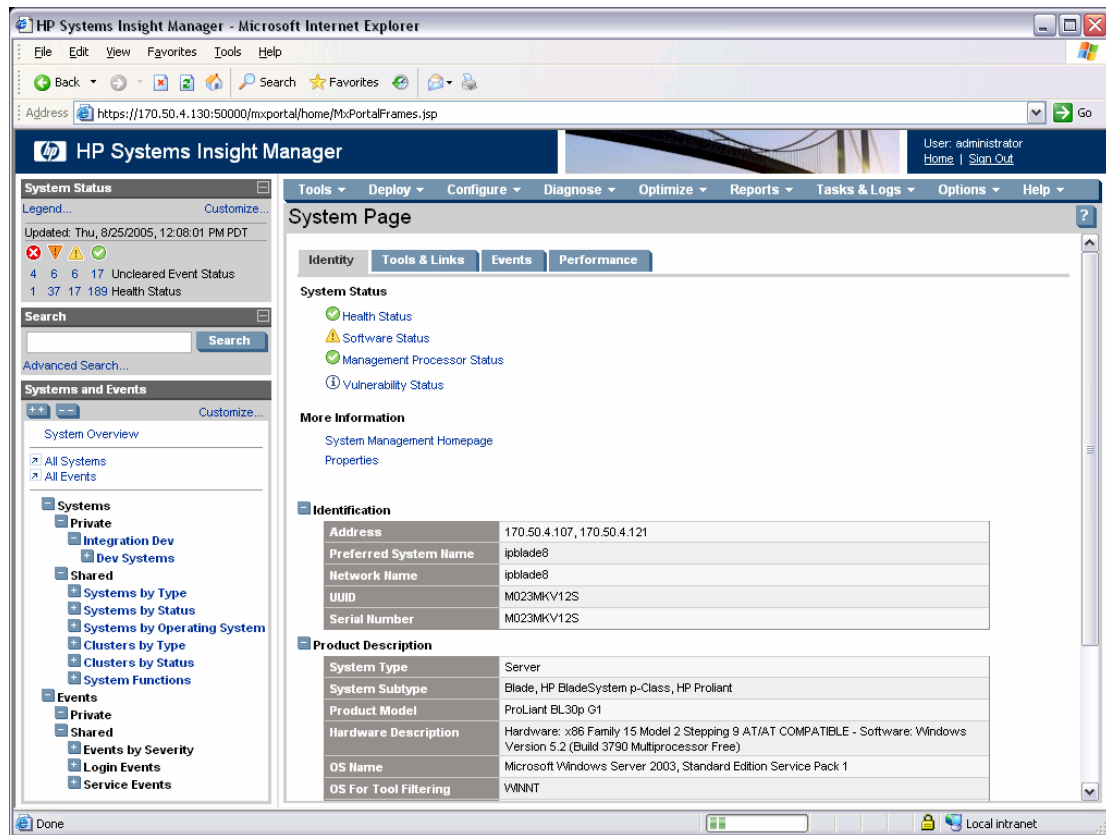
Using the Insight Integration for HP OpenView NNM with the Dynamic Views Interface

A new menu configuration file is provided to allow access to some of the Insight Integration functionality from the NNM Home Base page. For access to Systems Insight Manager from this interface, you must configure the insight.xml file with the name or address of the Systems Insight Manager server.

1. Change to the dynamicViews directory ($OV_WWW_REG/dynamicViews/$LANG).
2. Edit the insight.xml file.
3. Search and replace "localhost" with the name or address of the Systems Insight Manager server.

The Insight Integration menu in the Dynamic Views interface, shown in Figure 53, provides launches to the web agents and Systems Insight Manager. Additionally, launches to the Insight Information menu items will be available if you are running on the local NNM system. These menu items are not context sensitive and will appear available for all nodes.

The event definitions and translations provided with the Insight Integration are also available from the NNM Home Base. Figure 53 shows the event browser accessed from the NNM Home Base.

Figure 53 HP OpenView NNM Dynamic Views interface
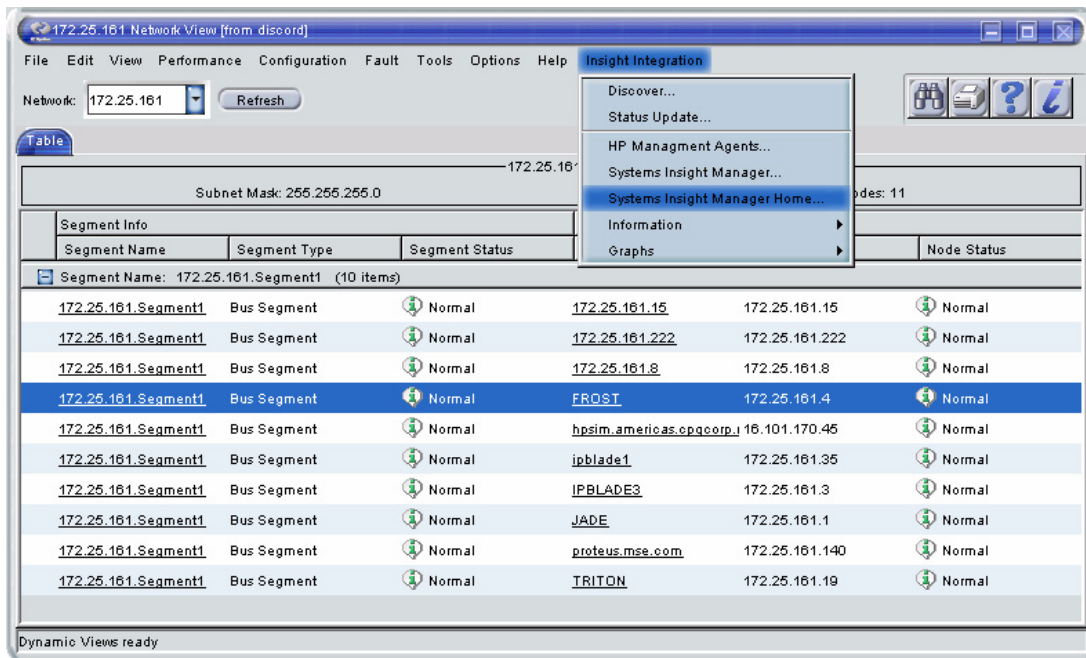
Figure 54 Status Alarms Browser window
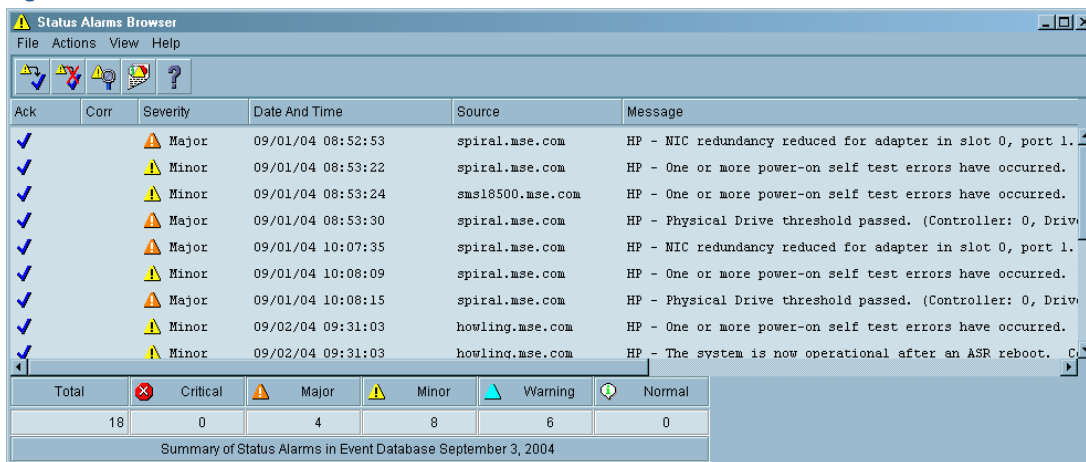
Using the Insight Integration for HP OpenView NNM with the NNM web interface

HP OpenView NNM includes a web interface to enable system monitoring of the network infrastructure from across the enterprise.

The Insight Integration can be used with the NNM web interface for system identification, status monitoring, and SNMP event/alarm processing. The launching of the Insight web Agent Object on the device submap is not supported. The NNM web interface does not support the launching of executable objects

Integration with the HP OpenView Java-based web interface provides:

- Icons for the NNM web interface. With these icons, systems are correctly identified when the NNM web interface is used.
- A registration file to allow access to HP Systems Insight Manager and the Insight Management Agents from the NNM web interface.

The file \www\insight contains the registration information for these applications. To launch Systems Insight Manager in context, edit the file to include the IP address of the users Systems Insight Manager server:

1. Open the insight file.
2. Search for IM7IPADDRESS.
3. Replace with the name or IP address of your server.
4. Save the file.

The insight file is copied to the %OV_WWW_REG%\jovw\%LANG% directory.

A registration file is also provided to allow access to the Systems Insight Manager Home page from the launcher tools menu.

The file \imovwin30\www\insighthome contains the registration information for this application. To launch to Systems Insight Manager, edit the file to include the IP address of the users Systems Insight Manager server:

1. Open the insighthome file.
2. Search for IM7IPADDRESS.
3. Replace with the name or IP address of your server.
4. Save the file.

The insighthome file is copied to the %OV_WWW_REG%\launcher\%LANG% directory.

Figure 55 HP OpenView Launcher with Systems Insight Manager link
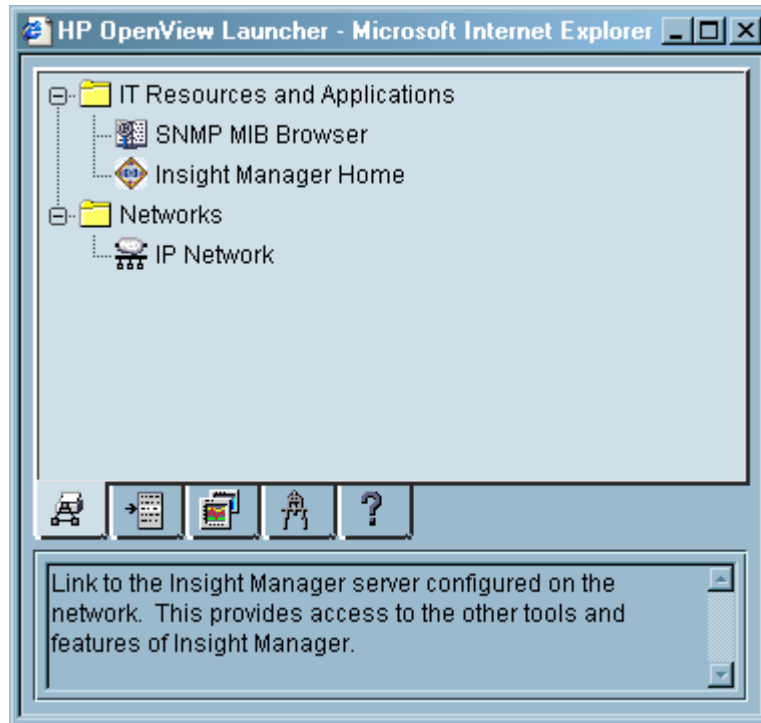
Figure 56 HP OpenView Java Interface Network Presenter
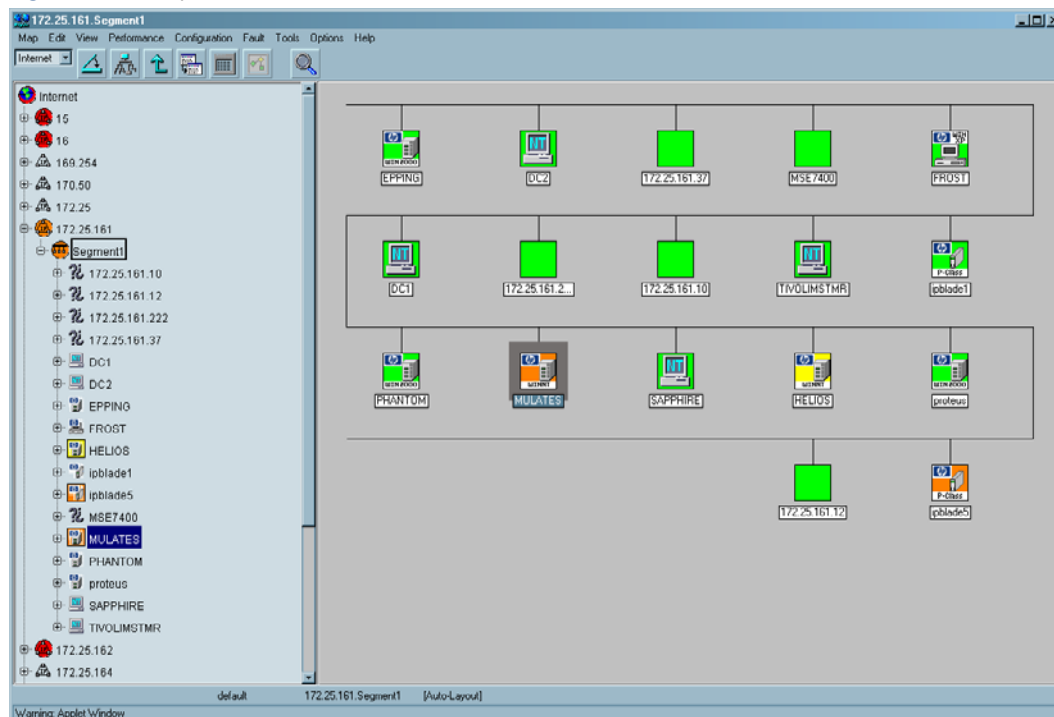
Figure 57 HP OpenView Java Interface Alarm Browser

Web Jetadmin integration with NNM

The Insight Integration for NNM now includes files for integrating with HP Web Jetadmin. These files can be installed with the other parts of the integration, or they can be installed stand-alone.

The integration files for Web Jetadmin provide the following functionality:

- Menu item for launching to the Web Jetadmin Homepage from the NNM Tools Menu.
- Menu item for launching to Web Jetadmin in context
- Menu item for launching to the web server on the printer
- Menu item for launching to Systems Insight Manager in context
- Trap configuration file for monitoring basic printer events

Figure 58 Web Jetadmin Homepage launch in the NNM Tools menu
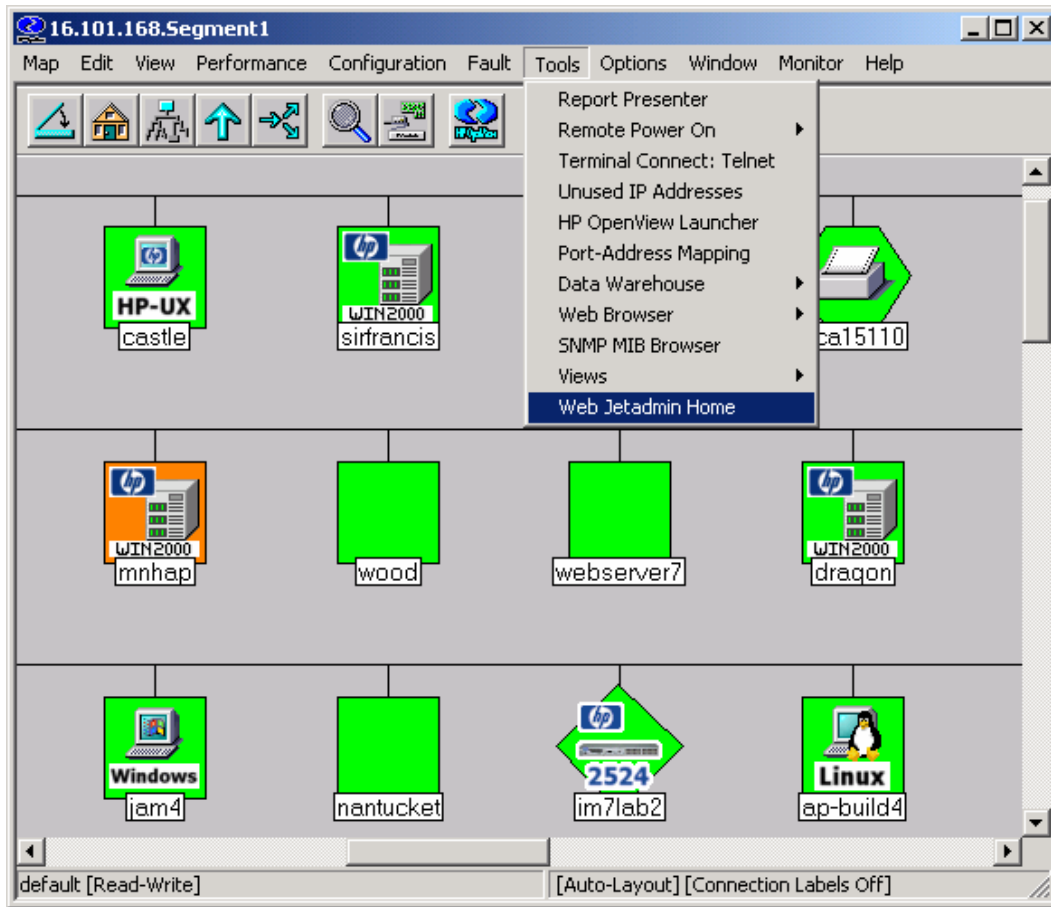
Figure 59 Web Jetadmin integration printer menu
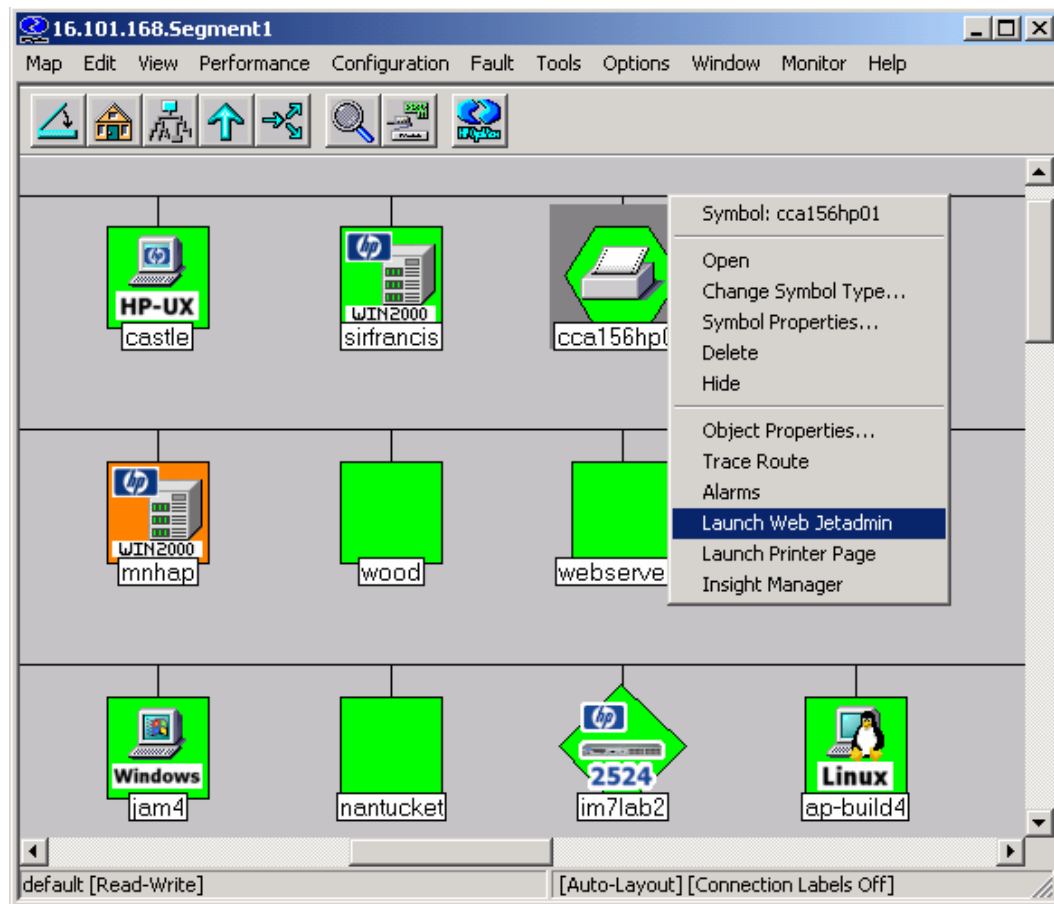
Figure 60 Printer events in the NNM Alarm Browser
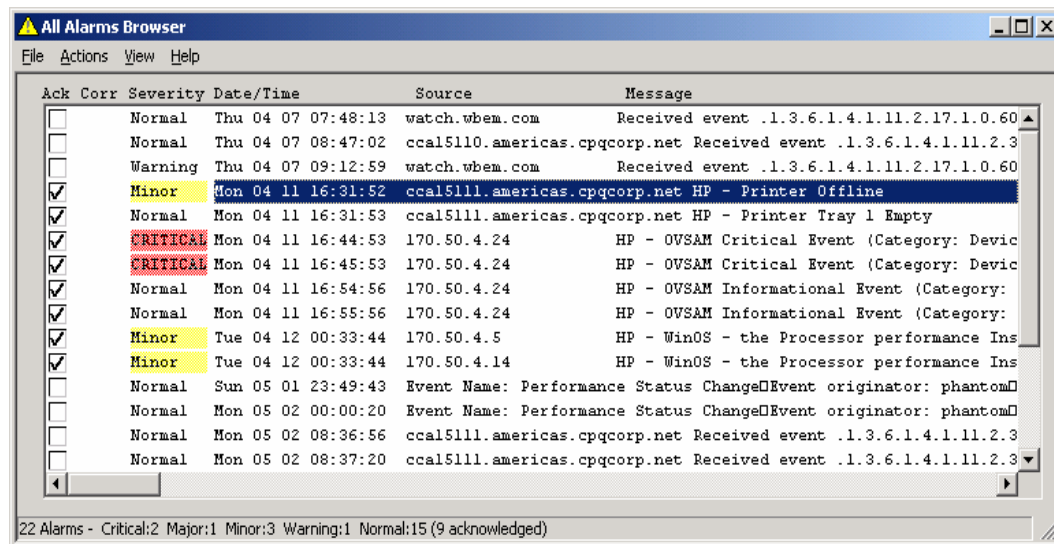
The alarm browser can be configured to include launch options for HP Web Jetadmin and the HP printer. When an alarm is received, you can select the menu option to browse directly to either application without referring to the NNM map.

Edit the xnmeventsExt.conf file to add the following entries, replacing "localhost:8000" with the name (or IP address) and port of the Web Jetadmin server:

```
.1.3.6.1.4.1.11.2.3.9.1.*;"HP Printer Page";http://$OvNode

.1.3.6.1.4.1.11.2.3.9.1.*;"HP Web
Jetadmin";http://localhost:8000/device/$OvNode
```

Figure 61 Launching Web Jetadmin from the NNM Alarm Browser
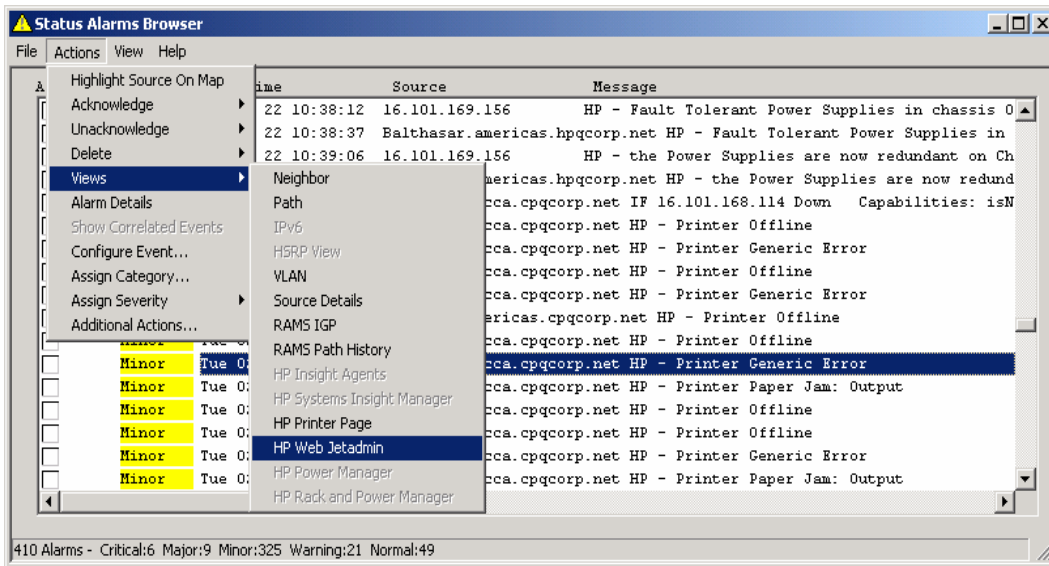
Figure 62 Launching a printer in-context from NNM
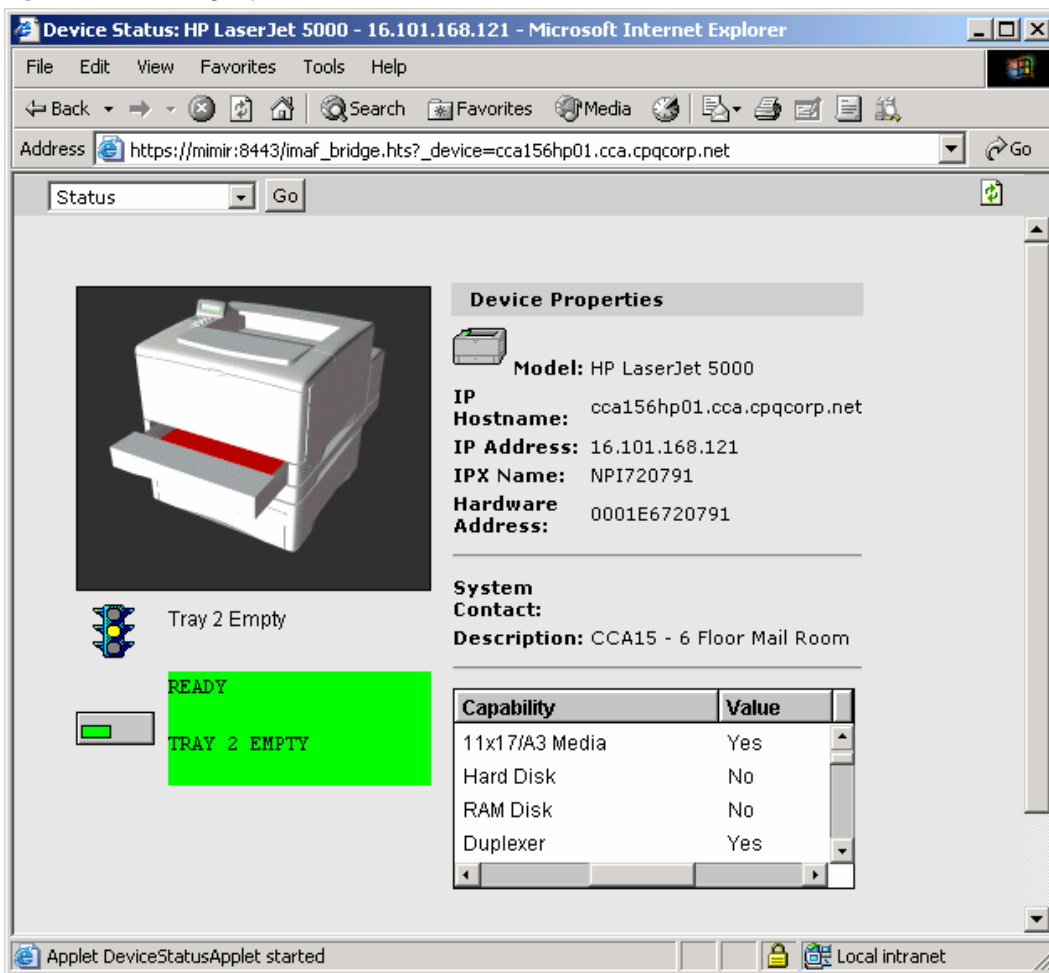
Figure 63 Launching to a printer web server from NNM
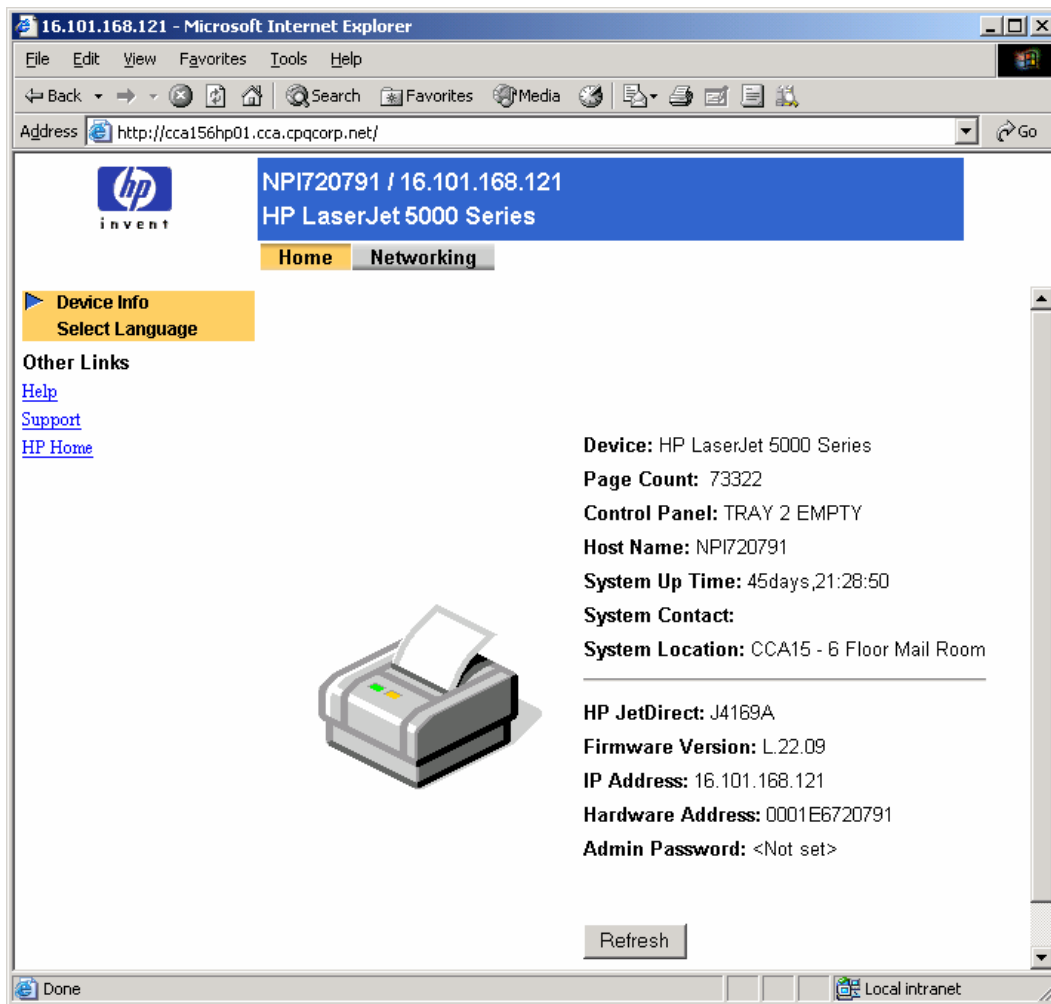
Creating NNM events from HP Systems Insight Manager

HP Systems Insight Manager can be configured to create events for NNM through an application launch. This option requires minimal configuration on the NNM server.

NOTE: The installation of this configuration option is detailed in "Creating NNM events from HP SIM" in the Installation chapter of this user guide.

The hpsimtraps.nnm trap configuration file defines five events that will be added to trapd.conf. One event is defined for each possible severity level in Systems Insight Manager. The following severity mapping is used.

- HPSIM—NNM
- Critical—Critical
- Major—Major
- Minor—Minor
- Normal—Informational
- Informational—Informational

Using the hpsimnnm.exe program, only one SNMP variable is sent from HPSIM to NNM. This variable is the complete trap message from SIM in one string. Additionally, the node that originally sent the event to HP SIM is used to display the node information in NNM, so the original node will be displayed as the source of the event.

When an event is received that meets the criteria specified in the automatic event-handling setup, the hpsimnnm.exe program will execute and send an event to NNM using the `snmpnotify` command. These events will begin with "HPSIM" so you know they were generated by the Systems Insight Manager server.

Figure 64 NNM Alarm Browser
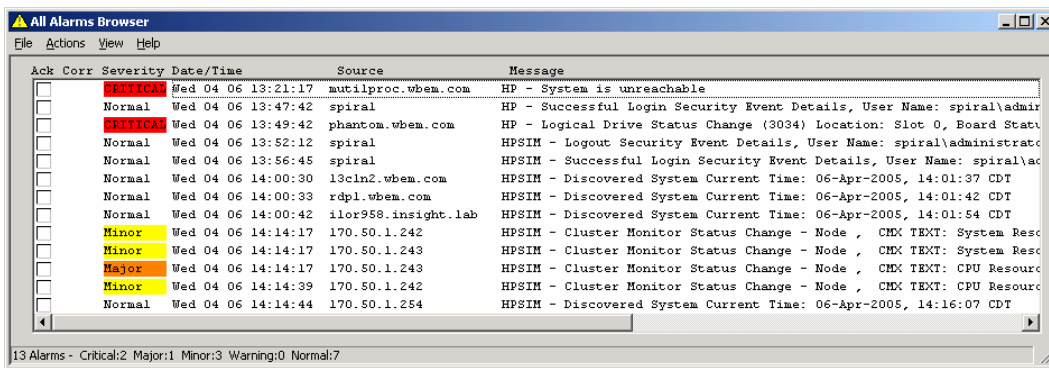
After the hpsimtraps.nnm trap configuration file is loaded on the NNM server, no other updates or additions to the NNM server should be required. The configuration and filtering for forwarded events is performed through HP SIM.

For more detailed information about the event, select **Actions>Views>Systems Insight Manager** in the Alarm Browser, which launches HP SIM to the selected node. After HP SIM has started, click the **Events** tab to view all the events for the selected node.

Figure 65 Launching to HP SIM from the NNM Alarm Browser
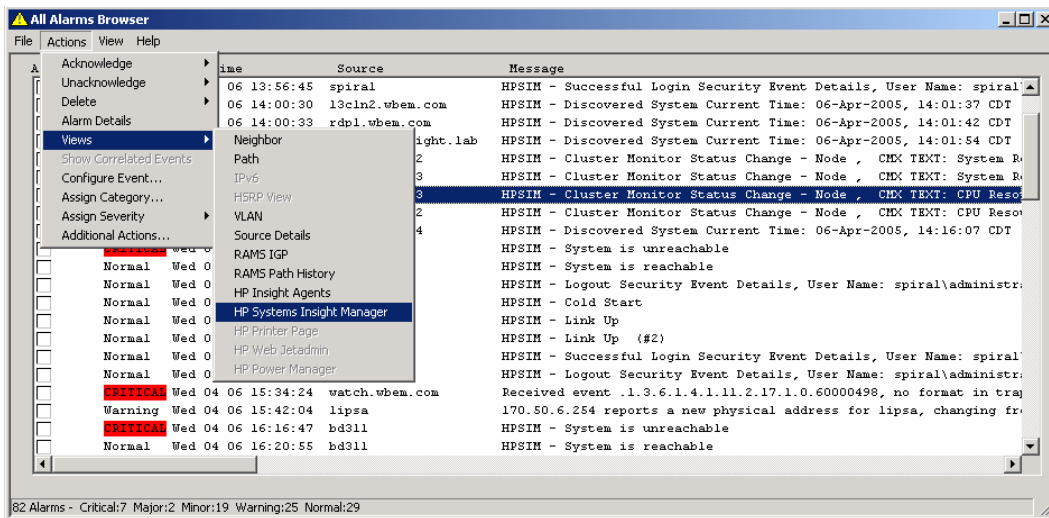
Figure 66 HP SIM system page
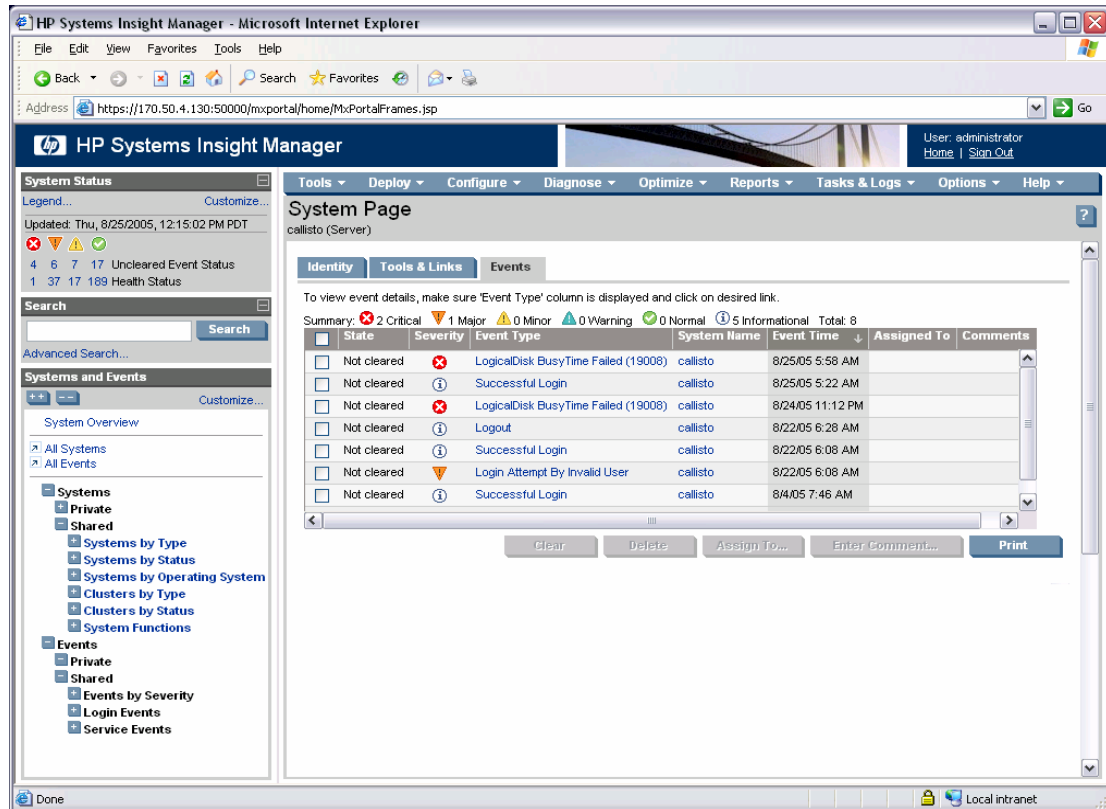
Event definitions in the hpsimtraps.nnm file:

```
Enterprise: compaq-str {.1.3.6.1.4.1.232.1.3.1}
#
HPSIM_101 {.1.3.6.1.4.1.232.1.3.1} 6 101 A "Status Alarms" 5
$1
SDESC
This is a critical event received by HP Systems Insight Manager
and forwarded to Network Node Manager.
EDESC
HPSIM_102 {.1.3.6.1.4.1.232.1.3.1} 6 102 A "Status Alarms" 4
$1
SDESC
This is a major event received by HP Systems Insight Manager
and forwarded to Network Node Manager.
EDESC
HPSIM_103 {.1.3.6.1.4.1.232.1.3.1} 6 103 A "Status Alarms" 3
$1
SDESC
This is a minor event received by HP Systems Insight Manager
and forwarded to Network Node Manager.
EDESC
HPSIM_104 {.1.3.6.1.4.1.232.1.3.1} 6 104 A "Status Alarms" 1
$1
SDESC
This is a normal event received by HP Systems Insight Manager
```

```
and forwarded to Network Node Manager.

EDESC

HPSIM_105 {.1.3.6.1.4.1.232.1.3.1} 6 105 A "Status Alarms" 1

$1

SDESC

This is an informational event received by HP Systems Insight Manager

and forwarded to Network Node Manager.

EDESC
```

Using the integration with the NNM Remote Console

Revision 3.2 of the Insight Integration includes support for the NNM Remote Console installation running on Microsoft Windows. The supported Remote Console installation can be used with an NNM server running on Windows, HP-UX, or Solaris.

Install the full integration on the NNM server. After the full integration is installed on the server, execute the remote console install script in the Windows integration download on the remote console system.

📝 **NOTE:** The "Monitor – HP – Discover" and "Monitor – HP – Status Update" menu items are not available on the remote console installation. These menu items are only available on the NNM server.

Figure 67 NNM Remote Console—Windows client, HP-UX server
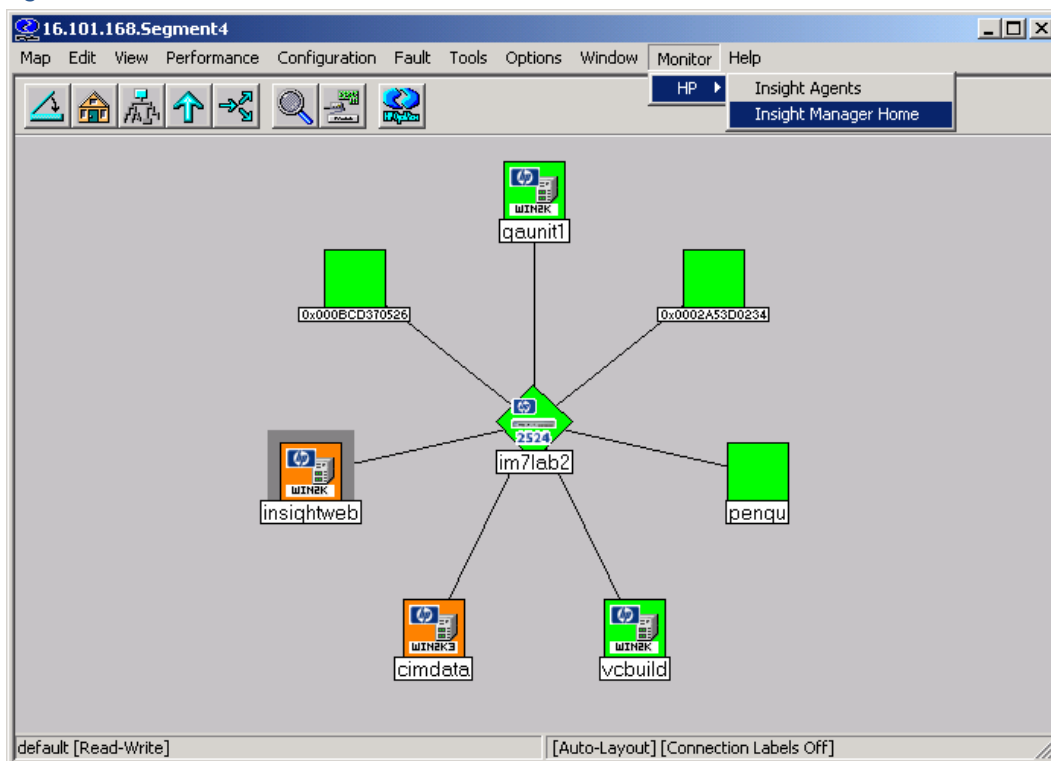
Message logs and application error messages

The Insight Integration for HP OpenView NNM creates many files that can contain a variety installation and operational messages. If you are having problems with HP OpenView NNM and the Insight Integration, view these files for further information and problem analysis.

To confirm that the Insight Integration has installed correctly and to resolve any problems, refer to the "Validating the Configuration" section in Appendix A.

- Error messages from all processes of the Insight Integration are logged to the file TMP/CIMOVERR.LOG or TEMP\CIMOVERR.LOG.
- Installation messages from the Insight Integration are logged to the file tmp/ciminstall.log on UNIX and the file %OV_BIN%\ciminstall.log on Windows.

- Uninstall messages from the Insight Integration are logged to the file tmp/cimuninstall.log on UNIX and the file %OV_BIN%\cimuninstall.log on Windows.
- Install and uninstall error messages are logged to the file tmp/cimerror.log on UNIX and the file %OV_BIN%\cimerror.log on Windows.

If problems persist, contact HP Customer Service. Refer to the "About This Guide" section in this guide for contact information.

Appendix A

Troubleshooting

The following information is designed to help resolve some of the more common installation, setup, and operating problems that can occur when implementing the Insight Integration for HP OpenView NNM.

Why are there undefined alarms in the event log?

If alarms similar to the following continue to appear in the Alarm Browser, the trap definitions for the integration module might not be installed correctly. Verify that the trap definition files are properly installed.

Reload the trap definitions by executing `xnmevents -load newtraps.cpq`, and stop and restart the HP OpenView services (OVSTOP and OVSTART).

In the following messages, "nnmsystem.mse.com" is the name of the server running NNM.

```
- Normal Fri Sep 13 10:30:16  nnmsystem.mse.com   Received event
.1.3.6.1.4.1.232.1.3.2.0.3001 (enterprise:.1.3.6.1.4.1.232.1.3.2 generic:6
specific:3001), no format in trapd.conf. 1 args: [1]
private.enterprises.compaq.cpqStdEquipment.3.2 (Integer): 7215

- Normal Fri Sep 13 10:30:16  nnmsystem.mse.com   Received event
.1.3.6.1.4.1.232.1.3.11.0.3003 (enterprise:.1.3.6.1.4.1.232.1.3.11 generic:6
specific:3003), no format in trapd.conf. 1 args: [1]
private.enterprises.compaq.cpqStdEquipment.3.11 (Integer): 7215

- Normal Fri Sep 13 10:30:16  nnmsystem.mse.com   Received event
.1.3.6.1.4.1.232.1.3.3.0.3002 (enterprise:.1.3.6.1.4.1.232.1.3.3 generic:6
specific:3002), no format in trapd.conf. 1 args: [1]
private.enterprises.compaq.cpqStdEquipment.3.3 (Integer): 7215

- Normal Fri Sep 13 10:30:17  nnmsystem.mse.com   Received event
.1.3.6.1.4.1.232.1.3.2.0.3001 (enterprise:.1.3.6.1.4.1.232.1.3.2 generic:6
specific:3001), no format in trapd.conf. 1 args: [1]
private.enterprises.compaq.cpqStdEquipment.3.2 (Integer): 7217
```

Why are known HP nodes not classified as HP servers on the NNM map?

There are several possible causes. First, verify communication with the system.

1. Right-click the node, and select **Object Properties.**
2. Open a command prompt, and ping the selection name displayed in the Object Properties dialog box.
3. If you cannot ping the selection name, add it to the hosts file on the system. The device should be classified correctly. If this action has no effect, verify the console can communicate with the HP Insight Management Agents.
4. Run `cpqchksnmp` in the %OV_MAIN_PATH%/install/tools/cpq directory to verify a system is running SNMP. For example:

   ```
   cpqchksnmp 172.25.162.30 public
   ```
5. Run `cpqchkagnt` in the %OV_MAIN_PATH%/install/tools/cpq directory to verify a system is running the HP agents. For example:

   ```
   cpqchkagnt -n 172.25.162.30
   ```
6. Verify HP OpenView NNM can get the operating system information from the desired system:
   a. Run the HP OpenView MIB browser (%OV_BIN%/xnmbrowser).
   b. Enter the host name or IP address of the system.
   c. Enter the community name to use for communication.

d. Enter `.1.3.6.1.4.1.232.11.2.2` for the MIB Object ID.

e. Click **Start Query.**

The results should display the operating system name and version, similar to the following (depending on the operating system) in the MIB Values field:

```
1.0:Microsoft Windows NT Server

2.0:4.00

3.0:Service Pack 6 1381 Uniprocessor Free

4.0:3

5.0:3
```

If you cannot obtain any results, the system cannot communicate with the HP Insight Management Agents.

Why do the Insight Information options return errors when querying a node?

SNMP must be installed and configured for the Insight Information menu items to work properly. In addition, the correct community string must be configured within NNM.

If you receive the error, "Could not perform SNMP get from HOSTNAME: No response arrived before timeout," verify that the correct SNMP community string is being used.

If you receive the message, "Note: requested information is not available from HOSTNAME," be aware that, in most cases, this message is not an error. The most likely cause of this message is requesting information that is not implemented on the target node. For example, selecting **Insight Information>Drives>SCSI** on a system that only has a drive array (no SCSI devices) results in this message.

Why are RILOE, RILOE II, or iLO management processors not being discovered and associated with the server?

The HP Insight Management Agents must be installed and configured on the target server, and the Remote Insight Agent must be running.

Why are systems not appearing on the NNM Segment Map even though the Insight Integration for HP OpenView NNM is installed?

First, verify that the HP Insight Management Agents are installed and active. If HP Insight Management Agents are not in use or not correctly enabled, your systems will not be discovered.

HP recommends HP Management Agents for Servers 5.0 or later and HP Management Agents for Clients 4.20 or later as a minimum.

Second, be sure that the CPQDIS background process is running by using the OVSTATUS command. Refer to the "Checking the status of background processes" section in this appendix for more information.

If the problem persists, you might have a general configuration or communication problem. Refer to the "Validating the configuration" section in this appendix to check the overall configuration.

Why does the Insight Agent icon within the NNM device window display web DISABLED and the HP Management Agent launch does not execute?

This message indicates that the web-enabled HP Insight Management Agents are not being used. web-enabled agents are required to activate the integrated browser launch and provide direct access to the data collected by the HP Management Agents.

Verify that HP Management Agents for Servers 5.0 or later and HP Management Agents for Clients 4.20 or later are installed and configured for all HP monitored systems.

Why are SNMP events not showing up within the NNM Event Browser?

Several items can cause this problem. First, verify that the SNMP trap destination is correctly specified on all monitored nodes so that traps are sent to the NNM console.

Second, be sure that the CPQTRAPD background process is running by using the OVSTATUS command. Refer to the "Checking the status of background processes" section in this appendix for more information.

Inspect the TRAPD.LOG file to determine if the raw trap is being received.

If the problem persists, you might have a general configuration or communication problem. Refer to the "Validating the configuration" section in this appendix to check the overall configuration.

Why does the browser return an incomplete web page when I click the web ENABLED icon to launch to the HP Management Agents? Why does the device home page appear, but there are no options to access the HP Management Agents?

Be sure that your browser application has both the Java and JavaScript options selected and enabled. These options can usually be found under the Advanced component of the Preferences or Internet Options configuration windows.

Why, after the NNM device discovery, do the Insight Integration device icons on the IP Segment Map keep changing back to the default HP OpenView images?

The following environment variable must be included to the $HOME/.dtprofile file for each user ID used to view the NNM maps. Verify that the following lines are included in each file:

```
IPMAP_NO_SYMBOL_CHANGES=TRUE
export IPMAP_NO_SYMBOL_CHANGES
```

The status indications for nodes are only available on selected maps. Why can I not see system status reflected on all NNM maps?

This symptom can occur if Map Persistence is not enabled. Enabling Map Persistence ensures that the HP status updates are populated on both the main map and submaps within the NNM console.

For details on configuring Map Persistence, refer to the "Additional configuration requirements" section in Chapter 2 of this guide.

Why can I not browse to the HP System Management Homepage and view Insight Management Agent data on the host NNM system?

If you have HP Insight Management Agents installed on a ProLiant server that also acts as the NNM host, you must configure the SNMP EMANATE agent with the correct settings to enable proper operations. For further details, refer to the "Configuring SNMP on a ProLiant system running NNM" section in Chapter 2.

Validating the configuration

To verify that the application is configured properly, the following tools are provided in the $OV_INSTALL/TOOLS/CPQ directory. Each tool displays relevant messages and appropriate actions.

📝 **NOTE:** Run the following tools from a command line prompt.

- CPQCHKSNMP checks for SNMP connectivity with a given node and given community string.
- CPQCHKAGNT detects whether the SNMP master agent and the HP Management Agents are active on a given node. An example of the syntax would be:

    ```
    CPQCHKAGNT [-n nodename -f filename : Hostname/IP-Address of node]
    ```
- CPQCHECK verifies the:
  - Valid values in the environment variables
  - Presence of all the configuration files required by the Insight Integration
  - Syntax of all the configuration files
  - Authorization of the package
  - Presence of all the registration files required by the application

The discrete process contained in the CPQCHECK utility can be performed individually by using the following commands instead of CPQCHECK:

- CPQCHKENV verifies the following environment variables:
  - IPMAP_NO_SYMBOL_CHANGES=TRUE
  - OV_BIN
- CPQCHKREG verifies the presence of all the registration files.
- CPQCHKCONF verifies the syntax of CPQCONFIG.DAT.
- CPQCHKTCONF verifies the syntax of CPQTRAPD.CONF.
- CPQCHKSTR verifies the syntax of CPQVAL2STR.TRAP and CPQVAL2STR.INFO.
- CPQCHKNODE verifies the syntax of CPQNODE.DAT.
- CPQCHKAUTH verifies the authorization details of the HP integration.

Error messages

Error messages from all processes associated with the Insight Integration are logged in the file TMP/CIMOVERR.LOG file. View this file if you have problems with either HP OpenView NNM or the HP integration.

The log contains information to help rectify the problem. If the problem persists, refer to the "Troubleshooting" and "Before calling HP Customer Support" sections of this appendix for further assistance.

Checking the status of background processes

Run the OVSTATUS command from a command line prompt to confirm that the Insight Integration background processes are active.

The Insight Integration uses two background processes, which provide discovery of HP nodes on the NNM management map and translate HP SNMP events at the NNM Event Browser:

- CPQDIS
- CPQTRAP

If either of these processes are not displayed as active, configuration or communication problems might exist. To confirm that the Insight Integration has installed correctly and to resolve any problems, refer to the "Validating the configuration" section in this appendix. For more information on how to use OVSTART and OVSTATUS, refer to the *HP OpenView Network Node Manager User's Guide.*

Normally, the process management daemon, OVSPMD, starts these processes when the operating system is initialized. If any of these background processes are not running, start them by entering the OVSTART command before initializing the OVW.

For more information on how to use OVSTART, refer to the *HP OpenView Network Node Manager User's Guide.*

Before calling HP Customer Support

If you are having problems installing or configuring the Insight Integration, HP Customer Support can offer further assistance.

Before calling HP Customer Support, verify that you have completed the following steps:

- Review the installation steps listed in Chapter 2.
- Refer to the "Troubleshooting" section of this appendix.
- Provide copies of the following files:
- Installation log file CIMINSTALL.LOG
    - Error log file TMP/CIMOVERR.LOG
    - Screen output from any the diagnostic tools mentioned in the "Validating the configuration" section of this appendix

Refer to the HP support contacts listed in the "About this guide" section of this guide.

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