

HP Insight Integration for Tivoli, Revision 4.0

User Guide



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About this guide

Audience assumptions

This guide is for systems administrators who use the HP Insight Integration for Tivoli, HP System Management Homepage, and HP Systems Insight Manager applications to manage the operation of HP ProLiant, AlphaServer, and Integrity Superdome systems within a Tivoli environment.

It should be noted that the HP Insight Integration for Tivoli has been developed to integrate into an existing Tivoli Managed Region.

Readers of this guide should be familiar with the configuration and operation of Tivoli Enterprise, HP Systems Insight Manager, and HP Insight Management Agents. They should also have a working knowledge of the operating environments to be used with the Insight Integration module, Tivoli Enterprise, and HP Systems Insight Manager.

Where to go for additional help

In addition to this guide, the following information sources are available:

- Management Integration Support website at <http://h18000.www1.hp.com/products/servers/management/integrationmodule-support.html>
- HP Management Website at <http://www.hp.com/servers/proliant/manage>
- *Tivoli Framework User's Guide*
- *Tivoli Enterprise Console User's Guide*

Product overview

Product description

The HP Insight Integration for Tivoli simplifies systems management by integrating SNMP event and status indications for HP ProLiant, AlphaServer, and Integrity Superdome servers into the Tivoli Enterprise Console (TEC), and provides tasks that enable the collection of in-depth ProLiant hardware data and integrated links to HP management tools.

This comprehensive solution builds on the functionality of HP Insight Management Agents and works with native Tivoli services across a wide range of operating platforms. This enables IT administrators to manage HP servers, storage and other enterprise resources within a common Tivoli environment.

The HP Insight Integration for Tivoli includes SNMP Adapter definitions for over 800 individual notifications, in addition to Basic Recorder of Objects in C (BAROC) event class definitions and rules to correlate nearly 450 SNMP events. These definitions, classes, and rules integrate closely with the TEC application, allowing HP SNMP events to be identified, processed, translated, and clearly displayed in the TEC Console. The pre-defined HP rules can be easily customized to suit individual Tivoli Management Environment (TME) requirements.

Revision 4.0 of the HP Insight Integration for Tivoli also provides tasks and predefined database schemas that enable detailed hardware asset data for HP ProLiant servers to be collected, displayed, and queried by the inventory tools delivered with Tivoli Configuration Manager. Additional data for managed HP servers is also available through integrated tasks that launch the HP System Management Homepage and HP Systems Insight Manager.

Changes in revision 4.0

- Installation and operations support for Tivoli Framework 4.1.1 and TEC 3.9
- Tasks and predefined database schemas to collect HP ProLiant asset data, using inventory tools provided with Tivoli Configuration Manager 4.2
- Tivoli Class Definition Statement Files (.CDS) and BAROC class definitions updated to support HP Insight Management Agents 7.40 for ProLiant, AlphaServer and Integrity Superdome servers
- Expanded rules for Tivoli event servers (nearly 450) with automated correlation. Can be customized to meet individual requirements
- Removal of support for Tivoli Framework and TEC 3.6.x

Product features

- Designed for use with the TEC 3.7.x, 3.8, and 3.9
- Supports all tier-1 Tivoli platforms (HP-UX, AIX, Solaris, Windows) running Tivoli Framework 3.7.x to 4.1.1
- Custom tasks to configure Tivoli SNMP Adapters and Tivoli Event Server to display HP SNMP events in the TEC
- More than 800 HP SNMP traps defined for ProLiant, AlphaServer, and Integrity Superdome servers
- Translates and displays SNMP events from all Tivoli Managed Nodes and Endpoints that have Insight Management Agents installed
- Predefined event class definitions and rules that correlate approximately 450 HP SNMP events
- Tasks to launch HP Systems Insight Manager, HP System Management Homepage, and the HP Storage Management Appliance from the Tivoli Desktop and the TEC
- Tasks to initiate the collection of detailed hardware asset data for HP ProLiant servers
- Predefined database schemas for Microsoft SQL and Oracle®, to query and display HP hardware asset data using the inventory tools provided with Tivoli Configuration Manager
- Comprehensive documentation

Availability

HP Insight Integration for Tivoli is easy to obtain by registering and downloading from <http://www.hp.com/servers/integration>.

Preinstallation requirements

Before installing the HP Insight Integration for Tivoli, be sure that you have read and understood the installation information provided in this chapter. Other installation requirements are:

- The target Tivoli environment must be fully configured and operational prior to installing the HP Insight Integration for Tivoli.
- The Tivoli Framework/Desktop and the TEC are the only required Tivoli components.
- Tivoli Configuration Manager is required to utilize the HP inventory collection tasks
- Verify that the correct levels of the Tivoli Framework, TEC, and related patches have been installed. A listing of the required Tivoli software can be found in the “Tivoli Enterprise support and requirements” section.
- The Tivoli software versions and patches installed on Gateway and Managed Node devices must match those installed on the associated TMR server.
- SNMP services must be installed and configured on all HP managed systems.
- A Tivoli administrator login is needed to perform many of the features provided with Insight Integration. For information on administrator login and access rights, refer to the *Tivoli Framework User's Guide*.

HP hardware support

The Insight Integration has been developed to install and operate on HP ProLiant, AlphaServer, and Integrity Superdome servers, configured as Tivoli TMR and Managed Node systems on supported UNIX and Windows platforms, including HP-UX, Windows 2000, Windows 2003, and Solaris, and as Tivoli Endpoint devices on platforms that support Tivoli and HP Insight Management Agents, including Windows 2000, Windows 2003, Windows NT, NetWare, and Linux. For a more complete listing of Endpoint platform support, refer to the “HP Insight Management Agent platforms” section.

The following sections provide examples of the minimum configuration requirements for HP ProLiant servers configured as Tivoli TMR and TEC servers, Tivoli Managed Nodes or Endpoints.

HP ProLiant server configured as a TMR server

The following configuration is recommended as a minimum:

- Windows 2000 with SP4 or greater
- 128 MB RAM
- TCP/IP installed and configured
- Tivoli Framework 3.7.1 or later
- Oracle, Sybase, Microsoft SQL Server, Informix, or DB2 Relational Database Management Systems (RDBMS)

HP ProLiant server configured as a TEC server

The following configuration is recommended as a minimum:

- Windows 2000 with SP4 or greater
- 512 MB RAM and 512 MB free drive space (without RIM and event database)
- 1 GB RAM and 4 GB RAM free drive space (with RIM and event database on the same server)
- TCP/IP installed and configured
- Tivoli Framework 3.7.1 or later
- Tivoli Enterprise Console 3.7.1 or later and Event Server with the SNMP event adapter installed on a node in the environment
- Oracle, Sybase, Microsoft SQL Server, Informix, or DB2 RDBMS for the TEC database

ProLiant Managed Node and Endpoint configurations

The following configuration is recommended as a minimum:

- 64 MB RAM
- Windows NT 4.0 SP6a
- Novell NetWare 4.x
- SNMP service installed and configured



NOTE: Under Windows 2000, the SNMP service is set to READ ONLY by default. Be sure that SNMP is configured for READ/WRITE to enable proper operations.

- TCP/IP installed and configured
- Insight Management Agents 5.50 or later
- Tivoli Managed Nodes
 - Tivoli Framework 3.7.1 or later
- Tivoli Endpoints with the Tivoli Management Agent installed

HP Insight Management Agent platforms

The following lists all platforms supported by Insight Management Agents and Insight Integration as managed Tivoli Endpoint systems:

- Windows 2000
- Windows NT 4.0 SP6
- Windows 2003
- NetWare 5.x or later
- HP Tru64 UNIX 4.0F and later
- HP OpenVMS 7.1 and later
- UnixWare 7 or later and Open UNIX 8
- Linux
 - Red Hat
 - SUSE
 - UnitedLinux 1.0
- OS/2 Warp Version 4

Disk space and memory requirements

To install the HP Insight Integration for Tivoli, Revision 4.0, a minimum 5 MB of free hard disk space is required for a combined TMR/TEC or individual TMR and TEC server configuration.

No set memory is required. The Tivoli environment and the number of nodes being managed within the TMR will determine the actual amount of memory required.

HP software requirements

The following HP software is needed to implement the full functionality of the HP Insight Integration for Tivoli.

HP Insight Management Agents

Insight Management Agents are the foundation of the HP Insight Integration for Tivoli and are required on every HP server to be managed. They monitor hardware instrumentation, subsystem status and generate SNMP events.

HP Insight Integration for Tivoli, Revision 4.0, includes hardware support and SNMP event instrumentation up to Insight Management Agents 7.40. HP recommends that Insight Management Agents 5.50 be used as a minimum.

To view data instrumented by HP Insight Management Agents on an individual server, the Insight Integration for Tivoli includes a task to launch the System Management Homepage from the Tivoli Desktop and TEC.

Insight Management Agents for HP servers are provided with HP Support Packs, included with the Foundation Pack and SmartStart CDs shipped with HP ProLiant and Integrity servers, and can also be downloaded from <http://www.hp.com/servers/manage>.

HP Systems Insight Manager

HP Systems Insight Manager is a web-based application that provides unified lifecycle management for HP servers, storage, and other managed infrastructure resources from HP and third-party manufacturers. HP Systems Insight Manager can be used to maximize system uptime, reduce total cost of ownership, and provide powerful systems lifecycle monitoring, inventory, and control.

The HP Insight Integration for Tivoli includes a task to launch HP Systems Insight Manager from the Tivoli Desktop and TEC.

HP Systems Insight Manager is not required to implement the HP Insight Integration for Tivoli, but it enables more advanced infrastructure lifecycle management from within the Tivoli environment.

HP Systems Insight Manager can be found on the Management CD included with the ProLiant Essentials Foundation Pack, shipped with every ProLiant server, and can also be downloaded from <http://www.hp.com/servers/manage>.



NOTE: The download file size for HP Systems Insight Manager is approximately 150 MB.

HP Storage Management Appliance

The HP OpenView Storage Management Appliance is a centralized monitoring and management solution for storage area networks (SAN). Connected directly to the network fabric, it performs advanced independent management functions between computers and storage devices.

The HP Insight Integration for Tivoli includes a task to launch the web-based agents for the HP Storage Management Appliance from the Tivoli Desktop and TEC.

The HP Storage Management Appliance is not required to implement HP Insight Integration for Tivoli, but it can be used to provide advanced SAN management from within the Tivoli environment.

Tivoli Enterprise support and requirements

The HP Insight Integration for Tivoli has been developed to work with the following applications:

- Tivoli Enterprise Management Framework/Desktop (required)
- Tivoli Enterprise Console
- Inventory tools provided with Tivoli Configuration Manager

The HP Insight Integration for Tivoli, Revision 4.0 has been developed and tested with the following:

- Tivoli Framework/Desktop 3.7.x, 4.1, and 4.1.1
- Tivoli Enterprise Console 3.7.x, 3.8, and 3.9
- Tivoli Configuration Manager 4.2

Tivoli patch requirements

The following minimum Tivoli patch levels are required to implement the HP Insight Integration for Tivoli.

Tivoli Framework 3.7.x

- Tivoli Framework 3.7.1—TMF-00097
- Tivoli Framework 3.7.1—TMF-00099

Tivoli Enterprise Console 3.7.x

- Tivoli Enterprise Console 3.7.1—TEC-FP04

Tivoli Framework 4.1

- Tivoli Framework 4.1—TMF-0013

Tivoli Enterprise Console 3.8

- Tivoli Enterprise Console 3.8, Fixpack 1

Tivoli Framework 4.1.1

- Tivoli Framework 4.1.1 —TMF-0044

Tivoli Enterprise Console 3.9

- Tivoli Enterprise Console 3.9, TEC-FP04

Tivoli SNMP Adapter

The HP Insight Integration for Tivoli has been developed to integrate nearly 800 SNMP traps generated by HP Insight Management Agents into the TEC Console, and includes event translation and automated event correlation. The Tivoli SNMP Adapter is needed to provide this capability.

At least one system on the network must have a Tivoli SNMP Adapter installed and configured to forward the HP SNMP traps to the TEC. All managed HP servers must be configured to forward SNMP traps to the Managed Node or endpoint device containing the Tivoli SNMP Adapter.

Both Tivoli non-TME and TME Adapter Configuration Facility (ACF) SNMP Adapters are supported by the HP Insight Integration for Tivoli.

For more details on how to configure the Tivoli SNMP Adapter to receive HP SNMP events, refer to the chapter “Installing the HP Insight Integration with the TEC.”

Tivoli operating environments

The HP Insight Integration for Tivoli is designed to integrate into the following Tivoli platforms:



NOTE: Includes all operating systems supported by the respective Tivoli Framework and TEC versions.

Tivoli Enterprise TMR Server and Managed Nodes

Tivoli tier-1 platforms

- HP-UX 11i
- AIX 5.2 and greater
- Solaris 8, 9, and 10
- Windows 2000 and 2003

Tivoli Endpoints

The following lists all Endpoint platforms supported by the HP Insight Integration for Tivoli:

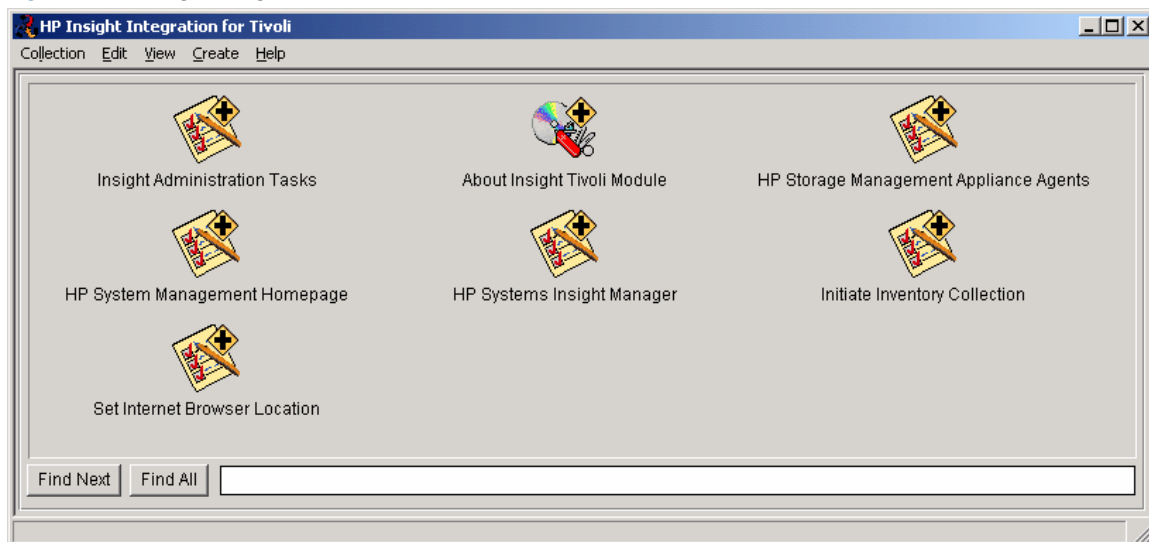
- Windows 2000 and 2003
- Windows NT 4.0 SP6
- NetWare 5.x or later
- HP Tru64 UNIX 4.0F and later
- HP OpenVMS 7.1 and later
- UnixWare 7 or later and Open UNIX 8
- Red Hat Linux
- SUSE Linux
- United Linux 1.0
- OS/2 Warp Version 4

Insight Integration groups and tasks

The HP Insight Integration for Tivoli provides the following groups and tasks, as shown in Figure 1.

Further details on using each task are provided in the chapters “Installing the HP Insight Integration with the TEC” and “Using the HP Insight Integration for Tivoli.”

Figure 1 HP Insight Integration for Tivoli



- Insight Administration Tasks—Predefined tasks for configuring the TEC SNMP Adapter and the TEC Event Server with HP Insight event definitions, classes, rules, and filters.
- About Insight Tivoli Module—Displays revision details for the installed HP Insight Integration for Tivoli.
- HP System Management Homepage—Embedded task to launch the System Management Homepage on a specified HP server. Provides in-depth hardware configuration and subsystem status data instrumented by HP Insight Management Agents.
- HP Systems Insight Manager—Embedded task to launch the browser-based HP Systems Insight Manager application for unified management of HP servers, storage and other infrastructure hardware resources.
- HP Storage Management Appliance Agents—Embedded task to launch the HP OpenView Storage Management Appliance for advanced storage management and administration.
- Initiate Inventory Collection—Embedded task to execute the HP Inventory Collector (COLLECT.EXE) on specified nodes. This task creates and saves HP hardware asset data to a specified location using a .MIF file format. The Inventory tools provided with the Tivoli Configuration Manager can be used to import HP .MIF files into an existing Tivoli inventory database.
- Set Internet Browser Location—A predefined task to configure the Insight Integration browser environment, enabling HP web-based management tools to be launched from the Tivoli Desktop and Event Console.

Insight Integration directories and files

The HP Insight Integration for Tivoli is provided as a compressed file for both UNIX- and Windows-based Tivoli platforms (INSTE40.zip and INSTE40.tar). The compressed file expands to the following default location, /hpq.

The expanded integration consists of the directories and files listed in Table 1.

Table 1 Integration directories and files

Directory	Contents
/hpq	Root location for the expanded Insight Integration files
/hpq/Docs	User documentation and release notes
/hpq/Plus	File packages and scripts used to install HP Insight Integration for Tivoli on the Tivoli Desktop and the TEC host systems
/hpq/Plus/Utils	Predefined scripts for uninstalling the HP Insight Integration for Tivoli
/hpq/Plus/Cfg	HP Insight Integration for Tivoli configuration files
/hpq/TEC	Files (.cds, .oid, .rls, .baroc), release notes, and scripts for performing a manual installation of the HP Insight Integration for Tivoli
/hpq/Inventory	Files (.sql, .sh) for creating HP specific schemas and queries, plus the HP Inventory Collector utility (collect.exe)
/hpq/MIBs	Contains information about HP SNMP MIB files associated with the HP Insight Integration for Tivoli

1 Installing the HP Insight Integration with the TEC

Overview

This section describes the primary elements and operations of the TEC, as well as the requirements and procedures used to install the HP Insight Integration for Tivoli into an existing TME.

TEC components and Insight Integration

Operation of the TEC relies on the following three major components.

Event adapters

Tivoli event adapters gather data from managed resources in the TME. Event adapters allow the TEC to retrieve events from a variety of sources, including the Windows Event Log, SNMP messages, log files, and other management platforms such as Tivoli NetView or HP OpenView.

The Insight Integration for TEC provides predefined event object definitions and classes (.cds and .oid files) for over 800 events that integrate with both non-TME and TME ACF SNMP Adapters. This enables events generated by HP Insight Management Agents to be translated, prioritized, and clearly displayed in the TEC. Detailed configuration procedures for both adapters are described in this chapter.

Event Server

The Event Server is a central system that arbitrates all SNMP events in the distributed environment and delivers updates to the TEC. It creates an entry in the Tivoli database for each incoming event and evaluates each one against a set of rules to determine how to respond. Using an event rule base, administrators can automate common tasks and actions based on incoming events.

The HP Insight Integration for Tivoli provides a comprehensive set of over 800 predefined BAROC event class definitions and over 150 rules. These classes and rules enable the automated processing and correlation of SNMP events generated by HP Insight Management Agents, and can be easily customized to suit individual TME requirements. Detailed configuration procedures are described in this chapter.

Event Console

The Event Console is a graphical user interface that displays incoming events received at the Event Server. Multiple Event Consoles can be configured within a single TME as required.

System administrators can use the Event Console to retrieve, filter, and correlate incoming events or to escalate SNMP traps to other Event Consoles for further processing.

This chapter describes how to display SNMP events for HP servers and storage platforms using a variety of TEC versions. This enables system administrators to simplify IT operations by viewing and managing events for hardware infrastructures, operating systems, and application platforms from within a common TEC interface.

Installation overview and prerequisites

The following provides an overview of the major steps and suggested sequence for installing the HP Insight Integration for Tivoli.

1. Confirm full installation and operations of the target TME, including the TMR server and associated Tivoli Gateways.
2. Ensure that TEC has been installed and that the required revision and patch levels have been applied (refer to the "Tivoli Enterprise support and requirements" section of the "Product overview" chapter).
3. Confirm that the Tivoli SNMP Adapter, TEC Event Server, and TEC Console components have been configured in preparation for Insight Integration installation.
4. Verify that SNMP services have been installed and are operational on all HP servers to be managed.
5. Download the HP Insight Integration for Tivoli from <http://www.hp.com/servers/integration>.
6. Expand the downloaded Insight Integration on the target TMR server where the Tivoli Desktop is located.
7. Confirm that you have administrator-level authority in the TME before installing the Insight Integration for TEC.
8. Install the Link Binaries to the target TMR, TEC servers, and associated gateways.

9. From the Tivoli Desktop, install the Insight Integration files on the target TMR, TEC servers and associated gateways.
10. Assign Tivoli administration resources and roles to permit access and operations of the Insight Integration.
11. Configure the Tivoli SNMP Adapters to include HP SNMP event definitions and classes.
12. Configure the TEC Event Server with the HP BAROC files and rules.
13. Configure the Tivoli Event Console to display the HP SNMP events.
14. Configure the Insight Integration tasks that enable access to the System Management Homepage, Systems Insight Manager and the HP Storage Management Appliance (if applicable) from the Tivoli Desktop and TEC console.

Installing HP Insight Integration for Tivoli

The HP Insight Integration for Tivoli allows for scripted and manual installation. The following section describes the individual steps to complete a fully scripted installation of the files provided with the HP Insight Integration for Tivoli into an existing TME.



NOTE: The text and graphics provided are based on a Tivoli Management Framework 3.7.1 configuration. Some menu item names might differ for other Tivoli Framework platforms, but the general procedures remain the same. For additional details and guidance, refer to your Tivoli documentation. For manual installation procedures, see the “Manually configuring the HP Insight Integration for Tivoli” section.

1. Confirm that the target Tivoli environment has been correctly configured and is operational and that the correct applications and patch levels have been installed (see the “Tivoli Enterprise support and requirements” section of the “Product Overview” chapter).
2. Download the HP Insight Integration for Tivoli from <http://www.hp.com/servers/integration>.
3. Expand the downloaded Insight Integration file (INSTECH40.zip or INSTECH40.tar) on the target TMR server with administrator authority.
4. Select **Desktop>Install>Install Product** (Figure 2). The **Install Product** screen appears (Figure 3).

Figure 2 Install Product Option menu selection

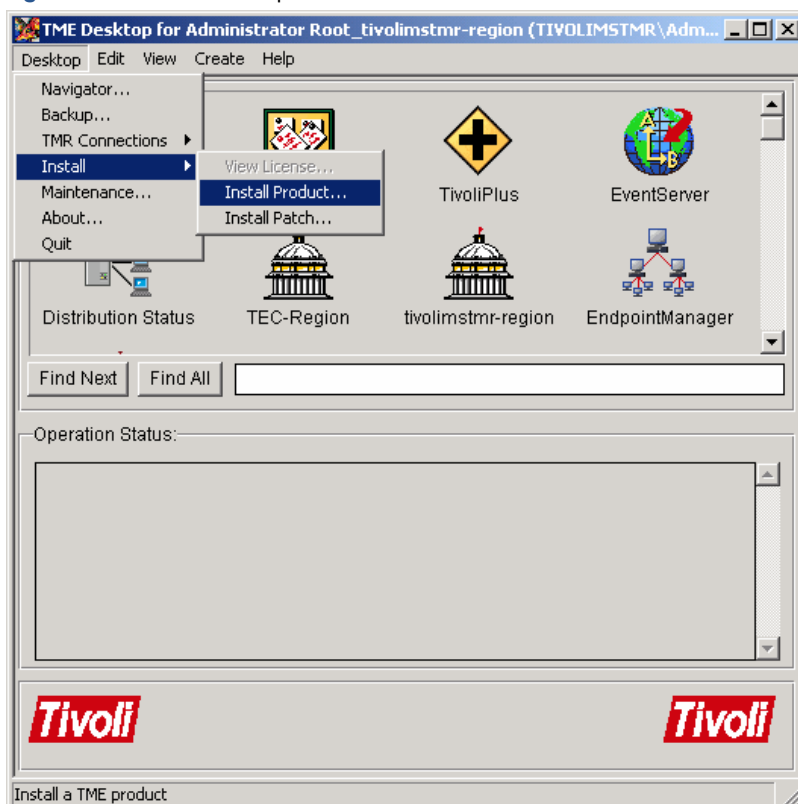
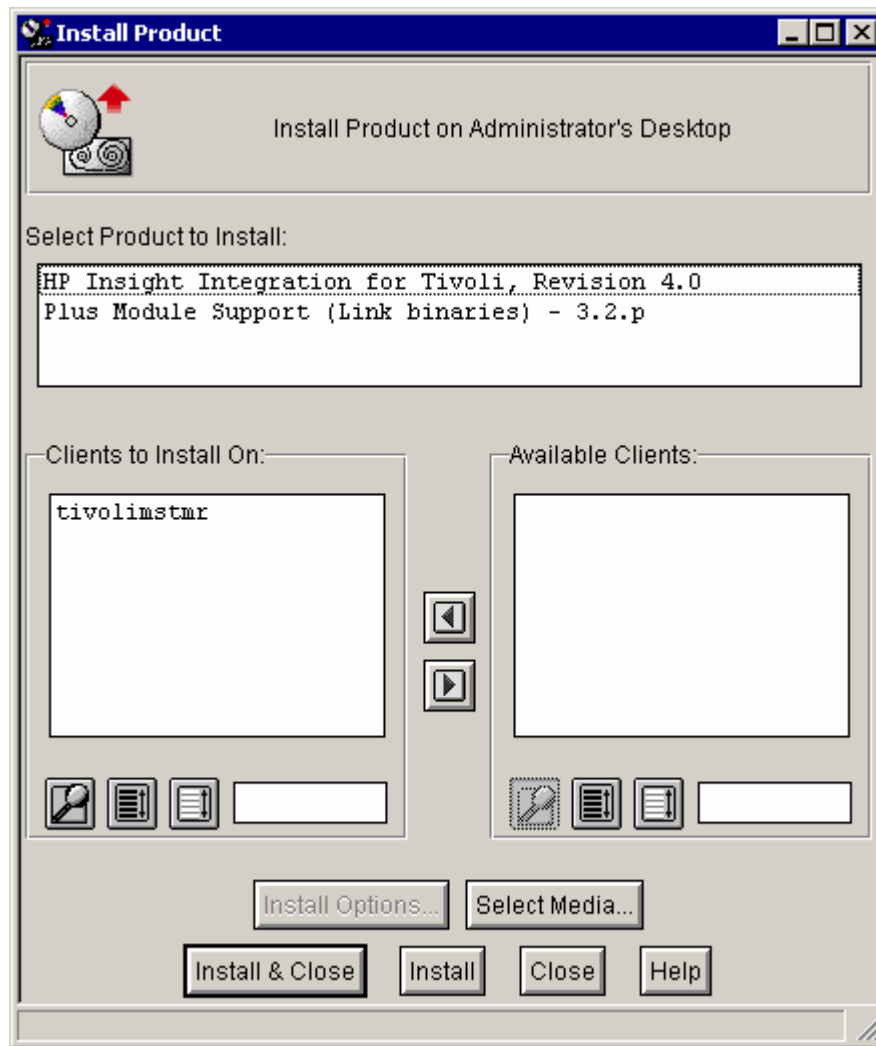



Figure 3 Install Product window



5. Using the **Select Media** button on the **Install Product** window, set the media location to where the Insight Integration files were expanded in step 3. The default location is /hpq/Plus.
6. Select **Plus Module Support (Link Binaries)** from the Select Product to Install list (Figure 3). If this option is not listed, click **Select Media** and locate the media (located by default in the /hpq/Plus directory and identified by the presence of a contents.lst file). After the media location is found, click **Set Media>Close**.

 **NOTE:** The installation process described presumes that the Plus Module Support Link Binaries are not already present. If Plus Module support Link Binaries already exist on the TMR, then use the **Install Patch** option under the **Desktop/Install** option (Figure 2), instead of the **Install Product** selection.

7. Populate the **Clients to Install On** list with the designated target systems. Use the left and right arrow buttons to move machine names from **Available Clients** to **Clients to Install On**. Install the Insight Integration in sequence to the following systems:
 - TMR server
 - TEC server
 - Associated gateways
8. Click **Install**. The Product Install window appears, which logs the installation as it runs, initially listing the tasks that take place during the installation. Click **Continue Install** to begin the installation, or click **Cancel** to abort the installation.
9. After the process completes, click **Close** to complete the installation of the Plus Module Support (Link Binaries).
10. Select **HP Insight Integration for Tivoli, Revision 4.0** from the Select Product to Install list (Figure 3). If it is not listed, click the **Select Media** button, and locate the media (located by default in the /hpq/Plus directory, and identified by the presence of a contents.lst file). After the media location is found, select **Set Media>Close**.

11. Populate the **Clients to Install On** list with the designated target systems. Use the left and right arrow buttons to move machine names from **Available Clients** to **Clients to Install On**. Install the Insight Integration in sequence to the following systems:
 - TMR server
 - TEC server
 - Associated gateways
12. Click **Install**. The Product Install window appears, which logs the installation as it runs, initially listing the tasks that take place during the installation. Click **Continue Install** to begin the installation, or click **Cancel** to abort the installation.
13. After the installation is complete, click **Close** to complete the installation.



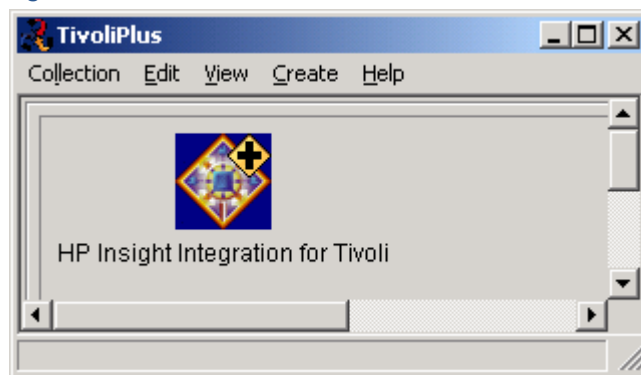
NOTE: The approximate time to install the HP Insight Integration for Tivoli is 10 to 15 minutes, depending on the overall TME configuration.

Confirming installation and product details

Use the following procedure to confirm the installation of the HP Insight Integration for Tivoli, Revision 4.0.

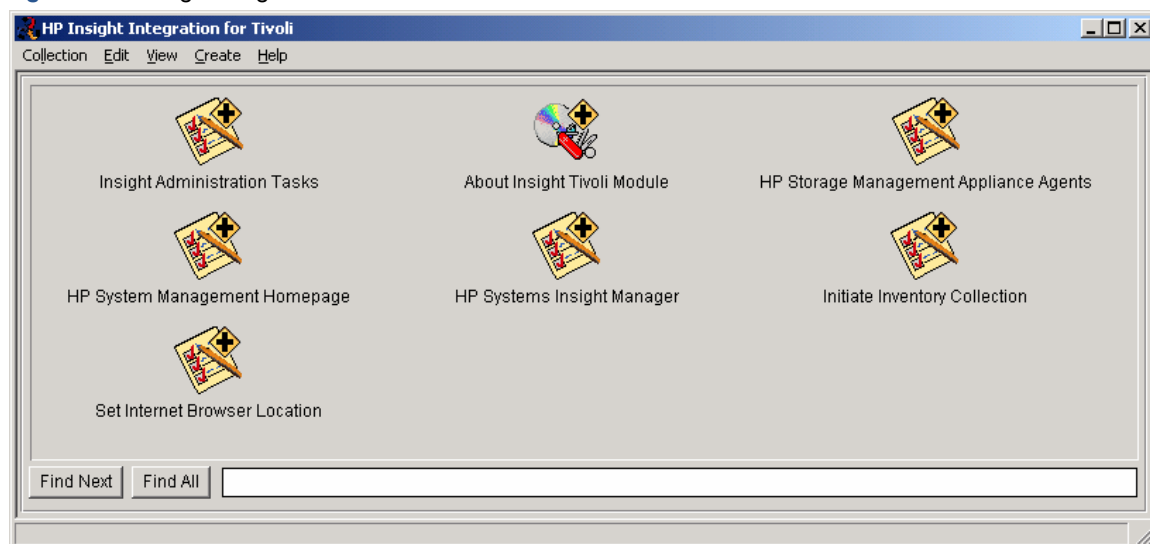
1. From the Tivoli Desktop, select **TivoliPlus>Open**, or double-click the **TivoliPlus** icon. The **TivoliPlus** window displays (Figure 4).

Figure 4 TivoliPlus



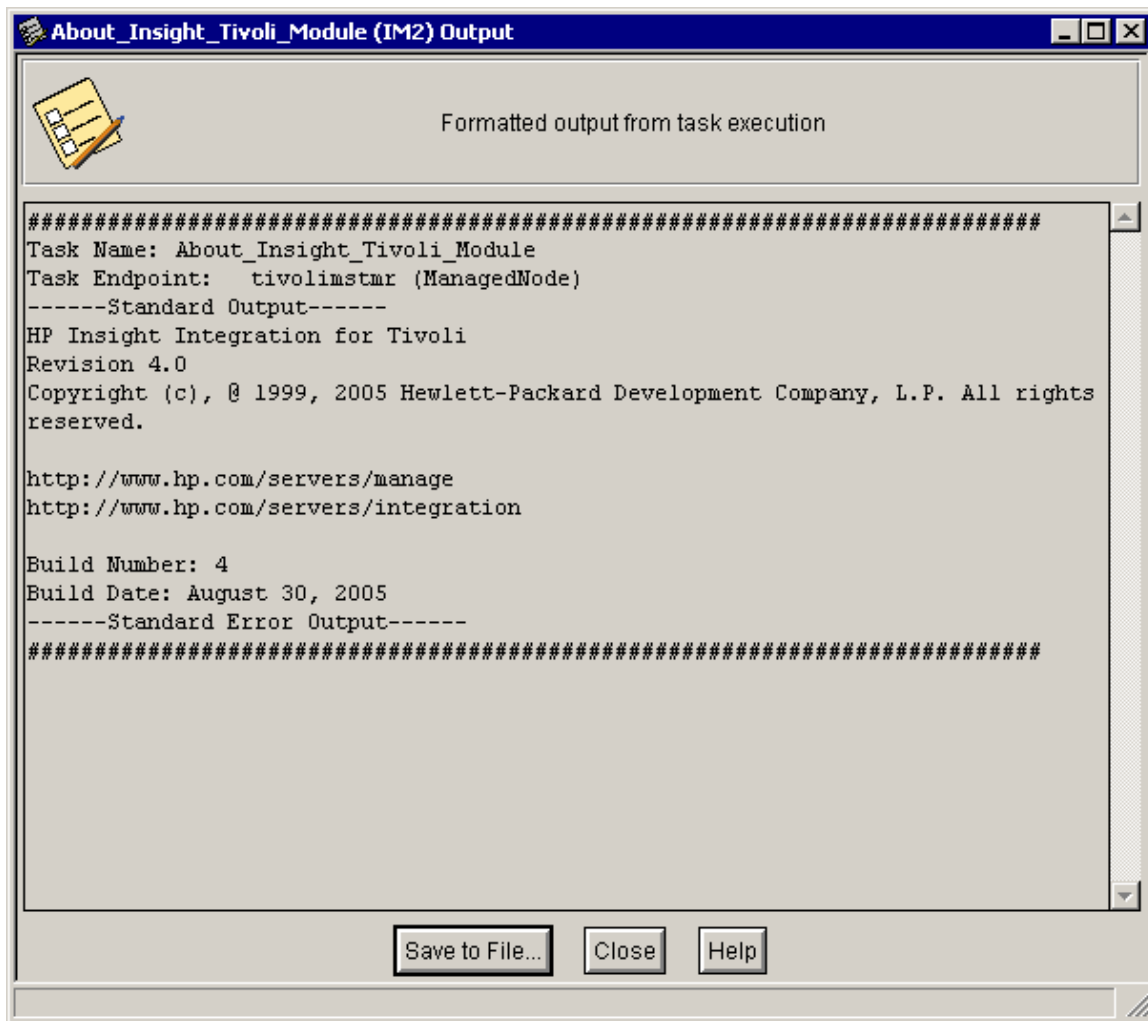
2. Right-click **HP Insight Integration for Tivoli**, and select **Open**, or double-click the icon to display the HP Insight Integration for Tivoli window.

Figure 5 HP Insight Integration for Tivoli



3. Right-click **About Insight Tivoli Module**, and select **Run**, or double-click the icon to display the product revision details (Figure 6).

Figure 6 Product revision details



Assigning Tivoli administrator resources

Having completed the installation of the HP Insight Integration for Tivoli files, you must assign administrator resources to enable correct access and operations.

1. Right-click the **Administrators** icon on the Tivoli Desktop and select **Open**, or double-click the icon to display the Administrators window (Figure 7).
2. Right-click the administrator that you want to assign access rights for the Insight Integration, and then select **Edit Resource Roles** to display the Set Resource Roles window (Figure 8).

Figure 7 Administrators window

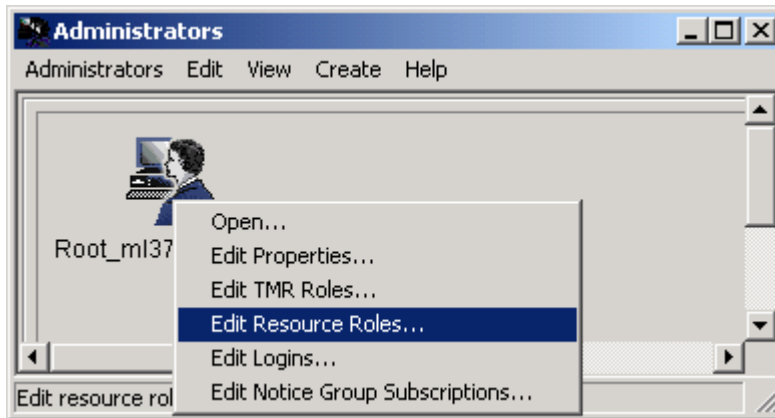
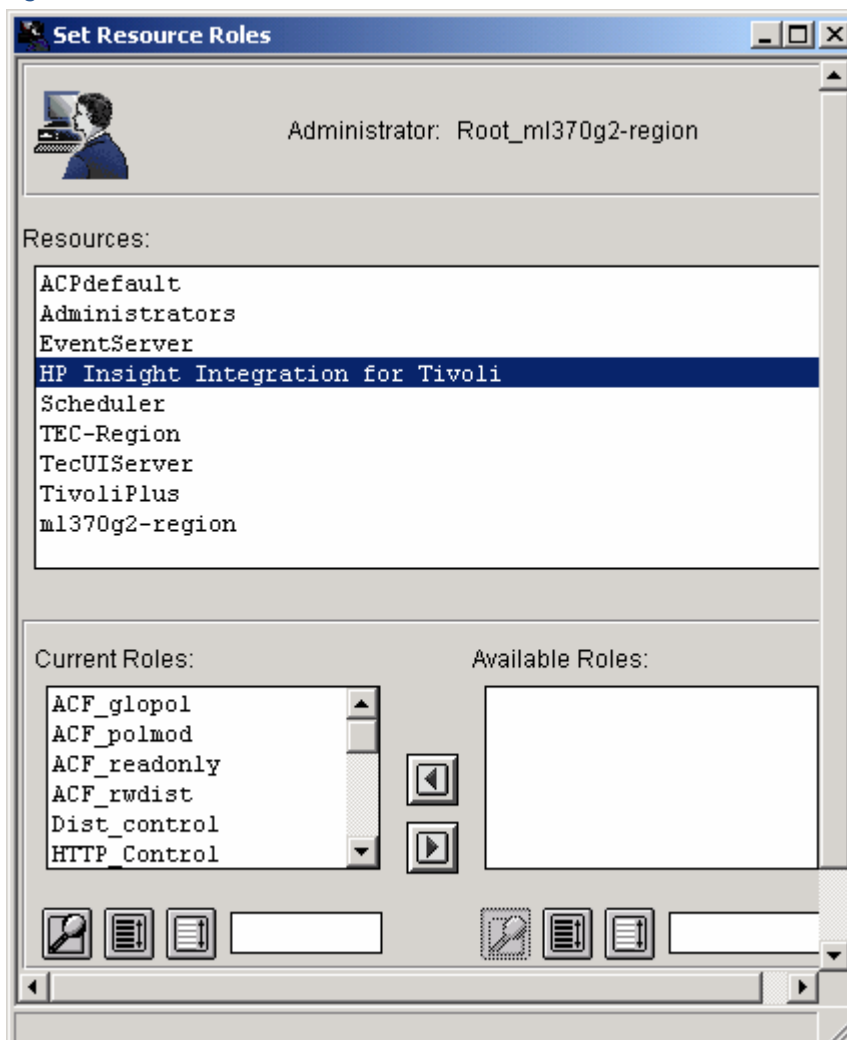


Figure 8 Set Resource Roles window



3. Be sure that **HP Insight Integration for Tivoli** is included under the Resources list.
4. Select **Change and Close** to complete the selection. Close and reopen the desktop to confirm the settings.

Configuring a Tivoli SNMP Adapter

The HP Insight Integration for Tivoli provides a scripted task, *Configure SNMP Adapter*, to simplify the integration of HP SNMP events with Tivoli Non-TME and Tivoli TME ACF adapters.

The *Configure SNMP Adapter* task is used to copy the HP SNMP event definition file (*ins_evt.cds*) and the HP object identifier file (*ins_evt.oid*) to defined target systems and amends the existing *tecad_snmp.cds* and *tecad_snmp.oid* files. This task allows the Tivoli SNMP adapters to identify and interpret traps generated by the HP Insight Management Agents. The shell script *Config_snmp.sh* is used to complete this task.



NOTE: The TME must include at least one SNMP Adapter. This user documentation includes instructions for configuring both non-TME and TME ACF SNMP adapters.

NOTE: For additional details on configuring Tivoli SNMP adapters, refer to your Tivoli documentation.

Preinstallation considerations

To ensure a successful integration with the TEC, note the following:

- HP recommends running the *Configure SNMP Adapter* task provided with the Insight Integration before setting up the TEC Event Server.
- Tivoli non-TME or TME ACF adapters must be installed on the target systems before running the *Configure SNMP Adapter* task provided with the Insight Integration.
- The SNMP service on all HP Managed Nodes and Endpoints must be configured to send SNMP traps to the Tivoli SNMP Adapter.
- The TEC application must be fully installed and operational before running the *Configure SNMP Adapter* task provided with the Insight Integration.



NOTE: The port number that TEC uses to receive events is usually 5529 for Windows-based systems and 0 for UNIX environments.

The *Configure SNMP Adapter* task supports Tivoli tier-1 platforms (HP-UX, AIX, Solaris, and Windows) and defines events from all environments supported by HP Insight Management Agents. For a list of supported operating platforms, see the “Product Overview” chapter.

Incoming events correspond to standard HP SNMP traps covering hardware platforms and subsystems that include:

- System hardware health, power supply, and environmental status
- Fibre Channel, IDE, SCSI, and Drive Array (RAID) subsystems
- StorageWorks and SANWorks storage configurations
- Clustered and Standby Recovery Server configurations
- Predefined and user-defined hardware threshold settings
- Hardware pre-failure monitors
- Network interface controllers
- Remote Insight Lights-Out Edition (RILOE) and Integrated Lights-Out (iLO) solutions
- HP Management Agent services

All defined HP events for use with the TEC include severity and correlation conditions, which can be customized to suit individual requirements.

Configuring a Tivoli non-TME SNMP Adapter

To configure the HP Insight Integration for Tivoli with a Tivoli non-TME SNMP Adapter:

1. Confirm that the TME is configured and operating correctly before attempting to configure the SNMP Adapter (TMR server, Tivoli Gateways, and the TEC application).
2. Confirm that a Tivoli non-TME Adapter is installed on at least one Managed Node or Endpoint within the TME.
3. Confirm that the adapter class definition file provided with the Insight Integration, *ins_evt.cds*, has been copied to the */etc* directory of the system hosting the Tivoli non-TME adapter.
4. From the HP Insight Integration for Tivoli window on the Tivoli Desktop (Figure 5), double-click **Insight Administration Tasks**, and right-click the **Configure SNMP Adapter** icon (Figure 9).
5. Select **Run on selected subscribers**. The Execute Task window displays (Figure 10).



NOTE: This example is based on a default Tivoli installation. To make changes to an existing configuration select the **Modify job** option.

Figure 9 Insight Administration Tasks window

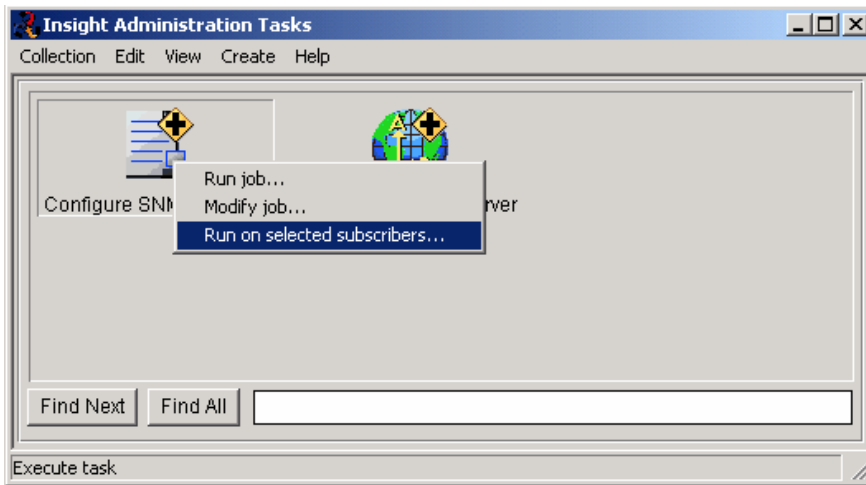
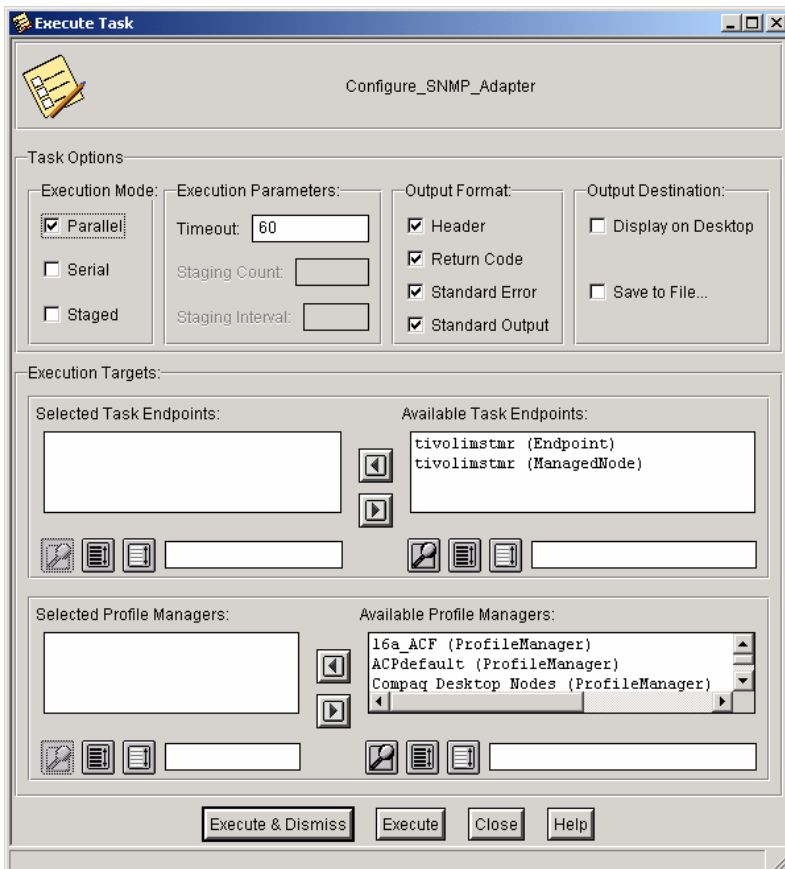


Figure 10 Execute Task window



6. In the Execute Task window, use the arrow buttons to select the target systems that contain the Tivoli non-TME Adapter from the list of available options in the left-hand selection windows.



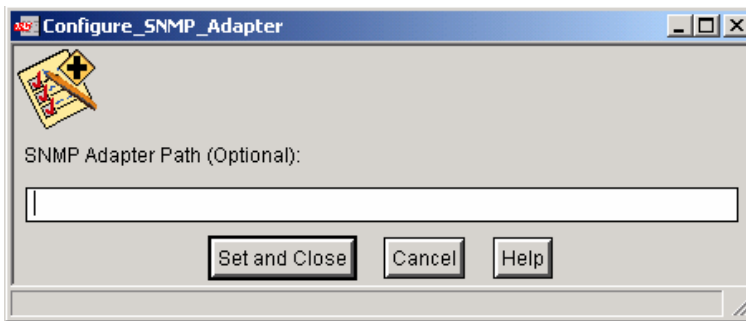
NOTE: The TME requires only a single non-TME SNMP adapter for use with the TEC. Configure the SNMP services on HP Managed Nodes and Endpoints to send traps to the Tivoli SNMP Adapter.

7. When the target selections are complete, click **Execute** or **Execute & Dismiss** to display the **Configure SNMP Adapter** window (Figure 11).



NOTE: Clicking either **Execute** or **Execute & Dismiss** displays the Configure SNMP Adapter window (Figure 11). However, clicking **Execute** displays the Execute Task window after closing the Configure SNMP Adapter window, allowing for further configuration, while clicking **Execute & Dismiss** displays the Configure Administrative Tasks window.

Figure 11 Configure SNMP Adapter window



8. The Configure SNMP Adapter window provides the option to enter a specific path for the Tivoli non-TME SNMP adapter. If the path is left blank, the default location is used.



NOTE: For non-TME adapters, the default UNIX configuration path is `usr/tecad`. For Windows platforms, the default path is `C:\tecsnmp`.

9. Select **Set and Close** to complete the configuration process and initiate the `Config_snmp.sh` script. This script amends the existing `tecad_snmp.cds` and `tecad_snmp.oid` files on the target systems with the HP SNMP event classes and definitions, and initiates the TEC SNMP Adapter.

Configuring a Tivoli ACF SNMP Adapter

The Tivoli Adapter Configuration Facility (ACF) allows for easier remote deployment and configuration of an SNMP adapter. One advantage of using ACF with the Insight Integration is the deployment of the HP event definitions file (`ins_evt.cds`). The `ins_evt.cds` file contains the HP SNMP to Tivoli event mappings and HP trap definitions.

When using a non-TME adapter, the HP event definition file is copied to the target location as part of the Configure SNMP Adapter task supplied with the Insight Integration. When using the ACF method, the HP event definition file is copied to the target location during the creation of the adapter. This method ensures that the `ins_evt.cds` file is always in the correct location before running the Configure SNMP Adapter task.



NOTE: Although the ACF is supported on both Tivoli Managed Nodes and Endpoints, the ACF SNMP Adapter is supported only on Endpoint (TMA) systems and cannot be configured on Tivoli Managed Nodes.

Overview

The deployment and configuration of the ACF SNMP Adapter includes the following steps. A detailed configuration is provided in the subsequent section.

1. Configure the Tivoli environment (TMR server, gateways, TEC).
2. Install the ACF on the TMR server and gateways.
3. Configure the TMA Endpoints.
4. Install the HP Insight Integration for Tivoli. See the “Installing the HP Insight Integration for Tivoli” section for installation instructions.
5. Create a dataless ACF profile manager and Adapter Configuration Profile (ACP).
6. Populate the newly created profile with the target Endpoints.
7. Edit the profile to configure the adapter type. The profile must include the `tecad_snmp` entry, location and port definitions for the Event Server, and location of the HP event definitions file (`ins_evt.cds`).
8. Distribute the profile to deploy the ACF Adapter to the target Endpoints.
9. Modify the **Configure SNMP Adapter** task provided with the Insight Integration to set the profile as a subscriber.

10. Run the **Configure SNMP Adapter** job provided with the Insight Integration to amend the `tecad_snmp.cds` and `tecad_snmp.oid` files with the HP event classes and definitions.

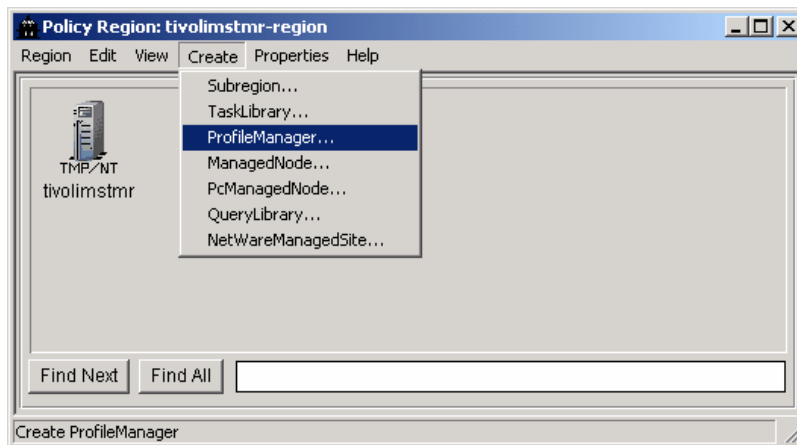


NOTE: The ACF Adapter is supported only on Tivoli Endpoint systems.

Deploying and configuring an ACF SNMP Adapter

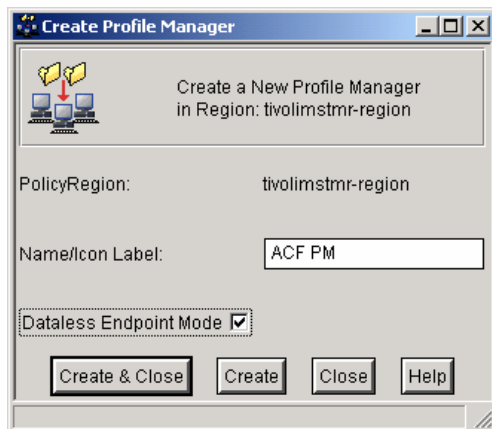
1. Confirm that the TME is configured and operating correctly before attempting to configure the SNMP Adapter (TMR server, Tivoli Gateways, and the TEC application).
2. Confirm that the ACF is installed on the TMR server and associated Tivoli Gateways.
3. On the Tivoli Desktop, double-click the **<hostname>-region** icon to select the target policy region, where **<hostname>** refers to the name of your TMR host. The Policy Region window appears.

Figure 12 Policy Region window



4. On the menu bar, click **Create**, and select **ProfileManager**. The **Create Profile Manager** window appears.

Figure 13 Create Profile Manager window



5. Input a name in the **Name/Icon Label** text box to accurately identify the new profile manager, and select the **Dataless Endpoint Mode** checkbox.
6. Click **Create and Close** to complete the profile manager creation.

7. In the **Policy Region** window, click **Properties> Managed Resources**. The **Set Managed Resources** window appears (Figure 15).

Figure 14 Policy Region window

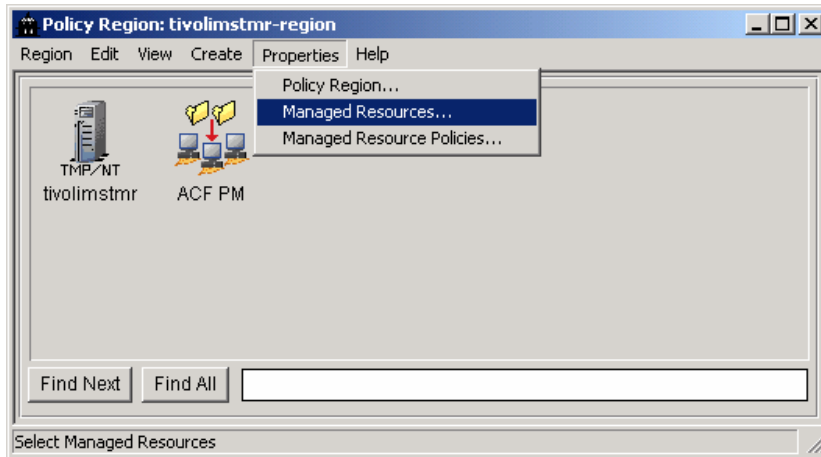
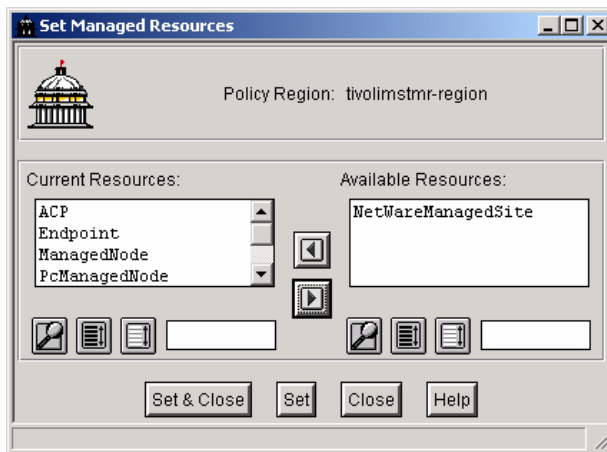
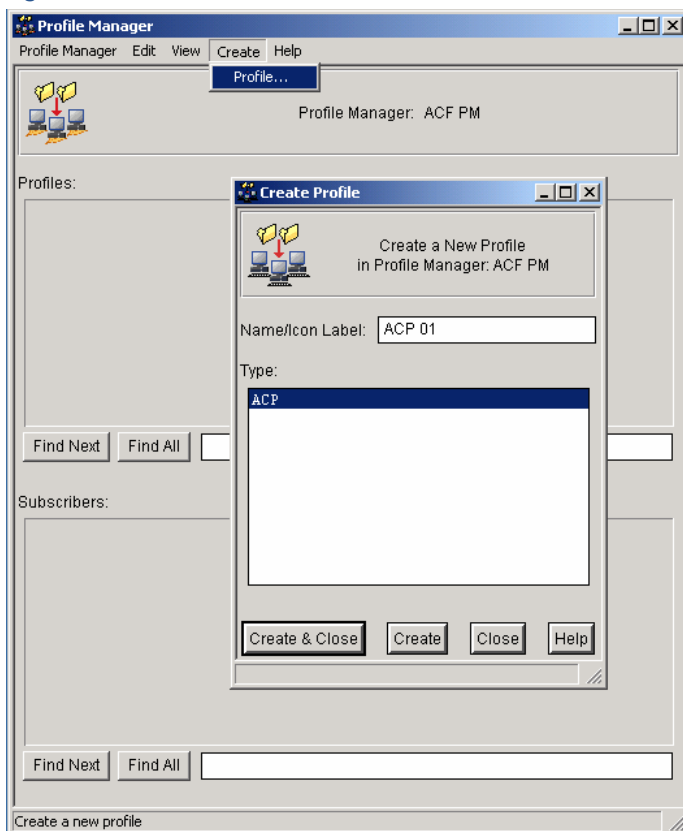


Figure 15 Set Managed Resources window



8. Using the left and right arrows, ensure that the Policy Region includes the **Adapter Configuration Profile (ACP)** under the Current Resources section.
9. Click **Set & Close** to confirm the settings.
10. In the Profile Manager window, double-click the profile manager icon previously created.
11. In the Profile Manager window, select **Create** from the menu bar, and select **Profile**.

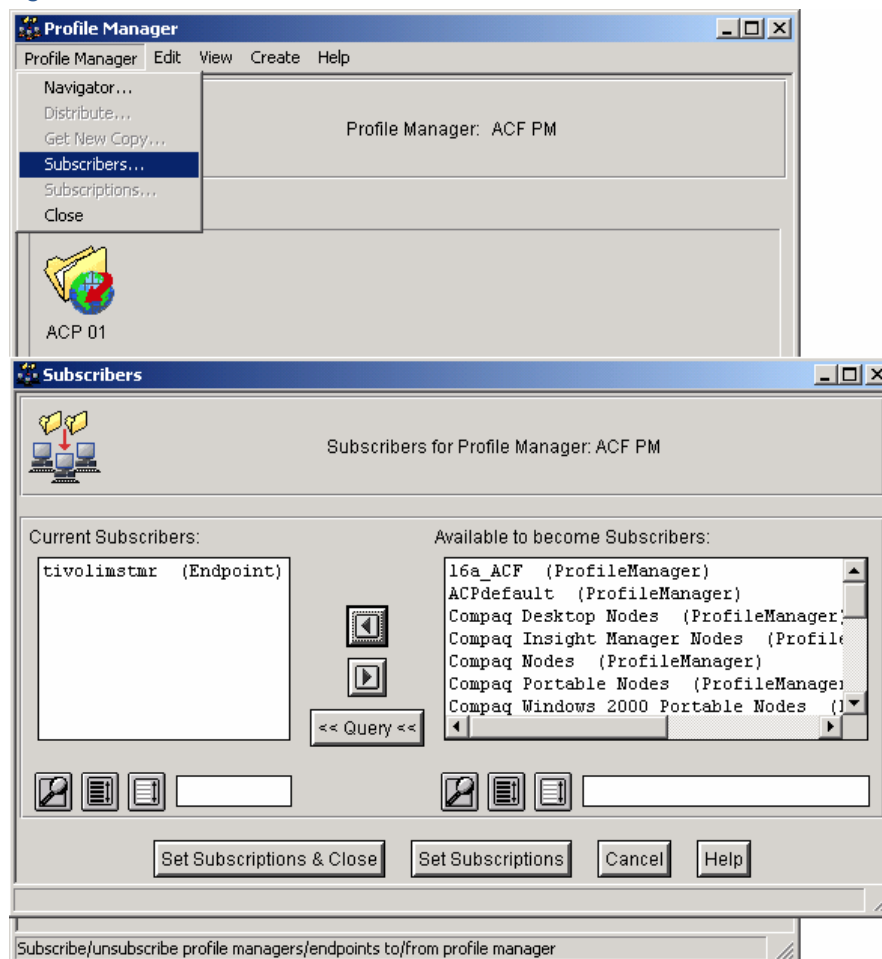
Figure 16 Create Profile window




12. Input a name in the **Name/Icon Label** text box to accurately identify the new profile.
13. Select **ACP** from the Type window. Click **Create & Close** to complete the profile creation.

14. From the Profile Manager window, select **Profile Manager>Subscribers**. The Subscribers window appears.

Figure 17 Subscribers window



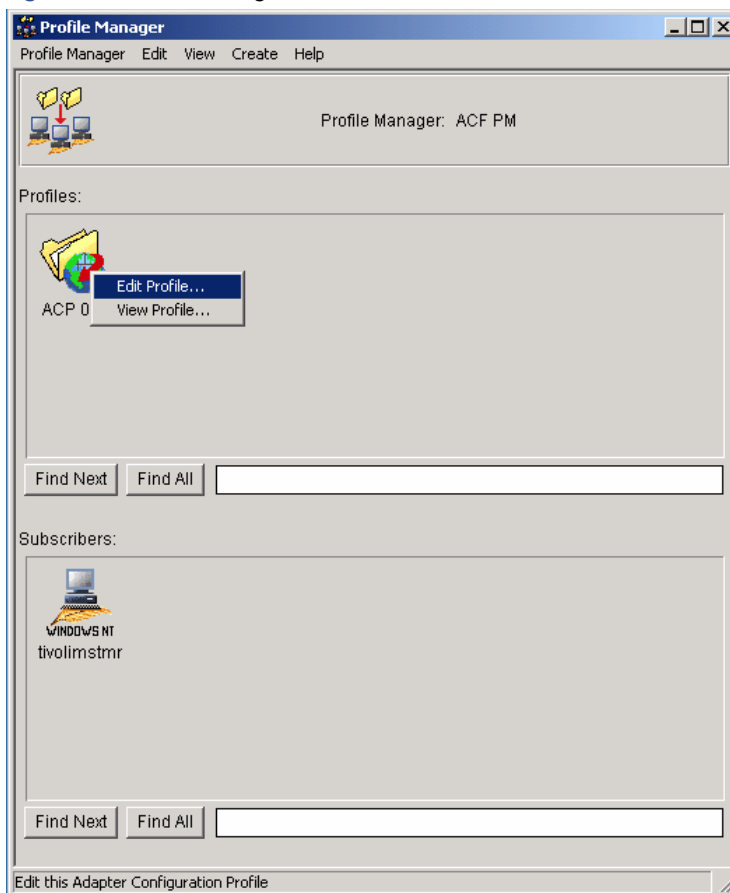
15. Using the arrow buttons, select the required subscribers for the profile manager. Subscribers can be individual Endpoints or another subscription profile.

 **NOTE:** The TME requires only a single SNMP adapter for use with the TEC. Configure the SNMP services on HP Managed Nodes and Endpoints to send traps to the Tivoli SNMP Adapter.

16. Click **Set Subscriptions & Close** to save the subscription profile.

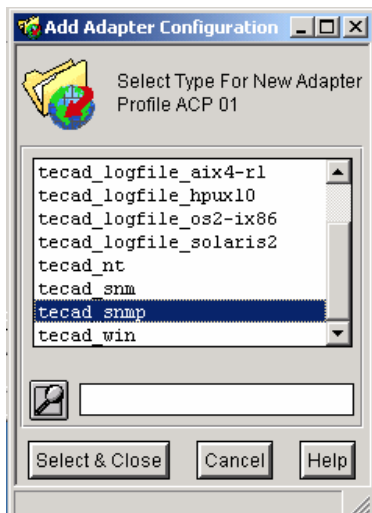
17. In the Profile Manager window, right-click the previously created profile, and select **Edit Profile**.

Figure 18 Profile Manager window



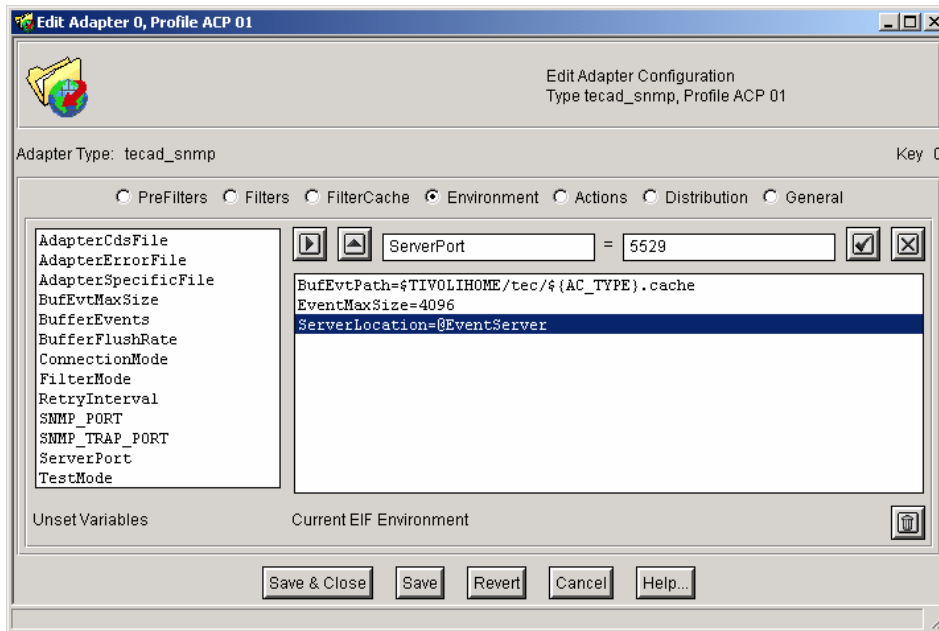
18. After the Adapter Configuration Profile window appears, click **Add Entry** to display the Add Adapter Configuration window.

Figure 19 Add Adapter Configuration window




19. Highlight **tecad_snmp**, and click **Select & Close** to save the adapter type configuration. The Edit Adapter window appears, enabling you to edit the adapter configuration (Figure 20).

Figure 20 Edit Adapter window

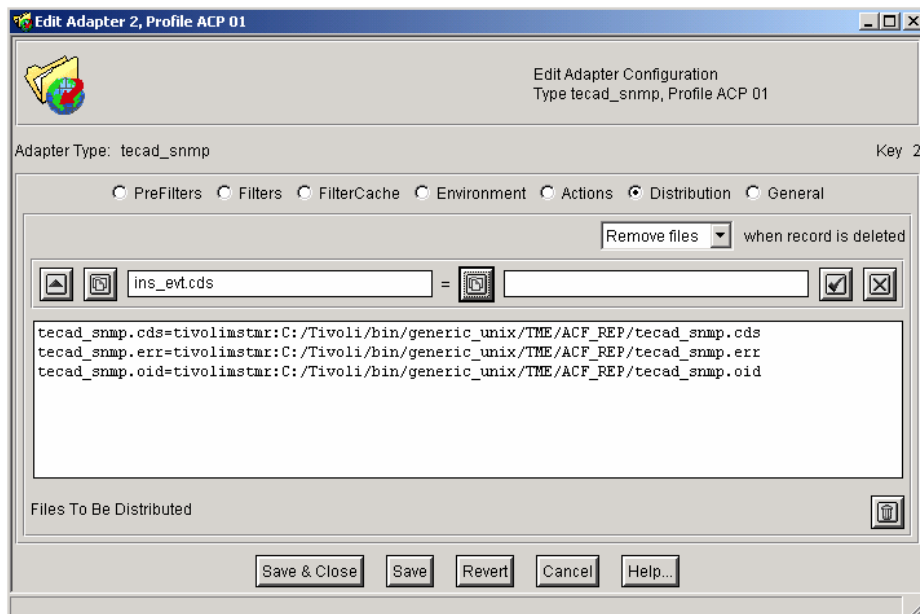


20. Select the **Environment** radio button.
21. Double-click the **ServerLocation** variable, and enter the name of the event server in the text box to the right of the equal sign. Click the check icon, located to the right of the text box, to confirm the setting.
22. Double-click the **ServerPort** item, and enter the port number in the text box to the right of the equal sign. Click the check icon to confirm the setting.

 **NOTE:** The port number that TEC uses to receive events is usually 5529 for Windows-based systems and 0 for UNIX configurations.

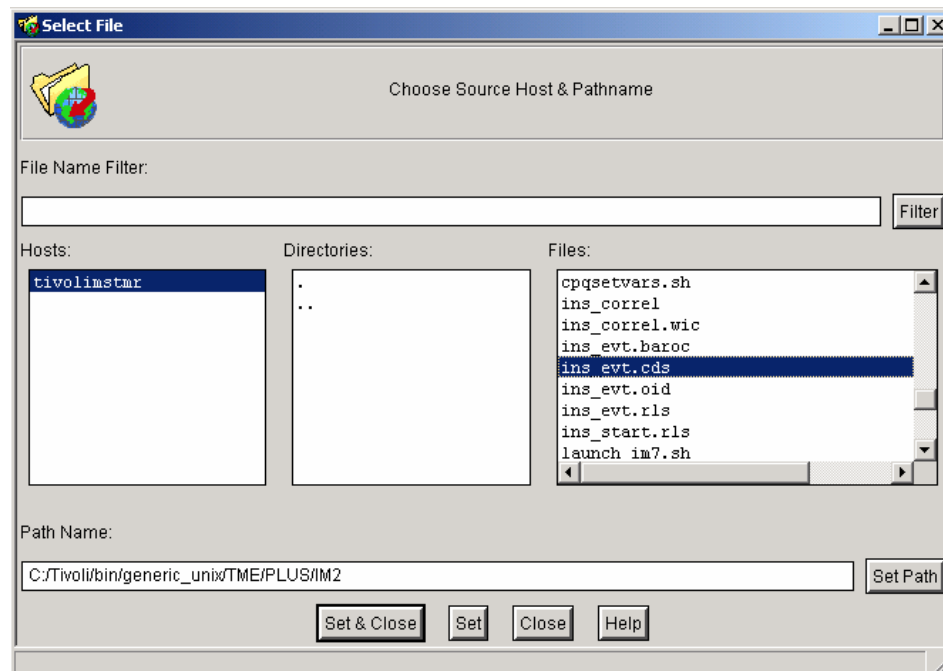
23. Select the **Distribution** radio button to display the Edit Adapter window (Figure 21).

Figure 21 Edit Adapter window



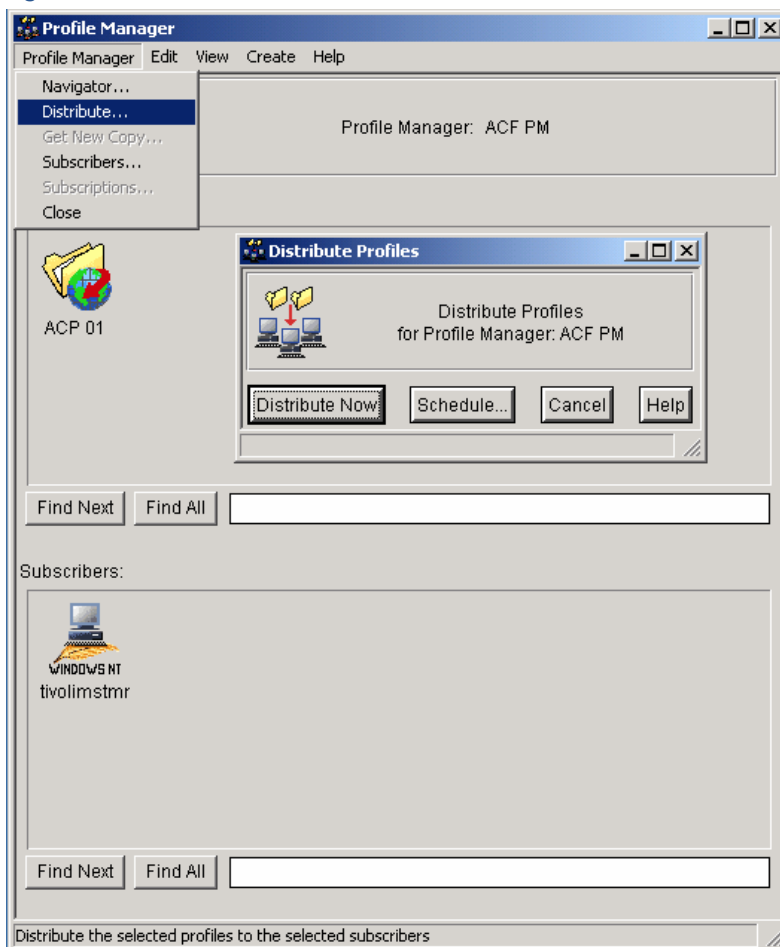
24. In the text box to the left of the equal sign, enter the file name `ins_evt.cds`, and click the browse icon to the immediate right of the equal sign to display the Select File window.

Figure 22 Select File window



25. Browse to and highlight the `ins_evt.cds` file. The default location is `/Tivoli/bin/generic_unix/TME/PLUS/IM2` on the TMR server for both Windows and UNIX versions of the HP Insight Integration for Tivoli.
26. Click **Set & Close** to confirm the selection.
27. At the Edit Adapter window, select the checkbox to the right to confirm the settings.
28. Click **Save & Close** to save the configuration settings.
29. In the Profile Manager window, click **Profile Manager>Distribute**. This action distributes the ACF Adapter to the subscribers defined in step 15. Alternatively, drag the **Profile** icon from the Profile Manager window, and drop it onto the icon displayed in the Subscribers area. This action completes the creation and deployment of the ACF adapter (Figure 23).

Figure 23 Distribute Profiles window



30. Use the **Configure SNMP Adapter** task provided with the Insight Integration to amend the HP event classes and trap definitions (ins_evt.cds and ins_evt.oid) to the Tivoli environment. Follow the steps in the "Configuring a Tivoli non-TME SNMP Adapter" section.

Configuring the TEC Event Server

The configuration of the TEC Event Server can either be performed manually or using the scripted task provided with the Insight Integration. This section describes the scripted procedures for installation. The manual configuration is detailed in the “Manually configuring the HP Insight Integration for Tivoli” section.

The Insight Integration task, Setup TEC Event Server, automatically adds the HP BAROC event class definitions and rules into the target TEC Event Server rule base. This task allows events generated by HP Insight Management Agents to be correctly interpreted and processed. During the setup process, you can elect to use an existing rule base or create a new one by cloning an existing rule base and adding the HP rules.

Preinstallation considerations

1. The TEC application must be fully installed and operational before performing the Insight Integration tasks, including the configuration of SNMP services.
2. The TEC requires that a database, such as Oracle, Sybase, MSSQL, or DB2 RDBMS, be installed and available.
3. A working Tivoli Event Console must already be present.
4. A TEC SNMP Adapter must be configured to accept HP SNMP events.

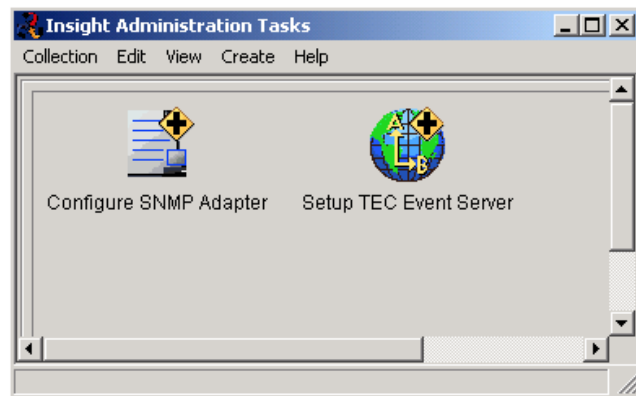
 **NOTE:** For details on configuring the Tivoli SNMP Adapter, see the “Configuring a Tivoli SNMP Adapter” section.

5. HP Managed Nodes / Endpoints must be configured to send SNMP traps to a designated TEC SNMP Adapter.

Creating the HP Rule Base

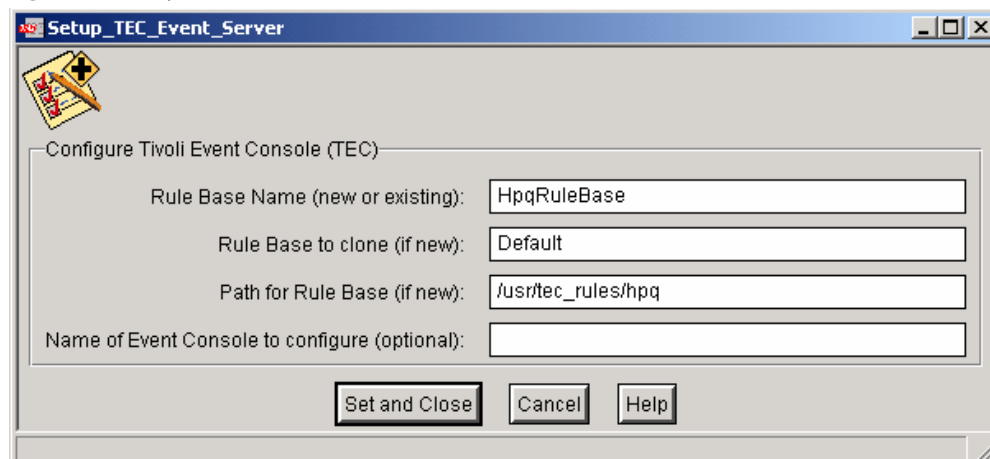
1. From the HP Insight Integration for Tivoli window, double-click **Insight Administration Tasks**. The Insight Administration Tasks window appears.

Figure 24 Insight Administration tasks



2. Double-click **Setup TEC Event Server**. Alternatively, right-click **Setup TEC Event Server**, and select **Run Job**. The **Setup TEC Event Server** window appears.

Figure 25 Setup TEC Event Server window



3. In the Rule Base Name field, enter the name of an existing rule base or the name of a new rule base. By default, the Insight Integration creates the new rule base (HpqRuleBase) if the specified name does not match an existing rule base.
4. In the Rule Base to Clone field, enter the name of an existing rule base to clone. The system ignores this field if an existing rule base is entered in the first field.



NOTE: If you are creating a new rule base, enter `Default` (case-sensitive) in the Rule Base to Clone field. The rule base to clone should be the current active rule base.

5. In the Path for Rule Base field, enter the path to the new rule base. This field is ignored if an existing rule base was entered in the first field.



NOTE: If you are creating a new rule base, enter the path to store the files created by the setup task.

6. The **Name of Event Console to Configure** field can normally be left blank. The current active Event Console is used. In a TEC 3.7 or 3.8 or 3.9 environment, leave this field blank. Event consoles for these versions are designed to be configured manually.
7. Click **Set and Close** to confirm the values and complete the configuration.

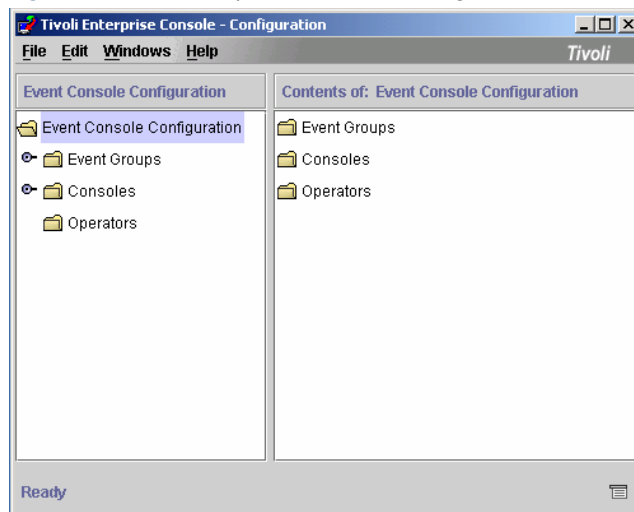
Configuring the Tivoli Event Console (version 3.7, v3.8, and v3.9)

Before HP events can be viewed properly within the Tivoli Event Console (version 3.7 and greater), the console component must be configured to assign the required event groups and access permissions.

The following procedures describe how to set up a new event group just for HP events and assign them to a console. For an existing configuration, you can choose not to create a new group or to amend an existing group. By default, all HP SNMP events are selected to display in the Event Console. For further details on Event Console configuration, refer to the *Tivoli Enterprise Console User's Guide*.

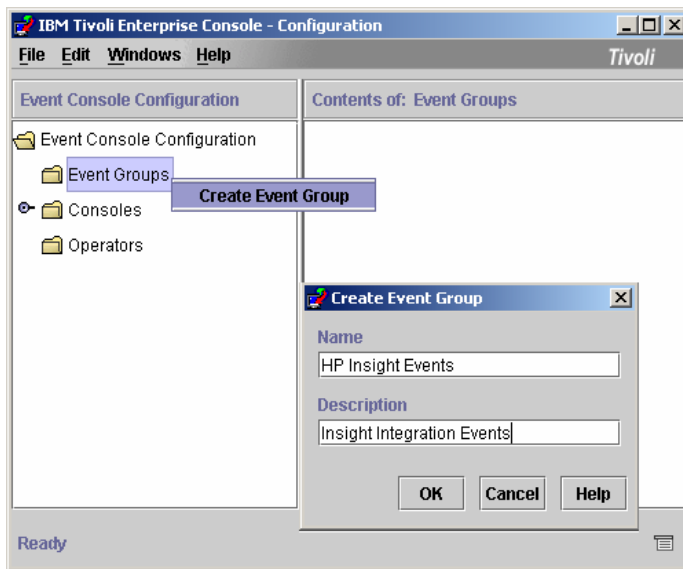
1. From a command line in the Tivoli environment, issue the `tec_console` command to open the Tivoli Enterprise Console - Configuration window.

Figure 26 Tivoli Enterprise Console - Configuration window



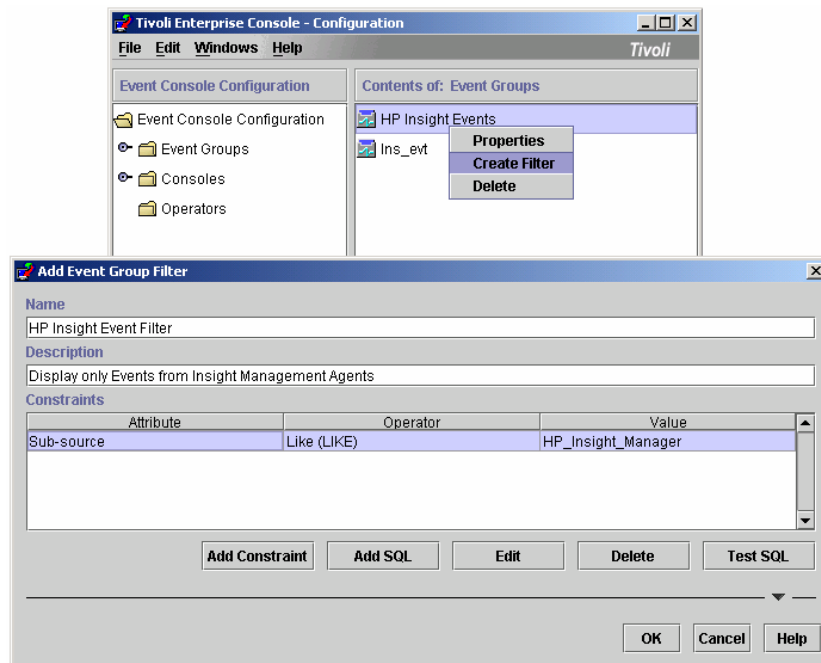
2. Right-click **Event Groups**, and select **Create Event Group (Figure 27)**.

Figure 27 Tivoli Enterprise Console - Configuration window



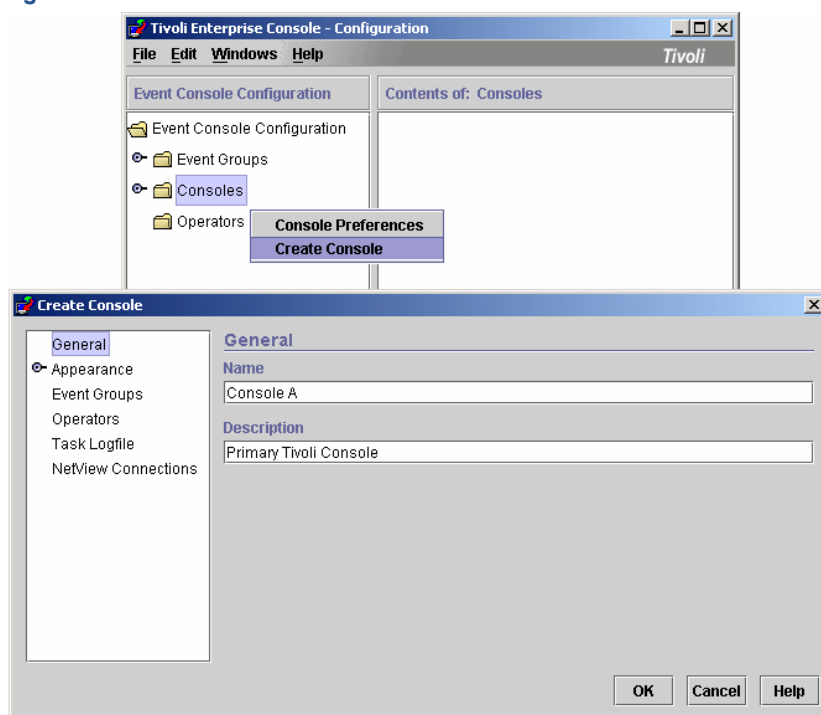
3. Enter a distinguishing name and description to easily identify the new event group (in this example, **HP Insight Events** is used). Click **OK** to save the event group. Optionally, a filter can be assigned to this event group that only displays events generated by Insight Management Agents. If you do not want a filter, proceed to step 8.
4. Right-click the newly created event group, and select **Create Filter**. The Add Event Group Filter window appears.

Figure 28 Add Event Group Filter window



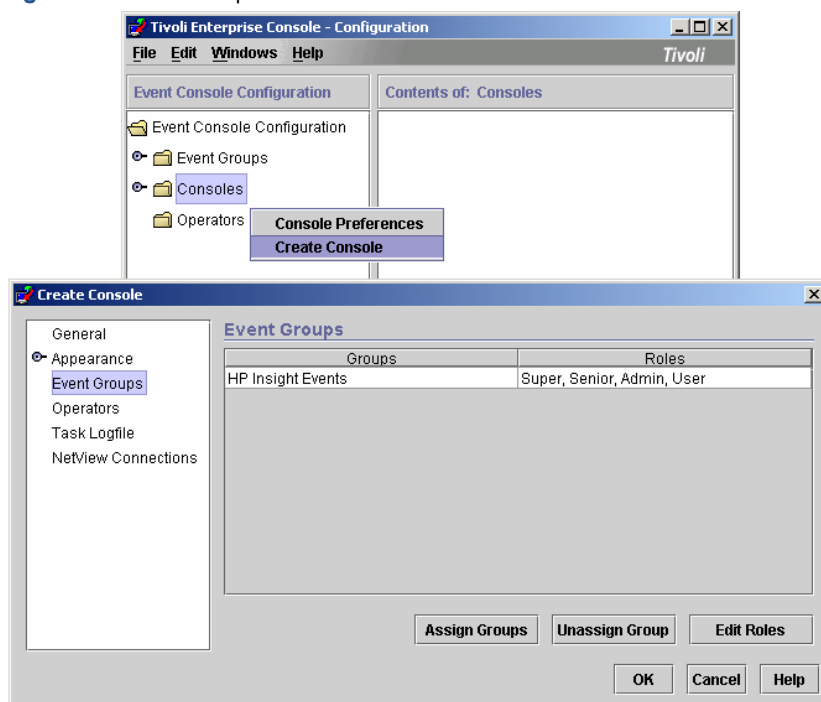
5. Create a corresponding name and description for the filter (in this example, **HP Insight Event Filter** is used).
6. Click **Add Constraint**.
7. In the Attribute listings, select the **Sub-source** value, and enter `HP_Insight_Manager` in the Value field.
8. Click **OK** to save the constraint settings.
9. Configure the console so that events monitored by the newly created event group will display. For this example, a new console is created, but under typical production environments an existing console might be amended.
10. Right-click the **Console** folder in the Tivoli Enterprise Console - Configuration window, and select **Create Console**. The Create Console window appears (Figure 29).

Figure 29 Create Console window



11. Click the **General** tab, and assign the console name and description (in this example, the name **Console A** is used).
12. Click the **Appearance** tab, and select the type and format used to display events.
13. Click the **Event Groups** tab, and use the **Assign Groups** button to select the event groups and roles associated with the console (in this example, **Insight Events** group is used).

Figure 30 Event Groups



14. Click the **Operators** tab, and assign current operators from the list of available operators.
15. Finish configuring the remaining tabs based as required, and click **OK** to save the console.

Manually configuring the HP Insight Integration for Tivoli

The HP Insight Integration for Tivoli has been developed for easy installation using predefined scripts and tasks. To provide maximum flexibility with existing Tivoli environments and to meet individual needs, some elements of the Insight Integration can be configured manually.

The following sections describe how to manually configure selected elements of the TEC application to receive and display HP SNMP events:

- Tivoli SNMP Adapter
- Tivoli Event Server

Manually updating the Tivoli SNMP Adapter on a Managed Node

The following process can be used to manually update an existing SNMP Adapter to receive the HP event definitions and classes provided with the HP Insight Integration for Tivoli, Revision 4.0. The event definitions support Insight Management Agents up to version 7.40.

1. Shut down the TECSNMPAdapter service.
2. Make a copy of the existing `tecad_snmp.cds` and `tecad_snmp.oid` files and store them in a separate location. This precaution enables you to restore the original configuration if needed.
3. Open the existing `tecad_snmp.cds` file for editing. By default, the file for non-TME adapters is located in the `/tecsnmp/etc` directory. For the ACF adapter, this file is located in `$LCFDIR /TME/TEC/adapters/etc`, where `$LCFDIR` represents the Endpoint directory environment.
4. If a previous version of the Compaq Insight Manager Integration for Tivoli Enterprise has been installed, remove all existing entries starting with CIM..
5. If a previous version of the HP Insight Integration for TEC has been installed, remove all existing entries starting with IM.
6. Append all entries from the `ins_evt.cds` file located in `hpaq/TEC` to the original `tecad_snmp.cds`.
7. Save the updated `tecad_snmp.cds` file.
8. Open the `tecad_snmp.oid` file for editing.
9. If a previous version of the Compaq Insight Manager Integration for Tivoli or Insight Integration for TEC has been installed, remove all existing entries that start with `cpq`.
10. Add all entries from the `ins_evt.oid` file located in `hpaq/TEC` to the original `tecad_snmp.oid`.
11. Be sure that the object identifier (OID) entries are in numerical order.
12. Save the `tecad_snmp.oid` file.
13. Restart the TECSNMPAdapter service.

Manually copying existing SNMP Adapter files to another Managed Node

When there are multiple systems in a TME that require a configured SNMP Adapter, instead of running the HP configuration task on each target Managed Node or Endpoint, the associated `.cds` and `.oid` files can be configured once and copied to each target system.

The following describes the process for installing to a remote Windows Managed Node. This process presumes that the Configure SNMP Adapter task supplied with the Insight Integration has already been run on the TMR server and that the updated `tecad_snmp.cds` and `tecad_snmp.oid` files have already been created.

1. Be sure that the target Managed Node or Endpoint is installed with a Tivoli non-TME adapter. By default, the non-TME adapter installation creates the following directories:
 - `C:\Tecsnmp\etc`
 - `C:\Tecsnmp\bin`



NOTE: A UNIX configuration uses the `/etc/Tivoli/tecad` reference.

2. On the target Managed Node, stop the TECSNMPAdapter service.
3. Make backup copies of the current `tecad_snmp.cds` and `tecad_snmp.oid` files. This precaution preserves the working configuration, so that the adapter can be easily restored if required.
4. Replace the existing `tecad_snmp.cds` and `tecad_snmp.oid` files in the `C:\Tecsnmp\etc` directory with the files already created using the Configure SNMP Adapter task provided with Insight Integration.
5. Restart the TECSNMPAdapter service to complete the process and implement the newly updated event classes and definitions on the Managed Node.

Manually configuring the Event Server rule base

This section describes how to configure the Tivoli Event Server manually using command line.

Configuring the TEC rule base from a Command Line

The HP Insight Integration for Tivoli includes the file `Tec37_clconfig`, located in the `hpg/TEC` directory, which can be used to help manually configure the TEC rule base from a command line. This file details the steps required to configure the event server manually and can be edited and used as a deployment script.



IMPORTANT: This file must be edited to set environment specific conditions before being used as a deployment script. The file must be run from the command line in the Tivoli environment where the TEC server is hosted. Details on how to configure the required environment settings are included in the file.

Installation logs

The HP Insight Installation for Tivoli creates the IM2_PLUS.LOG file that contains detailed information about the overall installation status.

When the installation is complete, the IM2_PLUS.LOG file is created in the directory Tivoli\db\host_name.db\tmp, where the *host_name* entry references the name of the TMR server where the Insight Integration has been installed. Review this log file to help confirm a successful installation and to identify any potential installation problems.

The Insight Integration also creates a debug log. See the “Troubleshooting” section in Appendix A for details on configuring and using the debug features.

Configuring the HP browser tasks

The HP Insight Integration for Tivoli includes tasks to launch selected HP web-based management tools (HP Systems Insight Manager, HP System Management Homepage and the HP Storage Management Appliance) from the Tivoli Desktop and Tivoli Event Console (version 3.7, 3.8, and 3.9). To enable these tasks, you must configure the browser environment as follows:

1. At the HP Insight Integration for Tivoli window, double-click Set Internet Browser Location. The Configure Internet Browser window appears.

Figure 31 HP Insight Integration for Tivoli

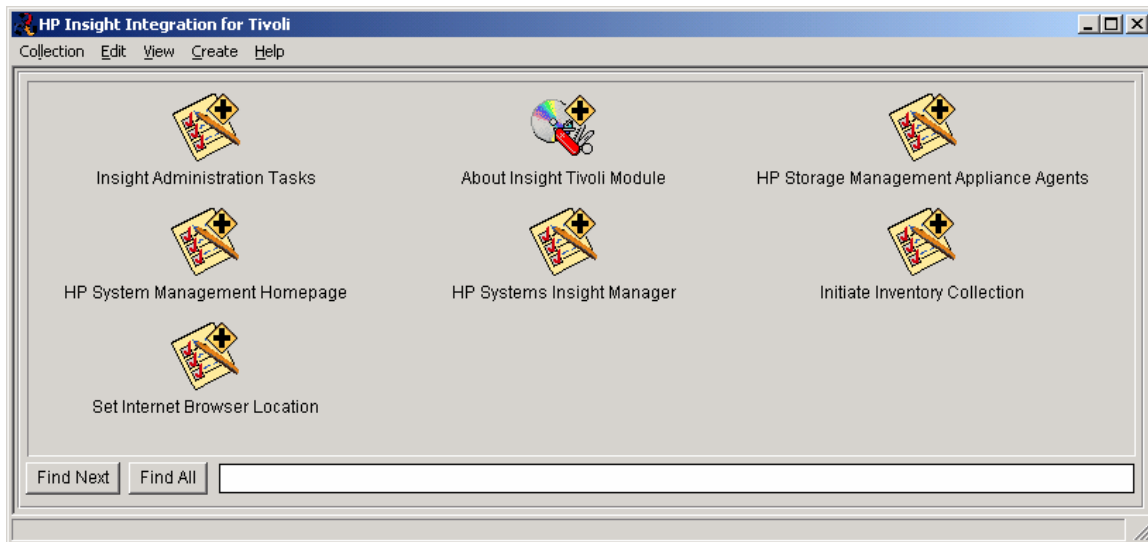
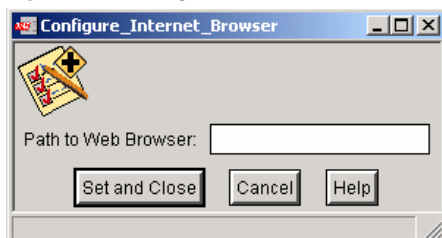


Figure 32 Configure_Internet_Browser window



2. In the Path to Web Browser field, enter the location of your browser executable, and then click **Set and Close** to complete the process.

Uninstalling the HP Insight Integration for Tivoli

Should it become necessary to uninstall the HP Insight Integration for Tivoli, a predefined script is provided in the Hpq/Plus/Utils directory to help simplify the process.

To uninstall a scripted or manual installation of the HP Insight Integration for Tivoli, revision 4.0, run the `ins_cleanmod.sh` script from a command line. The Hpq/Plus/Utils directory of the Insight Integration contains scripts to remove all installed HP components for revision 4.0 and revision 3.0 of the HP Insight Integration for Tivoli (`ins_cleanmod.sh` and `ins_cleanmod_v30.sh`).

After the uninstallation process is completed, confirm that all HP entries in the `tecad_snmp.cds` and `tecad_snmp.oid` files have been removed. Alternatively, remove the HP entries manually as detailed in the section “Manually configuring the HP Insight Integration for Tivoli.”



NOTE: The uninstall files are scripts and not executables, and must be run from a command line in the configured Tivoli environment using an interpreter such as Bash.exe or Sh.exe. An example using Sh.exe would be, `sh ins_cleanmod.sh`.

2 Using the HP Insight Integration for Tivoli

Introduction

The integration of HP SNMP events into the TEC provides valuable hardware status and event information that helps IT administrators to proactively manage HP hardware and other enterprise resources from within common TEC environment.

The HP Insight Integration for Tivoli includes BAROC event class definitions and rules to correlate nearly 450 SNMP events. These classes and rules integrate closely with the TEC application, allowing HP SNMP events to be identified, processed, translated, and clearly displayed in the TEC using native Tivoli services. Although predefined to correlate a wide variety of hardware event conditions, the rules can be easily customized to suit individual TME requirements.

The following sections in this chapter illustrate practical uses of this functionality to identify and analyze potential problems, plus procedures for gathering additional in-depth hardware data using HP Systems Insight Manager and the HP System Management Homepage.

Managing HP events in the Tivoli Enterprise Console

The HP Insight Integration for Tivoli provides a comprehensive set of BAROC event class definitions and rules to correlate nearly 450 events. These classes and rules enable SNMP events generated by HP Insight Management Agents to be correctly identified, processed, and displayed by the TEC in a translated format and help automate the correlation of common system conditions.

The following sections describe how HP SNMP events are displayed and managed in the TEC.

Viewing HP events

HP SNMP events are presented in the TEC using translated message text and corresponding color-coded severity indicators. This enables administrators to quickly identify an event root cause and to prioritize based on the level of criticality.

The example in Figure 33 shows a TEC 3.7 Event Console with a highlighted event indicating a Critical alert on the system Tivolimstmr that relates to a Thermal Status Degraded condition.

Figure 33 Tivoli Enterprise Console

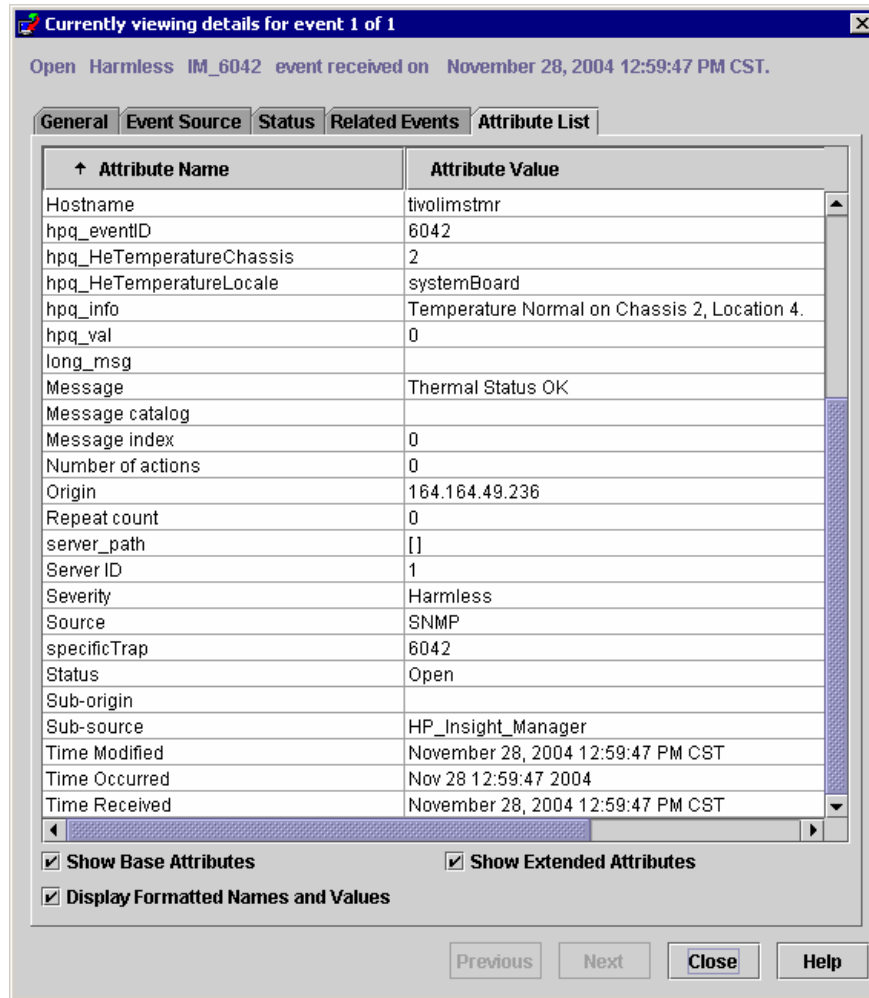
Time Received	Class	Hostname	Severity	Status	Message
November 28, 2004 12:48:47 PM CST	IM_6041_2	tivolimstmr	Critical	Open	Thermal Status Degraded
November 28, 2004 12:51:09 PM CST	IM_6041_3	tivolimstmr	Critical	Open	Thermal Status Degraded
November 28, 2004 12:52:15 PM CST	IM_3008_2	tivolimstmr	Harmless	Open	Logical drive status: ok
November 28, 2004 12:52:30 PM CST	IM_3008_3	tivolimstmr	Fatal	Open	Logical drive status: failed
November 28, 2004 12:52:37 PM CST	IM_3008_5	tivolimstmr	Warning	Open	Logical drive status: recovering
November 28, 2004 12:52:43 PM CST	IM_3008_6	tivolimstmr	Warning	Open	Logical drive status: ready for rebuild
November 28, 2004 12:59:47 PM CST	IM_6042	tivolimstmr	Harmless	Open	Thermal Status OK

To obtain additional information on an individual notification, click the highlighted event to display the events details window shown in Figure 34.

Under the Attributes List tab, further event details can be quickly identified as follows:

- Under the hpq_info entry in the Attribute Name column, the corresponding data in the Attribute Value column provides a more detailed explanation of the event.
- Under the Message entry in the Attribute Name column, the corresponding data in the Attribute Value column verifies the status level.
- Under the SpecificTrap entry in the Attribute Name column, the corresponding data in the Attribute Value column provides the SNMP event ID.
- Under the Sub-source entry in the Attribute Name column, the corresponding data in the Attribute Value column identifies that HP Insight Management Agents generated the event.

Figure 34 Event attribute details



Event correlation

The HP Insight Integration for Tivoli provides rules to correlate nearly 450 SNMP events. These rules enable automated processing and correlation of HP SNMP events generated by Insight Management Agents and storage agents and can be easily customized to suit individual TME requirements. A full list of HP event rules is provided in Appendix B of this user guide.

- As an example of this functionality, Figure 35 displays a TEC 3.7 console with a Fatal event on the system Tivolimstmr. The event data indicates a failed hard drive in a RAID array and two Warning events for the related logical drive.

Figure 35 Fatal and warning events

The screenshot shows the Event Viewer Group HP window with a 'Working Queue' tab selected. The 'All Events' list contains three entries:

Time Received	Class	Hostname	Severity	Status	Message
November 26, 2004 1:26:45 PM CST	IM_3008_3	tivolimstrn	Fatal	Open	Logical drive status: failed
November 26, 2004 1:26:53 PM CST	IM_3008_5	tivolimstrn	Warning	Open	Logical drive status: recovering
November 26, 2004 1:27:02 PM CST	IM_3008_6	tivolimstrn	Warning	Open	Logical drive status: ready for rebuild

- When the failed drive is replaced, the automatic recovery process associated with the RAID array hardware commences, and the Insight Management Agents generate additional events to indicate that the logical drive is rebuilding.
- When the rebuild is complete, a final event is generated indicating that the Logical drive status is OK, as shown in Figure 36. The predefined HP rules automatically close the preceding events related to the drive failure.

Figure 36 Logical drive status

The screenshot shows the Event Viewer Group HP window with a 'Working Queue' tab selected. The 'All Events' list contains one entry:

Time Received	Class	Hostname	Severity	Status	Message
November 26, 2004 3:33:25 PM CST	IM_3008_2	tivolimstrn	Harmless	Open	Logical drive status: ok

Launching HP web-based management tools

The HP Insight Integration for Tivoli installs several browser-based tasks to invoke selected HP resource management tools from the Tivoli Desktop and the TEC. These tools include HP Systems Insight Manager, the System Management Homepage, and the agents associated with the HP Storage Management Appliance.

This feature enables administrators to directly access additional hardware configuration information, status data, and lifecycle management tools for HP servers and storage platforms from within the Tivoli environment.

The procedures for launching HP tasks from the Tivoli Desktop and the TEC are described in the following sections.



NOTE: To enable the HP browser tasks, first configure the browser environment for the Insight Integration environment. See "Configuring HP Browser Tasks" in the chapter "Installing the HP Insight Integration with the TEC."

Launching From the Tivoli Desktop

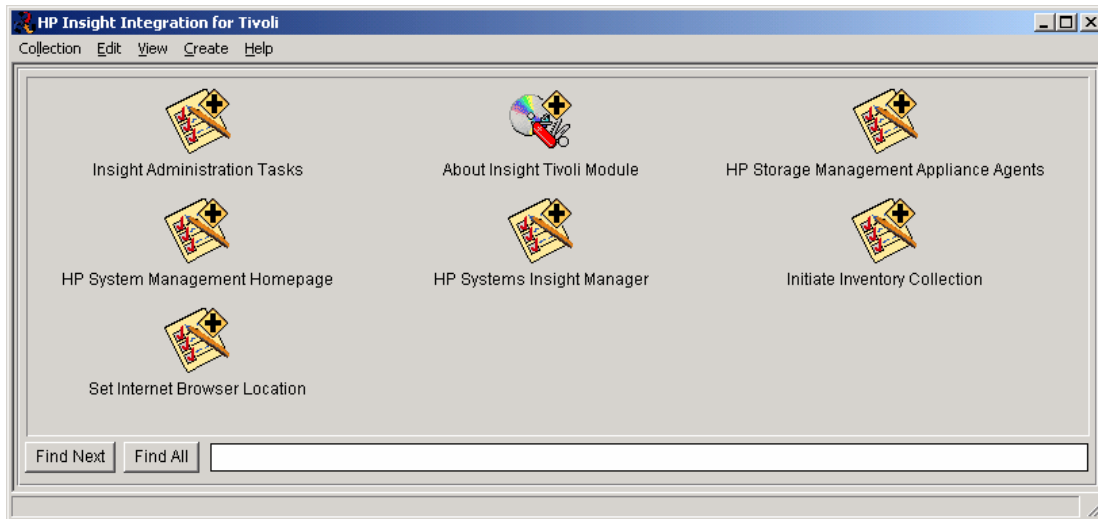
The HP Insight Integration for Tivoli installs three tasks on the Tivoli Desktop to launch HP Systems Insight Manager, HP System Management Homepage, the agents associated with the Storage Management Appliance (Figure 37).

To use each of these tasks, you must input the name or IP address of the target server. When the task executes, it invokes the chosen browser application and links to the target device. The tasks amend the appropriate secure access port for each management tool as follows:

- HP Systems Insight Manager—Port 50000
- HP System Management Homepage—Port 2381
- Storage Management Appliance—Port 2381

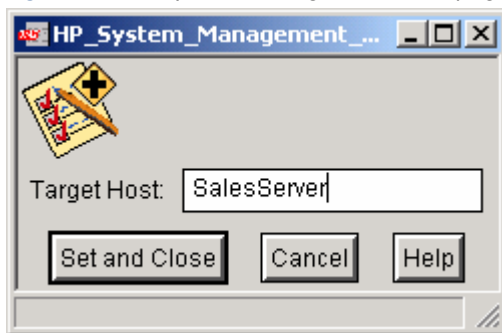
The following example demonstrates how to launch and display the System Management Homepage on the device named “SalesServer.”

Figure 37 HP Insight Integration for Tivoli



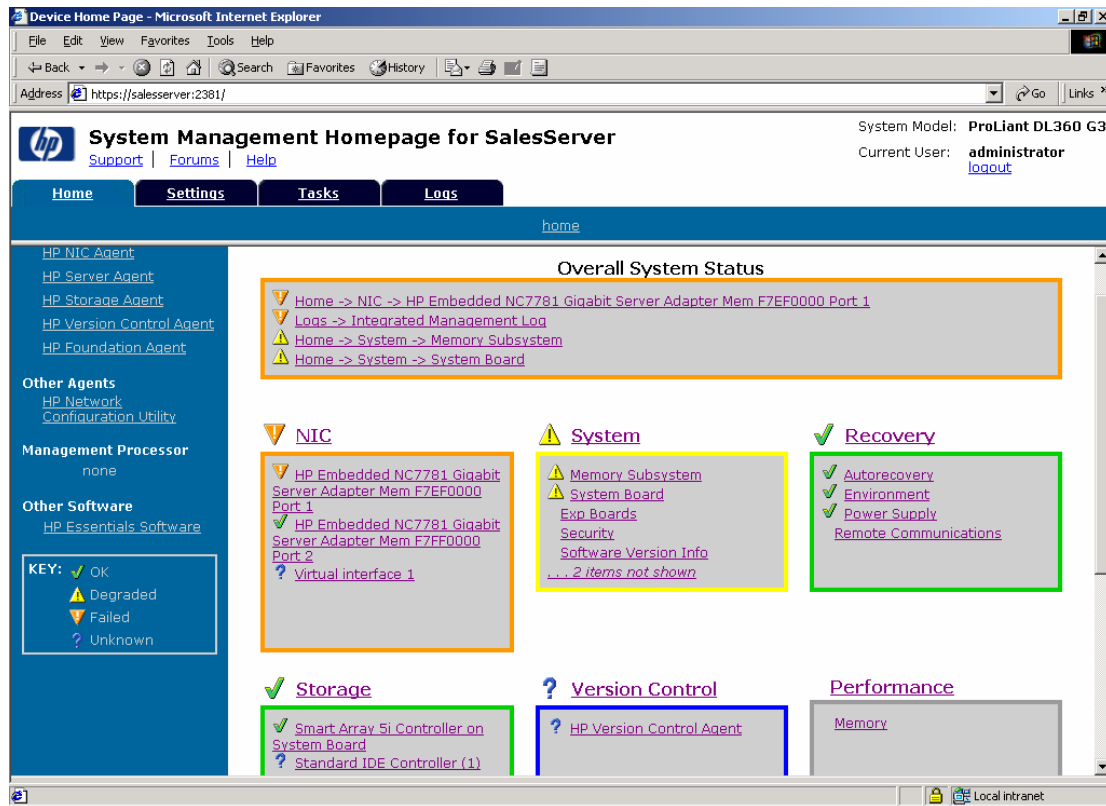
1. From the HP Insight Integration for Tivoli window, double-click the **HP System Management Homepage** task. The HP_System_Management_Homepage window displays, as shown in Figure 38.

Figure 38 HP_System_Management_Homepage window



2. In the **Target Host** field, input the name of the target system. In this example, the name is “SalesServer.”
3. Click **Set and Close** to complete task. This action invokes the browser application and amends the secure port address 2381 to the specified server name or IP address.
4. The System Management Homepage for the SalesServer device displays, showing the summary data provided by the HP Insight Management Agents and other plug-in tools (Figure 39).

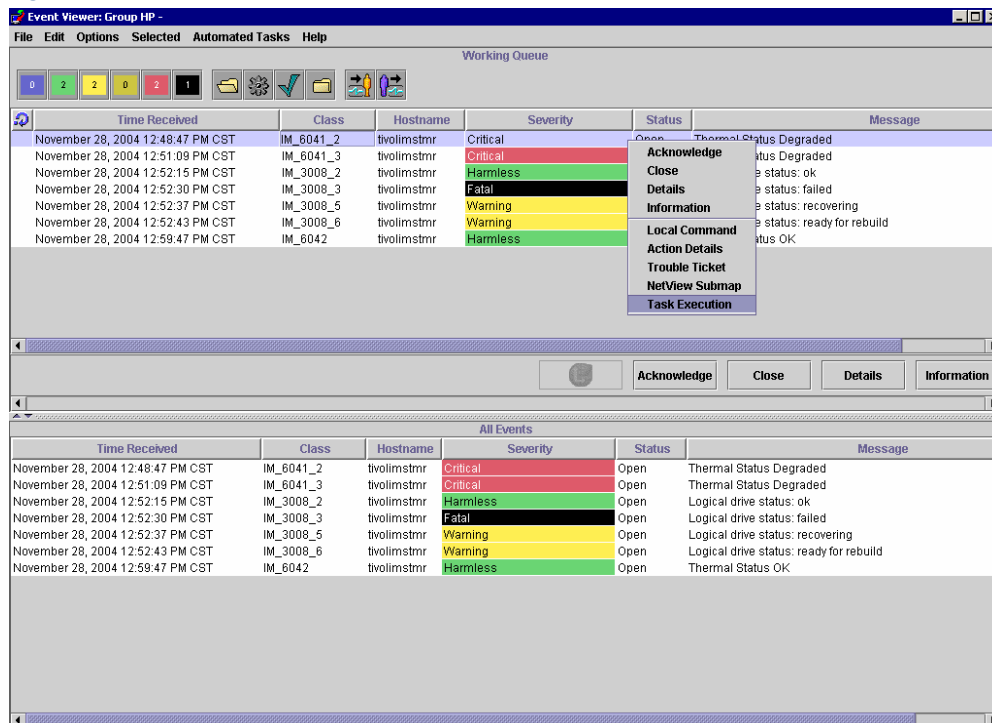
Figure 39 System Management Homepage for SalesServer



Launching from the TEC Console

1. From a selected event in the TEC Console, right-click the event entry to display the dropdown list (Figure 40).

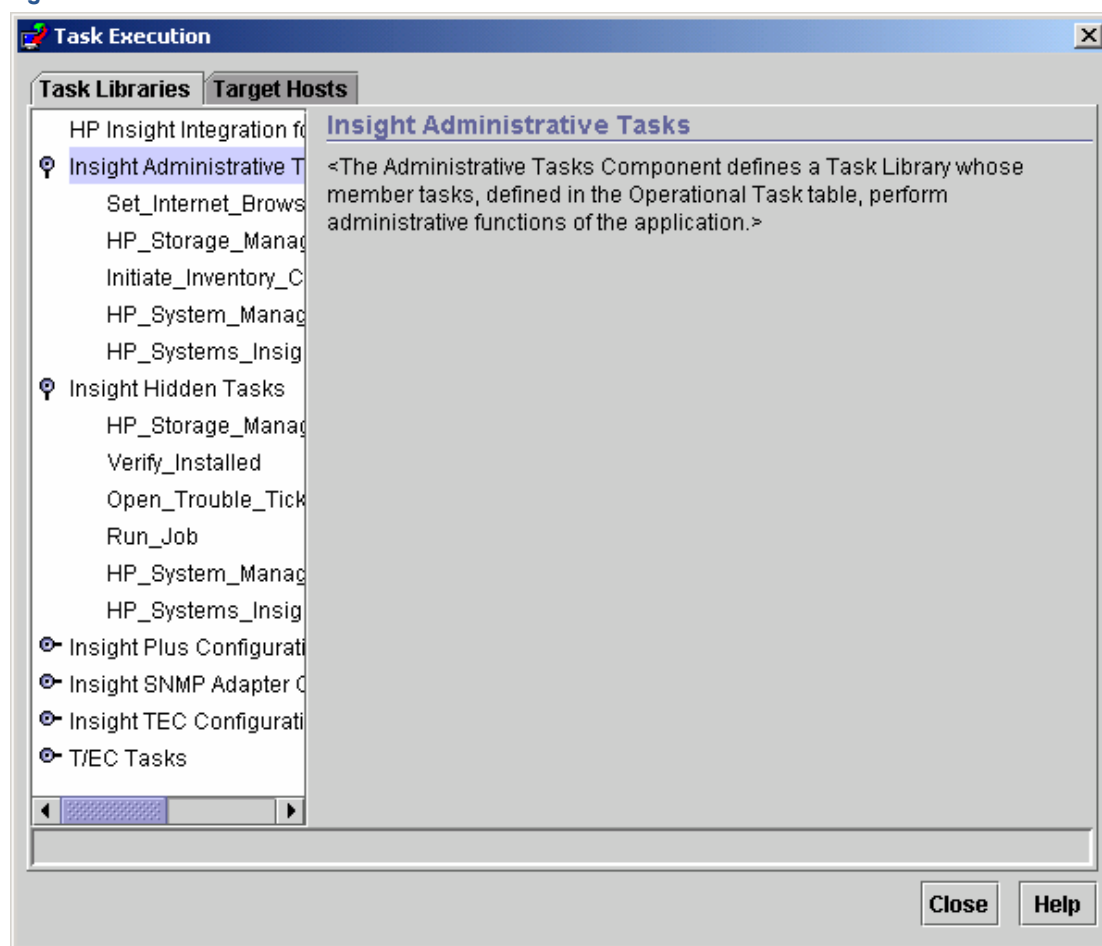
Figure 40 TEC Task Execution



2. Select **Task Execution** to display the Task Execution window (Figure 41).

The Task Libraries tab lists the available executable tasks, which includes several associated with the HP Insight Integration for Tivoli. The Target Hosts tab lists the available hosts on which the tasks can be executed.

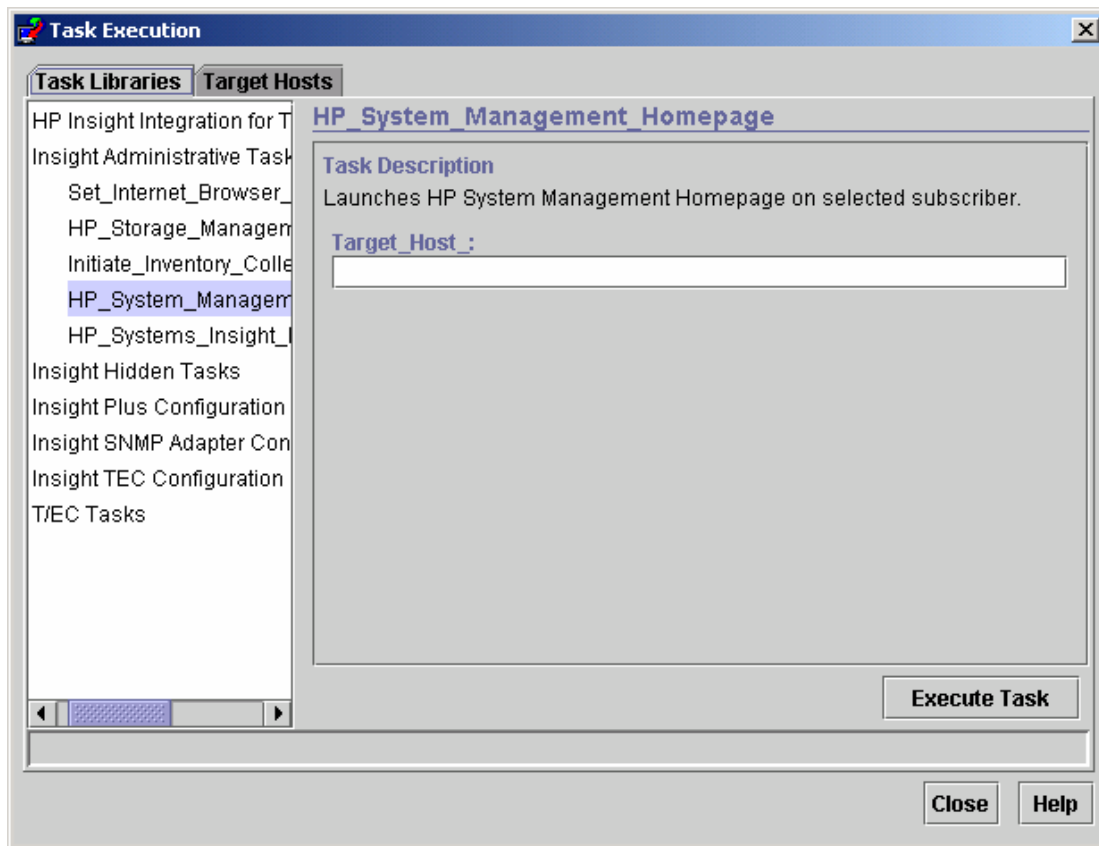
Figure 41 Task Execution window



The following example demonstrates how to launch and display the System Management Homepage on the device named "SalesServer."

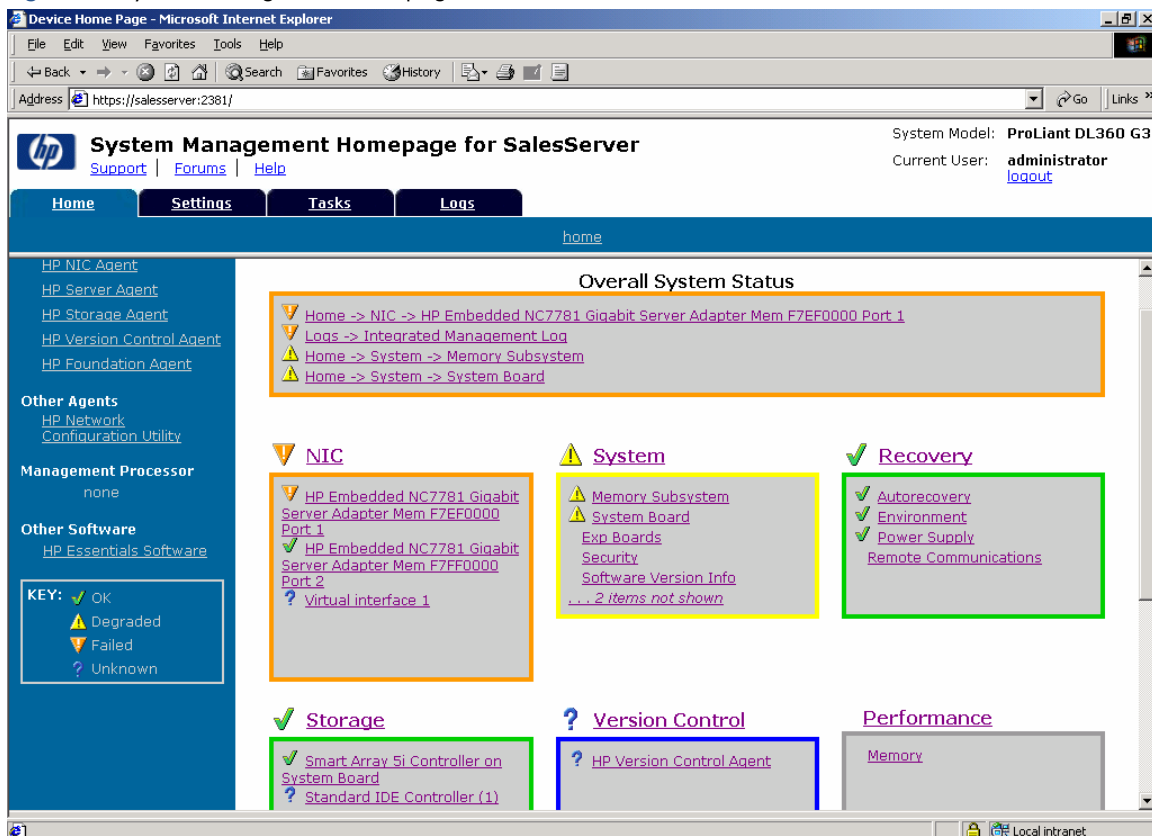
3. Highlight the **HP_System_Management_Homepage** task under the Task Libraries tab.
4. In the Target_Host field, enter the name of the target server or related IP address (Figure 42).

Figure 42 Launching the System Management Homepage task



5. Click **Execute Task** to complete task. This action invokes the browser application and amends the secure port address 2381 to the specified server name or IP address. The System Management Homepage for the SalesServer device displays, showing data provided by the HP Insight Management Agents and other plug-in tools.

Figure 43 System Management Homepage for SalesServer



3 Integrating HP asset information with Tivoli Inventory

Overview

The HP Insight Integration for Tivoli includes a task and predefined database schemas that enable detailed hardware data for HP ProLiant servers to be collected, displayed and queried by the inventory tools delivered with Tivoli Configuration Manager.

The HP Inventory Collection task is designed to run the HP Inventory Collector (Collect.exe) on user-selected nodes, and then save the output of each system to a local .MIF file on the target systems. The resultant .MIF file can be imported into Tivoli Inventory.



NOTE: The HP Inventory Collector is supported only on Microsoft Windows operating systems.

This chapter provides information on the HP Inventory Collection task, and demonstrates how to configure an automated process to collect and import detailed hardware inventory data for HP ProLiant servers into Tivoli Inventory. For those Tivoli environments in which hardware inventory management is of extra importance, this data can be used to produce detailed reports of HP hardware using the Tivoli Inventory Query Facility, and to build additional Tivoli Subscription and Software Distribution lists.

The main steps to accomplish this level of integration include:

1. Adding HP specific tables to the existing Tivoli Inventory Database
2. Adding HP specific views to the existing Tivoli Inventory Database
3. Creating an HP query library and HP queries
4. Customizing an inventory profile to run the HP Inventory Collector (Collect.exe) to gather and save HP inventory data in a .MIF file

Assumptions and requirements

The information provided in this chapter is for system administrators who use the HP Insight Management Agents and HP Systems Insight Manager to manage the operation and asset management of HP systems within the TME.

Before attempting to implement this solution, you must be familiar with the configuration and operation of the Tivoli Management Framework, Tivoli Inventory (part of the Tivoli Configuration Manager), HP Systems Insight Manager, HP Insight Management Agents, and all associated documentation.

The following Tivoli software must be installed before attempting to configure any part of the solution detailed here:

- Tivoli Management Framework 3.7.1 or later
- Tivoli Inventory 4.2 or later

It is also assumed that Tivoli Policy Regions, Profile Managers, Profiles, and associated resource rights have been created or assigned in the appropriate locale to match the Logical Architecture standards of the environment.

The HP Inventory Collector (Collect.exe) 7.10 or later is also required. This utility works with HP Insight Management Agents to gather in-depth asset information for HP ProLiant servers, and is supplied with the HP Insight Integration for Tivoli, Revision 4.0 in the hpq\Inventory directory.

The HP Inventory Collection utility will gather several hundred hardware asset attributes. The actual amount of data gathered is dependent on the type of system being scanned and the number of configured options.

The Initiate Inventory Collection task

HP Insight Integration for Tivoli includes the task "Initiate Inventory Collection", which runs the HP Inventory Collector (Collect.exe) to gather hardware asset data on selected subscribers and then saves the output to a specified location in a .MIF format, which can be imported into the Tivoli Inventory database.



NOTE: Importing the collected HP data into the Tivoli Inventory Database is a separate process to the Initiate Inventory Collection task and is described later in this chapter.

NOTE: SNMP services and HP Insight Management Agents must be installed and configured on all HP systems to be managed with this task. HP Insight Management Agents 5.50 or later are recommended as a minimum.

The Initiate Inventory Collection task provided with the HP Insight Integration for Tivoli runs the following executable, and can be used with the variables listed in Table 2:

```
Collect.exe /f <path>\hp.mif /tpem
```

Table 2 Initiate Inventory Collection task command line variables

Command line variable	Description
/f	Instructs the output to be saved as single file. Without this parameter, each MIB collection is saved as a separate file.
Path	Specifies the location for the resultant .MIF file provided by the user.
hp.mif	Specifies the name of the resultant .MIF file.
/tpem	Defines the format of the output fields. This switch translates spaces in the attribute and group names to underscores and removes several unnecessary statements in the .MIF output file. This makes the MIF format suitable for importing into Microsoft SQL Server, Sybase, and Oracle databases.

The resultant .MIF file contains hardware asset data and is saved locally on each target system as HP.MIF in the path specified by the user. If no path is specified, the file is saved in the following location \Tivoli\db\Host_name.db, where Host_name refers to the name of the target system.

The output HP.MIF file is provided in a format that can be imported into Microsoft SQL, Sybase, and Oracle database applications.



IMPORTANT: The Inventory Collector utility (Collect.exe) is provided with the HP Insight Integration download image, and is located by default in the \hpq\Inventory directory. See the chapter “Product overview” for details on the contents of the download image and the associated directory contents.

Updates to the HP Inventory Collector utility are provided on the download page for the HP Insight Integration for Tivoli at <http://h18000.www1.hp.com/products/servers/management/tivoli-enterprise.html>.

Configuring and running the Initiate Inventory Collection task

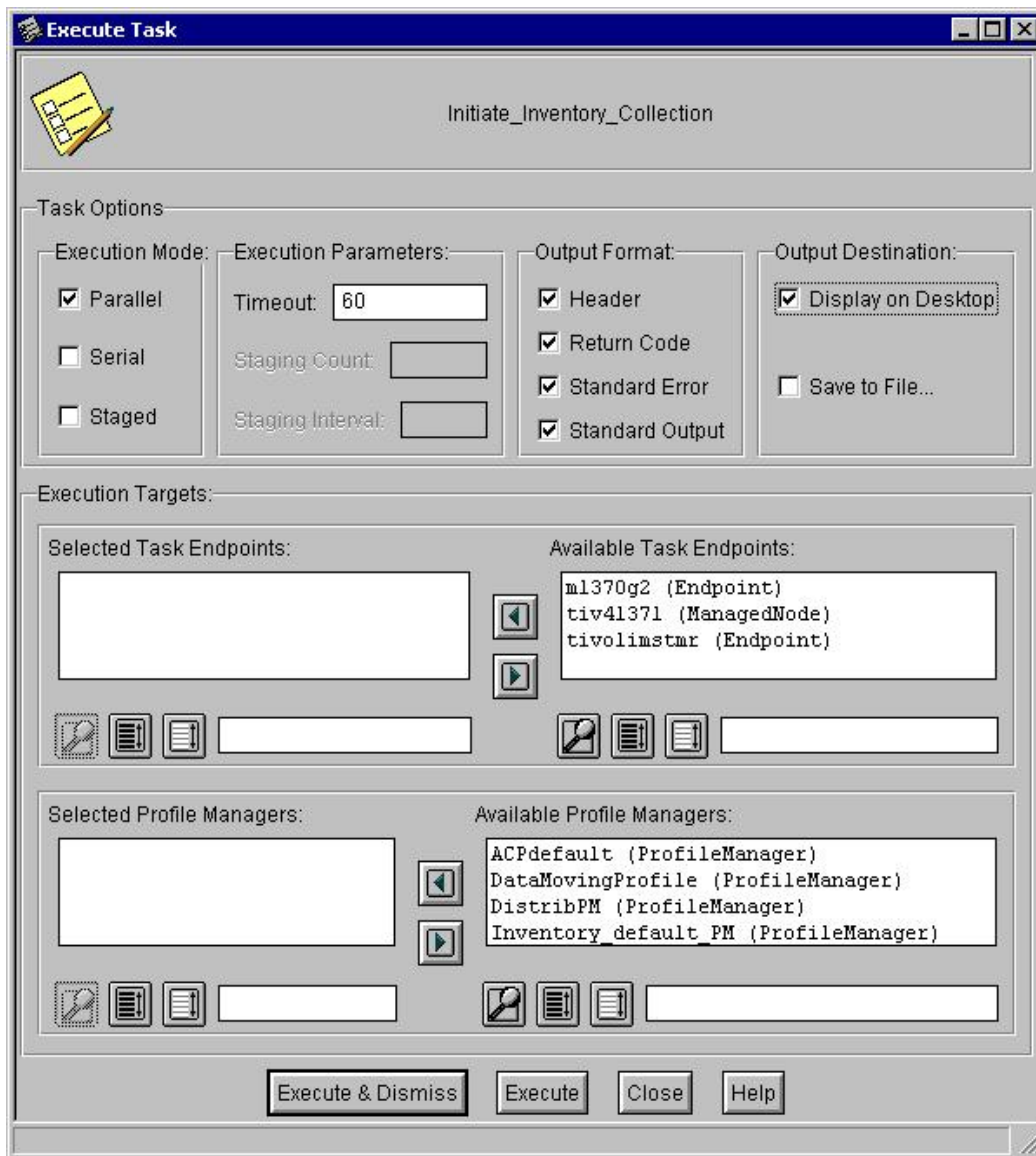
1. From the **HP Insight Integration for Tivoli** window, right-click the Initiate Inventory Collection icon.

Figure 44 Initiate Inventory Collection icon



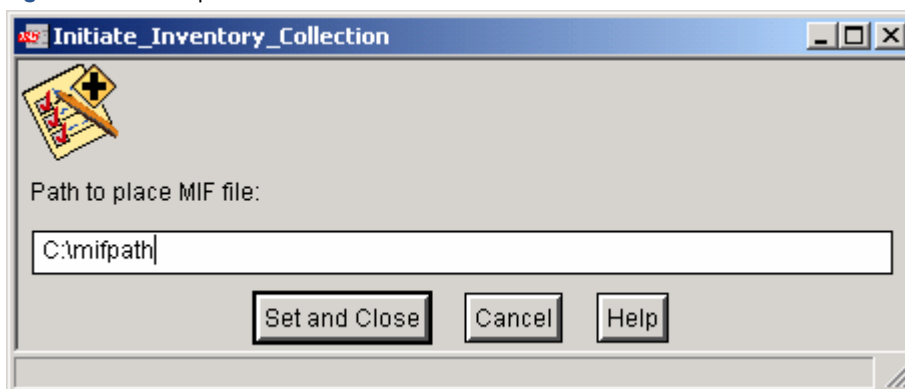
2. Select the Run on selected Subscribers option. The Execute Task window opens (Figure 45).

Figure 45 Execute Task window



3. In the Output Destination area, select the **Display on Desktop** checkbox.
4. Using the arrow buttons, select the required targets from the Available Task Endpoint list, and input them into the Selected Task Endpoint window.
5. Click **Execute & Dismiss**. The window to specify the location of .MIF file appears (Figure 46).

Figure 46 Path to place MIF file window



6. In the **Path to place MIF file** field, input the path where the .MIF file should be placed. If no path is specified, the file is saved in the following location `\Tivoli\db\Host_name.db`, where `Host_name` refers to the name of the target system.
7. Click **Set and Close** to complete the configuration and execute the task.

Integrating HP data into the Tivoli Inventory Database

HP Integration scripts

The following scripts referenced in this document enable the creation of HP Inventory Tables and Views for Microsoft SQL Server and Oracle databases. These scripts are included with the HP Insight Integration for Tivoli, Revision 4.0 and are located in the `hpq\Inventory` directory.



NOTE: The scripts provided with the HP Insight Integration for Tivoli should work equally well for other database vendors supported by the Tivoli Inventory product, such as Sybase, and can be used as examples.

- Microsoft SQL Server
 - `hp_mssql_schema.sql`
 - `hp_mssql_views.sql`
- Oracle
 - `hp_oracle_schema.sql`
 - `hp_oracle_views.sql`

The following script will create the Tivoli Query Library and HP-specific queries referenced in this document. This is included with the HP Insight Integration for Tivoli and is located in the `\hpq\Inventory` directory.

- `hp_tivoli_queries.sh`

The following scripts will create the HP-specific history tables and queries:

- `h_hp_mssql_schema.sql`
- `h_hp_mssql_views.sql`
- `h_hp_oracle_schema.sql`
- `h_hp_oracle_views.sql`
- `h_hp_tivoli_queries.sh`

Extending the Tivoli database

Tivoli Inventory generates hardware and software .MIF files during an associated hardware or software scan. The information in these .MIF files is stored in predefined tables within the configuration repository of the database schema in the RDBMS. HP provides predefined scripts that will automatically extend an associated Tivoli Inventory Database with the necessary HP tables in Microsoft SQL and Oracle environments.

If the use of custom .MIF files is planned, they must meet certain requirements that include creating tables and columns in the Tivoli Inventory configuration repository to store the custom information.

When creating a custom table in the Tivoli Inventory configuration repository, follow these guidelines:

- Do not modify existing tables in the Tivoli Inventory configuration repository.
- The table name must be identical to the .MIF group name you will be using.
- The column names must be identical to the attributes you will be using.
- In each custom table, create a primary key that includes the following columns:
 - `HARDWARE_SYSTEM_ID`
 - `CONFIG_CHANGE_TYPE`

This enables configuration change history tracking of the table by relating it to the `CONFIG_CHANGE_HISTORY` table. In each custom table, include the `CONFIG_CHANGE_TIME` column. This column does not have to be part of the primary key.

The primary key must also include any .MIF attribute that you designate as a key. For example, the CPU Number and PCI Slot number require additional primary keys.

HP database scripts

The following scripts will automatically extend the Tivoli Inventory Database and add the necessary tables for a Microsoft SQL Server or Oracle implementation. These scripts are included with HP Insight Integration for Tivoli and are located in the `\hpq\Inventory` directory.

```
hp_oracle_schema.sql
```

```
hp_mssql_schema.sql
```

The following scripts will create the history tables for the HP specific tables for Microsoft SQL and Oracle implementations:

```
h_hp_oracle_schema.sql
```

```
h_hp_mssql_schema.sql
```

Run the scripts that apply for the configured Tivoli Inventory Database using the appropriate ISQL or SQL Plus database client. Ensure that the table permissions are set to run the script using the same Database ID configured for Tivoli. The ID configuration information can be determined by running the `wgetrim` command on the TMR Server.

Creating HP specific views

If Tivoli Inventory is used to gather custom information, the predefined views provided with the HP integration will not enable the Tivoli Inventory configuration repository to be queried for custom HP information. It will be necessary to create additional database views. Creating a new view requires running a database script to add the new views to the Tivoli Inventory configuration repository.

When creating a new view the following guidelines should be noted:

- Do not edit any predefined views.
- If the new view is to be used to query the Tivoli Inventory configuration repository and then return the results to a subscription list, ensure that the new view contains the following columns: `TME_OBJECT_ID` and `TME_OBJECT_LABEL`. This type of query can be used for Managed Nodes, Endpoints, PC Managed Nodes, or any other managed site that meets the query criteria.

The following scripts provide examples of custom view creation and are included with the HP Insight Integration for Tivoli in the `hpq\Inventory` directory.

```
hp_oracle_views.sql
```

```
hp_mssql_views.sql
```

For HP specific views for historical data,

```
h_hp_oracle_views.sql
```

```
h_hp_mssql_views.sql
```

Run the scripts that apply for the configured Tivoli Inventory Database using the appropriate ISQL or SQL Plus database client. Ensure that the table permissions are set to run the script using the same Database ID configured for Tivoli. The ID configuration information can be determined by running the `wgetrim` command on the TMR Server.

These scripts create new views with HP specific information. They also demonstrate how the views can contain both Tivoli collected inventory information in addition to HP Extended information.



NOTE: These sample views reflect only a relatively small number of the available HP Collected Attributes. For a working TME, it is likely that additional views will need to be created to meet individual requirements.

Create an HP query library and HP queries

To help in the creation of an HP query library and associated HP queries, the following reference script is provided with the HP Insight Integration for Tivoli, and is located in the `hpq\Inventory` directory.

```
hp_tivoli_queries.sh
```

This script creates a new query library and new queries in a Tivoli Policy Region, specified at the time of execution. These queries use the additional views that were created in previous sections of this chapter ("Extending the Tivoli database" and "Creating HP specific views"). The queries created by this script are:

- HP CPU Information

- HP DRIVE ARRAY information
- HP FCA Information
- HP IDE Information
- HP Inventory
- HP SCSI Information
- HP Slot Information
- HP Software Versions



NOTE: This script provides an example of how to create queries to leverage the HP specific inventory content. Additional Views/Queries might need to be created to meet individual requirements and TME environments. Additional views can be created through the Tivoli Desktop or a command line interface. For further details on creating queries, reference the *Tivoli Inventory User's Manual*.

Queries can be run to view system specific details by right-clicking its object, selecting **Execute Query**, and then selecting the query library and the specific query.

Queries can also be executed through many other methods, such as referencing building subscription and distribution lists or by displaying the content for all systems that match the query criteria. Reference the *Tivoli Inventory User's Manual* for further information.



NOTE: A corresponding HP specific query library and associated HP queries to retrieve historical data can be created with the help of the `h_hptiv_queries.sh` script. Additional queries can also be created based on individual requirements.

Ensure that the correct configuration repository has been specified. To verify this, right-click on the query name, and select the **Edit Query** option.

Customize the inventory profile

Creating a Tivoli inventory profile, or customizing an existing one, represents the final step in the integration of HP asset data into Tivoli Inventory. A profile can be configured to perform the following tasks automatically upon distribution:

1. Execute the HP Inventory Collector (Collect.exe) on the selected target system.
2. Create the HP MIF file.
3. Acquire the populated HP MIF file.

To perform this step, the following process should be used:

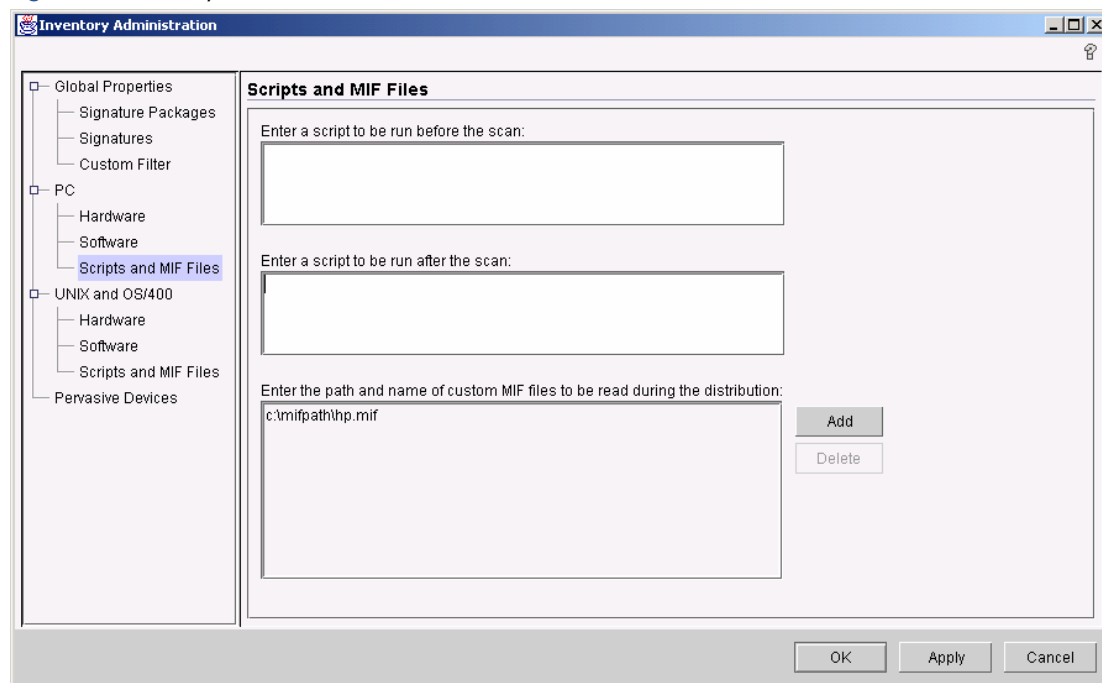
1. The HP MIF file can be created by executing Collect.exe through the Tivoli Desktop option or command line. The Collect.exe utility can also be executed locally on the target system. The path in which the file resides must be the same as the MIF file path specified in the profile.




NOTE: To execute Collect.exe through a command line, use the `run_clicollect.bat` batch command. This batch program is delivered with the HP Insight Integration for Tivoli in the `hpq\Inventory` directory and must be placed in the same directory as Collect.exe. The path in which to create and save the HP MIF file must be specified in the `MIFPath` variable.

2. On the Tivoli Desktop, right-click the Inventory Profile, and select **Properties**. The Inventory Administration window appears (Figure 47).

Figure 47 Inventory Administration window



3. Select **Scripts and MIF files** in the navigation pane.
4. Enter the path and name of file to be read as shown in Figure 47.

 **NOTE:** The syntax used for the Collect.exe utility is as follows:

Collect.exe /tpem /f <output dir>\<mif filename>

5. Click **OK**.

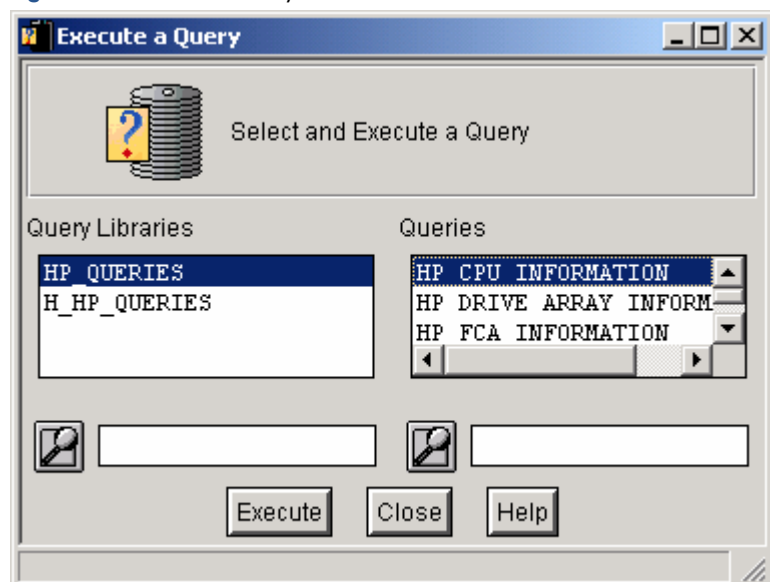
Displaying HP inventory information

The following section demonstrates the output results of the HP queries.

Running the queries

1. From the Profile Manager on the Tivoli Desktop, expand the list of subscribers to display individual systems.
2. Right-click a target system, and then click **Execute Query** to display the window shown in Figure 48.

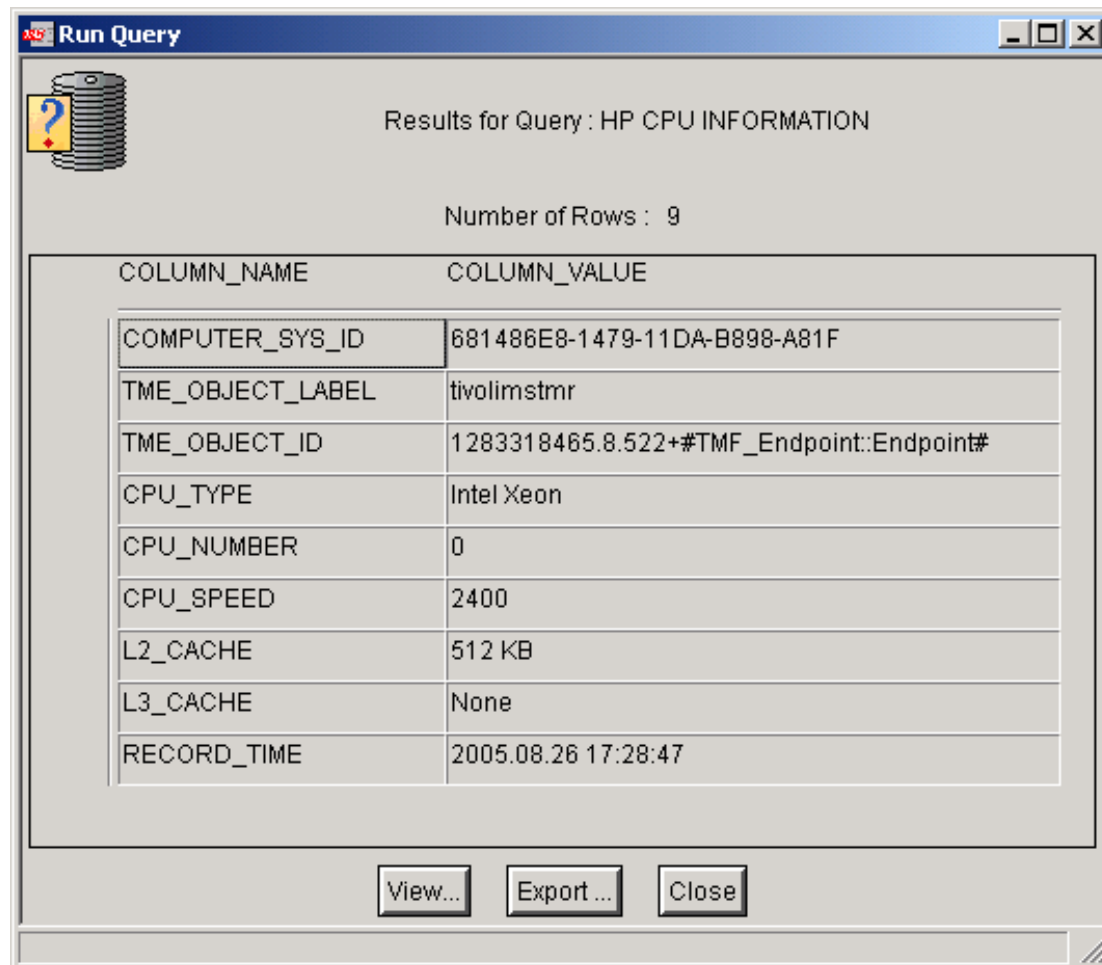
Figure 48 Execute a Query window



3. Select **HP_QUERIES** from the Query Libraries list, and select **HP CPU INFORMATION** from the Queries list.

4. Click the **Execute** command button to run the query. The query results containing HP CPU data for the chosen target system is displayed, as shown in Figure 49.
5. Click the **Close** button to close the query results window.

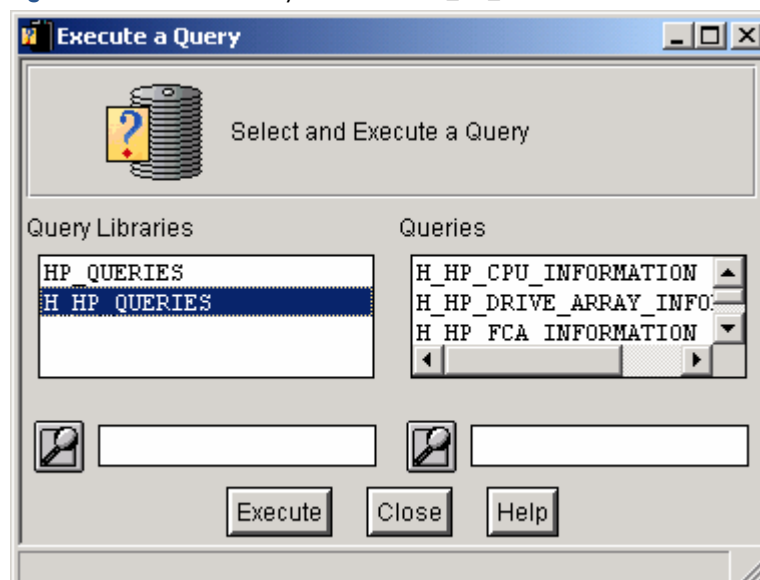
Figure 49 Query results



COLUMN_NAME	COLUMN_VALUE
COMPUTER_SYS_ID	681486E8-1479-11DA-B898-A81F
TME_OBJECT_LABEL	tivolimstmr
TME_OBJECT_ID	1283318465.8.522+#TMF_Endpoint::Endpoint#
CPU_TYPE	Intel Xeon
CPU_NUMBER	0
CPU_SPEED	2400
L2_CACHE	512 KB
L3_CACHE	None
RECORD_TIME	2005.08.26 17:28:47

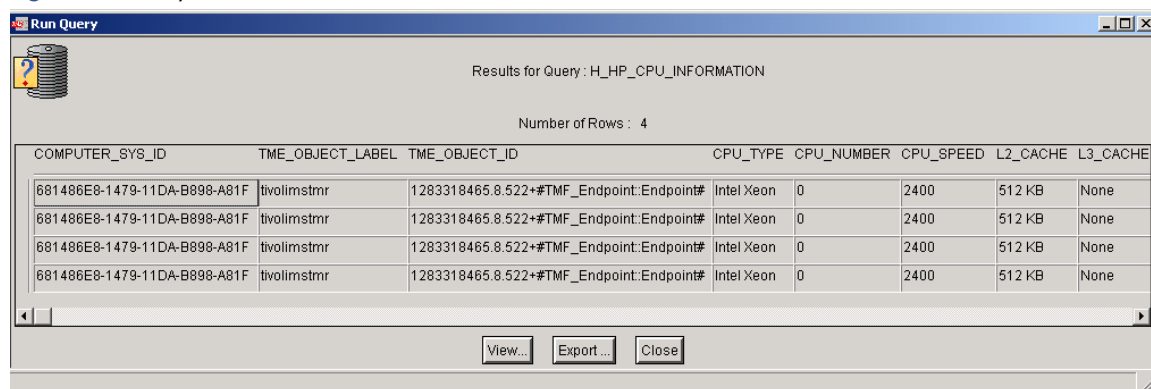
6. Selecting **H_HP_QUERIES** from the Query Libraries list for the same CPU query selection displays historical information for current and past inventory collections. HP CPU data from the historical tables is displayed, as shown in Figure 51.

Figure 50 Execute a Query window for H_HP_QUERIES



7. Click the **Close** button to close the query results window.

Figure 51 Query results window for H_HP_CPU_INFORMATION



Run Query

Results for Query : H_HP_CPU_INFORMATION

Number of Rows : 4

COMPUTER_SYS_ID	TME_OBJECT_LABEL	TME_OBJECT_ID	CPU_TYPE	CPU_NUMBER	CPU_SPEED	L2_CACHE	L3_CACHE
681486E8-1479-11DA-B898-A81F	tivolimstmr	1283318465.8.522+TMF_Endpoint:Endpoint#	Intel Xeon	0	2400	512 KB	None
681486E8-1479-11DA-B898-A81F	tivolimstmr	1283318465.8.522+TMF_Endpoint:Endpoint#	Intel Xeon	0	2400	512 KB	None
681486E8-1479-11DA-B898-A81F	tivolimstmr	1283318465.8.522+TMF_Endpoint:Endpoint#	Intel Xeon	0	2400	512 KB	None
681486E8-1479-11DA-B898-A81F	tivolimstmr	1283318465.8.522+TMF_Endpoint:Endpoint#	Intel Xeon	0	2400	512 KB	None

View... Export... Close

4 Technical support

Before you contact HP

Be sure to have the following information available before you call HP:

- Technical support registration number (if applicable)
- Product serial number
- Product model name and number
- Applicable error messages
- Add-on boards or hardware
- Third-party hardware or software
- Operating system type and revision level

Gathering the required Tivoli information

- Review the prerequisites and installation steps listed in the chapters “Product overview” and “Installing the HP Insight Integration with the TEC.”
- See the “Troubleshooting” section in Appendix A of this user guide or review the FAQ information on the HP website at <http://www.hp.com/servers/integration>.
- If you need to contact HP, provide the following details to help resolve your problem quickly and accurately:
 - Details of the physical Tivoli Environment.
 - Save any error information (output file or screen shot).
 - Provide copies of the following output files:
 - List of installed Tivoli applications, revisions numbers and patches (see the `wlsinst -ah` command detailed in the “Obtaining configuration information” section in this chapter.)
 - HP integration installation log file IM2_PLUS.LOG
 - Output from any other diagnostic or informational program (see the “Advanced troubleshooting and debugging” section in Appendix A of this user guide)

HP contact information

For the name of the nearest HP authorized reseller:

- In the United States, refer to www.hp.com/service_locator.
- In Canada, refer to www.hp.com.
- In other locations, refer to the HP website (<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 the HP website (<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 the HP website (<http://www.hp.com>).

Appendix A: Troubleshooting and known issues

Troubleshooting

The following sections contain information for troubleshooting issues relating to installing and operating the HP Insight Integration for Tivoli.

Verifying the installation status of Insight Integration

To determine if the HP Insight Integration for Tivoli has installed successfully, look at the installation log file IM2_PLUS.log.

The log file is saved to Tivoli\db\Host_Name.db\tmp, where *Host_Name* refers to the name of the TMR where the HP Insight Integration for Tivoli has been installed. The file contains detailed information that can be used to confirm the status of the installation.

SNMP must be installed before installing Insight Management Agents

If SNMP Network Services are not available when HP Insight Management Agents are installed, then the SNMP portions of the Insight Management Agents are not implemented. Install SNMP (and configure the community, access attributes, and trap destination), and then reinstall the Insight Management Agents.

The installation of Insight Management Agents does not usually require the system to be rebooted. However, the SNMP services must be stopped and restarted to affect the change. The restart process is automatic on some platforms (for example, Windows 2000 and Windows 2003).

Test SNMP trap operations

To verify that the Tivoli SNMP Adapter is installed and forwarding events correctly to TEC (port 5529 for Windows and port 0 for UNIX), run the following generic trap from any Managed Node:

```
wsnmptrap -h hostname 1.0 1 100
```

In this example, *hostname* is the name or IP address of the system running the Tivoli SNMP Adapter. If this trap is not displayed in the TEC SNMP event group, the problem is not with the Insight Integration module, but with the SNMP Adapter, TEC, or networking components.

Simulating an Insight SNMP trap

This is an example command that can be executed from the TMR or Managed Node to simulate an Insight SNMP trap. It is received and displayed in the SNMP event group of the TEC. Note that there are spaces before "1.3.6..." on the lines following *wsnmptrap*. Replace *hostname* with the IP address of the Managed Node running the configured Tivoli SNMP Adapter.

The following command invokes the SNMP trap Logical Drive Status:OK IM_3008:

```
wsnmptrap -h hostname 1.3.6.1.4.1.232 6 3008\  
1.3.6.1.2.1.1.5 OctetString "hpqSNMPTest"\  
1.3.6.1.4.1.232.11.2.11.1 Integer 0\  
1.3.6.1.4.1.232.3.2.3.1.1.4 Integer 2
```

Advanced troubleshooting and debugging

Installation log

The HP Insight Installation for Tivoli creates the IM2_PLUS.log in the Tivoli\db\Host_Name.db\tmp location, where the *Host_Name* entry references the name of the TMR where HP Insight Integration for Tivoli has been installed. It contains detailed information that can be used to confirm the status of the installation.

Installation and operational errors

Many of the installation and operational functions of the HP Insight Integration create debug output if the following directories are present:

- Managed Nodes: /tmp/debug (UNIX) and \$DBDIR/tmp/.plusdebug (Windows NT and later)
- TMA Endpoints: /tmp/debug (UNIX) and C:\Program Files\Tivoli\lcf\dat\1\plusdebug (Windows NT and later)

When debugging is enabled, the following log files are saved. These files are always created during the installation of the Insight Integration, but are not saved unless the appropriate debug directories are already created.

- IM_ALIDB_after.error
- IM_ALIDB_after.output

Obtaining configuration information

The following commands output additional information about the Tivoli environment that might prove useful when trying to troubleshoot any installation or operational problems:

- `wlsinst -ah`—Lists applications and patches installed on all TMRs and Managed Nodes
- `wgetrim tec`—Lists information regarding the TEC RDBMS interface module (RIM) objects
- `wgetrim inventory`—Lists information regarding the Inventory RIM objects
- `wlookup -ar Gateway`—Displays the defined gateways
- `odadmin odlist`—Displays connections from TMR to Managed Nodes
- `odadmin`—Displays directory names

Before calling HP Customer Support

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

Before calling HP Customer Support:

- Review the prerequisites and installation steps listed in the chapters “Product overview” and “Installing the HP Insight Integration with the TEC.”
- See the “Troubleshooting” section or review the FAQ information on the HP website at <http://www.hp.com/servers/integration>.
- If you need to contact HP, provide the following details to help resolve your problem quickly and accurately:
 - Details of the physical Tivoli Environment.
 - Save any error information (output file or screen shot).
 - Provide copies of the following output files:
 - List of installed Tivoli applications, revisions numbers and patches (see the `wlsinst -ah` command detailed in the “Obtaining configuration information” section in this chapter.)
 - Installation log file IM2_PLUS.LOG
 - Output from any other diagnostic or informational program (see the “Advanced troubleshooting and debugging” section in this chapter)

See the HP support contacts listed in the “Technical support” section of this user guide.

Appendix B: HP SNMP events

The following table lists all of the HP SNMP definitions delivered with the HP Insight Integration for Tivoli, Revision 4.0. The events are organized according to MIB type and object identifier.

CR3500 RAID controller (CPQCR.MIB)

Table 3 CR3500 RAID Controller (CPQCR.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqCrController1FailureTrap (1)	IM_1	This event occurs when the primary controller in the subsystem has failed.	Fatal
cpqCrController1InformationTrap (2)	IM_2	This event occurs when the primary controller in the subsystem has recovered.	Harmless
cpqCrController2FailureTrap (3)	IM_3	This event occurs when the secondary controller in the subsystem has failed.	Fatal
cpqCrController2InformationTrap (4)	IM_4	This event occurs when the secondary controller in the subsystem has recovered.	Harmless
cpqCrLogDriveInformationTrap (5)	IM_5	This event occurs when a RAIDset has become optimal.	Harmless
cpqCrLogDriveFailureTrap (6)	IM_6	This event occurs when a RAIDset has failed.	Fatal
cpqCrLogDriveReconstructTrap (7)	IM_7	This event occurs when a RAIDset has started the reconstruction process.	Warning
cpqCrLogDriveReducedTrap (8)	IM_8	This event occurs when a RAIDset has become degraded.	Critical
cpqCrLogDriveInitializingTrap (9)	IM_9	This event occurs when a RAIDset is initializing.	Warning
cpqCrDiskInformationTrap (10)	IM_10	This event occurs when a disk drive has recovered.	Harmless
cpqCrDiskFailureTrap (11)	IM_11	This event occurs when a disk drive has failed.	Fatal
cpqCrDiskReconstructTrap (12)	IM_12	This event occurs when a disk member of a logical drive has begun the reconstruction process and will be available for use when reconstruction is complete.	Warning
cpqCrDiskAvailableTrap (13)	IM_13	This event occurs when a disk drive has been physically added or set to the Available state.	Harmless
cpqCrDiskSpareTrap (14)	IM_14	This event occurs when a disk drive has been set to Spare status from Available and can be used in a RAID 1, RAID 1+0 or RAID 5 logical disk should a member device fail in one of those RAIDsets.	Harmless
cpqCrEMUNormalTrap (15)	IM_15	This event occurs when the overall condition of the primary enclosure has returned to normal.	Harmless
cpqCrEMUFanFailureTrap (16)	IM_16	This event occurs when one of the cooling fans in the primary enclosure has failed.	Fatal
cpqCrEMUFanInformationTrap (17)	IM_17	This event occurs when the cooling fan in the primary enclosure has recovered.	Harmless
cpqCrEMUPowerSupplyFailureTrap (18)	IM_18	This event occurs when one of the power supplies in the primary enclosure has failed.	Fatal
cpqCrEMUPowerSupplyInformationTrap (19)	IM_19	This event occurs when the power supply in the primary enclosure has recovered.	Harmless
cpqCrExpCabFanFailureTrap (20)	IM_20	This event occurs when one of the cooling fans in the expansion cabinet has failed.	Fatal

Table 3 CR3500 RAID Controller (CPQCR.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqCrExpCabFanInformationTrap (21)	IM_21	This event occurs when the cooling fan in the expansion cabinet has returned to a normal state.	Harmless
cpqCrExpCabPowerSupplyFailureTrap (22)	IM_22	This event occurs when one of the power supplies in the expansion cabinet has failed.	Fatal
cpqCrEMUTemperatureWarningTrap (23)	IM_23	This event occurs when the temperature in the primary enclosure has triggered a warning condition detected by the controller.	Warning
cpqCrEMUTemperatureCriticalTrap (24)	IM_24	This event occurs when the temperature in the primary enclosure has triggered a critical condition detected by the controller.	Critical
cpqCrEMUTemperatureInformationTrap (25)	IM_25	This event occurs when the temperature in the primary enclosure has returned to normal.	Harmless
cpqCrExpCabTemperatureWarningTrap (26)	IM_26	This event occurs when the temperature in the expansion cabinet has triggered a warning condition detected by the controller.	Warning
cpqCrExpCabTemperatureCriticalTrap (27)	IM_27	This event occurs when the temperature in the expansion cabinet has triggered a critical condition detected by the controller.	Critical
cpqCrExpCabTemperatureInformationTrap (28)	IM_28	This event occurs when the temperature in the expansion cabinet has returned to normal.	Harmless
cpqCrExpCabPowerSupplyInformationTrap (29)	IM_29	This event occurs when the power supply in the expansion cabinet has recovered.	Harmless
cpqCrPhyDiskInformationTrap (30)	IM_30	This event occurs when a disk drive has recovered.	Harmless
cpqCrPhyDiskFailureTrap (31)	IM_31	This event occurs when a disk drive has failed.	Fatal
cpqCrPhyDiskReconstructTrap (32)	IM_32	This event occurs when a disk member of a logical drive has begun the reconstruction process and will be available for use when reconstruction is complete.	Warning
cpqCrPhyDiskAvailableTrap (33)	IM_33	This event occurs when a disk drive has been physically added or set to the Available state.	Harmless
cpqCrPhyDiskSpareTrap (34)	IM_34	This event occurs when a disk drive has been set to Spare status from Available and can be used in a RAID 1, RAID 0+1 or RAID 5 logical disk should a member device fail in one of those RAIDsets.	Harmless

Common cluster management (SVRCLU.MIB)

Table 4 Common cluster management (SVRCLU.MIB)

Tivoli types	TEC class	Description	TEC priority
svrCluMemberAdded (100)	IM_100	This event occurs when a cluster member is added.	Harmless
svrCluMemberDeleted (101)	IM_101	This event occurs when a cluster member is deleted.	Warning

Standard equipment (CPQSTDEQ.MIB)

Table 5 Standard equipment (CPQSTDEQ.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqSeCpuThresholdPassed (1001)	IM_1001	This event occurs when an internal CPU error threshold has been passed on a particular CPU, causing it to go degraded.	Warning
cpqSePCCardThermalDegraded (1002)	IM_1002	This event occurs when the PC Card Slot Thermal Sensor threshold has been exceeded for safe operations thereby causing degraded operations.	Critical
cpqSePCCardThermalFailure (1003)	IM_1003	This event occurs when the PC Card Slot Thermal Sensor threshold has been exceeded for degraded operations, thereby causing failed operations.	Fatal
cpqSePCCardThermalSafe (1004)	IM_1004	This event occurs when the PC Card Slot Thermal Sensor threshold has been crossed, which restored the thermal status to normal operations.	Harmless
cpqSe2CpuThresholdPassed (1005)	IM_1005	This event occurs when an internal CPU error threshold has been passed on a particular CPU causing it to go degraded.	Warning

Systems information (CPQSINFO.MIB)

Table 6 Systems information (CPQSINFO.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqSiHoodRemoved (2001)	IM_2001	This event occurs when hood status has been set to removed.	Critical
cpqSiMonitorConditionOK (2002)	IM_2002	This event occurs when the Fault reporting features have returned to within their normal operating range for the monitor.	Harmless
cpqSiMonitorConditionDegraded (2003)	IM_2003	This event occurs when the monitor's condition is degraded because the internal temperature is exceeding normal operating limits.	Warning
cpqSiMonitorConditionFailed (2004)	IM_2004	This event occurs when the monitor's condition has been set to Failed because an operational feature is exceeding normal operating limits.	Critical
cpqSiCorrMemErrStatusDegraded (2005)	IM_2005	This event occurs when the Correctable memory error count has exceeded the threshold for the memory module.	Warning
cpqSiCorrMemErrStatusOk (2006)	IM_2006	This event occurs when the Correctable memory error count is now below the threshold for the memory module.	Harmless
cpqSiMemConfigChange (2007)	IM_2007	This event occurs when a memory configuration change has occurred.	Harmless
cpqSiHotPlugSlotBoardRemoved (2008)	IM_2008	This event occurs when a Hot Plug Slot Board has been removed from the specified chassis and slot.	Warning
cpqSiHotPlugSlotBoardInserted (2009)	IM_2009	This event occurs when a Hot Plug Slot Board has been inserted into the specified chassis and slot.	Harmless
cpqSiHotPlugSlotPowerUpFailed (2010)		This event occurs when a Hot Plug Slot Board has failed to power-up in the specified chassis and slot.	

Table 6 Systems information (CPQSINFO.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqSiHotPlugSlotErrorStatus: noError	IM_2010_1		Harmless
cpqSiHotPlugSlotErrorStatus: generalError	IM_2010_2		Critical
cpqSiHotPlugSlotErrorStatus: wrongRevision	IM_2010_3		Critical
cpqSiHotPlugSlotErrorStatus: wrongBoard	IM_2010_4		Critical
cpqSiHotPlugSlotErrorStatus: cannotConfig	IM_2010_5		Critical
cpqSiHotPlugSlotErrorStatus: powerFault	IM_2010_6		Critical
cpqSiHotPlugSlotErrorStatus: unexpectedPowerLoss	IM_2010_7		Critical
cpqSiHotPlugSlotErrorStatus: wrongSpeed	IM_2010_8		Critical
cpqSiHotPlugSlotErrorStatus: functionalFailure	IM_2010_9		Critical
cpqSiSysBatteryFailure (2011)	IM_2011	This event occurs when the battery indicated by cpqSiSysBatteryIndex has failed and must be replaced.	Critical
cpqSiSysBatteryChargingDegraded (2012)	IM_2012	This event occurs when Significant battery degradation has occurred and the battery can no longer be fully recharged.	Critical
cpqSiSysBatteryCalibrationError (2013)	IM_2013	This event occurs when Calibration is needed with battery and the battery cannot correctly indicate capacity.	Critical

Intelligent drive array (CPQIDA.MIB)

Table 7 Intelligent drive array (CPQIDA.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqDa3LogDrvStatusChange (3008)		This event occurs when the status of a drive array logical drive changes.	
CpqDaLogDrvStatus:ok	IM_3008_2		Harmless
CpqDaLogDrvStatus:failed	IM_3008_3		Fatal
CpqDaLogDrvStatus:recovering	IM_3008_4		Warning
CpqDaLogDrvStatus:unconfigured	IM_3008_5		Warning
CpqDaLogDrvStatus:readyForRebuild	IM_3008_6		Warning
CpqDaLogDrvStatus:rebuilding	IM_3008_7		Warning
CpqDaLogDrvStatus:wrongDrive	IM_3008_8		Warning
CpqDaLogDrvStatus:badConnect	IM_3008_9		Critical
CpqDaLogDrvStatus:overheating	IM_3008_10		Critical
CpqDaLogDrvStatus:shutdown	IM_3008_11		Critical
CpqDaLogDrvStatus:expanding	IM_3008_12		Warning
CpqDaLogDrvStatus:notAvailable	IM_3008_13		Warning
CpqDaLogDrvStatus:queuedForExp	IM_3008_14		Warning
CpqDaCntlrActive (3016)	IM_3016	This event occurs when a backup array controller in a duplexed pair has switched over to the active role.	Warning
cpqDa4SpareStatusChange (3017)		This event occurs when the status of a drive array spare drive changes.	

Table 7 Intelligent drive array (CPQIDA.MIB)

Tivoli types	TEC class	Description	TEC priority
CpqDaSpareStatus:invalid	IM_3017_02		Warning
CpqDaSpareStatus:failed	IM_3017_03		Fatal
CpqDaSpareStatus:inactive	IM_3017_04		Harmless
CpqDaSpareStatus:building	IM_3017_05		Warning
CpqDaSpareStatus:active	IM_3017_06		Warning
cpqDaTapeLibraryDoorStatusChange (3021)		This event occurs when the door status of a tape library changes.	
CpqDaTapeLibraryDoorStatus:notSupported	IM_3021_2		Warning
CpqDaTapeLibraryDoorStatus:closed	IM_3021_3		Harmless
CpqDaTapeLibraryDoorStatus:open	IM_3021_4		Warning
cpqDaTapeDriveCleaningRequired (3023)	IM_3023	This event occurs when a tape drive that must have a cleaning tape inserted and run.	Critical
cpqDaTapeDriveCleanTapeReplace (3024)	IM_3024	This event occurs when an autoloader tape unit has a cleaning tape that has been fully used and therefore must be replaced with a new cleaning tape.	Fatal
cpqDa5AccelStatusChange (3025)		This event occurs when the status of an array accelerator cache board changes	
CpqDa5AccelStatus:invalid	IM_3025_2		Warning
CpqDa5AccelStatus:enabled	IM_3025_3		Harmless
CpqDa5AccelStatus:tmpDisabled	IM_3025_4		Critical
CpqDa5AccelStatus:permDisabled	IM_3025_5		Critical
cpqDa5AccelBadDataTrap (3026)	IM_3026	This event occurs when an array accelerator cache board has lost battery power.	Critical
cpqDa5AccelBatteryFailed (3027)	IM_3027	This event occurs when a battery associated with the array accelerator cache board has failed.	Fatal
cpqDa5CntlrStatusChange (3028)		This event occurs when the status of a drive array controller changes.	
CpqDaCntlrBoardStatus:ok	IM_3028_2		Harmless
CpqDaCntlrBoardStatus:generalFailure	IM_3028_3		Fatal
CpqDaCntlrBoardStatus:cableProblem	IM_3028_4		Critical
CpqDaCntlrBoardStatus:poweredOff	IM_3028_5		Critical
cpqDa5PhyDrvStatusChange (3029)		This event occurs when the status of a drive array physical drive changes.	
CpqDaPhyDrvStatus:ok	IM_3029_2		Harmless
CpqDaPhyDrvStatus:failed	IM_3029_3		Fatal
CpqDaPhyDrvStatus:predictiveFailure	IM_3029_4		Critical
cpqDa5PhyDrvThreshPassedTrap (3030)	IM_3030	This event occurs when a factory threshold associated with one of the physical drive objects on a drive array has been exceeded.	Critical
cpqDa2TapeLibraryStatusChange (3031)		This event occurs when the status of a tape library changes.	
CpqDaTapeLibraryStatus:ok	IM_3031_2		Harmless
CpqDaTapeLibraryStatus:degraded	IM_3031_3		Critical
CpqDaTapeLibraryStatus:failed	IM_3031_4		Fatal

Table 7 Intelligent drive array (CPQIDA.MIB)

Tivoli types	TEC class	Description	TEC priority
CpqDaTapeLibraryStatus:offline	IM_3031_5		Warning
cpqDa2TapeDriveStatusChange (3032)		This event occurs when the status of a tape drive changes.	
CpqDaTapeDrvStatus:ok	IM_3032_2		Harmless
CpqDaTapeDrvStatus:degraded	IM_3032_3		Critical
CpqDaTapeDrvStatus:failed	IM_3032_4		Fatal
CpqDaTapeDrvStatus:offline	IM_3032_5		Critical
CpqDaTapeDrvStatus:missingWasOk	IM_3032_6		Warning
CpqDaTapeDrvStatus:missingWasOffline	IM_3032_7		Warning
cpqDa6CntlRStatusChange (3033)		This event occurs when the status of a drive array controller changes.	
CpqDaCntlRBoardStatus:ok	IM_3033_2		Harmless
CpqDaCntlRBoardStatus:generalFailure	IM_3033_3		Fatal
CpqDaCntlRBoardStatus:cableProblem	IM_3033_4		Critical
CpqDaCntlRBoardStatus:poweredOff	IM_3033_5		Critical
cpqDa6LogDrvStatusChange (3034)		This event occurs when the status of a drive array logical drive changes.	
CpqDaLogDrvStatus:ok	IM_3034_2		Harmless
CpqDaLogDrvStatus:failed	IM_3034_3		Fatal
CpqDaLogDrvStatus:recovering	IM_3034_4		Warning
CpqDaLogDrvStatus:unconfigured	IM_3034_5		Warning
CpqDaLogDrvStatus:readyForRebuild	IM_3034_6		Warning
CpqDaLogDrvStatus:rebuilding	IM_3034_7		Warning
CpqDaLogDrvStatus:wrongDrive	IM_3034_8		Warning
CpqDaLogDrvStatus:badConnect	IM_3034_9		Critical
CpqDaLogDrvStatus:overheating	IM_3034_10		Critical
CpqDaLogDrvStatus:shutdown	IM_3034_11		Critical
CpqDaLogDrvStatus:expanding	IM_3034_12		Warning
CpqDaLogDrvStatus:notAvailable	IM_3034_13		Warning
CpqDaLogDrvStatus:queuedForExp	IM_3034_14		Warning
cpqDa6SpareStatusChange (3035)		This event occurs when the status of a drive array spare drive changes.	
CpqDaSpareStatus:invalid	IM_3035_2		Warning
CpqDaSpareStatus:failed	IM_3035_3		Fatal
CpqDaSpareStatus:inactive	IM_3035_4		Harmless
CpqDaSpareStatus:building	IM_3035_5		Warning
CpqDaSpareStatus:active	IM_3035_6		Warning
cpqDa6PhyDrvStatusChange (3036)		This event occurs when the status of a drive array physical drive changes.	
CpqDaPhyDrvStatus:ok	IM_3036_2		Harmless
CpqDaPhyDrvStatus:failed	IM_3036_3		Fatal
CpqDaPhyDrvStatus:predictiveFailure	IM_3036_4		Critical

Table 7 Intelligent drive array (CPQIDA.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqDa6PhyDrvThreshPassedTrap (3037)	IM_3037	This event occurs when a factory threshold associated with one of the physical drive objects on a drive array has been exceeded.	Critical
cpqDa6AccelStatusChange (3038)		This event occurs when the status of an array accelerator cache board changes.	
CpqDa5AccelStatus:invalid	IM_3038_2		Warning
CpqDa5AccelStatus:enabled	IM_3038_3		Harmless
CpqDa5AccelStatus:tmpDisabled	IM_3038_4		Critical
CpqDa5AccelStatus:permDisabled	IM_3038_5		Critical
cpqDa6AccelBadDataTrap (3039)	IM_3039	This event occurs when an array accelerator cache board has lost battery power.	Critical
cpqDa6AccelBatteryFailed (3040)	IM_3040	This event occurs when a battery associated with the array accelerator cache board has failed.	Critical
cpqDa6TapeLibraryStatusChange (3041)		This event occurs when the status of a tape library changes.	
CpqDaTapeLibraryStatus:ok	IM_3041_2		Harmless
CpqDaTapeLibraryStatus:degraded	IM_3041_3		Critical
CpqDaTapeLibraryStatus:failed	IM_3041_4		Fatal
CpqDaTapeLibraryStatus:offline	IM_3041_5		Warning
cpqDa6TapeLibraryDoorStatusChange (3042)		This event occurs when the door status of a tape library changes.	
CpqDaTapeLibraryDoorStatus:notSupported	IM_3042_2		Warning
CpqDaTapeLibraryDoorStatus:closed	IM_3042_3		Harmless
CpqDaTapeLibraryDoorStatus:open	IM_3042_4		Warning
cpqDa6TapeDriveStatusChange (3043)		This event occurs when the status of a tape drive changes.	
CpqDaTapeDrvStatus:ok	IM_3043_2		Harmless
CpqDaTapeDrvStatus:degraded	IM_3043_3		Critical
CpqDaTapeDrvStatus:failed	IM_3043_4		Fatal
CpqDaTapeDrvStatus:offline	IM_3043_5		Critical
CpqDaTapeDrvStatus:missingWasOk	IM_3043_6		Warning
CpqDaTapeDrvStatus:missingWasOffline	IM_3043_7		Warning
cpqDa6TapeDriveCleaningRequired (3044)	IM_3044	This event occurs when a tape drive must have a cleaning tape inserted and run.	Critical
cpqDa6TapeDriveCleanTapeReplace (3045)	IM_3045	This event occurs when an autoloader tape unit has a cleaning tape that has been fully used and therefore must be replaced with a new cleaning tape.	Fatal
cpqDa7PhyDrvStatusChange (3046)		This event occurs when the status of a drive array physical drive changes.	
CpqDaPhyDrvStatus:ok	IM_3046_2		Harmless
CpqDaPhyDrvStatus:failed	IM_3046_3		Fatal
CpqDaPhyDrvStatus:predictiveFailure	IM_3046_4		Critical
cpqDa7SpareStatusChange (3047)		This event occurs when the status of a drive array spare drive changes.	

Table 7 Intelligent drive array (CPQIDA.MIB)

Tivoli types	TEC class	Description	TEC priority
CpqDaSpareStatus:invalid	IM_3047_2		Warning
CpqDaSpareStatus:failed	IM_3047_3		Fatal
CpqDaSpareStatus:inactive	IM_3047_4		Harmless
CpqDaSpareStatus:building	IM_3047_5		Warning
CpqDaSpareStatus:active	IM_3047_6		Warning

SCSI device information (CPQSCSI.MIB)

Table 8 SCSI device information (CPQSCSI.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqScsi3CntlrStatusChange (5005)		This event occurs when the status of a SCSI controller changes.	
CpqScsiCntlrStatus:ok	IM_5005_2		Harmless
CpqScsiCntlrStatus:failed	IM_5005_3		Fatal
cpqTape3PhyDrvCleaningRequired (5008)	IM_5008	This event occurs when a tape drive must have a cleaning tape inserted and run.	Critical
cpqTape3PhyDrvCleanTapeReplace (5009)	IM_5009	This event occurs when an autoloader tape unit has a cleaning tape that has been fully used and therefore must be replaced with a new cleaning tape.	Critical
cpqTape3LibraryDoorOpen (5013)	IM_5013	This event occurs when the door on an autoloader is open and therefore the unit is not operational.	Critical
cpqTape3LibraryDoorClosed (5014)	IM_5014	This event occurs when the door on an autoloader has closed.	Harmless
cpqScsiCdLibraryStatusChange (5015)		This event occurs when the status of a CD library device changes.	
CpqCdLibraryStatus:ok	IM_5015_2		Harmless
CpqCdLibraryStatus:failed	IM_5015_3		Critical
CpqCdLibraryStatus:offline	IM_5015_4		Harmless
cpqTapeLibraryStatusChange (5018)		This event occurs when the status of a tape library changes.	
CpqTapeLibraryState:ok	IM_5018_2		Harmless
CpqTapeLibraryState:degraded	IM_5018_3		Warning
CpqTapeLibraryState:failed	IM_5018_4		Fatal
CpqTapeLibraryState:offline	IM_5018_5		Critical
cpqTape5PhyDrvStatusChange (5019)		This event occurs when the status of a tape drive changes.	
CpqTapePhyDrvStatus:ok	IM_5019_2		Harmless
CpqTapePhyDrvStatus:failed	IM_5019_4		Fatal
CpqTapePhyDrvStatus:offline	IM_5019_5		Warning
CpqTapePhyDrvStatus:missingWasOk	IM_5019_6		Warning
CpqTapePhyDrvStatus:missingWasFailed	IM_5019_7		Critical
CpqTapePhyDrvStatus:missingWasOffline	IM_5019_8		Warning

Table 8 SCSI device information (CPQSCSI.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqScsi5PhyDrvStatusChange (5020)		This event occurs when the status of a SCSI physical drive changes.	
CpqScsiPhyDrvStatus:ok	IM_5020_2		Harmless
CpqScsiPhyDrvStatus:failed	IM_5020_3		Fatal
CpqScsiPhyDrvStatus:notConfigured	IM_5020_4		Warning
CpqScsiPhyDrvStatus:badCable	IM_5020_5		Warning
CpqScsiPhyDrvStatus:missingWasOk	IM_5020_6		Warning
CpqScsiPhyDrvStatus:missingWasFailed	IM_5020_7		Critical
CpqScsiPhyDrvStatus:predictiveFailure	IM_5020_8		Warning
CpqScsiPhyDrvStatus:missingWasPredictiveFailure	IM_5020_9		Warning
CpqScsiPhyDrvStatus:offline	IM_5020_10		Warning
CpqScsiPhyDrvStatus:missingwasOffline	IM_5020_11		Warning
CpqScsiPhyDrvStatus:hardError	IM_5020_12		Critical
cpqScsi3LogDrvStatusChange (5021)		This event occurs when the status of a SCSI logical drive changes.	
cpqScsiLogDrvStatus:ok	IM_5021_2		Harmless
cpqScsiLogDrvStatus:failed	IM_5021_3		Fatal
cpqScsiLogDrvStatus:unconfigured	IM_5021_4		Warning
cpqScsiLogDrvStatus:recovering	IM_5021_5		Warning
cpqScsiLogDrvStatus: readyForRebuild	IM_5021_6		Warning
cpqScsiLogDrvStatus: rebuilding	IM_5021_7		Warning
cpqScsiLogDrvStatus: wrongDrive	IM_5021_8		Warning
cpqScsiLogDrvStatus: badConnect	IM_5021_9		Critical
cpqScsiLogDrvStatus: degraded	IM_5021_10		Warning
cpqScsiLogDrvStatus: disabled	IM_5021_11		Critical
cpqSasPhyDrvStatusChange (5022)		This event occurs when the status of a SAS or SATA physical drive changes.	
CpqSasPhyDrvStatus:ok	IM_5022_2		Harmless
CpqSasPhyDrvStatus:predictiveFailure	IM_5022_3		Warning
CpqSasPhyDrvStatus:offline	IM_5022_4		Warning
CpqSasPhyDrvStatus:failed	IM_5022_5		Fatal
CpqSasPhyDrvStatus:missingWasOk	IM_5022_6		Warning
CpqSasPhyDrvStatus: missingWasPredictiveFailure	IM_5022_7		Warning
CpqSasPhyDrvStatus: missingWasOffline	IM_5022_8		Warning
CpqSasPhyDrvStatus:missingWasFailed	IM_5022_9		Critical
cpqSasLogDrvStatusChange (5023)		This event occurs when the status of a SAS or SATA logical drive changes.	
CpqSasLogDrvStatus:ok	IM_5023_2		Harmless
CpqSasLogDrvStatus:degraded	IM_5023_3		Warning
CpqSasLogDrvStatus:rebuilding	IM_5023_4		Warning
CpqSasLogDrvStatus:failed	IM_5023_5		Fatal

Server health features (CPQHLTH.MIB)

Table 9 Server health features (CPQHLTH.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqHe3CorrectableMemoryLogDisabled (6016)		This event occurs when the frequency of correctable memory errors is so high that the error tracking logic has been temporarily disabled.	
cpqHeCorrMemLogStatus:notSupported	IM_6016_2		Warning
cpqHeCorrMemLogStatus:disabled	IM_6016_3		Critical
cpqHeCorrMemLogStatus:enabled	IM_6016_4		Harmless
cpqHe3ThermalTempFailed (6017)	IM_6017	This event occurs when the temperature status has been set to failed.	Fatal
cpqHe3ThermalTempDegraded (6018)		This event occurs when the server's temperature is outside of the normal operating range.	
cpqHeThermalDegradedAction:continue	IM_6018_2		Critical
cpqHeThermalDegradedAction:shutdown	IM_6018_3		Critical
cpqHe3ThermalTempOk (6019)	IM_6019	This event occurs when the server's temperature has returned to the normal operating range.	Harmless
cpqHe3ThermalSystemFanFailed (6020)		This event occurs when a required system fan is not operating normally.	
cpqHeThermalDegradedAction:continue	IM_6020_2		Critical
cpqHeThermalDegradedAction:shutdown	IM_6020_3		Critical
cpqHe3ThermalSystemFanDegraded (6021)	IM_6021	This event occurs when an optional system fan is not operating normally.	Critical
cpqHe3ThermalSystemFanOk (6022)	IM_6022	This event occurs when any of the previously non-operational system fans have returned to normal operation.	Harmless
cpqHe3ThermalCpuFanFailed (6023)	IM_6023	This event occurs when a processor fan is not operating normally.	Fatal
cpqHe3ThermalCpuFanOk (6024)	IM_6024	This event occurs when any of the previously non-operational processor fans have returned to normal operation.	Harmless
cpqHe3AsrConfirmation (6025)	IM_6025	This event occurs when the server has previously been shutdown by the Automatic Server Recovery (ASR) feature and has just become operational again.	Warning
cpqHe3ThermalConfirmation (6026)	IM_6026	This event occurs when the server has previously been shutdown because a thermal anomaly on the server and has just become operational again.	Warning
cpqHe3PostError (6027)	IM_6027	This event occurs when Power On Self-Test (POST) errors occurred during the server restart process.	Warning
cpqHe3FltTolPwrSupplyDegraded (6028)	IM_6028	This event occurs when the fault tolerant power supply subsystem condition has been set to degraded.	Critical
cpqHe3CorrMemReplaceMemModule (6029)	IM_6029	This event occurs when a correctable memory log entry indicates a memory module must be replaced.	Warning

Table 9 Server health features (CPQHLTH.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqHe3FltTolPowerRedundancyLost (6032)	IM_6032	This event occurs when the fault tolerant power supplies have lost redundancy for the specified chassis.	Critical
cpqHe3FltTolPowerSupplyInserted (6033)	IM_6033	This event occurs when a fault tolerant power supply has been inserted into the specified chassis and bay location.	Harmless
cpqHe3FltTolPowerSupplyRemoved (6034)	IM_6034	This event occurs when a fault tolerant power supply has been removed from the specified chassis and bay location.	Warning
cpqHe3FltTolFanDegraded (6035)	IM_6035	This event occurs when the fault tolerant fan condition has been set to degraded for the specified chassis and fan.	Critical
cpqHe3FltTolFanFailed (6036)	IM_6036	This event occurs when the fault tolerant fan condition has been set to failed for the specified chassis and fan.	Critical
cpqHe3FltTolFanRedundancyLost (6037)	IM_6037	This event occurs when the fault tolerant fans have lost redundancy for the specified chassis.	Critical
cpqHe3FltTolFanInserted (6038)	IM_6038	This event occurs when a fault tolerant fan has been inserted into the specified chassis and fan location.	Harmless
cpqHe3FltTolFanRemoved (6039)	IM_6039	This event occurs when a fault tolerant fan has been removed from the specified chassis and fan location.	Critical
cpqHe3TemperatureFailed (6040)	IM_6040	This event occurs when the temperature status has been set to failed in the specified chassis and location.	Fatal
cpqHe3TemperatureDegraded (6041)		This event occurs when the temperature status has been set to degraded in the specified chassis and location.	
cpqHeThermalDegradedAction:continue	IM_6041_2		Critical
cpqHeThermalDegradedAction:shutdown	IM_6041_3		Critical
cpqHe3TemperatureOk (6042)	IM_6042	This event occurs when the temperature status has been set to ok in the specified chassis and location.	Harmless
cpqHe3PowerConverterDegraded (6043)	IM_6043	This event occurs when the DC-DC power converter condition has been set to degraded for the specified chassis, slot and socket.	Critical
cpqHe3PowerConverterFailed (6044)	IM_6044	This event occurs when the DC-DC power converter condition has been set to failed for the specified chassis, slot and socket.	Fatal
cpqHe3PowerConverterRedundancyLost (6045)	IM_6045	This event occurs when the DC-DC power converters have lost redundancy for the specified chassis.	Critical
cpqHe3CacheAccelParityError (6046)	IM_6046	This event occurs when a cache accelerator parity error indicates a cache module must be replaced.	Critical
cpqHeResilientMemOnlineSpareEngaged (6047)	IM_6047	This event occurs when the Advanced Memory Protection subsystem has detected a memory fault and online spare memory has been activated.	Critical

Table 9 Server health features (CPQHLTH.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqHe4FltTolPowerSupplyOk (6048)	IM_6048	This event occurs when the fault tolerant power supply condition has returned to the OK state for the specified chassis and bay location.	Harmless
cpqHe4FltTolPowerSupplyDegraded (6049)	IM_6049	This event occurs when the fault tolerant power supply condition has been set to degraded for the specified chassis and bay location.	Critical
cpqHe4FltTolPowerSupplyFailed (6050)	IM_6050	This event occurs when the fault tolerant power supply condition has been set to failed for the specified chassis and bay location.	Critical
cpqHeResilientMemMirroredMemoryEngaged (6051)	IM_6051	This event occurs when the Advanced Memory Protection subsystem has detected a memory fault and Mirrored memory has been activated.	Critical
cpqHeResilientAdvancedECCMemoryEngaged (6052)	IM_6052	This event occurs when the Advanced Memory Protection subsystem has detected a memory fault and Advanced ECC has been activated.	Critical
cpqHeResilientMemXorMemoryEngaged (6053)	IM_6053	This event occurs when the Advanced Memory Protection subsystem has detected a memory fault and XOR engine memory has been activated.	Critical
cpqHe3FltTolPowerRedundancyRestored (6054)	IM_6054	This event occurs when the fault tolerant power Supplies have returned to a redundant state for the specified chassis.	Harmless
cpqHe3FltTolFanRedundancyRestored (6055)	IM_6055	This event occurs when the fault tolerant fans have returned to a redundant state for the specified chassis.	Harmless
cpqHe4CorrMemReplaceMemModule (6056)	IM_6056	This event occurs when the correctable memory errors have been corrected, but the memory module should be replaced.	Critical
cpqHeResMemBoardRemoved (6057)	IM_6057	This event occurs when an Advanced Memory Protection subsystem board or cartridge has been removed from the system.	Harmless
cpqHeResMemBoardInserted (6058)	IM_6058	This event occurs when an Advanced Memory Protection subsystem board or cartridge has been inserted into the system.	Harmless
cpqHeResMemBoardBusError (6059)	IM_6059	This event occurs when an Advanced Memory Protection subsystem board or cartridge bus error has been detected.	Fatal
cpqHeEventOccurred (6060)	IM_6060	This event occurs when an event has occurred.	Harmless

Storage systems information (CPQSTSYS.MIB)

Table 10 Storage systems information (CPQSTSYS.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqSs3FanStatusChange (8008)		This event occurs when the fan status of a storage system changes.	
CpqSsBoxFanStatus:ok	IM_8008_2		Harmless
CpqSsBoxFanStatus:failed	IM_8008_3		Critical
CpqSsBoxFanStatus:noFan	IM_8008_4		Warning
CpqSsBoxFanStatus:degraded	IM_8008_5		Critical
cpqSs3TempFailed (8009)	IM_8009	This event occurs when the temperature status has been set to failed.	Fatal
cpqSs3TempDegraded (8010)	IM_8010	This event occurs when the temperature status has been set to degraded.	Critical
cpqSs3TempOk (8011)	IM_8011	This event occurs when the temperature status has been set to OK.	Harmless
cpqSs3SidePanelInPlace (8012)	IM_8012	This event occurs when the storage system side panel is in place.	Harmless
cpqSs3SidePanelRemoved (8013)	IM_8013	This event occurs when the storage system side panel is removed.	Critical
cpqSs4PwrSupplyDegraded (8015)		This event occurs when a storage system power supply status has been set to degraded.	
CpqSsBoxFltTolPwrSupplyStatus:ok	IM_8015_2		Harmless
CpqSsBoxFltTolPwrSupplyStatus:degraded	IM_8015_3		Critical
CpqSsBoxFltTolPwrSupplyStatus:failed	IM_8015_4		Fatal
CpqSsBoxFltTolPwrSupplyStatus:noFltTolPower	IM_8015_5		Warning
cpqSsExPowerSupplyUpsStatusChange (8018)		This event occurs when the status of an uninterruptible power supply (UPS) attached to a storage system power supply changes.	
CpqSsPowerSupplyUpsStatus:noUps	IM_8018_2		Warning
CpqSsPowerSupplyUpsStatus:ok	IM_8018_3		Harmless
CpqSsPowerSupplyUpsStatus:powerFailed	IM_8018_4		Critical
CpqSsPowerSupplyUpsStatus:batteryLow	IM_8018_5		Warning
cpqSsExTempSensorStatusChange (8019)		This event occurs when the status of a storage system temperature sensor changes.	
CpqSsTempSensorStatus:ok	IM_8019_2		Harmless
CpqSsTempSensorStatus:degraded	IM_8019_3		Critical
CpqSsTempSensorStatus:failed	IM_8019_4		Fatal
cpqSsEx2FanStatusChange (8020)		This event occurs when the fan module status of a storage system changes.	
CpqSsFanModuleStatus:notInstalled	IM_8020_2		Critical
CpqSsFanModuleStatus:ok	IM_8020_3		Harmless
CpqSsFanModuleStatus:degraded	IM_8020_4		Critical
CpqSsFanModuleStatus:failed	IM_8020_5		Fatal

Table 10 Storage systems information (CPQSTSYS.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqSsEx2PowerSupplyStatusChange (8021)		This event occurs when the power supply status of a storage system changes.	
CpqSsPowerSupplyStatus:notInstalled	IM_8021_2		Critical
CpqSsPowerSupplyStatus:ok	IM_8021_3		Harmless
CpqSsPowerSupplyStatus:failed	IM_8021_4		Fatal
CpqSsPowerSupplyStatus:degraded	IM_8021_5		Warning
cpqSsExBackplaneFanStatusChange (8022)		This event occurs when the fan status of a storage system changes.	
CpqSsBackplaneFanStatus:notInstalled	IM_8022_2		Warning
CpqSsBackplaneFanStatus:ok	IM_8022_3		Harmless
CpqSsBackplaneFanStatus:degraded	IM_8022_4		Critical
CpqSsBackplaneFanStatus:failed	IM_8022_5		Fatal
CpqSsBackplaneFanStatus:notSupported	IM_8022_6		Harmless
cpqSsExBackplaneTempStatusChange (8023)		This event occurs when the status of the temperature in a storage system changes.	
CpqSsBackplaneTempStatus:noTemp	IM_8023_2		Warning
CpqSsBackplaneTempStatus:ok	IM_8023_3		Harmless
CpqSsBackplaneTempStatus:degraded	IM_8023_4		Critical
CpqSsBackplaneTempStatus:failed	IM_8023_5		Fatal
CpqSsBackplaneTempStatus:notSupported	IM_8023_6		Harmless
cpqSsExBackplanePowerSupplyStatusChange (8024)		This event occurs when the power supply status of a storage system changes.	
CpqSsBackplaneFtpsStatus:noFltToPower	IM_8024_2		Warning
CpqSsBackplaneFtpsStatus:ok	IM_8024_3		Harmless
CpqSsBackplaneFtpsStatus:degraded	IM_8024_4		Critical
CpqSsBackplaneFtpsStatus:failed	IM_8024_5		Fatal
CpqSsBackplaneFtpsStatus:notSupported	IM_8024_6		Harmless
cpqSsExRecoveryServerStatusChange (8025)		This event occurs when the recovery server option status of a storage system changes.	
CpqSsChassisRsoStatus:notSupported	IM_8025_2		Warning
CpqSsChassisRsoStatus:notConfigured	IM_8025_3		Warning
CpqSsChassisRsoStatus:disabled	IM_8025_4		Critical
CpqSsChassisRsoStatus:daemonDownDisabled	IM_8025_5		Critical
CpqSsChassisRsoStatus:ok	IM_8025_6		Harmless
CpqSsChassisRsoStatus:daemonDownActive	IM_8025_7		Warning
CpqSsChassisRsoStatus:noSecondary	IM_8025_8		Warning
CpqSsChassisRsoStatus:daemonDownNoSecondary	IM_8025_9		Critical
CpqSsChassisRsoStatus:linkDown	IM_8025_10		Warning
CpqSsChassisRsoStatus:daemonDownLinkDown	IM_8025_11		Warning
CpqSsChassisRsoStatus:secondaryRunningAuto	IM_8025_12		Warning

Table 10 Storage systems information (CPQSTSYS.MIB)

Tivoli types	TEC class	Description	TEC priority
CpqSsChassisRsoStatus:secondaryRunningUser	IM_8025_13		Critical
CpqSsChassisRsoStatus:evTimeoutError	IM_8025_14		Critical
cpqSs5FanStatusChange (8026)		This event occurs when the fan status of a storage system changes.	
CpqSsBoxFanStatus:ok	IM_8026_2		Harmless
CpqSsBoxFanStatus:failed	IM_8026_3		Critical
CpqSsBoxFanStatus:noFan	IM_8026_4		Warning
CpqSsBoxFanStatus:degraded	IM_8026_5		Critical
cpqSs5TempStatusChange (8027)		This event occurs when the temperature status of a storage system changes.	
cpqSsBoxTempStatus:ok	IM_8027_2		Harmless
cpqSsBoxTempStatus:degraded	IM_8027_3		Critical
cpqSsBoxTempStatus:failed	IM_8027_4		Fatal
cpqSsBoxTempStatus:noTemp	IM_8027_5		Warning
cpqSs5PwrSupplyStatusChange (8028)		This event occurs when the power supply status of a storage system changes.	
CpqSsBoxFltTolPwrSupplyStatus:ok	IM_8028_2		Harmless
CpqSsBoxFltTolPwrSupplyStatus:degraded	IM_8028_3		Critical
CpqSsBoxFltTolPwrSupplyStatus:failed	IM_8028_4		Fatal
CpqSsBoxFltTolPwrSupplyStatus:noFltTolPower	IM_8028_5		Warning
cpqSs6FanStatusChange (8029)		This event occurs when the fan status of a storage system changes.	
CpqSsBoxFanStatus:ok	IM_8029_2		Harmless
CpqSsBoxFanStatus:failed	IM_8029_3		Critical
CpqSsBoxFanStatus:noFan	IM_8029_4		Warning
CpqSsBoxFanStatus:degraded	IM_8029_5		Critical
cpqSs6TempStatusChange (8030)		This event occurs when the temperature status of a storage system changes.	
cpqSsBoxTempStatus:ok	IM_8030_2		Harmless
cpqSsBoxTempStatus:degraded	IM_8030_3		Critical
cpqSsBoxTempStatus:failed	IM_8030_4		Fatal
cpqSsBoxTempStatus:noTemp	IM_8030_5		Warning
cpqSs6PwrSupplyStatusChange (8031)		This event occurs when the power supply status of a storage system changes.	
CpqSsBoxFltTolPwrSupplyStatus:ok	IM_8031_2		Harmless
CpqSsBoxFltTolPwrSupplyStatus:degraded	IM_8031_3		Critical
CpqSsBoxFltTolPwrSupplyStatus:failed	IM_8031_4		Fatal
CpqSsBoxFltTolPwrSupplyStatus:noFltTolPower	IM_8031_5		Warning

Remote Insight board information (CPQSM2.MIB)

Table 11 Remote Insight board information (CPQSM2.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqSm2ServerReset (9001)	IM_9001	This event occurs when the Remote Insight/ Integrated Lights-Out firmware has detected a server reset.	Warning
cpqSm2ServerPowerOutage (9002)	IM_9002	This event occurs when the Remote Insight/ Integrated Lights-Out firmware has detected server power failure.	Fatal
cpqSm2UnauthorizedLoginAttempts (9003)	IM_9003	This event occurs when the Remote Insight/ Integrated Lights-Out firmware has detected unauthorized login attempts.	Warning
cpqSm2BatteryFailed (9004)	IM_9004	This event occurs when the Remote Insight battery has failed and must be replaced.	Critical
cpqSm2SelfTestError (9005)	IM_9005	This event occurs when the Remote Insight/ Integrated Lights-Out firmware has detected a Remote Insight self test error.	Critical
cpqSm2InterfaceError (9006)	IM_9006	This event occurs when the host OS has detected an error in the Remote Insight/ Integrated Lights-Out interface and the firmware is not responding.	Critical
cpqSm2BatteryDisconnected (9007)	IM_9007	This event occurs when the Remote Insight battery cable has been disconnected.	Critical
cpqSm2KeyboardCableDisconnected (9008)	IM_9008	This event occurs when the Remote Insight keyboard cable has been disconnected.	Critical
cpqSm2MouseCableDisconnected (9009)	IM_9009	This event occurs when the Remote Insight mouse cable has been disconnected.	Critical
cpqSm2ExternalPowerCableDisconnected (9010)	IM_9010	This event occurs when the Remote Insight external power cable has been disconnected.	Critical
cpqSm2LogsFull (9011)	IM_9011	This event occurs when the Remote Insight/ Integrated Lights-Out firmware has detected the logs are full.	Warning
cpqSm2SecurityOverrideEngaged (9012)	IM_9012	This event occurs when the Remote Insight/ Integrated Lights-Out firmware has detected the security override jumper has been toggled to the engaged position.	Warning
cpqSm2SecurityOverrideDisengaged (9013)	IM_9013	This event occurs when the Remote Insight/ Integrated Lights-Out firmware has detected the security override jumper has been toggled to the disengaged position.	Warning

Threshold management (CPQTHRSH.MIB)

Table 12 Threshold management (CPQTHRSH.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqMeRisingAlarmExtended (10005)	IM_10005	This event occurs when an alarm entry has crossed its rising threshold.	Fatal
cpqMeFallingAlarmExtended (10006)	IM_10006	This event occurs when an alarm entry has crossed its falling threshold.	Fatal
cpqMeCriticalRisingAlarmExtended (10007)	IM_10007	This event occurs when an alarm entry has crossed its Critical rising threshold.	Fatal

Table 12 Threshold management (CPQTHRS.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqMeCriticalFallingAlarmExtended (10008)	IM_10008	This event occurs when an alarm entry has crossed its Critical falling threshold.	Fatal

Host system information (CPQHOST.MIB)

Table 13 Host system information (CPQHOST.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqHo2GenericTrap (11003)	IM_11003	This is a generic trap.	Critical
cpqHo2AppErrorTrap (11004)	IM_11004	This event occurs when an application has generated an exception.	Critical
cpqHoProcessEventTrap (11011)	IM_11011	This event occurs when a monitored process has either started or stopped running.	Critical
cpqHoCriticalSoftwareUpdateTrap (11014)	IM_11014	This event occurs when the user has to be notified of a critical software update.	Critical

Uninterruptible power supply (CPQUPS.MIB)

Table 14 Uninterruptible power supply (CPQUPS.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqUps2LineFailed (12006)	IM_12006	This event occurs when the UPS reports that the AC line power has failed.	Critical
cpqUps2LineOk (12007)	IM_12007	This event occurs when the UPS reports that the AC line power has returned.	Harmless
cpqUps2Shutdown (12008)	IM_12008	This event occurs when the UPS software is initiating a graceful server shutdown.	Critical
cpqUps2Confirmation (12009)	IM_12009	This event occurs when this server has previously been shutdown because a power anomaly and has just become operational again.	Harmless
cpqUps2BatteryLow (12010)	IM_12010	This event occurs when the UPS battery is low and the server will soon lose power.	Critical
cpqUpsOverload (12011)	IM_12011	This event occurs when the UPS has entered an overload condition.	Critical
cpqUpsPendingBatteryFailure (12012)	IM_12012	This event occurs when the UPS battery is about to fail.	Critical
cpqUpsGenericCritical (12013)	IM_12013	This is a generic UPS critical alarm.	Critical
cpqUpsGenericInfo (12014)	IM_12014	This is a generic UPS informational alarm.	Harmless

Recovery server information (CPQRECOV.MIB)

Table 15 Recovery server information (CPQRECOV.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqRsPartnerFailed (13001)	IM_13001	This event occurs when the partner server of the Recovery server has failed.	Fatal
cpqRsStandbyCableFailure (13002)	IM_13002	This event occurs when the local serial interconnect is not connected or has failed.	Fatal

Table 15 Recovery server information (CPQRECOV.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqRsStandbyFailure (13003)	IM_13003	This event occurs when the standby server has failed or the standby serial interconnect is not connected.	Fatal
cpqRsOnlineCableFailure (13004)	IM_13004	This event occurs when the On-Line Recovery Server serial interconnect has failed.	Critical
cpqRsFailoverFailed (13005)	IM_13005	This event occurs when an attempt to take on the operations of the partner server was attempted and failed.	Fatal

Manageable IDE drives (CPQIDE.MIB)

Table 16 Manageable IDE drives (CPQIDE.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqldeDriveDegraded (14001)	IM_14001	This event occurs when the IDE drive status has been set to degraded.	Critical
cpqldeDriveOk (14002)	IM_14002	This event occurs when the IDE drive status has been set to ok.	Harmless
cpqldeDriveUltraAtaDegraded (14003)	IM_14003	This event occurs when an IDE drive detects an excessive number of Ultra ATA data transmission errors between the hard drive and the processor.	Critical
cpqldeAtaDiskStatusChange (14004)		This event occurs when the status of an ATA disk drive changes.	
CpqldeAtaDiskStatus:ok	IM_14004_2		Harmless
CpqldeAtaDiskStatus:smartError	IM_14004_3		Critical
CpqldeAtaDiskStatus:failed	IM_14004_4		Fatal
cpqldeLogicalDriveStatusChange (14005)		This event occurs when the status of an IDE logical drive changes.	
CpqldeLogicalDriveStatus:ok	IM_14005_2		Harmless
CpqldeLogicalDriveStatus:degraded	IM_14005_3		Critical
CpqldeLogicalDriveStatus:rebuilding	IM_14005_4		Warning
CpqldeLogicalDriveStatus:failed	IM_14005_5		Fatal

Cluster systems information (CPQCLUS.MIB)

Table 17 Cluster systems information (CPQCLUS.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqClusterNodeDegraded (15003)	IM_15003	This event occurs when the condition of a node in the cluster becomes degraded.	Critical
cpqClusterNodeFailed (15004)	IM_15004	This event occurs when the condition of a node in the cluster becomes failed.	Fatal
cpqClusterResourceDegraded (15005)	IM_15005	This event occurs when the condition of a cluster resource becomes degraded.	Critical
cpqClusterResourceFailed (15006)	IM_15006	This event occurs when the condition of a cluster resource becomes failed.	Fatal

Table 17 Cluster systems information (CPQCLUS.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqClusterNetworkDegraded (15007)	IM_15007	This event occurs when the condition of a cluster network becomes degraded.	Critical
cpqClusterNetworkFailed (15008)	IM_15008	This event occurs when the condition of a cluster network becomes failed.	Fatal

Fibre Channel Array information (CPQFCA.MIB)

Table 18 Fibre Channel Array information (CPQFCA.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqFcaLogDrvStatusChange(16001)		This event occurs when the status of an external array logical drive changes.	
CpqFcaLogDrvStatus:ok	IM_16001_02		Harmless
CpqFcaLogDrvStatus:failed	IM_16001_03		Fatal
CpqFcaLogDrvStatus:unconfigured	IM_16001_04		Warning
CpqFcaLogDrvStatus:recovering	IM_16001_05		Warning
CpqFcaLogDrvStatus:readyForRebuild	IM_16001_06		Warning
CpqFcaLogDrvStatus:rebuilding	IM_16001_07		Warning
CpqFcaLogDrvStatus:wrongDrive	IM_16001_08		Critical
CpqFcaLogDrvStatus:badConnect	IM_16001_09		Critical
CpqFcaLogDrvStatus:overheating	IM_16001_10		Critical
CpqFcaLogDrvStatus:shutdown	IM_16001_11		Critical
CpqFcaLogDrvStatus:expanding	IM_16001_12		Warning
CpqFcaLogDrvStatus:notAvailable	IM_16001_13		Warning
CpqFcaLogDrvStatus:queuedForExpansion	IM_16001_14		Warning
CpqFcaLogDrvStatus:hardError	IM_16001_15		Critical
cpqFcaSpareStatusChange (16002)		This event occurs when the status of an external array spare drive changes.	
CpqFcaSpareStatusChange:inactive	IM_16002_02		Harmless
CpqFcaSpareStatusChange:failed	IM_16002_03		Fatal
CpqFcaSpareStatusChange:building	IM_16002_04		Warning
CpqFcaSpareStatusChange:active	IM_16002_05		Harmless
cpqFcTapeCntlrStatusChange (16008)		This event occurs when the status of a Fiber Channel tape controller changes.	
CpqFcTapeCntlrStatus:ok	IM_16008_02		Harmless
CpqFcTapeCntlrStatus:offline	IM_16008_03		Critical
cpqFcaCntlrActive (16014)	IM_16014	This event occurs when the backup array controller in a duplexed pair has switched over to the active role.	Harmless
cpqFca2PhyDrvStatusChange (16016)		This event occurs when the status of a physical drive changes.	
CpqFcaPhyDrvStatus:unconfigured	IM_16016_2		Warning
CpqFcaPhyDrvStatus:ok	IM_16016_3		Harmless
CpqFcaPhyDrvStatus:threshExceeded	IM_16016_4		Critical
CpqFcaPhyDrvStatus:predictiveFailure	IM_16016_5		Critical

Table 18 Fibre Channel Array information (CPQFCA.MIB)

Tivoli types	TEC class	Description	TEC priority
CpqFcaPhyDrvStatus:failed	IM_16016_6		Fatal
cpqFca2AccelStatusChange (16017)		This event occurs when the status of an array accelerator cache board changes.	
CpqFcaAccelStatus:invalid	IM_16017_2		Warning
CpqFcaAccelStatus:enable	IM_16017_3		Harmless
CpqFcaAccelStatus:tmpDisabled	IM_16017_4		Warning
CpqFcaAccelStatus:permDisabled	IM_16017_5		Critical
cpqFca2AccelBadDataTrap (16018)	IM_16018	This event occurs when an array accelerator cache board has lost battery power.	Critical
cpqFca2AccelBatteryFailed (16019)	IM_16019	This event occurs when a battery associated with the array accelerator cache board has failed.	Critical
cpqFca2CntlrStatusChange (16020)		This event occurs when the status of an external array controller changes.	
CpqFcaCntlrStatus:ok	IM_16020_2		Harmless
CpqFcaCntlrStatus:failed	IM_16020_3		Fatal
CpqFcaCntlrStatus:offline	IM_16020_4		Critical
CpqFcaCntlrStatus:redundantPathOffline	IM_16020_5		Warning
cpqFca2HostCntlrStatusChange (16021)		This event occurs when the status of a Fibre Channel host controller changes.	
CpqFcaHostCntlrStatus:ok	IM_16021_2		Harmless
CpqFcaHostCntlrStatus:failed	IM_16021_3		Fatal
CpqFcaHostCntlrStatus:shutdown	IM_16021_4		Warning
CpqFcaHostCntlrStatus:loopDegraded	IM_16021_5		Critical
CpqFcaHostCntlrStatus:loopFailed	IM_16021_6		Fatal
cpqExtArrayLogDrvStatusChange (16022)		This event occurs when the status of an external array logical drive changes.	
CpqFcaLogDrvStatus:ok	IM_16022_2		Harmless
CpqFcaLogDrvStatus:failed	IM_16022_3		Fatal
CpqFcaLogDrvStatus:unconfigured	IM_16022_4		Warning
CpqFcaLogDrvStatus:recovering	IM_16022_5		Warning
CpqFcaLogDrvStatus:readyForRebuild	IM_16022_6		Warning
CpqFcaLogDrvStatus:rebuilding	IM_16022_7		Warning
CpqFcaLogDrvStatus:wrongDrive	IM_16022_8		Critical
CpqFcaLogDrvStatus:badConnect	IM_16022_9		Critical
CpqFcaLogDrvStatus:overheating	IM_16022_10		Critical
CpqFcaLogDrvStatus:shutdown	IM_16022_11		Critical
CpqFcaLogDrvStatus:expanding	IM_16022_12		Warning
CpqFcaLogDrvStatus:notAvailable	IM_16022_13		Warning
CpqFcaLogDrvStatus:queuedForExpansion	IM_16022_14		Warning
CpqFcaLogDrvStatus:hardError	IM_16022_15		Critical
cpqExtTapeDriveStatusChange (16023)		This event occurs when the status of an external tape drive changes.	
CpqFcTapeDriveStatus:ok	IM_16023_2		Harmless

Table 18 Fibre Channel Array information (CPQFCA.MIB)

Tivoli types	TEC class	Description	TEC priority
CpqFcTapeDriveStatus:degraded	IM_16023_3		Critical
CpqFcTapeDriveStatus:failed	IM_16023_4		Fatal
CpqFcTapeDriveStatus:offline	IM_16023_5		Warning
CpqFcTapeDriveStatus:missingWasOk	IM_16023_6		Harmless
CpqFcTapeDriveStatus:missingWasOffline	IM_16023_7		Critical
cpqExtTapeDriveCleaningRequired (16024)	IM_16024	This event occurs when a tape drive must have a cleaning tape inserted and run.	Warning
cpqExtTapeDriveCleanTapeReplace (16025)	IM_16025	This event occurs when an autoloader tape unit has a cleaning tape that has been fully used and therefore must be replaced with a new cleaning tape.	Warning
cpqExtTapeLibraryStatusChange (16026)		This event occurs when the status of an external tape library changes.	
CpqFcTapeLibraryStatus:ok	IM_16026_2		Harmless
CpqFcTapeLibraryStatus:degraded	IM_16026_3		Critical
CpqFcTapeLibraryStatus:failed	IM_16026_4		Fatal
CpqFcTapeLibraryStatus:offline	IM_16026_5		Warning
cpqExtTapeLibraryDoorStatusChange (16027)		This event occurs when the door status of an external tape library changes.	
cpqFcTapeLibraryDoorStatus:notSupported	IM_16027_2		Warning
cpqFcTapeLibraryDoorStatus:closed	IM_16027_3		Harmless
cpqFcTapeLibraryDoorStatus:open	IM_16027_4		Harmless
cpqFca3HostCntlrStatusChange (16028)		This event occurs when the status of a Fibre Channel host controller changes.	
CpqFcaHostCntlrStatus:ok	IM_16028_2		Harmless
CpqFcaHostCntlrStatus:failed	IM_16028_3		Fatal
CpqFcaHostCntlrStatus:shutdown	IM_16028_4		Warning
CpqFcaHostCntlrStatus:loopDegraded	IM_16028_5		Critical
CpqFcaHostCntlrStatus:loopFailed	IM_16028_6		Fatal

Network Interface Card information (CPQNIC.MIB)

Table 19 Network Interface Card information (CPQNIC.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqNic2ConnectivityRestored (18005)	IM_18005	This event occurs when the physical adapter in a single adapter configuration returns to the OK condition or at least one physical adapter in a logical adapter group returns to the OK condition.	Harmless
cpqNic2ConnectivityLost (18006)	IM_18006	This event occurs when the adapter in a single adapter configuration fails or when the last adapter in a redundant configuration fails.	Fatal
cpqNic2RedundancyIncreased (18007)	IM_18007	This event occurs when a previously failed physical adapter in a connected logical adapter group returns to the OK condition.	Harmless

Table 19 Network Interface Card information (CPQNIC.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqNic2RedundancyReduced (18008)	IM_18008	This event occurs when a physical adapter in a logical adapter group changes to the Failed condition, but at least one physical adapter remains in the OK condition.	Critical
cpqNicVirusLikeActivityDetected (18009)	IM_18009	This event occurs when the Virus Throttle Filter Driver detects virus-like activity.	Critical
cpqNicVirusLikeActivityStopped (18010)	IM_18010	This event occurs when the Virus Throttle Filter Driver no longer detects virus-like activity.	Harmless

Operating system management (CPQWINOS.MIB)

Table 20 Operating system management (CPQWINOS.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqOsCpuTimeDegraded (19001)	IM_19001	This event occurs when the Processor Time performance property is set to degraded.	Critical
cpqOsCpuTimeFailed (19002)	IM_19002	This event occurs when the Processor Time performance property is set to critical.	Critical
cpqOsCacheCopyReadHitsDegraded (19003)	IM_19003	This event occurs when the Cache CopyReadHits performance property is set to degraded.	Critical
cpqOsCacheCopyReadHitsFailed (19004)	IM_19004	This event occurs when the Cache CopyReadHits performance property is set to critical.	Critical
cpqOsPageFileUsageDegraded (19005)	IM_19005	This event occurs when the PagingFile Usage performance property is set to degraded.	Critical
cpqOsPageFileUsageFailed (19006)	IM_19006	This event occurs when the PagingFile Usage performance property is set to critical.	Critical
cpqOsLogicalDiskBusyTimeDegraded (19007)	IM_19007	This event occurs when the LogicalDisk BusyTime performance property is set to degraded.	Critical
cpqOsLogicalDiskBusyTimeFailed (19008)	IM_19008	This event occurs when the LogicalDisk BusyTime performance property is set to critical.	Critical

Rack and power management (CPQRPM.MIB)

Table 21 Rack and power management (CPQRPM.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqRPMTrapDeviceConnected (1)	IM_RPM_1	This event occurs when Device is connected.	Harmless
cpqRPMTrapConnectionLost (2)	IM_RPM_2	This event occurs when Connection is Lost.	Fatal
cpqRPMTrapLookupFailed (3)	IM_RPM_3	This event occurs when CRPM failed to find an IP address for the device hostname.	Fatal
cpqRPMTrapConnectionFailed (4)	IM_RPM_4	This event occurs when CRPM failed to connect to a drive.	Fatal
cpqRPMTrapDeviceSettingsChanged (5)	IM_RPM_5	This event occurs when Device settings have been changed by a user.	Warning

Table 21 Rack and power management (CPQRPM.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqRPMTrapUPSInputVoltageBelowMin (20001)	IM_20001	This event occurs when a UPS device is reporting input voltage below minimum threshold.	Critical
cpqRPMTrapUPSInputVoltageAboveMax (20002)	IM_20002	This event occurs when a UPS device is reporting input voltage above maximum threshold.	Critical
cpqRPMTrapUPSInputVoltageNormal (20003)	IM_20003	This event occurs when a UPS device is reporting input voltage is normal.	Harmless
cpqRPMTrapUPSOutputVoltageBelowMin (20011)	IM_20011	This event occurs when a UPS device is reporting output voltage is below minimum threshold.	Warning
cpqRPMTrapUPSOutputVoltageAboveMax (20012)	IM_20012	This event occurs when a UPS device is reporting output voltage above maximum threshold.	Warning
cpqRPMTrapUPSOutputOverload (20014)	IM_20014	This event occurs when a UPS device is reporting an overload condition.	Critical
cpqRPMTrapUPSOutputOverloadCleared (20015)	IM_20015	This event occurs when a UPS device is reporting an overload condition has been cleared.	Harmless
cpqRPMTrapUPSBatteryDepleted (20022)	IM_20022	This event occurs when a UPS device is a depleted battery.	Critical
cpqRPMTrapUPSBatteryLevelNormal (20023)	IM_20023	This event occurs when a UPS device is reporting battery level is normal.	Harmless
cpqRPMTrapUPSOnBypass (20032)	IM_20032	This event occurs when a UPS device is being bypassed.	Warning
cpqRPMTrapUPSTemperatureLow (20101)	IM_20101	This event occurs when a UPS device is reporting temperature below minimum threshold.	Critical
cpqRPMTrapUPSTemperatureHigh (20102)	IM_20102	This event occurs when a UPS device is reporting temperature above maximum threshold.	Critical
cpqRPMTrapUPSTemperatureNormal (20103)	IM_20103	This event occurs when a UPS device is reporting temperature is normal.	Harmless
cpqRPMTrapUPSInternalFailure (20111)	IM_20111	This event occurs when a UPS device is reporting a general UPS failure.	Fatal
cpqRPMTrapUPSInternalFailureCleared (20112)	IM_20112	This event occurs when a UPS device is reporting a general UPS failure has been cleared.	Harmless
cpqRPMTrapUPSBatteryFailure (20121)	IM_20121	This event occurs when a UPS device is reporting a battery failure.	Fatal
cpqRPMTrapUPSBatteryFailureCleared (20122)	IM_20122	This event occurs when a UPS device is reporting a battery failure has been cleared.	Harmless
cpqRPMTrapUPSDiagnosticTestFailed (20131)	IM_20131	This event occurs when a UPS device is reporting a diagnostic test failed.	Critical
cpqRPMTrapUPSDiagnosticTestSucceeded (20132)	IM_20132	This event occurs when a UPS device is reporting a diagnostic test succeeded.	Harmless
cpqRPMTrapUPSInputUnderOverFreq (20141)	IM_20141	This event occurs when measured input frequency is outside of either the upper or lower frequency limit specification for normal operation.	Harmless

Table 21 Rack and power management (CPQRPM.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqRPMTrapUPSInputUnderOverFreqCleared (20142)	IM_20142	This event occurs when a UPS device is reporting measured input frequency is normal.	Harmless
cppqRPMtrapUPSStartedOnBattery (20151)	IM_20151	This event occurs when a UPS device has been started while on battery power. AC input power is not present.	Harmless
cppqRPMtrapUPSStartedOnBatteryCleared (20152)	IM_20152	This event occurs when a UPS device is reporting utility power has been restored.	Harmless
cpqRPMTrapUPSByypassNotAvailable (20161)	IM_20161	This event occurs when a UPS device is reporting bypass not available.	Warning
cpqRPMTrapUPSByypassNotAvailableCleared (20162)	IM_20162	This event occurs when a UPS device is reporting bypass not available has been cleared.	Harmless
cpqRPMTrapUPSUtilityFail (20171)	IM_20171	This event occurs when the utility input power is not within predetermined limits.	Critical
cpqRPMTrapUPSUtilityFailCleared (20172)	IM_20172	This event occurs when the utility input power is within predetermined limits.	Harmless
cpqRPMTrapUPSUtilityNotPresent (20181)	IM_20181	This event occurs when the utility input is not present. The detected voltage is zero in this case.	Harmless
cpqRPMTrapUPSUtilityNotPresentCleared (20182)	IM_20182	This event occurs when the utility input is present.	Harmless
cpqRPMTrapUPSByypassManualTurnedOn (20191)	IM_20191	This event occurs when the bypass has been given a manual turn on command.	Warning
cpqRPMTrapUPSByypassManualTurnedOff (20192)	IM_20192	This event occurs when the bypass has been given a manual turn off command.	Harmless
cpqRPMTrapUPSSiteWiringFault (20201)	IM_20201	This event occurs when a UPS device is reporting a fault in input wiring, other than Phase Rotation.	Critical
cpqRPMTrapUPSSiteWiringNormal (20202)	IM_20202	This event occurs when a UPS device is reporting a site wiring fault has been cleared.	Harmless
cpqRPMtrapUPSTemperatureOutOfRange (21007)	IM_21007	This event occurs when a UPS device is reporting temperature is out of range.	Fatal
cpqRPMtrapUPSTemperatureOutOfRangeCleared (21008)	IM_21008	This event occurs when a UPS device is reporting temperature is normal.	Harmless
cpqRPMTrapUPSShutdownPending (21011)	IM_21011	This event occurs when a UPS device is reporting a shutdown pending condition.	Critical
cpqRPMTrapUPSShutdownPendingCleared (21012)	IM_21012	This event occurs when a UPS device is reporting a shutdown pending condition has been cleared.	Harmless
cpqRPMTrapUPSShutdownImminent (21013)	IM_21013	This event occurs when a UPS device is reporting a shutdown imminent condition.	Fatal
cpqRPMTrapUPSShutdownImminentCleared (21014)	IM_21014	This event occurs when a UPS device is reporting a shutdown imminent condition has been cleared.	Harmless
cpqRPMtrapUPSOutputoutofRange (21019)	IM_21019	This event occurs when a UPS device is reporting output voltage is out of range.	Fatal
cpqRPMTrapUPSOutputVoltageNormal (21020)	IM_21020	This event occurs when a UPS device is reporting output voltage is normal.	Harmless
cpqRPMtrapUPSInputOutofRange (21021)	IM_21021	This event occurs when a UPS device is reporting input voltage is out of range.	Critical

Table 21 Rack and power management (CPQRPM.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqRPMtrapUPSInputOutOfRangeCleared (21022)	IM_21022	This event occurs when a UPS device is reporting input voltage is normal.	Harmless
cpqRPMTrapUPS LossOfRedundancy (21023)	IM_21023	This event occurs when a UPS device is reporting a loss of redundancy.	Critical
cpqRPMTrapUPS LossOfRedundancyCleared (21024)	IM_21024	This event occurs when a UPS device is reporting a loss of redundancy cleared or configuration has changed from N+1 to Capacity.	Harmless
cpqRPMTrapUPSONBuck (21029)	IM_21029	This event occurs when a UPS device is reporting an On Buck condition.	Warning
cpqRPMTrapUPSONBoost (21031)	IM_21031	This event occurs when a UPS device is reporting an On Boost condition.	Warning
cpqRPMTrapUPSManualLoadDumped (21033)	IM_21033	This event occurs when the UPS has been powered off with user interaction.	Critical
cpqRPMTrapUPSManualLoadDumpedCleared (21034)	IM_21034	This event occurs when a UPS device is reporting UPS output has been restored.	Harmless
cpqRPMTrapUPS FanFailure (21035)	IM_21035	This event occurs when a UPS device is reporting a fan failure has occurred.	Fatal
cpqRPMTrapUPS FanFailureCleared (21036)	IM_21036	This event occurs when a UPS device is reporting a fan failure has been cleared.	Harmless
cpqRPMTrapUPSEPOInitiated (21037)	IM_21037	This event occurs when a UPS device is reporting an Emergency Power Off (EPO) command has been received to shutdown the UPS immediately with out delay. This command may come from a local control panel or from a remote source.	Fatal
cpqRPMTrapUPS CheckBreaker (21041)	IM_21041	This event occurs when a UPS device is reporting an output Breaker or Relay has failed or may be stuck open or closed with this alarm.	Critical
cpqRPMTrapUPS CheckBreakerCleared (21042)	IM_21042	This event occurs when a UPS device is reporting all Breakers are functioning normally.	Harmless
cpqRPMTrapUPSCabinetDoorOpen (21045)	IM_21045	This event occurs when a UPS device is reporting a cover panel has been removed while utility power is present.	Fatal
cpqRPMTrapUPSCabinetDoorOpenCleared (21046)	IM_21046	This event occurs when a UPS device is reporting a cover panel has been replaced.	Harmless
cpqRPMtrapUPS BypassOnAuto (21047)	IM_21047	This event occurs when a UPS device is operating in auto bypass mode.	Critical
cpqRPMtrapUPS BypassOnAutoCleared (21048)	IM_21048	This event occurs when a UPS device is reporting it is no longer on auto bypass.	Harmless
cpqRPMTrapUPS BatteriesDisconnected (21053)	IM_21053	This event occurs when a UPS device is reporting batteries are not connected to the UPS.	Critical
cpqRPMTrapUPS BatteriesDisconnectedCleared (21054)	IM_21054	This event occurs when a UPS device is reporting all UPS batteries have been reconnected.	Harmless
cpqRPMTrapUPS BatteryLow (21055)	IM_21055	This event occurs when a UPS device is reporting low battery.	Fatal
cpqRPMTrapUPS BatteryLowCleared (21056)	IM_21056	This event occurs when a UPS device is reporting low battery has been cleared.	Harmless

Table 21 Rack and power management (CPQRPM.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqRPMTrapUPSBatteryDischarged (21057)	IM_21057	This event occurs when a UPS device is reporting batteries are completely discharged.	Critical
cpqRPMTrapUPSBatteryDischargedCleared (21058)	IM_21058	This event occurs when a UPS device is reporting all UPS batteries have been charged.	Harmless
cpqRPMtrapUPSByPassONManual (21059)	IM_21059	This event occurs when a UPS device is operating in manual bypass mode.	Critical
cpqRPMtrapUPSByPassOffManual (21060)	IM_21060	This event occurs when a UPS device is reporting it is no longer in manual bypass mode.	Harmless
cpqRPMTrapUPSONBattery (21063)	IM_21063	This event occurs when a UPS device is reporting on battery condition.	Critical
cpqRPMTrapUPSONUtilityPower (21064)	IM_21064	This event occurs when a UPS device is reporting on utility power condition.	Harmless
cpqRPMTrapUPSDCStartOccurred (29998)	IM_29998	This event occurs when the UPS has been started on battery when AC input power is not present.	Harmless
cpqRPMTrapUPSDCStartOccurredCleared (29999)	IM_29999	This event occurs when the UPS has been started on utility while AC input power is present.	Harmless
cpqPMTrapCritical (1)	IM_PM_1	This event occurs when a critical alarm has occurred.	Fatal
cpqPMTrapWarning (2)	IM_PM_2	This event occurs when a warning alarm has occurred.	Warning
cpqPMTrapInformation (3)	IM_PM_3	This event occurs when An information alarm has occurred.	Harmless
cpqPMTrapCleared (4)	IM_PM_4	This event occurs when An alarm has cleared.	Harmless

Rack enclosure information (CPQRACK.MIB)

Table 22 Rack enclosure information (CPQRACK.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqRackNameChanged (22001)	IM_22001	This event occurs when the rack name has changed.	Harmless
cpqRackEnclosureNameChanged (22002)	IM_22002	This event occurs when the enclosure name has changed.	Harmless
cpqRackEnclosureRemoved (22003)	IM_22003	This event occurs when an enclosure has been removed from the rack.	Harmless
cpqRackEnclosureInserted (22004)	IM_22004	This event occurs when an enclosure has been inserted into the rack.	Harmless
cpqRackEnclosureTempFailed (22005)	IM_22005	This event occurs when the enclosure temperature status has been set to failed.	Fatal
cpqRackEnclosureTempDegraded (22006)	IM_22006	This event occurs when the enclosure temperature status has been set to degraded.	Critical
cpqRackEnclosureTempOk (22007)	IM_22007	This event occurs when the enclosure temperature status has been set to ok.	Harmless
cpqRackEnclosureFanFailed (22008)	IM_22008	This event occurs when the enclosure fan status has been set to failed.	Fatal
cpqRackEnclosureFanDegraded (22009)	IM_22009	This event occurs when the enclosure fan status has been set to degraded.	Critical

Table 22 Rack enclosure information (CPQRACK.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqRackEnclosureFanOk (22010)	IM_22010	This event occurs when the enclosure fan status has been set to ok.	Harmless
cpqRackEnclosureFanRemoved (22011)	IM_22011	This event occurs when the enclosure fan has been removed.	Warning
cpqRackEnclosureFanInserted (22012)	IM_22012	This event occurs when the enclosure fan has been inserted.	Harmless
cpqRackPowerSupplyFailed (22013)	IM_22013	This event occurs when the power supply status has been set to failed.	Fatal
cpqRackPowerSupplyDegraded (22014)	IM_22014	This event occurs when the power supply status has been set to degraded.	Critical
cpqRackPowerSupplyOk (22015)	IM_22015	This event occurs when the power supply status has been set to ok.	Harmless
cpqRackPowerSupplyRemoved (22016)	IM_22016	This event occurs when the power supply has been removed.	Warning
cpqRackPowerSupplyInserted (22017)	IM_22017	This event occurs when the power supply has been inserted.	Harmless
cpqRackPowerSubsystemNotRedundant (22018)	IM_22018	This event occurs when the rack power subsystem is no longer in a redundant state.	Critical
cpqRackPowerSubsystemLineVoltageProblem (22019)		This event occurs when the rack power supply detected an input line voltage problem.	
CpqRackPowerSupplyInputLineStatus:noError	IM_22019_1		Harmless
CpqRackPowerSupplyInputLineStatus:lineOverVoltage	IM_22019_2		Critical
CpqRackPowerSupplyInputLineStatus:lineUnderVoltage	IM_22019_3		Critical
CpqRackPowerSupplyInputLineStatus:lineHit	IM_22019_4		Critical
CpqRackPowerSupplyInputLineStatus:brown out	IM_22019_5		Critical
CpqRackPowerSupplyInputLineStatus:linePowerLoss	IM_22019_6		Fatal
cpqRackPowerSubsystemOverloadCondition (22020)	IM_22020	This event occurs when the rack power subsystem overload condition.	Critical
cpqRackPowerShedAutoShutdown (22021)	IM_22021	This event occurs when the server blade was shutdown because a lack of power.	Fatal
cpqRackServerPowerOnFailedNotRedundant (22022)	IM_22022	This event occurs when there is not enough power to power on the server blade and maintain redundancy for the other blades in the enclosure.	Critical
cpqRackServerPowerOnFailedNotEnoughPower (22023)	IM_22023	This event occurs when there is not enough power to power on the server blade.	Fatal
cpqRackServerPowerOnFailedEnclosureNotFound (22024)	IM_22024	This event occurs when there is not enough power to power on the server blade (server enclosure microcontroller was not found).	Fatal
cpqRackServerPowerOnFailedPowerChassisNotFound (22025)	IM_22025	This event occurs when there is not enough power to power on the server blade (power enclosure microcontroller was not found).	Fatal
cpqRackServerPowerOnManualOverride (22026)	IM_22026	This event occurs when the server blade was powered on by a manual override.	Critical
cpqRackFuseOpen (22027)	IM_22027	This event occurs when the fuse has been tripped.	Critical

Table 22 Rack enclosure information (CPQRACK.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqRackServerBladeRemoved (22028)	IM_22028	This event occurs when the server blade has been removed from the enclosure.	Critical
cpqRackServerBladeInserted (22029)	IM_22029	This event occurs when the server blade has been inserted into the enclosure.	Critical
cpqRackPowerChassisNotLoadBalanced (22030)	IM_22030	This event occurs when the power subsystem is out of balance for this power enclosure.	Critical
cpqRackPowerChassisDcPowerProblem (22031)	IM_22031	This event occurs when there is a power subsystem DC power problem for this power enclosure.	Critical
cpqRackPowerChassisAcFacilityPowerExceeded (22032)	IM_22032	This event occurs when the Power subsystem AC facility input power exceeded for this power enclosure.	Critical
cpqRackPowerUnknownPowerConsumption (22033)	IM_22033	This event occurs when there is an unknown power consumer drawing power.	Critical
cpqRackPowerChassisLoadBalancingWireMissing (22034)	IM_22034	This event occurs when the power subsystem load balancing wire is missing.	Critical
cpqRackPowerChassisTooManyPowerChassis (22035)	IM_22035	This event occurs when the maximum number of power enclosures has been exceeded.	Critical
cpqRackPowerChassisConfigError (22036)	IM_22036	This event occurs when the power subsystem has been improperly configured.	Critical

Console management controller (CPQCMC.MIB)

Table 23 Console management controller (CPQCMC.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqCmcAlarmTemp1 (153001)		This event occurs when the temperature at rack sensor 1 is outside the specified threshold.	
CpqCmcStatusTemp1:normal	IM_153001_2		Harmless
CpqCmcStatusTemp1:warning	IM_153001_3		Warning
CpqCmcStatusTemp1:overMax	IM_153001_4		Critical
CpqCmcStatusTemp1:underMin	IM_153001_5		Critical
CpqCmcStatusTemp1:noSensor	IM_153001_6		Critical
CpqCmcStatusTemp1:error	IM_153001_7		Fatal
cpqCmcAlarmTemp2 (153002)		This event occurs when the temperature at rack sensor 2 is outside the specified threshold.	
CpqCmcStatusTemp2:normal	IM_153002_2		Harmless
CpqCmcStatusTemp2:warning	IM_153002_3		Warning
CpqCmcStatusTemp2:overMax	IM_153002_4		Critical
CpqCmcStatusTemp2:underMin	IM_153002_5		Critical
CpqCmcStatusTemp2:noSensor	IM_153002_6		Critical
CpqCmcStatusTemp2:error	IM_153002_7		Fatal
cpqCmcAlarmFan1 (153003)		This event occurs when the state of Fan 1 changes.	
cpqCmcStatusFan1:autoOff	IM_153003_2		Harmless

Table 23 Console management controller (CPQCMC.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqCmcStatusFan1:autoOn	IM_153003_3		Harmless
cpqCmcStatusFan1:manualOff	IM_153003_4		Harmless
cpqCmcStatusFan1:manualOn	IM_153003_5		Harmless
cpqCmcStatusFan1:smokeOff	IM_153003_6		Critical
cpqCmcStatusFan1:doorOff	IM_153003_7		Warning
cpqCmcStatusFan1:noFan	IM_153003_8		Critical
cpqCmcStatusFan1:error	IM_153003_9		Fatal
cpqCmcalarmFan2 (153004)		This event occurs when the state of Fan 2 changes.	
cpqCmcStatusFan2:autoOff	IM_153004_2		Harmless
cpqCmcStatusFan2:autoOn	IM_153004_3		Harmless
cpqCmcStatusFan2:manualOff	IM_153004_4		Harmless
cpqCmcStatusFan2:manualOn	IM_153004_5		Harmless
cpqCmcStatusFan2:smokeOff	IM_153004_6		Critical
cpqCmcStatusFan2:doorOff	IM_153004_7		Warning
cpqCmcStatusFan2:noFan	IM_153004_8		Critical
cpqCmcStatusFan2:error	IM_153004_9		Fatal
cpqCmcalarmVoltage (153005)		This event occurs when the AC voltage of the rack is outside the specified threshold.	
cpqCmcStatusVoltage:normal	IM_153005_2		Harmless
cpqCmcStatusVoltage:overMax	IM_153005_3		Critical
cpqCmcStatusVoltage:underMin	IM_153005_4		Critical
cpqCmcStatusVoltage:noVoltage	IM_153005_5		Warning
cpqCmcalarmHumidity (153006)		This event occurs when the humidity of the rack is outside the specified threshold.	
CpqCmcStatusHumidity:normal	IM_153006_2		Harmless
CpqCmcStatusHumidity:overMax	IM_153006_3		Critical
CpqCmcStatusHumidity:underMin	IM_153006_4		Critical
CpqCmcStatusHumidity:noSensor	IM_153006_5		Warning
CpqCmcStatusHumidity:error	IM_153006_6		Fatal
cpqCmcalarmInput1 (153007)		This event occurs when the door or side panel of the rack has been opened (access point #1).	
cpqCmcStatusInput1:closed	IM_153007_2		Harmless
cpqCmcStatusInput1:open	IM_153007_3		Warning
cpqCmcStatusInput1:noSensor	IM_153007_4		Warning
cpqCmcalarmInput2 (153008)		This event occurs when the door or side panel of the rack has been opened (access point #2).	
cpqCmcStatusInput2:closed	IM_153008_2		Harmless
cpqCmcStatusInput2:open	IM_153008_3		Warning
cpqCmcStatusInput2:noSensor	IM_153008_4		Warning

Table 23 Console management controller (CPQCMC.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqCmcAlarmInput3 (153009)		This event occurs when the door or side panel of the rack has been opened (access point #3).	
cpqCmcStatusInput3:closed	IM_153009_2		Harmless
cpqCmcStatusInput3:open	IM_153009_3		Warning
cpqCmcStatusInput3:noSensor	IM_153009_4		Warning
cpqCmcAlarmInput4 (153010)		This event occurs when the door or side panel of the rack has been opened (access point #4).	
cpqCmcStatusInput4:closed	IM_153010_2		Harmless
cpqCmcStatusInput4:open	IM_153010_3		Warning
cpqCmcStatusInput4:noSensor	IM_153010_4		Warning
cpqCmcAlarmLock1 (153011)		This event occurs when there is a rack door lock #1 alarm.	
CpqCmcStatusLock1Lock:locked	IM_153011_2		Harmless
CpqCmcStatusLock1Lock:unlockedAuto	IM_153011_3		Warning
CpqCmcStatusLock1Lock:unlockedTime	IM_153011_4		Warning
CpqCmcStatusLock1Lock:unlockedSmoke	IM_153011_5		Critical
CpqCmcStatusLock1Lock:unlockedKey	IM_153011_6		Harmless
CpqCmcStatusLock1Lock:unlockedPwrFail	IM_153011_7		Critical
CpqCmcStatusLock1Lock:unlockedBattLow	IM_153011_8		Critical
CpqCmcStatusLock1Lock:unlockedNetFail	IM_153011_9		Critical
CpqCmcStatusLock1Lock:unlockedConnFail	IM_153011_10		Critical
CpqCmcStatusLock1Lock:readyToLock	IM_153011_11		Harmless
CpqCmcStatusLock1Lock:alarm	IM_153011_12		Warning
CpqCmcStatusLock1Lock:configError	IM_153011_13		Warning
CpqCmcStatusLock1Lock:notAvail	IM_153011_14		Warning
cpqCmcAlarmLock2 (153012)		This event occurs when there is a rack door lock #2 alarm.	
CpqCmcStatusLock2Lock:locked	IM_153012_2		Harmless
CpqCmcStatusLock2Lock:unlockedAuto	IM_153012_3		Warning
CpqCmcStatusLock2Lock:unlockedTime	IM_153012_4		Warning
CpqCmcStatusLock2Lock:unlockedSmoke	IM_153012_5		Critical
CpqCmcStatusLock2Lock:unlockedKey	IM_153012_6		Harmless
CpqCmcStatusLock2Lock:unlockedPwrFail	IM_153012_7		Critical
CpqCmcStatusLock2Lock:unlockedBattLow	IM_153012_8		Critical
CpqCmcStatusLock2Lock:unlockedNetFail	IM_153012_9		Critical
CpqCmcStatusLock2Lock:unlockedConnFail	IM_153012_10		Critical
CpqCmcStatusLock2Lock:readyToLock	IM_153012_11		Harmless
CpqCmcStatusLock2Lock:alarm	IM_153012_12		Warning
CpqCmcStatusLock2Lock:configError	IM_153012_13		Warning
CpqCmcStatusLock2Lock:notAvail	IM_153012_14		Warning

Table 23 Console management controller (CPQCMC.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqCmcAlarmSmoke (153013)		This event occurs when the rack smoke detector has detected smoke.	
CpqCmcStatusSmoke:cleared	IM_153013_2		Harmless
CpqCmcStatusSmoke:present	IM_153013_3		Critical
CpqCmcStatusSmoke:noSensor	IM_153013_4		Warning
cpqCmcAlarmShock (153014)		This event occurs when the rack shock detector has detected a vibration to the rack.	
CpqCmcStatusShock:cleared	IM_153014_2		Harmless
CpqCmcStatusShock:present	IM_153014_3		Critical
CpqCmcStatusShock:noSensor	IM_153014_4		Warning
cpqCmcAlarmAux1 (153015)		This event occurs when the rack auxiliary alarm input #1 has been triggered.	
CpqCmcStatusAux1:ok	IM_153015_2		Harmless
CpqCmcStatusAux1:alarm	IM_153015_3		Critical
CpqCmcStatusAux1:noSensor	IM_153015_4		Warning
cpqCmcAlarmAux2 (153016)		This event occurs when the rack auxiliary alarm input #2 has been triggered.	
CpqCmcStatusAux2:ok	IM_153016_2		Harmless
CpqCmcStatusAux2:alarm	IM_153016_3		Critical
CpqCmcStatusAux2:noSensor	IM_153016_4		Warning
cpqCmcAlarm1 (153017)		This event occurs when there is Alarm 1, set from Network management.	
CpqCmcStatusAlarm1:ok	IM_153017_2		Harmless
CpqCmcStatusAlarm1:alarm	IM_153017_3		Critical
cpqCmcAlarm2 (153018)		This event occurs when there is Alarm 2, set from Network management.	
CpqCmcStatusAlarm2:ok	IM_153018_2		Harmless
CpqCmcStatusAlarm2:alarm	IM_153018_3		Critical
cpqCmcAlarmLock1Dev (153019)		This event occurs when the rack door locking device #1 has failed.	
CpqCmcStatusLock1Dev:ok	IM_153019_2		Harmless
CpqCmcStatusLock1Dev:powerFail	IM_153019_3		Critical
CpqCmcStatusLock1Dev:lowBattery	IM_153019_4		Warning
CpqCmcStatusLock1Dev:replaceBatt	IM_153019_5		Critical
CpqCmcStatusLock1Dev:missingBatt	IM_153019_6		Warning
CpqCmcStatusLock1Dev:noConnect	IM_153019_7		Warning
CpqCmcStatusLock1Dev:notAvail	IM_153019_8		Warning
cpqCmcAlarmLock2Dev (153020)		This event occurs when the rack door locking device #2 has failed.	
CpqCmcStatusLock2Dev:ok	IM_153020_2		Harmless
CpqCmcStatusLock2Dev:powerFail	IM_153020_3		Critical
CpqCmcStatusLock2Dev:lowBattery	IM_153020_4		Warning
CpqCmcStatusLock2Dev:replaceBatt	IM_153020_5		Critical
CpqCmcStatusLock2Dev:missingBatt	IM_153020_6		Warning

Table 23 Console management controller (CPQCMC.MIB)

Tivoli types	TEC class	Description	TEC priority
CpqCmcStatusLock2Dev:noConnect	IM_153020_7		Warning
CpqCmcStatusLock2Dev:notAvail	IM_153020_8		Warning
cpqCmcSetupChanged (153100)	IM_153100	This event occurs when the setup of console management controller has changed.	Harmless

Switch Traps (CIMTRAPS.MIB)

Table 24 CIM traps (CIMTRAPS.MIB)

Tivoli types	TEC class	Description	TEC priority
switchFirmwareTransferred(161001)	IM_161001	This event occurs when the firmware image successfully transferred.	Harmless
switchConfigFileTransferred (161002)	IM_161002	This event occurs when the configuration file successfully transferred.	Harmless
switchTFTPTransferSucceeded (161003)	IM_161003	This event occurs when the TFTP transfer completed successfully.	Harmless
switchTFTPTransferFailed (161004)	IM_161004	This event occurs when the switch has failed a TFTP transfer.	Warning
switchFileInvalid (161005)	IM_161005	This event occurs when an invalid firmware or configuration image is downloaded.	Warning
switchFanFailed (161006)	IM_161006	This event occurs when the condition of switch fan has failed.	Fatal
switchFanOk (161007)	IM_161007	This event occurs when switch fan has returned to normal operation.	Harmless
switchTempSensorDegraded (161008)	IM_161008	This event occurs when the switch temperature sensor indicates high temperature.	Critical
switchTempSensorFailed (161009)	IM_161009	This event occurs when the switch temperature sensor indicates an over temperature.	Fatal
switchTempSensorOk (161010)	IM_161010	This event occurs when the switch temperature sensor indicates normal temperature.	Harmless
switchPostSuccess (161011)	IM_161011	This event occurs when the switch has successfully completed POST.	Warning
switchLoginFailure (161012)	IM_161012	This event occurs when the switch has rejected login attempt.	Warning
switchLocationChange (161013)	IM_161013	This event occurs when the switch location has changed; trap will be sent on next boot.	Harmless
switchCubeTypeChange (161014)	IM_161014	This event occurs when the cube type is changed by customer since last boot.	Harmless
switchSNTPServiceUnavailable (161015)	IM_161015	This event occurs when the SNTP server was configured, but no SNTP servers were found.	Warning

StorageWorks Enterprise Array Manager (HS_AGENT.MIB)

Table 25 StorageWorks Enterprise Array Manager (HS_AGENT.MIB)

Tivoli types	TEC class	Description	TEC priority
diskFailureTrap (1)	IM_Steam_1	This event occurs when a disk drive has failed.	Critical
diskInformationTrap (2)	IM_Steam_2	This event occurs when a disk drive has recovered.	Harmless
powerSupplyFailureTrap (3)	IM_Steam_3	This event occurs when the power supply in the specified location has failed.	Critical
powerSupplyInformationTrap (4)	IM_Steam_4	This event occurs when the power supply in the specified location has gone from bad to good.	Harmless
fanFailureTrap (5)	IM_Steam_5	This event occurs when the fan in the specified location has failed.	Critical
fanInformationTrap (6)	IM_Steam_6	This event occurs when the fan in the specified location has recovered.	Harmless
cacheBatteryFailureTrap (7)	IM_Steam_7	This event occurs when the cache battery in specified location has failed.	Critical
cacheBatteryLowTrap (8)	IM_Steam_8	This event occurs when the cache battery in specified location has LOW state.	Warning
cacheBatteryInformationTrap (9)	IM_Steam_9	This event occurs when the cache battery in specified location has good state.	Harmless
temperatureOverThresholdTrap (10)	IM_Steam_10	This event occurs when the temperature sensor in the specified location has exceeded WARNING threshold limit.	Critical
temperatureInformationTrap (11)	IM_Steam_11	This event occurs when the temperature sensor in the specified location indicates below WARNING threshold limit.	Harmless
communicationFailureTrap (12)	IM_Steam_12	This event occurs when communication with the subsystem has failed.	Critical
communicationInformationTrap (13)	IM_Steam_13	This event occurs when communication with the subsystem has recovered.	Harmless
controllerFailureTrap (14)	IM_Steam_14	This event occurs when the secondary controller in the subsystem has failed.	Critical
controllerInformationTrap (15)	IM_Steam_15	This event occurs when the secondary controller in the subsystem has recovered.	Harmless
lunFailureTrap (16)	IM_Steam_16	This event occurs when the LUN has failed and is off-line.	Critical
lunReconstructTrap (17)	IM_Steam_17	This event occurs when the LUN has started the reconstruction process but is available for normal use.	Warning
lunReducedTrap (18)	IM_Steam_18	This event occurs when A LUN has become degraded because a member disk device failure.	Critical
lunInformationTrap (19)	IM_Steam_19	This event occurs when A LUN has become optimal because a successful completion of the reconstruction process.	Harmless
externalInputFailureTrap (20)	IM_Steam_20	This event occurs when the user-defined external input to the EMU indicates a failure.	Critical
externalInputInformationTrap (21)	IM_Steam_21	This event occurs when the user-defined external input to the EMU indicates a recovery.	Harmless
cacheBatteryStateUnknownTrap (22)	IM_Steam_22	This event occurs when the cache battery in specified location has an unknown state.	Warning

Storage Area Networks Management Appliance (CPQSANAPP.MIB)

Table 26 Storage Area Networks Management Appliance (CPQSANAPP.MIB)

Tivoli types	TEC class	Description	TEC priority
swFailureTrap (1)	IM_SanW_1	This event occurs when a failure event is detected.	Critical
swWarningTrap (2)	IM_SanW_2	This event occurs when a Warning event is detected.	Warning
swInformationTrap (4)	IM_SanW_4	This event occurs when an Information event is detected.	Harmless

StorageWorks Command Console (CPQSWCC.MIB)

Table 27 StorageWorks Command Console (CPQSWCC.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqSwccFibreDeviceStatusChange (1)		This event occurs when the state on one of the managed Fibre Channel devices changes.	
cpqSwccFibreDevState:ok	IM_Fibre_1_2		Harmless
cpqSwccFibreDevState:degraded	IM_Fibre_1_3		Critical
cpqSwccFibreDevState:failed	IM_Fibre_1_4		Fatal
cpqSwccTapeControllerStatusChange (2)		This event occurs when the state on one of the managed Fibre Channel tape controller devices changes.	
cpqSwccFibreDevState:ok	IM_Tape_2_2		Harmless
cpqSwccFibreDevState:degraded	IM_Tape_2_3		Critical
cpqSwccFibreDevState:failed	IM_Tape_2_4		Fatal
cpqSwccEmuDevDeviceStatusChange (1)		This event occurs when the state on one of the managed devices changes.	
cpqSwccEmuDevState:ok	IM_Emu_1_2		Harmless
cpqSwccEmuDevState:degraded	IM_Emu_1_3		Critical
cpqSwccEmuDevState:failed	IM_Emu_1_4		Fatal
cpqSwccKzpccPhyDeviceEventTrap (1)		This event occurs when some event has happened to a physical device on a KZPCC controller.	
cpqSwccKzpccEventSeverity:informational	IM_Kzpcc_1_1		Harmless
cpqSwccKzpccEventSeverity:warning	IM_Kzpcc_1_2		Warning
cpqSwccKzpccEventSeverity:error	IM_Kzpcc_1_3		Fatal
cpqSwccKzpccVirtualDeviceEventTrap (2)		This event occurs when some event has happened to a virtual device (logical drive) on a controller.	
cpqSwccKzpccEventSeverity:informational	IM_Kzpcc_2_1		Harmless
cpqSwccKzpccEventSeverity:warning	IM_Kzpcc_2_2		Critical
cpqSwccKzpccEventSeverity:error	IM_Kzpcc_2_3		Fatal
cpqSwccKzpccSubsystemEventTrap (3)		This event occurs when some event has happened to a KZPCC controller.	
cpqSwccKzpccEventSeverity:informational	IM_Kzpcc_3_1		Harmless
cpqSwccKzpccEventSeverity:warning	IM_Kzpcc_3_2		Critical

Table 27 StorageWorks Command Console (CPQSWCC.MIB)

Tivoli types	TEC class	Description	TEC priority
cpqSwccKzpccEventSeverity:error	IM_Kzpcc_3_3		Fatal

Blade Type-2 traps (BT2TRAPS.MIB)

Table 28 Blade Type-2 traps (BT2TRAPS.MIB)

Tivoli types	TEC class	Description	TEC priority
bt2SwPrimaryPowerSupplyFailure (1)	IM_BT2_1	This event occurs when the primary power supply failed.	Fatal
bt2SwDefGwUp(2)	IM_BT2_2	This event occurs when the default gateway is alive.	Harmless
bt2SwDefGwDown(3)	IM_BT2_3	This event occurs when the default gateway is down.	Harmless
bt2SwDefGwInService(4)	IM_BT2_4	This event occurs when the default gateway is up and in service.	Harmless
bt2SwDefGwNotInService(5)	IM_BT2_5	This event occurs when the default gateway is alive but not in service.	Harmless
bt2SwVrrpNewMaster (16)	IM_BT2_16	This event occurs when the sending agent has transitioned to 'Master' state.	Harmless
bt2SwVrrpNewBackup(17)	IM_BT2_17	This event occurs when the sending agent has transitioned to 'Backup' state.	Harmless
bt2SwVrrpAuthFailure(18)	IM_BT2_18	This event occurs when there is an authentication failure.	Critical
bt2SwLoginFailure(19)	IM_BT2_19	This event occurs when there is a login failure.	Critical
bt2SwTempExceedThreshold (22)	IM_BT2_22	This event occurs when the switch temperature has exceeded maximum safety limits.	Fatal
bt2SwRackLocationChange(26)	IM_BT2_26	This event occurs when the rack location has been changed.	Harmless
bt2SwApplyComplete(27)	IM_BT2_27	This event occurs when a new configuration has been applied.	Harmless
bt2SwSaveComplete(28)	IM_BT2_28	This event occurs when the new configuration has been saved.	Harmless
bt2SwFwDownloadSuccess(29)	IM_BT2_29	This event occurs when the firmware has been downloaded.	Harmless
bt2SwFwDownloadFailure(30)	IM_BT2_30	This event occurs when the firmware downloaded failed.	Warning
bt2SwTempReturnThreshold(31)	IM_BT2_31	This event occurs when the switch temperature has returned below maximum safety limits.	Harmless
bt2SwFanFailure(32)	IM_BT2_32	This event occurs when a fan failure has been detected.	Critical
bt2SwFanFailureFixed(33)	IM_BT2_33	This event occurs when the fan failure has been fixed.	Harmless
bt2SwUfdfoLIMFailure(34)	IM_BT2_34	This event occurs when an LiM link is down.	Critical
bt2SwUfdfoLIMUP(35)	IM_BT2_35	This event occurs when an LiM link is up.	Harmless

Appendix C: HP Event Rules

The following table lists all of the HP rules delivered with the HP Insight Integration for Tivoli, Revision 4.0 that relate to specific SNMP events. The rules and corresponding events are organized by MIB type and object identifier.

Common cluster management (SVRCLU.MIB)

Table 29 Common cluster management (SVRCLU.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
SvrCluMemberAdded	100			
SvrCluMemberDeleted	101			

Standard equipment (CPQSTDEQ.MIB)

Table 30 Standard equipment (CPQSTDEQ.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqSeCpuThresholdPassed	1001			
CpqSePCCardThermalDegraded	1002		1004	
CpqSePCCardThermalFailure	1003		1004	
CpqSePCCardThermalSafe	1004			
CpqSe2CpuThresholdPassed	1005			

Systems information (CPQSINFO.MIB)

Table 31 Standard equipment (CPQSINFO.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqSiHoodRemoved	2001			
CpqSiMonitorConditionOK	2002			
CpqSiMonitorConditionDegraded	2003		2002	
CpqSiMonitorConditionFailed	2004		2002	
CpqSiCorrMemErrStatusDegraded	2005		2006	
CpqSiCorrMemErrStatusOK	2006			
CpqSiMemConfigChange	2007			
CpqSiHotPlugSlotBoardRemoved	2008		2009	
CpqSiHotPlugSlotBoardInserted	2009			
CpqSiHotPlugSlotPowerUpFailed	2010			
cpqSiHotPlugSlotErrorStatus: noError	_1			
cpqSiHotPlugSlotErrorStatus: generalError	_2		2010_1	
cpqSiHotPlugSlotErrorStatus: wrongRevision	_3		2010_1	
cpqSiHotPlugSlotErrorStatus: wrongBoard	_4		2010_1	
cpqSiHotPlugSlotErrorStatus: cannotConfig	_5		2010_1	
cpqSiHotPlugSlotErrorStatus: powerFault	_6		2010_1	

Table 31 Standard equipment (CPQSINFO.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
cpqSiHotPlugSlotErrorStatus: unexpectedPowerLoss	_7		2010_1	
cpqSiHotPlugSlotErrorStatus: wrongSpeed	_8		2010_1	
cpqSiHotPlugSlotErrorStatus: functionalFailure	_9		2010_1	
CpqSiSysBatteryFailure	2011			
CpqSiSysBatteryChargingDegraded	2012			
CpqSiSysBatteryCalibrationError	2013			

Intelligent drive array (CPQIDA.MIB)

Table 32 Intelligent drive array (CPQIDA.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqDa3LogDrvStatusChange	3008		3008	
CpqDaLogDrvStatus:ok	_2			
CpqDaLogDrvStatus:failed	_3		3008_2	
CpqDaLogDrvStatus:recovering	_5		3008_2	
CpqDaLogDrvStatus:readyForRebuild	_6		3008_2	
CpqDaLogDrvStatus:rebuilding	_7		3008_2	
CpqDaLogDrvStatus:wrongDrive	_8		3008_2	
CpqDaLogDrvStatus:badConnect	_9		3008_2	
CpqDaLogDrvStatus:overheating	_10		3008_2	
CpqDaLogDrvStatus:shutdown	_11		3008_2	
CpqDaLogDrvStatus:expanding	_12			
CpqDaLogDrvStatus:notAvailable	_13			
CpqDaLogDrvStatus:queuedForExp	_14			
CpqDaCntlIrActive	3016			
CpqDa4SpareStatusChange	3017		3017	
CpqDaSpareStatus:failed	_3		3017_6	
CpqDaSpareStatus:inactive	_4		3017_6	
CpqDaSpareStatus:building	_5		3017_6	
CpqDaSpareStatus:active	_6			
CpqDaTapeLibraryDoorStatusChange	3021			
CpqDaTapeLibraryDoorStatus:notSupported	_2			
CpqDaTapeLibraryDoorStatus:closed	_3			
CpqDaTapeLibraryDoorStatus:open	_4			
CpqDaTapeDriveCleaningRequired	3023			
CpqDaTapeDriveCleanTapeReplace	3024			
CpqDa5AccelStatusChange	3025			
CpqDa5AccelStatus:invalid	_2			

Table 32 Intelligent drive array (CPQIDA.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqDa5AccelStatus:enabled	_3			
CpqDa5AccelStatus:tmpDisabled	_4		3025_3	
CpqDa5AccelStatus:permDisabled	_5		3025_3	
CpqDa5AccelBadDataTrap	3026			
CpqDa5AccelBatteryFailed	3027			
CpqDa5CntlrStatusChange	3028			
CpqDaCntlrBoardStatus:ok	_2			
CpqDaCntlrBoardStatus:generalFailure	_3		3028_2	
CpqDaCntlrBoardStatus:cableProblem	_4		3028_2	
CpqDaCntlrBoardStatus:poweredOff	_5		3028_2	
CpqDa5PhyDrvStatusChange	3029			
CpqDaPhyDrvStatus:ok	_2			
CpqDaPhyDrvStatus:failed	_3		3029_2	
CpqDaPhyDrvStatus:predictiveFailure	_4		3029_2	
CpqDa5PhyDrvThreshPassedTrap	3030			
CpqDa2TapeLibraryStatusChange	3031			
CpqDaTapeLibraryStatus:ok	_2			
CpqDaTapeLibraryStatus:degraded	_3		3031_2	
CpqDaTapeLibraryStatus:failed	_4		3031_2	
CpqDaTapeLibraryStatus:offline	_5		3031_2	
CpqDa2TapeDriveStatusChange	3032			
CpqDaTapeDrvStatus:ok	_2			
CpqDaTapeDrvStatus:degraded	_3		3032_2	
CpqDaTapeDrvStatus:failed	_4		3032_2	
CpqDaTapeDrvStatus:offline	_5		3032_2	
CpqDaTapeDrvStatus:missingWasOk	_6		3032_2	
CpqDaTapeDrvStatus:missingWasOffline	_7		3032_2	
CpqDa6CntlrStatusChange	3033			
CpqDaCntlrBoardStatus:ok	_2			
CpqDaCntlrBoardStatus:generalFailure	_3		3033_2	
CpqDaCntlrBoardStatus:cableProblem	_4		3033_2	
CpqDaCntlrBoardStatus:poweredOff	_5		3033_2	
CpqDa6LogDrvStatusChange	3034			
CpqDaLogDrvStatus:ok	_2			
CpqDaLogDrvStatus:failed	_3		3034_2	
CpqDaLogDrvStatus:recovering	_4		3034_2	
CpqDaLogDrvStatus:unconfigured	_5		3034_2	
CpqDaLogDrvStatus:readyForRebuild	_6		3034_2	
CpqDaLogDrvStatus:rebuilding	_7		3034_2	
CpqDaLogDrvStatus:wrongDrive	_8		3034_2	

Table 32 Intelligent drive array (CPQIDA.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqDaLogDrvStatus:badConnect	_9		3034_2	
CpqDaLogDrvStatus:overheating	_10		3034_2	
CpqDaLogDrvStatus:shutdown	_11		3034_2	
CpqDaLogDrvStatus:expanding	_12		3034_2	
CpqDaLogDrvStatus:notAvailable	_13		3034_2	
CpqDaLogDrvStatus:queuedForExp	_14		3034_2	
CpqDa6SpareStatusChange	3035			
CpqDaSpareStatus:invalid	_2			
CpqDaSpareStatus:failed	_3		3035_2	
CpqDaSpareStatus:inactive	_4		3035_2	
CpqDaSpareStatus:building	_5		3035_2	
CpqDaSpareStatus:active	_6		3035_2	
CpqDa6PhyDrvStatusChange	3036			
CpqDaPhyDrvStatus:ok	_2			
CpqDaPhyDrvStatus:failed	_3		3036_2	
CpqDaPhyDrvStatus:predictiveFailure	_4		3036_2	
CpqDa6PhyDrvThreshPassedTrap	3037			
CpqDa6AccelStatusChange	3038			
CpqDa5AccelStatus:invalid	_2			
CpqDa5AccelStatus:enabled	_3		3038_2	
CpqDa5AccelStatus:tmpDisabled	_4		3038_2	
CpqDa5AccelStatus:permDisabled	_5		3038_2	
CpqDa6AccelBadDataTrap	3039			
CpqDa6AccelBatteryFailed	3040			
CpqDa6TapeLibraryStatusChange	3041			
CpqDaTapeLibraryStatus:ok	_2			
CpqDaTapeLibraryStatus:degraded	_3		3041_2	
CpqDaTapeLibraryStatus:failed	_4		3041_2	
CpqDaTapeLibraryStatus:offline	_5		3041_2	
CpqDa6TapeLibraryDoorStatusChange	3042			
CpqDaTapeLibraryDoorStatus:notSupported	_2			
CpqDaTapeLibraryDoorStatus:closed	_3			
CpqDaTapeLibraryDoorStatus:open	_4			
CpqDa6TapeDriveStatusChange	3043			
CpqDaTapeDrvStatus:ok	_2			
CpqDaTapeDrvStatus:degraded	_3		3043_2	
CpqDaTapeDrvStatus:failed	_4		3043_2	
CpqDaTapeDrvStatus:offline	_5		3043_2	
CpqDaTapeDrvStatus:missingWasOk	_6		3043_2	
CpqDaTapeDrvStatus:missingWasOffline	_7		3043_2	

Table 32 Intelligent drive array (CPQIDA.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqDa6TapeDriveCleaningRequired	3044			
CpqDa6TapeDriveCleanTapeReplace	3045			
CpqDa7PhyDrvStatusChange	3046			*
CpqDaPhyDrvStatus:ok	_2			*
CpqDaPhyDrvStatus:failed	_3		3046_2	*
CpqDaPhyDrvStatus:predictiveFailure	_4		3046_2	*
CpqDa7SpareStatusChange	3047			*
CpqDaSpareStatus:invalid	_2			*
CpqDaSpareStatus:failed	_3		3047_2	*
CpqDaSpareStatus:inactive	_4		3047_2	*
CpqDaSpareStatus:building	_5		3047_2	*
CpqDaSpareStatus:active	_6		3047_2	*

SCSI device information (CPQSCSI.MIB)

Table 33 SCSI device information (CPQSCSI.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqScsi3CntlrStatusChange	5005		5005	
CpqScsiCntlrStatus:ok	_2			
CpqScsiCntlrStatus:failed	_3		5005_2	
CpqTape3PhyDrvCleaningRequired	5008			
CpqTape3PhyDrvCleanTapeReplace	5009			
CpqTape3LibraryDoorOpen	5013		5014	
CpqTape3LibraryDoorClosed	5014			
CpqScsiCdLibraryStatusChange	5015		5015	
CpqCdLibraryStatus:ok	_2			
CpqCdLibraryStatus:failed	_3		5015_2	
CpqCdLibraryStatus:offline	_4		5015_2	
CpqTapeLibraryStatusChange	5018			
CpqTapeLibraryState:ok	_2			
CpqTapeLibraryState:degraded	_3		5018_2	
CpqTapeLibraryState:failed	_4		5018_2	
CpqTapeLibraryState:offline	_5		5018_2	
CpqTape5PhyDrvStatusChange	5019			
CpqTapePhyDrvStatus:ok	_2			
CpqTapePhyDrvStatus:failed	_4		5019_2	
CpqTapePhyDrvStatus:offline	_5		5019_2	
CpqTapePhyDrvStatus:missingWasOk	_6		5019_2	
CpqTapePhyDrvStatus:missingWasFailed	_7		5019_2	
CpqTapePhyDrvStatus:missingWasOffline	_8		5019_2	

Table 33 SCSI device information (CPQSCSI.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
cpqScsi5PhyDrvStatusChange	5020			
CpqScsiPhyDrvStatus:ok	_2			
CpqScsiPhyDrvStatus:failed	_3		5020_2	
CpqScsiPhyDrvStatus:notConfigured	_4		5020_2	
CpqScsiPhyDrvStatus:badCable	_5		5020_2	
CpqScsiPhyDrvStatus:missingWasOk	_6		5020_2	
CpqScsiPhyDrvStatus:missingWasFailed	_7		5020_2	
CpqScsiPhyDrvStatus:predictiveFailure	_8		5020_2	
CpqScsiPhyDrvStatus:missingWas PredictiveFailure	_9		5020_2	
CpqScsiPhyDrvStatus:offline	_10		5020_2	
CpqScsiPhyDrvStatus:missingwasOffline	_11		5020_2	
CpqScsiPhyDrvStatus:hardError	_12		5020_2	
CpqScsi3LogDrvStatusChange	5021			
cpqScsiLogDrvStatus:ok	_2			
cpqScsiLogDrvStatus:failed	_3		5021_2	
cpqScsiLogDrvStatus:unconfigured	_4		5021_2	
cpqScsiLogDrvStatus:recovering	_5		5021_2	
cpqScsiLogDrvStatus: readyForRebuild	_6		5021_2	
cpqScsiLogDrvStatus: rebuilding	_7		5021_2	
cpqScsiLogDrvStatus: wrongDrive	_8		5021_2	
cpqScsiLogDrvStatus: badConnect	_9		5021_2	
cpqScsiLogDrvStatus: degraded	_10		5021_2	
cpqScsiLogDrvStatus: disabled	_11		5021_2	
CpqSasPhyDrvStatusChange	5022			*
CpqSasPhyDrvStatus:ok	_2			*
CpqSasPhyDrvStatus:predictiveFailure	_3		5022_2	*
CpqSasPhyDrvStatus:offline	_4		5022_2	*
CpqSasPhyDrvStatus:failed	_5		5022_2	*
CpqSasPhyDrvStatus:missingWasOk	_6		5022_2	*
CpqSasPhyDrvStatus: missingWas PredictiveFailure	_7		5022_2	*
CpqSasPhyDrvStatus: missingWasOffline	_8		5022_2	*
CpqSasPhyDrvStatus:missingWasFailed	_9		5022_2	*
CpqSasLogDrvStatusChange	5023			*
CpqSasLogDrvStatus:ok	_2			*
CpqSasLogDrvStatus:degraded	_3		5023_2	*
CpqSasLogDrvStatus:rebuilding	_4		5023_2	*
CpqSasLogDrvStatus:failed	_5		5023_2	*

Server health features (CPQHLTH.MIB)

Table 34 Server health features (CPQHLTH.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqHe3CorrectableMemoryLogDisabled	6016			
cpqHeCorrMemLogStatus:notSupported	_2		6016_4	
cpqHeCorrMemLogStatus:disabled	_3		6016_4	
cpqHeCorrMemLogStatus:enabled	_4			
CpqHe3ThermalTempFailed	6017		6019, 6026	
CpqHe3ThermalTempDegraded	6018			
cpqHeThermalDegradedAction:continue	_2		6019	
cpqHeThermalDegradedAction:shutdown	_3		6019	
CpqHe3ThermalTempOk	6019			
CpqHe3ThermalSystemFanFailed	6020			
cpqHeThermalDegradedAction:continue	_2		6022	
cpqHeThermalDegradedAction:shutdown	_3		6022	
CpqHe3ThermalSystemFanDegraded	6021		6022, 6026	
CpqHe3ThermalSystemFanOk	6022			
CpqHe3ThermalCPUFanFailed	6023		6024, 6026	
CpqHe3ThermalCPUFanOk	6024			
CpqHe3AsrConfirmation	6025			
CpqHe3ThermalConfirmation	6026			
CpqHe3PostError	6027			
CpqHe3FltTolPwrSupplyDegraded	6028		6033	
CpqHe3CorrMemReplaceMemModule	6029			
CpqHe3FltTolPowerRedundancyLost	6032	6031 or 6034	6033	
CpqHe3FltTolPowerRedundancyLost	6032		6054	
CpqHe3FltTolPowerSupplyInserted	6033			
CpqHe3FltTolPowerSupplyRemoved	6034		6033	
CpqHe3FltTolFanDegraded	6035		6038	
CpqHe3FltTolFanFailed	6036		6038	
CpqHe3FltTolFanRedundancyLost	6037	6036 or 6039	6038	
CpqHe3FltTolFanInserted	6038			
CpqHe3FltTolFanRemoved	6039		6038	
CpqHe3TemperatureFailed	6040		6042	
CpqHe3TemperatureDegraded	6041		6042	
CpqHe3TemperatureOk	6042			
CpqHe3PowerConverterDegraded	6043			
CpqHe3PowerConverterFailed	6044			
CpqHe3PowerConverterReduncancyLost	6045	6044		
CpqHe3CacheAccelParityError	6046			
cpqHeResilientMemOnlineSpareEngaged	6047			
cpqHe4FltTolPowerSupplyOk	6048			

Table 34 Server health features (CPQHLTH.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
cpqHe4FltTolPowerSupplyDegraded	6049		6048	
cpqHe4FltTolPowerSupplyFailed	6050		6048	
cpqHeResilientMemMirroredMemoryEngaged	6051			
cpqHeResilientAdvancedECCMemoryEngaged	6052			
cpqHeResilientMemXorMemoryEngaged	6053			
cpqHe3FltTolPowerRedundancyRestored	6054			
cpqHe3FltTolFanRedundancyRestored	6055			
cpqHe4CorrMemReplaceMemModule	6056			
cpqHeResMemBoardRemoved	6057			
cpqHeResMemBoardInserted	6058			
cpqHeResMemBoardBusError	6059			
cpqHeEventOccurred	6060			

Storage systems information (CPQSTSYS.MIB)

Table 35 Storage systems information (CPQSTSYS.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqSs3FanStatusChange	8008		8008	
CpqSsBoxFanStatus:ok	_2			
CpqSsBoxFanStatus:failed	_3		8008_2	
CpqSsBoxFanStatus:noFan	_4			
CpqSsBoxFanStatus:degraded	_5		8008_2	
CpqSs3TempFailed	8009		8011	
CpqSs3TempDegraded	8010		8011	
CpqSs3TempOk	8011			
CpqSs3SidePanelInPlace	8012			
CpqSs3SidePanelInRemoved	8013		8012	
CpqSs4PwrSupplyDegraded	8015		8015	
CpqSsBoxFltTolPwrSupplyStatus:ok	_2			
CpqSsBoxFltTolPwrSupplyStatus:degraded	_3		8015_2	
CpqSsBoxFltTolPwrSupplyStatus:failed	_4		8015_2	
CpqSsBoxFltTolPwrSupplyStatus:noFltTolPower	_5			
CpqSsExPowerSupplyUpsStatusChange	8018		8018	
CpqSsPowerSupplyUpsStatus:noUps	_2			
CpqSsPowerSupplyUpsStatus:ok	_3			
CpqSsPowerSupplyUpsStatus:powerFailed	_4		8018_3	
CpqSsPowerSupplyUpsStatus:batteryLow	_5		8018_3	
CpqSsExTempSensorStatusChange	8019		8019	
CpqSsTempSensorStatus:ok	_2			
CpqSsTempSensorStatus:degraded	_3		8019_2	

Table 35 Storage systems information (CPQSTSYS.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqSsTempSensorStatus:failed	_4		8019_2	
CpqSsEx2FanStatusChange	8020			
CpqSsFanModuleStatus:notInstalled	_2			
CpqSsFanModuleStatus:ok	_3			
CpqSsFanModuleStatus:degraded	_4		8020_3	
CpqSsFanModuleStatus:failed	_5		8020_3	
CpqSsEx2PowerSupplyStatusChange	8021			
CpqSsPowerSupplyStatus:notInstalled	_2			
CpqSsPowerSupplyStatus:ok	_3			
CpqSsPowerSupplyStatus:failed	_4		8021_3	
CpqSsExBackplaneFanStatusChange	8022			
CpqSsBackplaneFanStatus:notInstalled	_2		8022_3	
CpqSsBackplaneFanStatus:ok	_3			
CpqSsBackplaneFanStatus:degraded	_4		8022_3	
CpqSsBackplaneFanStatus:failed	_5		8022_3	
CpqSsBackplaneFanStatus:notSupported	_6		8022_3	
CpqSsExBackplaneTempStatusChange	8023			
CpqSsBackplaneTempStatus:noTemp	_2		8023_3	
CpqSsBackplaneTempStatus:ok	_3			
CpqSsBackplaneTempStatus:degraded	_4		8023_3	
CpqSsBackplaneTempStatus:failed	_5		8023_3	
CpqSsBackplaneTempStatus:notSupported	_6		8023_3	
CpqSsExBackplanePowerSupplyStatusChange	8024			
CpqSsBackplaneFtpsStatus:noFltToPower	_2		8024_3	
CpqSsBackplaneFtpsStatus:ok	_3			
CpqSsBackplaneFtpsStatus:degraded	_4		8024_3	
CpqSsBackplaneFtpsStatus:failed	_5		8024_3	
CpqSsBackplaneFtpsStatus:notSupported	_6		8024_3	
CpqSsExRecoveryServerStatusChange	8025			
CpqSsChassisRsoStatus:notSupported	_2		8025_6	
CpqSsChassisRsoStatus:notConfigured	_3		8025_6	
CpqSsChassisRsoStatus:disabled	_4		8025_6	
CpqSsChassisRsoStatus:daemonDownDisabled	_5		8025_6	
CpqSsChassisRsoStatus:ok	_6			
CpqSsChassisRsoStatus:daemonDownActive	_7		8025_6	
CpqSsChassisRsoStatus:noSecondary	_8		8025_6	
CpqSsChassisRsoStatus:daemonDownNoSecondary	_9		8025_6	
CpqSsChassisRsoStatus:linkDown	_10		8025_6	
CpqSsChassisRsoStatus:daemonDownLinkDown	_11		8025_6	

Table 35 Storage systems information (CPQSTSYS.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqSsChassisRsoStatus:secondary RunningAuto	_12		8025_6	
CpqSsChassisRsoStatus:secondary RunningUser	_13		8025_6	
CpqSsChassisRsoStatus:evTimeoutError	_14		8025_6	
CpqSs5FanStatusChange	8026			
CpqSsBoxFanStatus:ok	_2			
CpqSsBoxFanStatus:failed	_3		8026_2	
CpqSsBoxFanStatus:noFan	_4		8026_2	
CpqSsBoxFanStatus:degraded	_5		8026_2	
CpqSs5TempStatusChange	8027			
cpqSsBoxTempStatus:ok	_2			
cpqSsBoxTempStatus:degraded	_3		8027_2	
cpqSsBoxTempStatus:failed	_4		8027_2	
cpqSsBoxTempStatus:noTemp	_5		8027_2	
CpqSs5PwrSupplyStatusChange	8028			
CpqSsBoxFltTolPwrSupplyStatus:ok	_2			
CpqSsBoxFltTolPwrSupplyStatus:degraded	_3		8028_2	
CpqSsBoxFltTolPwrSupplyStatus:failed	_4		8028_2	
CpqSsBoxFltTolPwrSupplyStatus:noFltTolPower	_5		8028_2	
cpqSs6FanStatusChange	8029			*
CpqSsBoxFanStatus:ok	_2			*
CpqSsBoxFanStatus:failed	_3		8029_2	*
CpqSsBoxFanStatus:noFan	_4		8029_2	*
CpqSsBoxFanStatus:degraded	_5		8029_2	*
cpqSs6TempStatusChange	8030			*
cpqSsBoxTempStatus:ok	_2			*
cpqSsBoxTempStatus:degraded	_3		8030_2	*
cpqSsBoxTempStatus:failed	_4		8030_2	*
cpqSsBoxTempStatus:noTemp	_5		8030_2	*
cpqSs6PwrSupplyStatusChange	8031			*
CpqSsBoxFltTolPwrSupplyStatus:ok	_2			*
CpqSsBoxFltTolPwrSupplyStatus:degraded	_3		8031_2	*
CpqSsBoxFltTolPwrSupplyStatus:failed	_4		8031_2	*
CpqSsBoxFltTolPwrSupplyStatus:noFltTolPower	_5		8031_2	*

Remote Insight board information (CPQSM2.MIB)

Table 36 Remote Insight board information (CPQSM2.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqSm2ServerReset	9001			
CpqSm2ServerPowerOutage	9002			
CpqSm2UnauthorizedLoginAttempts	9003			
CpqSm2BatteryFailed	9004			
CpqSm2SelfTestError	9005			
CpqSm2InterfaceError	9006			
CpqSm2BatteryDisconnected	9007			
CpqSm2KeyboardCableDisconnected	9008			
CpqSm2MouseCableDisconnected	9009			
CpqSm2ExternalPowerCableDisconnected	9010			
CpqSm2LogsFull	9011			
CpqSm2SecurityOverrideEngaged	9012			
CpqSm2SecurityOverrideDisengaged	9013			

Threshold management (CPQTHRSH.MIB)

Table 37 Threshold management (CPQTHRSH.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqMeRisingAlarmExtended	10005			
CpqMeFallingAlarmExtended	10006			
CpqMeCriticalRisingAlarmExtended	10007			
CpqMeCriticalFallingAlarmExtended	10008			

Host system information (CPQHOST.MIB)

Table 38 Host system information (CPQHOST.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqHo2GenericTrap	11003			
CpqHo2AppErrorTrap	11004			
CpqHo2ProcessEventTrap	11011			
CpqHo2CriticalSoftwareUpdateTrap	11014			

Uninterruptible power supply (CPQUPS.MIB)

Table 39 Uninterruptible power supply (CPQUPS.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqUps2LineFailed	12006		12007	
CpqUps2LineOk	12007			
CpqUps2Shutdown	12008		12009	
CpqUps2Confirmation	12009			
CpqUps2BatteryLow	12010			
CpqUpsOverload	12011			
CpqUpsPendingBatteryFailure	12012			
CpqUpsGenericCritical	12013			
CpqUpsGenericInfo	12014			

Recovery server information (CPQRECOV.MIB)

Table 40 Recovery server information (CPQRECOV.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqRsPartnerFailed	13001			
CpqRsStandbyCableFailure	13002			
CpqRsStandbyFailure	13003			
CpqRsOnlineCableFailure	13004			
CpqRsFailoverFailed	13005			

Manageable IDE drives (CPQIDE.MIB)

Table 41 Manageable IDE drives (CPQIDE.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqIdeDriveDegraded	14001		14002	
CpqIdeDriveOk	14002			
CpqIdeDriveUltraAtaDegraded	14003		14002	
CpqIdeAtaDiskStatusChange	14004			
CpqIdeAtaDiskStatus:ok	_2			
CpqIdeAtaDiskStatus:smartError	_3		14004_2	
CpqIdeAtaDiskStatus:failed	_4		14004_2	
CpqIdeLogicalDriveStatusChange	14005			
CpqIdeLogicalDriveStatus:ok	_2			
CpqIdeLogicalDriveStatus:degraded	_3		14005_2	
CpqIdeLogicalDriveStatus:rebuilding	_4		14005_2	
CpqIdeLogicalDriveStatus:failed	_5		14005_2	

Cluster systems information (CPQCLUS.MIB)

Table 42 Cluster systems information (CPQCLUS.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqClusterNodeDegraded	15003			
CpqClusterNodeFailed	15004			
CpqClusterResourceDegraded	15005			
CpqClusterResourceFailed	15006			
CpqClusterNetworkDegraded	15007			
CpqClusterNetworkFailed	15008			

Fibre channel array information (CPQFCA.MIB)

Table 43 Fibre channel array information (CPQFCA.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqFcaLogDrvStatusChange	16001		16001	
CpqFcaLogDrvStatus:ok	_2			
CpqFcaLogDrvStatus:failed	_3		16001_2	
CpqFcaLogDrvStatus:unconfigured	_4		16001_2	
CpqFcaLogDrvStatus:recovering	_5		16001_2	
CpqFcaLogDrvStatus:readyForRebuild	_6		16001_2	
CpqFcaLogDrvStatus:rebuilding	_7		16001_2	
CpqFcaLogDrvStatus:wrongDrive	_8		16001_2	
CpqFcaLogDrvStatus:badConnect	_9		16001_2	
CpqFcaLogDrvStatus:overheating	_10		16001_2	
CpqFcaLogDrvStatus:shutdown	_11		16001_2	
CpqFcaLogDrvStatus:expanding	_12		16001_2	
CpqFcaLogDrvStatus:notAvailable	_13		16001_2	
CpqFcaLogDrvStatus:queuedForExpansion	_14		16001_2	
CpqFcaSpareStatusChange	16002		16002	
CpqFcaSpareStatusChange:inactive	_2		16002_2	
CpqFcaSpareStatusChange:failed	_3		16002_5	
CpqFcaSpareStatusChange:building	_4			
CpqFcaSpareStatusChange:active	_5			
CpqFcTapeCntlrStatusChange	16008		16008	
CpqFcTapeCntlrStatus:ok	_2			
CpqFcTapeCntlrStatus:offline	_3		16008_2	
CpqFcCntlrActive	16014			
CpqFca2PhyDrvStatusChange	16016			
CpqFcaPhyDrvStatus:unconfigured	_2			
CpqFcaPhyDrvStatus:ok	_3			
CpqFcaPhyDrvStatus:threshExceeded	_4	16016_3		

Table 43 Fibre channel array information (CPQFCA.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqFcaPhyDrvStatus:predictiveFailure	_5	16016_3		
CpqFcaPhyDrvStatus:failed	_6	16016_3		
CpqFca2AccelStatusChange	16017			
CpqFcaAccelStatus:invalid	_2			
CpqFcaAccelStatus:enable	_3			
CpqFcaAccelStatus:tmpDisabled	_4			
CpqFcaAccelStatus:permDisabled	_5			
CpqFca2AccelBadDataTrap	16018			
CpqFca2AccelBatteryFailed	16019			
CpqFca2CntlrStatusChange	16020			
CpqFcaCntlrStatus:ok	_2			
CpqFcaCntlrStatus:failed	_3		16020_2	
CpqFcaCntlrStatus:offline	_4		16020_2	
CpqFca2HostCntlrStatusChange	16021			
CpqFcaHostCntlrStatus:ok	_2			
CpqFcaHostCntlrStatus:failed	_3		16021_2	
CpqFcaHostCntlrStatus:shutdown	_4		16021_2	
CpqFcaHostCntlrStatus:loopDegraded	_5		16021_2	
CpqFcaHostCntlrStatus:loopFailed	_6		16021_2	
CpqExtArrayLogDrvStatusChange	16022			
CpqFcaLogDrvStatus:ok	_2			
CpqFcaLogDrvStatus:failed	_3		16022_2	
CpqFcaLogDrvStatus:unconfigured	_4		16022_2	
CpqFcaLogDrvStatus:recovering	_5		16022_2	
CpqFcaLogDrvStatus:readyForRebuild	_6		16022_2	
CpqFcaLogDrvStatus:rebuilding	_7		16022_2	
CpqFcaLogDrvStatus:wrongDrive	_8		16022_2	
CpqFcaLogDrvStatus:badConnect	_9		16022_2	
CpqFcaLogDrvStatus:overheating	_10		16022_2	
CpqFcaLogDrvStatus:shutdown	_11		16022_2	
CpqFcaLogDrvStatus:expanding	_12		16022_2	
CpqFcaLogDrvStatus:notAvailable	_13		16022_2	
CpqFcaLogDrvStatus:queuedForExpansion	_14		16022_2	
CpqFcaLogDrvStatus:hardError	_15		16022_2	
CpqExtTapeDriveStatusChange	16023			
CpqFcTapeDriveStatus:ok	_2			
CpqFcTapeDriveStatus:degraded	_3		16023_2	
CpqFcTapeDriveStatus:failed	_4		16023_2	
CpqFcTapeDriveStatus:offline	_5		16023_2	
CpqFcTapeDriveStatus:missingWasOk	_6		16023_2	

Table 43 Fibre channel array information (CPQFCA.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqFcTapeDriveStatus:missingWasOffline	_7		16023_2	
CpqExtTapeDriveCleaningRequired	16024			
CpqExtTapeDriveCleanTapeReplace	16025			
CpqExtTapeLibraryStatusChange	16026			
CpqFcTapeLibraryStatus:ok	_2			
CpqFcTapeLibraryStatus:degraded	_3		16026_2	
CpqFcTapeLibraryStatus:failed	_4		16026_2	
CpqFcTapeLibraryStatus:offline	_5		16026_2	
CpqExtTapeLibraryDoorStatusChange	16027			
CpqFca3HostCntlrStatusChange	16028			
CpqFcaHostCntlrStatus:ok	_2			
CpqFcaHostCntlrStatus:failed	_3		16028_2	
CpqFcaHostCntlrStatus:shutdown	_4		16028_2	
CpqFcaHostCntlrStatus:loopDegraded	_5		16028_2	
CpqFcaHostCntlrStatus:loopFailed	_6		16028_2	

Network Interface Card information (CPQNIC.MIB)

Table 44 Network Interface Card information (CPQNIC.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqNic2ConnectivityRestored	18005			
CpqNic2ConnectivityLost	18006		18005	
CpqNic2RedundancyIncreased	18007		18008	
CpqNic2RedundancyReduced	18008			
CpqNicVirusLikeActivityDetected	18009			
CpqNicVirusLikeActivityStopped	18010		18009	

Operating system management (CPQWINOS.MIB)

Table 45 Operating system management (CPQWINOS.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqOsCpuTimeDegraded	19001			
CpqOsCpuTimeFailed	19002			
CpqOsCacheCopyReadHitsDegraded	19003			
CpqOsCacheCopyReadHitsFailed	19004			
CpqOsPageFileUsageDegraded	19005			
CpqOsPageFileUsageFailed	19006			
CpqOsLogicalDiskBusyTimeDegraded	19007			
CpqOsLogicalDiskBusyTimeFailed	19008			

Rack and power management (CPQRPM.MIB)

Table 46 Rack and power management (CPQRPM.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
cpqRPMTrapDeviceConnected	RPM_1			
cpqRPMTrapConnectionLost	RPM_2		RPM_1	
cpqRPMTrapLookupFailed	RPM_3			
cpqRPMTrapConnectionFailed	RPM_4			
cpqRPMTrapDeviceSettingsChanged	RPM_5			
cpqRPMTrapUPSInputVoltageBelowMin	20001		20003	
cpqRPMTrapUPSInputVoltageAboveMax	20002		20003	
cpqRPMTrapUPSInputVoltageNormal	20003			
cpqRPMTrapUPSOutputVoltageBelowMin	20011		21020	
cpqRPMTrapUPSOutputVoltageAboveMax	20012		21020	
cpqRPMTrapUPSOutputOverload	20014		20015	
cpqRPMTrapUPSOutputOverloadCleared	20015			
cpqRPMTrapUPSBatteryDepleted	20022		20022	
cpqRPMTrapUPSBatteryLevelNormal	20023			
cpqRPMTrapUPSOnBypass	20032			
cpqRPMTrapUPSTemperatureLow	20101		20103	
cpqRPMTrapUPSTemperatureHigh	20102		20103	
cpqRPMTrapUPSTemperatureNormal	20103			
cpqRPMTrapUPSInternalFailure	20111		20111	
cpqRPMTrapUPSInternalFailureCleared	20112			
cpqRPMTrapUPSBatteryFailure	20121		20122	
cpqRPMTrapUPSBatteryFailureCleared	20122			
cpqRPMTrapUPSDiagnosticTestFailed	20131		20132	
cpqRPMTrapUPSDiagnosticTestSucceeded	20132			
cpqRPMTrapUPSInputUnderOverFreq	20141		20142	
cpqRPMTrapUPSInputUnderOverFreqCleared	20142			
cpqRPMTrapUPSStartedOnBattery	20151		20152	
cpqRPMTrapUPSStartedOnBatteryCleared	20152			
cpqRPMTrapUPSByypassNotAvailable	20161		20162	
cpqRPMTrapUPSByypassNotAvailableCleared	20162			
cpqRPMTrapUPSUtilityFail	20171		20172	
cpqRPMTrapUPSUtilityFailCleared	20172			
cpqRPMTrapUPSUtilityNotPresent	20181		20182	
cpqRPMTrapUPSUtilityNotPresentCleared	20182			
cpqRPMTrapUPSByypassManualTurnedOn	20191		20192	
cpqRPMTrapUPSByypassManualTurnedOff	20192			
cpqRPMTrapUPSSiteWiringFault	20201		20202	
cpqRPMTrapUPSSiteWiringNormal	20202			
cpqRPMTrapUPSTemperatureOutOfRange	21007		21008	

Table 46 Rack and power management (CPQRPM.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
cpqRPMtrapUPSTemperatureOutOfRangeCleared	21008			
cpqRPMTrapUPSShutdownPending	21011		21012	
cpqRPMTrapUPSShutdownPendingCleared	21012			
cpqRPMTrapUPSShutdownImminent	21013		21014	
cpqRPMTrapUPSShutdownImminentCleared	21014			
cpqRPMtrapUPSOutputoutofRange	21019		21020	
cpqRPMTrapUPSOutputVoltageNormal	21020			
cpqRPMtrapUPSInputOutOfRange	21021		21022	
cpqRPMtrapUPSInputOutOfRangeCleared	21022			
cpqRPMTrapUPSLossOfRedundancy	21023		21024	
cpqRPMTrapUPSLossOfRedundancyCleared	21024			
cpqRPMTrapUPSOnBuck	21029			
cpqRPMTrapUPSOnBoost	21031			
cpqRPMTrapUPSManualLoadDumped	21033		21034	
cpqRPMTrapUPSManualLoadDumpedCleared	21034			
cpqRPMTrapUPSFanFailure	21035		21036	
cpqRPMTrapUPSFanFailureCleared	21036			
cpqRPMTrapUPSEPOInitiated	21037			
cpqRPMTrapUPSCheckBreaker	21041		21042	
cpqRPMTrapUPSCheckBreakerCleared	21042			
cpqRPMTrapUPSCabinetDoorOpen	21045		21046	
cpqRPMTrapUPSCabinetDoorOpenCleared	21046			
cpqRPMtrapUPSBypassOnAuto	21047		21048	
cpqRPMtrapUPSBypassOnAutoCleared	21048			
cpqRPMTrapUPS BatteriesDisconnected	21053		21054	
cpqRPMTrapUPS BatteriesDisconnectedCleared	21054			
cpqRPMTrapUPS BatteryLow	21055		21056	
cpqRPMTrapUPS BatteryLowCleared	21056			
cpqRPMTrapUPS BatteryDischarged	21057		21058	
cpqRPMTrapUPS BatteryDischargedCleared	21058			
cpqRPMtrapUPSBypassONManual	21059		21060	
cpqRPMtrapUPSBypassOffManual	21060			
cpqRPMTrapUPSOnBattery	21063		21064	
cpqRPMTrapUPSOnUtilityPower	21064			
cpqRPMTrapUPSDCStartOccurred	29998		29999	
cpqRPMTrapUPSDCStartOccurredCleared	29999			
cpqPMTrapCritical	PM_1			
cpqPMTrapWarning	PM_2			
cpqPMTrapInformation	PM_3			
cpqPMTrapCleared	PM_4			

Rack enclosure information (CPQRACK.MIB)

Table 47 Rack enclosure information (CPQRACK.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqRackNameChanged	22001			
CpqRackEnclosureNameChanged	22002			
CpqRackEnclosureRemoved	22003		22004	
CpqRackEnclosureInserted	22004			
CpqRackEnclosureTempFailed	22005		22007	
CpqRackEnclosureTempDegraded	22006		22007	
CpqRackEnclosureTempOk	22007			
CpqRackEnclosureFanFailed	22008		22010	
CpqRackEnclosureFanDegraded	22009		22010	
CpqRackEnclosureFanOk	22010			
CpqRackEnclosureFanRemoved	22011		22012	
CpqRackEnclosureFanInserted	22012			
CpqRackPowerSupplyFailed	22013		22015	
CpqRackPowerSupplyDegraded	22014		22015	
CpqRackPowerSupplyOk	22015			
CpqRackPowerSupplyRemoved	22016		22017	
CpqRackPowerSupplyInserted	22017			
CpqRackPowerSubsystemNotRedundant	22018			
CpqRackPowerSubsystemLineVoltageProblem	22019			
CpqRackPowerSupplyInputLineStatus:noError	_1			
CpqRackPowerSupplyInputLineStatus: lineOverVoltage	_2		22019_1	
CpqRackPowerSupplyInputLineStatus: lineUnderVoltage	_3		22019_1	
CpqRackPowerSupplyInputLineStatus:lineHit	_4		22019_1	
CpqRackPowerSupplyInputLineStatus:brownout	_5		22019_1	
CpqRackPowerSupplyInputLineStatus: linePowerLoss	_6		22019_1	
CpqRackPowerSubsystemOverloadCondition	22020			
CpqRackPowerShedAutoShutdown	22021			
CpqRackServerPowerOnFailedNotRedundant	22022			
CpqRackServerPowerOnFailedNotEnoughPower	22023			
CpqRackServerPowerOnFailedEnclosure NotFound	22024			
CpqRackServerPowerOnFailedPower ChassisNotFound	22025			
CpqRackServerPowerOnManualOverride	22026			
CpqRackFuseOpen	22027			
CpqRackServerBladeRemoved	22028		22029	
CpqRackServerBladeInserted	22029			

Table 47 Rack enclosure information (CPQRACK.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqRackPowerChassisNotLoadBalanced	22030			
CpqRackPowerChassisDcPowerProblem	22031			
CpqRackPowerChassisAcFacilityPowerExceeded	22032			
CpqRackPowerUnknownPowerConsumption	22033			
CpqRackPowerChassisLoadBalancingWire Missing	22034			
CpqRackPowerChassisTooManyPowerChassis	22035			
CpqRackPowerChassisConfigError	22036			

Console management controller (CPQCMC.MIB)

Table 48 Console Management Controller (CPQCMC.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqCmcalarmTemp1	153001			
CpqCmcStatusTemp1:normal	_2			
CpqCmcStatusTemp1:warning	_3		153001_2	
CpqCmcStatusTemp1:overMax	_4		153001_2	
CpqCmcStatusTemp1:underMin	_5		153001_2	
CpqCmcStatusTemp1:noSensor	_6		153001_2	
CpqCmcStatusTemp1:error	_7		153001_2	
CpqCmcalarmTemp2	153002			
CpqCmcStatusTemp2:normal	_2			
CpqCmcStatusTemp2:warning	_3		153002_2	
CpqCmcStatusTemp2:overMax	_4		153002_2	
CpqCmcStatusTemp2:underMin	_5		153002_2	
CpqCmcStatusTemp2:noSensor	_6		153002_2	
CpqCmcStatusTemp2:error	_7		153002_2	
CpqCmcalarmFan1	153003			
CpqCmcalarmFan2	153004			
CpqCmcalarmVoltage	153005			
CpqCmcalarmHumidity	153006			
CpqCmcStatusHumidity:normal	_2			
CpqCmcStatusHumidity:overMax	_3		153006_2	
CpqCmcStatusHumidity:underMin	_4		153006_2	
CpqCmcStatusHumidity:noSensor	_5		153006_2	
CpqCmcStatusHumidity:error	_6		153006_2	
CpqCmcalarmInput1	153007			
CpqCmcalarmInput2	153008			
CpqCmcalarmInput3	153009			
CpqCmcalarmInput4	153010			

Table 48 Console Management Controller (CPQCMC.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqCmcAlarmLock1	153011			
CpqCmcStatusLock1Lock:locked	_2			
CpqCmcStatusLock1Lock:unlockedAuto	_3		153011_2	
CpqCmcStatusLock1Lock:unlockedTime	_4		153011_2	
CpqCmcStatusLock1Lock:unlockedSmoke	_5		153011_2	
CpqCmcStatusLock1Lock:unlockedKey	_6		153011_2	
CpqCmcStatusLock1Lock:unlockedPwrFail	_7		153011_2	
CpqCmcStatusLock1Lock:unlockedBattLow	_8		153011_2	
CpqCmcStatusLock1Lock:unlockedNetFail	_9		153011_2	
CpqCmcStatusLock1Lock:unlockedConnFail	_10		153011_2	
CpqCmcStatusLock1Lock:readyToLock	_11		153011_2	
CpqCmcStatusLock1Lock:alarm	_12		153011_2	
CpqCmcStatusLock1Lock:configError	_13		153011_2	
CpqCmcStatusLock1Lock:notAvail	_14		153011_2	
CpqCmcAlarmLock2	153012			
CpqCmcStatusLock2Lock:locked	_2			
CpqCmcStatusLock2Lock:unlockedAuto	_3		153012_2	
CpqCmcStatusLock2Lock:unlockedTime	_4		153012_2	
CpqCmcStatusLock2Lock:unlockedSmoke	_5		153012_2	
CpqCmcStatusLock2Lock:unlockedKey	_6		153012_2	
CpqCmcStatusLock2Lock:unlockedPwrFail	_7		153012_2	
CpqCmcStatusLock2Lock:unlockedBattLow	_8		153012_2	
CpqCmcStatusLock2Lock:unlockedNetFail	_9		153012_2	
CpqCmcStatusLock2Lock:unlockedConnFail	_10		153012_2	
CpqCmcStatusLock2Lock:readyToLock	_11		153012_2	
CpqCmcStatusLock2Lock:alarm	_12		153012_2	
CpqCmcStatusLock2Lock:configError	_13		153012_2	
CpqCmcStatusLock2Lock:notAvail	_14		153012_2	
CpqCmcAlarmSmoke	153013			
CpqCmcStatusSmoke:cleared	_2			
CpqCmcStatusSmoke:present	_3		153013_2	
CpqCmcStatusSmoke:noSensor	_4		153013_2	
CpqCmcAlarmShock	153014			
CpqCmcStatusShock:cleared	_2			
CpqCmcStatusShock:present	_3		153014_2	
CpqCmcStatusShock:noSensor	_4		153014_2	
CpqCmcAlarmAux1	153015			
CpqCmcStatusAux1:ok	_2			
CpqCmcStatusAux1:alarm	_3		153015_2	
CpqCmcStatusAux1:noSensor	_4		153015_2	

Table 48 Console Management Controller (CPQCMC.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqCmcAlarmAux2	153016			
CpqCmcStatusAux2:ok	_2			
CpqCmcStatusAux2:alarm	_3		153016_2	
CpqCmcStatusAux2:noSensor	_4		153016_2	
CpqCmcAlarm1	153017			
CpqCmcStatusAlarm1:ok	_2			
CpqCmcStatusAlarm1:alarm	_3		153017_2	
CpqCmcAlarm2	153018			
CpqCmcStatusAlarm2:ok	_2			
CpqCmcStatusAlarm2:alarm	_3		153018_2	
CpqCmcAlarmLock1Dev	153019			
CpqCmcStatusLock1Dev:ok	_2			
CpqCmcStatusLock1Dev:powerFail	_3		153019_2	
CpqCmcStatusLock1Dev:lowBattery	_4		153019_2	
CpqCmcStatusLock1Dev:replaceBatt	_5		153019_2	
CpqCmcStatusLock1Dev:missingBatt	_6		153019_2	
CpqCmcStatusLock1Dev:noConnect	_7		153019_2	
CpqCmcStatusLock1Dev:notAvail	_8		153019_2	
CpqCmcAlarmLock2Dev	153020			
CpqCmcStatusLock2Dev:ok	_2			
CpqCmcStatusLock2Dev:powerFail	_3		153020_2	
CpqCmcStatusLock2Dev:lowBattery	_4		153020_2	
CpqCmcStatusLock2Dev:replaceBatt	_5		153020_2	
CpqCmcStatusLock2Dev:missingBatt	_6		153020_2	
CpqCmcStatusLock2Dev:noConnect	_7		153020_2	
CpqCmcStatusLock2Dev:notAvail	_8		153020_2	
CpqCmcSetupChanged	153100			

CR3500 RAID controller (CPQCR.MIB)

Table 49 CR3500 RAID controller (CPQCR.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqCrController1FailureTrap	1		2	
CpqCrController1InformationTrap	2			
CpqCrController2FailureTrap	3		4	
CpqCrController2InformationTrap	4			
CpqCrLogDriveInformationTrap	5			
CpqCrLogDriveFailureTrap	6		5	
CpqCrLogDriveReconstructTrap	7		5	
CpqCrLogDriveReducedTrap	8		5	

Table 49 CR3500 RAID controller (CPQCR.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqCrLogDriveInitializingTrap	9		5	
CpqCrDiskInformationTrap	10			
CpqCrDiskFailureTrap	11		10	
CpqCrDiskReconstructTrap	12		14	
CpqCrDiskAvailableTrap	13		14	
CpqCrDiskSpareTrap	14			
CpqCrEMUNormalTrap	15			
CpqCrEMUFanFailureTrap	16		17	
CpqCrEMUFanInformationTrap	17			
CpqCrEMUPowerSupplyFailureTrap	18		19	
CpqCrEMUPowerSupplyInformationTrap	19			
CpqCrExpCabFanFailureTrap	20		21	
CpqCrExpCabFanInformationTrap	21			
CpqCrExpCabPowerSupplyFailureTrap	22		29	
CpqCrEMUTemperatureWarningTrap	23		25	
CpqCrEMUTemperatureCriticalTrap	24		25	
CpqCrEMUTemperatureInformationTrap	25			
CpqCrExpCabTemperatureWarningTrap	26		28	
CpqCrExpCabTemperatureCriticalTrap	27		28	
CpqCrExpCabTemperatureInformationTrap	28			
CpqCrExpCabPowerSupplyInformationTrap	29			
CpqCrPhyDiskInformationTrap	30			
CpqCrPhyDiskFailureTrap	31		30	
CpqCrPhyDiskReconstructTrap	32		33	
CpqCrPhyDiskAvailableTrap	33			
CpqCrPhyDiskSpareTrap	34			

HP Storage Area Networks Management Appliance (CPQSANAPP.MIB)

Table 50 HP Storage Management Appliance (CPQSANAPP.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
swFailureTrap (1)	SanW_1		SanW_4	
swWarningTrap (2)	SanW_2		SanW_4	
swInformationTrap (4)	SanW_4			

StorageWorks Command Console (CPQSWCC.MIB)

Table 51 StorageWorks Command Console (CPQSWCC.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
CpqSwccKzpccPhyDeviceEventTrap	Kzpcc_1			
	_1			
	_2			
	_3			
CpqSwccKzpccVirtualDeviceEventTrap	Kzpcc_2			
	_2			
	_3			
CpqSwccKzpccSubsystemEventTrap	Kzpcc_3			
	_1			
	_2			
	_3			
CpqSwccFibreDeviceStatusChange	Fibre_1			
	_2			
	_3		_2	
	_4		_2	
CpqSwccTapeControllerStatusChange	Tape_2			
	_1			
	_2			
	_3		_2	
	_4		_2	
CpqSwccEmuDevDeviceStatusChange	Emu_1			
	_2			
	_3		_2	
	_4		_2	

Switch traps (CIMTRAPS.MIB)

Table 52 CIM traps (CIMTRAPS.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
switchFirmwareTransferred	161001			
switchConfigFileTransferred	161002			
switchTFTPTransferSucceeded	161003			
switchTFTPTransferFailed	161004		161003	
switchFileInvalid	161005			
switchFanFailed	161006		161007	
switchFanOk	161007			
switchTempSensorDegraded	161008		161010	
switchTempSensorFailed	161009		161010	

Table 52 CIM traps (CIMTRAPS.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
switchTempSensorOk	161010			
switchPostSuccess	161011			
switchLoginFailure	161012			
switchLocationChange	161013			
switchCubeTypeChange	161014			
switchSNTPServiceUnavailable	161015			

StorageWorks Enterprise Array Manager (HS_AGENT.MIB)

Table 53 StorageWorks Enterprise Array Manager (HS_AGENT.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
diskFailureTrap	Steam_1		Steam_2	
diskInformationTrap	Steam_2			
powerSupplyFailureTrap	Steam_3		Steam_4	
powerSupplyInformationTrap	Steam_4			
fanFailureTrap	Steam_5		Steam_6	
fanInformationTrap	Steam_6			
cacheBatteryFailureTrap	Steam_7		Steam_9	
cacheBatteryLowTrap	Steam_8		Steam_9	
cacheBatteryInformationTrap	Steam_9			
temperatureOverThresholdTrap	Steam_10			
temperatureInformationTrap	Steam_11			
communicationFailureTrap	Steam_12		Steam_13	
communicationInformationTrap	Steam_13			
controllerFailureTrap	Steam_14		Steam_15	
controllerInformationTrap	Steam_15			
lunFailureTrap	Steam_16		Steam_19	
lunReconstructTrap	Steam_17		Steam_19	
lunReducedTrap	Steam_18		Steam_19	
lunInformationTrap	Steam_19			
externalInputFailureTrap	Steam_20		Steam_21	
externalInputInformationTrap	Steam_21			
cacheBatteryStateUnknownTrap	Steam_22		Steam_9	

Blade Type-2 traps (BT2TRAPS.MIB)

Table 54 Blade Type-2 traps (BT2TRAPS.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
bt2SwPrimaryPowerSupplyFailure	BT2_1			

Table 54 Blade Type-2 traps (BT2TRAPS.MIB)

Trap name	OID (IM_)	Caused by	Cleared by	New in Revision 4.0
bt2SwDefGwUp	BT2_2			
bt2SwDefGwDown	BT2_3		BT2_2	
bt2SwDefGwInService	BT2_4			
bt2SwDefGwNotInService	BT2_5		BT2_4	
bt2SwVrrpNewMaster	BT2_16			
bt2SwVrrpNewBackup	BT2_17			
bt2SwVrrpAuthFailure	BT2_18			
bt2SwLoginFailure	BT2_19			
bt2SwTempExceedThreshold	BT2_22		BT2_31	
bt2SwRackLocationChange	BT2_26			
bt2SwApplyComplete	BT2_27			
bt2SwSaveComplete	BT2_28			
bt2SwFwDownloadSucess	BT2_29		BT2_30	
bt2SwFwDownloadFailure	BT2_30			
bt2SwTempReturnThreshold	BT2_31			
bt2SwFanFailure	BT2_32		BT2_33	
bt2SwFanFailureFixed	BT2_33			
bt2SwUfdfoLtMFailure	BT2_34		BT2_35	*
bt2SwUfdfoLtMUP	BT2_35			*

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