HP Insight Management Pack for Microsoft® Operations Manager User Guide

September 2004 (Third Edition)
Part Number 257949-003
Product Version 2.20

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Contents

About This Guide

This guide is designed for system administrators who use the HP Insight Management Pack (IMP) for Microsoft® Operations Manager (MOM), Insight Management Agents, and other HP applications and tools to manage the operations of HP ProLiant and Integrity servers within a MOM environment.

NOTE: The HP IMP for MOM revision 2.20 supercedes the previous revision 1.12 and the Compaq Management Pack for MOM. All major user interface elements have been completely rebranded to reflect the latest HP format, but several subcomponents, such as event processing rules and alarm data presented in MOM by the Insight Management Agents, might still display some Compaq based content.

Audience Assumptions

Readers of this guide should be familiar with the configuration and operation of Microsoft Windows®, Microsoft Operations Manager 2000, and the HP Insight Management Agents. Because of the potential risk of data loss, only individuals who are experienced with using this software should implement the procedures described in this guide.

Where to Go for Additional Help

Additional information sources are available at:

- Appendix B of this guide
- Web pages related to the Insight Management Pack for MOM at http://www.hp.com/servers/integration
- Microsoft Operations Manager 2000 user documentation at http://www.microsoft.com/mom/techinfo/productdoc/default.asp

Telephone Numbers

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-345-1518.
- In Canada, call 1-800-263-5868.

For HP technical support:

- In the United States and Canada, call 1-800-HP-INVENT (1-800-474-6836).
- Outside the United States and Canada, refer to http://www.hp.com.

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Product Overview

Introduction

The HP Insight Management Pack (IMP) for Microsoft Operations Manager (MOM) integrates event monitoring and alert processing for HP ProLiant servers into an existing Windows environment managed by MOM.

The IMP integration builds on the core elements of HP Insight Management Agents to complement and extend MOM and to maximize existing IT investments. HP customers who implement MOM for enterprise-class event and performance monitoring can use the IMP to help streamline IT administration and increase systems availability by viewing events for Microsoft Windows operating systems, Windows applications, and HP hardware through a common MOM interface.

The HP IMP includes an extensive collection of predefined rules and scripts that automatically identify HP servers running Insight Management Agents, and provide alert notifications to potential problems through the MOM console interface.

Comprehensive knowledge base data provided with the IMP aids in problem analysis and time-to-resolution. Over 650 event processing rules include alert forwarding definitions that enable administrators to take prompt corrective or preventive action, reducing unnecessary down time.

The IMP for MOM also includes pre-failure and threshold alerts for critical hardware subsystems and performance monitors to measure Insight Management Agent resource usage and availability. HP hardware alerts displayed in MOM include embedded browser links to the HP System Management Homepage on the device that generated the original Windows event. The System Management Homepage displays a consolidated view of single system status and configuration based on data collected by the Insight Management Agents, and provides access to other HP Web-based management tools, such as the Version Control Agents, Insight Management Diagnostics, and the Array Configuration Utility. Additional links to the Web interface for HP Systems Insight Manager and HP Remote Insight technologies are also included in related MOM alerts.

Benefits at a Glance

The HP IMP for MOM version 2.20:

- Complements and extends MOM with hardware resource management for HP servers
- Simplifies management of the Windows enterprise with a single interface solution
- Brings the benefits of HP hardware resource lifecycle management to MOM
- Streamlines IT administration and increases systems availability

Features

IMP revision 2.20 features include:

- Integration with MOM 2000 1.0 and MOM 2000 SP 1
- Fully scripted installation creates HP specific groups and copies HP IMP rules, scripts, views, and knowledge base data to the MOM database
- Automatic identification and grouping of HP servers running Insight Management Agents, HP Systems Insight Manager hosts, and ProLiant servers with access to HP Remote Insight technology
- Monitors Windows Event Log entries generated by HP Insight Management Agents, HP Insight Manager 7, HP Systems Insight Manager and HP Remote Insight functionality
- HP Insight alerts clearly displayed in the MOM Administrator Console
- Over 650 predefined event processing rules for HP ProLiant servers running Insight Management Agents 4.60 to 7.1 on all Windows platforms supported by MOM
- Event monitors and processing rules for the following categories:
  - — Server health and hardware subsystem status
  - — Environmental conditions and security access violations
  - — HP service events and pre-failure alerts for memory, CPU, and hard drive subsystems
  - — Application events and availability monitors for systems hosting HP Systems Insight Manager, HP Insight Manager 7, and HP Remote Insight functionality
- Predefined alert processing rules that automatically forward storage and network interface alerts to the Hardware Support Notification Group within MOM
- Performance rules to monitor Insight Management Agent availability and resource usage
- Predefined MOM public views that display discovered HP servers and open alerts listed by Insight Management Agent version
- HP hardware alerts that include an embedded browser link to the HP System Management Homepage of the device that generated the original event
- Embedded browser access to HP Systems Insight Manager and the HP Remote Insight Web interface from associated MOM alerts

System Requirements

The following sections describe the system requirements necessary to install and operate the HP IMP for MOM.

This manual assumes a working knowledge of Microsoft Operations Manager 2000.

Insight Management Agent Requirements

HP Insight Management Agents for Servers 4.60 or later must be installed on each HP server to be managed. Version 2.20 of the IMP for MOM includes support for hardware and service events generated by Insight Management Agents 4.60 to 7.1.

Management Protocol Requirements

The required management protocols include:

- Simple Network Management Protocol (SNMP) for servers—Required locally on each managed server for correct operations of the HP Insight Management Agents
- Hyper Text Transfer Protocol (HTTP)—Required to enable browser access to the HP Insight Management Agents from within MOM

Disk Space Requirements

The rules, views, and scripts provided with the IMP for MOM require the following disk space requirements:

- Disk space for uncompressed download—5 MB
- MOM database space consumed—15 MB (approximate value)

MOM Platform Support

MOM 2000

Revision 2.20 of the HP IMP for MOM is fully qualified to install and operate with all versions of MOM 2000.

MOM 2005

Revision 2.20 of the HP IMP for MOM is not qualified or formally supported for use with the forthcoming MOM 2005 release.

A new HP Management Pack specifically designed to complement and extend the new functionality provided with MOM 2005 will be made available at the time of the formal MOM 2005 release.

CAUTION: HP recommends customers do not install the HP IMP for MOM 2000 into production environments running MOM 2005. Installing revision 2.20 of the HP IMP will implement database entries and group definitions that do not apply in MOM 2005 and cannot be removed once installed. Installing revision 2.20 of the HP IMP might also prevent the forthcoming HP Management Pack for MOM 2005 from installing correctly, and might generate double entries for each MOM alert.

System Support

The following sections describe the system hardware and platforms supported by the IMP for MOM.

HP Hardware Support

All HP server hardware defined in Insight Management Agents for Servers 4.60 or later is supported. Version 2.20 of the IMP for MOM includes event processing rules for hardware and service events generated by Insight Management Agents 4.60 through 7.1 and associated management services.

Managed Systems

The IMP for MOM supports events that are written to the Windows Event Log by Insight Management Agents for servers and associated Windows services, which includes the following HP server platforms that support Insight Management Agents for Servers 4.60 and later:

- HP ProLiant servers
- Compaq ProLiant and ProSignia servers

Operating Systems

The IMP for MOM supports identification and event monitoring of HP managed systems running the following operating systems:

- Windows Server 2003
- Windows 2000 with Service Pack 2 or later
- Windows 2000 Server
- Windows 2000 Advanced Server
- Windows 2000 Datacenter Server
- Windows 2000 Professional
- Microsoft Windows NT® 4.0 with Service Pack 4 or later
- Windows NT 4.0 Server
- Windows NT 4.0 WorkStation

Product Architecture

The following section provides an architectural and functional overview of MOM and the HP IMP for MOM.

The IMP integration is designed to perform the following major functions:

- Automatically identify and group HP servers within MOM
- Monitor and display HP hardware and services alerts within MOM
- Enable browser-based linkage to the HP System Management Homepage on individual servers from HP Insight alerts presented within MOM

The MOM architecture consists of the following main components, as shown in Figure 1-1. For a detailed explanation of each element and MOM operations, refer to the Microsoft Operations Manager user reference documentation.

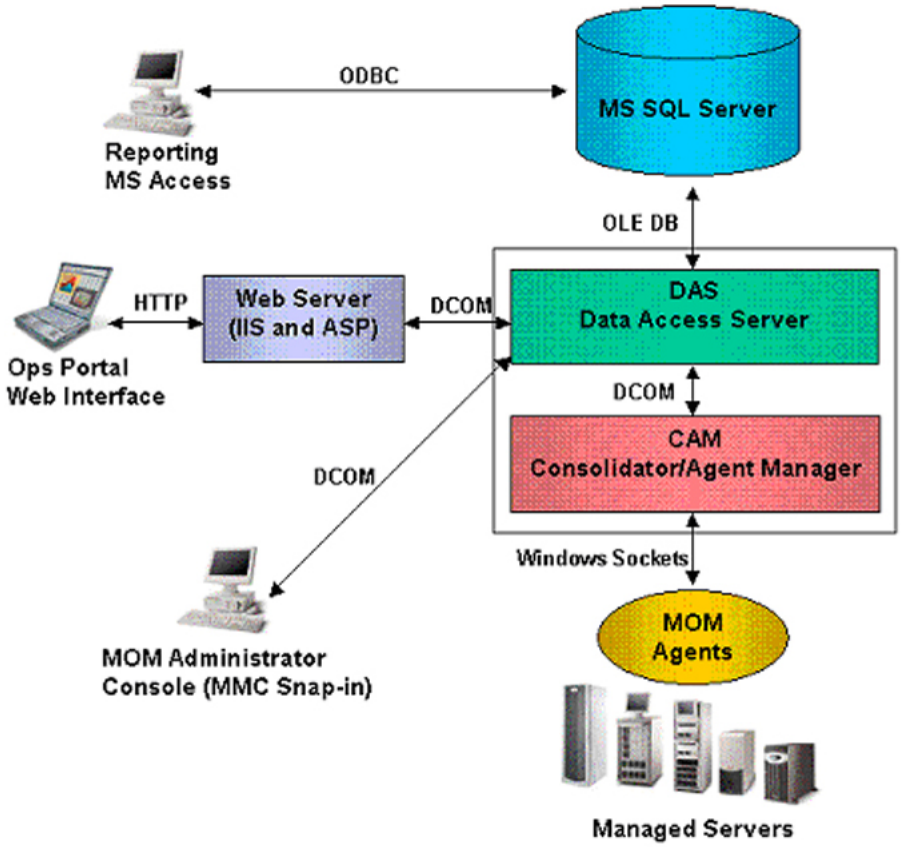

Figure 1-1: MOM architecture overview

MOM Database (MS SQL Server)

The MOM database provides back-end storage for all systems information data, including:

- Events and alerts
- Policies
- Performance and capacity data
- Views
- Reports

Data Access Server

The Data Access Server (DAS):

- Brokers data between the Consolidator and SQL database components of MOM
- Acts as a proxy for console access to the database (Windows security-by-transaction)

Consolidator/Agent Manager

The Consolidator/Agent Manager (CAM):

- Funnels data to and from the MOM Agents and DAS
- Implements agent installation and configuration policy
- Correlates centrally received events and provides auto-responses
- Is a major part of the MOM OnePoint service, which must be active for the entire MOM environment to communicate

MOM Agents

MOM Agents:

- Form part of the MOM OnePoint service that runs on every MOM-managed node
- Are automatically installed on all nodes managed by the MOM Agent Manager
- Execute local policies, rules, event correlation, and responses
- Collect the following data:
  - Windows Event Log entries
  - Events from third-party application event logs
  - Performance data, such as thresholds and capacity planning information
  - WMI information, including changes to system service lists and SNMP traps

Console Interface

The MOM interfaces include:

- MOM Administrator Console (Windows MMC snap-in)
  - — Acts as the primary Windows-based console for central monitoring and administration
  - — Communicates through the DAS to obtain views and data from the MOM database
  - — Requires administrator rights to access this console
- Ops Portal Web Interface (Internet Explorer)
  - — Is used only for viewing data
  - — Provides Web frames that can be customized (Digital Dashboard)

The HP Insight Management Pack for MOM

This section provides an overview of the HP IMP for MOM. Refer to Chapters 2 and 3 for detailed installation and operational procedures.

The IMP is delivered as a single .AKM file, in accordance with the MOM specification for management packs.

The IMP includes rules, views, scripts, and knowledge-base data specific to HP servers. These elements enable events written to the Windows Event Log by HP Insight Management Agents for servers to be clearly displayed within a MOM management console.

The objective of the IMP is to enable system administrators to view events for HP server hardware and management services in the same MOM console used for monitoring Windows operating system and application resources.

HP Management Operations

Architecturally, the IMP is installed into the MOM application through the CAM using the MOM Administrator Console, and all HP rules, views, monitors, scripts, and knowledge base data are copied to the database associated with MOM. The installation process also creates HP computer group classifications in the MOM database for each supported version of the Insight Management Agents.

Predefined monitors and scripts provided with the IMP are used to automatically identify individual HP managed nodes based upon the presence of locally installed Insight Management Agents and the MOM Agent. As each HP managed node is discovered, a corresponding entry is written to the HP computer group associated with the version of installed Insight Management Agents.

After a system is identified as an HP managed node, the MOM Agent Manager automatically copies selected HP rules and scripts provided with the IMP to the new managed node. Each managed node uses these rules and scripts to perform local event management, correlation, and filtering before escalating to the MOM console.

All identified HP servers are automatically collated into individual computer groups listed by the version of HP Insight Management Agents installed, as shown in Figure 1-2.

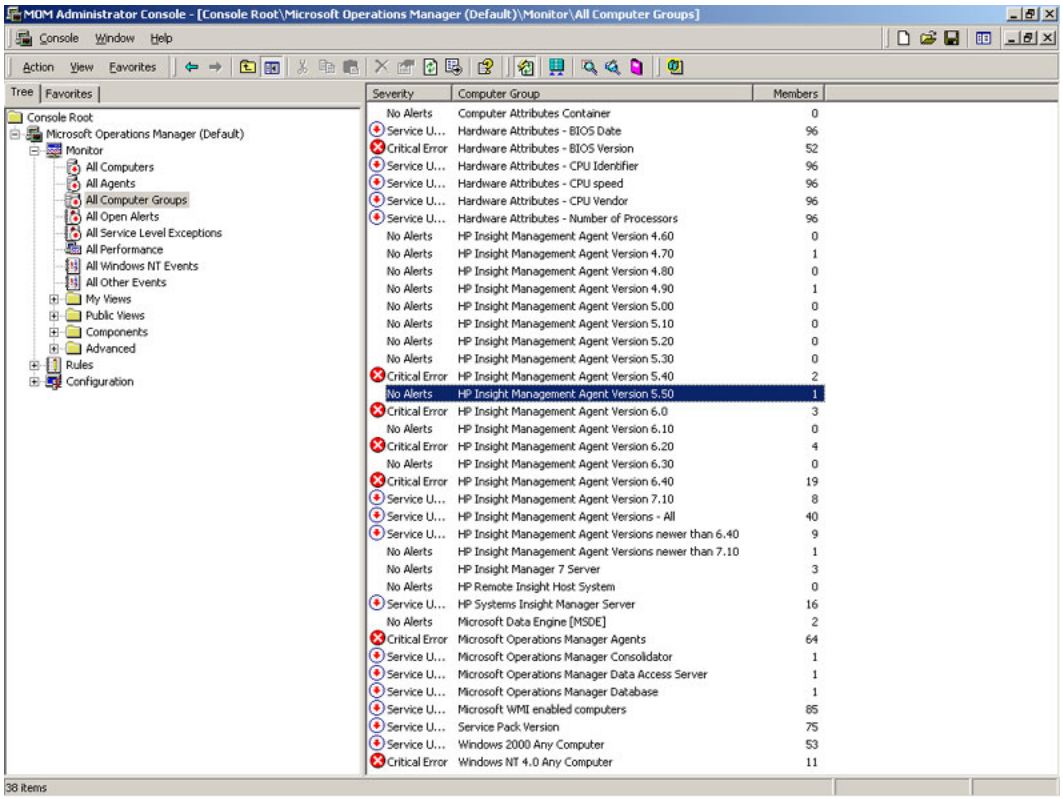

Figure 1-2: IMP computer groups

Along with the HP computer groups, the IMP installation also creates HP specific public views and an extensive set of processing rule groups in the MOM console tree, as shown in Figure 1-3 and Figure 1-4.

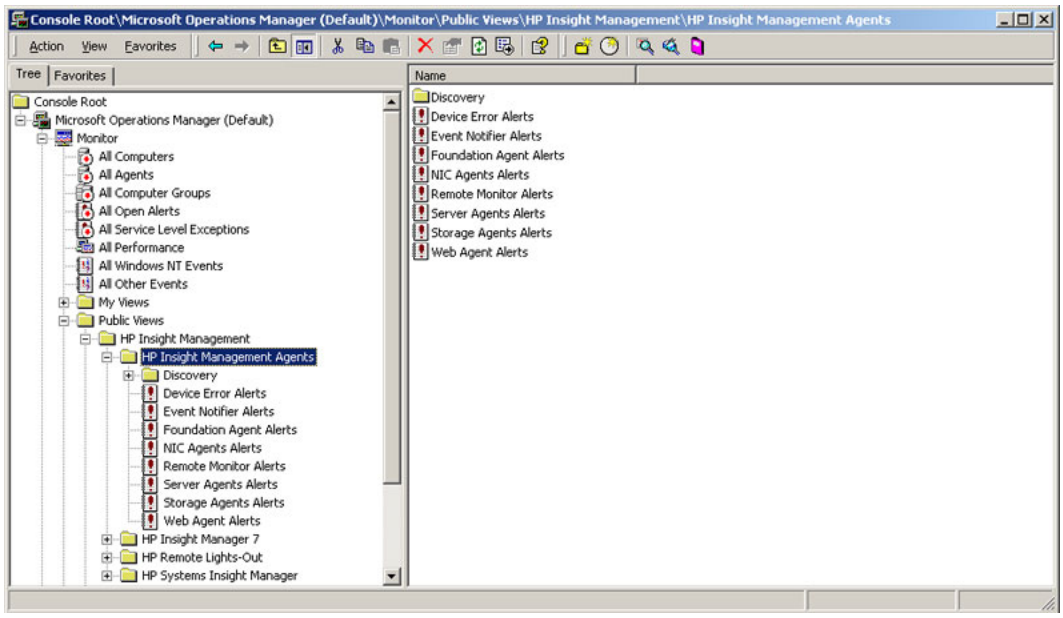

Figure 1-3: HP public views

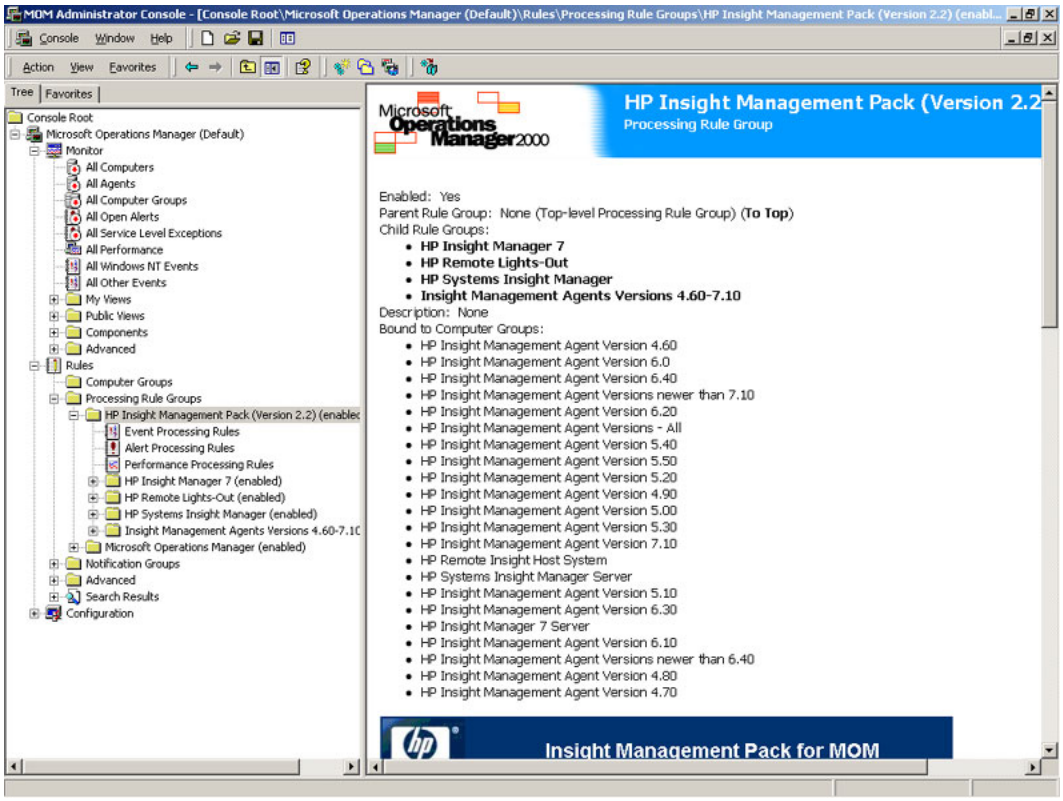

Figure 1-4: HP Processing Rule Groups

When an Insight Management Agent generates an event, a corresponding entry is written to the Windows Event log, which is the primary data source used by MOM. If the HP event in the Windows Event Log has an associated event processing rule defined in the IMP, a MOM alert is generated and written to the appropriate alert view in the MOM console tree. An example of how an HP alert is displayed is shown in Figure 1-5.

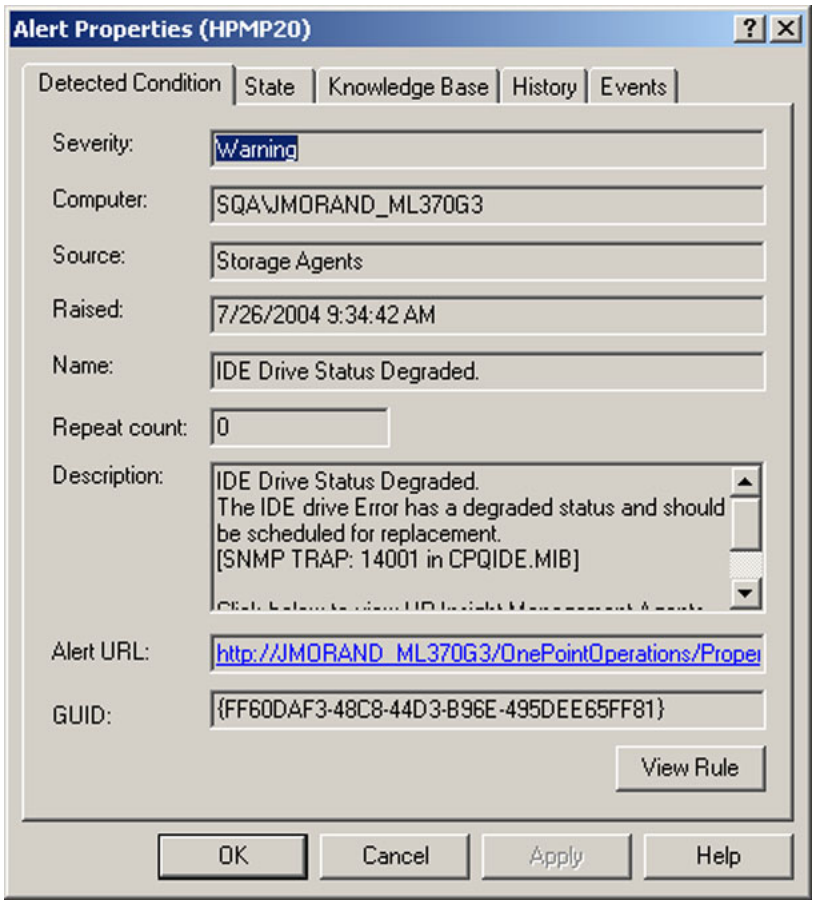

Figure 1-5: HP alert displayed in MOM

All HP alerts that relate to a hardware event include an embedded browser link at the bottom of the **Description** panel, as shown in Figure 1-6. This link enables an administrator to quickly obtain additional data by displaying the HP System Management Homepage and associated Insight Management Agent data of the device that generated the original event.

MOM alerts associated with HP SIM, Insight Manager 7, and HP Remote Insight events also include embedded links to their respective Web interface. Refer to Chapter 3 for further information on using the IMP and details on the HP alert fields.

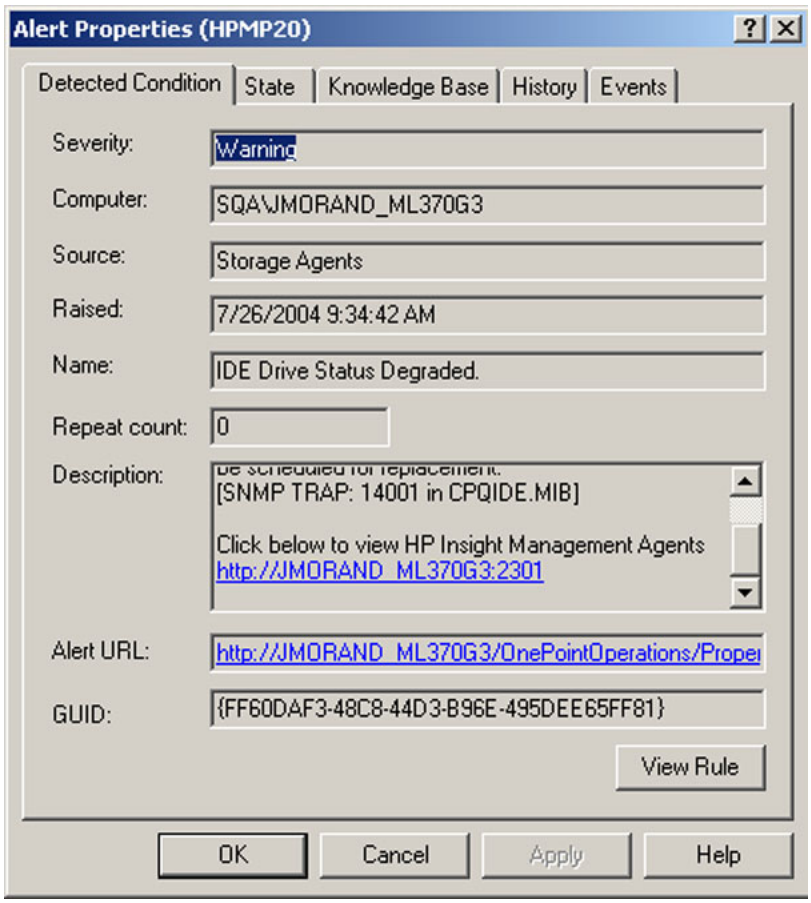

Figure 1-6: Embedded browser link to the HP System Management Homepage

2

Installation

Introduction

This chapter provides detailed instructions for installing and configuring the HP IMP for MOM.

NOTE: Before beginning the installation, study the information in this chapter and in the "System Requirements" section in Chapter 1.

Installation Overview

Installation of the IMP includes:

- Downloading the IMP from the HP website at http://www.hp.com/servers/integration
- Installing the IMP into the MOM environment
- Completing the post-installation steps to discover and display HP servers in MOM

Preinstallation Considerations

Before installing the IMP for MOM, be sure to read and understand the installation information provided in this chapter. The following requirements must be met before installing this product:

- Installation of the IMP must be performed using the HPInstallIMP.exe program provided with the IMP. Do not use the "Import Management Pack" option provided in the MOM Administrator Console.
- The IMP must be installed on a system hosting the MOM DAS.
- SNMP services must be active on all HP servers to be managed before installing the Insight Management Agents. SNMP is required locally on each managed HP system for correct installation and operation of the Insight Management Agents.
- HP Insight Management Agents for servers 4.60 or later must be installed and active on all HP servers to be managed using MOM and the IMP.

CAUTION: HP recommends customers do not install the HP IMP for MOM 2000 into production environments running MOM 2005. Installing revision 2.20 of the HP IMP will implement database entries and group definitions that do not apply in MOM 2005 and cannot be removed once installed. Installing revision 2.20 of the HP IMP might also prevent the forthcoming HP Management Pack for MOM 2005 from installing correctly, and might generate double entries for each MOM alert.

Installing the IMP for MOM

The following section describes the recommended steps for installing the IMP. The IMP is downloaded from http://www.hp.com/servers/integration after a simple registration and is provided in .ZIP file format.

1. Copy the downloaded file HPMOM220.ZIP to a directory on a system hosting the MOM DAS.
2. Expand the .ZIP file using a suitable unzip utility to extract the following individual files:
   - HPInstallIMP.exe—Executable used to initiate the IMP installation process
   - HPInsightMP220.AKM—HP Insight Management Pack import file
   - HPInvent.jpg—HP branding logo file
   - HPMOM220.PDF—HP Insight Management Pack for MOM User Guide
   - MFC42.DLL and MSVCRT.DLL—Files used to assist the installation of the IMP

Installing the HP Insight Management Pack

To install the IMP:

1. On a system used to host the MOM DAS, open either a Windows Explorer or command prompt window. Change your location to the directory where the IMP download HPMOM220.ZIP was extracted.

2. Execute the HPinstallMP.exe file to initiate the IMP installation process.

NOTE: Do not use the "Import Management Pack" option provided in the MOM Administrator Console. Using this process will fail to correctly install all the groups, knowledge base, and HP branded components of the IMP.

NOTE: The IMP installation program can be run with the MOM Administrator Console either open or closed.

The management pack dialog window, shown in Figure 2-1, appears.

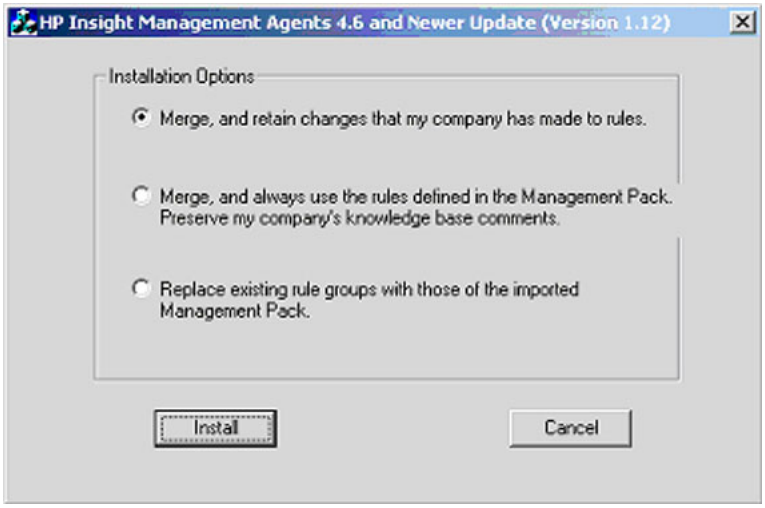

Figure 2-1: Management Pack Dialog window

3. Select the required installation options to either merge or replace any existing components. For a first-time installation of the IMP, you can choose any of these options.

NOTE: If updating from the Compaq Management Pack for MOM to the HP IMP, choosing the "Merge" options results in duplicate event processing rules in the MOM Administrator Console labeled as both Compaq and HP. Choosing the replace option overwrites the existing Compaq event processing rules and displays a single set of HP rules in the MOM Administrator Console.

4. Click **Install** to start the automatic copy and installation process. During this process, the "HP Insight Management Pack for MOM" command window appears. The installation also creates a local C:\HPMP directory, where the HP branded knowledge base logo file is copied.

NOTE: Installation of the IMP requires no further user interaction and takes two to six minutes to complete, depending on the speed and complexity of your MOM environment.

5. When the installation completes, the IMP command prompt window closes and a pop-up message appears, as shown in Figure 2-2.

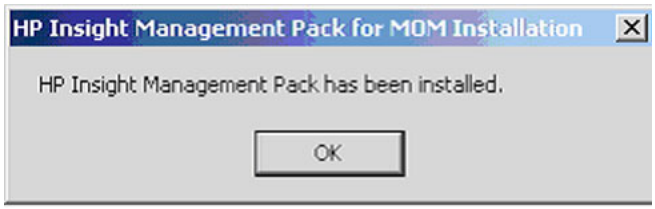

Figure 2-2: IMP Installation Complete Pop-up Message

6. If the IMP was installed with the MOM Administrator Console open, refresh the MOM folders and views to be sure the new IMP content is presented in the correct alphabetical order. If a refresh does not reorder the contents, close and reopen the MOM Administrator Console.

A successful installation adds the following HP computer groups, public views, and processing rules into the existing MOM environment.

Computer Groups

The following is a list of computer groups added after a successful IMP installation, which is also shown in Figure 2-3.

- HP Insight Management Agent Version 4.60
- HP Insight Management Agent Version 4.70
- HP Insight Management Agent Version 4.80
- HP Insight Management Agent Version 4.90
- HP Insight Management Agent Version 5.00
- HP Insight Management Agent Version 5.10
- HP Insight Management Agent Version 5.20
- HP Insight Management Agent Version 5.30
- HP Insight Management Agent Version 5.40
- HP Insight Management Agent Version 5.50
- HP Insight Management Agent Version 6.00
- HP Insight Management Agent Version 6.10
- HP Insight Management Agent Version 6.20
- HP Insight Management Agent Version 6.30
- HP Insight Management Agent Version 6.40
- HP Insight Management Agent Version 7.10
- HP Insight Management Agents, All

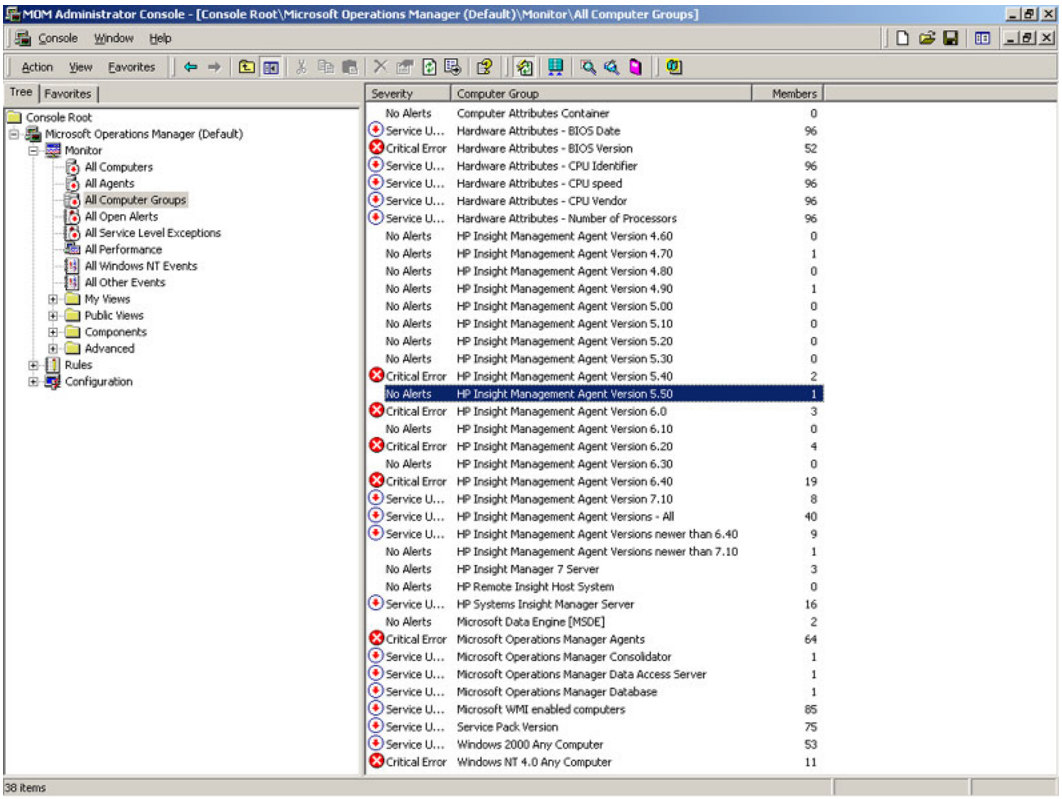

Figure 2-3: All Computer Groups folder

Public Views

The following is a list of public views added after a successful IMP installation, which is also shown in Figure 2-4.

- HP Insight Management Agents
- Device Error Alerts
- Event Notifier Alerts
- Foundation Agents Alerts
- NIC Agents Alerts
- Remote Monitor Alerts
- Server Agents Alerts
- Storage Agents Alerts
- Web Agent Alerts
- HP Insight Manager 7
- HP Systems Insight Manager
- HP Remote Lights-Out

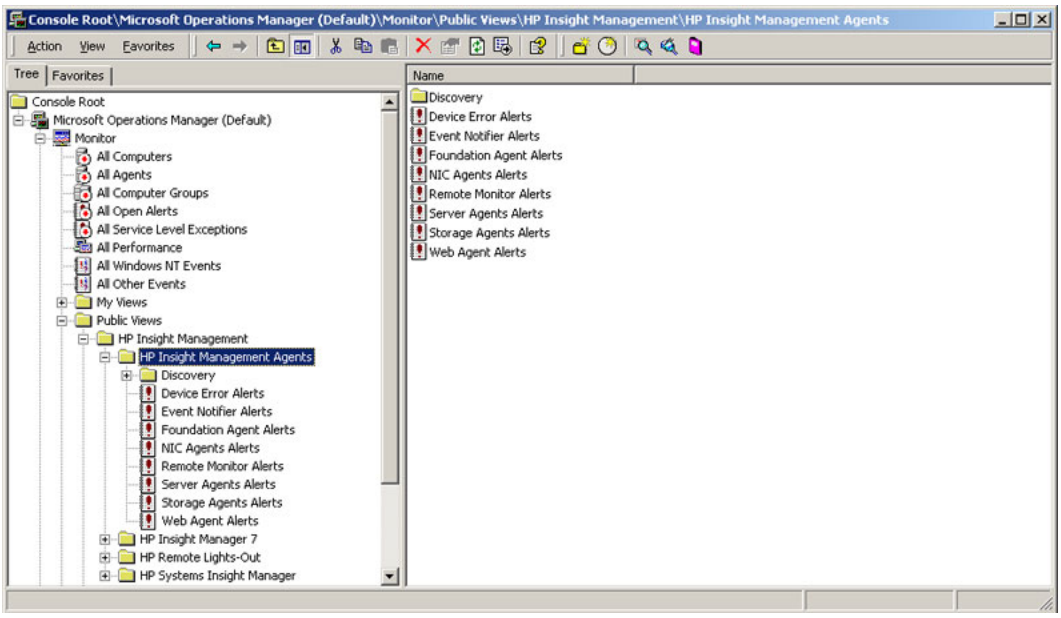

Figure 2-4: Public Views folder

Processing Rule Groups

The following is a list of processing rule groups added after a successful IMP installation, which is also shown in Figure 2-5.

- HP Insight Management Agents 4.60 and newer
- Device Errors
- Event Notifier
- Foundation Agents
- NIC Agents
- Remote Monitor Service
- Server Agents
- Storage Agents
- HP Insight Manager 7
- HP Systems Insight Manager
- HP Remote Lights-Out

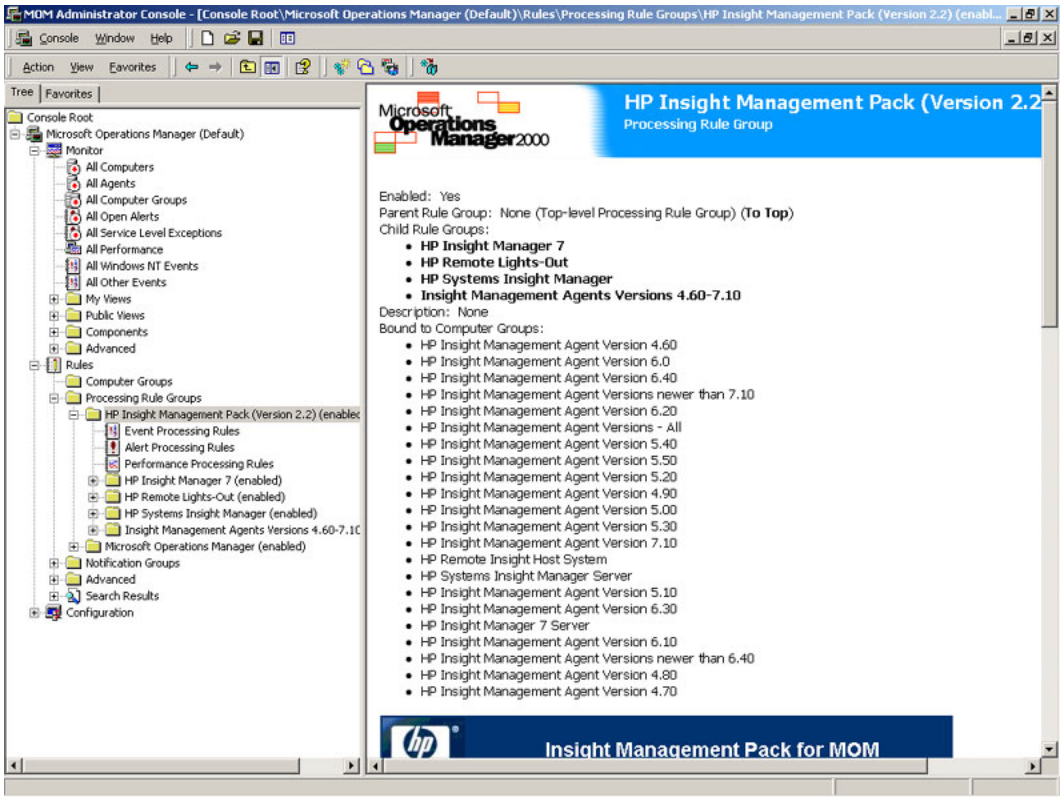

Figure 2-5: Processing Rule Groups folder

Post-Installation Procedures

Following a successful installation of the IMP, complete the following steps to discover and monitor HP servers. These steps are standard MOM configuration procedures and are provided here for additional reference.

NOTE: After the post-installation procedures have been correctly applied to the target servers, the HP computer groups and public views automatically populate with discovered HP servers and associated alert data.

1. In the MOM console tree, access the **Configuration** folder and configure the Agent Managers to include the HP servers to be managed.

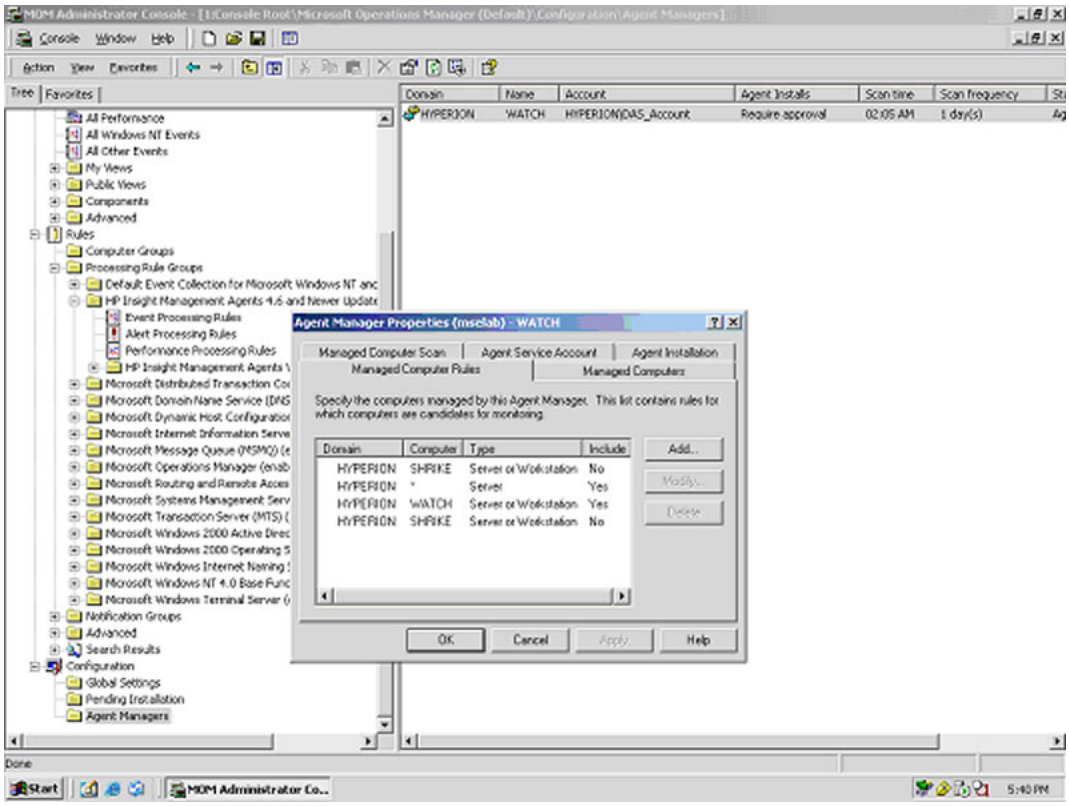

Figure 2-6: Configuring the Agent Manager

2. Scan the managed servers. The default Agent Manager setting for automated daily scanning is 2:05 a.m. For an immediate discovery, click **Scan managed computers now,** as shown in Figure 2-7.

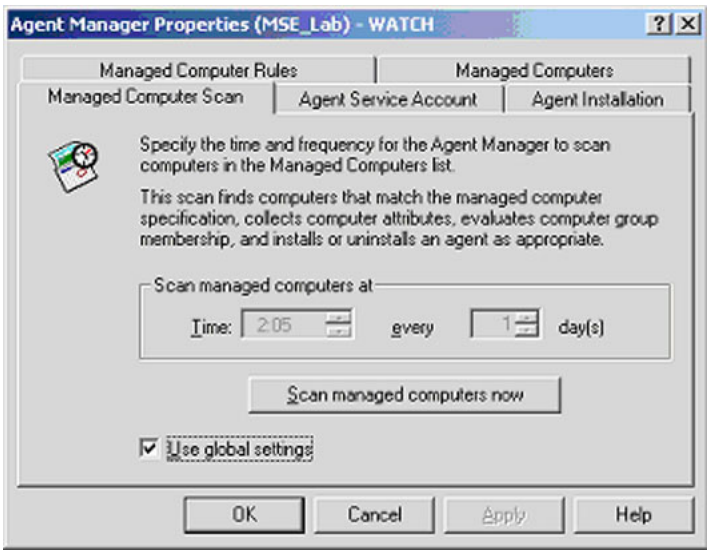

Figure 2-7: Scan managed computers now option

Each managed system must be configured with an active MOM agent to enable system discovery and monitoring. This task can be completed by the MOM Agent Manager or by a separate manual installation. For further information, refer to the MOM user documentation or product help.

NOTE: The MOM agent installation process requires local SNMP services to be reset. If a MOM agent was installed onto a server running Insight Manager 7 before version SP1, the Insight Manager service might be temporarily stopped and restarted. Insight Manager 7 operations require an active SNMP service, and as a result, any clients browsing into the Insight Manager 7 application might need to restart their browser sessions. This problem is resolved with HP Insight Manager 7 SP 1 and later, and is not apparent with HP Systems Insight Manager.

3. Depending on the properties assigned to the Agent Manager and other MOM global settings, further administrator approval might be required to complete the computer scan and installation of MOM agents. Access the **Pending Installation** folder to display any outstanding tasks.

Updating from the Compaq Management Pack for MOM

The HP IMP for MOM revision 2.20 supersedes the previous revision 1.12 and the Compaq Management Pack for MOM, and is designed to provide easy migration to the new HP branded groups, views, and processing rules.

Depending on the installation options selected during step 4 of “Installing the HP Insight Management Pack” in this chapter, the MOM Administrator Console might display duplicate Compaq and HP branded groups, views, and event processing rules.

In the event of duplicate entries, use the following steps to remove the Compaq branded groups, views, and processing rules.

Deleting Duplicate Computer Groups

1. In the left pane of the MOM Administrator Console, expand the **Rules** folder, and click the **Computer Groups** sub-folder.

2. Right-click the groups to be removed and select **Delete** from the menu list to complete the process.

Deleting Duplicate Public Views

1. In the left pane of the MOM Administrator Console, expand the **Monitor** folder and the **Public View** sub-folder.

2. Right-click the groups to be removed and select **Delete** from the menu list to complete the process.

Deleting Duplicate Event Processing Rules

1. In the left pane of the MOM Administrator Console, expand the **Rules** folder and the **Processing Rule Groups** sub-folder.

2. Right-click the groups to be removed and select **Delete** from the menu list to complete the process.

Uninstalling the HP Insight Management Pack

The current architecture for MOM management packs does not readily accommodate the uninstalling of management pack elements from the MOM environment.

Individual elements of a management pack, such as processing rules, views, and groups, can be visually deleted from the MOM console tree, but the majority of associated entries in the MOM database and Windows registry are not removed.

Subsequent developments of the IMP for MOM will evaluate the inclusion of more comprehensive uninstall options.

3

Using the HP IMP for MOM

Introduction

This chapter describes how to use the features provided with the HP IMP for MOM.

Using the HP IMP

As described in Chapter 2, the HP IMP for MOM includes the following major elements:

- Computer Groups
- Shared Information Views
- Processing Rule Groups
- Knowledge Base Data

This chapter focuses on features of the IMP that are designed to discover and manage HP servers using MOM. The examples shown are all based on operations within the MOM Administrator Console. Like all standard elements of MOM, HP alerts, computer groups, views, and knowledge base data can also be viewed using the Web-based Ops Portal console for MOM.

NOTE: For full details on using the Web-based Ops Portal console, refer to the MOM user documentation or product help menus.

Before attempting to use the IMP, be sure that the following conditions exist:

- The IMP has been installed in accordance with the procedures defined in Chapter 2.
- The SNMP service is installed and active on all HP servers to be managed before installing the Insight Management Agents. SNMP is required for correct installation and operation of the Insight Management Agents.
- HP Insight Management Agents for servers version 4.60 or later are installed and active on all HP servers to be managed using MOM.

CAUTION: HP recommends customers do not install the HP IMP for MOM 2000 into production environments running MOM 2005. Installing revision 2.20 of the HP IMP will implement database entries and group definitions that do not apply in MOM 2005 and cannot be removed once installed. Installing revision 2.20 of the HP IMP might also prevent the forthcoming HP Management Pack for MOM 2005 from installing correctly, and might generate double entries for each MOM alert.

Computer Groups

A MOM computer group is a collection of computers that share a common set of attributes. Each computer group is also associated with one or more processing rule groups. The IMP for MOM includes the following predefined computer groups for each supported version of the HP Insight Management Agents:

- HP Insight Management Agent Version 4.60
- HP Insight Management Agent Version 4.70
- HP Insight Management Agent Version 4.80
- HP Insight Management Agent Version 4.90
- HP Insight Management Agent Version 5.00
- HP Insight Management Agent Version 5.10
- HP Insight Management Agent Version 5.20
- HP Insight Management Agent Version 5.30
- HP Insight Management Agent Version 5.40
- HP Insight Management Agent Version 5.50
- HP Insight Management Agent Version 6.00
- HP Insight Management Agent Version 6.10
- HP Insight Management Agent Version 6.20
- HP Insight Management Agent Version 6.30
- HP Insight Management Agent Version 6.40
- HP Insight Management Agent Version 7.10
- HP Insight Management Agents—All
- HP Systems Insight Manager Server
- HP Remote Insight Host System
- HP Insight Manager 7 Server

Discovering HP Servers

To determine membership for each HP computer group, the attribute **HP Insight Management Version Number** is included in the properties definitions for each group. The version number attribute is compared with the local registry entries on each managed node to identify the version of installed HP Insight Management Agents. As new HP servers are added to the MOM environment, they are automatically assigned to one of the predefined computer groups.

The IMP includes a computer group named **HP Insight Management Agents - All.** This group is designed to identify all HP servers configured with Insight Management Agents 4.60 or higher and can also be used to identify systems that do not match the criteria of individual predefined computer groups, such as Insight Management Agent versions later than 7.10.

Viewing HP Server Details

To view the total number of HP servers and the most severe alert status assigned to each computer group, click **Console Root>Microsoft Operations Manager (Default)>Monitor>All Computer Groups,** as shown in Figure 3-1.

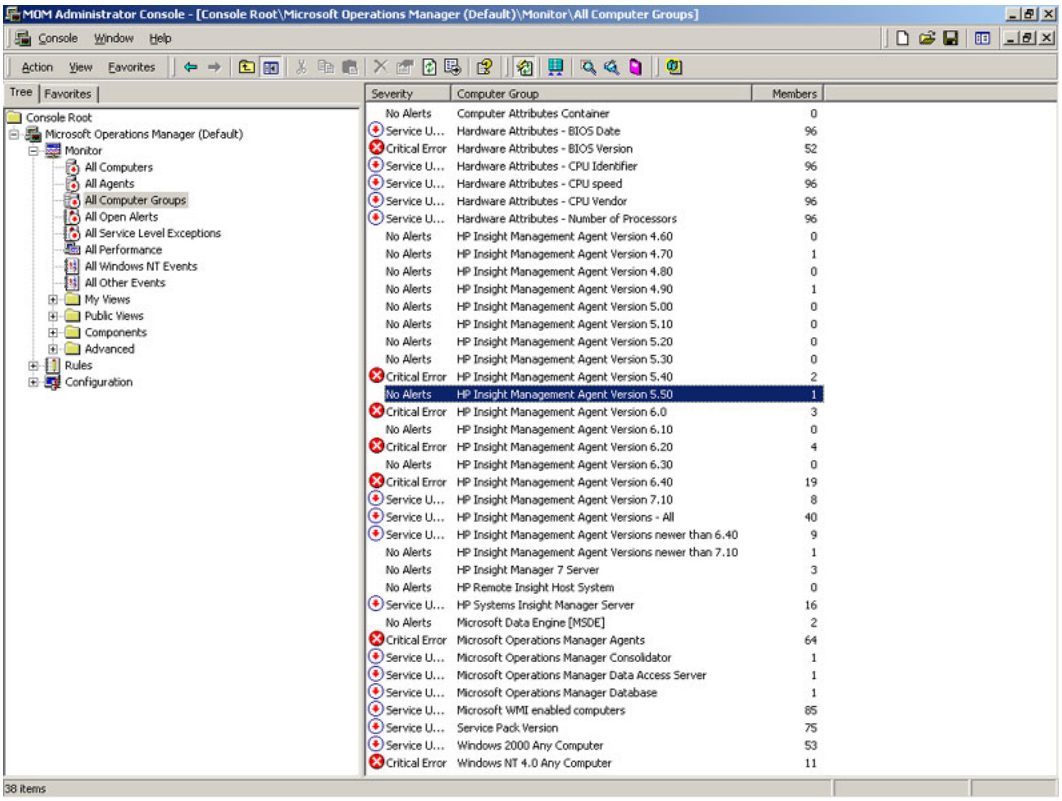

Figure 3-1: All Computer Groups folder

You can also view this information by selecting the **Computer Group Views** option in the **Monitor** details pane of the MOM Administrator Console, as shown in Figure 3-2.

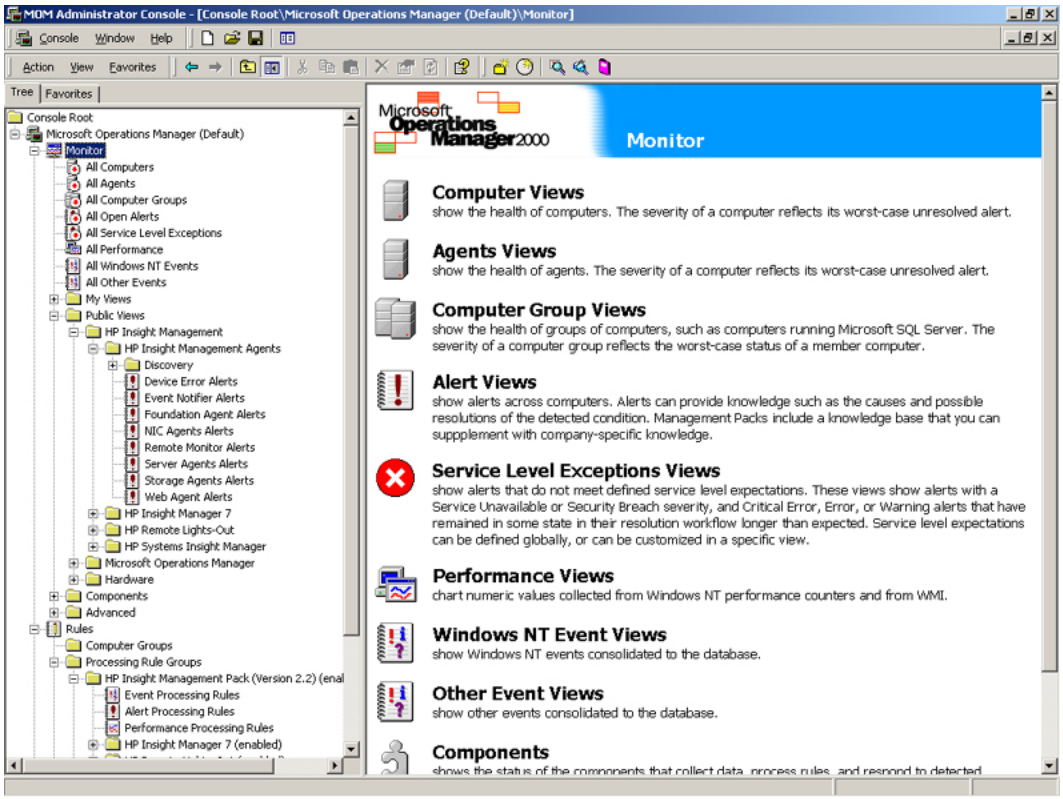

Figure 3-2: Monitor details pane

To display individual servers within a group, double-click a specific group or right-click a group and select the **View Computers** option from the menu list, as shown in Figure 3-3.

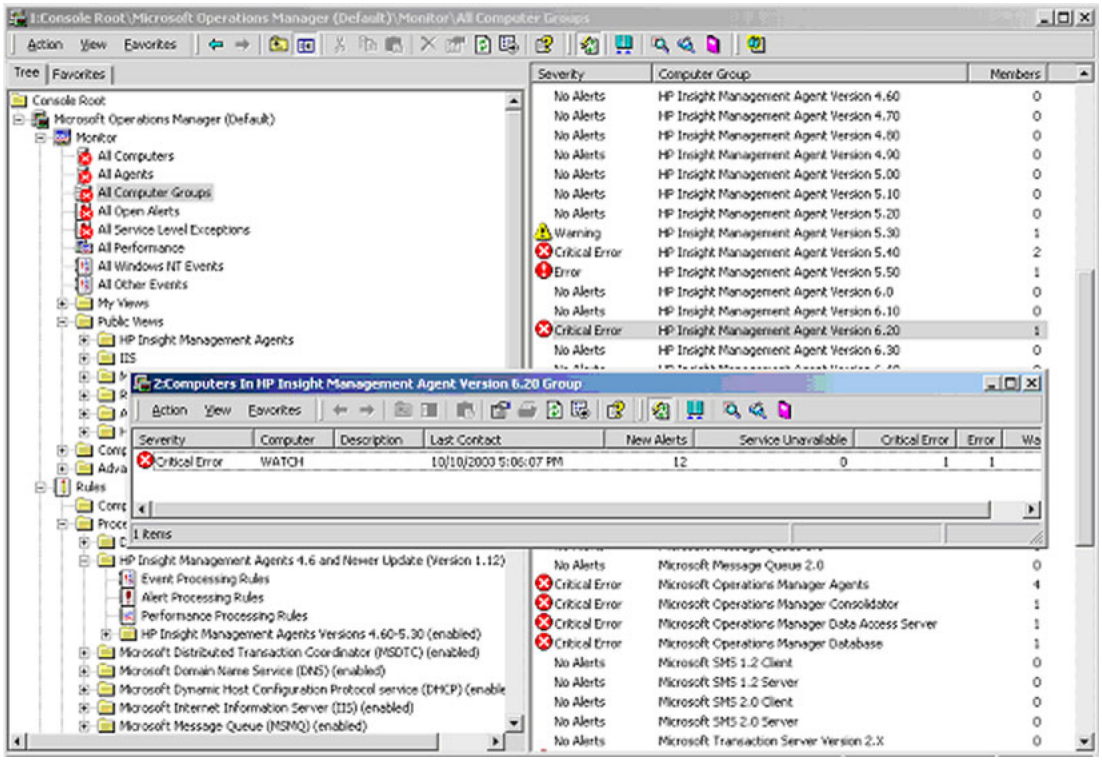

Figure 3-3: Viewing computers within a group

To view alert data for each discovered server, double-click an individual server object, as shown in Figure 3-4.

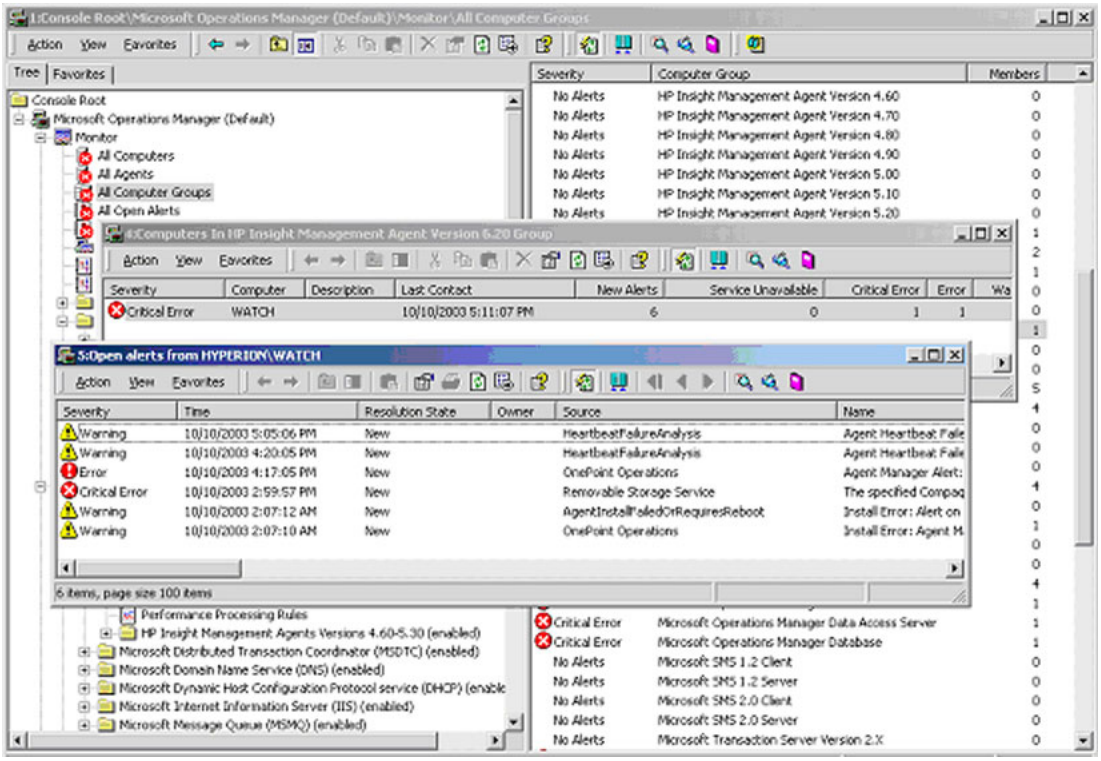

Figure 3-4: Alert data for individual servers

To view property details for an individual server, including group membership and rules association, right-click a server object and select the **Properties** option from the menu list, as shown in Figure 3-5.

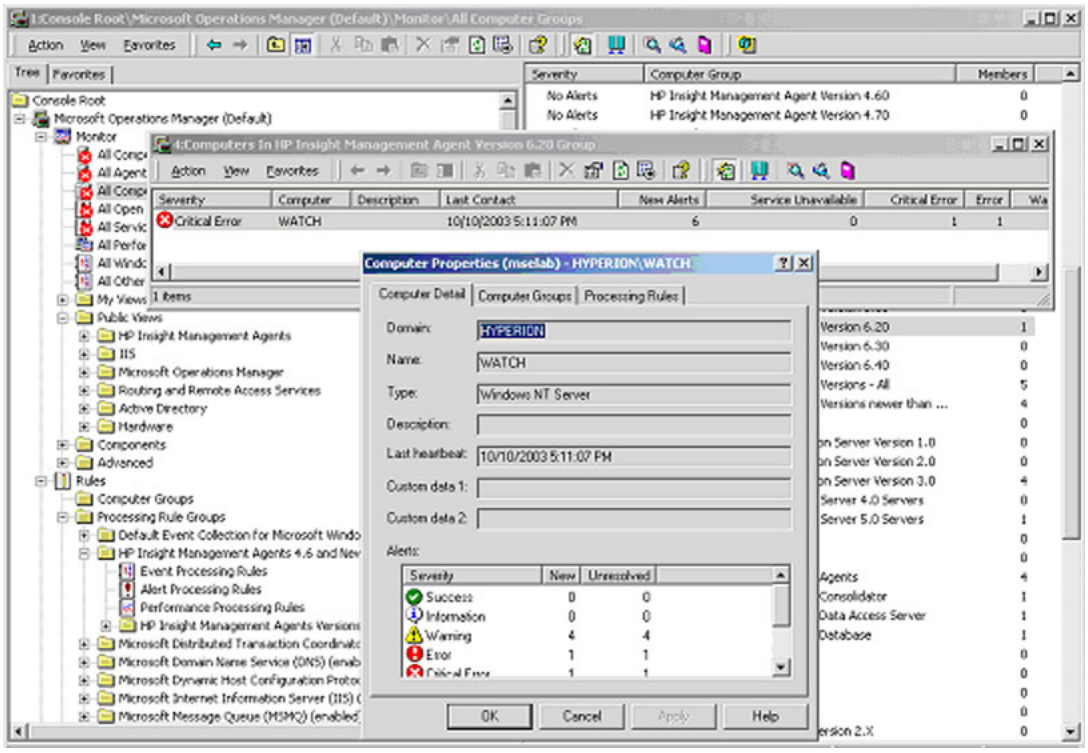

Figure 3-5: Computer Properties window

Using Computer Groups for Inventory Management

In addition to identifying each managed HP server within a Windows enterprise, the computer groups delivered with the IMP provide a convenient and accurate method for maintaining inventory control of installed HP Insight Management Agents. Listing discovered HP servers by Management Agent version helps administrators quickly identify any server configuration that falls outside of the supported software specifications for an individual network environment.

Shared Information Views

The MOM console provides a variety of folders and windows for viewing information stored in the MOM database.

The IMP for MOM includes predefined public views that provide high-level information about each discovered HP server and associated alerts. Public views are accessible by any user accessing the configuration group database from a MOM console, and are saved in the **Public Views** folder of the MOM console tree.

Accessing the Public Views

To access the views provided with the IMP, click **Console Root>Microsoft Operations Manager (Default)>Monitor>Public Views** from the MOM console tree, as shown in Figure 3-6.

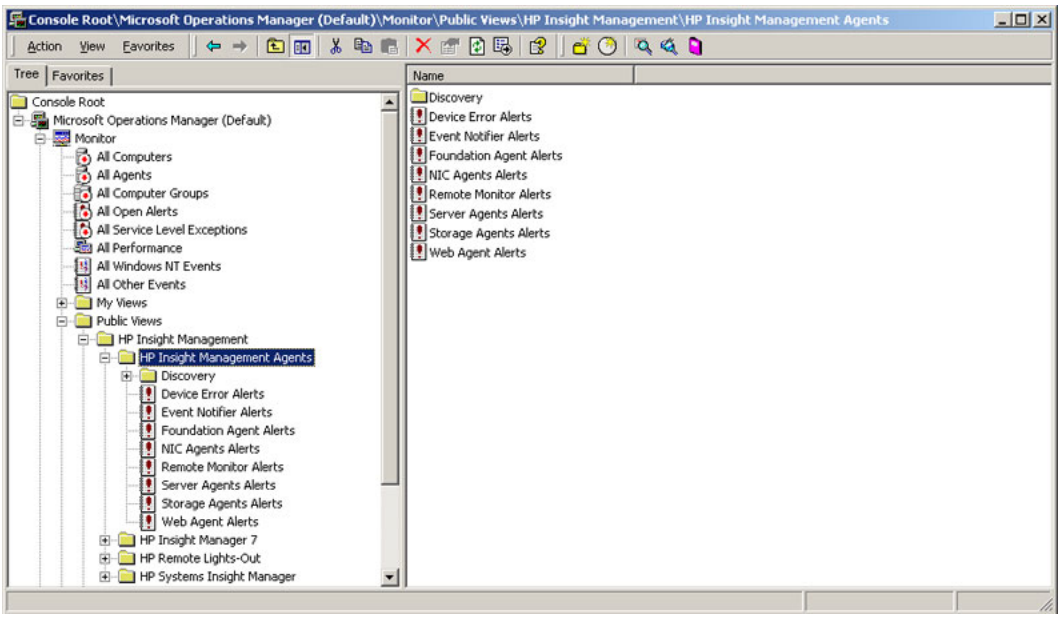

Figure 3-6: Accessing HP Public Views

The following list provides an overview of each HP folder under the **Public Views** folder:

- **HP Insight Management Agent Versions**—Lists all discovered HP servers by computer name, domain, and version of installed Insight Management Agents
- **Event Notification Alerts**—Lists alerts generated by the HP Event Notifier service that correspond to defined MOM event processing rules
- **Device Error Alerts**—Lists alerts generated by HP management services and drivers that correspond to defined MOM event processing rules
- **Foundation Agents Alerts**—Lists hardware and service alerts generated by the HP Foundation Agents that correspond to defined MOM event processing rules
- **NIC Agent Alerts**—Lists hardware, service, and performance alerts generated by the HP NIC Agents that correspond to defined MOM event processing rules
- **Remote Monitor Alerts**—Lists alerts generated by the HP Remote Monitor service that correspond to defined MOM event processing rules

- **Server Agent Alerts**—Lists hardware, service, and performance alerts generated by the HP Server Agents that correspond to defined MOM event processing rules
- **Storage Agent Alerts**—Lists hardware, service, and performance alerts generated by the HP storage agents that correspond to defined MOM event processing rules
- **HP Insight Manager 7**—Lists service and application alerts generated by HP Insight Manager 7 that correspond to defined MOM event processing rules
- **HP Remote Lights-Out**—Lists hardware, service, and performance alerts generated by HP Remote Insight Lights-Out and Integrated Lights-Out technology that correspond to defined MOM event processing rules
- **HP Systems Insight Manager**—Lists service and application alerts generated by HP Systems Insight Manager that correspond to defined MOM event processing rules

NOTE: For details on the event processing rules provided with the IMP, refer to the "Processing Rule Groups" section of this chapter.

Viewing HP Alerts in the Public Views

The individual HP agent and service folders listed under the Public Views folder display HP specific alerts generated within the MOM console. To display detailed information on an individual alert, double-click the alert object or right-click an alert and select the **Properties** option from the menu list, as shown in Figure 3-7.

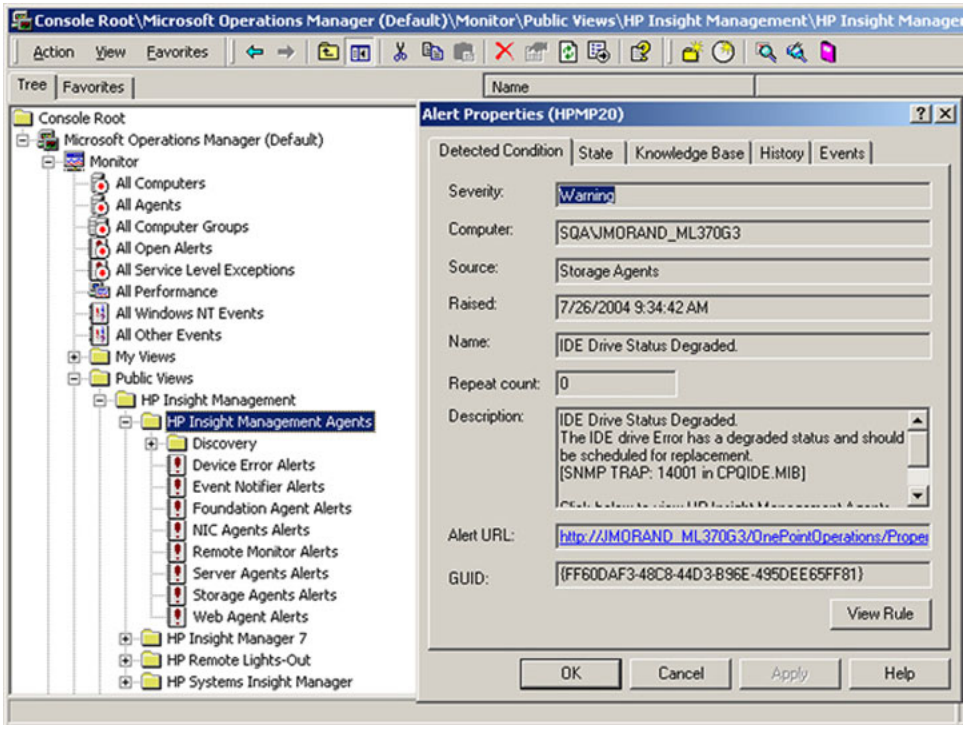

Figure 3-7: Detailed alert information

Processing Rule Groups

MOM provides comprehensive real-time monitoring of Windows operating system and application events and displays these as MOM alerts. An event can be defined as an entry written to the Windows Event Log or delivered by an alternative source, such as an SNMP trap. An alert can be defined as a response to a Windows event generated by MOM and displayed in the MOM console interface.

MOM uses a rules-based infrastructure to process events, alerts, and performance indicators for devices and applications. The MOM rules infrastructure is presented as three main rules processing groups:

- **Event Processing Rules**—Identify, consolidate, and filter events that conform to specified criteria (event processing rules are used as a primary source for generating MOM alerts)
- **Alert Processing Rules**—Specify responses to a MOM alert or group of alerts, such as forwarding to notification groups or launching associated applications and scripts
- **Performance Processing Rules**—Are used for measuring and alerting on specific performance or capacity metrics, such as resource utilization or drive space availability

NOTE: For full details on creating or customizing MOM processing rules, refer to the MOM user documentation or associated help information.

HP Event Processing Rules

The HP IMP for MOM includes over 650 predefined event processing rules. These rules identify and process HP events that have been written to the Windows Event Log by Insight Management Agents and management services. All HP events that correspond to a valid event processing rule are displayed as HP alerts within the MOM console interface. This capability extends the functionality of MOM, enabling administrators to monitor events for the HP hardware infrastructure through the same MOM console used to monitor Windows operating system and application resources.

NOTE: The HP event processing rules for MOM do not process SNMP traps generated by the Insight Management Agents. All HP rule criteria are based on HP event data written to the Windows Event Log.

The HP event processing rule groups are installed under the Rules–Processing Rule Groups folder in the MOM console tree, as shown in Figure 3-8, and include container and individual rule groups listed by HP Insight Management Agent type and service definitions.

The individual HP event processing rules are contained in the Event Processing Rules folder of each agent or service group, as shown in Figure 3-8.

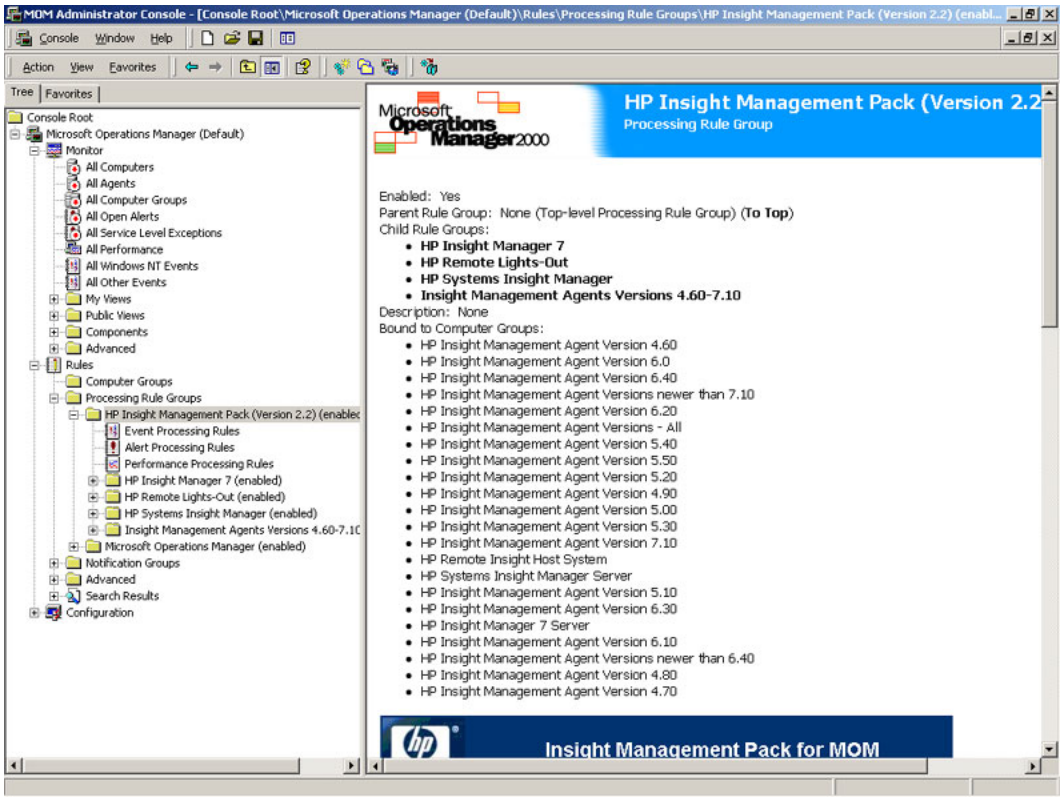

Figure 3-8: Event Processing Rules folders

The following provides an overview of the HP rule groups provided with the IMP:

- **HP Insight Management Agents Versions 4.60 – 7.10**—Contains the individual HP rule groups
- **Device Errors**—Contains rules to process events generated by HP management services and drivers, such as resource or driver conditions
- **Event Notifier**—Contains rules to process events generated by the HP Event Notifier service, such as e-mail errors encountered when forwarding events
- **Foundation Agents**—Contains rules to process hardware and services events generated by HP Insight Foundation Agents, such as threshold and host subsystem conditions
- **NIC Agents**—Contains rules to process hardware, performance, and services events generated by HP Insight NIC Agents, such as connectivity status
- **Remote Monitor Service**—Contains rules to process hardware and services events generated by the HP Remote Monitor Service, such as hot-plug device conditions
- **Server Agents**—Contains rules to process hardware and services events generated by HP Insight Server Agents, such as environmental conditions and resource usage

- **Storage Agents**—Contains rules to process hardware, performance, and services events generated by HP Insight Storage Agents, such as drive array and data integrity errors
- **HP Insight Manager 7**—Contains rules to process service and application alerts generated by HP Insight Manager 7, such as login violations and service availability
- **HP Remote Lights-Out**—Lists hardware, service, and performance alerts generated by HP Remote Insight Lights-Out and Integrated Lights-Out technology, such as attempted security violations, remote NIC port availability and hardware resets
- **HP Systems Insight Manager**—Lists service and application alerts generated by HP Systems Insight Manager, such as login violations, application setting changes and service availability

Default Rule Properties

HP event processing rules are created with default properties that enable immediate operations but can be customized to suit individual requirements. The following list identifies the available Properties tabs and default IMP conditions:

- General
- Data Provider
- Criteria
- Schedule
- Alert
- Alert Suppression
- Responses
- Knowledge Base

The following figures show each default element of the HP event processing rule for Windows Event Log ID 1104, highlighting a degraded power supply in an HP storage system.

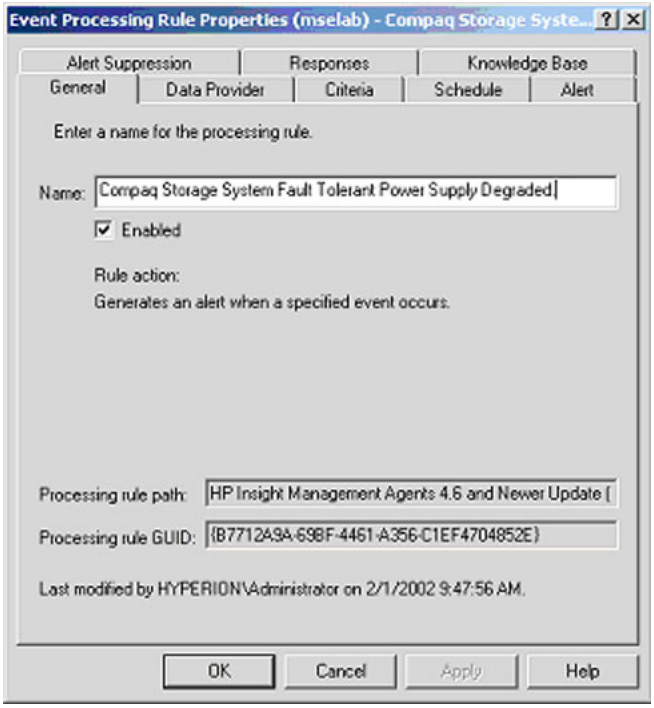

Figure 3-9: Event Processing Rule Properties—General tab

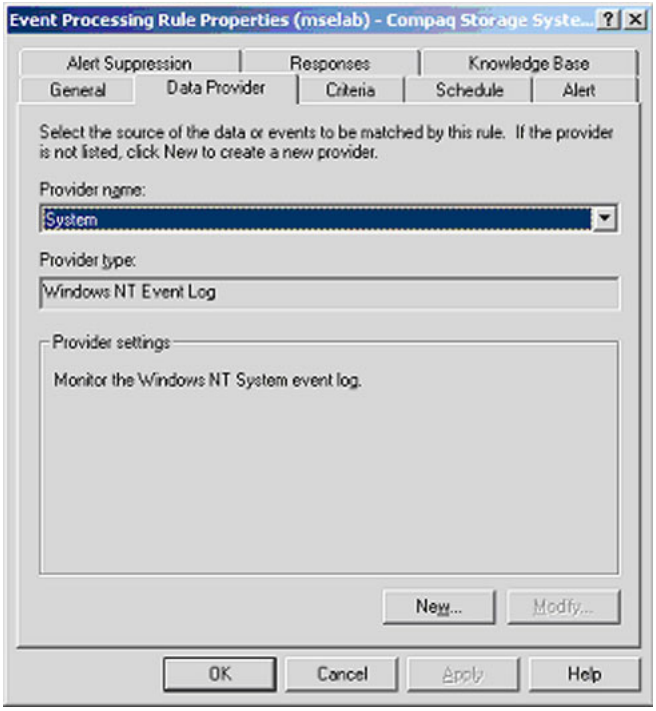

Figure 3-10: Event Processing Rule Properties—Data Provider tab

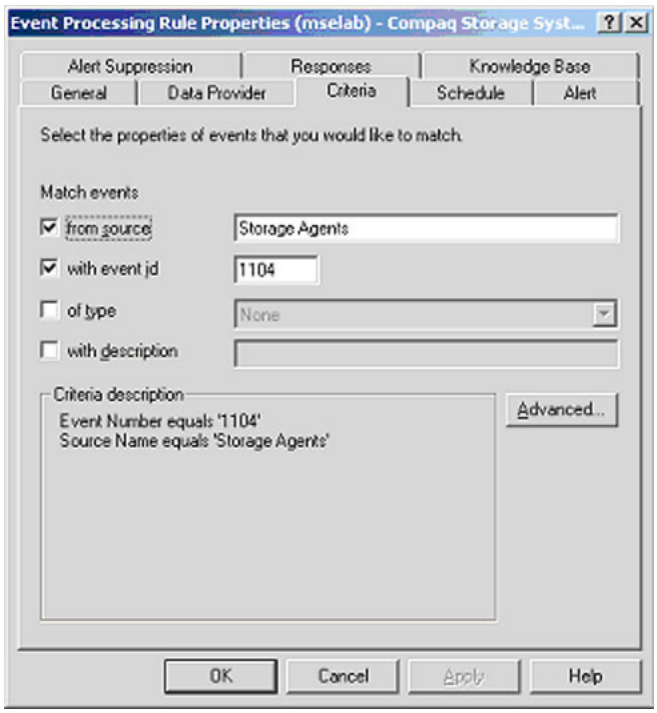

Figure 3-11: Event Processing Rule Properties—Criteria tab

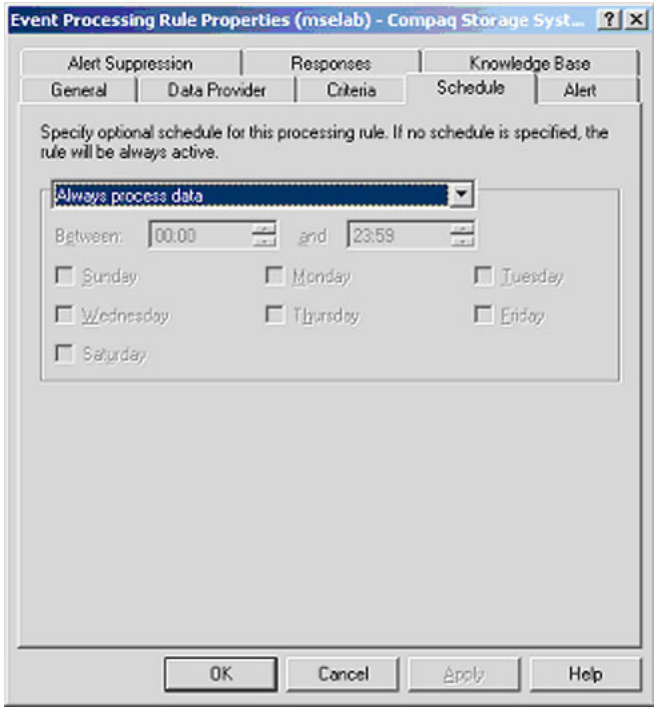

Figure 3-12: Event Processing Rule Properties—Schedule tab

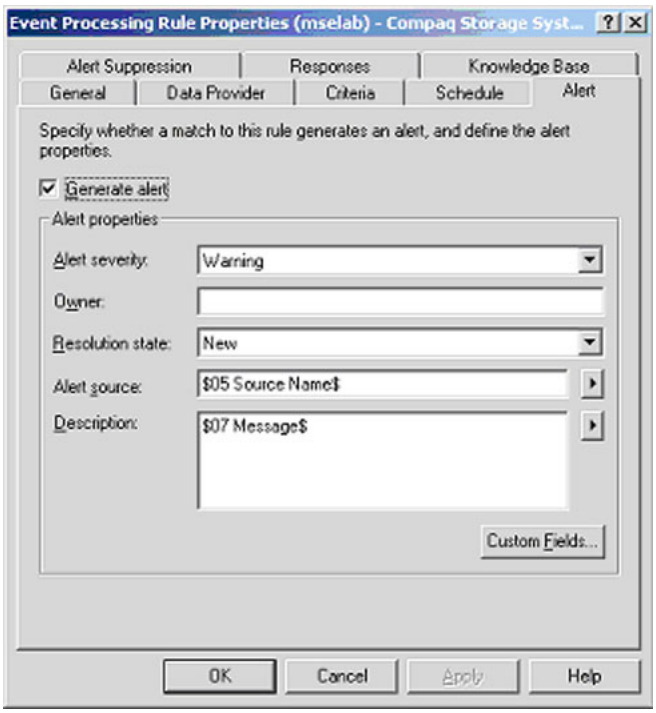

Figure 3-13: Event Processing Rule Properties—Alert tab

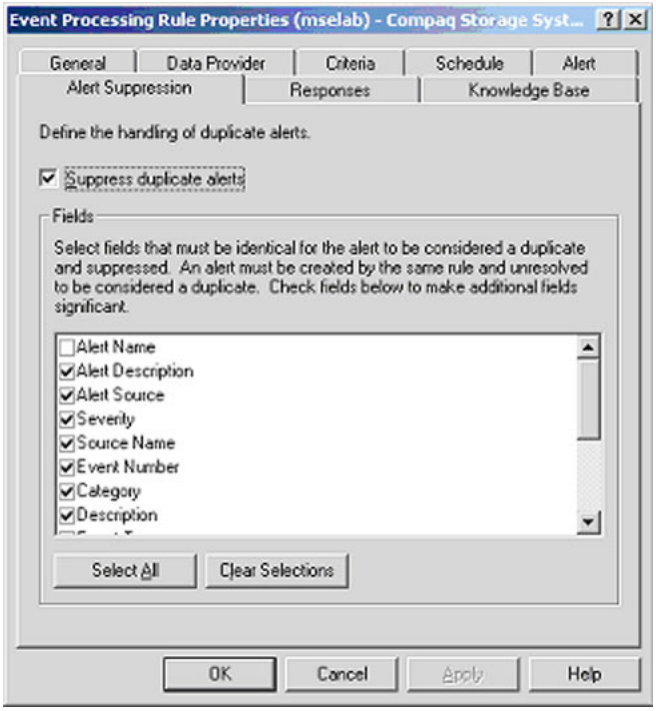

Figure 3-14: Event Processing Rule Properties—Alert Suppression tab

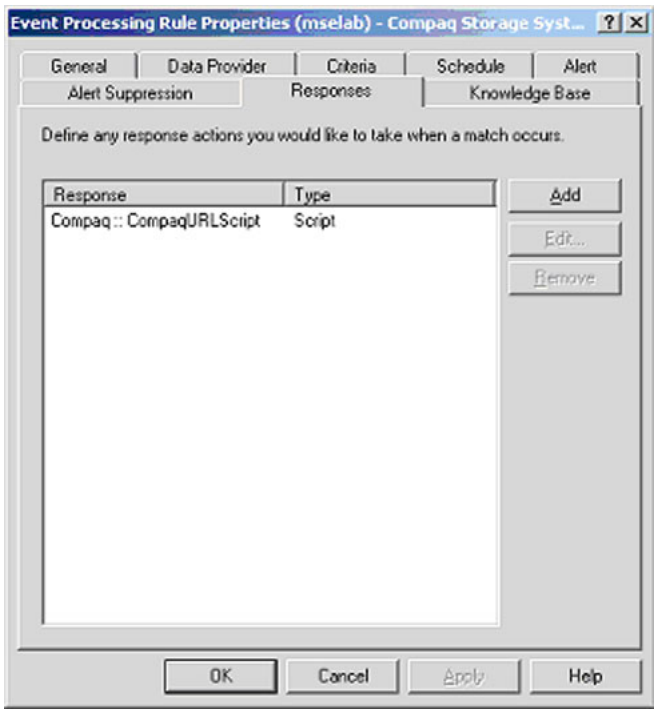

Figure 3-15: Event Processing Rule Properties—Responses tab

NOTE: HP event processing rules that relate to HP hardware events include the "CompaqURL Script" as a default response entry, as shown in Figure 3-15. This response is used to display an additional browser link to the HP System Management Homepage, as shown in Figure 3-20.

Figure 3-16: Event Processing Rule Properties—Knowledge Base tab

Customizing Event Processing Rules

HP event processing rules are predefined for immediate use but can be easily customized to suit an individual enterprise. The following list highlights some common reasons for modifying an event processing rule:

- Disabling or enabling a rule
- Changing the alert severity level
- Assigning specific alerts to notification groups
- Modifying data processing or alert-suppressing criteria
- Adding a custom response to selected events
- Including environment-specific knowledge base data

To customize a rule, select the rule to be edited from the appropriate Event Processing Rules folder by double-clicking the rule entry or by right-clicking the rule and selecting the **Properties** option from the menu list.

NOTE: For full details on customizing MOM processing rules, refer to the MOM user documentation or associated help information.

HP Alert Processing Rules

By default, the HP NIC Agent and HP Storage Agent processing rule groups include a predefined alert processing rule that forwards all alert conditions of Error or higher to the Hardware Support Notification Group in MOM.

To take advantage of this feature, the Hardware Support Notification Group must be configured to include at least one named Group Operator.

NOTE: For details on configuring the Hardware Support Notification Group, refer to the MOM user documentation or associated help information.

HP Performance Processing Rules

By default, the HP NIC Agent and HP Storage Agent processing rule groups include two predefined performance-processing rules:

- **Private Bytes > 1,000,000**—This rule measures the amount of memory used by each set of agent services and generates an alert if the threshold of 1 MB is exceeded.
- **Handle Count > 1,000**—This rule monitors the number of resource handles used by each set of agent services and generates an alert if the threshold of 1,000 is exceeded.

HP Alerts

An alert can be defined as a response to a Windows event generated by MOM and displayed in the MOM console interface. Alert severity levels, contents, and other criteria are all defined by the properties in the MOM processing rule groups.

When an event matches the criteria defined in the HP event processing rules, a corresponding HP alert is generated and displayed in the MOM console.

Identifying HP Alerts

When reviewing the list of alerts displayed in the All Open Alerts folder of the MOM console tree, an HP alert can be clearly identified by the contents of the Source field, as shown in Figure 3-17.

The available HP entries in the Source field include:

- CIMNotify
- Foundation Agents
- NIC Agents
- Server Agents
- Storage Agents
- HP Insight Manager 7
- HP Remote Lights-Out

- HP Systems Insight Manager

HP alerts can also be reviewed by accessing the **HP Insight Management Agent** public views in the MOM console tree, as detailed in the "Shared Information Views" section of this chapter.

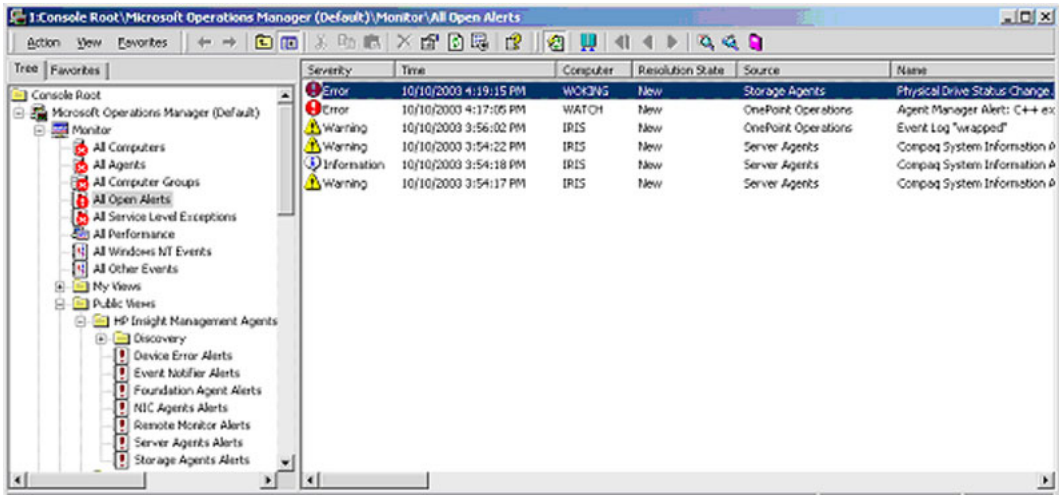

Figure 3-17: HP alert identification

Analyzing HP Alerts

HP alerts contain a wealth of data derived from the Windows Event Log entries and processing rules provided with the IMP. This information enables administrators to quickly and accurately identify the root cause of a particular event or series of events and implement a timely response.

As an example, Figure 3-18 shows a failed HP IDE hard drive. The standard contents of the alert clearly identify the level of severity (Warning), the system that generated the event (SQA\JMORAND_ML370G3), and the agent source (Storage Agents).

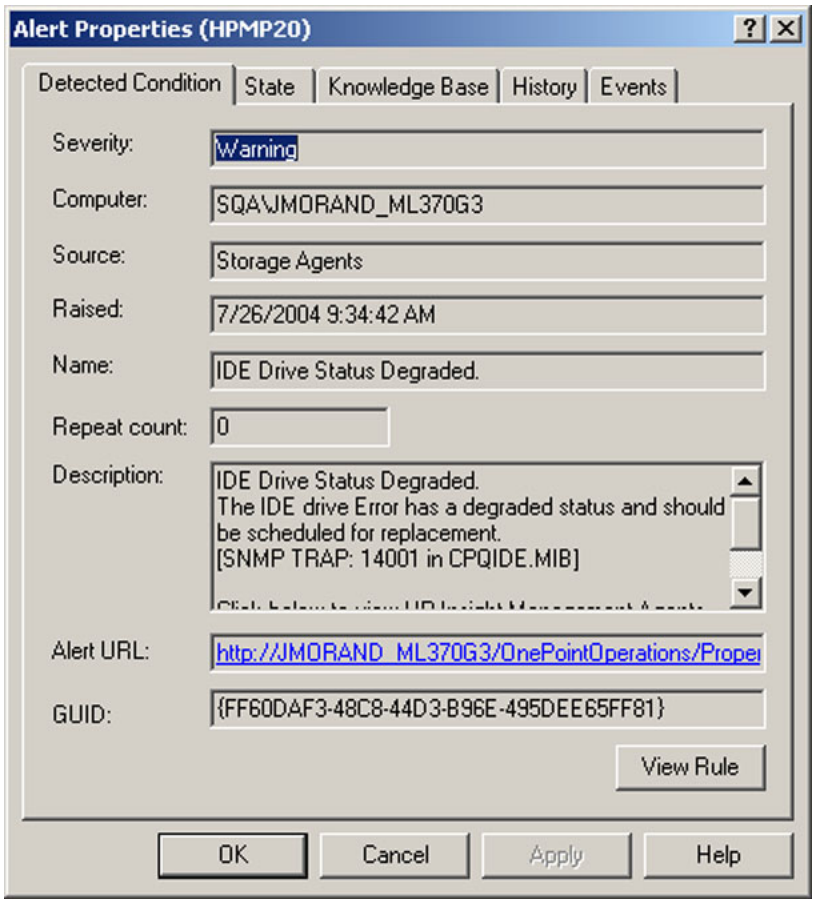

Figure 3-18: Alert content for a failed hard drive

The contents of the Description panel clearly details what has occurred and provides all the relevant information needed to quickly identify and resolve the problem.

The most relevant data includes the following message:

```
The IDE Drive has a degraded status and should be scheduled for
replacement.
```

Launching the HP System Management Homepage from within MOM

All HP alerts that relate directly to an HP server hardware event include an embedded browser link at the bottom of the Description panel, as shown in Figure 3-19. This feature enables administrators to directly access the HP System Management Homepage for the device identified in the Computer field, and to view detailed configuration and status data on the device that generated the original event.

The browser link is created using "CompaqURL Script," which is embedded by default into all HP event processing rules that relate to hardware conditions. For more information, refer to Figure 3-15.

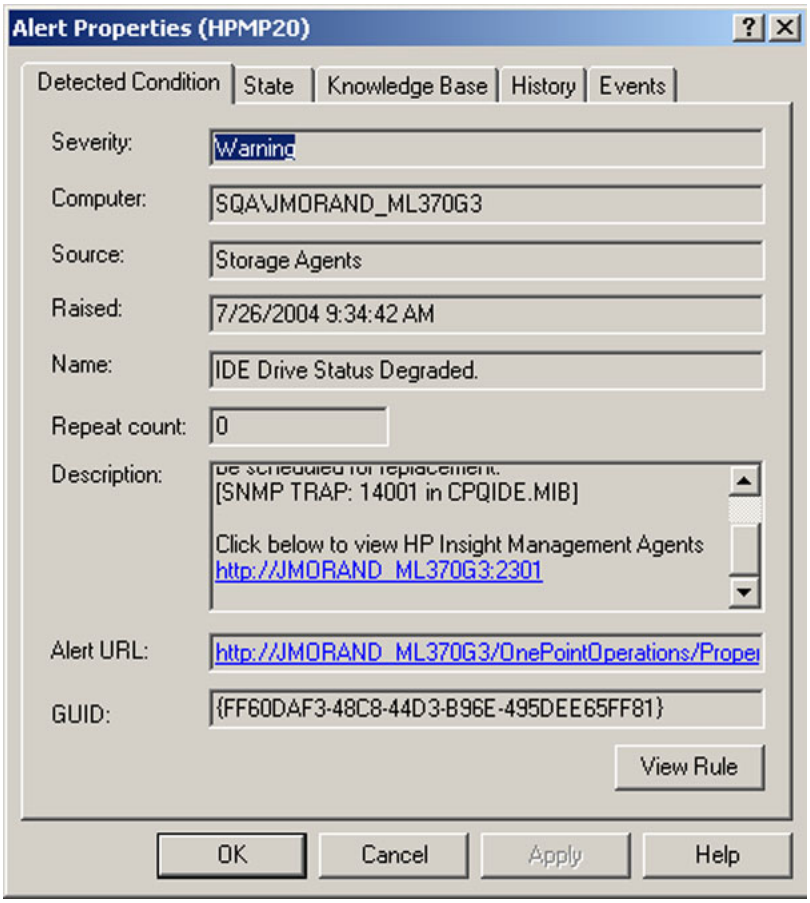

Figure 3-19: Embedded HP browser link in Description panel

Click the browser link to display the HP System Management Homepage of the device that generated the original event, as shown in Figure 3-20.

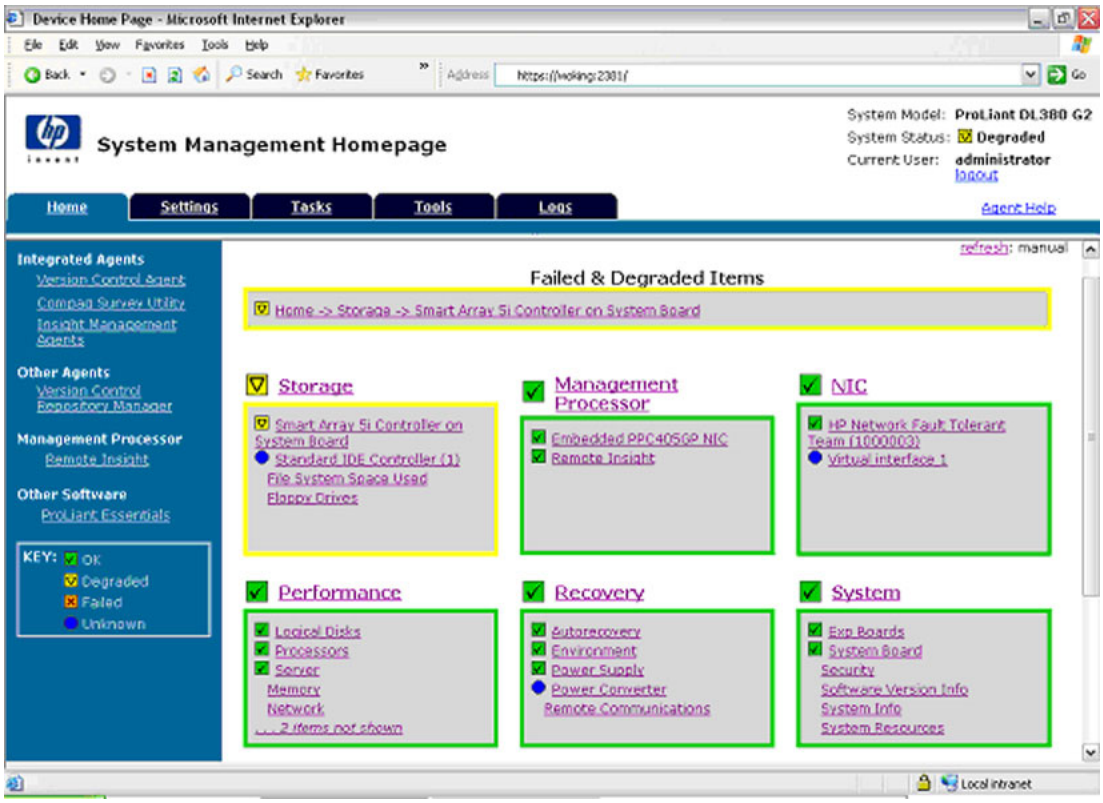

Figure 3-20: HP System Management Homepage

The browser-based HP System Management Homepage provides a consolidated view of system status and configuration information for a single server, based on data collected by the Insight Management Agents. The System Management Homepage also provides access to other HP browser-based management tools that might be installed on the target server, such as Insight Diagnostics, Version Control Agents, Insight Management Agents, or the Array Configuration Utility.

Launching the HP SIM or HP Insight Manager 7 from within MOM

All HP alerts generated by the HP SIM or HP Insight Manager 7 applications include an embedded browser link at the bottom of the Description panel, as shown in Figure 3-21. This feature enables administrators to launch the HP Systems Insight Manager application hosted on the identified system, and access the broad range of hardware resource lifecycle tools.

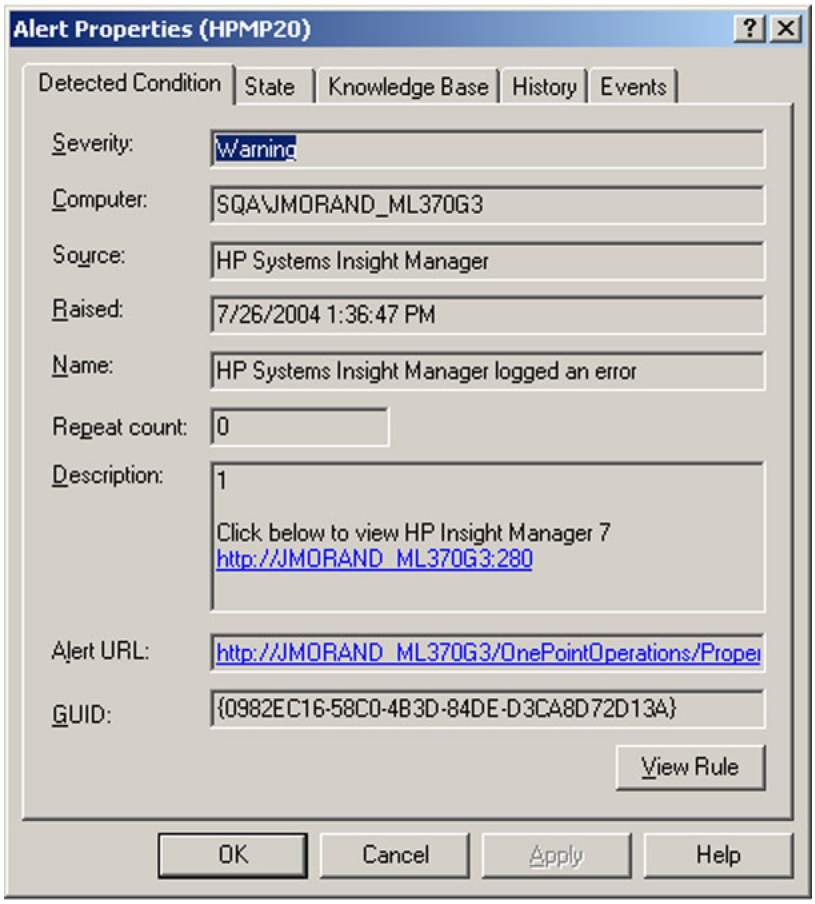

Figure 3-21: Embedded HP Systems Insight Manager Link

Knowledge Base Data

Knowledge base data is a valuable element of all management packs developed for the MOM, and is used to help provide administrators with additional information specific to each management pack.

The IMP provides knowledge base data for each HP processing rule and associated alert. This additional data can help to further identify event root causes, and can be edited to include environment or customer-specific information.

To view the main HP IMP knowledge base window in the MOM details pane, highlight the **HP Insight Management Pack (Version 2.2)** processing rule folder, as shown in Figure 3-22. The main IMP knowledge base window contains product and configuration data, and browser links to the additional Web-based information.

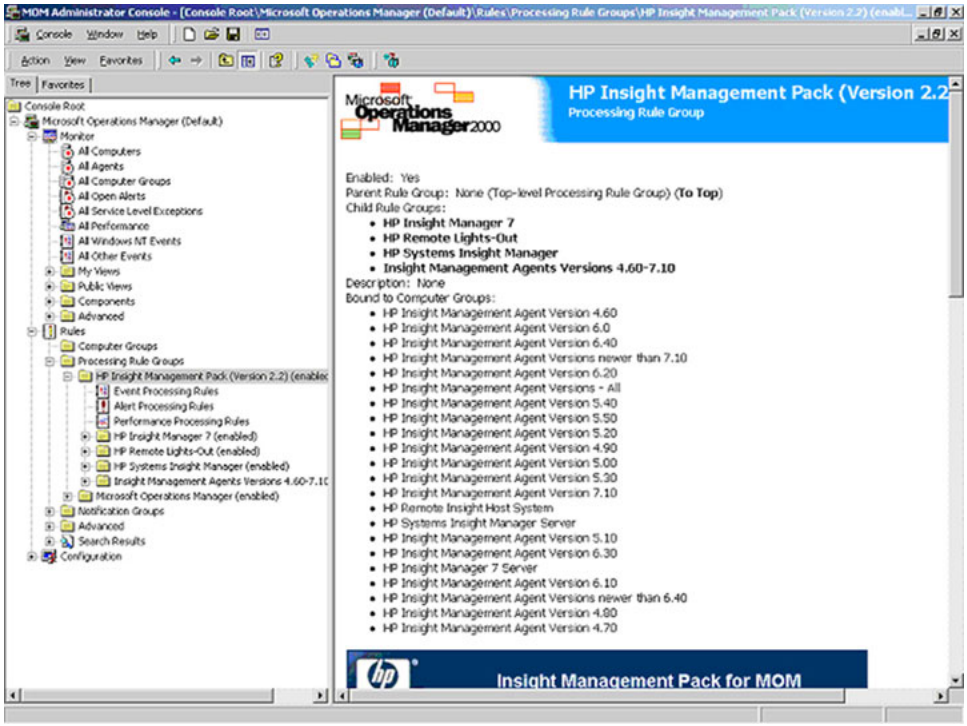

Figure 3-22: HP Insight Management Pack knowledge base window

To view and modify the knowledge base data for an individual processing rule, select the **Knowledge Base** tab of the rule Properties window, as shown in Figure 3-23. For more details on customizing HP processing rules, refer to the "Customizing Event Processing Rules" section.

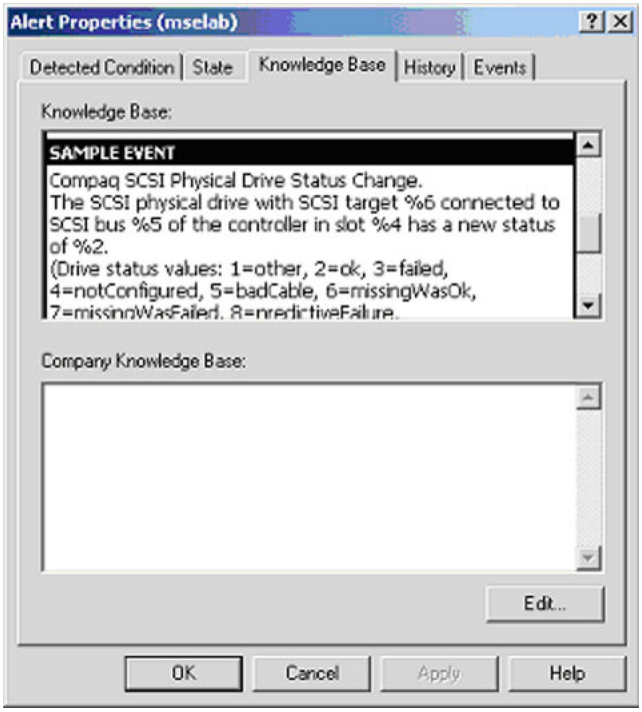

Figure 3-23: Alert Properties—Knowledge Base tab

A

HP IMP Rules

The following tables detail the HP events associated with the predefined event processing rules provided with the IMP for MOM.

Event Notification Service Events

Table A-1 lists the event notification service events and their descriptions.

Table A-1: Event Notification Service Events

Windows Event ID	Event Description
1	Unable to open parameters registry key.
2	Unable to open CIMNotify service SMTP host registry key.
3	Unable to read the SMTP host name from the registry.
4	Unable to establish a connection with the SMTP host: "%1."
5	Error sending notification to: "%1."
6	Unable to build event list.
7	Unable to initialize the Windows Sockets API.
8	Invalid recipient, no IP address found in registry.
9	Invalid recipient entry IDs found in registry.
10	The Recipient "%1" is invalid.
11	The service received a bad service request.
13	The service handler is invalid.
14	There is not enough free memory for this operation.
15	There are not enough system resources to continue.

Remote Monitor Service Events

Table A-2 lists the remote monitor service events and their descriptions.

Table A-2: Remote Monitor Service Events

Windows Event ID	Event Description
16	A device driver reported a critical condition.
16	A device driver reported an error or failure.
16	A device driver reported a warning.
16	A device driver reported a repair.
17	A hot plug service reported a repair.
17	A hot plug service reported a critical condition.
17	A hot plug service reported a warning.
17	A hot plug service reported an error or failure.
18	A remote monitor service reported.

Device Error Events

Table A-3 lists the device error events and their descriptions.

Table A-3: Device Error Events

Windows Event ID	Event Description
5	A parity error was detected on the device.
13	The driver was configured with an incorrect interrupt.
14	The driver was configured with an invalid I/O base address.
17	The wrong version of the driver has been loaded.
21	Conflict between two drivers: Overlapping memory regions.
22	Conflict between two drivers: Overlapping IO port regions.
23	Conflict between two drivers: Equivalent DMA channels.
24	Conflict between two drivers: Equivalent IRQs.
25	The driver has detected a device with old or out-of-date firmware.
26	The driver has detected that a device has old or out-of-date firmware.
27	Device resources conflicts: DMA.
28	Device resources conflicts: Interrupt.
29	Device resources conflicts: Memory.
30	Device resources conflicts: Port.
31	The file contains a bad disk block.
32	The driver detected that data corruption might occur because a device has its write cache enabled.
41	The file system structure on the disk is corrupt and unusable.
46	Crash dump initialization failed.
49	Configuring the Page file for crash dump failed.
52	The driver has detected that a device has predicted that a failure might be imminent.
53	A pending interrupt was detected on a device during a timeout operation.
55	The file system structure on the disk is corrupt and unusable.

Foundation Agent Events

Table A-4 lists the foundation agent events and their descriptions.

Table A-4: Foundation Agent Events

Windows Event ID	Event Description
Foundation Agent Service Events	
256	Foundation Agents service detected an error.
257	Foundation Agents service could not allocate memory. The data contains the error code.
258	Foundation Agents service could not register with the Service Control Manager. The data contains the error code.
259	Foundation Agents service could not set the service status with the Service Control Manager. The data contains the error code.
260	Foundation Agents service could not create an event object. The data contains the error code.
261	Foundation Agents service could not open registry key "%1." The data contains the error code.
262	Foundation Agents service could not start any agents successfully.
263	Foundation Agents service could not read the registry value "%1." The data contains the error code.
264	Foundation Agents service could not load the module "%1." The data contains the error code.
265	Foundation Agents service could get the control function for module "%1." The data contains the error code.
266	Foundation Agents service could not initialize agent "%1." The data contains the error code.
267	Foundation Agents service could not start agent "%1." The data contains the error code.
268	Foundation Agents service detected an invalid state for an agent.
269	Foundation Agents service could not stop agent "%1." The data contains the error code.
270	Foundation Agents service could not terminate agent "%1." The data contains the error code.
271	Foundation Agents service could not unload a module.
272	Foundation Agents service could not create the registry key "%1." The data contains the error code.
273	Foundation Agents service could not write a registry value.
399	Foundation Agents service encountered a fatal error.
1792	Component: Foundation SNMP Agent Error: The agent is unable to generate traps because of an error during initialization.

continued

Table A-4: Foundation Agent Events *continued*

Windows Event ID	Event Description
Foundation Agent Service Events	
1793	Foundation SNMP Agent's trap thread has encountered an error while waiting for event notification from event log.
1794	Foundation SNMP Agent's trap thread was unable to send a trap because of a processing error.
1795	Component: Foundation SNMP Agent Error: The agent is older than other components.
1796	Component: Foundation SNMP Agent Error: The %1 Agent is older than other components.
1797	Foundation SNMP Agent has failed to refresh data associated with specified key.
1798	Foundation SNMP Agent was unable to process a SNMP request because the Foundation SNMP Agent service is not running.
1800	Component: Foundation SNMP Agent Error: Unable to read security configuration information. SNMP sets have been disabled.
1803	Component: %4 Error: Unable to load a required library.
1804	Foundation SNMP Agent was unable to forward a SNMP trap to the Remote Insight Board trap because of a processing error.
1805	Foundation SNMP Agent was unable to get last modification time for specified key.
1806	Component: Foundation SNMP Agent Error: The Foundation SNMP Agent service is not running.
1808	Component: Foundation SNMP Agent Error: The agent could not deliver trap %1.
Host Agent Service Alarms	
2048	Unable to allocate memory. This indicates a low memory condition. Rebooting the system will correct this error.
2049	Unable to read from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
2050	Could not create the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
2051	Unable to read from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
2052	Unable to read "%1" from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
2053	Unable to read "%1" from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
2054	The Host Agent could not create a necessary event. The data contains the error code.
2055	The Host Agent could not set an event. The data contains the error code.
2056	Unable to create thread. This error might be caused by a low memory condition. Rebooting the server might correct this error.

continued

Table A-4: Foundation Agent Events *continued*

Windows Event ID	Event Description
Host Agent Service Alarms	
2057	The Host Agent main thread did not terminate properly. The data contains the error code.
2058	The Host Agent got an unexpected error code while waiting for an event. The data contains the error code.
2059	The Host Agent did not respond to a request. The data contains the error code.
2060	The Host Agent received an unknown action code from the service. The data contains the action code.
2061	The Host Agent could not get the system type. The data contains the error code.
2098	Unable to acquire file system information. This error might be caused by an unformatted partition or by a partition that has been recently modified. Formatting the partition or rebooting the server might correct this error.
2099	Unable to acquire file system information for %1. This error might be caused by a low memory condition. Rebooting the server might correct this error.
2100	Unable to acquire the current process list. This error might be caused by a low memory condition. Rebooting the server might correct this error.
2101	Unable to acquire the CPU performance data. This error might be caused by a low memory condition. Rebooting the server might correct this error.
2102	The Host Agent could not determine the number of processors. The data contains the error code.
2103	The Host Agent could not delete a registry subkey: %1. The data contains the error code.
2104	Unable to make an SNMP request. This error might be caused by a corrupt or missing file. Reinstalling the Management Agents or running the Emergency Repair procedure might correct this error.
2105	The Host Agent SNMP API failed. The data contains the error code.
2106	The Host Agent could not set the variable because it is unsupported. The data contains the error code.
2107	The Host Agent could not set the variable because the value is invalid or out of range. The data contains the error code.
2108	The Host Agent is not loaded. Sets are not available. The data contains the error code.
2109	Component: Host Agent Note: The Agent process exception handler has generated an exception. Debug processing has been stopped.
2110	Unable to read from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
2111	Unable to write to the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
2112	Unable to read from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.

continued

Table A-4: Foundation Agent Events *continued*

Windows Event ID	Event Description
Host Agent Service Alarms	
2113	Unable to spawn default exception handler. This error can be caused by a corrupt or missing file. Reinstalling the Management Agents or running the Emergency Repair procedure might correct this error.
2114	The Host Agent encountered an error while determining if this server has been configured with Integration server shares. The data contains the error code.
2115	The Host Agent encountered an error getting OS version information. The data contains the error code.
2116	Unable to read %1 from the registry. This error can be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
2117	Unable to write %1 to the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
2118	The Host Agent encountered an error while trying to generate a unique GUID for the system. The data contains the error code.
Remote Alerter Service Alarms	
768	The Host Remote Alerter detected an invalid data type within an alert definition.
769	The Host Remote Alerter detected an error while attempting to log an alert remotely. The data contains the error code.
770	The Host Remote Alerter detected an error while attempting to retrieve data from key = %1 in the registry. The data contains the error code.
771	The Host Remote Alerter was unable to log an event in the event log of the system named %1. The data contains the error code.
772	The Host Remote Alerter detected a null handle on initialization. The data contains the error code.
773	The Host Remote Alerter received an error on WaitForMultipleObjects call. The data contains the error code.
774	The Host Remote Alerter received an error on ResetEvent call. The data contains the error code.
Drive Array Traps	
1024	System Information Agent: Health: A cache accelerator parity error indicates a cache module must be replaced.
1061	Drive Array Physical Drive Threshold Exceeded. The physical drive in slot %4, port %5, bay %6 with serial number "%7" has exceeded a drive threshold.
1062	Drive Array Logical Drive Status Change.
1063	Drive Array Spare Drive Status Change.
1064	Drive Array Physical Drive Status Change.
1065	Drive Array Accelerator Status Change.

continued

Table A-4: Foundation Agent Events *continued*

Windows Event ID	Event Description
Drive Array Traps	
1066	Drive Array Accelerator Bad Data. The array accelerator board attached to the array controller in slot %4 is reporting that it contains bad-cached data.
1067	Drive Array Accelerator Battery Failed. The array accelerator board attached to the array controller in slot %4 is reporting a battery failure.
1165	Drive Array Controller Active. The Drive Array Controller in slot %4 has become the active controller. The Drive Array Controller in slot %6 is now the backup.
SCSI Traps	
1068	SCSI Agent: SCSI Controller: Controller Status Change Slot: %4; Port: %5; Value: %2 %3; Threshold: %1.
1069	The SCSI Logical drive with SCSI target %6 connected to SCSI bus %5 of the controller %4 SCSI has a new status of %2.
1070	SCSI Agent: SCSI Physical Drive: Physical Status Change Slot: %4; Port: %5; Drive: %6; Value: %2 %3; Threshold: %1.
1156	SCSI Agent: SCSI Autoloader failed.
1158	SCSI Agent: SCSI Autoloader degraded.
1159	SCSI Agent: SCSI Autoloader door open.
Health Traps	
1071	System Information Agent: Health: Correctable memory error detected.
1072	System Information Agent: Health: The tracking of correctable memory errors has been disabled. Value: %2 %3; Threshold: %1.
1076	Storage System: Temperature Failure.
1077	Storage System: Temperature Degraded Value: %2 %3; Threshold: %1.
1082	System Information Agent: Health: Temperature Failure.
1083	System Information Agent: Health: Temperature Degraded Value: %2 %3; Threshold: %1.
1085	System Information Agent: Health: System Fan Failure Value: %2 %3; Threshold: %1.
1086	System Information Agent: Health: System Fan Degraded Value: %2 %3; Threshold: %1.
1088	System Information Agent: Health: CPU Fan Failure.
1089	System Information Agent: Health: CPU Fan OK.
1092	System Information Agent: Health: Post Error Detected Post Error.
1124	System Information Agent: Health: System Fault Tolerant Power Supply Degraded Chassis: %4; Bay: %5.
1125	System Information Agent: Health: System Fault Tolerant Power Supply Failed Chassis: %4; Bay: %5.

continued

Table A-4: Foundation Agent Events *continued*

Windows Event ID	Event Description
Health Traps	
1126	System Information Agent: Health: System Fault Tolerant Power Supply Redundancy Lost Chassis: %4.
1127	System Information Agent: Health: System Fault Tolerant Power Supply Inserted Chassis: %4; Bay: %5.
1128	System Information Agent: Health: System Fault Tolerant Power Supply Removed Chassis: %4; Bay: %5.
1129	System Information Agent: Health: System Fault Tolerant Fan Degraded Chassis: %4; Fan: %5.
1130	System Information Agent: Health: System Fault Tolerant Fan Failed Chassis: %4; Fan: %5.
1131	System Information Agent: Health: System Fault Tolerant Fan Redundancy Lost Chassis: %4.
1132	System Information Agent: Health: System Fault Tolerant Fan Inserted Chassis: %4; Bay: %5.
1133	System Information Agent: Health: System Fault Tolerant Fan Removed Chassis: %4; Bay: %5.
1134	System Information Agent: Health: Temperature Failure Chassis: %4; Locale: %5.
1135	System Information Agent: Health: Temperature Degraded Chassis: %4; Locale: %5.
1137	System Information Agent: Health: Power Converter Degraded.
1138	System Information Agent: Health: Power Converter Failed.
1139	System Information Agent: Health: Power Converters are no longer redundant. Chassis: %4.
1140	System Information Agent: Health: Hot Plug Board removed.
1141	System Information Agent: Health: Hot Plug Board inserted.
1142	System Information Agent: Health: Hot Plug Board power up failed.
Storage System Traps	
1101	Storage System: Side Panel Removed Slot: %4; Port: %5; Vendor: %6; Model: %7; Value: %2 %3; Threshold: %1.
1103	System Information Agent: Health: System Fault Tolerant Power Supply Degraded Value: %2 %3; Threshold: %1.
1104	Storage System: Fault Tolerant Power Supply Degraded Value: %2 %3; Threshold: %1.
1107	SCSI Agent: SCSI Tape Drive: Tape Status Change Slot: %4; Port: %5; Drive: %6; Value: %2 %3; Threshold: %1.
1120	SCSI Agent: SCSI Tape Drive: Cleaning tape expired Slot: %4; Port: %5; Drive: %6; Value: %2 %3; Threshold: %1.
1152	Storage System Fan Module Status Change.
1154	Storage System Power Supply UPS Status Change.
1155	Storage System Temperature Sensor Status Change.

continued

Table A-4: Foundation Agent Events *continued*

Windows Event ID	Event Description
Remote Insight Traps	
1108	Remote Insight Agent: The Remote Insight Board has detected more that the maximum number of unauthorized login attempts (%4).
1109	Remote Insight Agent: The Remote Insight Board has detected a battery failure.
1110	Remote Insight Agent: The Remote Insight Board has detected self-test error %4.
1111	Remote Insight Agent: The Remote Insight Board has detected a controller interface error.
1112	Remote Insight Agent: The Remote Insight Board has detected that the battery is disconnected.
1113	Remote Insight Agent: The Remote Insight Board has detected that the keyboard cable is disconnected.
1117	Remote Insight Agent: The Remote Insight Board has detected that the external power cable is disconnected.
Threshold Traps	
1162	Threshold Agent: Rising Threshold Passed. SNMP MIB Variable %1 has value %2 >= %4. Severity: %5; Description: %6. Refer to the MIB for a definition of the variable.
1163	Threshold Agent: Falling Threshold Passed. SNMP MIB Variable %1 has value %2 <= %3. Severity: %5; Description: %6. Refer to the MIB for a definition of the variable.
1164	Critical Rising Threshold Passed.
Threshold Agent Service Alarms	
2304	The Threshold Agent could not allocate memory. The data contains the error code.
2305	The Threshold Agent could not open the base of the registry. The data contains the error code.
2306	The Threshold Agent could not create the registry subkey: “%1.” The data contains the error code.
2307	The Threshold Agent could not open the registry subkey: “%1.” The data contains the error code.
2308	The Threshold Agent could not read the registry value “%1.” The data contains the error code.
2309	The Threshold Agent found an incorrect type for registry value “%1.” The data contains the type found.
2310	The Threshold Agent could not create a necessary event. The data contains the error code.
2311	The Threshold Agent could not set an event. The data contains the error code.
2312	The Threshold Agent could not create its main thread of execution. The data contains the error code.
2313	The Threshold Agent main thread did not terminate properly. The data contains the error code.

continued

Table A-4: Foundation Agent Events *continued*

Windows Event ID	Event Description
Threshold Agent Service Alarms	
2314	The Threshold Agent got an unexpected error code while waiting for an event. The data contains the error code.
2315	The Threshold Agent did not respond to a request. The data contains the error code.
2316	The Threshold Agent received an unknown action code from the service. The data contains the action code.
2317	The Threshold Agent could not get the system type. The data contains the error code.
2354	The Threshold Agent could not create an SNMP session. The data contains the error code.
2355	The Threshold Agent SNMP request failed. The data contains the error code. 1. Ensure that the SNMP service is configured to allow SNMP requests from "localhost." 2. Ensure that there is an adequate amount of free memory.
2356	The Threshold Agent could do thresholding on a non-integer object: "%1." The data contains the error code.
2357	The Threshold Agent could not set the variable because it is unsupported. The data contains the error code.
2358	The Threshold Agent could not set the variable because the value is invalid or out of range. The data contains the error code.
2359	The Threshold Agent is not loaded. Sets are not available. The data contains the error code.
Fibre Channel Array Traps	
1145	Fibre Channel Array Logical Drive Status Change.
1146	Fibre Channel Array Physical Drive Status Change.
1147	Fibre Channel Array Spare Drive Status Change. The spare drive in port %5, bay %6 on array "%4" has a new status of %7.
1148	Fibre Channel Array Accelerator Status Change.
1149	Fibre Channel Array Accelerator Bad Data. The array accelerator board attached to the Fibre Channel Array Controller in I/O slot %5 of array "%4" is reporting that it contains bad-cached data.
1150	Fibre Channel Array Accelerator Battery Failed. The array accelerator board attached to the Fibre Channel Array Controller in I/O slot %5 of array "%4" is reporting a battery failure.
1151	Fibre Channel Array Controller Status Change. The Fibre Channel Array Controller in I/O slot %5 of array "%4" has a new status of %6.
1173	Fibre Channel Tape Controller Status Change.
1176	Fibre Channel Tape Drive Status Change.

continued

Table A-4: Foundation Agent Events *continued*

Windows Event ID	Event Description
Fibre Channel Array Traps	
1177	Fibre Channel Tape Drive Cleaning Required. The Fibre Channel tape drive on tape controller with world wide name "%4", SCSI bus %5, SCSI target %6 requires cleaning.
1178	Fibre Channel Tape Drive Replace Cleaning Tape. The cleaning tape in the Fibre Channel tape drive on tape controller with world wide name "%4", SCSI bus %5, SCSI target %6, must be replaced.
1179	Fibre Channel Array Controller Active. The Fibre Channel Array Controller in I/O slot %5 of array "%4" has become the active controller.
Cluster Traps	
1167	Cluster Agent: The cluster resource %4 has become degraded.
1168	Cluster Agent: The cluster resource %4 has failed.
1169	Cluster Agent: The cluster network %4 has become degraded.
1170	Cluster Agent: The cluster network %4 has failed.
1171	Cluster Agent: The cluster service on %4 has become degraded.
1172	Cluster Agent: The cluster service on %4 has failed.
Cluster Agent Service Alarms	
3840	Unable to allocate memory. This indicates a low memory condition. Reboot the system.
3841	Could not read from the registry subkey. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error
3842	Could not write the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3843	Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3844	Could not write the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3845	Could not write the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3846	The Cluster Agent could not create an event. The data contains the error code.
3847	The Cluster Agent could not set an event. The data contains the error code.
3848	The Cluster Agent could not create its main thread of execution. The data contains the error code.
3849	The Cluster Agent main thread did not terminate properly. The data contains the error code.
3850	The Cluster Agent got an unexpected error code while waiting for an event. The data contains the error code.
3851	The Cluster Agent got an unexpected error code while waiting for multiple events. The data contains the error code.

continued

Table A-4: Foundation Agent Events *continued*

Windows Event ID	Event Description
Cluster Agent Service Alarms	
3852	The Cluster Agent could not create a mutex variable. The data contains the error code.
3853	The Cluster Agent did not respond to a request. The data contains the error code.
3854	The Cluster Agent received an unknown action code from the service. The data contains the action code.
3855	Could not open a cluster enumeration object. The Cluster service might not be running. Restart the Cluster service.
3856	The Cluster Agent could not enumerate all the nodes in the cluster. The data contains the error code.
3857	The Cluster Agent could not get the cluster's status. The Cluster service might not be running. Restart the Cluster service.
3858	Could not open the enumerated resource. The Cluster service might not be running. Restart the Cluster service.
3859	Could not enumerate the cluster's resources. The Cluster service might not be running. Restart the Cluster service.
3861	Resource status is offline. The resource has failed or was taken offline by a cluster administrator.
3862	Could not get the resource status. The Cluster service might not be running. Restart the Cluster service.
3863	Resource status is inherited.
3867	Resource status is offline pending. The resource is being taken offline.
3868	Cluster information is unavailable. The Cluster service might not be running. Restart the Cluster service.
3869	The Cluster service is not running. The Cluster service has failed or has not started yet. Restart the Cluster service.
3870	The Agent could not open the Cluster service. The Cluster service might have been stopped. Restart the Cluster service.
3871	The Agent could not open the Cluster service registry key. The Cluster service might have not been installed, a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3872	The specified storage class is not supported by the Agent. The Agent only supports the disk resource class.
3873	The fibre controller resided at the storage box is off-line. The Agent only supports the disk resource class.
3874	Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3875	Could not open enumerated network. The Cluster service might not be running. Restart the Cluster service.
3876	Could not enumerate the cluster's networks. The Cluster service might not be running. Restart the Cluster service.

continued

Table A-4: Foundation Agent Events *continued*

Windows Event ID	Event Description
IDE Traps	
1121	IDE Agent: Drive %4: Status Degraded. Value: %2 %3; Threshold: %1.
External Status Agent Alarms	
4352	The External Status MIB Agent could not allocate memory. The data contains the error code.
4353	The External Status MIB Agent could not open the base of the registry. The data contains the error code.
4354	The External Status MIB Agent could not create the registry subkey: "%1." The data contains the error code.
4355	The External Status MIB Agent could not open the registry subkey: "%1." The data contains the error code.
4356	The External Status MIB Agent could not read the registry value "%1." The data contains the error code.
4357	The External Status MIB Agent found an incorrect type for registry value "%1." The data contains the type found.
4358	The External Status MIB Agent could not create a necessary event. The data contains the error code.
4359	The External Status MIB Agent could not set an event. The data contains the error code.
4360	The External Status MIB Agent could not create its main thread of execution. The data contains the error code.
4361	The External Status MIB Agent main thread did not terminate properly. The data contains the error code.
4362	The External Status MIB Agent got an unexpected error code while waiting for an event. The data contains the error code.
4363	The External Status MIB Agent did not respond to a request. The data contains the error code.
4364	The External Status MIB Agent received an unknown action code from the service. The data contains the action code.
4365	The External Status MIB Agent could not get the system type. The data contains the error code.
4402	The External Status MIB Agent could not create an SNMP session. The data contains the error code.
4403	The External Status MIB Agent SNMP request failed. The data contains the error code. 1. Ensure that the SNMP service is configured to allow SNMP requests from "localhost." 2. Ensure that there is an adequate amount of free memory.

continued

Table A-4: Foundation Agent Events *continued*

Windows Event ID	Event Description
External Status Agent Alarms	
4404	The External Status MIB Agent could do status checking on a non-integer object: "%1." The data contains the error code.
4405	The External Status MIB Agent could not set the variable because it is unsupported. The data contains the error code.
4406	The External Status MIB Agent could not set the variable because the value is invalid or out of range. The data contains the error code.
4407	The External Status MIB Agent is not loaded. Sets are not available. The data contains the error code.
Software Version Agent Alarms	
3087	The Software Version Agent has failed a set operation on %1. The data contains the value of the attempted set.
3088	The Software Version Agent has received a set operation for service that is not loaded. The set operation failed. The data contains the current DLL state.
3089	The Software Version Agent has received a set operation for an unsupported attribute. The set operation failed. The data contains the index of the attempted set.
Foundation Agent Other Alarms	
3072	Could not read from the registry subkey. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3073	Could not create the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3074	Could not create the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3075	Unable to read "%1" from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3076	Component: %4 Error: Unable to read "%1" from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3077	The %4 could not create a necessary event. The data contains the error code.
3078	The %4 could not set an event. The data contains the error code.
3079	The %4 could not create its main thread of execution. The data contains the error code.
3080	The %4 main thread did not terminate properly. The data contains the error code.
3081	The %4 received an unknown action code from the service. The data contains the action code.
3082	The %4 is unable to send an administrative alert. The data contains the error code. Verify the Alerter service is started in the Services Control Panel Application.

continued

Table A-4: Foundation Agent Events *continued*

Windows Event ID	Event Description
Foundation Agent Other Alarms	
3083	The %4 is unable to convert the computer name %1 to Unicode.
3084	Unable to read configuration (%1) from the registry. This error might be caused by a corrupt registry, a low memory condition, or incomplete configuration. Reconfigure the Management Agents using the Control Panel.
3085	Unable to write (%1) to the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3086	Unable to load a required library. This error can be caused by a corrupt or missing file. Reinstalling the Management Agents or running the Emergency Repair procedure might correct this error.
3090	Unable to allocate memory. This indicates a low memory condition. Reboot the system to correct this error.

NIC Agent Events

Table A-5 lists the NIC agent events and their descriptions.

Table A-5: NIC Agent Events

Windows Event ID	Event Description
NIC Agent Service Alarms	
256	The NIC Management Agent detected an error. The insertion string is: %1. The data contains the error code.
257	Unable to allocate memory. This indicates a low memory condition. Reboot the system.
258	The NIC Management Agent could not register with the Service Control Manager. The data contains the error code.
259	The NIC Management Agent could not set the service status with the Service Control Manager. The data contains the error code.
260	The NIC Management Agent could not start the Service Control Dispatcher. The data contains the error code.
261	Unable to read from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
262	Could not create the registry key: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
263	Could not delete the registry key: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
264	Unable to open the registry key "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.

continued

Table A-5: NIC Agent Events *continued*

Windows Event ID	Event Description
NIC Agent Service Alarms	
265	Unable to read "%1" from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
266	Unable to read "%1" from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
267	Unable to write "%1" to the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
268	Unable to enumerate "%1" from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
269	The NIC Management Agent encountered a fatal error. The service is terminating. The data contains the error code.
270	Unable to create thread. This error might be caused by a low memory condition. Rebooting the server might correct this error.
271	Could not open the driver for device "%1." The data contains the error code. This error might be caused by an improperly installed adapter. Removing and reinstalling the device might correct the problem.
272	Failure in driver %1. The data contains the error code. This error might be caused by an outdated driver version. Installing a later version of the driver might correct the problem.
273	There were no physical adapters in team: "%1" This error might be caused by improperly installed drivers. Remove all device instances associated with the team and re-install the drivers and team.
274	The NIC Management Agent cannot generate TRAPS because of a communication problem with the NIC SNMP extension agent. This error might be caused by improperly installed Agents. Re-install the agents.
276	The NIC Management Agent cannot communicate with the Token Ring Protocol driver (CNMPROT.SYS). The agent is still functional but Token Ring MIB II transmissions statistics will not be accurate. This error might be caused by improperly installed Agents. Re-install the agents.
278	The NIC Management Agent could not create a necessary event. The data contains the error code.
279	The NIC Management Agent could not set an event. The data contains the error code.
280	The NIC Management Agent service could not start any agents successfully.
281	The NIC Management Agent main thread did not terminate properly. The data contains the error code.
282	The NIC Management Agent got an unexpected error code while waiting for an event. The data contains the error code.
283	The NIC Management Agent did not respond to a request. The data contains the error code.

continued

Table A-5: NIC Agent Events *continued*

Windows Event ID	Event Description
NIC Agent Service Alarms	
284	The NIC Management Agent received an unknown action code from the service. The data contains the action code.
285	The NIC Management Agent could not get the system type. The data contains the error code.
287	The NIC Agent service could not load the module "%1." The data contains the error code.
288	The NIC Agent service could get the control function for module "%1." The data contains the error code.
289	The NIC Agent service could not initialize agent "%1." The data contains the error code.
290	The NIC Agent service could not start agent "%1." The data contains the error code.
291	The NIC Agent service detected an invalid state for agent "%1." The data contains the state.
292	The NIC Agent service could not stop agent "%1." The data contains the error code.
293	The NIC Agent service could not terminate agent "%1." The data contains the error code.
294	The NIC Agent service could not unload the module "%1." The data contains the error code.
512	Unable to allocate memory. This indicates a low memory condition. Rebooting the system will correct this error.
513	Unable to read from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
514	Could not create the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
515	Unable to open the registry subkey "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
516	Unable to read "%1" from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
517	Unable to read "%1" from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
518	The NIC MIB Insight Agent could not create a necessary event. The data contains the error code.
519	The NIC MIB Insight Agent could not set an event. The data contains the error code.
520	Unable to create thread. This error might be caused by a low memory condition. Rebooting the server might correct this error.

continued

Table A-5: NIC Agent Events *continued*

Windows Event ID	Event Description
NIC Agent Service Alarms	
521	The NIC MIB Insight Agent main thread did not terminate properly. The data contains the error code.
522	The NIC MIB Insight Agent got an unexpected error code while waiting for an event. The data contains the error code.
523	The NIC MIB Insight Agent did not respond to a request. The data contains the error code.
524	The NIC MIB Insight Agent received an unknown action code from the service. The data contains the action code.
525	The NIC MIB Insight Agent could not get the system type. The data contains the error code.
526	Could not open the driver for device "%1." The data contains the error code. This error might be caused by an improperly installed adapter. Removing and reinstalling the device might correct the problem.
527	Failure in driver %1. The data contains the error code. This error might be caused by an outdated driver version. Installing a later version of the driver might correct the problem.
528	Unable to enumerate "%1" from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
529	There were no physical adapters in team: "%1" This error might be caused by improperly installed drivers. Remove all device instances associated with the team and re-install the drivers and team.
530	The NIC Agent cannot generate TRAPS because of a communication problem with the NIC SNMP extension agent. This error might be caused by improperly installed Agents. Re-install the agents.
768	Unable to allocate memory. This indicates a low memory condition. Reboot the system.
769	Unable to read from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
770	Could not write the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
771	Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
772	Could not write the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
773	Could not write the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
774	The NICs Insight Agent could not create a necessary event. The data contains the error code.
775	The NICs Insight Agent could not set an event. The data contains the error code.
776	The NICs Insight Agent could not create its main thread of execution. The data contains the error code.
777	The NICs Insight Agent main thread did not terminate properly. The data contains the error code.

continued

Table A-5: NIC Agent Events *continued*

Windows Event ID	Event Description
NIC Agent Service Alarms	
778	The NICs Insight Agent got an unexpected error code while waiting for an event. The data contains the error code.
779	The NICs Insight Agent did not respond to a request. The data contains the error code.
780	The NICs Insight Agent received an unknown action code from the service. The data contains the action code.
781	The NICs Insight Agent could not get the system type. The data contains the error code.
1024	The SNMP Insight Agent is unable to generate traps because of an error during initialization. Ensure the SNMP service is running. Reinstalling the agents might fix this error.
1025	The SNMP Insight Agent's trap thread has encountered an error while waiting for event notification from event log.
1026	The SNMP Insight Agent's trap thread was unable to send a trap because of a processing error.
1027	The SNMP Agent is older than other components. The SNMP Agent is older than the other components of the Insight Agents. Reinstall the entire Insight Agents package to correct this error.
1028	The %1 Agent is older than other components. The %1 Agent is older than the other components of the Insight Agents. Reinstall the entire Insight Agents package to correct this error.
1029	The SNMP Insight Agent has failed to refresh data associated with key %1. This might cause data received from SNMP agent to be old or invalid. Ensure management service is up and running.
1030	The SNMP Insight Agent was unable to process a SNMP request because the Insight Agents Service is not up and running.
1031	The SNMP Insight Agent has continued refreshing data for the key associated with %1.
1032	Unable to read security configuration information. SNMP sets have been disabled. This can be cause by an invalid or missing configuration or by a corrupt registry. Reinstalling the Insight Agents or running the Emergency Repair procedure might correct this error.
1035	Unable to load a required library. This error can be caused by a corrupt or missing file. Reinstalling the Insight Agents or running the Emergency Repair procedure might correct this error.
1036	The SNMP Insight Agent was unable to forward an SNMP trap to the Remote Insight Board trap because of a processing error. The data contains the error code.
1037	The SNMP Insight Agent was unable to get last modification time for key %1.
1038	The Insight Agent service is not running. The SNMP Insight Agent has determined that the Insight Agent service is not running. Stop the SNMP service and restart the Insight Agents service. If the error persists, reinstalling the Insight Agents might correct this error.
1040	The agent could not deliver trap %1. The agent was unable to use Asynchronous Management to deliver a trap. This might be caused by a failure in the Remote Access Service or by a missing or invalid configuration. Use the Insight Agent control panel to verify the Asynchronous Management configuration settings. Use the Network control panel to verify the Remote Access configuration. If this error persists, reinstalling the Insight Agents or the Remote Access Service might correct this error. For more information, refer to the Insight Asynchronous Management documentation.

continued

Table A-5: NIC Agent Events *continued*

Windows Event ID	Event Description
NIC Agent Traps	
1281	NIC Agent: Connectivity has been lost for the NIC in slot %1, port %2.
1282	NIC Agent: Redundancy has been increased by the NIC in slot %1, port %2. Number of functional NICs in the team: %3.
1283	NIC Agent: Redundancy has been reduced by the NIC in slot %1, port %2. Number of functional NICs in the team: %3.
1287	Redundancy has been reduced by the NIC in slot %1, port %2. Number of functional NICs in the team: %3.

Server Agent Events

Table A-6 lists the server agent events and their descriptions.

Table A-6: Server Agent Events

Windows Event ID	Event Description
Server Agents Service Alarms	
256	The Server Agents service detected an error. The insertion string is: %1. The data contains the error code.
257	The Server Agents service could not allocate memory. The data contains the error code.
258	The Server Agents service could not register with the Service Control Manager. The data contains the error code.
259	The Server Agents service could not set the service status with the Service Control Manager. The data contains the error code.
260	The Server Agents service could not create an event object. The data contains the error code.
261	The Server Agents service could not open registry key "%1." The data contains the error code.
262	The Server Agents service could not start any agents successfully.
263	The Server Agents service could not read the registry value "%1." The data contains the error code.
264	The Server Agents service could not load the module "%1." The data contains the error code.
265	The Server Agents service could get the control function for module "%1." The data contains the error code.
266	The Server Agents service could not initialize agent "%1." The data contains the error code.
267	The Server Agents service could not start agent "%1." The data contains the error code.

continued

Table A-6: Server Agent Events *continued*

Windows Event ID	Event Description
Server Agents Service Alarms	
268	The Server Agents service detected an invalid state for agent "%1." The data contains the state.
269	The Server Agents service could not stop agent "%1." The data contains the error code.
270	The Server Agents service could not terminate agent "%1." The data contains the error code.
271	The Server Agents service could not unload the module "%1." The data contains the error code.
272	The Server Agents service could not create the registry key "%1." The data contains the error code.
273	The Server Agents service could not write the registry value "%1." The data contains the error code.
399	The Server Agents service encountered a fatal error. The service is terminating. The data contains the error code.
Remote Alerter Agent Service Alarms	
768	The Remote Alerter Agent detected an invalid data type within an alert definition.
769	The Remote Alerter Agent detected an error while attempting to log an alert remotely. The data contains the error code.
770	The Remote Alerter Agent detected an error while attempting to retrieve data from key = %1 in the registry. The data contains the error code.
771	The Remote Alerter Agent was unable to log an event in the event log of the system named %1. The data contains the error code.
772	The Remote Alerter Agent detected a null handle on initialization. The data contains the error code.
773	The Remote Alerter Agent received an error on WaitForMultipleObjects call. The data contains the error code.
774	The Remote Alerter Agent received an error on ResetEvent call. The data contains the error code.
Health Agent Traps	
1024	System Information Agent: Health: A cache accelerator parity error indicates a cache module must be replaced.
1034	A memory board or cartridge bus error has been detected in the memory subsystem. User Action: replace the indicated board or cartridge.
1071	System Information Agent: Health: Correctable memory error detected. The memory module should be replaced. Value: %2 %3; Threshold: %1.
1072	System Information Agent: Health: The tracking of correctable memory errors has been disabled. Value: %2 %3; Threshold: %1.
1082	System Information Agent: Health: Temperature Failure Value: %2 %3; Threshold: %1.

continued

Table A-6: Server Agent Events *continued*

Windows Event ID	Event Description
Health Agent Traps	
1083	System Information Agent: Health: Temperature Degraded Value: %2 %3; Threshold: %1.
1085	System Information Agent: Health: System Fan Failure Value: %2 %3; Threshold: %1.
1086	System Information Agent: Health: System Fan Degraded Value: %2 %3; Threshold: %1.
1088	System Information Agent: Health: CPU Fan Failure Value: %2 %3; Threshold: %1.
1092	System Information Agent: Health: Post Error Detected Post Error: %4; Post Message: %5.
1103	System Information Agent: Health: System Fault Tolerant Power Supply Degraded Value: %2 %3; Threshold: %1.
1114	System Information Agent: Standard Equipment: CPU passed internal corrected error threshold. Slot: %4; Socket %5; Value: %2 %3; Threshold: %1.
1115	System Information Agent: The computer cover has been removed since last system start up.
1123	System Information Agent: Health: Post Errors Detected.
1124	System Information Agent: Health: System Fault Tolerant Power Supply Degraded Chassis: %4; Bay: %5.
1125	System Information Agent: Health: System Fault Tolerant Power Supply Failed Chassis: %4; Bay: %5.
1126	System Information Agent: Health: System Fault Tolerant Power Supply Redundancy Lost Chassis: %4.
1128	System Information Agent: Health: System Fault Tolerant Power Supply Removed Chassis: %4; Bay: %5.
1129	System Information Agent: Health: System Fault Tolerant Fan Degraded Chassis: %4; Fan: %5.
1130	System Information Agent: Health: System Fault Tolerant Fan Failed Chassis: %4; Fan: %5.
1131	System Information Agent: Health: System Fault Tolerant Fan Redundancy Lost Chassis: %4.
1133	System Information Agent: Health: System Fault Tolerant Fan Removed Chassis: %4; Fan: %5.
1134	System Information Agent: Health: Temperature Failure Chassis: %4; Locale: %5.
1135	System Information Agent: Health: Temperature Degraded Chassis: %4; Locale: %5.

continued

Table A-6: Server Agent Events *continued*

Windows Event ID	Event Description
Health Agent Traps	
1137	System Information Agent: Health: Power Converter Degraded Chassis: %4; Slot: %5; Socket: %6.
1138	System Information Agent: Health: Power Converter Failed Chassis: %4; Slot: %5; Socket: %6.
1139	System Information Agent: Health: Power Converters are no longer redundant Chassis: %4.
1140	System Information Agent: Health: Hot Plug Board removed Chassis: %4; Slot: %5.
1142	System Information Agent: Health: Hot Plug Board failed Chassis: %4; Slot: %5.
System Information Agent Service Alarms	
1536	The System Information Agent was unable to initialize base system information.
1537	The System Information Agent was unable to initialize server health information.
1538	The System Information Agent monitor thread has experienced an error in call to async notify IOCTL. The thread is exiting. Error information follows.
1539	Unable to write to the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error
1540	Unable to read from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
1541	The System Information Agent experienced an error while trying to create events for Health monitor thread. Error information follows.
1542	The System Information Agent was unable to start a monitor thread. Error information follows.
1543	Unable to load a required driver. This error might be caused by a corrupt or missing file. Reinstall the Insight Agents, the software support drivers, or run the Emergency Repair procedure.
1544	Unable to read from the registry. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
1545	The System Information Agent has determined that correctable memory errors are supported but not enabled. Memory errors will be corrected but not logged into internal health logs.
1546	The System Information Agent was unable to update MIB state conditions in the registry. Error information follows.
1547	The System Information Agent was unable to update critical errors.
1548	The System Information Agent unable to update correctable memory errors.
1549	The System Information Agent was unable to update CSM information.

continued

Table A-6: Server Agent Events *continued*

Windows Event ID	Event Description
System Information Agent Service Alarms	
1550	The System Information Agent was unable to update the system utilization information.
1551	The System Information Agent's system utilization update thread failed to wait on an event.
1552	The System Information Agent's system utilization update thread cannot update information because a device handle could not be obtained.
1553	The System Information Agent has received a set operation while the service is not loaded. The set operation failed. Index value follows.
1554	The System Information Agent has failed a set operation on an attribute. Index value follows.
1555	The System Information Agent has received a set operation for an unsupported attribute. Index value follows.
1556	Component: System Information Agent Note: Unable to reboot to Utilities. The system partition is not available.
1557	The System Information Agent does not support a Remote Server Restart on Non-EISA systems.
1558	Unable to shutdown the system. System shutdown has failed. This might be caused by a Windows NT service that has crashed. Reboot the server manually.
1559	The System Information Agent failed to start a command or batch file during a remote system initiated reboot. Shutdown of system will continue.
1560	The System Information Agent failed to complete a command or batch file during a remote system initiated reboot. Shutdown of system will continue.
1561	Non-EISA systems are not supported by the System Information Agent.
1562	Unable to initialize agent on non-system. The System Information Agent only operates on systems.
1563	The System Information Agent was unable to update fault tolerant power supply information.
1564	Could not read the registry subkey: "%1." This error can be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
1565	The System Information Agent was unable complete IOCTL to sysmgmt.sys.
1566	The System Information Agent was unable to get cache information on more than 4 processors.
1567	Unable to allocate memory. This indicates a low memory condition. Rebooting the system will correct this error.
1568	The System Information Agent experienced an error while decoding PCI information. Error information follows.

continued

Table A-6: Server Agent Events *continued*

Windows Event ID	Event Description
System Information Agent Service Alarms	
1569	The System Information Agent was unable to read PCI information from system. Error information follows.
1570	The System Information Agent was unable to initialize PCI utilization. Error information follows.
1571	The System Information Agent has received invalid PCI utilization information from the Systems Management Driver. Returning 0 utilization.
1572	The System Information Agent has failed while calling the SMI pass-through to the Systems Management Driver. Setting IRC info to default values.
1573	The System Information Agent has determined that the IRC function is not present via SMI. Setting IRC info to default values.
1574	Could not write the registry subkey: "%1." This error can be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
1575	The System Information Agent was unable to update OSB information.
Remote Insight Agent Traps	
1108	Remote Insight Agent: The Remote Insight Board has detected more that the maximum number of unauthorized login attempts (%4).
1109	Remote Insight Agent: The Remote Insight Board has detected a battery failure.
1110	Remote Insight Agent: The Remote Insight Board has detected self-test error %4.
1111	Remote Insight Agent: The Remote Insight Board has detected a controller interface error.
1112	Remote Insight Agent: The Remote Insight Board has detected that the battery is disconnected.
1113	Remote Insight Agent: The Remote Insight Board has detected that the keyboard cable is disconnected.
1117	Remote Insight Agent: The Remote Insight Board has detected that the external power cable is disconnected.
Remote Insight Agent Service Alarms	
3328	Unable to allocate memory. This indicates a low memory condition. Rebooting the system might correct this error.
3329	Could not read from the registry subkey. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.

continued

Table A-6: Server Agent Events *continued*

Windows Event ID	Event Description
Remote Insight Agent Service Alarms	
3330	Could not write the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3331	Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3332	Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3333	Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
3334	The Remote Insight Agent could not create an event. The data contains the error code.
3335	The Remote Insight Agent could not open an event. The data contains the error code.
3336	The Remote Insight Agent could not set an event. The data contains the error code.
3337	The Remote Insight Agent could not create a mutex. The data contains the error code.
3338	The Remote Insight Agent could not open a mutex. The data contains the error code.
3339	The Remote Insight Agent could not create its main thread of execution. The data contains the error code.
3340	The Remote Insight Agent main thread did not terminate properly. The data contains the error code.
3341	The Remote Insight Agent got an unexpected error code while waiting for an event. The data contains the error code.
3342	The Remote Insight Agent got an unexpected error code while waiting for multiple events. The data contains the error code.
3343	The Remote Insight Agent did not respond to a request. The data contains the error code.
3344	The Remote Insight Agent received an unknown action code from the service. The data contains the action code.
3345	Remote Insight Board device driver not present. The Remote Insight Agent requires the Remote Insight Board device driver (CPQSM2.SYS) to be installed. Install the driver from the latest Software for Windows. If you do not have a Remote Insight Agent Board in this system, disable the Remote Insight Agent via the Management Agent Control Panel.
3346	The Remote Insight Agent could not read all the SNMP community strings. The data contains the error code.
3347	The Remote Insight Agent has failed a set operation on an attribute. The data contains the error code.
3348	The Remote Insight Agent has received a set operation for an unsupported attribute.

continued

Table A-6: Server Agent Events *continued*

Windows Event ID	Event Description
Remote Insight Agent Service Alarms	
3349	The Remote Insight Agent received an error while modifying the controller status field. The data contains the error code.
3350	The Remote Insight Agent received an error while modifying the server information field. The data contains the error code.
3358	The Remote Insight Agent encountered an invalid handle.
3359	The Remote Insight Agent has received an invalid sessions type.
3360	The Remote Insight Agent has reached the maximum number of user sessions.
3361	The Remote Insight Agent encountered a buffer too small to contain the data. No data has been returned.
3362	The Remote Insight Agent received the wrong response to a command.
3364	The Remote Insight Agent encountered a receive buffer in use error. No data has been returned.
3365	The Remote Insight Agent could not allocate a receive buffer.
3366	The Remote Insight Agent could not free a receive buffer.
3367	The Remote firmware returned a command error buffer.
Server SNMP Agent Service Alarms	
1792	The Server SNMP Agent is unable to generate traps because of an error during initialization. Check to ensure that the SNMP service is running. Reinstalling the agents might fix this error.
1793	The Server SNMP Agent's trap thread has encountered an error while waiting for event notification from event log.
1794	The Server SNMP Agent's trap thread was unable to send a trap because of a processing error.
1795	The SNMP Agent is older than other components. The SNMP Agent is older than the other components of the Server Agents. Reinstall the entire Server Agents package to correct this error.
1796	The %1 Agent is older than other components. The %1 Agent is older than the other components of the Server Agents. Reinstall the entire Server Agents package to correct this error.
1797	The Server SNMP Agent has failed to refresh data associated with key %1. This might cause data received from SNMP agent to be old or invalid. Verify Server Agents service is up and running.
1798	The Server SNMP Agent was unable to process a SNMP request because the Insight Agents Service is not up and running.

continued

Table A-6: Server Agent Events *continued*

Windows Event ID	Event Description
Server SNMP Agent Service Alarms	
1800	Unable to read security configuration information. SNMP sets have been disabled. This might be caused by an invalid or missing configuration or by a corrupt registry. Reinstalling the Insight Agents might correct this error.
1803	Unable to load a required library. This error might be caused by a corrupt or missing file. Reinstalling the Server Agents or running the Emergency Repair procedure might correct this error.
1804	The Server SNMP Agent was unable to forward an SNMP trap to the Remote Insight Board trap because of a processing error. The data contains the error code.
1805	The Server SNMP Agent was unable to get last modification time for key %1.
1806	The Insight Agent service is not running. The Server SNMP Agent has determined that the Server Agent service is not running. Stop the SNMP service and restart the Server Agents. If the error persists, reinstalling the Insight Agents might correct this error.
1808	The agent could not deliver trap %1. Cause: The agent was unable to use Asynchronous Management to deliver a trap. This might be caused by a failure in the Remote Access Service or by a missing or invalid configuration. Use the Management Agents control panel to verify the Asynchronous Management configuration settings. Use the Network control panel to verify the Remote Access configuration. If this error persists, reinstalling the Management Agents or the Remote Access Service might correct this error. For more information, refer to the Management Agents Asynchronous Management documentation.

Storage Agent Events

Table A-7 lists the storage agent events and their descriptions.

Table A-7: Storage Agent Events

Windows Event ID	Event Description
Storage Agents Service Alarms	
256	The Storage Agents service detected an error. The insertion string is: %1. The data contains the error code.
257	The Storage Agents service could not allocate memory. The data contains the error code.
258	The Storage Agents service could not register with the Service Control Manager. The data contains the error code.
259	The Storage Agents service could not set the service status with the Service Control Manager. The data contains the error code.

continued

Table A-7: Storage Agent Events *continued*

Windows Event ID	Event Description
Storage Agents Service Alarms	
260	The Storage Agents service could not create an event object. The data contains the error code.
261	The Storage Agents service could not open registry key "%1." The data contains the error code.
262	The Storage Agents service could not start any agents successfully.
263	The Storage Agents service could not read the registry value "%1." The data contains the error code.
264	The Storage Agents service could not load the module "%1." The data contains the error code.
265	The Storage Agents service could get the control function for module "%1." The data contains the error code.
266	The Storage Agents service could not initialize agent "%1." The data contains the error code.
267	The Storage Agents service could not start agent "%1." The data contains the error code.
268	The Storage Agents service detected an invalid state for agent "%1." The data contains the state.
269	The Storage Agents service could not stop agent "%1." The data contains the error code.
270	The Storage Agents service could not terminate agent "%1." The data contains the error code.
271	The Storage Agents service could not unload the module "%1." The data contains the error code.
272	The Storage Agents service could not create the registry key "%1." The data contains the error code.
273	The Storage Agents service could not write the registry value "%1." The data contains the error code.
399	The Storage Agents service encountered a fatal error. The service is terminating. The data contains the error code.
512	Unable to allocate memory. This indicates a low memory condition. Rebooting the system will correct this error.
513	Could not read from the registry subkey. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.

continued

Table A-7: Storage Agent Events *continued*

Windows Event ID	Event Description
Storage Agents Service Alarms	
514	Could not write the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
515	Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
516	Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
517	Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
518	The Drive Array Storage Agent could not create an event. The data contains the error code.
519	The Drive Array Storage Agent could not set an event. The data contains the error code.
520	The Drive Array Storage Agent could not create its main thread of execution. The data contains the error code.
521	The Drive Array Storage Agent main thread did not terminate properly. The data contains the error code.
522	The Drive Array Storage Agent got an unexpected error code while waiting for an event. The data contains the error code.
523	The Drive Array Storage Agent did not respond to a request. The data contains the error code.
524	The Drive Array Storage Agent received an unknown action code from the service. The data contains the action code.
525	The Drive Array Storage Agent could not get the system type. The data contains the error code.
526	Unsupported storage system. The ProLiant storage system %1 is not supported by this version of the Storage Agents. Upgrade the agents to the latest version.
527	The Drive Array Storage Agent storage system table is full.
562	A Drive Array passthrough command failed with a FATAL error bit set.
563	A Drive Array passthrough command failed with a BAD_REQUEST bit set.

continued

Table A-7: Storage Agent Events *continued*

Windows Event ID	Event Description
Storage Agents Service Alarms	
565	The Drive Array Storage Agent could not get Drive Array controller configuration information. The data contains the error code.
566	The Drive Array Storage Agent could not get accelerator information. The data contains the error code.
567	The Drive Array Storage Agent could not get logical unit surface status information. The data contains the error code.
568	The Drive Array Storage Agent could not get physical drive information. The data contains the error code.
569	The Drive Array Storage Agent could not get physical drive threshold information. The data contains the error code.
570	The Drive Array Storage Agent could not get logical unit status information. The data contains the error code.
571	The Drive Array Storage Agent could not get logical unit drive threshold violation information. The data contains the error code.
572	The Drive Array Storage Agent could not get drive array controller bus information. The data contains the error code.
573	The Drive Array Storage Agent could not get drive array error log information. The data contains the error code.
574	The Drive Array Storage Agent failed to get capacity on SCSI drive because SCSI pass through IOCTL failed.
575	The Drive Array Storage Agent failed to get capacity on SCSI drive.
576	The Drive Array Storage Agent could not get performance information. The data contains the error code.
Remote Alerter Service Alarms	
768	The Remote Alerter Agent detected an invalid data type within an alert definition.
769	The Remote Alerter Agent detected an error while attempting to log an alert remotely. The data contains the error code.
770	The Remote Alerter Agent detected an error while attempting to retrieve data from key = %1 in the registry. The data contains the error code.
771	The Remote Alerter Agent was unable to log an event in the event log of the system named %1. The data contains the error code.
772	The Remote Alerter Agent detected a null handle on initialization. The data contains the error code.
773	The Remote Alerter Agent received an error on WaitForMultipleObjects call. The data contains the error code.
774	The Remote Alerter Agent received an error on ResetEvent call. The data contains the error code.

continued

Table A-7: Storage Agent Events *continued*

Windows Event ID	Event Description
Drive Array Traps	
1061	Drive Array Physical Drive Threshold Exceeded. The physical drive in slot %4, port %5, bay %6 with serial number "%7" has exceeded a drive threshold.
1062	Drive Array Logical Drive Status Change.
1063	Drive Array Spare Drive Status Change.
1064	Drive Array Physical Drive Status Change.
1065	Drive Array Accelerator Status Change.
1066	Drive Array Accelerator Bad Data. The array accelerator board attached to the array controller in slot %4 is reporting that it contains bad-cached data.
1067	Drive Array Accelerator Battery Failed. The array accelerator board attached to the array controller in slot %4 is reporting a battery failure.
1164	Drive Array Controller Status Change.
1180	Drive Array Tape Library Status Change. The tape library in slot %4, SCSI bus %5, SCSI target %6 has a new status of %7.
1182	Drive Array Tape Drive Status Change. The tape drive in slot %4, SCSI bus %5, SCSI target %6 has a new status of %7.
1183	Drive Array Tape Drive Cleaning Required. The tape drive in slot %4, SCSI bus %5, SCSI target %6 requires cleaning.
1184	Drive Array Tape Drive Replace Cleaning Tape. The cleaning tape in the tape drive in slot %4, SCSI bus %5, SCSI target %6 must be replaced.
1199	Drive Array Controller Status Change. The Drive Array Controller in %7 has a new status of %5.
1200	Drive Array Logical Drive Status Change. Logical drive number %5 on the array controller in %4 has a new status of %2.
1201	Drive Array Spare Drive Status Change. The spare drive in %4, port %5, bay %6 has a new status of %2.
1202	Drive Array Physical Drive Status Change. The physical drive in %4, port %5, bay %6 with serial number "%7" has a new status of %2.
1203	Drive Array Physical Drive Threshold Exceeded. The physical drive in %4, port %5, bay %6 with serial number "%7" has exceeded a drive threshold.
1204	Drive Array Accelerator Status Change. The array accelerator board attached to the array controller in %4 has a new status of %2.
1205	Drive Array Accelerator Bad Data. The array accelerator board attached to the array controller in %4 is reporting that it contains bad cached data.
1206	Drive Array Accelerator Battery Failed. The array accelerator board attached to the array controller in %4 is reporting a battery failure.
1207	Drive Array Tape Library Status Change. The tape library in %4, SCSI bus %5, SCSI target %6 has a new status of %7.
1208	Drive Array Tape Library Door Status Change. The tape library in %4, SCSI bus %5, SCSI target %6 has a new door status of %7.

continued

Table A-7: Storage Agent Events *continued*

Windows Event ID	Event Description
1209	Drive Array Tape Drive Status Change. The tape drive in %4, SCSI bus %5, SCSI target %6 has a new status of %7.
1210	Drive Array Tape Drive Cleaning Required. The tape drive in %4, SCSI bus %5, SCSI target %6 requires cleaning.
1211	Drive Array Tape Drive Replace Cleaning Tape. The cleaning tape in the tape drive in %4, SCSI bus %5, SCSI target %6 must be replaced.
Storage System Traps	
1076	Storage System: Temperature Failure Value: %2 %3; Threshold: %1.
1077	Storage System: Temperature Degraded Value: %2 %3; Threshold: %1.
1101	Storage System: Side Panel Removed Slot: %4; Port: %5; Vendor: %6; Model: %7; Value: %2 %3; Threshold: %1.
1104	Storage System: Fault Tolerant Power Supply Degraded Value: %2 %3; Threshold: %1.
1119	SCSI Storage Agent: SCSI Tape Drive: Head needs cleaning Slot: %4; Port: %5; Drive: %6; Value: %2 %3; Threshold: %1.
1120	SCSI Storage Agent: SCSI Tape Drive: Cleaning tape expired Slot: %4; Port: %5; Drive: %6; Value: %2 %3; Threshold: %1.
1153	Storage System Power Supply Status Change.
1154	Storage System Power Supply UPS Status Change.
1212	Storage System Fan Status Change. The %6 %7 storage system connected to SCSI bus %5 of the controller in %4 has a new status of %2.
1213	Storage System Temperature Status Change. The %6 %7 storage system connected to SCSI bus %5 of the controller in %4 has a new temperature status of %2.
1214	Storage System Fault Tolerant Power Supply Status Change. The fault tolerant power supply in the %6 %7 storage system connected to SCSI bus %5 of the controller in %4 has a new status of %2.
1155	Storage System Temperature Sensor Status Change.
IDE Storage Agent Traps	
1121	IDE Storage Agent: Drive %4: Status Degraded. Value: %2 %3; Threshold: %1.
IDE Storage Agent Service Alarms	
3584	The IDE Storage Agent could not allocate memory. The data contains the error code.
3585	The IDE Storage Agent could not open the base of the registry. The data contains the error code.
3586	The IDE Storage Agent could not create the registry subkey: "%1." The data contains the error code.
3587	The IDE Storage Agent could not open the registry subkey: "%1." The data contains the error code.
3588	The IDE Storage Agent could not read the registry value "%1." The data contains the error code.
3589	The IDE Storage Agent found an incorrect type for registry value "%1." The data contains the type found.

continued

Table A-7: Storage Agent Events *continued*

Windows Event ID	Event Description
3590	The IDE Storage Agent could not create an event. The data contains the error code.
3591	The IDE Storage Agent could not open an event. The data contains the error code.
3592	The IDE Storage Agent could not set an event. The data contains the error code.
3593	The IDE Storage Agent could not create a mutex. The data contains the error code.
3594	The IDE Storage Agent could not open a mutex. The data contains the error code.
3595	The IDE Storage Agent could not create its main thread of execution. The data contains the error code.
3596	The IDE Storage Agent main thread did not terminate properly. The data contains the error code.
3597	The IDE Storage Agent got an unexpected error code while waiting for an event. The data contains the error code.
3598	The IDE Storage Agent got an unexpected error code while waiting for multiple events. The data contains the error code.
3599	The IDE Storage Agent did not respond to a request. The data contains the error code.
3600	The IDE Storage Agent received an unknown action code from the service. The data contains the action code.
Fibre Channel Traps	
1145	Fibre Channel Array Logical Drive Status Change. Logical drive number %5 on array "%4" has a new status of %6.
1146	Fibre Channel Array Physical Drive Status Change.
1147	Fibre Channel Array Spare Drive Status Change.
Fibre Channel Traps	
1148	Fibre Channel Array Accelerator Status Change.
1149	Fibre Channel Array Accelerator Bad Data. The array accelerator board attached to the Fibre Channel Array Controller in I/O slot %5 of array "%4" is reporting that it contains bad-cached data.
1150	Fibre Channel Array Accelerator Battery Failed. The array accelerator board attached to the Fibre Channel Array Controller in I/O slot %5 of array "%4" is reporting a battery failure.
1151	Fibre Channel Array Controller Status Change.
1173	Fibre Channel Tape Controller Status Change.
1174	Fibre Channel Tape Library Status Change.
1176	Fibre Channel Tape Drive Status Change.
1177	Fibre Channel Tape Drive Cleaning Required. The Fibre Channel tape drive on tape controller with world wide name "%4", SCSI bus %5, SCSI target %6 requires cleaning.
1178	Fibre Channel Tape Drive Replace Cleaning Tape. The cleaning tape in the Fibre Channel tape drive on tape controller with world wide name "%4", SCSI bus %5, SCSI target %6 must be replaced.
1185	Fibre Channel Controller Status Change.
1215	Fibre Channel Controller Status Change.

continued

Table A-7: Storage Agent Events *continued*

Windows Event ID	Event Description
SCSI Traps	
1156	SCSI Storage Agent: SCSI Autoloader failed Slot: %4; Port: %5; Device: %6.
1158	SCSI Storage Agent: SCSI Autoloader degraded Slot: %4; Port: %5; Device: %6.
SCSI Agent Service Alarms	
1280	Unable to allocate memory. This indicates a low memory condition. Rebooting the system will correct this error.
1281	Could not read from the registry subkey. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
1282	Could not write the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
1283	Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
1284	Could not write the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
SCSI Agent Service Alarms	
1285	Could not write the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
1286	The SCSI Storage Agent could not create an event. The data contains the error code.
1287	The SCSI Storage Agent could not set an event. The data contains the error code.
1288	The SCSI Storage Agent could not create its main thread of execution. The data contains the error code.
1289	The SCSI Storage Agent main thread did not terminate properly. The data contains the error code.
1290	The SCSI Storage Agent got an unexpected error code while waiting for an event. The data contains the error code.
1291	The SCSI Storage Agent did not respond to a request. The data contains the error code.
1292	The SCSI Storage Agent received an unknown action code from the service. The data contains the action code.
1293	The SCSI Storage Agent could not get the system type. The data contains the error code.
1294	Unsupported storage system. The ProLiant storage system %1 is unsupported by this version of the Storage Agents. Upgrade the agents to the latest version.
1295	The SCSI Storage Agent storage system table is full.
1330	Unable to open SCSI port %1. SCSI port %1 might have been deleted or the driver might not have started.

continued

Table A-7: Storage Agent Events *continued*

Windows Event ID	Event Description
1331	The SCSI Mini-Port driver returned an error. The data contains the error code.
1332	The SCSI Storage Agent could not get the SCSI Mini-Port data. The data contains the error code.
1333	Unable to open any SCSI ports. The SCSI driver might have been deleted or the driver might not have started. Reinstall the SCSI driver. If the system does not have any SCSI devices disable the SCSI Agent.
1334	The SCSI Storage Agent could not get the SCSI monitor driver version using port "%1." The data contains the error code.
1335	The SCSI Storage Agent could not get the SCSI monitor configuration for port "%1." The data contains the error code.
1336	The SCSI Storage Agent could not get the SCSI monitor data. The data contains the error code.
SCSI Agent Service Alarms	
1337	The SCSI Storage Agent could not get the storage system driver version using port "%1." The data contains the error code.
1338	The SCSI Storage Agent could not get the storage system configuration for port "%1." The data contains the error code.
1339	The SCSI Storage Agent could not get the storage system alarm page. The data contains the error code.
1340	The SCSI Storage Agent could not get the storage system device map. The data contains the error code.
1341	The SCSI Storage Agent could not get the inquiry data for port "%1." The data contains the error code.
1342	The SCSI Storage Agent could not get the data for a tape drive with SCSI ID "%1." The data contains the error code.
1343	Duplicate SCSI port found in slot %1. The current system ROM might not support this SCSI controller. You might need to update your system ROM.
1344	A version mismatch has been detected with the SCSI device monitor driver (CPQSDM.SYS). The current driver version is %1.
1345	The SCSI Agent could not get the SCSI RAID data. The data contains the error code.
1346	The SCSI Agent could not get the slot data for the controller, The SCSI controller on port %1 has been omitted.

continued

Table A-7: Storage Agent Events *continued*

Windows Event ID	Event Description
Storage Agent Service Alarms	
1792	The SNMP Agent is unable to generate traps because of an error during initialization. Check to ensure that the SNMP service is running. Reinstalling the agents might fix this error.
1793	The Storage SNMP Agent's trap thread has encountered an error while waiting for event notification from event log.
1794	The Storage SNMP Agent's trap thread was unable to send a trap because of a processing error.
1795	The SNMP Agent is older than other components. The SNMP Agent is older than the other components of the Storage Agents. Reinstall the entire Storage Agents package to correct this error.
1796	The %1 Agent is older than other components. The %1 Agent is older than the other components of the Storage Agents. Reinstall the entire Storage Management Agents package to correct the error.
1797	The Storage SNMP Agent has failed to refresh data associated with key %1. This might cause data received from SNMP agent to be old or invalid. Ensure management service is up and running.
1798	The Storage SNMP Agent was unable to process a SNMP request because the Storage Agents Service is not up and running.
Storage Agent Service Alarms	
1799	The Storage SNMP Agent has continued refreshing data for the key associated with %1.
1800	Unable to read security configuration information. SNMP sets have been disabled. This might be caused by an invalid or missing configuration or by a corrupt registry. Reinstalling the Storage Agents might correct this error.
1801	Component: Storage SNMP Agent Note: The SNMP Agent will allow SNMP sets.
1802	Component: Storage SNMP Agent Note: The SNMP Agent will not allow SNMP sets.
1803	Unable to load a required library. This error might be caused by a corrupt or missing file. Reinstalling the Storage Agents or running the Emergency Repair procedure might correct this error.
1804	The Storage SNMP Agent was unable to forward an SNMP trap to the Remote Insight Board trap because of a processing error. The data contains the error code.
1805	The Storage SNMP Agent was unable to get last modification time for key %1.
1806	The Storage Agent service is not running. The SNMP Agent has determined that the Storage Agent service is not running. Stop the SNMP service and restart the Storage Agents service. If the error persists, reinstalling the Insight Agents might correct this error.
1808	The agent could not deliver trap %1. The agent was unable to use Asynchronous Management to deliver a trap. This can be caused by a failure in the Remote Access Service or by a missing or invalid configuration. Use the Management Agents control panel to verify the Asynchronous Management configuration settings. Use the Network control panel to verify the Remote Access configuration. If this error persists, reinstalling the Management Agents or the Remote Access Service might correct this error. For more information, refer to the Management Agents Asynchronous Management documentation.

Continued

Table A-7: Storage Agent Events *continued*

Windows Event ID	Event Description
Fibre Channel Storage Agent Service Alarms	
4096	Unable to allocate memory. This indicates a low memory condition. Rebooting the system will correct this error.
4097	Could not read from the registry subkey. This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
4098	Could not write the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
Fibre Channel Storage Agent Service Alarms	
4099	Component: Fibre Channel Storage Agent Error: Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
4100	Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
4101	Could not read the registry subkey: "%1." This error might be caused by a corrupt registry or a low memory condition. Rebooting the server might correct this error.
4102	The Fibre Channel Storage Agent could not create an event. The data contains the error code.
4103	The Fibre Channel Storage Agent could not set an event. The data contains the error code.
4104	The Fibre Channel Storage Agent could not create its main thread of execution. The data contains the error code.
4105	The Fibre Channel Storage Agent main thread did not terminate properly. The data contains the error code.
4106	The Fibre Channel Storage Agent got an unexpected error code while waiting for an event. The data contains the error code.
4107	The Fibre Channel Storage Agent did not respond to a request. The data contains the error code.
4108	The Fibre Channel Storage Agent received an unknown action code from the service. The data contains the action code.
4109	The Fibre Channel Storage Agent could not get the system type. The data contains the error code.

Continued

Table A-7: Storage Agent Events *continued*

Windows Event ID	Event Description
4110	Unsupported storage system. The ProLiant storage system %1 is not supported by this version of the Storage Agents. Upgrade the agents to the latest version.
4111	The Fibre Channel Storage Agent storage system table is full.
4146	A Fibre Channel Array passthrough command failed with a FATAL error bit set.
4147	A Fibre Channel Array passthrough command failed with a BAD_REQUEST bit set.
4148	Fibre Channel Array device driver not present. The Fibre Channel Storage Agent requires the Fibre Channel Array Class driver (CPQFCAC.SYS) to be installed.
4149	The Fibre Channel Storage Agent could not get Fibre Channel Array controller configuration information. The data contains the error code.
4150	The Fibre Channel Storage Agent could not get accelerator information. The data contains the error code.
4151	The Fibre Channel Storage Agent could not get logical unit surface status information. The data contains the error code.
4152	The Fibre Channel Storage Agent could not get physical drive information. The data contains the error code.
4153	The Fibre Channel Storage Agent could not get physical drive threshold information. The data contains the error code.
4154	The Fibre Channel Storage Agent could not get logical unit status information. The data contains the error code.
4155	The Fibre Channel Storage Agent could not get logical unit drive threshold violation information. The data contains the error code.
4156	The Fibre Channel Storage Agent could not get drive array controller bus information. The data contains the error code.
4157	The Fibre Channel Storage Agent could not get drive array error log information. The data contains the error code.
4158	The Fibre Channel Storage Agent failed to get capacity on SCSI drive because SCSI pass through IOCTL failed.
4159	The Fibre Channel Storage Agent failed to get capacity on SCSI drive.
4160	The Fibre Channel Storage Agent could not get performance information. The data contains the error code.

Dr. Watson Application Events

The following table describes the Microsoft Dr. Watson application event that relates to Insight Management Agent operations.

Table A-8: Dr. Watson Application Events

Windows Event ID	Event Description
4097	Insight Management Agent caused a Dr. Watson error.

B

Troubleshooting

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

Q. Why are some elements of the IMP not visible?

A. Refresh the MOM console interface, which displays any recent console tree updates. If some elements of the IMP are still not visible, the database might be corrupt, which can happen if the installation was interrupted or did not complete. Reinstall the IMP to correct this problem. Refer to the "Installing the Insight Management Pack for Microsoft Operations Manager" section in Chapter 2 for complete details on installing the IMP.

Q. Why are my HP servers not being discovered by MOM?

A. There are a number of reasons why HP servers might not be discovered by the MOM console. Be sure that the following conditions exist on all servers to be managed:

- SNMP services are running.
- The HP Insight Management Agents are installed and active.
- The MOM Agent Manager has been configured to include the target HP servers as managed computers.
- An active MOM agent has been installed. This condition can usually be validated by the presence of the OnePoint service on each managed server.

If the MOM Agent Manager has already been configured to include the target servers as managed computers, then force a system scan. The default setting for automated daily scanning is 2:05 a.m. To enable systems to show up immediately, use the **Scan managed computers now** feature of the MOM Agent Manager.

Confirm that MOM has the rights to manage the target servers. In the Windows Event Log of the MOM host system, check the Application Log for warning messages from the OnePoint service.

An example of a warning message is Event ID 21196:

```
The Agent Manager would have taken responsibility for the
following computers, but was unable to obtain write access to
their registries.
```

Q. My HP servers are being discovered by MOM but are not displaying within the computer groups provided with the IMP. What could be causing this?

A. Be sure that Insight Management Agents 4.60 or later are installed and active on all HP servers to be managed with MOM. If Insight Management Agents are not installed or are versions earlier than 4.60, HP servers are not displayed under the HP specific computer groups.

Q. Why are none of my HP events showing up as alerts under MOM?

A. Assuming that the HP servers are included as managed computers under the Agent Manager and are being discovered correctly, be sure that:

- Each managed HP server has local SNMP service running and that all required Insight Management Agents are installed and active. SNMP is required locally by the Insight Management Agents to ensure correct operation.
- Each managed HP server is receiving HP Insight events in the Windows Event Log.
- The Windows Event Log is not full. If the Windows Event Log is full, this might prevent new events from being recorded.
- If HP events are visible in the Windows Event Log, be sure that the event processing rules provided with the IMP are installed and enabled within MOM.

Q. Why do some HP events display in Systems Insight Manager but are not visible in MOM?

A. HP Systems Insight Manager is designed to display all events, including SNMP traps and service events generated directly by the Insight Management Agents. By comparison, MOM uses the Windows Event Log to collate event information. If selected HP events are not being displayed within MOM then there are two primary causes:

- The event is not being written to the Windows Event Log. In general, only events that relate to hardware or service error conditions are written to the Windows Event Log. The majority of informational or "Status OK" events are not written to the Windows Event Log by the Insight Management Agents.
- If an HP event is being written to the Windows Event Log but is not showing up in MOM, it might not be associated with an enabled event-processing rule or might not match the processing rule criteria.

Q. Why are HP Storage Agent and NIC Agent alerts not being forwarded to the Hardware Support Notification Group in the MOM console?

A. Check the following items:

- Confirm that the alert processing rules are enabled under the Storage Agent and NIC Agents rule groups provided with the IMP.
- Verify that the Hardware Support Notification Group in MOM has been configured with at least one valid Group Operator, and that the operator properties are correct.

Q. Why do I lose connection with the Insight Manager 7 application when a MOM agent is installed?

A. The MOM agent installation process requires local SNMP services to be reset. If a MOM agent is installed onto a server running Insight Manager 7 before version SP1, the Insight Manager service can be temporarily stopped and restarted. Insight Manager 7 operations require an active SNMP service, and as a result, any clients browsing into the Insight Manager 7 application could receive a message stating that the connection has been lost and the browser must be closed and reopened. This problem is resolved with HP Insight Manager 7 SP1 and later.

Q. Why does the HP Insight Management Pack not display a Computer Group for Insight Management Agents v7.0?

A. Because of a known problem with the format of the registry data written by Insight Management Agents 7.0, a separate computer group is not displayed by the Insight Management Pack. All managed systems installed with Insight Management Agents v7.0 will appear in computer group "*HP Insight Management Agent Version 6.40*" in addition to the "*HP Insight Management Agent All*" group. This problem is resolved in Insight Management Agents 7.1.

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