Dell Smart Plug-in Version 3.0 For HP Operations Manager 9.0 For Microsoft Windows User's Guide

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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Contents

Overview

The Dell Smart Plug-in (SPI) provides grouping and monitoring capability for Dell systems and enables the users to take remedial action when an inefficient system is identified. This guide is intended for system administrators who use Dell Smart Plug-in on Hewlett Packard Operations Manager (HPOM) 9.0 for Microsoft Windows, to monitor Dell systems.

With the integration of Dell SPI into HPOM, you can use the HPOM console to monitor the availability of the Dell devices that are discovered in HPOM.

What Is New In Dell SPI Version 3.0

Table 1. New Features and Functionalities

New Feature	Functionality
12th Generation classification	Classifies Dell y9xx to yx2x generation Monolithic and Modular servers. 📝 **NOTE:** In the server name format yxxx; y denotes alphabets, for example M, R, or T; and x denotes numbers.
Grouping	Groups: • Chassis Management Controller (CMC) and Dell Remote Access Controller/Modular Chassis (DRAC/MC) devices under Dell Chassis. • DRAC devices under their respective Dell Servers. • iDRAC devices under their respective Dell Servers. • Modular Servers under their respective chassis. • EqualLogic PS-Series Arrays and PowerVault MD Storage Arrays under Dell Storage.
Monitoring	Monitors: • Health of 12G OOB Server using the information from the associated iDRAC7 device. • DRAC devices (DRAC5 and iDRAC6). • Chassis (CMC and DRAC/MC). • Health of Dell Equallogic (EQL) Storage Arrays. • Health of Dell PowerVault MD Storage Arrays.
Trap based Monitoring	Trap based monitoring health of Dell Servers, DRACs, out-of-band (OOB) Dell servers (iDRAC7), Chassis, and EqualLogic devices.
View and Monitor alerts	View and monitor alerts from OOB Dell servers, DRAC, CMC, and DRAC/MC devices regarding system's power state change, voltage, licences. Dell Equallogic (EQL) Storage Arrays devices' virtual disks, temperature, power supply, battery and vFlash Media device.
New console launch tasks	Launches: • **Dell Remote Access Controller (DRAC) Console** associated with Dell Server. • **OpenManage Server Administrator (OMSA) Web Server Console** for an iDRAC7 device on a Dell servers installed with the ESXi operating systems. • **OpenManage Server Administrator Console** from the HPOM management station to investigate the iDRAC7 devices.

New Feature	Functionality
	- **DRAC / MC and CMC** console for Dell Chassis. - **EqualLogic (EQL) Group Manager Console.** from the HPOM management station to investigate the Dell EqualLogic Storage Arrays. - **MD Storage Manager Console** from the HPOM management station to investigate the Dell Modular Disk (MD) Storage Arrays. - **OpenManage Essentials (OME) Console** from the HPOM management station. - Launches **OpenManage Power Center Console (OMPC)** from the HPOM management station. - Launches **Warranty Report** tool for the selected Dell system or Dell device. - Launches **Dell Connections License Manager** console.
Dell SPI Licensing	- Licensing support for agent-free, out-of-band monitoring for the 12th generation of Dell PowerEdge servers via iDRAC7. - Monitors the Dell Connections License Manager (DCLM) health, license availability and verifies the DCLM configuration parameters.
Knowledge Based Articles	Knowledge base articles associated with all alerts.
Dell Unresponsive Devices	Classifies unreachable Dell devices as Unresponsive Dell devices; Nodes that were grouped earlier but not responding during the next grouping cycle are listed under the **Dell Unresponsive Devices** node hierarchy.

Key Features And Benefits Of Dell Smart Plug-in

Dell SPI version 3.0 provides the following features for managing the Dell systems and Dell devices:

Table 2. Features And Functionalities

Feature	Functionality
Auto-grouping	Creates the **Dell Hardware**, and **Dell SPI Licensing** groups under the services group, and **Dell Managed Systems** group under the nodes group, and groups the Dell systems, which are discovered either as managed or external nodes with the supported Windows, Linux, VMware ESXi operating systems, Dell DRAC , Dell Chassis, and Dell Storage in the HPOM console. For more information, see Auto-grouping Dell Devices.
Global Health Monitoring	Periodically monitor the global system health of Dell systems grouped under the **Dell Hardware** services group. For more information, see Monitoring The Health Of Dell Devices.
SNMP trap processing	Process Simple Network Management Protocol (SNMP) traps generated by Server Administrator, OpenManage Storage Management (Storage Systems) agents running on Dell systems and Server OOB (iDRAC7), DRAC5, iDRAC6, DRAC/MC, CMC, and Dell EqualLogic devices. For more information, see Processing SNMP Traps From Dell Devices.
Launching Dell Remote Access Controller Console (in-band)	Launch **Dell Remote Access Controller (DRAC) Console** as a tool for troubleshooting the DRAC alerts from the corresponding Dell server (in-band) in the HPOM console. For more information, see Launching Dell Remote Access Controller (DRAC) Console.
Launching OpenManage Server Administrator (OMSA) Console	Launch **OpenManage Server Administrator Console** as a tool from the HPOM console for troubleshooting the alerts from the Windows and Linux systems. For more information, see Launching OpenManage Server Administrator (OMSA) Console.
Launching OpenManage Server Administrator Web Server Console	Launch the **Server Administrator Web Server Console** as a tool from the HPOM console to connect to the ESXi systems, for troubleshooting the alerts. For more information, see Launching OpenManage Server Administrator Web Server Console.
Launching DRAC Console	Launch **DRAC Console** as a tool for troubleshooting the DRAC alerts from the Dell DRAC devices in the HPOM console. For more information, see Launching Dell Remote Access Controller (DRAC) Console From DRAC.

Feature	Functionality
Launching OpenManage Server Administrator Console	Launch **OpenManage Server Administrator Console** as a tool from the HPOM console for troubleshooting the alerts from OOB Server (iDRAC7). For more information, see Launching OpenManage Server Administrator Console From DRAC.
Launching Chassis Management Controller (CMC) Console	Launch **CMC Console** as a tool from the HPOM console for troubleshooting the alerts from the CMC devices. For more information, see Launching Chassis Management Controller (CMC) Console.
Launching Dell Remote Access Controller/Modular Chassis (DRAC/MC) Console	Launch **DRAC/MC Console** as a tool from the HPOM console for troubleshooting the alerts from the DRAC/MC devices. For more information, see Launching DRAC/MC Console.
Launching EqualLogic (EQL) Group Manager Console	Launch **EQL Group Manager Console** as a tool from the HPOM console for troubleshooting the alerts from the Dell EqualLogic Storage Arrays. For more information, see Launching EqualLogic Group Manager Console.
Launching MD Storage Manager Console	Launch **MD Storage Manager Console** as a tool from the HPOM console for viewing the recovery failure messages from the Dell MD Storage Arrays. For more information, see Launching MD Storage Manager Console.
Launching OpenManage Essentials (OME) Console	Launch the **OpenManage Essentials** as a tool from the HPOM console to discover, monitor and manage Dell devices. For more information, see Launching OpenManage Essentials (OME) Console.
Launching OpenManage Power Center (OMPC) Console	Launch the **OpenManage Power Center** as a tool from the HPOM console to monitor and manage power consumption, and temperature in the data center through the management console . For more information, see Launching OpenManage Power Center Console.
Launching Warranty Report	Launch the **Warranty Report** as a tool from the HPOM console to retrieve the warranty information for a selected Dell system or Dell device. For more information, see Launching Warranty Report.
Launching Dell Connections Manager Console	Launch the **Dell Connections License Manager Console** as a tool from the HPOM console to view the number of licenses consumed. For more information, see Launching Dell Connections License Manager Console.
Dell Unresponsive Devices	Classifying unreachable Dell devices as **Dell Unresponsive Devices**. For more information, see Dell Unresponsive Devices.
Knowledge Base (KB) Articles	View knowledge base article that contains information about summary, causes and steps to resolve the alert

Feature	Functionality
	condition. For more information, see [Viewing Knowledge Base Articles.](#)

Dell SPIv3.0 Deployed On HPOM Console

The following figures displays the HPOM console with the Dell SPIv3.0.
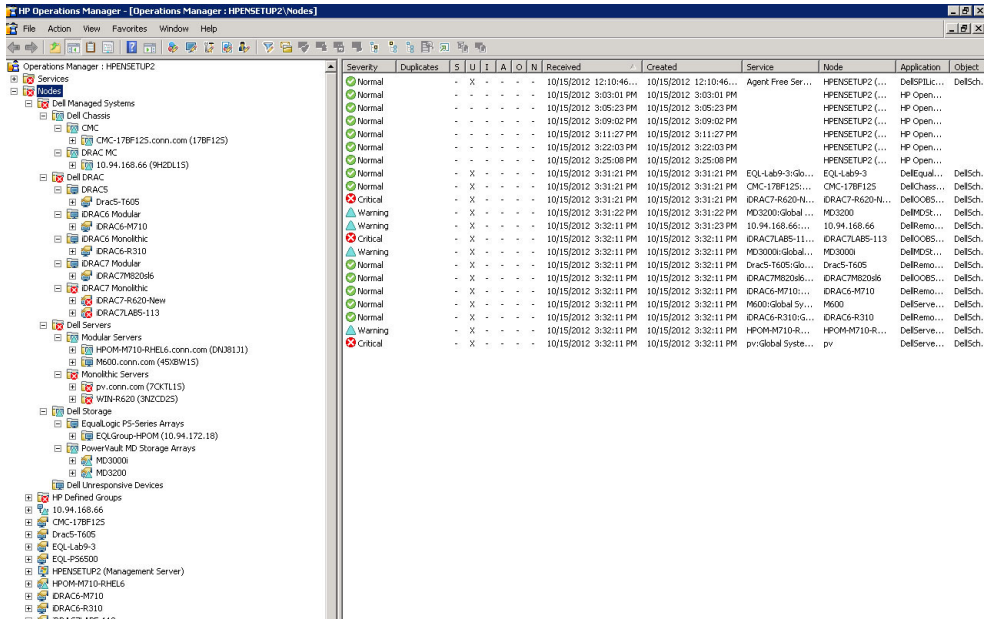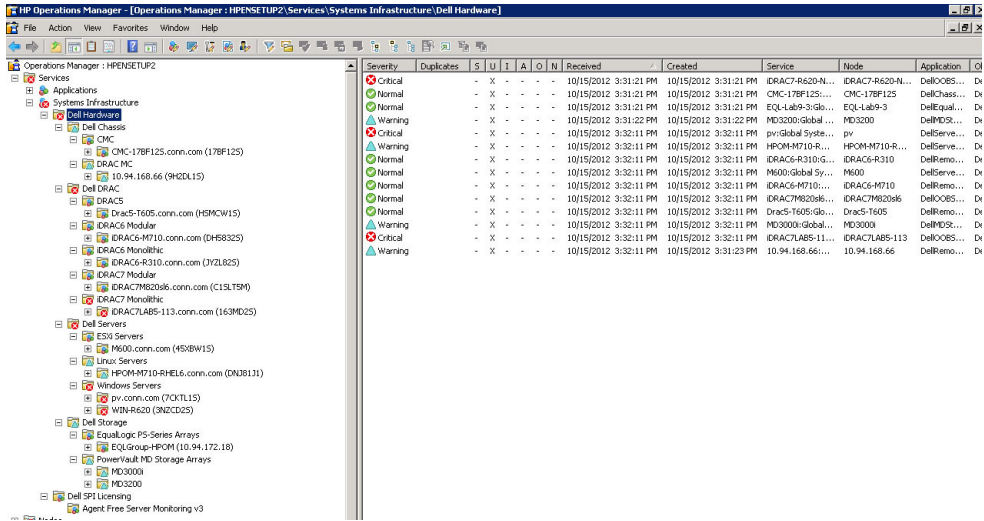
About Dell Smart Plug-in

The Dell SPI consists of the following policies:

- Dell Connections License Manager Scheduled Status Poll
- Dell DRAC and Chassis Scheduled Status Poll
- Dell DRAC and Chassis Traps (Manual Ack)
- Dell EqualLogic Arrays Scheduled Status Poll
- Dell EqualLogic Traps
- Dell EqualLogic Traps (Manual Ack)
- Dell MD Storage Arrays Scheduled Status Poll
- Dell Hardware Autogroup Policy
- Dell OOB Server Traps (Manual Ack)
- Dell Server Scheduled Status Poll
- Dell Server Traps
- Dell Server Traps (Manual Ack)

Table 3. Policy Files And Their Description

Policy File	Description
Dell Connections License Manager Scheduled Status Poll	This policy periodically polls the Dell Connections License Manager (DCLM) health, license availability; Verifies the DCLM configuration parameters and provides the corresponding status information to the HP Operations Manager console.
Dell DRAC and Chassis Scheduled Status Poll	This policy periodically polls the DRAC, and Chassis grouped under **Dell Managed Systems** and retrieves the system health status information.
Dell DRAC and Chassis Traps (Manual Ack)	This policy processes the SNMP traps generated by Dell Remote Access Controller (DRAC), Modular Chassis (DRAC/MC), and Chassis Management Controller (CMC); and sends the appropriate messages to HP Operations Manager console. You have to acknowledge these messages manually.
Dell EqualLogic Arrays Scheduled Status Poll	This policy periodically polls the EqualLogic Storage Arrays grouped under **Dell Managed Systems** and provides the system health status information to the HP Operations Manager console.
Dell EqualLogic Traps	This policy processes the SNMP traps generated by Dell EqualLogic Storage Arrays and sends appropriate alerts to the HP Operations Manager console.
Dell EqualLogic Traps (Manual Ack)	This policy processes the SNMP traps generated by Dell EqualLogic Storage Arrays; and sends appropriate messages to the HP Operations Manager console. You have to acknowledge these messages manually.

Policy File	Description
Dell MD Storage Arrays Scheduled Status Poll	This policy periodically polls the PowerVault MD Storage Arrays grouped under **Dell Managed Systems** and provides the system health status information to the HP Operations Manager console.
Dell Hardware Autogroup Policy	This policy scans all the managed and external nodes, identifies the supported Dell Servers, DRAC, Chassis, Storage, and groups them under the **Dell Managed Systems** on the HPOM console.
Dell OOB Server Traps (Manual Ack)	This policy processes the SNMP traps generated by Dell OOB Servers; and sends appropriate messages to the HP Operations Manager console. You have to acknowledge these messages manually.
Dell Server Scheduled Status Poll	This policy periodically polls the Dell Servers grouped under **Dell Managed Systems** and retrieves the system health status information.
Dell Server Traps	This policy processes Server Administrator and Storage Systems SNMP traps from the Dell Servers and sends appropriate messages to the HPOM console. The policy retrieves the global system status of the supported correlation traps received in the system.
Dell Server Traps (Manual Ack)	This policy processes the Server Administrator, and Storage Systems SNMP traps from the Dell Servers and sends appropriate messages to the HPOM console. You have to acknowledge these messages manually. It doesn't support auto-correlation of alerts.

Deploying The Policies Automatically

You can deploy the Dell SPI policies automatically on the management server when you install the Dell SPI.

If you automatically deploy the policies, the policies run as per the default schedule. The following policies are deployed automatically:

- Dell Connections License Manager Scheduled Status Poll
- Dell DRAC and Chassis Scheduled Status Poll
- Dell DRAC and Chassis Traps (Manual Ack)
- Dell EqualLogic Arrays Scheduled Status Poll
- Dell EqualLogic Traps
- Dell MD Storage Arrays Scheduled Status Poll
- Dell Hardware Autogroup Policy
- Dell OOB Server Traps (Manual Ack)
- Dell Server Traps
- Dell Server Scheduled Status Poll

Deploying The Policies Manually

You can deploy the policies manually after you complete installing the Dell SPI.

To deploy the policies manually:

1. Launch the HPOM console and navigate to **Policy Management** → **Policy Groups** → **SPI for Dell Devices**.
2. Select the policy that you want to deploy.
3. Right-click and select **All Tasks** → **Deploy on**.
   The **Deploy policies on** screen is displayed.
4. Select the management server and click **OK**.
   The policy is deployed on the management server and runs as per the default schedule. You can change the default schedule when you manually run the policies.

   NOTE: Ensure that you deploy the policies only on the management server and not on the managed nodes.

Supported Dell Devices

Dell SPI for HPOM supports the following Dell devices as managed nodes or external nodes:

- Dell PowerVault systems — support for Windows systems that have Server Administrator versions 6.2 to 7.1 installed.
- Dell PowerEdge systems — complete support for systems ranging from y9xx to yx2x (both inclusive) that have Server Administrator versions 6.2 to 7.1 and the supported Windows operating system installed.
- Dell PowerEdge systems — complete support for systems ranging from y9xx to yx1x (both inclusive) that have Server Administrator versions 6.2 to 7.1 and ESXi version 4.0 and above, or the supported Linux operating system installed.
- Dell EqualLogic devices — support for EQL Logic PS-Series Arrays.
- Dell PowerVault MD Storage Array devices — support for MD Storage Array devices.

Supported Operating Systems

Following are the Operating Systems supported for the management server and the managed node.

Management Server

For the Management Server.
Ensure that you follow the hardware, software, and operating system requirements for the Management Server as per the guidelines provided in the **HPOM 9.0 for Windows Installation Guide**.

Managed Node

Following table lists the supported operating systems on the managed nodes.

Table 4. Supported Operating Systems On The Managed Nodes

Windows	Linux	ESXi
Windows Server 2003	Red Hat Enterprise Linux (4.7, 4.8): • x86_64 • x86_32	VMware ESXi 4.0 server.
Windows Server 2003 R2 SP2	Red Hat Enterprise Linux (5, 5.3, 5.5, 6.0) server: • x86_64 • x86_32	VMware ESXi 4.0 U1 server
Windows Storage Server 2003	RedHat Enterprise Linux 6 SP1 • x86_64	VMware ESXi 4.0 U2 server
Windows Storage Server 2003 R2 SP2	RedHat Enterprise Linux 5 SP7 • x86_64	VMware ESXi 4.0 U3 server
Windows Small Business Server 2003 R2 SP2	SUSE Linux Enterprise Server (10, 10 SP2, 10SP3, 11) • x86_64	VMware ESXi 4.1 server
Windows Small Business Server 2008 SP2	SUSE Linux Enterprise Server 11 SP1: • x86_64	VMware ESXi 4.1 U1 server
Windows Small Business Server 2008 R2	SuSE Enterprise Linux 11 SP2 • x86_64	VMware ESXi 4.1 U2
Windows Small Business Server 2011 Essentials	SuSE Enterprise Linux 10 SP4 • x86_64	VMware ESXi 5.0 P1

Windows	Linux	ESXi
Windows Small Business Server 2011 Standard		
Windows Server 2008		
Windows Server 2008 HPC Edition R2		
Windows Server 2008 HPC Edition R2 SP1		
Windows Server 2008 R2		
Windows Server 2008 R2 SP1		
Windows Essential Business Server 2008 SP1		
Windows Storage Server 2008		
Windows Storage Server - System Server		
Windows Unified DataStorage Server 2003		
Windows Unified DataStorage Server 2008		

Using Dell Smart Plug-in (SPI)

This chapter discusses the various operations that you can perform after you install the Dell SPI on the HP Operations Manager (HPOM) management server. You can perform the following functions:

- Auto-group Dell systems. For more information, see Auto-grouping Dell Devices.
- Monitoring the health of Dell devices. For more information, see Monitoring The Health Of Dell Devices.
- Process SNMP traps from Dell devices. For more information, see Processing SNMP Traps From Dell Devices.
- Launch DRAC (in-band) as a tool on the HPOM console from Dell Servers. For more information, see Launching Dell Remote Access Controller (DRAC) Console.
- Launch OpenManage Server Administrator as a tool on the HPOM console from Dell Servers. For more information, see Launching OpenManage Server Administrator (OMSA) Console.
- Launch Server Administrator Web Server as a tool from HPOM console. For more information, see Launching OpenManage Server Administrator Web Server Console.
- Launch DRAC as a tool on the HPOM console from DRACs. For more information, see Launching Dell Remote Access Controller (DRAC) Console From DRAC.
- Launch OpenManage Server Administrator Console as a tool on the HPOM console from DRACs. For more information, see Launching OpenManage Server Administrator Console From DRAC.
- Launch Chassis Management Controller (CMC) as a tool on the HPOM console from Dell Chassis. For more information, see Launching Chassis Management Controller (CMC) Console.
- Launch DRAC/MC as a tool on the HPOM console from Dell Chassis. For more information, see Launching DRAC/MC Console.
- Launch EqualLogic Group Manager Console . For more information, see Launching EqualLogic Group Manager Console.
- Launch MD Storage Manager Console. For more information, see Launching MD Storage Manager Console.
- Launch OpenManage Essentials (OME) as a tool on the HPOM console from Tools, Services, Nodes and Alert Messages. For more information, see Launching OpenManage Essentials (OME) Console.
- Launch OpenManage Power Center (OMPC) as a tool on the HPOM console from Tools and Alert Messages. For more information, see Launching OpenManage Power Center Console.
- Launch Warranty Report as a tool on the HPOM console to retrieve warranty information of any selected Dell system. For more information, see Launching Warranty Report.
- Launch Dell Connections License Manager as a tool on the HPOM console from Dell SPI Licensing. For more information, see Launching Dell Connections License Manager Console.
- Viewing the Knowledge Base (KB) articles associated with alert messages. For more information, see Viewing Knowledge Base Articles.

Auto-grouping Dell Devices

The auto-grouping policy **Dell Hardware Autogroup Policy** is a scheduled task. The policy is scheduled to run at 04:00 hours every Sunday. You can change this default schedule as per your requirement.

Autogrouping Dell Devices Under The Node Group

- The auto-grouping policy identifies and groups the following Dell PowerEdge, PowerVault systems, Dell DRAC, Dell Chassis, Dell Storage, and Unresponsive Dell Devices under the **Dell Managed Systems** node group on the HPOM console:.

  - Dell Servers (in-band)

    * Groups the systems running the supported Windows or Linux operating systems, have Server Administrator installed on them, and have SNMP enabled.

* Groups the systems running the supported version of ESXi, have Server Administrator installed on them, and have the WSMAN (OEM CIM providers) enabled.

– Dell Servers (Out-of-Band)

* Groups iDRAC7 devices only if valid licenses are available in the Dell Connections License Manager (DCLM).

– **Dell DRAC** — Groups the DRAC5, and iDRAC6.

– **Dell Chassis** — Groups the CMC and DRAC/MC devices.

– **Dell Storage** — Groups EqualLogic PS-Series Arrays devices, and PowerVault MD Storage Arrays.

– **Unresponsive Dell Devices** — Groups Dell devices that are not reachable.

- Groups the PowerEdge and PowerVault systems under two categories according to the hardware configuration — **Dell Monolithic Servers** and **Dell Modular Servers.**

  – **Dell Modular Servers** — Groups all the modular servers.

  – **Dell Monolithic Servers** — Groups all the monolithic servers.

To view the Dell systems in the Nodes tree:

– Click **Dell Managed Systems** under **Nodes** in the HPOM console.

Autogrouping Dell Devices Under The Services Group

- The auto-grouping policy identifies and groups the following Dell PowerEdge, PowerVault systems, Dell DRAC, Dell Chassis and Dell Storage under the **Dell Hardware** services group on the HPOM console.

  – Creates **CMC** service group for CMC devices, **DRAC MC** service group for DRAC/MC devices along with the hostname (service tag) under **Dell Chassis** in the **Services** tree on the HPOM console.

  – Creates **DRAC5** service group for DRAC5 devices, **iDRAC6 Modular** service group for iDRAC6 Modular devices, **iDRAC6 Monolthic** service group for iDRAC6 Monolithic devices, **iDRAC7 Modular** service group for iDRAC7 Modular devices, **iDRAC7 Monolithic** service group for iDRAC7 Monolithic devices, along with the hostname (service tag) under **Dell DRAC** in the **Services** tree on the HPOM console.

  – Creates **Windows Servers** service group for the Windows systems, **ESXi Servers** service group for the ESXi systems, and the **Linux Servers** service group for the Linux systems along with the hostname (service tag) under **Dell Servers** in the **Services** tree on the HPOM console.

  – Creates **EqualLogic PS Series Arrays** service group for EqualLogic devices, **PowerVault MD Storage Arrays** service group for MD Storage Arrays devices under **Dell Storage** in the **Services** tree on the HPOM console.

To view the Dell systems under Dell Hardware in the Services tree:

– Click **Systems Infrastructure** → **Dell Hardware** under **Services** in the HPOM console.

- The auto-grouping policy classifies the iDRAC7 devices only if valid licenses are available in the Dell Connections License Manager (DCLM).

  NOTE: Before classifying the iDRAC7 devices, configure the Dell Connections License Manager Webservice URL. For more information, see **Configuring Dell Connections License Manager Webservice URL** section from *Dell Smart Plug-in Version 3.0 for HP Operations Manager 9.0 For Microsoft Windows Installation Guide*.

  – Creates **Agent Free Server Monitoring v3** service group under **Dell SPI Licensing** in the **Services** tree on the HPOM console.

To view Dell SPI Licensing in the Services tree:

– Click **Systems Infrastructure** → **Dell SPI Licensing** under **Services** in the HPOM console.

Monitoring The Health Of Dell Devices

You can monitor the health of Dell devices using the scheduled policies. Scheduled policies are that which updates the global system status of the Dell systems at 02:00 A.M. every day. These policies polls each Dell device grouped under the Dell Hardware group under Service hierarchy to get the global system status and sends corresponding severity messages to the active message browser of the HPOM console.

Dell SPI provides the following scheduled policies:

- Dell Server Scheduled Status Poll
- Dell DRAC and Chassis Scheduled Status Poll
- Dell EqualLogic Arrays Scheduled Status Poll
- Dell MD Storage Arrays Scheduled Status Poll

The global system status is the overall health of the system. However, the health of the individual components of the system may differ. To view the health of the individual components of the Dell systems, launch the respective tools associated with the Dell devices.

> **NOTE:** The global health status of the Dell systems is not displayed on the HPOM console until the Dell Hardware Autogroup Policy runs for the first time, and the Dell systems are grouped under the Dell Managed Systems, and the Dell Hardware group.

Dell Server Scheduled Status Poll

You can monitor the health of Dell servers and iDRAC7 using the **Dell Server Scheduled Status Poll**.

To view the health of the individual components for:

- Windows or Linux systems, launch the **Server Administrator** tool. For more information, see Launching OpenManage Server Administrator (OMSA) Console.
- ESXi systems, launch the **Server Administrator Web Server Console** tool to access Server Administrator. For more information, see Launching OpenManage Server Administrator Web Server Console.
- OOB servers, and IDRAC7 devices, launch the **DRAC Console** tool. For more information, see Launching Dell Remote Access Controller (DRAC) Console

The policy also updates the health status of the systems under the **Dell Servers Global System Status** and **Dell DRAC Global System Status** under the **Services** and the **Nodes** tree.

Dell DRAC And Chassis Scheduled Status Poll

You can monitor the health of Dell DRAC, and Dell Chassis devices using the **Dell DRAC and Chassis Scheduled Status Poll**.

To view the health of the individual components for:

- Dell DRAC devices, launch the **DRAC Console** and **OpenManage Server Administrator Console Launch** tool. For more information, see Launching Dell Remote Access Controller (DRAC) Console From DRAC and Launching OpenManage Server Administrator Console From DRAC.
- Dell Chassis devices, launch the **CMC Console** and **DRAC/MC Console** tool. For more information, see Launching Chassis Management Controller (CMC) Console and Launching DRAC/MC Console.

The policy also updates the health status of the systems under the **Dell DRAC Global System Status**, and **Dell Chassis Global System Status** under the **Services**, and the **Nodes** tree.

Dell EqualLogic Arrays Scheduled Status Poll

You can monitor the health of Dell EqualLogic devices using the **Dell EqualLogic Arrays Scheduled Status Poll**.

To view the health of the individual components for:

- Dell EqualLogic devices, launch the **EqualLogic Group Manager Console** tool. For more information, see Launching EqualLogic Group Manager Console.

The policy also updates the health status of the systems under the **Dell Storage Global System Status** under the **Services** and the **Nodes** tree.

Dell MD Storage Arrays Scheduled Status Poll

You can monitor the health of Dell PowerVault MD Storage Array devices using the **Dell MD Storage Arrays Scheduled Status Poll**.

To view the health of the individual components for:

- Dell PowerVault MD Storage Array devices, launch the **MD Storage Manager Console** tool. For more information, see Launching MD Storage Manager Console.

The policy also updates the health status of the systems under the **Dell Storage Global System Status** under the **Services** and the **Nodes** tree.

Monitoring Dell Connections License Manager

You can monitor the Dell Connections License Manager using the Dell Connections License Manager Scheduled Status Poll policy which is scheduled to run every 3:00 hours. This policy monitors the Dell Connections License Manager (DCLM) health, license availability; Verifies the DCLM configuration parameters and sends corresponding severity messages to the active message browser of the HPOM console.

To view the status of the number of licenses available launch the Dell Connections License Manager Console Launch Tool. For more information, see Launching Dell Connections License Manager Console.

> **NOTE:** The global health status of the Dell Connections License Manager is not displayed on the HPOM console until the Dell Hardware Autogroup Policy runs for the first time, and the agent free server monitoring v3 devices are classified.

Processing SNMP Traps From Dell Devices

The Dell SPI uses the SNMP interceptor policies to process SNMP traps. They have predefined rules to process all the SNMP traps sent by the Dell devices to the management server, generate formatted messages, and send them to the HPOM console.

Dell SPI provides the following SNMP policies:

- Dell DRAC and Chassis Traps (Manual Ack)
- Dell EqualLogic Traps
- Dell EqualLogic Traps (Manual Ack)
- Dell OOB Server Traps (Manual Ack)
- Dell Server Traps
- Dell Server Traps (Manual Ack)

Dell DRAC And Chassis Traps (Manual Ack)

This policy does not have the trap-correlation feature enabled and you can auto-deploy this policy when you are installing the Dell SPI. For every trap received from the Dell Remote Access Controller (RAC), Modular Chassis (DRAC/MC), and Chassis Management Controller (CMC), it processes the traps in the following manner:

1. Sends a message to the active message browser of the node on the HPOM console.
2. Retains all the **Normal**, **Critical**, and **Warning** traps in the active message browser of the node. You must manually acknowledge the traps.

   – The policy does not correlate the traps from the node and does not perform auto-acknowledgement of the traps.

3. Retrieves the global system status of the node and sends a message with the global system status to the active message browser of the node. You can also view the current global system status in the **Global System Status** for the Node under the service hierarchy.

Dell EqualLogic Traps

This policy has the trap-correlation feature enabled and you can auto-deploy this policy when you are installing the Dell SPI. For every trap received from the Dell EqualLogic device, it processes the traps in the following way:

1. Sends a message to the active message browser of the node on the HPOM console.
2. For all **Normal** traps, the policy auto-acknowledges the messages and moves them from the active message browser to the acknowledged message browser.
3. For all **Critical** and **Warning** traps, the policy auto-acknowledges the trap once it receives a trap with the information that the issue for the critical or warning trap is resolved. It retains the critical and warning messages in the active message browser.

   – For more information on the trap correlation, see the Dell SPI Trap Correlation Guide available on the Dell Support website at **dell.com/support/manuals**.

   NOTE: If there is any message corresponding to an SNMP trap present in an active message browser for a particular Dell EqualLogic device, and the SNMP interceptor policy receives the same trap again, then it is counted as a duplicate trap, if message suppression is enabled.

4. The policy also retrieves the global system status of the node and sends a message to the active message browser of the node. You can also view the current global system status in the **Global System Status** for the node under the service hierarchy.

   NOTE: If a node is not DNS resolvable, the Dell SPI may not update the global health status for that node.

Dell EqualLogic Traps (Manual Ack)

This policy does not have the trap-correlation feature enabled and you cannot deploy this policy automatically when you are installing the Dell SPI. For every trap received from the Dell EqualLogic device, it processes the traps in the following manner:

1. Sends a message to the active message browser of the node on the HPOM console.
2. Retains all the **Normal**, **Critical**, and **Warning** traps in the active message browser of the node. You must manually acknowledge the traps.

   – The policy does not correlate the traps from the node and does not perform auto-acknowledgement of the traps.

3. Retrieves the global system status of the node and sends a message with the global system status to the active message browser of the node. You can also view the current global system status in the **Global System Status** for the node under the service hierarchy.

> **NOTE:** You can deploy only one policy at a time; either EQL traps (Ack Manual) or EQL trap policy on the management server.

Dell OOB Server Traps (Manual Ack)

This policy does not have the trap-correlation feature enabled and you can auto-deploy this policy when you are installing the Dell SPI. For every trap received from the Dell Servers (Out-of-band), it processes the traps in the following manner:

1. Sends a message to the active message browser of the node on the HPOM console.
2. Retains all the **Normal**, **Critical**, and **Warning** traps in the active message browser of the node. You must manually acknowledge the traps.
    – The policy does not correlate the traps from the node and does not perform auto-acknowledgement of the traps.
3. Retrieves the global system status of the node and sends a message with the global system status to the active message browser of the node. You can also view the current global system status in the **Global System Status** for the node under the service hierarchy.

Dell Server Traps

This policy has the trap-correlation feature enabled and you can auto-deploy this policy when you are installing the Dell SPI. For every trap received from the Dell systems, it processes the traps in the following way:

1. Sends a message to the active message browser of the node on the HPOM console.
2. For all **Normal** traps, the policy auto-acknowledges the messages and moves them from the active message browser to the acknowledged message browser.
3. For all **Critical** and **Warning** traps, the policy auto-acknowledges the trap once it receives a trap with the information that the issue for the critical or warning trap is resolved. It retains the critical and warning messages in the active message browser.
    – For more information on the trap correlation, see the Dell SPI Trap Correlation Guide available on the Dell Support website at **dell.com/support/manuals**.

    > **NOTE:** If there is any message corresponding to an SNMP trap present in an active message browser for a particular Dell system, and the SNMP interceptor policy receives the same trap again, then it is counted as a duplicate trap, if message suppression is enabled.

4. The policy also retrieves the global system status of the node and sends a message to the active message browser of the node. You can also view the current global system status in the **Global System Status** for the node under the service hierarchy.

    > **NOTE:** If a node is not DNS resolvable, the Dell SPI may not update the global health status for that node.

Dell Server Traps (Manual Ack)

This policy does not have the trap-correlation feature enabled and you cannot deploy this policy automatically when you are installing the Dell SPI. For every trap received from the Dell systems, it processes the traps in the following manner:

1. Sends a message to the active message browser of the node on the HPOM console.
2. Retains all the **Normal**, **Critical**, and **Warning** traps in the active message browser of the node. You must manually acknowledge the traps.

– The policy does not correlate the traps from the node and does not perform auto-acknowledgement of the traps.

3. Retrieves the global system status of the node and sends a message with the global system status to the active message browser of the node. You can also view the current global system status in the **Global System Status** for the node under the service hierarchy.

> ✎ **NOTE:** You can deploy only one policy at a time; either Server traps or Server traps (Manual Ack).

Understanding Dell SPI Trap Message Severity

Traps often contain information about values recorded by probes or sensors. Probes and sensors monitor critical components for values such as amperage, voltage, and temperature. When an event occurs on the Dell system, it sends a trap having one of the following severities:

- **Normal** — An event that describes the successful operation of a unit, such as a power supply turning on, or a sensor reading returning to normal
- **Warning** — An event that is not necessarily significant, but may indicate a possible future problem, such as crossing a warning threshold
- **Critical** — A significant event that indicates actual or imminent loss of data or loss of function, such as crossing a failure threshold or a hardware failure

SNMP Trap Based Severity Propagation

The following table describes the severity propagation for the **Nodes** tree based on SNMP traps.

Table 5. SNMP Trap Based Severity Propagation

View	Description
Nodes tree	The node status displays the highest severity of all the active messages. This status is propagated to the parent node groups. To know the actual health of the node, view the status in the **Global System Status** for the node under the service hierarcy.

Launching Dell Remote Access Controller (DRAC) Console (in-band) From Dell Servers

You can launch the DRAC Console (in-band) to get more information about the Dell servers you are monitoring. After you install the Dell SPI, you can see the Dell Remote Access controller Console (in-band) under **Tools → Dell Tools → Dell Server** on the HPOM console.

For Windows, Linux, ESXi systems you can launch DRAC Console (in-band) directly from **Tools**, **Nodes Tree**, **Services Tree**, or **Alerts Messages**.

Launching Dell Remote Access Controller Console (in-band) From Tools

To launch the Dell Remote Access Controller Console (in-band) from the **Tools** folder on the HPOM console:

1. Select **Tools → Dell Tools → Dell Server.**
2. On the right pane select **Dell Remote Access Controller Console (in-band)** and right-click.
3. Select **All Tasks → Launch Tool** from the pop-up menu.
   The **Edit Parameters** window is displayed.

4. Select any Dell Windows, Linux, or ESXi system under **Dell Managed Systems**.

   You can only select a single system under the parent nodes. If you select any of the parent nodes such as Dell Managed Systems, Dell Modular Servers or the Dell Monolithic Servers the following message is displayed:

   `Tool cannot be launched on multiple nodes.`

5. Click **Launch.**

   The Dell Remote Access Controller Console (in-band) is launched in the default browser in the system.

Launching Dell Remote Access Controller Console (in-band) From The Nodes Tree

To launch the Dell Remote Access Controller Console (in-band) from the **Dell Managed Systems** nodes tree:

1. Select any Dell Windows, Linux, or ESXi system under any of the parent nodes such as **Dell Monolithic Servers** or the **Dell Modular Servers.**

2. Right click and select **All Tasks → Launch Tool** from the pop-up menu.

   The **Select the Tool to Execute** window is displayed.

3. Select **Dell Remote Access Controller Console (in-band)** under **Tools → Dell Tools → Dell Server** and click **Launch.**

   The Dell Remote Access Controller Console (in-band) is launched in the default browser in the system.

Launching Dell Remote Access Controller (DRAC) Console (in-band) From The Services Tree

To launch the Dell Remote Access Controller Console (in-band) from the **Dell Hardware → Dell Server → Windows Servers**, or **Dell Hardware → Dell Server → Linux Servers**, or **Dell Hardware → Dell Server → ESXi Servers** service tree object.

1. Select any Dell system under **Windows Servers**, or **Linux Servers**, or **ESXi Servers** service groups on the **Services** tree.

2. Right-click and select **All Tasks → Launch Tool** from the pop-up menu.

   The **Select the Tool to Execute** window is displayed.

3. Select **Dell Remote Access Controller Console (in-band)** under **Tools → Dell Tools → Dell Server** and click **Launch**.

   The Dell Remote Access Controller Console (in-band) is launched in the default browser in the system.

Launching Dell Remote Access Controller (DRAC) Console (in-band) From The Alert Message

To launch the Dell Remote Access Controller Console (in-band) from the alert messages associated with a Dell system:

1. Select any Dell Windows, Linux, or ESXi system under any of the parent nodes such as **Dell Monolithic Servers** or the **Dell Modular Servers**.

2. Select any alert message associated with the system on the right pane.

3. Right-click and select **Launch Tool → Message** or **Launch Tool → Nodes** from the pop-up menu.

   The **Select the Tool to Execute** window is displayed.

   NOTE: For external nodes, only the **Launch Tool → Message** option is available.

4. Select **Dell Remote Access Controller Console (in-band)** under **Tools → Dell Tools → Dell Server** and click **Launch**.

   The Dell Remote Access Controller Console (in-band) is launched in the default browser in the system.

Launching OpenManage Server Administrator Console

You can launch the OpenManage Server Administrator Console from Dell Servers to get more information about the Dell system you are monitoring. After you install the Dell SPI, you can see the **Dell Servers** group under **Tools** on the HPOM console.

For Windows or Linux systems you can launch OpenManage Server Administrator Console directly from **Tools**, **Nodes Tree**, **Services Tree**, or **Alerts Messages**.

Launching OpenManage Server Administrator Console From Tools

To launch the OpenManage Server Administrator Console from the **Tools** folder on the HPOM console:

1. Select **Tools → Dell Tools → Dell Server.**
2. On the right pane select **OpenManage Server Administrator** and right-click.
3. Select **All Tasks → Launch Tool** from the pop-up menu.
   The **Edit Parameters** window is displayed.
4. Select any Dell Windows, or Linux system under **Dell Managed Systems.**
   You can only select a single system under the parent nodes. If you select any of the parent nodes such as Dell Managed Systems, Dell Modular Servers, or the Dell Monolithic Servers the following message is displayed:
   ```
   Tool cannot be launched on multiple nodes.
   ```
5. Click **Launch.**
   The OpenManage Server Administrator Console is launched in the default browser in the system.

   > **NOTE:** HPOM enables you to select non-Dell systems. However, if you select such a system, the OpenManage Server Administrator Console does not launch.

Launching OpenManage Server Administrator Console From The Nodes Tree

To launch the OpenManage Server Administrator Console from the **Dell Managed Systems** nodes tree:

1. Select any Dell Windows or Linux system under any of the parent nodes such as **Dell Monolithic Servers** or the **Dell Modular Servers**.
2. Right click and select **All Tasks → Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **OpenManage Server Administrator Console** under **Tools → Dell Tools → Dell Server** and click **Launch**.
   The OpenManage Server Administrator Console is launched in the default browser in the system.

Launching OpenManage Server Administrator Console From The Services Tree

To launch the OpenManage Server Administrator Console from the **Dell Hardware → Dell Servers → Windows Servers,** or **Dell Hardware → Dell Servers → Linux Servers** service tree object.

1. Select any Dell system under **Windows Servers** or **Linux Servers** service groups on the **Services** tree.
2. Right-click and select **All Tasks → Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **OpenManage Server Administrator Console** under **Tools → Dell Tools → Dell Server** and click **Launch**.

The OpenManage Server Administrator Console is launched in the default browser in the system.

Launching OpenManage Server Administrator Console From The Alert Message

To launch the OpenManage Server Administrator Console from the alert messages associated with a Dell system:

1. Select any Dell Windows or Linux system under any of the parent nodes such as **Dell Monolithic Servers** or the **Dell Modular Servers**.
2. Select any alert message associated with the system on the right pane.
3. Right-click and select **Launch Tool → Message** or **Launch Tool → Nodes** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.

   > **NOTE:** For external nodes, only the **Launch Tool → Message** option is available.
4. Select **OpenManage Server Administrator Console** under **Tools → Dell Tools → Dell Server** and click **Launch**.
   The OpenManage Server Administrator Console is launched in the default browser in the system.

Launching OpenManage Server Administrator Web Server Console From Dell Servers

The Dell SPI enables you to launch the OpenManage Server Administrator (OMSA) Web Server Console from the HPOM console for the ESXi systems. Use the OpenManage Server Administrator Web Server Console to connect to the ESXi systems for troubleshooting the alerts. After you install the Dell SPI, you can see **OpenManage Server Administrator Web Server Console** under **Tools → Dell Servers** on the HPOM console.

For ESXi systems, you can launch the OpenManage Server Administrator Web Server Console directly from **Tools**, **Nodes tree** , **Services tree**, or **Alert Messages**.

> **NOTE:** The OpenManage Server Administrator (OMSA) Web Server URL has to be configured using the Dell SPI config utility to launch the OMSA Web Server console.

Launching OpenManage Server Administrator Web Server Console From Tools

To launch the OpenManage Server Administrator Web Server Console from the **Tools** folder on the HPOM console:

1. Select **Tools → Dell Tools → Dell Server.**
2. On the right pane select **OpenManage Server Administrator Web Server Console** and right-click.
3. Select **All Tasks → Launch Tool** from the pop-up menu.
   The **Edit Parameters** window is displayed.
4. Select any Dell ESXi system under **Dell Managed Systems.**
   You can only select only a single system under the parent nodes. If you select parent nodes such as **Dell Managed Systems**, **Dell Modular Servers**, or **Dell Monolithic Servers**, the following message is displayed:
   ```
   Tool cannot be launched on multiple nodes.
   ```

   > **NOTE:** If Windows system is configured to support the Open Manage Server Administrator Web Server Console, then launch the Open Manage Server Administrator Web Server Console for a Dell Windows system
5. In the **Edit Parameters** window, click **Launch**.
   The OpenManage Server Administrator Web Server Console is launched in the default browser in the system.

   > **NOTE:** For non-Dell systems, you can select and launch the OMSA console; however, you cannot launch the console for troubleshooting.

Launching OpenManage Server Administrator Web Server Console From The Nodes Tree

To launch the OpenManage Server Administrator Web Server Console from the **Dell Managed Systems** nodes tree:

1. Select any Dell ESXi system under any of the parent nodes such as **Dell Monolithic Servers,** or the **Dell Modular Servers**.
2. Right click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **OpenManage Server Administrator Web Server Console** under **Tools** → **Dell Tools** → **Dell Server** and click **Launch**.
   The OpenManage Server Administrator Web Server Console is launched in the default browser in the system.

Launching OpenManage Server Administrator Web Server Console From The Services Tree

To launch the OpenManage Server Administrator Web Server Console from the **Dell Hardware** → **Dell ESXi Servers** services tree object:

1. Select any ESXi system under **Dell ESXi Servers** on the **Services** tree.
2. Right-click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **OpenManage Server Administrator Web Server Console** under **Tools** → **Dell Tools** → **Dell Server** and click **Launch**.
   The OpenManage Server Administrator Web Server Console is launched in the default browser in the system.

Launching OpenManage Server Administrator Web Server Console From The Alert Message

To launch the OpenManage Server Administrator Console from the alert messages associated with a Dell system:

1. Select any Dell ESXi system under any of the parent nodes such as **Dell Monolithic Servers,** or the **Dell Modular Servers.**
2. Select any alert message associated with the system on the right pane.
3. Right-click and select **Launch Tool** → **Message** or **Launch Tool** → **Nodes** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.

   > **NOTE:** For external nodes, only the **Launch Tool** → **Message** option is available.

4. Select **OpenManage Server Administrator Web Server Console** under **Tools** → **Dell Tools** → **Dell Server** and click **Launch**.
   The OpenManage Server Administrator Web Server Console is launched in the default browser in the system.

Launching Dell Remote Access Controller (DRAC) Console From DRAC

You can launch the DRAC Console to get more information about the DRAC devices you are monitoring. After you install the Dell SPI, you can see the **Dell DRAC** group under **Tools** → **Dell Tools** on the HPOM console.

For DRAC5, iDRAC6 Modular or Monolithic or iDRAC7 Modular or Monolithic you can launch the DRAC Console directly from **Tools**, **Nodes Tree**, **Services Tree**, or **Alerts Messages**.

Launching DRAC Console From Tools

To launch the DRAC Console from the **Tools** folder on the HPOM console:

1. Select **Tools** → **Dell Tools** → **Dell DRAC**.
2. In the right pane select **DRAC Console** and right-click.
3. Select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Edit Parameters** window is displayed.
4. Select any DRAC device under **Dell Managed Systems** → **Dell DRAC** .
5. Click **Launch**.
   The DRAC Console (out-of-band) is launched in the default browser in the system.

Launching DRAC Console From The Nodes Tree

To launch the DRAC Console (out-of-band) from the **Dell Managed Systems** nodes tree:

1. Select any DRAC5, iDRAC6, or iDRAC7 device under any of the parent nodes such as **DRAC5** or **iDRAC6 Modular** or **iDRAC6 Monolithic** or **iDRAC7 Modular** or **iDRAC7 Monolithic**.
2. Right click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **DRAC Console** under **Tools** → **Dell Tools** → **Dell DRAC** and click **Launch**.
   The DRAC Console (out-of-band) is launched in the default browser in the system.

Launching DRAC Console From The Services Tree

To launch the DRAC Console from the **Dell Hardware** → **Dell DRAC** → **DRAC5** or **Dell Hardware** → **Dell DRAC** → **iDRAC6 Modular** or **Dell Hardware** → **Dell DRAC** → **iDRAC6 Monolithic** or **Dell Hardware** → **Dell DRAC** → **iDRAC7 Modular** or **Dell Hardware** → **Dell DRAC** → **iDRAC7 Monolithic** service tree object.

1. Select any DRAC device under **DRAC5** or **iDRAC6 Modular** or **iDRAC6 Monolithic** or **iDRAC7 Modular** or **iDRAC7 Monolithic** service groups on the **Services** tree.
2. Right-click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **DRAC Console Launch Tool** under **Tools** → **Dell Tools** → **Dell DRAC** and click **Launch**.
   The DRAC Console (out-of-band) is launched in the default browser in the system.

Launching DRAC Console From The Alert Message

To launch the DRAC Console from the alert messages associated with a DRAC device:

1. Select any DRAC device under any of the parent nodes such as **DRAC5** or **iDRAC6 Modular** or **iDRAC6 Monolithic** or **iDRAC7 Modular** or **iDRAC7 Monolithic**.
2. Select any alert message associated with the system on the right pane.

3. Right-click and select **Launch Tool → Message, Launch Tool → Nodes** or **Launch Tool → Services** from the pop-up menu.

   The **Select the Tool to Execute** window is displayed.

   ✍ **NOTE:** For external nodes, only the **Launch Tool → Message** option is available.
4. Select **DRAC Console Launch Tool** under **Tools → Dell Tools → Dell DRAC** and click **Launch**.

   The DRAC Console (out-of-band) is launched in the default browser in the system.

Launching OpenManage Server Administrator Console

You can launch the OpenManage Server Administrator Console from DRAC to get more information about the iDRAC7 devices you are monitoring. After you install the Dell SPI, you can see the **Dell DRAC** group under **Tools → Dell Tools** on the HPOM console.

For iDRAC7 devices you can launch OpenManage Server Administrator Console directly from **Tools, Nodes Tree, Services Tree**, or **Alerts Messages**.

Launching OpenManage Server Administrator Console From Tools

To launch the OpenManage Server Administrator Console from the **Tools** folder on the HPOM console:

1. Select **Tools → Dell Tools → Dell DRAC.**
2. On the right pane select **OpenManage Server Administrator Console** and right-click.
3. Select **All Tasks → Launch Tool** from the pop-up menu.

   The **Edit Parameters** window is displayed.
4. Select any iDRAC7 device under **Dell Managed Systems**.

   You can only select a single system under the parent nodes. If you select any of the parent nodes such as Dell DRAC, iDRAC7Modular, or iDRAC7 Monolithic the following message is displayed:

   ```
   Tool cannot be launched on multiple nodes.
   ```
5. Click **Launch**.

   The OpenManage Server Administrator Console is launched in the default browser in the system.

   ✍ **NOTE:** HPOM enables you to select non-Dell systems. However, if you select such a system, the OpenManage Server Administrator Console does not launch.

Launching OpenManage Server Administrator Console From The Nodes Tree

To launch the OpenManage Server Administrator Console from the **Dell Managed Systems** nodes tree:

1. Select any DRAC device under any of the parent nodes such as **iDRAC7 Modular** or **iDRAC7 Monolithic**.
2. Right click and select **All Tasks → Launch Tool** from the pop-up menu.

   The **Select the Tool to Execute** window is displayed.
3. Select **OpenManage Server Administrator Console** under **Tools → Dell Tools → Dell DRAC** and click **Launch**.

   The OpenManage Server Administrator Console is launched in the default browser in the system.

Launching OpenManage Server Administrator Console From The Services Tree

To launch the OpenManage Server Administrator Console from the **Dell Hardware → Dell DRAC → iDRAC7 Modular** or **Dell Hardware → Dell DRAC → iDRAC7 Monolithic** service tree object.

1. Select any DRAC device under **iDRAC7 Modular** or **iDRAC7 Monolithic** service groups on the **Services** tree.
2. Right-click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **OpenManage Server Administrator Console** under **Tools** → **Dell Tools** → **Dell DRAC** and click **Launch**.
   The OpenManage Server Administrator Console is launched in the default browser in the system.

Launching OpenManage Server Administrator Console From The Alert Message

To launch the OpenManage Server Administrator Console from the alert messages associated with an iDRAC7 device:

1. Select any iDRAC7 device under any of the parent nodes such as **iDRAC7 Modular** or **iDRAC7 Monolithic**.
2. Select any alert message associated with the system on the right pane.
3. Right-click and select **Launch Tool** → **Message** or **Launch Tool** → **Nodes** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.

   > **NOTE:** For external nodes, only the **Launch Tool** → **Message** option is available.
4. Select **OpenManage Server Administrator Console** under **Tools** → **Dell Tools** → **Dell DRAC** and click **Launch**.
   The OpenManage Server Administrator Console is launched in the default browser in the system.

Launching Chassis Management Controller (CMC) Console

You can launch the CMC Console to get more information about the CMC devices you are monitoring. After you install the Dell SPI, you can see the **Dell Chassis** group under **Tools** → **Dell Tools** on the HPOM console.
For CMC devices you can launch the CMC Console directly from **Tools**, **Nodes Tree**, **Services Tree**, or **Alerts Messages**.

Launching CMC Console From Tools

To launch the CMC Console from the **Tools** folder on the HPOM console:

1. Select **Tools** → **Dell Tools** → **Dell Chassis**
2. On the right pane select **CMC Console** and right-click.
3. Select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Edit Parameters** window is displayed.
4. Select any CMC device under **Dell Managed Systems**.
   You can only select a single system under the parent nodes. If you select the parent node such as Dell Chassis the following message is displayed:
   ```
   Tool cannot be launched on multiple nodes.
   ```
5. Click **Launch**.
   The CMC Console is launched in the default browser in the system.

Launching CMC Console From The Nodes Tree

To launch the CMC Console from the **Dell Managed Systems** nodes tree:

1. Select any CMC device under the parent node **Dell Chassis** .
2. Right click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.

3. Select **CMC Console** under **Tools → Dell Tools → Dell Chassis** and click **Launch**.

   The CMC Console is launched in the default browser in the system.

Launching CMC Console From The Services Tree

To launch the CMC Console from the **Dell Hardware → Dell Chassis** or service tree object.

1. Select any CMC device under service groups on the **Services** tree.
2. Right-click and select **All Tasks → Launch Tool** from the pop-up menu

   The **Select the Tool to Execute** window is displayed.
3. Select **CMC Console** under **Tools → Dell Tools → Dell Chassis** and click **Launch**.

   The CMC Console is launched in the default browser in the system.

Launching CMC Console From The Alert Message

To launch the CMC console from the alert messages associated with a CMC device:

1. Select any CMC device under the parent node **Dell Chassis.**
2. Select any alert message associated with the system on the right pane.
3. Right-click and select **Launch Tool → Message** or **Launch Tool → Nodes** from the pop-up menu.

   The **Select the Tool to Execute** window is displayed.

   > NOTE: For external nodes, only the **Launch Tool → Message** option is available.
4. Select **CMC Console** under **Tools → Dell Tools → Dell Chassis** and click **Launch.**

   The CMC Console is launched in the default browser in the system.

Launching DRAC/MC Console

You can launch the DRAC/MC Console to get more information about the DRAC/MC devices you are monitoring. After you install the Dell SPI, you can see the **Dell Chassis** group under **Tools → Dell Tools** on the HPOM console.

For DRAC/MC devices you can launch the DRAC/MC Console directly from **Tools**, **Nodes Tree**, **Services Tree**, or **Alerts Messages**.

Launching DRAC/MC Console From Tools

To launch the DRAC/MC Console from the **Tools** folder on the HPOM console:

1. Select **Tools → Dell Tools → Dell Chassis.**
2. On the right pane select **DRAC/MC Console** and right-click.
3. Select **All Tasks → Launch Tool** from the pop-up menu.

   The **Edit Parameters** window is displayed.
4. Select any DRAC/MC device under **Dell Managed Systems.**

   You can only select a single system under the parent nodes. If you select any of the parent nodes such as Dell Managed Systems, Dell Modular Servers or the Dell Monolithic Servers the following message is displayed:

   ```
   Tool cannot be launched on multiple nodes.
   ```
5. Click **Launch.**

   The DRAC/MC Console is launched in the default browser in the system.

Launching DRAC/MC Console From The Nodes Tree

To launch the DRAC/MC Console from the **Dell Managed Systems** nodes tree:

1. Select any DRAC/MC device under the parent node **Dell Chassis**.
2. Right click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **DRAC/MC Console** under **Tools** → **Dell Tools** → **Dell Chassis** and click **Launch**.
   The DRAC/MC Console is launched in the default browser in the system.

Launching DRAC/MC Console From The Services Tree

To launch the DRAC/MC Console from the **Dell Hardware** → **Dell Chassis** service tree object.

1. Select any DRAC/MC device under service groups on the **Services** tree.
2. Right-click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **DRAC/MC Console** under **Tools** → **Dell Tools** → **Dell Chassis** and click **Launch**.
   The DRAC/MC Console is launched in the default browser in the system.

Launching DRAC/MC Console From the Alert Message

To launch the DRAC/MC console from the alert messages associated with a DRAC/MC device:

1. Select any DRAC/MC device under the parent node **Dell Chassis.**
2. Select any alert message associated with the system on the right pane.
3. Right-click and select **Launch Tool** → **Message** or **Launch Tool** → **Nodes** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.

   > 📝 **NOTE:** For external nodes, only the **Launch Tool** → **Message** option is available.

4. Select **DRAC/MC Console** under **Tools** → **Dell Tools** → **Dell Chassis** and click **Launch**.
   The DRAC/MC Console is launched in the default browser in the system.

Launching EqualLogic Group Manager Console

You can launch the EqualLogic Group Manager console to get more information about the EqualLogic PS-Series Arrays members you are monitoring. After you install the Dell SPI, you can see the **Dell Storage** group under **Tools** on the HPOM console.

For EqualLogic PS-Series Arrays members you can launch the EqualLogic Group Manager console directly from **Tools**, **Nodes Tree**, **Services Tree**, or **Alerts Messages**.

Launching EqualLogic Group Manager Console From Tools

To launch the EqualLogic Group Manager Console from the **Tools** folder on the HPOM console:

1. Select **Tools** → **Dell Tools** → **Dell Storage** → **Dell EqualLogic PS-Series Arrays.**
2. On the right pane select **EqualLogic Group Manager Console** and right-click.
3. Select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Edit Parameters** window is displayed.
4. Select any EqualLogic PS-Series Arrays member under **Dell Storage** → **EqualLogic PS-Series Arrays**.
5. Click **Launch**.
   The EqualLogic PS-Series Group Manager Console is launched in the default browser in the system.

Launching EqualLogic PS-Series Group Manager Console From The Nodes Tree

To launch the EqualLogic PS-Series Group Manager Console from the **Dell Managed Systems** nodes tree:

1. Select any EqualLogic PS-Series Arrays member under any of the parent nodes such as **EqualLogic PS-Series Arrays**.
2. Right click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **EqualLogic Group Manager Console** under **Tools** → **Dell Tools** → **Dell Storage** → **Dell EqualLogic PS-Series Arrays** and click **Launch**.
   The **EqualLogic PS-Series Group Manager Console** is launched in the default browser in the system.

Launching EqualLogic Group Manager Console From The Services Tree

To launch the EqualLogic Group Manager Console from the **Dell Hardware** → **Dell Storage** → **EqualLogic PS-Series Arrays** service tree object.

1. Select any EqualLogic PS-Series Arrays member under **EqualLogic PS-Series Arrays** service groups on the **Services** tree.
2. Right-click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **EqualLogic Group Manager Console** under **Tools** → **Dell Tools** → **Dell Storage** → **Dell EqualLogic PS-Series Arrays** and click **Launch**.
   The EqualLogic Group Manager Console is launched in the default browser in the system.

Launching the EqualLogic Group Manager Console From The Alert Message

To launch the EqualLogic Group Manager Console from the alert messages associated with a Dell system:

1. Select any EqualLogic PS-Series Arrays member under the parent node such as **EqualLogic PS-Series Arrays.**
2. Select any alert message associated with the system on the right pane.
3. Right-click and select **Launch Tool** → **Message** or **Launch Tool** → **Nodes** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.

   > NOTE: For external nodes, only the **Launch Tool** → **Message** option is available.

4. Select **EqualLogic Group Manager Console** under **Tools** → **Dell Tools** → **Dell Storage** → **Dell EqualLogic PS-Series Arrays** and click **Launch**.
   The EqualLogic Group Manager Console is launched in the default browser in the system.

Launching MD Storage Manager Console

You can launch the MD (Modular Disk) Storage Manager console to get more information about the PowerVault MD Storage Arrays you are monitoring. After you install the Dell SPI, you can see the **Dell Storage** group under **Tools** on the HPOM console.

For PowerVault MD Storage Arrays you can launch the MD Storage Manager Console directly from **Tools**, **Nodes Tree**, or **Services Tree**.

> **NOTE:** If the MD Storage Manager Client is installed in a non-default location then, you need to manually configure the location where the MD Storage Manager Client is installed in the MD Storage Manager Console Tools.

Launching MD Storage Manager Console From Tools

To launch the MD Storage Manager Console from the **Tools** folder on the HPOM console:

1. Select **Tools → Dell Tools → Dell Storage → Dell PowerVault MD Storage Arrays.**

2. On the right pane select **MD Storage Manager Console** and right-click.

3. Select **All Tasks → Launch Tool** from the pop-up menu.
   The **Edit Parameters** window is displayed.

4. Select any MD Storage Array device under **Dell Storage → Dell PowerVault MD Storage Arrays**.

5. Click **Launch**.
   The MD Storage Manager Console is launched in the default browser in the system.

Launching MD Storage Manager Console From The Nodes Tree

To launch the MD Storage Manager Console from the **Dell Managed Systems** nodes tree:

1. Select any MD Storage Array device under the parent node such as **Dell PowerVault MD Storage Arrays.**

2. Right click and select **All Tasks → Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.

3. Select **MD Storage Manager Console** under **Tools → Dell Tools → Dell Storage → Dell PowerVault MD Storage Arrays** and click **Launch**.
   The **MD Storage Manager Console** is launched in the default browser in the system.

Launching MD Storage Manager Console From The Services Tree

To launch the MD Storage Manager Console from the **Dell Hardware → Dell Storage → PowerVault MD Storage Arrays** service tree object.

1. Select any MD Storage Array device under **PowerVault MD Storage Arrays** service groups on the **Services** tree.

2. Right-click and select **All Tasks → Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.

3. Select **MD Storage Manager Console** under **Tools → Dell Tools → Dell Storage → Dell PowerVault MD Storage Arrays** and click **Launch.**
   The MD Storage Manager Console is launched in the default browser in the system.

Launching OpenManage Essentials (OME) Console

You can launch the OpenManage Essentials (OME) console to get more information about the Dell systems or Dell devices you are monitoring. After you install the Dell SPI, you can see the **OpenManage Essentials Console** tool under **Tools** → **Dell Tools** on the HPOM console.

For all Dell systems or Dell devices, you can launch the OpenManage Essentials Console directly from **Tools**, **Nodes Tree**, **Services Tree**, or **Alerts Messages**.

> **NOTE:** If OME is installed in a non-default location then, you need to manually configure the location where the OME is installed in the OME Console Launch Tools.

Launching OpenManage Essentials Console From Tools

To launch the OpenManage Essentials Console from the **Tools** folder on the **HPOM** console:

1. Select **Tools** → **Dell Tools.**
2. On the right pane, select **OpenManage Essentials Console** and right-click.
3. Select **All Tasks** → **Launch Tool** from the pop-up menu.
   The OpenManage Essentials Console is launched in the default browser in the system.

Launching OpenManage Essentials Console From The Nodes Tree

To launch the OpenManage Essentials Console from **Dell Managed Systems** nodes tree:

1. Select the desired Dell system or Dell device under any of the nodes groups on the **Nodes** tree.
2. Right-click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **OpenManage Essentials Console** under **Tools** → **Dell Tools** and click **Launch**.
   The OpenManageEssentials Console is launched in the default browser in the system.

Launching OpenManage Essentials Console From The Services Tree

To launch the OpenManage Essentials Console from **Services** → **Dell Hardware.**

1. Select the desired Dell system or Dell device under any of the service groups on the **Services** tree.
2. Right-click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **OpenManage Essentials Console** under **Tools** → **Dell Tools** and click **Launch**.
   The **OpenManage Essentials Console** is launched in the default browser in the system.

Launching OpenManage Essentials Console From The Alert Message

To launch the OpenManage Essentials Console from the alert messages associated with a Dell system:

1. Select the desired Dell system or Dell device from the **Nodes** tree.
2. Select any alert message associated with the system or the device on the right pane.
3. Right-click and select **Launch Tool** → **Message,** or **Launch Tool** → **Nodes** from the pop-up menu.

The **Select the Tool to Execute** window is displayed.

4. Select **OpenManage Essentials Console** under **Tools → Dell Tools** and click **Launch**.

The OpenManage Essentials Console is launched in the default browser in the system.

Launching OpenManage Power Center Console

You can launch the OpenManage Power Center (OMPC) Console to get more information about the Dell systems or Dell devices you are monitoring. After you install the Dell SPI, you can see the **OpenManage Power Center Console** tool under **Tools → Dell Tools** on the HPOM console.

For all Dell systems or Dell devices, you can launch the OpenManage Power Center Console directly from **Tools**, or **Alerts Messages**.

Launching the OpenManage Power Center Console From Tools

To launch the OpenManage Power Center Console from the **Tools** folder on the **HPOM** console:

1. Select **Tools → Dell Tools.**

2. On the right pane select **OpenManage Power Center Console** and right-click.

3. Select **All Tasks → Launch Tool** from the pop-up menu.

The OpenManage Power Center Console is launched in the default browser in the system.

Launching OpenManage Power Center Console From The Alert Message

To launch the OpenManage Power Center Console from the alert messages associated with a Dell system:

1. Select the desired Dell system or Dell device from either **Services** or **Nodes** tree.

2. Select any alert message associated with the system or the device on the right pane.

3. Right-click and select **Launch Tool → Message** from the pop-up menu.

The **Select the Tool to Execute** window is displayed.

4. Select **OpenManage Power Center Console** under **Tools → Dell Tools** and click **Launch**.

The OpenManage Power Center Console is launched in the default browser in the system.

Launching Warranty Report

You can launch the Warranty Report tool to retrieve warranty information for the Dell systems or Dell devices you select. After you install the Dell SPI, you can see the **Warranty Report** tool under **Tools → Dell Tools** on the HPOM console.

For all Dell systems or devices, you can launch the Warranty Report directly from **Tools**, **Nodes Tree Services Tree** or **Alerts Messages**.

NOTE: Warranty report tool is not supported only for Dell PowerVault MD Storage Array devices.

NOTE: An active Internet connection is required to retrieve the warranty information.

Launching Warranty Report From Tools

To launch the Warranty Report tool from the **Tools** folder on the **HPOM** console:

1. Select **Tools** → **Dell Tools.**

2. On the right pane select **Warranty Report** and right-click.

3. Select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Edit Parameters** window is displayed.

4. Select any Dell system under **Dell Managed Systems**.

5. Click **Launch**.
   The Warranty Report is launched in the default browser in the system.

Launching Warranty Report From The Nodes Tree

To launch the Warranty Report tool from **Dell Managed Systems** nodes tree:

1. Select the desired Dell system or Dell device under any of the nodes groups under the **Nodes** tree.

2. Right-click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.

3. Select **Warranty Report** under **Tools** → **Dell Tools** and click **Launch**.
   The Warranty Report is launched in the default browser in the system.

Launching Warranty Report From The Services Tree

To launch the Warranty Report tool from **Services** → **Systems Infrastructure** → **Dell Hardware:**

1. Select the desired Dell system or Dell device under any of the service groups under the **Services** tree.

2. Right-click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.

3. Select **Warranty Report** under **Tools** → **Dell Tools** and click **Launch**.
   The Warranty Report is launched in the default browser in the system.

Launching Warranty Report From The Alert Message

To launch the Warranty Report tool from the alert messages associated with a Dell system or Dell device:

1. Select the desired Dell system or Dell device from either **Services** or **Nodes** tree.

2. Select any alert message associated with the system or the device on the right pane.

3. Right-click and select **Launch Tool** → **Message** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.

4. Select **Warranty Report** under **Tools** → **Dell Tools** and click **Launch**.
   The Warranty Report is launched in the default browser in the system.

Launching Dell Connections License Manager Console

You can launch the Dell Connection License Manager Console Launch tool to get more information about the Dell Connections License Manager server you are monitoring. After you install the Dell SPI, you can see the **Dell Connection License Manager Console Launch Tool** under **Tools** → **Dell Tools** → **Dell SPI Licensing** on the HPOM console.

NOTE: If DCLM is installed in a non-default location then, you need to manually configure the location where DCLM is installed in the DCLM Console Launch Tools.

Launching Dell Connections License Manager From Tools

To launch the Dell Connections License Manager tool from the **Tools** folder on the **HPOM** console:

1. Select **Tools** → **Dell Tools** → **Dell SPI Licensing**
2. On the right pane select **Dell Connections License Manager Console Launch Tool** and right-click.
3. Select **All Tasks** → **Launch Tool** from the pop-up menu.
   The Dell Connections License Manager Console Launch Tool is launched in the default browser in the system.

Launching Dell Connections License Manager From The Services Tree

To launch the Dell Connections License Manager tool from **Services** → **Systems Infrastructure** → **Dell SPI Licensing**:

1. Select **Agent Free Server Monitoring v3** service group under the **Services** tree.
2. Right-click and select **All Tasks** → **Launch Tool** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **Dell Connections License Manager Console Launch Tool** under **Tools** → **Dell Tools** → **Dell SPI Licensing** and click **Launch**.
   The Dell Connections License Manager Console Launch Tool is launched in the default browser in the system.

Launching Dell Connections License Manager From The Alert Message

To launch the Dell Connections License Manager tool from the alert messages:

1. Select any alert message associated with the system or the device on the right pane.
2. Right-click and select **Launch Tool** → **Message** from the pop-up menu.
   The **Select the Tool to Execute** window is displayed.
3. Select **Dell Connections License Manager Console Launch Tool** under **Tools** → **Dell Tools** → **Dell SPI Licensing** and click **Launch**.
   The Dell Connections License Manager Console Launch Tool is launched in the default browser in the system.

Dell Unresponsive Devices

When a device is discovered during an Autogrouping cycle, the device is classified and listed under the relevant node or service hierarchy. If a subsequent Autogrouping is done at a later time and the classified device did not respond for the possible reasons listed; then the device is classified under **Dell Unresponsive Device** group.
You can attribute the unable-to-classify condition to the following:

- Nodes not responding to SNMP, WSMAN, or MD Array queries
- SNMP services has stopped
- Cannot ping the devices' IP address
- Device is powered off, or shutdown

NOTE: In a particular autogrouping cycle, if an unreachable device becomes reachable, then this device is removed from the 'Dell Unresponsive Devices' folder and classified under its corresponding device classification.

Viewing Dell Unresponsive Devices

To view the Dell Unresponsive devices from the **Dell Managed Systems** Nodes tree; Select **Dell Managed Systems** →
Unresponsive Dell Devices.

Viewing Knowledge Base Articles

You can view knowledge base (KB) articles associated with all alert messages for DRAC, CMC, DRACMC, IDRAC7,
OMSA, OMSS and EqualLogic devices. The KB articles contains information about summary, causes and steps to
resolve the alert condition.

To view the KB article:

1. Select the desired Dell system or Dell device from the **Nodes** tree.
2. Select any alert message associated with the system or the device on the right pane.
3. Right-click and select **Properties** from the pop-up menu.
4. In the **Properties** screen, click the **Instructions** tab.
5. Click on the HyperText Markup Language (HTML) link provided.

Troubleshooting Dell Smart Plug-in (SPI)

This section lists the problems that you may encounter while using the Dell SPI.

Installer Takes Time To Launch

Problem
When the Dell SPI installer is run for the first time on the management server, there is a delay of 40-45 seconds to launch the installer if the system does not have access to the internet.

Reason
This problem occurs because the .NET Framework 2.0 managed assembly that has an Authenticode signature takes longer than usual to load. The signature is always verified when the .NET Framework 2.0 managed assembly that has an Authenticode signature is loaded.

Solution
To resolve this, ensure that the management server is connected to the internet when you run the installer.

DellSPIConfigUtility Displays An Error

Problem
DellSPIConfigUtility displays an error for a Local User when the user access control (UAC) is enabled.

Solution
When UAC is enabled, run the DellSPIConfigUtility using Run as Administrator command prompt.

1. Select the command prompt application.
2. Right click and select **Run as Administrator**.
3. Configure the SNMP and WSMAN parameters in the administrator command line.

   > NOTE: You should have Administrators and HP_OVE_Admins privileges; otherwise, you must provide the required security credentials.

SNMP Trap Messages Are Not Created

Problem
The SNMP Interceptor policy may not display the SNMP trap messages in the active message browser of the node from which it receives the traps.

Solution
To resolve this, ensure that the trap destinations and the community strings on the Dell managed nodes are configured correctly and communication is established between the managed node and the management server.

SNMP Traps Received At Wrong Nodes Due To Error In DNS Cache

Problem
After you start monitoring the Dell systems grouped under Dell Managed Systems group, if you interchange the IP addresses of the nodes, then the SNMP traps are received on the wrong nodes. For example, if you have two nodes A and B under **Dell Managed Systems → Dell Monolithic Servers group** and you interchange the IP addresses of the two nodes, then the traps from A are displayed as messages in the active message browser of B and vice versa.

Solution

To resolve this:

1. Launch the Server Configuration Editor on the HP Operations Manager (HPOM) console.
2. Under the **Node Cache Settings** option, set the **DNS cache** value to **False** to disable the DNS caching. The nodes now display the traps correctly.

Global System Status Not Retrieved For Dell Systems

Problem

The **Dell Server Scheduled Status Poll** policy does not retrieve the global system status of discovered Dell systems until the systems are grouped under the **Dell Managed Systems** group.

Solution

The global status update policy is scheduled to run at 02:00 hours every day and starts polling systems for global system status. If you choose to auto-deploy the policy files during the Dell SPI installation, the policies start running as per the default schedule. However, the auto grouping policy is scheduled to run only at 04:00 hours every week. Therefore, until the **Dell Hardware Autogroup Policy** runs and the Dell systems are grouped under the **Dell Managed Systems** group, the global system status of the systems is not displayed on the HPOM console.

Related Documents And Resources

This chapter gives you the details of other documents and resources to help you work with the Dell Smart Plug-in version 3.0.

Other Documents You May Need

In addition to this guide, you can access the following guides available on the Dell Support website at **dell.com/support/manuals**. On the Manuals page, click **Software → Systems Management**. Click the appropriate product link on the right-side to access the documents:

- *Dell OpenManage Installation and Security User's Guide*
- *Dell OpenManage Server Administrator User's Guide*
- *Dell OpenManage Server Administrator Compatibility Guide*
- *Dell OpenManage Server Administrator Messages Reference Guide*
- *Dell OpenManage Server Administrator Command Line Interface User's Guide*
- *Dell OpenManage With VMware ESX/ESXi 4 Systems Management Guide*. To access this guide, click **Software → Virtualization Solutions → VMware Software** on **dell.com/support/manuals**.
- *SNMP Trap Correlation Guide*
- *Dell Chassis Management Controller User's Guide*
- *Dell Integrated Remote Access Controller User's Guide*
- *Dell Remote Access Controller 5 User's Guide*
- *Dell Remote Access Controller/ Modular Chassis User's Guide*
- *Dell OpenManage Essentials Version 1.0 User's Guide*
- *Dell OpenManage Power Center Version 1.1 User's Guide*
- *Dell Connections License Manager Version 1.0 User's Guide*
- To view the *Dell PowerVault MD Storage Arrays User's Guide* , pertaining to a MD Storage Arrays device, select the desired Dell MD Storage Arrays device under **Systems → PowerVault Storage** on **dell.com/support/manuals**
- To view the *Dell EqualLogic User's Guide* click **Systems → Dell EqualLogic → Dell EqualLogic Documentation** on **dell.com/support/manuals**

For information on terms used in this document, see the *Glossary* on the Dell Support website at **dell.com/support/manuals**.

Contacting Dell

> **NOTE:** If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Visit **dell.com/support/manuals**.
2. Select your support category.
3. If you are not a U.S. customer, select your country code at the bottom of the **dell.com/support** page, or select **All** to see more choices.

4. Select the appropriate service or support link based on your need.