

Dell™ Management Pack Version 3.1
For Microsoft® System Center
Operations Manager 2007 SP1 and
System Center Essentials 2007 SP1
User's Guide

Notes and Notices



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



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

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Introduction

This document is intended for system administrators who use the Dell™ Management Packs to manage and monitor Dell systems.

With the integration of the Dell Management Packs with Systems Center Operations Manager (SCOM) 2007 SP1 and System Center Essentials (SCE) 2007 SP1 environment, you can manage, monitor and, ensure the availability of your Dell devices (systems, storage, computers, and printers).



NOTICE: The procedures in this document should be performed only by personnel with knowledge and experience in using the Microsoft® Windows® operating system and the Systems Center Operations Manager 2007 SP1 or System Center Essentials 2007 SP1. Due to the possibility of data corruption and/or data loss, Dell recommends that only such persons use the procedures described in this document.



NOTE: The Management Packs also support Microsoft System Center Essentials 2007 SP1. All references to Systems Center Operations Manager 2007 SP1 in this guide are applicable to System Center Essentials 2007 SP1 as well.



NOTE: Read the Management Packs readme file, which contains the latest information about software and management station requirements, in addition to information about known issues. The readme is posted to the Systems Management documentation page on the Dell Support website at support.dell.com.

Feature Highlights

The Dell Management Pack 3.1 supports:

- Dell PowerEdge™ and PowerVault™ (NAS) systems
- Dell Latitude™, Optiplex™, and Precision™ business computers
- Dell MD3000™, MD3000i™ and Daisy chained MD1000™ Storage Arrays
- Dell Network Printers
- Out of Band DRAC and CMC support

The Dell Specific User Interface provided by the Dell Management Packs in the SCOM 2007 SP1/ SCE 2007 SP1 framework are:

Diagram View - Displays the Dell devices, the components associated with those devices in a hierarchical tree structure.

Alert View - Displays the alerts/events associated with Dell Devices.

State View - Displays the state of discovered Dell device in a tabular format.

What's New in Dell MP 3.1

Management Packs

Dell Management Pack 3.1 provides three Management Packs:

- Dell.Connections.001.mp - for Servers and Printers
- Dell.Connections.Client.mp - for Business Computers
- Dell.Connections.StorageArray.mp - for MD3000™ and MD3000i™ Storage Arrays

The previous release (Dell MP 3.0) provided only one management pack - the **Dell.Connections.001.mp**. The 3.1 release provides two new management packs - The **Dell.Connections.Client.mp** and **Dell.Connections.StorageArray.mp**. The 3.1 management pack has additional features, including support for upgrade from 3.0 to 3.1 (for the server and printer management pack).



NOTE: Upgrade from MP 3.0 to 3.1 is supported only if Systems Center Operations Manager is upgraded to SP1.

Features

Server and Printer Management (Dell.Connections.001.mp)

The Server and Printer Management pack provides these additional features in MP 3.1:

- Enhanced attribute and component information for Storage Controllers
- Support for Out of band DRAC - DRAC 5 and DRAC/MC.
 - Support for SNMP traps from DRAC 5 and DRAC/MC
 - Tasks to launch DRAC 5 and DRAC/MC console
- Reporting functionality
 - Embedded system Management (ESM) Log Report
 - Baseboard Management Controller (BMC) Log Report
 - Dell Related Windows event log Report

- Dell Server attribute Report
 - Firmware and Driver versions of Storage Controller
 - BIOS and RAID configuration setting
- Out of band Chassis Management Controller (CMC) Support for Dell xx0x modular systems.
 - Support for SNMP traps from CMC
 - Task to launch CMC console
- In band Integrated DRAC (iDRAC) support for Dell xx0x modular systems.
 - Task to launch iDRAC console

Client Management (Dell.Connections.Client.mp)

- Discovery of Dell Latitude, Precision, and Optiplex business computers
 - Discovery of Client hardware components (For the full list of hardware components please refer to the Client Management Pack chapter).
 - Monitoring OMCI service
- Handling OMCI events
- Health status checks for client hardware components are done either by polling at periodic intervals or when there is an associated event from instrumentation. The state of each component is updated in the diagram view as a result.
- Support for remote Client Reboot and remote Client Shutdown tasks

Storage Array Management (Dell.Connections.StorageArray.mp)

- Discovery of Dell MD3000™, MD3000i™ and Daisy chained MD1000™ Storage Arrays
 - Discovery of all the components of Storage Arrays (For the full list of hardware components please refer to the Storage Array Management Pack chapter).
- Polling the health status of Storage Array components at regular intervals
- Updating the state of each Storage Array component and rolling the health status up to the root node in the diagram view
- Polling the set of alerts periodically from each MD Storage Array

Supported Dell Devices

The following Dell devices are supported for Dell MP 3.1:

- Dell PowerEdge™ and PowerVault™ systems
- Dell Latitude™, OptiPlex™, and Precision™ computers
- Dell MD3000™, MD3000i™, and Daisy chained MD1000™ Storage Arrays
- Dell Printers (for a list of supported printers refer to **Appendix B - Supported Printers**)
- DRAC 5, DRAC/MC, iDRAC, and CMC devices

Supported Operating Systems

For the detailed Operating Systems support matrix refer to **Appendix A - Operating System Support Matrix**.

Management Server Requirements



NOTE: The Management Packs can be installed only on Systems Center Operations Manager 2007 SP1 or System Center Essentials 2007 SP1.

Generic Requirement

- For discovery of Windows systems on your network and installing SCOM 2007 SP1/SCE 2007 SP1 agents through the Operations Console, all the managed systems should have a valid and a fully qualified domain name (FQDN) that can be pinged from the management station.
- For discovery of Dell monolithic and modular systems, Dell clients perform agent push discovery on Windows systems.
- For discovery of DRAC 5, DRAC/MC, CMC, and Dell printers network device discovery should be performed.

Storage Array

- For the Storage Array Management Pack, the Array Bridge broker (DellABB setup) is a prerequisite on the management server. The DellABB files packaged in the self-extracting executable should be installed on the default location (C:\Dell_MDStorageArray_ABB).

Server and Printer/Client

- Servers - For BMC reports, the DellBMCLog executable packaged in the self-extracting executable DellBMCLogSetup.exe should be extracted onto the default location (C:\DellReports).
- Dell Management Pack will still function if the SCOM 2007 SP1/SCE 2007 SPI Management Server Action account has normal user privileges on all Dell managed systems but with a reduced feature set. The Management Server Action Account needs the following privileges for listed additional features:

Table 1-1. Management Server Action Account Privileges

Feature	User Privilege
Dell Monolithic server in-Band DRAC discovery and the corresponding DRAC Console launch	Admin or Power user
Clear ESM Log	Admin or Power user

Alternatively, for the **Clear ESM Log** task, if the Management Server Action Account has normal user privileges, operators can, instead of selecting **Use the predefined Run as Account**, enter task credentials with Power User (or higher) privileges to run the **Clear ESM Logs** task.

- **Servers** - To run the Remote Power Control tasks or the LED Identification Control tasks on Dell-managed systems, the **BMC Management Utility** version 2.0 must be installed on the management station. The **BMC Management Utility** is available on the *Dell Systems Management Tools and Documentation* DVD.
- The Dell Server and Printer Management Pack discovers and monitors Dell printers that support Community-based Simple Network Management Protocol v1 and v2. The Management Pack does not support Printer SNMP traps.

Managed Node Requirements

These are the managed node requirements for servers, client and MD Storage Arrays:

Server

- Install Dell OpenManage™ Server Administrator version 5.3 or later (including the Server Administrator Storage Management Service). You can download the latest version of OMSA from:
<http://support.us.dell.com/support/downloads/format.aspx?releaseid=R183698>
 - If a system has OMSA version lesser than 5.3, it will be grouped under "Unknown" and monitoring will be disabled.
- Install DRAC Agent using the *Dell Systems Management Tools and Documentation* DVD, if Dell Remote Access Controller (DRAC) is installed on your Dell system. You can download the latest DRAC Agent from:
<http://support.us.dell.com/support/downloads/format.aspx?releaseid=R183698>
- Configure a valid IP address for your baseboard management controller (BMC) and ensure network connectivity for Intelligent Platform Management Interface (IPMI) tasks to work without errors.
- For devices to be recognized as Dell server management server agents must be installed on the managed system locally or remotely.

Client

- OMCI version 7.5 or later is a prerequisite for Client Management. Clients that have OMCI version lesser than 7.5 will be grouped under "Unknown" and monitoring will be disabled. You can download the latest version of OMCI from:
<http://support.us.dell.com/support/downloads/format.aspx?releaseid=R182596>

MD Storage Array

- Install the MDSM Host agent on the server that hosts the MD3000 to discover the Dell Storage Device through In Band. You can download the latest resource CD from:
<http://support.us.dell.com/support/downloads/format.aspx?releaseid=R182960>

Configuring Management Server Action Account with normal user privilege

To configure management server action account with normal user privilege follow these steps:

- 1** Install SCOM 2007 SP1/SCE 2007 SP1 on the Management Server, with Management Server Action Account as a Domain user (non Domain Administrator).
- 2** Install Operations Manager Agent on the Managed node (Auto Agent Push/ Manual Install). You will need to add the Management Server Action Account (as described in step1 - Domain User) as part of the local admin group for Agent install to work.
- 3** Once Discovery and Monitoring of Managed Node is successfully initiated in the Operations Manager Console, demote the Management Server Action Account from the Local Admin group. (You may need to reboot to make sure that the user is not an administrator now).
- 4** Once the Management Server Action Account user is non Power user/ Administrator user account, Import the Dell Management Pack on Management Station.
- 5** Wait till the Managed Node is discovered again by the Management Pack (this will depend on the discovery cycle time.)

Other Documents You May Need

Besides this *User's Guide*, you might need to refer to the following guides available on the Dell Support website at support.dell.com:

- The *Dell MD3000 Installation Guide* and *MD Storage Manager's User's Guide* provide detailed information on how to install the MDSM manager and how to configure and use the MD storage manager.
- The *Dell Integrated Remote Access Controller User's Guide* provides detailed information on configuring and using the iDRAC.
- The *Dell Chassis Management Controller User's Guide* provides detailed information on installing, configuring and using CMC.
- The *Dell OpenManage Installation and Security User's Guide* provides detailed installation procedures and step-by-step instructions for installing, upgrading, and uninstalling Server Administrator for each supported operating system.
- The *Dell OpenManage Software Quick Installation Guide* provides an overview of applications that you can install on your management station (console) and on your managed systems. This document also provides procedures for installing your console and managed system applications on systems running supported operating systems.
- The *Dell OpenManage Server Administrator Compatibility Guide* provides compatibility information about Server Administrator installation and operation on various hardware platforms (or systems) running supported operating systems.
- The *Dell OpenManage Server Administrator CIM Reference Guide* documents the Common Information Model (CIM) provider, an extension of the standard management object format (MOF) file. The CIM provider MOF documents supported classes of management objects.
- The *Dell OpenManage Server Administrator Messages Reference Guide* lists the messages that are displayed in your Server Administrator home page Alert log or on your operating system's event viewer. This guide explains the text, severity, and cause of each service alert message that Server Administrator issues.

- The *Dell OpenManage Server Administrator Command Line Interface User's Guide* documents the complete command line interface for Server Administrator, including an explanation of the command line interface (CLI) commands to view system status, access logs, create reports, configure various component parameters, and set critical thresholds.
- The *Dell OpenManage Baseboard Management Controller Utilities User's Guide* provides additional information about using Server Administrator to configure and manage your system's BMC.
- The *Dell OpenManage Server Administrator Storage Management User's Guide* is a comprehensive reference guide for configuring and managing local and remote storage attached to a system. This document is also available in HTML and PDF formats on the *Dell Systems Management Tools and Documentation* DVD and from the Storage Management console as online help.
- The *Dell Remote Access Controller 5 User's Guide* provides complete information about installing and configuring a DRAC 5 controller and using DRAC 5 to remotely access an inoperable system.
- The *Dell Remote Access Controller Racadm User's Guide* provides information about using the racadm command-line utility.
- The *Dell Embedded Remote Access/MC Controller User's Guide* provides complete information about configuring and using an ERA/MC controller to remotely manage and monitor your modular system and its shared resources through a network.

The *Dell Systems Management Tools and Documentation* DVD contains a readme file for Server Administrator and additional readme files for other systems management software applications found on the DVD.

Obtaining Technical Assistance

If at any time you do not understand a procedure described in this guide, or if your product does not perform as expected, different types of help are available. For more information see "Getting Help" in your system's *Installation and Troubleshooting Guide* or the *Hardware Owner's Manual*.

Additionally, Dell Enterprise Training and Certification is available; see www.dell.com/training for more information. This service might not be offered in all locations.

Getting Started with MP 3.1

Overview

The self-extractor contains three Dell Management Packs that can be integrated to SCOM (Systems Center Operations Manager) 2007 SP1 and SCE (Systems Center Essentials) 2007 SP1. These are:

- Dell.Connections.Client.MP - for Business Computers
- Dell.Connections.001.MP - for Servers and Printers
- Dell.Connections.StorageArray.MP - for MD3000™, MD3000i™ and Daisy chained MD 1000™ Storage Arrays

The three Management Pack files, along with this user's guide, readme, DellABB executable and config files, DellBMCLogSetup executable are packaged in a self-extracting executable **DELLMPv3.1_A01.exe** file. The .exe can be downloaded from the Dell Support website at support.dell.com.

Importing the Dell Management Packs into SCOM SP1/SCE SP1

To import any of the Management Packs, use the Systems Center Operations Manager 2007 SP1 Import Management Pack wizard:

- 1 Download the Management Packs from the Dell Support website at support.dell.com. This file is a self-extracting .exe file—**DELLMPv3.1_A01.exe**.
- 2 Copy the downloaded file to the destination directory on your local system's hard drive.
- 3 Open the **DELLMPv3.1_A01.exe** file to extract any of the three management packs (**Dell.Connections.Client.MP**, **Dell.Connections.001.MP**, **Dell.Connections.StorageArray.MP**)
- 4 Click **Start→Programs→System Center Operations Manager 2007** and select **Operations Console**.
- 5 In the **Operations Console**, click **Administration** on the navigation pane.
- 6 Expand the **Administration** tree, right-click **Management Packs**, and select **Import Management Packs**.

- 7 Type or browse to the location of the Management Pack files, which is usually the same location to which you downloaded and extracted the contents of the **DELLMPv3.1_A01.exe** file.
- 8 Select either of the management packs (**Dell.Connections.StorageArray.MP**, **Dell.Connections.Client.MP** or **Dell.Connections.001.MP**) you want to import and click **Open**. The **Import Management Packs** screen appears.
- 9 Click **Import** to complete the task.

Post-Import Tasks for the Dell Server and Printer Management Pack

The BMC Management Utility (BMU) 2.0 or later should be installed on the SCOM Management Server.

The latest BMC Management Utility can be downloaded from:

<http://support.us.dell.com/support/downloads/format.aspx?releaseid=R180315>

IPMI power Control and LED Identification Tasks use the default BMC credentials, including the default BMC install path (C:\Program Files\Dell\SysMgt\bmc), which cannot be modified.

The BMC log reports also use the default BMC credentials, but it doesn't need to be installed in the default install path.

Extract **DellBMCLogSetup.exe** to the default location - C:\DellReports. This executable performs the role of collecting logs out of band for the all the BMCs discovered by the management pack. This is later presented as a Dell BMC Log Report.

For **IPMI power Control and LED Identification Tasks**, if your systems have different BMC credentials, or if BMU is installed on a 64-bit Program Files path, or in a non-default BMU install path on the management server, you will need to install BMU 2.0 or later on the Operator Console system and create new console tasks in the **Authoring** pane targeted on **BMC for Dell Server**:

- 1 In the **Authoring** pane, right-click **Tasks** and select **Create new task**. The **Create Task Wizard** appears.
- 2 In the **Task Type** screen, select **Command line** under **Console Tasks**. Click **Next**. The **General Properties** screen appears.

- 3 Type **Task name**, **Description**, and select **BMC for Dell Server** as the **Task Target** and click **Next**. The **Command Line** screen appears.
- 4 Type the path of the application **ipmish.exe** (the path where BMU was installed on the Operator Console) in the **Application** field. For example, `C:\Program Files\Dell\SysMgt\bmc\ipmish.exe`
- 5 In the **Parameters** field, enter the command line parameters in the following format:
 - Type `-ip` and choose the **BMC IP Address** from the drop-down menu.
 - Type `-u <BMC user name> -p <BMC password> -k <BMC KG key> <IPMI Task String>`
 - Replace `<IPMI Task String>` with one of the following options:
 - `power status` (for **Check Power Status** task)
 - `power on` (for **Power On** task)
 - `power off` (for **Power Off Gracefully** task)
 - `power off -force` (for **Forced Power Off** task)
 - `power cycle` (for **Power Cycle** task)
 - `power reset` (for **Power Reset** task)
 - `identify on` (for **LED Identification On** task)
 - `identify off` (for **LED Identification Off** task)

A sample command line parameter entry:

```
-ip $Target/Property[Type=
"Dell.Connections00130025!Dell.Connections.
ServerBMC"]/BMCIPAddress$ -u root -p calvin
-k 0000 power status
```

- 6 Click **Create** to create the task and repeat this procedure for each new BMC task you want to create.

Post-Import Tasks for the Storage Array Management Pack

For the Storage Management Pack:

- 1 Extract the self-extracting executable (Dell_MDStorageArray_ABBSetup.exe) to the default path - C:\Dell_MDStorageArray_ABB\
- 2 Update the file (dell_MDStoragearray_ip.cfg) with the IP addresses of the storage boxes in the network. Ensure that you update the IP addresses in the semi-colon separated format, in a single line. For example - 10.94.1.1;10.94.1.2;10.94.1.3;10.94.1.4;10.94.1.5



NOTE: If the ABB files are not placed in the default location, you will see an alert only in "Active Alerts", under the Monitoring tab.

Deleting the Management Packs

To delete any of the Management packs:

- 1 Select **Administration**→ **Management Packs** in the Systems Center Operations Manager 2007 Operations Console.
- 2 Select the Dell Management Pack you want to delete from the **Management Packs** pane.
- 3 Right-click the selected **Dell Management Pack** and click **Delete**.



NOTE: Deleting any of the Management Packs may affect the scope of some user roles.

Upgrading the 3.0 Management Pack

You can apply Dell MP 3.1 as an upgrade over Dell MP 3.0 on Systems Center Operations Manager 2007 SP1 or Systems Center Essentials 2007 SP1.

You can apply the Dell Server and Printer Management Pack as an upgrade over Dell Management Pack 3.0.

To upgrade:

- 1** Select **Import Management Pack** from the **Actions** pane. The **Select Management Packs to Import** dialog is displayed.
- 2** Select the upgraded version of the .mp file (Dell.Connections.001.mp) and click **OK**. You will be prompted to overwrite the older version (3.0) of the management pack.
- 3** Click **OK** to update. The selected management pack will be imported to the SCOM framework.

Server and Printer Management Pack

Features

Discovery and Grouping

- Discovers and monitors Dell™ PowerEdge™ and PowerVault™ systems and groups systems (Modular and Monolithic) running Server Administrator (5.3 or later) so that the systems are easily identifiable and manageable
- Discovers and monitors of out of band DRAC 5 and DRAC/MC and CMC on the network. You will not be able to discover or monitor out of band iDRAC, DRAC III, and DRAC 4 devices
- Enhanced attribute support for storage controllers, their components, and health rollups (for servers)
- Groups Dell systems that do not have Server Administrator installed, have unresponsive instrumentation service, or have Server Administrator earlier than 5.3 as Dell Unknown

Alerts and Traps

- Displays alerts for events received from Dell OpenManage Server Administrator (including the Server Administrator Storage Management Service) for Dell PowerEdge systems
- Provides trap support for DRAC 5, DRAC/MC, and CMC

Tasks

- Provides Tasks for:
 - Launching Server Administrator
 - Launching Dell Remote Access Controller (DRAC) console
 - Launching Dell Printer Console
 - Launching CMC and iDRAC console
 - Clearing ESM log for Dell systems
- Provides Intelligent Platform Management Interface (IPMI) tasks for Dell systems with the baseboard management controller (BMC)

Reports

Provides Reports for ESM and BMC log, windows event log, firmware and driver version for selected server and RAID and BIOS configuration setting based on the selected server and selected attribute.

Customizing

Allows you to customize and configure your Dell devices for discovery and monitoring

Discovery

To discover Dell devices, the devices must appear in the **Agent Managed** view under the **Administration** section of the Operations Console.

The default discovery and monitoring intervals for Management Pack v3.1 have been increased to six hours and one hour respectively, to reduce the performance load on the SCOM/SCE environment. You can use overrides to increase or decrease these intervals to the specific Dell hardware management needs of the SCOM operator.

To add a Dell system to the **Agent Managed** list:

- 1 Log on to the system with an account that has the SCOM Administrators role, for the SCOM 2007 SP1/SCE 2007 SP1 Management Group.
- 2 In the Operations Console, click **Administration**.
- 3 At the bottom of the navigation pane, click **Discovery Wizard**. The **Introduction** screen appears.

- 4** Click **Next** after reading the instructions on the **Introduction** screen.
- 5** To discover Dell Modular and Monolithic systems, select **Automatic Computer Discovery** and click **Next**.
 - a** Provide user account details on the **Administrator Account** screen and click **Discover**. The **Discovery Progress** page appears.
 - b** On the **Select Objects to Manage** page, select the devices you want to manage and click **Next**.
 - c** On the **Summary** screen, specify the path for **Agent Installation Directory**, specify the credentials for **Agent Action Account**, and click **Finish**.



NOTE: If the Instrumentation component is not running or if the Server Administrator is not installed on your Dell system, the Discovery process classifies the system as Unknown.

Printers, Out-of-Band DRAC devices, and Out-of-Band CMC devices

To discover Dell Printers, Out-of-Band DRAC devices and Out-of-Band CMC devices, perform the following steps:

- 1** Follow steps 1 to 4 as described under "Discovery."
- 2** Select **Advanced Computer Discovery**, select **Network Devices** in the **Computer & Device Types** menu, and click **Next**.
- 3** Type the **Start** and **End** of the IP address range that you want to scan and type the SNMP Community.
- 4** Click **Discover**. The **Discovery Progress** page appears.
- 5** On the **Select Objects to Manage** page, select the devices you want to manage and click **Next**.
- 6** Click **Finish**.

Monitoring

With the Server and Printer Management Pack you will be able to work with these views:

Alert View

In the Operations Console, **Dell Server and Printer**→**Alert View**→**Dell Server Alerts** displays alerts that meet your specific criteria, such as alert severity, resolution state, or alerts that are assigned to you. Select an alert to view its details in the **Alert Details** pane.

When an alert listed in the Alert View associated with the server is selected, the **Launch Server Administrator** and **Clear ESM Logs** launch points appear under **Dell Systems Instances Tasks** in the **Actions** pane.

Diagram View

In the Operations Console, **Dell Server and Printer**→**Diagram View** offers a hierarchical, graphical representation of all Dell devices on your network that SCOM 2007 SP1/SCE 2007 SP1 manages. The Dell Server and Printer Management Pack offers the following diagram views:

- All Groups Diagram
- Dell Modular Systems Diagram
- Dell Monolithic Servers Diagram
- Dell Out of Band CMC Diagram
- Out of Band DRAC Diagram
- Dell Printer Diagram

The diagram views allow you to monitor the following devices and components:

- Dell Modular and Monolithic Systems
 - Dell Baseboard Management Controller (BMC) - inband only
 - Dell Remote Access Controller (DRAC) - inband and out of band
 - Dell Integrated Remote Access Controller (iDRAC) - inband only
 - Hardware Components: Intrusion, Sensors (Voltage, Temperature, Battery, and Currents), Memory, and Processors.
 - Dell OpenManage Server Administrator services

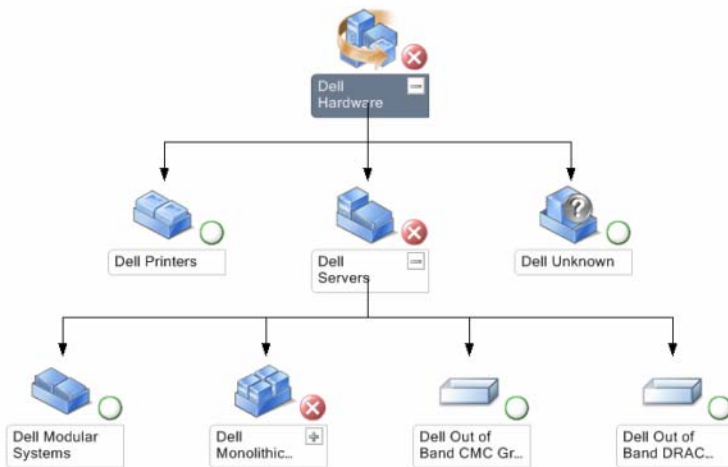
- Server Administrator Storage Management service and storage controller details
- Chassis Management Controller (CMC)



NOTE: You can launch device/component specific tasks from the **Actions** pane of the Operations Console. See **Tasks** for more information on launching Tasks.

All Groups Diagram

Figure 2-1. Dell All Groups Diagram

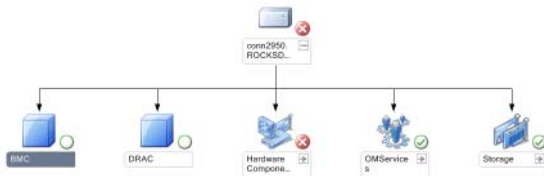


To access the All Groups Diagram in the Operations Console, click **Dell Server and Printer → Diagram View → All Groups Diagram**.

The **All Groups Diagram** offers a graphical representation of all Dell devices that SCOM 2007 SP1/SCE 2007 SP1 manages and allows you to expand and verify the status of individual devices and their components in the diagram. You can view details for **Dell Modular Systems**, **Dell Monolithic Systems**, **Dell Printers** and **Out of Band DRAC** devices with the **All Groups Diagram**. Select a component in the diagram to view its details in the **Detail View** pane.

Dell Server Instance Diagram

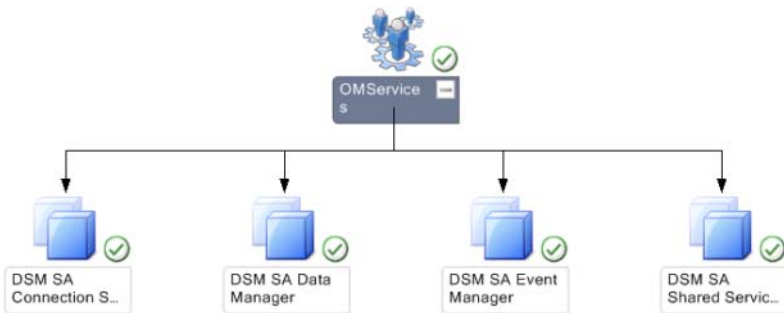
Figure 2-2. Dell Server Instance Diagram



Select a Dell Server instance, from any of the Dell diagram views, to view the diagram specific to that particular server. Server-specific diagrams illustrate and indicate the status of your Dell system’s Baseboard Management Controller (BMC), Dell Remote Access Controller (DRAC), Hardware components, Server Administrator services, and Storage controllers. Select a component in the diagram to view its details in the **Detail View**.

Dell OpenManage Services Diagram

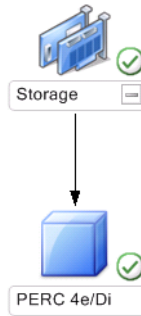
Figure 2-3. Dell OpenManage Services



The Dell OpenManage Server Administrator sub-system, available in all the Dell diagram views, lists and indicates the status of Server Administrator components that include Connection Service, Data Manager, Event Manager, and Shared Services. Select a component in the diagram to view its details in the **Detail View**.

Storage Service Diagram

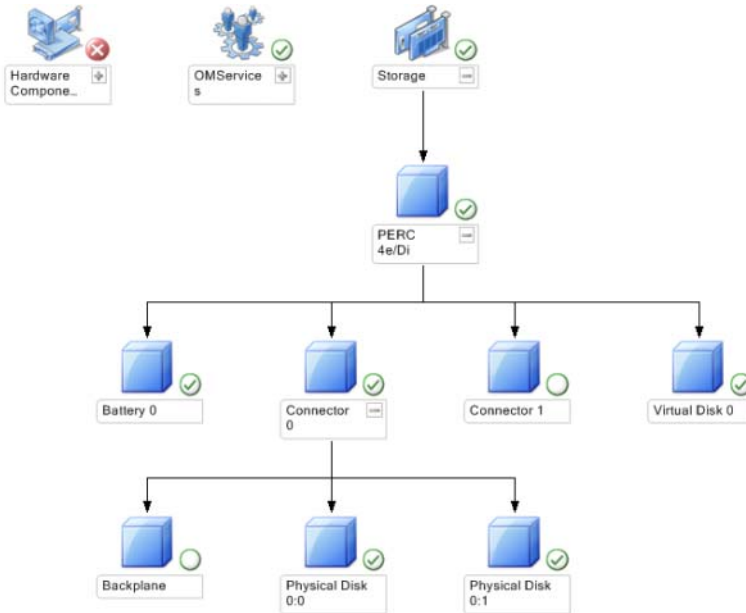
Figure 2-4. Storage Service Diagram



The Storage sub-system, available in all the Dell diagram views, lists and indicates the status of storage controllers. Select a component in the diagram to view its details in the **Detail View**.

Storage Controller Diagram

Figure 2-5. Storage Controller Diagram

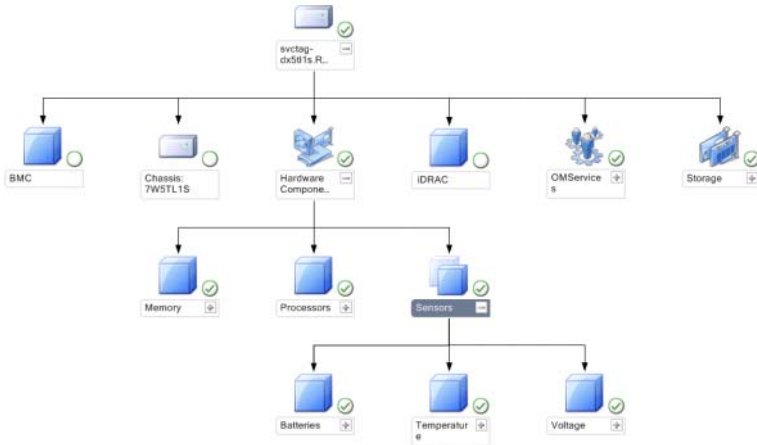


With the **Storage Controller** diagram view, you will be able to view the status and health of components like Batteries, Connectors and Virtual Disks. Click on a component to view its details in the **Detail View** pane. Each Connector instance will contain the Enclosure and Physical Disk components. Under each Enclosure instance you will be able to view the health roll ups for the following:

- Temperature probe
- Fan probe
- EMM (Enclosure Management Module)
- Power supply
- Physical disk

Dell Modular Servers Diagram

Figure 2-6. Dell Modular Servers Diagram

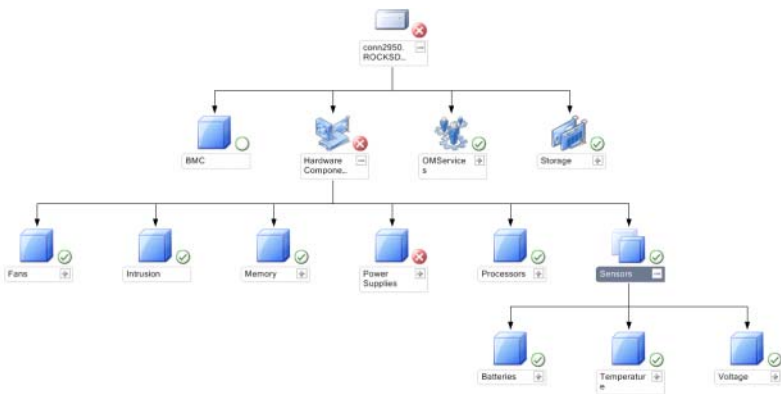


The **Dell Modular Servers Diagram** offers a graphical representation of all Dell Modular Systems and allows you to expand and verify the status of individual devices and their components in the diagram. Select a component in the diagram to view its details in the **Detail View** pane.

The chassis of a modular system appears under each instance of the blade servers that a modular system contains.

Dell Monolithic Servers Diagram

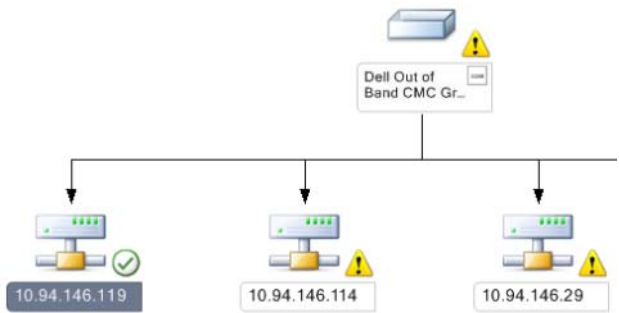
Figure 2-7. Dell Monolithic Servers Diagram



The **Dell Monolithic Servers Diagram** offers a graphical representation of all Dell Monolithic Systems and allows you to expand and verify the status of individual devices and their components in the diagram. Select a component in the diagram to view its details in the **Detail View** pane.

Dell Out of Band CMC Diagram

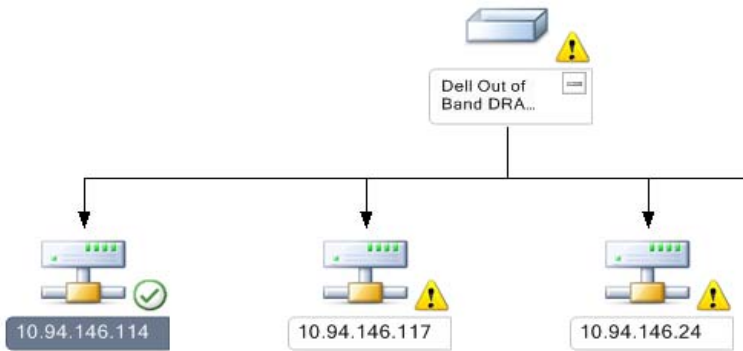
Figure 2-8. Dell Out of Band CMC Diagram



The **Dell Out of Band CMC Diagram** offers a graphical representation of all Dell CMC devices. Select a component in the diagram to view its details in the **Detail View** pane.

Dell Out of Band DRAC Diagram

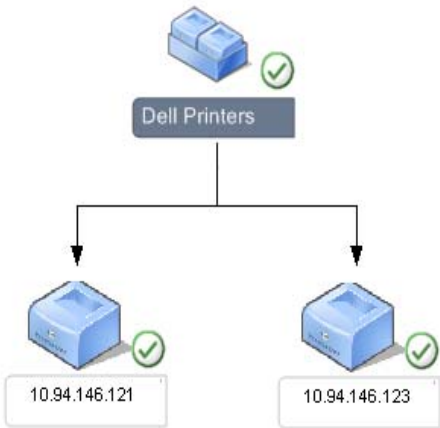
Figure 2-9. Dell Out of Band DRAC diagram



The Dell Out of Band DRAC Diagram offers a graphical representation of all DRAC 5 and DRAC/MC devices. Select a component in the diagram to view its details in the **Detail View** pane.


Dell Printer Diagram

Figure 2-10. Dell Printer Diagram






To access the **Dell Printer Diagram** in the Operations Console, click **Dell Server and Printer → Diagram View → Dell Printer Diagram**.

The **Dell Printer Diagram** offers a graphical representation of all Dell printers that SCOM 2007 SP1/SCE 2007 SP1 manages and allows you to expand and verify the status of individual printers and their components in the diagram. Select a printer in the diagram to view its details in the **Detail View** pane.

 **NOTE:** For security reasons, SCOM/SCE displays the Community String attribute as an encoded string value.

State Components and Severity Levels

Table 2-1. Severity Level Indicators

Icon	Severity Level
	Normal/OK. The component is working as expected.
	Warning/Noncritical. A probe or other monitoring device has detected a reading for the component that is above or below the acceptable level. The component may still be functioning, but it could fail. The component may also be functioning in an impaired state.
	Critical/Failure/Error. The component has either failed or failure is imminent. The component requires immediate attention and may need to be replaced. Data loss may have occurred.
White	The health status is not applicable for the specific component.
Grey	The service is unavailable.

State View

In the Operations Console **Dell Server and Printer→ State View** displays the status of each Dell device managed by SCOM 2007 SP1/SCE 2007 SP1 on your network. The Management Pack provides a list of Dell severity level indicators to help you monitor the health of your Dell devices on the network.

Select the device group for which you want to see the State view. For example, click **Dell Servers** to view the status of your Dell Monolithic and Modular systems.

You will be able to view the status of the following groups:

- Dell Out of Band DRAC/MC
- Dell Out of Band DRAC 5
- Dell Out of Band CMC
- Dell Printer
- Dell Servers

The health of a component is derived by reviewing the unresolved alerts associated with the component. Table 2-1 explains the various state components that the Dell Management Pack uses and their corresponding severity levels.

Tasks

Tasks are available in the **Actions** pane of the Operations Console. When you select a device or a component in any of the Dell diagram views, the relevant tasks appear in the **Actions** pane.

You can run the tasks **Launch Server Administrator** and **Clear ESM Logs**, from the Diagram view, State view, or Alert view.

A summary of the Dell Tasks that you can perform using the Dell Management Packs are explained in Table 2-2:

Table 2-2. Dell Tasks Using the Management Pack for SCOM 2007 SP1/SCE 2007 SP1

Dell Task	Description
Dell Modular and Monolithic System Tasks	
Clear ESM Logs	Backs up the content of the Embedded System Management (ESM) log and clear the ESM log file for a selected system
Launch Server Administrator	Launches the Dell OpenManage Server Administrator
Dell Printer Tasks	
Launch Printer Console	Launches the Dell Printer console

Table 2-2. Dell Tasks Using the Management Pack for SCOM 2007 SP1/SCE 2007 SP1 *(continued)*

Dell Task	Description
Dell BMC Tasks	
Check Power Status	Checks the overall power status of the system
Power Cycle	Turns off the power, and after a delay, turns it on again
Forced Power Off	Turns off the system's power without shutting down the operating system
Power Off Gracefully	Shuts down the operating system first, then turns off the system's power
Power On	Turns on the system power. This option is available only if the system's power is turned off.
Power Reset	Turns off the system's power and turns it on again
LED Identification On	Turns on the Identify LED of the selected system for 255 seconds
LED Identification Off	Turns on the Identify LED of the selected system
Dell Remote Access Controller (DRAC) Tasks (in-band)	
Launch InBand Dell Remote Access Console	Launches the DRAC console for the in-band discovered DRAC
Dell Remote Access Controller (DRAC) Tasks (out-of-band)	
Launch Out of Band Dell Remote Access Console	Launches the DRAC console for the out-of-band discovered DRAC
Dell Remote Access Controller (DRAC) Tasks (in-band iDRAC)	
Launch in band integrated Dell Remote Access Console	Launches the DRAC console for the in band discovered iDRAC
Dell CMC Tasks	
Launch Out of band Dell CMC Console	Launches the CMC console

Dell Modular and Monolithic Systems Tasks

Clear ESM Logs

The Server Administrator Embedded Server Management (ESM) log, also referred to as the hardware log, maintains a list of all system events generated by the hardware, such as error-correcting code (ECC), system reset and boot, and probe threshold changes. You can refer to this log when hardware errors appear or when the system is not functioning properly. This task also saves a back up of the ESM log on the agent managed system at:

x:\DellMP\ESMLog<timestamp>.log where x: is the Server Administrator installation drive.

- 1 In the Operations Console, navigate to a diagram view.
- 2 Expand the diagram and select the desired Dell system.
- 3 Click **Clear ESM Logs** under **Dell Systems Instances** in the **Actions** pane. The **Run Tasks** window appears.
- 4 Click **Run** to clear the ESM logs of the device that you selected.

When the Clear ESM Logs task is executed, the task execution screen displays the result of the task initiation. This has nothing to do with the execution result of the task. For example, the task execution screen may show a success result even if the ESM logs are not cleared. This means that the Clear ESM Logs task initiation was successful.

Launch Server Administrator or DRAC Console

- 1 In the Operations Console, navigate to a Dell diagram view.
- 2 Expand the diagram and select the desired Dell system.
- 3 Click **Launch Server Administrator** or **Launch DRAC Console** under **Dell Systems Instances Tasks** in the **Actions** pane.



NOTE: You can run the tasks, **Launch Server Administrator** and **Clear ESM Logs**, from the Diagram view, State view, or Alert view.

BMC for Dell Server Tasks

Check Power Status

Checks the overall power status of the system. You can check the power status and allow power control tasks through the IPMI shell.

- 1 In the Operations Console, navigate to a Dell diagram view.
- 2 Select the desired Dell system.
- 3 Expand the system.
- 4 Click BMC.
- 5 In the Actions pane, select **BMC for Dell Server Tasks→ Check Power Status**.

Power Cycle

Allows you to turn off the power, and after a delay, turn it on again. You can use this task to power cycle the server.

- 1 In the Operations Console, navigate to a Dell diagram view.
- 2 Select the desired Dell system.
- 3 Expand the system.
- 4 Click BMC.
- 5 In the Actions pane, select **BMC for Dell Server Tasks→ Power Cycle**.

Forced Power Off

Turns off the system's power without shutting down the operating system. You can use this task to power off the server.

- 1 In the Operations Console, navigate to a Dell diagram view.
- 2 Select the desired Dell system.
- 3 Expand the system.
- 4 Click BMC.
- 5 In the Actions pane, select **BMC for Dell Server Tasks→ Forced Power Off**.

Power Off Gracefully

Shuts down the operating system first, then turns off the system's power. You can use this task to power off the server.

- 1** In the Operations Console, navigate to a Dell diagram view.
- 2** Select the desired Dell system.
- 3** Expand the system.
- 4** Click **BMC**.
- 5** In the Tasks panes, select **BMC for Dell Server Tasks→ Power Off Gracefully**.

Power On

Turns on the system power. This option is available only if the system's power is turned off. You can use this task to power on the server.

- 1** In the Operations Console, navigate to a Dell diagram view.
- 2** Select the desired Dell system.
- 3** Expand the system.
- 4** Click **BMC**.
- 5** In the Actions pane, select **BMC for Dell Server Tasks→ Power On**.

Power Reset

Turns off the system's power and turns it on again. You can use this task to reset the power of the server.

- 1** In the Operations Console, navigate to a Dell diagram view.
- 2** Select the desired Dell system.
- 3** Expand the system.
- 4** Click **BMC**.
- 5** In the Actions pane, select **BMC for Dell Server Tasks→ Power Reset**.

LED Identification Off

You can use this task to turn off the LED identification of the selected system.

- 1** In the Operations Console, navigate to a Dell diagram view.
- 2** Select the desired Dell system.
- 3** Expand the system.
- 4** Click BMC.
- 5** In the Actions pane, select **BMC for Dell Server Tasks→ LED Identification Off**.

LED Identification On

Turns on the Identify LED of the selected system for 255 seconds. You can use this task to turn on the LED identification on the system.

- 1** In the Operations Console, navigate to a Dell diagram view.
- 2** Select the desired Dell system.
- 3** Expand the system.
- 4** Click BMC.
- 5** In the Actions pane, select **BMC for Dell Server Tasks→ LED Identification On**.

Dell Remote Access Controller (DRAC) Tasks

In band DRAC

You can use this task to launch the Dell Remote Access Console, if the DRAC is installed on your Dell system.

- 1** In the Operations Console, navigate to a Dell diagram view, state view or alert view.
- 2** Select the desired Dell system.
- 3** Expand the system.
- 4** Select **DRAC**.
- 5** In the Actions pane, select **DRAC Tasks→ Launch Remote Access Console**.

In band iDRAC

You can use this task to launch the integrated Dell Remote Access Console, if the iDRAC is installed on your Dell system.

- 1 In the Operations Console, navigate to a Dell diagram view, state view or alert view.
- 2 Select the desired Dell system.
- 3 Expand the system.
- 4 Select iDRAC.
- 5 In the Actions pane, select iDRAC Tasks→ Launch Remote Access Console.

Out of Band DRAC

You can use this task to launch the Dell Remote Access Console, if the DRAC is installed on your Dell system.

- 1 In the Operations Console, navigate to the Dell diagram view, state view or alert view.
- 2 Select the out of band DRAC device.
- 3 In the actions pane launch the out of band remote access console.

Dell CMC tasks

Out of Band CMC

You can use this task to launch the CMC Console.

- 1 In the Operations Console, navigate to the Dell diagram view, state view or alert view.
- 2 Select the CMC device.
- 3 In the actions pane launch the CMC console.

Dell Printer Tasks

Launch Printer Console

- 1 In the Operations Console, navigate to a Dell diagram view.
- 2 Expand the diagram and select the desired Dell printer.
- 3 In the Actions pane, select SNMP Network Device Tasks → Launch Printer Console.

Reports

The Reporting feature is available along with the Dell Server and Printer Management Pack. It allows you to create pre-canned reports for the following:

- ESM and BMC log
- Dell related windows event log
- Firmware and Driver version for selected server
- Specific RAID and BIOS configuration setting based on selected server and selected attribute

To access the Reporting feature perform the following steps:

- 1 Click **Reporting** in your Operations Console.
- 2 Expand **Reporting** in the navigation pane.
- 3 Click on **Dell Management Pack**.

You can also access Reporting from the diagram view by clicking on the server instance. The option for **Dell Reports** is located in the **Actions** pane under the Dell System instance reports along with the default Microsoft reports.

BIOS Configuration

To create a report for the BIOS configuration follow these steps:

- 1 Click on **BIOS Configuration**. Click **Open** in the **Actions** pane.
- 2 Select a time period for which you want the report generated.
- 3 Click on **Add Object** or **Add Group**.
- 4 Click **Search**, to search for an object or group. Choose add (you can add multiple objects). You will find the selected object in the selected object pane.
- 5 Choose the required **Properties**.
- 6 Click **Run**. The BIOS configuration report is generated.

BMC Log Report

To create BMC reports for all discovered servers, follow these steps:

- 1 Click on **BMC Log Report**. Click **Open** in the **Actions** pane.
- 2 Select a time period for which you want the report generated.
- 3 Click **Run**. The BMC Log Report is generated.



NOTE: You will be able to create BMC reports only if BMU is installed on the Management Server.

Dell Windows Events

- 1 Click on **Dell Windows Events**. Click **Open** in the **Actions** pane.
- 2 Select a time period for which you want the report generated.
- 3 Click on **Add Object** or **Add Group**.
- 4 Click **Search**, to search for an object or group. Choose add (you can add multiple objects). You will find the selected object in the selected object pane.
- 5 Choose the required **Properties**.
- 6 Click **Run**. The Dell Windows Event report is generated.

ESM Log Report

- 1 Click on **ESM Log Report**. Click **Open** in the **Actions** pane.
- 2 Select a time period for which you want the report generated.
- 3 Click on **Add Object** or **Add Group**.
- 4 Click **Search**, to search for an object or group. Choose add (you can add multiple objects). You will find the selected object in the selected object pane.
- 5 Choose the required **Properties**.
- 6 Click **Run**. The ESM Log Report is generated.

Firmware and Driver Versions

To create a report for Firmware and Driver Versions follow these steps:

- 1 Click on **Firmware and Driver Versions**. Click **Open** on the **Actions** pane.
- 2 Select a time period for which you want the report generated.

- 3 Click on **Add Object** or **Add Group**.
- 4 Click **Search**, to search for an object or group. Choose add (you can add multiple objects). You will find the selected object in the selected object pane.
- 5 Choose the required **Properties**.
- 6 Click **Run**. The Firmware and Driver versions report is generated.

RAID Configuration

- 1 Click on **RAID Configuration**. Click **Open** on the **Actions** pane.
- 2 Select a time period for which you want the report generated.
- 3 Click on **Add Object** or **Add Group**.
- 4 Click **Search**, to search for an object or group. Choose add (you can add multiple objects). You will find the selected object in the selected object pane.
- 5 Choose the required **Properties**.
- 6 Click **Run**. The RAID configuration report is generated.

Customizing the Server and Printer Management Pack

The Dell Management Pack for SCOM 2007 SP1/SCE 2007 SP1 allows you to customize discovery, monitoring, and event processing of your Dell devices. You can customize the following components of the Dell Management Packs:

- **Monitors:** Monitors to assess various conditions that can occur in monitored objects. The result of this assessment determines the health state of a target and the alerts that are generated.
- **Object Discoveries:** Object discoveries are used to find objects on a network that need to be monitored.
- **Rules:** Rules are used to collect data, such as events generated by managed objects.



NOTE: See the Microsoft System Center Operations Manager 2007 SP1 documentation for more information.

Monitors

Servers and Printers

You can customize the following parameters of the Dell Management Pack unit monitors by using overrides:

- **Enabled:** Allows you to enable or disable Monitors. You can choose the **Override Setting** to be **True** or **False**.
- **Interval in Seconds:** The frequency (in seconds) with which the Dell Management Pack polls the Dell device to check the health of a component.

Table 2-3 illustrates the various Dell monitors and the applicable parameters for your Dell devices.

Table 2-3. Dell Monitors- Servers and Printers

Groups	Monitors
Chassis Power Supplies unit instance	<ul style="list-style-type: none">• Event Monitor for Chassis Power Supply Unit: Indicates the health of the Chassis Power Supply unit. This Monitor is triggered by the events that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Chassis Power Supply Unit: Indicates the health of the Chassis Power Supply unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr). <p>NOTE: Chassis monitoring is not supported on modular systems.</p>
Dell Printer	<ul style="list-style-type: none">• Unit Monitor for Printer Availability: This Monitor indicates the health of your Dell printer.
Discrete Batteries Unit instance	<ul style="list-style-type: none">• Event Monitor for Discrete Battery Unit: Indicates the health of the Discrete Batteries Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Discrete Batteries Unit: Indicates the health of the Discrete Batteries Unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).
Discrete Voltage Unit instance	<ul style="list-style-type: none">• Event Monitor for Discrete Voltage Unit: Indicates the health of the Discrete Voltage Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Discrete Voltage Unit: Indicates the health of the Discrete Voltage Unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).

Table 2-3. Dell Monitors- Servers and Printers *(continued)*

Groups	Monitors
DSM Connection service instance	<ul style="list-style-type: none">• Unit Monitor for DSM Connection Service: Indicates the health of the DSM Connection service.
DSM Data Manager service instance	<ul style="list-style-type: none">• Unit Monitor for DSM Data Manager Service: Indicates the health of the DSM Data Manager service.
DSM Event Manager service instance	<ul style="list-style-type: none">• Unit Monitor for DSM Event Manager Service: Indicates the health of the DSM Event Manager service.
DSM Shared service instance	<ul style="list-style-type: none">• Unit Monitor for DSM Shared Service: Indicates the health of the DSM Shared service.
Fan unit instance	<ul style="list-style-type: none">• Event Monitor for Chassis Fan Unit: Indicates the health of the Chassis Fan Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Event Monitor for Chassis Fan Unit: Indicates the health of the Chassis Fan Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Chassis Fan Unit: Indicates the health of the Chassis Fan Unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).
Fan unit instance	<ul style="list-style-type: none">• Event Monitor for Server Fan Unit: Indicates the health of the system Fan Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Event Monitor for Server Fan Unit: Indicates the health of the system Fan Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Server Fan Unit: Indicates the health of the system Fan Unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).
Intrusion for Dell Servers	<ul style="list-style-type: none">• Event Monitor for Server Intrusion: Indicates the health of the Server Intrusion Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Intrusion: Indicates the health of the Server Intrusion Unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).

Table 2-3. Dell Monitors- Servers and Printers *(continued)*

Groups	Monitors
Memory Unit instance	<ul style="list-style-type: none">• Event Monitor for Server Memory Unit: Indicates the health of the Server Memory Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Memory Unit: Indicates the health of the Server Memory Unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).
Numeric Current Unit instance	<ul style="list-style-type: none">• Event Monitor for Numeric Current Unit: Indicates the health of the Numeric Current Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Numeric Current Unit: Indicates the health of the Numeric Current Unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).
Numeric Voltage Unit instance	<ul style="list-style-type: none">• Event Monitor for Numeric Voltage Unit: Indicates the health of the Numeric Voltage Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Numeric Voltage Unit: Indicates the health of the Numeric Voltage Unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).
Power Supplies unit instance	<ul style="list-style-type: none">• Event Monitor for Server Power Supply Unit: Indicates the health of the Server Power Supply Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Server Power Supply: Indicates the health of the Server Power Supply Unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).
Processor unit instance	<ul style="list-style-type: none">• Event Monitor for Server Processor Unit: Indicates the health of the Server Processor Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Processor Unit: Indicates the health of the Server Processor Unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).
Storage Controller instance	<ul style="list-style-type: none">• Event Monitor for Storage Controller Unit: Indicates the health of the Storage Controller Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Storage Controller Unit: Indicates the health of the Storage Controller Unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).

Table 2-3. Dell Monitors- Servers and Printers (continued)

Groups	Monitors
Temperature Unit instance	<ul style="list-style-type: none">• Event Monitor for Temperature Unit: Indicates the health of the Temperature Unit. This Monitor is triggered by the event that the Dell instrumentation logs in the Windows event log.• Unit Monitor for Temperature Unit: Indicates the health of the Temperature Unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).

Object Discoveries

You can customize the following Dell Management Pack discovery parameters, using overrides:

Enabled: Allows you to enable or disable discoveries. You can choose the **Override Setting** to be **True** or **False**.

Interval in Seconds: The frequency (in seconds) with which the Dell Management Pack discovers the component instance and attributes of your Dell device. The default value for this attribute is 21600 seconds (6 hours).

Table 2-4. Dell Discoveries

Discovery Object	Description	Groups
Discover Hardware Components for Dell Servers	Discovers hardware components (Voltage, Temperature, Battery, Current, Processor, Memory, Intrusion, Power Supplies, and Fans) for your Dell system.	<ul style="list-style-type: none">• Discrete Voltage Unit instance• Numeric Voltage Unit instance• Voltage Sensors of Dell Servers• Temperature Unit instance• Temperature Sensors of Dell Servers• Battery Sensors of Dell Servers• Discrete Batteries Unit instance• Current Sensors for Dell Servers• Numeric Current Unit instance• Processor group for Dell Servers• Processor unit instance• Memory group for Dell Servers• Memory Unit instance• Intrusion for Dell Servers• Power Supply group for Dell Servers• Power Supplies unit instance• Fan group for Dell Servers• Dell Server instance• Hardware Components for Dell Server• Sensors of Dell Servers
BMC Discovery	Discovers the BMC and DRAC components of your Dell system.	<ul style="list-style-type: none">• BMC for Dell Server• Dell Server instance• DRAC
Dell Chassis Discovery	Discovers the Modular server chassis, chassis Power Supply and Fans.	<ul style="list-style-type: none">• Chassis Power Supplies unit instance• Dell Chassis instance for Modular Blade• Dell Modular Blade instance• Fan group for Dell Chassis• Fan unit instance• Power Supply group for Dell Chassis

Table 2-4. Dell Discoveries (continued)

Discovery Object	Description	Groups
Services Discovery	Discovers Dell OpenManage™ Server Administrator Windows services.	<ul style="list-style-type: none">• Dell Server instance• DSM Connection service instance• DSM Data Manager service instance• DSM Event Manager service instance• DSM Shared service instance• Services of Dell Server
Printer Discovery	Discovers your Dell Printer.	<ul style="list-style-type: none">• Dell Printer

Rules

Dell Systems Event Processing Rules

The Dell Management Pack processes rules from Server Administrator, Server Administrator Storage Management events, DRAC, and CMC traps.

Server Administrator

All informational, warning, and critical events for Server Administrator have a corresponding event processing rule.

Each of these rules are processed based on the following criteria:

- Source Name = "Server Administrator"
- Event ID = Actual event ID of the Server Administrator instrumentation event
- Severity = Severity of the actual event
- Data Provider = Windows system event log

Storage Management

All informational, warning, and critical events for the Server Administrator Storage Management Service have a corresponding event processing rule.

Each of these rules are processed based on the following criteria:

- Source Name = "Server Administrator"
- Event ID = Actual event ID of the Server Administrator Storage Management Service event

- Severity = Severity of the actual event
- Data Provider = Windows system event log

DRAC/CMC

All informational, warning and critical SNMP traps for the DRAC/CMC have a corresponding SNMP trap rule.

Each of these rules are processed based on the following criteria:

- Source Name = "DRAC/CMC name/ip"
- OID = Actual trap ID of the DRAC SNMP trap event
- Severity = Severity of the actual event
- Data Provider = SNMP trap

Client Management Pack

Features

The Client Management Pack:

- Discovers Dell™ business computers (Dell Latitude™, Optiplex™, and Precision™) and indicates if instrumentation is missing
- Displays alerts for events received from OMCI (OpenManage Client Instrumentation)
- Provides tasks for client shutdown and reboot
- Allows you to customize and configure your Dell computers for discovery and monitoring

Discovery

To discover Clients, follow the same steps described for Servers. ("Discovery" on page 22)



NOTE: If the Client Instrumentation component is not running or if OMCI is not installed, or if the OMCI version is lesser than 7.5 on your Dell client system, the Dell Client Discovery classifies the system as "Dell Unknown" and monitoring is disabled.

Monitoring

With the Dell Client Management Pack you will be able to work with the following views:

Alert View

In the Operations Console, **Dell Client → Alert View → Dell Client Alerts** displays alerts that meet your specific criteria, such as alert severity, resolution state, or alerts that are assigned to you. Select an alert to view its details in the **Alert Details** pane.

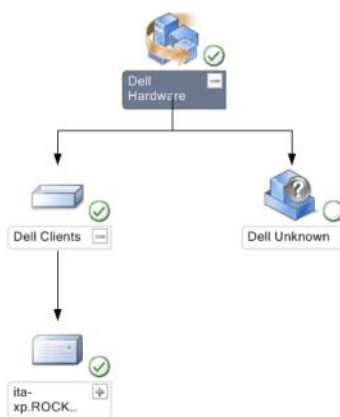
Diagram View

The Diagram View offers a hierarchical, graphical representation of all Clients on your network that Systems Center Operations Manager (SCOM) 2007 SP1/SCE 2007 SP1 manages. The Dell Client Management Pack offers the following views:

- All Groups Diagram
- Dell Client Diagram

All Groups Diagram

Figure 3-1. All Groups Diagram



To access the **All Groups Diagram** in the Operations Console, click **Dell Client** → **Diagram View** → **All Groups Diagram**.

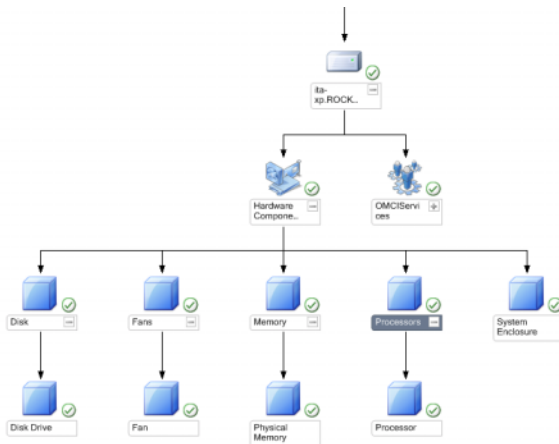
The **All Groups Diagram** offers a graphical representation of all Dell devices that Operations Manager 2007 manages and allows you to expand and verify the status of individual devices and their components in the diagram. You can view details for **Dell Clients** and **Dell Unknown** with the **All Groups Diagram**. Select a component in the diagram to view its details in the **Detail View** pane.

You can view details of the OMCI services as well as the following hardware components of Dell Clients:

- Fan
- Memory
- Disk
- Battery
- Chassis
- Processors
- Temperature

Dell Client Diagram

Figure 3-2. Dell Client Diagram



To access the Dell Client Diagram in the Operations Console, click **Dell Client** → **Diagram View** → **Dell Client Diagram**.

The **Dell Client Diagram** offers a graphical representation of all Dell devices that SCOM 2007 SP1/SCE 2007 SP1 manages and allows you to expand and verify the status of individual devices and their components in the diagram. You can view details for **Dell Clients** with this view. Select a component in the diagram to view its details in the **Detail View** pane.

The root node for this view is the **Dell Clients** group.

State View

The Dell State view displays the status of each Dell device managed by SCOM 2007 SP1/SCE 2007 SP1 on your network. The Management Pack provides a list of severity level indicators to help you monitor the health of your Dell devices on the network.

To access the Dell Clients in the Operations Console, click **Dell Client → State View → Dell Clients**.

Tasks

Tasks are available in the **Actions** pane of the Operations Console. When you select a device or a component in any of the Dell diagram views, the relevant tasks appear in the **Actions** pane.



NOTE: You can run the tasks from the Diagram view, State view, or Alert view.

Dell Client Tasks

Client Reboot and Shutdown

You can use this task to reboot or shutdown any client. There are two ways you can perform this task:

- 1 In the Operations Console, navigate to either the **Dell State View** or **Diagram View**.
- 2 Select any discovered client. Right click and click **Reboot (or Shutdown)**.
- 3 The **Run Tasks** dialog appears. Click **Run**.

OR

- 1 In the Operations Console, navigate to either the **Dell State View** or **Diagram View**.
- 2 Select any discovered client. In the **Actions** pane click either **Reboot** or **Shutdown**.
- 3 The **Run Tasks** dialog appears. Click **Run**.

Customizing the Client Management Pack

The Dell Management Packs for SCOM 2007 SP1/SCE 2007 SP1 allow you to customize discovery, monitoring, and event processing of your Dell computers.

You can use overrides to increase or decrease these intervals to the specific Dell hardware management needs of the SCOM/SCE operator.

You can customize the following components of the Dell Management Packs:

- **Monitors:** Monitors to assess various conditions that can occur in monitored objects. The result of this assessment determines the health state of a target and the alerts that are generated.
- **Object Discoveries:** Object discoveries are used to find objects on a network that need to be monitored.
- **Rules:** Rules are used to collect data, such as events generated by managed objects.

Monitors

Client

You can customize the following parameters of the Dell Management Pack unit monitors by using overrides:

- **Enabled:** Allows you to enable or disable Monitors. You can choose the Override Setting to be True or False.
- **Interval in Seconds:** The frequency (in seconds) with which the Dell Management Pack polls the Dell device to check the health of a component.

Table 3-1 illustrates the various Dell monitors and the applicable parameters for your Dell devices.

Table 3-1. Dell Monitors- Client

Groups	Monitors
OMCI IAP service instance	<ul style="list-style-type: none">• Unit Monitor for OMCI IAP Service Instance: Indicates the health of the IAP service. This monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).
Fan unit instance	<ul style="list-style-type: none">• Unit Monitor for Fan unit Instance: Indicates the health of the Fan unit instance. This monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr). Event Monitor for Fan unit Instance: Indicates the health of the Fan unit instance. This monitor is triggered by the events that the OMCI logs in the Windows event log.
Batteries Unit instance	<ul style="list-style-type: none">• Unit Monitor for Battery unit Instance: Indicates the health of the Battery unit instance. This monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).
Memory unit instance	<ul style="list-style-type: none">• Unit Monitor for Memory unit Instance: Indicates the health of the Memory unit instance. This monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).• Event Monitor for Memory unit Instance: Indicates the health of the Memory unit instance. This monitor is triggered by the events that the OMCI logs in the Windows event log.
Processor unit instance	<ul style="list-style-type: none">• Unit Monitor for Processor unit Instance: Indicates the health of the Processor unit instance. This monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).• Event Monitor for Processor unit Instance: Indicates the health of the Processor unit instance. This monitor is triggered by the events that the OMCI logs in the Windows event log.
Disk unit instance	<ul style="list-style-type: none">• Unit Monitor for Disk unit Instance: Indicates the health of the Disk unit instance. This monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).• Event Monitor for Disk unit Instance: Indicates the health of the Disk unit instance. This monitor is triggered by the events that the OMCI logs in the Windows event log.

Table 3-1. Dell Monitors- Client *(continued)*

Groups	Monitors
Temperature unit instance	<ul style="list-style-type: none">• Unit Monitor for Temperature unit Instance: Indicates the health of the Temperature unit instance. This monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).• Event Monitor for Temperature unit Instance: Indicates the health of the Temperature unit instance. This monitor is triggered by the events that the OMCI logs in the Windows event log.
Client Chassis instance	<ul style="list-style-type: none">• Unit Monitor for Chassis Instance: Indicates the health of the Chassis instance. This monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 3600 seconds (1 hr).• Event Monitor for Chassis Instance: Indicates the health of the Chassis instance. This monitor is triggered by the events that the OMCI logs in the Windows event log.

Object Discoveries

You can customize the following Dell Management Pack discovery parameters, using overrides:

Enabled: Allows you to enable or disable discoveries. You can choose the Override Setting to be True or False.

Interval in Seconds: The frequency (in seconds) with which the Dell Management Pack discovers the component instance and attributes of your Dell device. The default value for this attribute is 21600 seconds (6 hours).

Table 3-2. Dell Discoveries

Discovery Object	Description	Groups
Discover Hardware Components for Dell Clients	Discover Hardware components (Battery, Chassis, Disk, Fan, Memory, Processor, Temperature) for your Dell System	<ul style="list-style-type: none">• Dell Clients• Dell Client instance• Hardware components of Dell Client• Battery of Dell Client• Batteries Unit instance• Client Chassis instance• Disk group for Dell Client• Disk Unit instance• Fan group for Dell Client• Fan Unit instance• Memory group for Dell Client• Memory unit instance• Processor group for Dell Client• Processor unit instance• Temperature group for Dell Client• Temperature unit instance
OMCI Services discovery	Discovers Dell OpenManage Client Instrumentation Service.	<ul style="list-style-type: none">• Dell Clients• Dell Client instance• Services of Dell Client• OMCI IAP service instance

Rules

Dell Systems Event Processing Rules

The Dell Management Pack processes rules from OpenManage Client Instrumentation.

OMCI

All warning and critical events for OMCI have a corresponding event processing rule.

Each of these rules are processed based on the following criteria:

- Source Name = "OMCI"
- Event ID = Actual event ID of the OMCI event
- Severity = OMCI Severity 5 and above are mapped to Dell MP severity "critical" and OMCI severity 4 and below are mapped to Dell MP severity "warning"
- Data Provider = Windows system event log

Storage Array Management Pack

Features

The Storage Array Management Pack:

- Discovers and monitors health of components and displays alerts for Dell™ MD3000™ and MD3000i™ Storage Arrays (out of band and in-band)
- Discovers Dell MD1000™ which is Daisy Chained to Dell MD3000/MD3000i Storage Arrays
- Manages Alerts from Dell MD3000 and Dell MD3000i Storage Arrays.

Discovery

There is no specific discovery procedure for Storage Devices using Systems Center Operations Manager and System Center Essentials. Refer to the section "**Post-Import Tasks for the Storage Array Management Pack**" for information on post-import tasks.

Monitoring

With the Storage Array Management Pack you will be able to work with the following views:

Alert View

In the Operations Console, **Dell Storage Array → Alert View → Dell MD Storage Array Alerts** displays alerts that meet your specific criteria, such as alert severity, resolution state, or alerts that are assigned to you. Select an alert to view its details in the **Alert Details** pane.

Diagram View

The Diagram View offers a hierarchical, graphical representation of all MD Storage Arrays (MD3000™/MD3000i™) on your network that SCOM 2007 SP1/SCE 2007 SP1 manages. The Dell MD Storage Array pack offers a Diagram View - **Dell MD Storage Array Diagram**.

Dell MD Storage Array Diagram

To access the **Dell MD Storage Array Diagram** in the Operations Console, click **Dell Storage Array → Diagram View → Dell MD Storage Array Diagram**.

The **Dell MD Storage Array Diagram** offers a graphical representation of all Dell MD3000 and MD3000i devices that SCOM 2007 SP1/SCE 2007 SP1 manages and allows you to expand and verify the status of individual devices and their components in the diagram. You can view details for Dell Storage Devices with this view along with the components of Dell Storage Array. Select a component in the diagram to view its details in the **Detail View** pane. The root node for this view is the Dell Hardware group.

Daisy chained MD1000 will be displayed as an extra enclosure in the diagram view.

The Components of the Dell Storage Array Devices are:

- Batteries
- Fans
- Physical Disks
- Power Supplies
- RAID Controller Modules
- Virtual Disks
- Chassis
- Current Configuration
- Enclosures
- EM Modules
- Network Interfaces

You can also view the health status and event processing for the storage devices.

Figure 4-1. Storage Array Diagram View - A

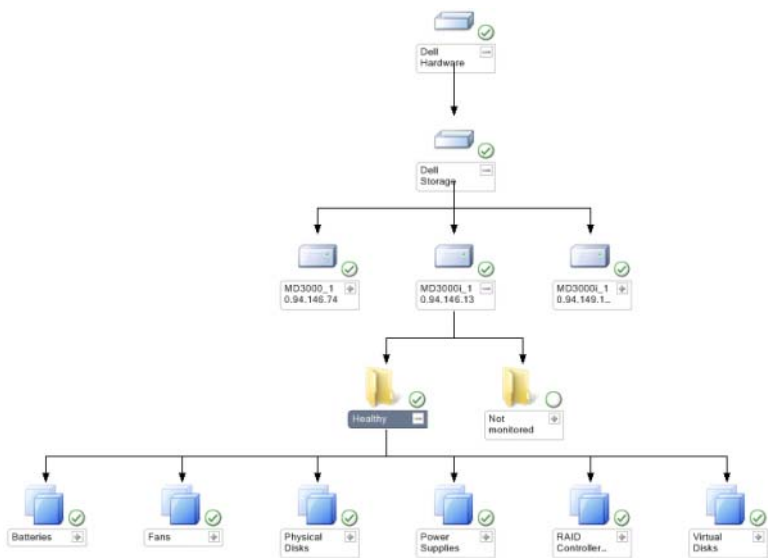
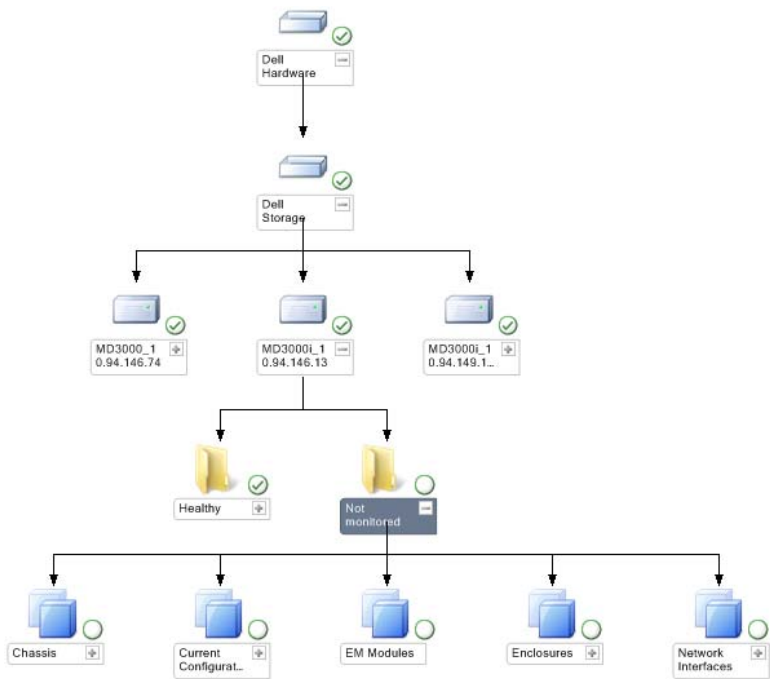


Figure 4-2. Storage Array Diagram View - B



State View

In the Operations Console, **Dell Storage Array → State View** displays the status of each Dell storage device managed by SCOM 2007 SP1/SCE 2007 SP1 on your network. The Management Pack provides a list of severity level indicators to help you monitor the health of your Dell MD storage array devices on the network.

To access the **Dell MD Storage Array** in the **Operations Console**, click **Dell Storage Array → State View → Dell MD Storage Array**. Click on each of the Dell Storage Devices to view more details in the Detail View.

Customizing the Storage Array Management Pack

Monitors

You can customize the following parameters of the Dell Management Pack unit monitors by using overrides:

- **Enabled:** Allows you to enable or disable Monitors. You can choose the **Override Setting** to be **True** or **False**.
- **Interval in Seconds:** The frequency (in seconds) with which the Dell Management Pack polls the Dell device to check the health of a component.

Table 4-1. Dell Monitors - Storage Array

Groups	Monitors
Dell MD Storage Array Batteries	<ul style="list-style-type: none">• Unit Monitor for Dell MD Storage Array Batteries: Indicates the health of the Storage Array's Battery unit. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 300-360 seconds (5-6 minutes).
Dell MD Storage Array Controller Modules	<ul style="list-style-type: none">• Unit Monitor for Dell MD Storage Array RAID Controller Modules: Indicates the health of the Storage Array's RAID Controller modules. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 300-360 seconds (5-6 minutes).
Dell MD Storage Array Fans	<ul style="list-style-type: none">• Unit Monitor for Dell MD Storage Array Fans: Indicates the health of the Storage Array's Fan. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 300-360 seconds (5-6 minutes).
Dell MD Storage Array Network	<ul style="list-style-type: none">• Unit Monitor for Dell MD Storage Array Battery: Indicates the health of the Storage Array's Network. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 300-360 seconds (5-6 minutes).
Dell MD Storage Array Physical Disks	<ul style="list-style-type: none">• Unit Monitor for Dell MD Storage Array Physical Disks: Indicates the health of the Storage Array's physical disks. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 300-360 seconds (5-6 minutes).
Dell MD Storage Array Power Supplies	<ul style="list-style-type: none">• Unit Monitor for Dell MD Storage Array Power Supplies: Indicates the health of the Storage Array's power supplies. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 300-360 seconds (5-6 minutes).

Table 4-1. Dell Monitors - Storage Array (continued)

Groups	Monitors
Dell MD Storage Array VirtualDisks	<ul style="list-style-type: none">• Unit Monitor for Dell MD Storage Array Virtual Disks: Indicates the health of the Storage Array's Virtual Disks. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 300-360 seconds (5-6 minutes).
Dell MD Storage Array Chassis	<ul style="list-style-type: none">• Unit Monitor for Dell MD Storage Array Chassis: Indicates the health of the Storage Array's Chassis. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 300-360 seconds (5-6 minutes).
Dell MD Storage Array Current Configuration	<ul style="list-style-type: none">• Unit Monitor for Dell MD Storage Array Current Configuration: Indicates the health of the Storage Array's Current Configuration. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 300-360 seconds (5-6 minutes).
Dell MD Storage Array Enclosures	<ul style="list-style-type: none">• Unit Monitor for Dell MD Storage Array Enclosures: Indicates the health of the Storage Array's Enclosures. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 300-360 seconds (5-6 minutes).
Dell MD Storage Array EM Modules	<ul style="list-style-type: none">• Unit Monitor for Dell MD Storage Array EM Modules: Indicates the health of the Storage Array's EM Modules. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 300-360 seconds (5-6 minutes).
Dell MD Storage Array Network Interfaces	<ul style="list-style-type: none">• Unit Monitor for Dell MD Storage Array Network Interfaces: Indicates the health of the Storage Array's Network Interfaces. This Monitor is triggered by a periodic poll configured as IntervalSeconds whose default value is 300-360 seconds (5-6 minutes).

Object Discoveries

You can customize the following Dell Management Pack discovery parameters, using overrides:

- **Enabled:** Allows you to enable or disable discoveries. You can choose the **Override Setting** to be **True** or **False**.
- **IntervalSeconds:** The frequency (in seconds) with which the Dell Management Pack discovers the component instance and attributes of your Dell device. The default value for this attribute is 1800 seconds (30 minutes).

Discovery Object	Description	Groups
Dell MD Storage Array Discovery	Discovers hardware components (Batteries, Chassis, RAID Controller Modules, Enclosures, Fans, Network, Physical Disks, Firmware, ESM, Power Supplies, Virtual Disks, Current configuration, EM modules, Network Interfaces) for your Dell MD3000 / MD3000i Storage Array.	<ul style="list-style-type: none">• Dell MD Storage Array Batteries• Dell MD Storage Array Chassis• Dell MD Storage Array RAID Controller Modules• Dell MD Storage Array Enclosures• Dell MD Storage Array Fans• Dell MD Storage Array Firmware• Dell MD Storage Array Physical Disks• Dell MD Storage Array Power Supplies• Dell MD Storage Array Virtual Disks• Dell MD Storage Array Current Configuration• Dell MD Storage Array EM Modules• Dell MD Storage Array Network Interfaces

Rules

Dell Systems Event Processing Rules

The Dell Storage Array Management Pack processes rules from Storage Array events.

Storage Array

All critical events from the Storage Array are processed from a single event processing rule. The data provider extracts the events from an internal Dell Connections executable - DellABB.exe. These are not populated from the Windows Event log.

The MD Storage Array events are polled at a default interval of 1800 seconds (30 minutes) while creating Dell MD Storage Array Alerts. Repeat count increases with every poll of the Storage Array log.

Appendix A - Operating System Support Matrix

This table lists the Operating Systems supported for Management Server, Reporting Server and Agent:

Management Server, Root and non-Root	<ul style="list-style-type: none"> • Windows Server® 2003 with SP2, Standard x86 Edition • Windows Server 2003 with SP2, Standard x64 Edition • Windows Server 2003 with SP2, Enterprise x86 Edition • Windows Server 2003 with SP2, Enterprise x64 Edition • Windows Server 2003 with SP2, Datacenter x86 Edition • Windows Server 2003 with SP2, Datacenter x64 Edition • Windows Server 2003 R2, Standard x86 Edition • Windows Server 2003 R2, Standard x64 Edition • Windows Server 2003 R2, Enterprise x86 Edition • Windows Server 2003 R2, Enterprise x64 Edition • Windows Server 2003 R2, Datacenter x86 Edition • Windows Server 2003 R2, Datacenter x64 Edition
Reporting Server	<ul style="list-style-type: none"> • Windows Server 2003 with SP2, Standard x86 Edition • Windows Server 2003 with SP2, Standard x64 Edition • Windows Server 2003 with SP2, Enterprise x86 Edition • Windows Server 2003 with SP2, Enterprise x64 Edition • Windows Server 2003 with SP2, Datacenter x86 Edition • Windows Server 2003 with SP2, Datacenter x64 Edition • Windows Server 2003 R2, Standard x86 Edition • Windows Server 2003 R2, Standard x64 Edition • Windows Server 2003 R2, Enterprise x86 Edition • Windows Server 2003 R2, Enterprise x64 Edition • Windows Server 2003 R2, Datacenter x86 Edition • Windows Server 2003 R2, Datacenter x64 Edition

Agent	<hr/> <ul style="list-style-type: none"> • Windows 2000 with SP4, Server Edition • Windows 2000 with SP4, Professional Edition • Windows Server 2003 with SP2, Standard x86 Edition • Windows Server 2003 with SP2, Standard x64 Edition • Windows Server 2003 with SP2, Standard Edition for Itanium-based systems • Windows Server 2003 with SP2, Enterprise x86 Edition • Windows Server 2003 with SP2, Enterprise x64 Edition • Windows Server 2003 with SP2, Enterprise Edition for Itanium-based systems • Windows Server 2003 with SP2, Datacenter x86 Edition • Windows Server 2003 with SP2, Datacenter x64 Edition • Windows Server 2003 with SP2, Datacenter Edition for Itanium-based systems • Windows Server 2003 with SP2, Professional Edition for Itanium-based systems • Windows Server 2003 R2, Standard x86 Edition • Windows Server 2003 R2, Standard x64 Edition • Windows Server 2003 R2, Standard Edition for Itanium-based systems • Windows Server 2003 R2, Enterprise x86 Edition • Windows Server 2003 R2, Enterprise x64 Edition • Windows Server 2003 R2, Enterprise Edition for Itanium-based systems • Windows Server 2003 R2, Datacenter x86 Edition • Windows Server 2003 R2, Datacenter x64 Edition • Windows Server 2003 R2, Datacenter Edition for Itanium-based systems • Windows XP® with SP2, Professional x86 Edition • Windows XP with SP2, professional x64 Edition • Windows Vista®, Ultimate x86 Edition • Windows Vista, Ultimate x64 Edition • Windows Vista, Business x86 Edition • Windows Vista, Business x64 Edition • Windows Vista, Enterprise x86 Edition • Windows Vista, Enterprise x64 Edition <hr/>
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Appendix B - Supported Printers

These are the printers supported by Dell MP 3.1:

- DELL1320C
- DELL1600N
- DELL1700N
- DELL1710N
- DELL1720N
- DELL1815DN
- DELL3000CN
- DELL3010CN
- DELL3100CN
- DELL3110CN
- DELL3115CN
- DELL5100CN
- DELL5210N
- DELL5310N
- DELLM5200
- DELLS2500
- DELLW5300

Appendix C - Known Issues in SCOM 2007 SP1/SCE SP1

These are the known issues in SCOM 2007 SP1/SCE SP1:

- 1 The Dell™ Management Pack Diagram Views displays a blank screen intermittently.**

The Diagram View in SCOM 2007 SP1 displays a blank screen intermittently. The actual diagram view will not come up even after refreshing the screen several times.

- 2 Dell Servers disappear from the SCOM console when WMI service is stopped in MN.**

When SCOM has discovered a Windows system displayed in the diagram view, with the WMI service stopped on that system, the discovered Windows system disappears from the SCOM console.

- 3 Dell alerts not getting sorted according to age**

Check the registry on the machine that has this problem. There could be a left over view definition that has the sorting flags set to 'false'. In some instances, when you import an MP with changes to the sort flags, it may not get updated in the registry. If you delete the settings for the view in the registry, they will be recreated from the new MP when you navigate to that view again. You can also edit the sort flags in the registry for the view.

Registry edit:

HKEY_CURRENT_USER\Software\Microsoft\Microsoft Operations Manager\3.0\Console\%GUID.ViewTitle%AlertView\Age

For sorting to be enable ensure the keys IsSortable and IsSorted are set to 1.

Known Limitations in SCOM 2007 SP1/SCE 2007 SP1 Dell MP 3.1

These are the known limitations of SCOM/SCE 2007 SP1:

- 1 Path Name attribute value is not unique and proper for all Dell Hardware devices.**

The format of Path Name attribute value for Agent-based discovered devices and SNMP-based discovered devices are different. This is according to the design of SCOM 2007.

- 2 There is inconsistency in the Diagram Detail View of Servers and Clients.**

This is the limitation for second level of inheritance from SCOM. For servers, since both monolithic and modular blades derive from a single base class, the diagram view details section displays only the base class attributes. But in case of clients, we don't have second level inheritance. However for servers, the detailed attribute information is displayed in its state view.

- 3 Security: For Dell MP power control and LED tasks, passwords are revealed in Clear Text while Authoring MP.**

The Dell Management Pack exposes the BMC login credentials in the Operator Console Authoring Pane. This is due to the current design of ipmpish (which accepts credentials as plain text command line arguments) not matching with OpsMgr user credential management using RunAsAccounts.

- 4 Support for Dell Remote Access Controller (DRAC 5, DRAC/MC) and Chassis Management Controller (CMC) is not available in SCOM 2007 SP0.**

- 5 Chassis management (power monitoring and fan monitoring) is not supported on modular systems.**

- 6 The health of your Dell system's hardware log is not monitored by the Dell Management Pack. However, you can view your Dell system's hardware log on the Server Administrator.**

- 7 The Dell Server and Printer Management Pack does not support Printer SNMP traps.**

- 8 The Dell Management Pack does not populate any Event or Performance view data for Dell Management Pack objects.
- 9 Windows 2003 datacenter x64 does not support in-band discovery of MD Storage Arrays, due to lack of MDSM support.

Microsoft® Fixes for SCOM 2007 SP1/SCE 2007 SP1

- 1 The SCOM console throws up a run time error.

A run time error (Microsoft Visual C++ Runtime Library) with the following message pops up once in a while - Runtime Error! Program: C:\Program Fil... R6025 - pure virtual function call. We observed more than one window in our development/test setup. Microsoft KB951526 resolves this.

- 2 The SCOM console shows a Health service error message. SCOM generates the error - "Health service host process has stopped working".

The error message - "Health service Host Process encountered a problem and needed to close" error message pops up once in a while. Microsoft KB951526 resolves this. As a result of this Health Service Crash, you may notice unexpected behaviour in the discovery and monitoring of Dell devices.

Glossary

The following list defines or identifies technical terms, abbreviations, and acronyms used in this document.

BMC

Abbreviation for baseboard management controller, which is a controller that provides the intelligence in the IPMI structure.

CMC

Acronym for Chassis Management Controller.

DRAC

Abbreviation for Dell Remote Access Controller.

DRAC/MC

DRAC / modular chassis

EMM

Enclosure management module

FQDN

Abbreviation for fully qualified domain name. An FQDN is the human-readable name corresponding to the TCP/IP address of a network interface, as found on a computer, router, or other networked devices. It includes both its host name and its domain name.

iDRAC

Acronym for Integrated Dell Remote Access Controller.

IPMI

A specification that defines a set of common interfaces for computer hardware and firmware. It is used to monitor system health and manage the system.

in-band DRAC

Refers to the DRAC object discovered through the Server OS and Dell instrumentation over the primary NIC IP.

MD

Modular Disk

managed system

A managed system is any system that is monitored and managed using Server Administrator. Systems running Server Administrator can be managed locally or remotely through a supported Web browser.

modular system

A system that can include multiple server modules. Each server module functions as an individual system. To function as a system, a server module is inserted into a chassis that includes power supplies, fans, a system management module, and at least one network switch module. The power supplies, fans, system management module, and network switch module are shared resources of the server modules in the chassis. See *server module*.

monolithic server

Stand-alone or tower servers that, unlike modular systems, carry a single server module.

OMCI

OpenManage Client Instrumentation

out-of-band DRAC

Refers to the DRAC object discovered directly through the DRAC card's NIC IP.

server module

A modular system component that functions as an individual system. To function as a system, a server module is inserted into a chassis that includes power supplies, fans, a system management module, and at least one network switch module. The power supplies, fans, system management module, and network switch module are shared resources of the server modules in the chassis. See *modular system*.

state

Refers to the condition of an object that can have more than one condition. For example, an object may be in the "not ready" state.

status

Refers to the health or functioning of an object. For example, a temperature probe can have a normal status if the probe is measuring acceptable temperatures. When

the probe begins reading temperatures that exceed limits set by the user, it reports a critical status.

task

Tasks are actions that you launch to diagnose or resolve a problem, or to automate repetitive actions. Tasks are launched from the Operations Manager 2007 Operators Console.

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