

Dell™ Management Pack
for Microsoft® Operations Manager
Version 2.2
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 guide is for system administrators who use the Dell™ Management Pack for Microsoft® Operations Manager (MOM) to monitor and manage Dell systems with MOM, a comprehensive network monitoring application.

With the Management Pack integration into the MOM environment, you can assess, respond to, and ensure the availability of your Dell systems. The Management Pack also allows you to monitor and manage your hardware with a single systems management solution.

The Management Pack provides a list of Dell-specific views that you can use to observe the system status in a network. The status is based on alerts that are generated when an event is received from the Microsoft Windows® operating system event log.

➡ NOTICE: The procedures in this guide are designed for persons with knowledge and experience using Microsoft Windows and MOM. Due to the possibility of data corruption and/or data loss, Dell recommends that only those persons use the procedures described in this guide.

Features

- Displays alerts for events generated from Dell OpenManage™ Server Administrator (including the enhanced Storage Management Service) and Dell OpenManage Array Manager for Dell PowerEdge™ systems
- Provides Tasks, State Views, Topology Views, and Computers and Groups View
- Uses the event processing rules provided with the Management Pack to prevent or reduce costly downtime and resolve problems quickly and more efficiently
- Provides a Web link for launching Server Administrator in the alert description field of all Dell alerts
- Provides a Web link for launching the Dell Remote Access Controller (DRAC) in the alert description field of all Dell alerts
- Groups PowerEdge systems and Dell PowerVault™ network attached storage (NAS) systems running Server Administrator so that the systems are easily identifiable and manageable
- Groups Dell computers that do not have Server Administrator installed and displays a warning alert
- Provides Intelligent Platform Management Interface (IPMI) tasks for Dell servers with the baseboard management controller (BMC)
- Provides Dell server information as tooltips

Other Documents You May Need

Besides this *User's Guide*, you can find the following guides on the Dell Support website at support.dell.com:

- 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 guide 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 Microsoft Windows, Red Hat® Enterprise Linux®, and SUSE® Linux Enterprise Server operating systems.
- The *Dell OpenManage Server Administrator SNMP Reference Guide* documents the Simple Network Management Protocol (SNMP) management information base (MIB). The SNMP MIB defines variables that extend the standard MIB to cover the capabilities of systems management agents.
- 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 Installation and Server Management* CD and from the Storage Management console as online help.
- The *Dell Remote Access Controller 4 User's Guide* provides complete information about installing and configuring a DRAC 4 remote access device.
- 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 Installation and Setup Guide* provides complete information about installing and configuring a DRAC III, DRAC III/XT, and an ERA/O controller, configuring an ERA controller, and using a DRAC 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 Update Packages User's Guide* provides information about obtaining and using Dell Update Packages as part of your system update strategy.
- The *Server Update Utility User's Guide* provides information about obtaining and using the Server Update Utility (SUU) to update your PowerEdge system or to view the updates available for any system listed in the Repository.

The *Dell PowerEdge Installation and Server Management CD* contains a readme file for Server Administrator and additional readme files for other systems management software applications found on the CD.

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.

What's New for Version 2.2

- Dell™ OpenManage™ Server Administrator version 5.2 (including the enhanced Storage Management Service version 2.2)
- New Dell OpenManage Storage Management Service alerts
- Support for Microsoft® Windows Server® 2003 SP2

Installing the Dell™ Management Pack for Microsoft® Operations Manager

Overview

The installation package for the Management Pack for Microsoft Operations Manager (MOM) contains a single application Management Pack: the **DOMMP22.AKM** file. You can import this file by using the MOM Import Management Pack wizard.

Before You Begin

- Read the installation requirements to ensure that your system meets or exceeds the minimum requirements.
- Read the installation procedures for your operating system.
- Read the Management Pack readme file, which contains the latest information about software and management console requirements, in addition to information about known issues. The file is posted to the Systems Management documentation page on the Dell Support website at support.dell.com.


Installation Requirements


The following subsections provide software and hardware installation requirements.


Managed System Software Requirements

- Operating system support: Microsoft Windows® 2000 Server with Service Pack 4 or later, Windows 2000 Advanced Server with Service Pack 4 or later, Windows Server® 2003 (Standard Edition, Web Edition, and Enterprise Edition) (32 bit, 64 bit, SP1, and SP2), Windows Server 2003 R2 (Standard and Enterprise Edition), Windows Server 2003 R2 x64 (Standard and Enterprise Edition), and Windows Small Business Server (SBS) 2003 SP1.
- Support for Dell™ OpenManage™ Server Administrator versions 1.6–5.2 (including the enhanced Storage Management Service version 1.0–2.2). For receiving alerts from the storage subsystem, you must have installed either Dell OpenManage Array Manager or the Server Administrator enhanced Storage Management Service.


- Support for Array Manager versions 3.4–3.7.
- Browser support for Server Administrator-managed systems: For information on browser support for Server Administrator-managed systems, see the Server Administrator **readme.txt** file.

 **NOTE:** If you have a Dell™ Remote Access Controller (DRAC) installed, you must install the DRAC agent using the *Dell OpenManage Systems Management* CD for Server Administrator versions 1.6–1.9 or the *Dell PowerEdge Installation and Server Management* CD for Server Administrator versions 2.0–5.2. During installation, select **Managed Node**→ **DRAC Agent**.


 **NOTE:** You must configure a valid IP address for your DRAC card and baseboard management controller (BMC) and ensure network connectivity for your Intelligent Platform Management Interface (IPMI) tasks to work without errors.

 **NOTE:** If the Remote Power Control tasks or the LED Identification Control tasks give errors, ensure that network connectivity is available from the BMC network interface card (NIC) of the Dell server and the BMC is configured with a valid IP Address with IPMI enabled. For troubleshooting IPMI shell errors, see the *Dell OpenManage Baseboard Management Controller Utilities User's Guide* on the Dell Support website at support.dell.com.

MOM 2005 and MOM 2005 SP1 Management Console Requirements

 **NOTICE:** The Management Pack version 2.2 cannot be installed on MOM releases prior to MOM 2005.


- MOM 2005 or MOM 2005 SP1 must be installed and running.
- The MOM agent software must be installed on all Dell-managed systems either remotely from the management station or manually on the managed system.
- For discovered systems to be recognized as Dell devices in the MOM environment, Server Administrator versions 1.6–5.2 must be installed on all Dell-managed systems.
- The **MOM Management Server Action Account** must have local Admin privileges on all the agent managed systems.
- To run the Remote Power Control tasks or the LED Identification Control tasks on Dell-managed systems, the **BMC Management Utility** version 2.0 or later must be installed on the management station. The **BMC Management Utility** is available on the *Dell OpenManage Systems Management Consoles* CD.
- The `%Management_Group_Name%_bmcServers.xml` file must be updated manually, if the BMC authentication details of a system are modified during startup or using Server Administrator. The xml file is located in the BMC Management Utility installation directory. For more information, see "Configuring BMC Authentication Credentials."

 **NOTE:** Ensure that the `ipmish` binary directory on the MOM management servers containing the `%Management_Group_Name%_bmcServers.xml` file is encrypted for access only by the MOM Agent Action Account and Administrators who will modify or read the BMC credentials.

Hardware Requirements

The Management Pack monitors Dell PowerEdge™ systems that support Microsoft Windows 2000 and Windows Server 2003 operating systems. For specific system support information, see the Server Administrator `readme.txt` file.

This Management Pack also monitors Dell PowerVault™ network attached storage (NAS) systems.


 **NOTE:** For NAS systems, the Management Pack supports storage systems that are running Array Manager and Server Administrator (including the enhanced Storage Management Service) in the same manner as PowerEdge systems.

Install/Upgrade the Dell Management Pack

Installing the Management Pack

The Management Pack consists of a single module—the `DOMMP22.AKM` file. To install the Management Pack, import this file by using the MOM Import Management Pack wizard.

To Import the Management Pack for MOM 2005 SP1 or MOM 2005 Workgroup Edition SP1

 **NOTE:** The following steps require that you install the Management Pack on a system that has MOM installed and running.

- 1 Download the Management Pack, `DOMMP22.exe`, from the Dell Support website at support.dell.com. This file is a self-extracting `.exe` file.
- 2 Copy the downloaded file to the destination directory on your local system's hard drive.
- 3 Open the `.exe` file to extract `DOMMP22.AKM`.
- 4 Open the MOM Administrator Console from the `Start`→`Programs`→`Microsoft Operations Manager 2005` or `Microsoft Operations Manager 2005 SP1` menu.
- 5 Select `Microsoft Operations Manager` in the left pane view.
- 6 Select `Import Management Pack` in the right pane view.
The `Import Management Pack` window is displayed.
- 7 Click `Next` on the `Welcome to the Management Pack Import/Export Wizard` screen.
- 8 Select the `Import Management Packs and/or Reports` option and click `Next`.
- 9 Enter or browse to the location of the Management Pack, which is usually the same location to which you downloaded and extracted the contents of the `DOMMP22.exe` file, and then click `Next`.
- 10 Select `DOMMP22.AKM` from the list displayed on the `Select Management Packs` screen.
- 11 Click the installation options from the following available options and click `Next`. If you are installing the Management Pack for the first time, you may select any of these options:

- **Update Existing Management Pack. Custom rules, enabled/disabled settings, company knowledge will be retained** – This option specifies that you want to update your existing Management Pack processing rules, if any, with the processing rules from the new Management Pack.
 - **Replace Existing Management Pack** – This option specifies that you want to replace your existing Management Pack processing rules, if any, with the processing rules from the new Management Pack.
 - **Backup Existing Management Pack** – This option specifies that you want to make a backup copy of your existing Management Pack processing rules, if any. You may use this option with either the **Update** or **Replace** option.
- 12** Click **Next** in the **Select Management Packs** window.
A summary of selected options is displayed.
 - 13** Click **Finish** on the **Completing the Management Pack Import/Export Wizard** screen.

Upgrade to Management Pack Version 2.2

You can upgrade to Management Pack version 2.2 from a prior release of Dell Management Pack.



NOTE: You can upgrade to Management Pack version 2.2 only if your Management Pack is running on MOM 2005 or MOM 2005 SP1.

Download the Dell Management Pack, **DOMMP22.exe**, from the Dell Support website at support.dell.com. See steps 1 to 6 of "Installing the Management Pack" for the procedure to import the Management Pack.

Perform the following steps to upgrade the Management Pack:

- 1** Enter or browse to the location of the Management Pack. The location is the same location to which you downloaded and extracted the contents of the **DOMMP22.exe** file.
- 2** Select the **Update Existing Management Pack. Custom rules, enabled/disabled settings, company knowledge will be retained** option with the **Backup** option checked if you are using MOM 2005 or MOM 2005 SP1.

This option retains:

- User-added company knowledge base information on Dell-specific rules
- All user-added custom rules to the Management Pack

However, the user-modified rules, scripts, data providers, and computer groups on Dell rules will be overwritten.

To replace the existing Management Pack without retaining any user modification, select the **Replace** option with the **Backup** option checked.

- 3** Click **Next** in the **Select Management Pack** window.
A summary of the selected options is displayed.
- 4** Click **Finish** to import the Dell Management Pack into the MOM console.

Procedures to Perform After a Successful Installation

- 1 In the Microsoft Operations Manager Administrator Console tree, expand Microsoft Operations Manager→ Administration→ Computers→ Computer Discovery Rules.
- 2 Right-click Computer Discovery Rules and select Create computer discovery rule from the pop-up menu.
- 3 Enter the criteria to create a rule to discover all Dell systems to be managed and click OK.

For detailed information, see the MOM product documentation or online help.

Uninstall the Management Pack

To uninstall the Dell Management Pack, perform the following tasks in the order shown. The tasks are described in detail in the following sections.

- 1 Deleting Dell Processing Rule groups
- 2 Deleting Dell Computer groups
- 3 Deleting Dell Attributes
- 4 Deleting Dell Tasks
- 5 Deleting Dell Scripts
- 6 Deleting Dell Public views
- 7 Deleting Dell Providers
- 8 Deleting Hardware Support
- 9 Deleting bmcServers.xml

Uninstalling the Dell Management Pack for Microsoft Operations Manager 2005 and Microsoft Operations Manager 2005 SP1

Deleting Dell Processing Rule Groups

- 1 In the Microsoft Operations Manager Administrator Console tree, expand Microsoft Operations Manager→ Management Packs→ Rule Groups.
- 2 Select Dell OpenManage rule group.
- 3 Right-click the Dell OpenManage rule group and select Delete from the pop-up menu.
- 4 Select Delete the rule group and all child rule groups in the Delete Rule Group dialog box and click OK.



NOTE: Resolve all alerts generated by the Dell processing rule group and ensure that these resolved alerts are groomed from the MOM database before deleting the Dell OpenManage processing rule groups. Otherwise, the MOM console will not allow deletion of the Dell processing rule group. For information on MOM database grooming, see the MOM product documentation or online help.

Deleting Dell Computer Groups

- 1 In the Microsoft Operations Manager Administrator Console tree, expand Microsoft Operations Manager→ Management Packs→ Computer Groups.
- 2 Select Dell Computers Computer Group.
- 3 Right-click Dell Computers Computer Group and select Delete Computer Group from the pop-up menu.
- 4 Select Also delete contained subgroups, always in the Delete Computer Group dialog box and click OK.
- 5 Click Yes to confirm deletion.
- 6 Select Dell Computers - Server Administrator Required Group.
- 7 Right-click Dell Computers - Server Administrator Required Group and select Delete Computer Group from the pop-up menu.
- 8 Select Also delete contained subgroups, always in the Delete Computer Group dialog box and click OK.
- 9 Click Yes to confirm deletion.

Deleting Dell Attributes

- 1 In the Microsoft Operations Manager Administrator Console tree, expand Microsoft Operations Manager→ Management Packs.
- 2 Select Computer Attributes.
- 3 Select DellOMSAAattrib in the right pane view.
- 4 Right-click DellOMSAAattrib and select Delete from the pop-up menu.
- 5 Click Yes to confirm deletion.

Deleting Dell Tasks

- 1 Close the Microsoft Operations Manager Operators Console.
- 2 In the Microsoft Operations Manager Administrator Console tree, select Tasks from the bottom left pane tab view.
- 3 Expand the Tasks folder from the left pane tree view and select the Dell OpenManage folder.
- 4 Right-click the Dell OpenManage folder and select Delete from the pop-up menu.
- 5 Click Yes to confirm deletion.

Deleting Dell Scripts

- 1 In the Microsoft Operations Manager Administrator Console tree, expand Microsoft Operations Manager→ Management Packs.
- 2 Select Scripts.
- 3 Select the DellOMSALaunch script in the right pane view.
- 4 Right-click DellOMSALaunch and select Delete from the pop-up menu.

- 5 Click **Yes** to confirm deletion.
- 6 Select the **Dell Agents Service Discovery** script in the right pane view.
- 7 Right-click **Dell Agents Service Discovery** and select **Delete** from the pop-up menu.
- 8 Click **Yes** to confirm deletion.
- 9 Select the **Dell Agents State Monitoring** script in the right pane view.
- 10 Right-click **Dell Agents State Monitoring** and select **Delete** from the pop-up menu.
- 11 Click **Yes** to confirm deletion.
- 12 Select the **Dell RAC Console Launch** script in the right pane view.
- 13 Right-click **Dell RAC Console Launch** and select **Delete** from the pop-up menu.
- 14 Click **Yes** to confirm deletion.
- 15 Select the **Dell Classification of Computers Without Server Administrator** script in the right pane view.
- 16 Right-click **Dell Classification of Computers Without Server Administrator** and select **Delete** from the pop-up menu.
- 17 Click **Yes** to confirm deletion.
- 18 Select the **Dell Clear Agent ESM Log** script in the right pane view.
- 19 Right-click **Dell Clear Agent ESM Log** and select **Delete** from the pop-up menu.
- 20 Click **Yes** to confirm deletion.
- 21 Select the **Dell IPMISH Tasks** script in the right pane view.
- 22 Right-click **Dell IPMISH Tasks** and select **Delete** from the pop-up menu.
- 23 Click **Yes** to confirm deletion.
- 24 Select the **Dell Server BMC Discovery** script in the right pane view.
- 25 Right-click **Dell Server BMC Discovery** and select **Delete** from the pop-up menu.
- 26 Click **Yes** to confirm deletion.

Deleting Dell Public Views

- 1 In the **Microsoft Operations Manager Operator Console** tree, select **Public Views** from the bottom left pane tab view.
- 2 Expand the **All Public Views** folder from the top left pane tree view and select the **Dell OpenManage** folder.
- 3 Right-click the **Dell OpenManage** folder and select **Delete** from the pop-up menu.
- 4 Click **Yes** to confirm deletion.

Deleting Dell Providers

- 1** In the Microsoft Operations Manager Administrator Console tree, expand **Microsoft Operations Manager**→ **Management Packs**.
- 2** Select **Providers** with the name **Dell-schedule every 30 minutes**.
- 3** Right-click and select **Delete**.
- 4** Click **Yes** to confirm deletion.
- 5** Select the **Providers** with the name **Dell-schedule every 60 minutes**.
- 6** Right-click and select **Delete**.
- 7** Click **Yes** to confirm deletion.

Deleting Hardware Support

- 1** In the Microsoft Operations Manager Administrator Console, expand **Microsoft Operations Manager**→ **Management Packs**.
- 2** In the **Management Pack** tree:
 - a** Select **Notification**.
 - b** Select **Notification Groups**.
 - c** Select **Hardware Support**.
- 3** Right-click **Hardware Support** and select **Delete** from the pop-up menu.

Deleting bmcServers.xml

Browse to the directory where the Baseboard Management Utility version 2.0 or later is installed and delete the %Management_Group_Name%_bmcServers.xml file.

Using the Dell™ Management Pack for Microsoft® Operations Manager

Getting Started

Before you start using the Management Pack for Microsoft Operations Manager (MOM), it is important to understand the following points:

- To monitor and manage a Dell system, it must be displayed as a managed system. To view the managed system in the MOM 2005 or MOM 2005 SP1 console, the system must be displayed as a managed system under **Microsoft Operations Manager** → **Administration** → **Computers**. Select the **Agent Managed Computers** view. This view displays all managed systems.
- Dell OpenManage™ Server Administrator must be installed on all Dell-managed systems to identify those systems as Dell systems using the Management Pack.
- Grouping of Dell systems is based only on the Server Administrator registry key entry in the Microsoft Windows® registry database.
- Grouping of Dell Systems - Server Administrator Required is based on the BIOS manufacturer and Server Administrator registry key entry in the Windows registry database.
- Different Computer Groups are created to group all Dell systems with Server Administrator and Dell systems without Server Administrator.
- One-to-one systems management functionality is provided through Server Administrator. When you receive an alert, a launch point is provided to the Web-based Server Administrator console.
- Host names must resolve on the network to be able to launch Server Administrator. Launching Server Administrator is based on the system name and not on the system's IP address.
- The event processing rules are provided for Server Administrator (including the enhanced Storage Management Service) and Dell OpenManage Array Manager warning and critical events only. Informational events are not processed.
- For receiving alerts from the storage subsystem, you must have installed either Array Manager or the Server Administrator enhanced Storage Management Service.
- The informational events processing rules are processed for state monitoring alerts only.
- Unique processing rule names for each specific rule are provided to avoid name conflicts.

- All Dell OpenManage event processing rules and alert processing rules are enabled by default after installing the Management Pack.
- The alert processing rules for Server Administrator and Array Manager provide notification to the hardware support notification groups.

Management Pack Components

The Management Pack imports the following components to discover and manage Dell systems over a network:

- Processing rule groups for Dell events: The Dell processing rule group contains a list of rules for each Dell event that is generated from Server Administrator (including the enhanced Storage Management Service) and Array Manager. These rules are invoked based on the criteria defined for that rule, which include the event source, the event ID, and the type of event. When the event criteria matches the rule, and if the event is a warning or a critical event, then an alert is generated. The alert is a Dell system-specific alert, which is logged in the **Dell OpenManage Alerts** view located under the Dell OpenManage section of the public views folder. The processing rule group for Dell events is associated with a Computer Group.



NOTE: No informational events are supported. The alert processing rules for Server Administrator (including the enhanced Storage Management Service) and Array Manager provide notification to the hardware support notification groups.

- State Monitoring and Service Discovery Rule Group: The Dell state monitoring rule group processes the Server Administrator and Array Manager events. The rule group monitors the state of Dell Agent components (Battery, Fan, Intrusion, Temperature, Memory, Voltage, Power Supply, Current, AC Switch, Main System Chassis, Storage, Processor, and Hardware Log) and updates the Dell State View. The Dell service discovery rule group performs service discovery of Dell server attributes such as Dell Asset Tag, Dell Server IP Address, Dell Server Model Type, Dell Server OS, Dell Service Tag, Dell BIOS, Dell Server Administrator version, Dell Server BMC IP address, Dell Server IPMI version, and Dell Server RAC URL.

The tree structure for the processing rule group in the MOM console is shown in Figure 4-1.

Figure 4-1. Processing Rule Group Tree Structure in the MOM Console

For Array Manager and Server Administrator Events

Processing Rule Groups

Dell OpenManage

Array Manager

Event Rules

Alert Rules

Server Administrator

Event Rules

Alert Rules

Discovery

Event Rules

Storage Management

Event Rules

Alert Rules

State Monitoring and Service Discovery

Event Rules

Alert Rules

Management Servers

Event Rules

- Computer group for grouping Dell systems: Groups the systems that are associated with a set of system attributes. With the Management Pack, the association is with the Dell system attribute. This grouping of Dell systems is based on the installation of Server Administrator on the managed systems. In the Operator Console, you can view all the Dell systems that exist in this group under **Dell Managed Systems**, which are under the **Public Views**→ **Computer Groups**.
- Computer attributes for Dell systems: Contains the registry path for Server Administrator. The Dell-specific system attributes are used as the criteria for grouping Dell systems together.
- Computer group for grouping Dell Systems - Server Administrator Required: This grouping of Dell systems is based on the BIOS manufacturer and Server Administrator registry key on the managed systems. In the Operator Console, you can view all the Dell systems that exist in this group under **Dell Computer - Server Administrator Required**, which are under the **Public Views**→ **Computer Groups**.

- Dell Computer Views: By default, the Management Pack imports the following views specific to Dell systems:
 - Dell Computer Group Listing: Displays the Dell Computer Group and the Dell systems that are part of the Computer Group diagrammatically along with the system attributes and status.
 - Dell Computer Listing: Displays all Dell systems in the network diagrammatically with their attributes and status.
 - Dell State Views: Displays a list of Dell states to help you monitor the health of your managed Dell systems in the network.
 - Dell Agents Role: Displays the state of each Dell hardware component running on the agent managed system.
 - Dell Services Role: Displays the state of each Dell service running on the agent managed system.
 - Dell OpenManage Alerts: Displays alerts for all Dell systems.
 - Server Administrator Events: Displays all Server Administrator-specific events only (including the enhanced Storage Management Service).
 - Array Manager Events: Displays all Array Manager-specific events only.
 - Dell Managed Systems: Lists all Dell systems in the network in which Server Administrator is installed; displays the current status of each system.
 - Dell Computer Groups: Displays the Dell-associated computer groups.
 - Dell Computer Server Administrator Required Group: Displays the Dell systems without Server Administrator.
- Dell Tasks: Displays the tasks that can be performed using Dell systems.
- Dell Knowledge Base: Provides information about each of the Dell event processing rules, which may include a description of the event, its severity, the cause of the event, and possible actions to be taken to resolve the issue, if any. The Dell Knowledge Base also includes information about the Management Pack, such as the purpose of the Management Pack, its features, and its configuration settings.

Discovering Dell Systems


To discover Dell systems, the system must be included in the **Agent Managed Computers** view under the **Administration** section of the MOM Console.

To add the system to the **Managed Computers** list, perform the following steps:

- 1 In the MOM Administrator Console tree, expand **Microsoft Operations Manager** → **Administration** → **Computers** → **Computer Discovery Rules**.
- 2 Right-click **Computer Discovery Rules** and select **Create computer discovery rule** from the pop-up menu.
- 3 Enter the criteria to create a rule to discover all Dell systems to be managed and click **OK**.

The scan is performed at a scheduled time. To reschedule the managed computer scan, follow the steps in "Rescheduling the Managed System Scan."

To perform a forced scan, in the MOM Console tree, right-click **Computer Discovery Rules** and select **Run Computer Discovery now** from the pop-up menu.

 **NOTE:** For discovery of systems in network and installing MOM agents through the MOM Console, all the managed nodes should have a valid fully qualified domain name (FQDN) that can be pinged from the management station. To discover systems without a fully qualified domain name (FQDN), edit the rule in the **Computer Discovery Rules** view and deselect the **During computer discovery, contact each computer to verify that it exists** check box and then click **Scan Managed Computers now**.

Rescheduling the Managed System Scan

If you add a new Dell system to the domain or if you uninstall Server Administrator in any of the current Dell systems, you can view the change in the **Dell Managed Systems** view only when the next managed system scan occurs. By default, MOM performs an automatic managed system scan every day at 2:05 a.m.

To change the default time setting, perform the following steps:

- 1 Click the **Global Settings** folder under **Administration** in the **MOM Administrator Console** tree.
- 2 In the right pane view, right-click **Management Servers** and select **Properties** in the pop-up menu.
- 3 Go to the **Discovery** tab.
- 4 In the **Computer Discovery** group box, set the new time in the **Run computer discovery time** field.
- 5 Click **OK**.

The change takes effect the next day on the **Dell Managed Systems** view only. If you want the new time to take effect immediately, click **Scan managed computers now**.


Viewing Details About Dell Systems

The status of Dell systems is displayed in the **Dell Managed Systems** view in the Operators Console. This view lists all of the Dell systems in the network and their corresponding status. The severity level of the system is determined by the severity level of the alerts generated by that system. The severity level is shown as an icon with the Severity state.

To view all of the alerts generated by a system, double-click the server icon. A window is displayed, which shows both Dell and non-Dell alerts. To display details about the alerts, select the alert and click the **Knowledge Base** tab. The information includes a description of the alert and possible causes for this alert, as well as any action plans to resolve the issue.

If a Dell-specific alert occurs, the Server Administrator launch point and Dell Remote Access Controller (DRAC) launch point are provided in the alert description field after the description of the alert. If you click the Web address, you can launch the Server Administrator Web console and retrieve more alert information.

 **NOTE:** The Server Administrator launch point or the DRAC launch point does not appear in the Alert description when the Dell Agent on the managed system stops responding or the MOM incoming or outgoing queue is blocked.

 **NOTE:** The DRAC launch point is displayed in the alert descriptions for systems that have DRAC cards with the DRAC agent installed. Ensure to use the latest DRAC firmware on your managed system. See the Dell support Website at support.dell.com for the latest version of the DRAC firmware.

Public Views

Accessing Public Views for Dell Systems

These views are available in the **MOM Operators Console** in the left pane public view. To launch the **MOM Operators Console**, select **Operations** in the left tree view of the **MOM Administrator Console** and click the **Start Operators Console** link in the right pane view.

The Management Pack provides a list of public views to help you monitor and manage the Dell systems in the network. This view includes:

- **Dell OpenManage Alerts:** Displays all alerts generated by Server Administrator (including the enhanced Storage Management Service) and Array Manager events.
- **Server Administrator Events:** Displays only the Server Administrator events (including the enhanced Storage Management Service events).
- **Array Manager Events:** Displays only the Array Manager events.
- **Dell Managed Systems:** Classifies all of the Dell systems on the network on which Server Administrator is installed.
- **Dell Computer Groups:** Displays the Dell-associated computer groups.
- **Dell Computer Server Administrator Required Group:** Displays the Dell servers without Server Administrator.
- **Dell State Monitoring Alerts:** Displays the warning and critical alerts that change the state of the components in the Dell State View.
- **Dell State View:** Displays the global status of Dell systems and the status of individual components of the selected system.
- **Dell Computer Group Listing:** Displays the Dell Computer Group and the Dell systems that are part of the Computer Group diagrammatically along with the system attributes and status.
- **Dell Computer Listing:** Displays all Dell systems in the network diagrammatically with their attributes and status.

Viewing Alerts for Dell Systems in the Public Views

All alerts specific to Dell systems are populated in the Dell public view under **Dell OpenManage Alerts**. The property page for these alerts provides a detailed description of each alert. The Server Administrator launch point is also provided in the alert description field of the alerts that are logged in this view.

To resolve an alert, perform the following steps:

- 1 Right-click the alert that you want to resolve.
- 2 Go to the **Set Alert Resolution state** submenu and select **Resolved** in the pop-up menu.

If an alert is resolved, the resolution status is set to **Resolved** and the entry is removed from the **Dell OpenManage Alerts** view when you perform a **Refresh**. This view only displays new alerts.

Alert Views

The Alert Views are available in the **MOM Operators Console**.

To launch the **MOM Operators Console**, select **Operations** in the left tree view of the MOM Administrator Console and click the **Start Operators Console** link in the right pane view.


- 1 In the **MOM Operators Console**, on the left pane click the **Alert** tab.
- 2 Select **Dell OpenManage** in the **MOM Operators Console** tree.

Two views are displayed, the **Dell OpenManage Alerts View** and the **Dell State Monitoring Alerts View**.


The **Dell OpenManage Alerts View** displays the warning and critical alerts generated by Server Administrator (including the enhanced Storage Management Service) and Array Manager events.

The **Dell State Monitoring Alerts View** displays the warning and critical alerts that change the state of the components in the **Dell State View**.

The Server Administrator launch point is displayed in the alert descriptions for all Dell OpenManage alerts.

 **NOTE:** For Dell State Monitoring Alerts, if you change the Server Administrator launch point port number of a managed system, the Server Administrator launch point does not reflect the changed Server Administrator launch point port number. You must manually resolve all Dell State Monitoring Alerts corresponding to the managed system to view the new Server Administrator launch point. For Dell OpenManage Alerts, the alert description displays the updated Server Administrator launch point.

The DRAC launch point is displayed in the alert descriptions for systems that have DRAC cards with the DRAC agent installed.

 **NOTE:** For Dell State Monitoring Alerts, if you change the DRAC IP address of a managed system, the DRAC launch point does not reflect the changed DRAC IP address. You must manually resolve all Dell state monitoring alerts corresponding to the managed system to view the new DRAC IP address. For Dell OpenManage Alerts, the alert description displays the updated DRAC launch point.

State Views

The Management Pack provides a list of Dell states to help you monitor the health of your managed Dell systems in the network. The Dell State view displays the status of each hardware component as a part of the Dell Agents role. MOM updates the status of managed systems in the **State View**.

Using the Dell Agents Role

The Dell Agents Role displays the state of each Dell hardware component running on the agent managed system. To set the state of the Dell Agents component, the Dell service discovery script must be run at least once for discovery instances of Dell servers to exist. The state of the Dell agents is updated based on the scheduled time interval or by tasks.

Accessing State Views for Dell Systems Using Dell Agents

In MOM, the **State** views are available in the **MOM Operators Console**.

To launch the **MOM Operators Console**, select **Operations** in the left tree view of the **MOM Administrator Console** and click the **Start Operators Console** link in the right pane view.

- 1 In the **MOM Operators Console**, click the **State** tab in the left pane.

The **State** views of all imported Management Packs appear.

- 2 Select **Dell OpenManage**→ **Dell State View** in the **MOM Operators Console** tree.
- 3 Select a system in the right pane.
- 4 Select **Dell Agents** role in the **Dell State View**.

The status of all components of the selected Dell system is displayed in the lower half of the right pane.

If a component is not applicable for a specific system, no details are displayed. The state of components is periodically refreshed every 30 minutes or updated on receipt of alerts generated from Dell Instrumentation.






NOTE: When any of the Dell OpenManage Services—Data Manager or Event Manager is in the **Service Unavailable** state, the health status of a Dell Agent component is not consistent with the current state of the component.

Viewing States for Dell Systems in the State View Using Dell Agents

The health of a component is derived by reviewing the unresolved alerts associated with the component. Table 4-1 explains the various severity levels and the corresponding state components that the Management Pack uses.

Table 4-1. State Components and Severity Levels

State Component	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. Data loss is possible.
	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 component is not applicable for the specific server.
Grey	The service is unavailable.

For details on updating the Dell State View, see "Update Dell State View."

Using the Dell Services Role

The Dell Services Role displays the state of each Dell service running on the agent managed node. To set the state of the Dell services, the Dell service discovery script must be run at least once for discovery instances of Dell servers to exist. The state of the Dell services is updated based on the scheduled time interval or by tasks.

The component name in the Dell Services in Dell State View reflects the corresponding Dell OpenManage Service name for releases prior to Dell OpenManage 5.2.

- DSM SA Shared Services - Dell OpenManage Common Services
- DSM SA Connection Service - Secure Port Server
- DSM SA Data Manager - Systems Management Data Manager
- DSM SA Event Manager - Systems Management Event Manager

Accessing State Views for Dell Systems Using the Dell Services Role

In MOM, the **State** views are available in the MOM Operators Console.

To launch the **MOM Operators Console**, select **Operations** in the left tree view of the **MOM Administrator Console** and click the **Start Operators Console** link in the right pane view.

- 1** In the **MOM Operators Console**, click the **State** tab in the left pane.

The **State** views of all imported Management Packs appear.

- 2** Select **Dell OpenManage**→ **Dell State View** in the MOM Administrator Console tree.
- 3** Select a system in the right pane.
- 4** Select **Administrator Tools**→ **Services** in the **Dell State View**.




The status of all components of the selected Dell system is displayed in the lower half of the right pane.

If a component is not applicable for a specific system, no details are displayed. The state of components is periodically refreshed every 30 minutes or updated on receipt of alerts generated from Dell Instrumentation.

Viewing States for Dell Systems in the State View Using the Dell Services Role

The health of a component is derived by reviewing the unresolved alerts associated with the component. Table 4-2 explains the various severity levels and the corresponding state components that the Management Pack uses.

Table 4-2. State Components and Severity Levels

State Component	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. Data loss is possible.
	Service Unavailable. Requires immediate attention. Data loss may have occurred.
White	The component is not applicable for the specific server.
Grey	The state cannot be determined because the server is in the Service Unavailable state.

Event Views

The Event Views are available in the **MOM Operators Console**.

To launch the **MOM Operators Console**, select **Operations** in the left tree view of the MOM Administrator Console and click the **Start Operators Console** link in the right pane view.

- 1 In the **MOM Operators Console** in the left pane, click the Event tab.
- 2 Select **Dell OpenManage** in the **MOM Operators Console** tree.

The **Array Manager Events View** and the **Server Administrator Events View** appear.

The **Array Manager Events View** displays all the events generated by Array Manager for a managed Dell system. To view the associated alerts in this view, select the **Alert** tab and double-click the alert that was generated due to this event.

The **Server Administrator Events View** displays all events generated by a Server Administrator for a managed Dell system. To view the associated alerts in this view, select the **Alert** tab and double-click the alert that was generated due to this event.

Dell Topology View

All Dell systems on the network are displayed diagrammatically on the MOM console. You can view operational data within MOM and Dell system attributes. The topology views are represented in the MOM Consoles as diagram views.

Accessing Topology Views for Dell Computers

The **Topology Views** are available in the **MOM Operators Console**.

To launch the **MOM Operators Console**, select **Operations** in the left tree view of the MOM Administrator Console and click the **Start Operators Console** link in the right pane view.

- 1 In the MOM Operators Console in the left pane, click the **Diagram** tab.
- 2 Select **Dell OpenManage** in the MOM Operators Console tree.

Two views are displayed, the **Dell Computer Listing View** and the **Dell Computer Group Listing View**.

Dell Computer Listing View

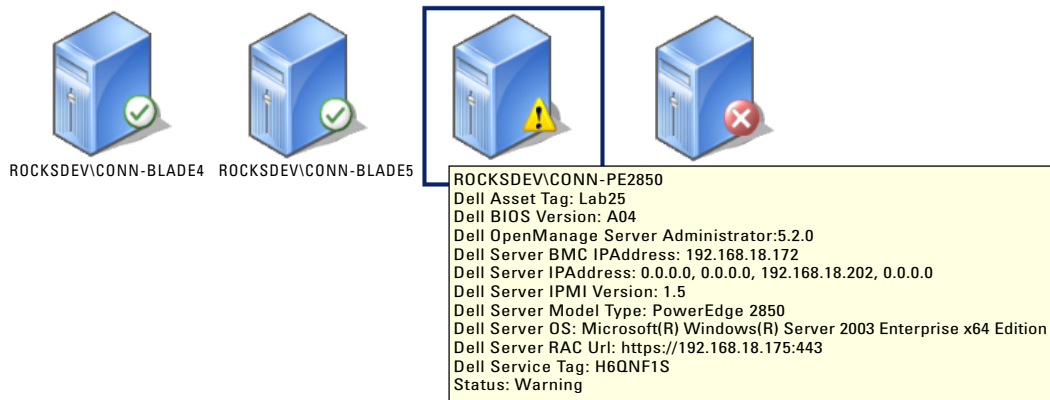
In this view, you can see the list of all discovered Dell systems in the network with their status. The status is the most critical status of all open alerts generated by the Dell system. The systems are represented with a Dell system icon in the **Topology View**. See Figure 4-2 for an example of the **Dell Computer Listing View**. Move the mouse over the system icon to view tooltip details about the following:

- Dell service tag: An alphanumeric number that uniquely identifies each system in the event that you need to call for customer or technical support
- Dell asset tag: An individual code assigned to a system, usually by a system administrator, for security or tracking purposes
- Dell server IP address: The IP address of the Dell system in the network
- Dell server operating system: The operating system installed on the Dell system
- Dell server model type: The Dell PowerEdge™ or Dell PowerVault™ system model name
- Dell BIOS: The BIOS version installed on the Dell system
- Dell Server Administrator version: The version of Server Administrator running on the system
- Dell Server BMC IP address: The IP address of the baseboard management controller (BMC)
- Dell Server IPMI version: The version of Intelligent Platform Management Interface (IPMI) running on the system
- Dell Server DRAC Web address: The launch point of the Dell Remote Access Controller (DRAC)



NOTE: If tooltips are not populated for Dell systems, ensure the CIM Dell namespace is not corrupted and Dell Services are not down. Restart the Dell managed system or reinstall Server Administrator to correct the CIM behavior.

Figure 4-2. Dell Computer Listing View



Dell Computer Group Listing View

In this view, you can see the grouping of Dell systems in a Dell Computer Group.

To view only the Dell Computer Group, in the MOM Operations console **Group** toolbar, select **Dell Computers**.

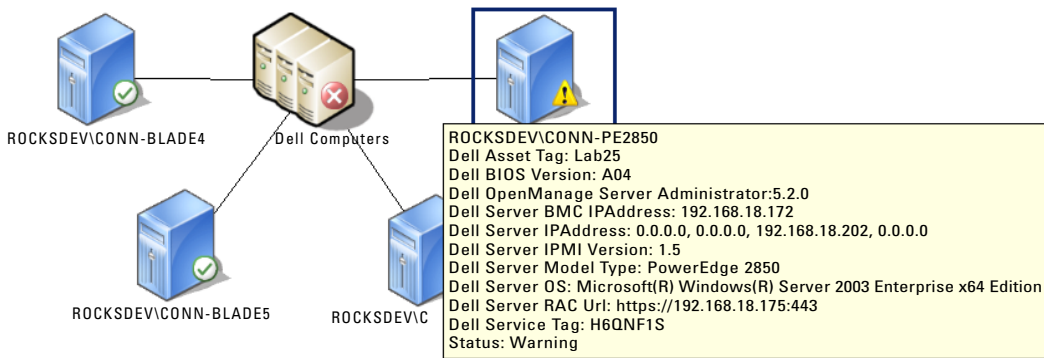
The systems are represented in the **Topology View** with a Dell system icon. For every system in the **Computer Group** view, the unresolved alerts status of that particular system is represented with a state component icon. The status displayed is the most critical status of all open alerts generated by the Dell system. See Figure 4-3 for an example of the **Dell Computer Group Listing View**. Move the mouse over the system icon to view tooltip details about the following:

- Dell service tag: An alphanumeric number that uniquely identifies each system in the event that you need to call for customer or technical support
- Dell asset tag: An individual code assigned to a system, usually by a system administrator, for security or tracking purposes
- Dell system IP address: The IP address of the Dell system in the network
- Dell server operating system: The operating system installed on the Dell system
- Dell server model type: The PowerEdge or PowerVault system model name
- Dell BIOS: The BIOS version installed on the Dell system
- Dell Server Administrator version: The version of Server Administrator running on the system
- Dell Server BMC IP address: The IP address of the BMC
- Dell Server IPMI version: The version of IPMI running on the system
- Dell Server RAC URL: The launch point of the DRAC



NOTE: If tooltips are not populated for Dell systems, ensure that the common information model (CIM) Dell namespace is not corrupted and Dell Services are not down. Restart the Dell managed system or re-install Server Administrator to correct the CIM behavior.

Figure 4-3. Dell Computer Group Listing View



Accessing Topology Views for Dell Systems - Server Administrator Required

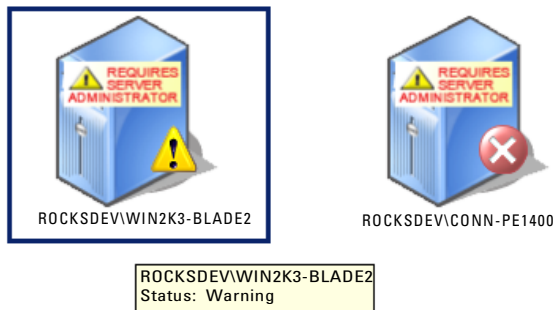
In this view, you can see the grouping of Dell systems - Server Administrator Required in a Dell Computer Group.

To view only the Dell computers without Server Administrator, in the MOM Operations console Group toolbar, select Dell Computers - Server Administrator Required.

Dell Computer Listing View

In this view, you can see the list of all discovered Dell Systems - Server Administrator Required in the network. The systems are represented in the Topology View with a warning status. The warning status indicates that Server Administrator instrumentation is required. The systems are represented with a Dell system icon that contains a warning icon in the Topology View. See Figure 4-4 for an example of the Dell Computer Listing View for systems without Server Administrator.

Figure 4-4. Dell Computer Listing View for Systems Without Server Administrator

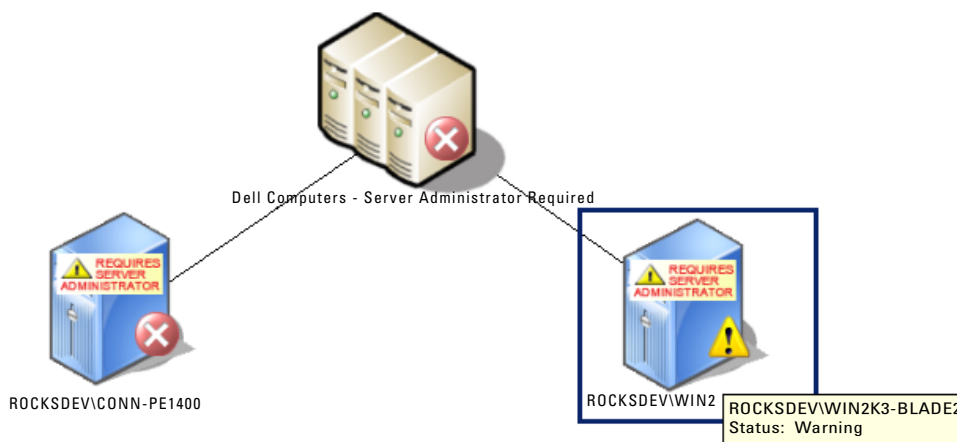


Dell Computer Group Listing View

In this view, you can see the grouping of Dell Systems - Server Administrator Required in a Dell Computer Group.

The systems are represented in the **Topology View** with a Dell system icon that contains a warning icon. For every system in the **Computer Group** view, the unresolved alerts status of that particular system is represented with a state component icon. The status displayed is the most critical status of all open alerts generated by the Dell system. See Figure 4-5 for an example of the Dell Computer Group Listing View of Dell Systems - Server Administrator Required.

Figure 4-5. Dell Computer Group Listing View for Dell Systems - Server Administrator Required



NOTE: After the uninstallation of Server Administrator, Dell computer tooltips are retained until the next discovery cycle.

Dell Tasks

Tasks are available on the right pane view of the MOM Operators Console.

Configuring BMC Authentication Credentials

This section explains configuration of BMC authentication credentials for remote power control and LED identification control tasks.

The `%Management_Group_Name%_bmcServers.xml` located in the `ipmish` binary directory on the management server comprises the following sections:

- Global BMC Authentication Credentials
- Individual BMC Authentication Credentials

Table 4-3. Sample Global_BMC_Authentication_Credentials


```
<Global_BMC_Authentication_Credentials>
<!-- The Global credentials override all individual server BMC authentication credentials if enabled-->
<!-- To enable global authentication credentials, enter Global username, Global password and Global KGKey below-->
<!-- To disable global authentication credentials, set either one of Global username, Global password or Global KGKey to -1-->
<BMC_UserName>-1</BMC_UserName>
<BMC_Password>-1</BMC_Password>
<BMC_KG_Key>-1</BMC_KG_Key>
</Global_BMC_Authentication_Credentials>
```


Table 4-4. Sample Individual_BMC_Authentication_Credentials

```
Individual_BMC_Authentication_Credentials>
- <!--To set unique BMC Username, password, KGKey per server , set either Global BMC Username or Global BMC Password or Global KGKey to -1 and edit the BMC login credentials per server below-->
- <Server>
<ServerFQDN>conn-pe2850.rocksdev.net</ServerFQDN>
<BMC_IP>192.168.18.172</BMC_IP>
<BMC_UserName>root</BMC_UserName>
<BMC_Password>calvin</BMC_Password>
<BMC_KG_Key>00</BMC_KG_Key>
</Server>
```

When user names, passwords or KGKeys for the BMC are changed, the BMC login details of the corresponding server should also be manually updated in the **Individual_BMC_Authentication_Credentials** section of the **%Management_Group_Name%_bmcServers.xml**. By default, each BMC user name, password and KGKey will be used by the Dell Remote Power Control tasks and the LED Identification Control tasks. Global BMC Authentication Credentials are disabled when either **BMC_UserName**, **BMC_Password**, or **BMC_KGKey** of the Global Credential section is set to **-1** in the xml file. For enabling the use of Global BMC Authentication Credentials (that is, one global **BMC_UserName**, **BMC_Password**, and **BMC_KGKey** for all

Dell server baseboard management controllers), replace the -1 value with the exact login credentials for the BMC_UserName, BMC_Password, and BMC_KGKey in the Global BMC Authentication Credentials Section. BMC_KGKey entered in the XML file should be a valid hexadecimal format.

 **NOTE:** Dell Management Pack Remote Power control tasks, LED identification control tasks and Clear Agent ESM Log will function only for Dell systems when Dell agents have an instance on the selected computer.

 **NOTE:** Remote Power control tasks and LED identification control tasks will provide IPMI Shell Task output only on Dell servers with IPMI capability and with Server Administrator installed.

A summary of the Dell Tasks you can perform using the Management Pack for Microsoft Operations Manager (MOM) is shown in Table 4-5:

Table 4-5. Dell Tasks Using the Management Pack for MOM

Dell Task	Description
Clear Agent ESM Log	Back up the content of the Embedded System Management (ESM) log and clear the ESM log file for a selected system
Launch Server Administrator	Launch the Dell OpenManage Server Administrator web console
Update Dell State View	Update the status of a Dell system
Remote Power Control Tasks	
Check Power Status	Checks the overall power status of the system
Power Cycle Server	Turns off the power, and after a delay, turns it on again
Power On Enforce	Turns off the system's power without shutting down the operating system
Power Off Graceful	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 Control Tasks	
Turn On LED Identification	Turns on the Identify LED of the selected system for 255 seconds
Turn Off LED Identification	Turns off the Identify LED of the selected system

Check Power Status

You can check power status and allow power control through the IPMI shell.

- 1 In the MOM Operators Console, select the Dell system from which you want to launch Server Administrator.
- 2 In the Tasks panes, select Dell OpenManage→ Check Power Status.
- 3 Click **Finish** to submit the task.

Click the **Task** status in the **Event** view to display the events that are generated for task execution.

Clear Agent ESM Log

You can back up the content of the Embedded System Management (ESM) log and clear the ESM log file for a selected system using the **Clear Agent ESM Log** task. The backup log file is available in the agent managed system at:

```
<Server Administrator Install Drive>:\DellMP\ESMLog<timestamp>.log
```

You can view this task in the State View, Alerts View, Event View, and Topology View.

- 1 In the **MOM Operators Console**, select **Dell OpenManage**.
- 2 Select the Dell system in which you want to clear the ESM log.
- 3 Click **Clear Agent ESM Log** task on the right pane.
- 4 Click **Finish** to submit the task.

Click the **Task** status in the **Event** view to display the events that are generated for task execution.

Launch Server Administrator

You can launch the Dell OpenManage Server Administrator Web console using the **Launch Server Administrator** task. You can view this task in the State View, Alerts View, Event View, and Topology View.

- 1 In the **MOM Operators Console**, select the Dell system from which you want to launch Server Administrator.
- 2 In the **Tasks** pane, select **Dell OpenManage**.
- 3 Click **Launch Server Administrator**.
Server Administrator is launched.

Click the **Task** status in the **Event** view to display the events that are generated for task execution.

The default port to launch Server Administrator using the MOM configuration group is 1311.

Procedure to Reconfigure the Launch Server Administrator Task

When changing the Server Administrator port number throughout the configuration group, the **Launch Server Administrator** task must be reconfigured with the new port number.

- 1 In the MOM 2005 Administrator Console, select **Management Packs**→**Tasks**→**Dell OpenManage** in the console root tree.
- 2 Click **Launch Server Administrator** and click the **Details** tab.
The task Command line contains *iexplore.exe https://\$Host Name\$:1311*.
- 3 Replace 1311 with the new port number - XXXX. For example, 1234.
iexplore.exe https://\$Host Name\$:1234

Power Cycle the Server

You can use this task to power cycle the server.

- 1 In the **MOM Operators Console**, select the Dell system from which you want to launch Server Administrator.
- 2 In the Tasks panes, select **Dell OpenManage→ Power Cycle Server**.
- 3 Click **Finish** to submit the task.

Click the **Task** status in the **Event** view to display the events that are generated for task execution.

Power Off (Enforce)

You can use this task to power off the server.

- 1 In the **MOM Operators Console**, select the Dell system from which you want to launch Server Administrator.
- 2 In the Tasks panes, select **Dell OpenManage→ Power Off (Enforce)**.
- 3 Click **Finish** to submit the task.

Click the **Task** status in the **Event** view to display the events that are generated for task execution.

Power Off (Graceful)

You can use this task to power off the server.

- 1 In the **MOM Operators Console**, select the Dell system from which you want to launch Server Administrator.
- 2 In the Tasks panes, select **Dell OpenManage→ Power Off (Graceful)**.
- 3 Click **Finish** to submit the task.

Click the **Task** status in the **Event** view to display the events that are generated for task execution.

Power On

You can use this task to power on the server.

- 1 In the **MOM Operators Console**, select the Dell system from which you want to launch Server Administrator.
- 2 In the Tasks pane, select **Dell OpenManage→ Power On**.
- 3 Click **Finish** to submit the task.

Click the **Task** status in the **Event** view to display the events that are generated for task execution.

Power Reset

You can use this task to reset the power of the server.

- 1 In the **MOM Operators Console**, select the Dell system from which you want to launch Server Administrator.
- 2 In the Tasks pane, select **Dell OpenManage→ Power Reset**
- 3 Click **Finish** to submit the task.

Click the **Task** status in the **Event** view to display the events that are generated for task execution.

Update Dell State View

You can update the status of a Dell system using the **Update Dell State View** task.

- 1 In the **MOM Operators Console**, select **Dell OpenManage**.
- 2 Select the Dell system for which you want to update the state.
- 3 Click **Update Dell State View**.
A Launch Task wizard appears.
- 4 Follow the instructions on the screen.
- 5 Click **Finish** to submit the task.

You can view the status of the task by using the **Event** view in the **MOM Operators Console**. Click the **Task** status in the **Event** view to display the events that are generated for task execution.

When a task is initiated or completed, MOM logs an event.

Turn Off LED Identification

You can use this task to turn off LED identification on the server.

- 1 In the **MOM Operators Console**, select the Dell system from which you want to launch Server Administrator.
- 2 In the Tasks panes, select **Dell OpenManage→ Turn off LED Identification**.
- 3 Click **Finish** to submit the task.

Click the **Task** status in the **Event** view to display the events that are generated for task execution.

Turn on LED Identification

You can use this task to turn on LED identification on the server.

- 1 In the **MOM Operators Console**, select the Dell system from which you want to launch Server Administrator.
- 2 In the **Tasks** panes, select **Dell OpenManage**→ **Turn on LED Identification**.
The LED is turned on for 255 seconds.
- 3 Click **Finish** to submit the task.

Click the **Task** status in the **Event** view to display the events that are generated for task execution.

Processing Rule Groups

Dell Systems Event Processing Rules

Dell event processing rules are divided into six categories: Server Administrator, Storage Management, Array Manager, State Monitoring and Service Discovery, Discovery, and Management Servers.

Server Administrator

This category includes all warning and critical events for Server Administrator versions 1.6–5.2. All of these events 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

This category includes all warning and critical events for the Server Administrator enhanced Storage Management Service versions 1.0–2.2. All of these events 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 Service event
- Severity = Severity of the actual event
- Data Provider = Windows system event log
- Category = Storage Service

Array Manager

This category includes all warning and critical events for Array Manager versions 3.4–3.7. All of these events have a corresponding event processing rule.

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

- Source Name = "VxSvc*"
 -  **NOTE:** Dell uses the wild card character (*) search to match all Array Manager event sources. The possible Array Manager event sources are VxSvc_disk, VxSvc_fsys, VxSvc_ftdisk, VxSvc_PercPro, VxSvc_Perc2Pro, VxSvc_AspiPro, VxSvc_mount, VxSvc_Mylex, VxSvc_pnp, and VxSvc_VMNT. Consequently, the source name uses the prefix VxSvc followed by any number of characters after the asterisk.
- Event ID = Actual event ID of the Array Manager event
- Severity = Severity of the actual event
- Data Provider = Windows application event log

Discovery


This rule group discovers Dell servers without Server Administrator and generates a warning message stating that these servers require Server Administrator.

The server classification is based on the following criteria:

- BIOS manufacturer must contain substring Dell
- Absence of the Server Administrator registry key

Management Servers

This rule group creates the *<management group name>_bmcServers.xml* file. The file is generated on the MOM 2005 Management Server at the BMC Management Utility installation directory. The file contains a list of MOM Agents with BMC IP Address, BMC User name and BMC Password for Dell systems with BMC configured.

-  **NOTE:** The *<management group name>_bmcServers.xml* file must be updated manually, if the BMC authentication details of a system are modified during startup or using Server Administrator.

Default Rule Properties

All Dell OpenManage events generate an alert by default. The severity level of the alert is based on the severity level of the event. See Table 4-6.


Table 4-6. Event and Alert Severity Levels

Event Severity Level	Alert Severity Level
ERROR	Critical Error
WARNING	Warning
INFORMATIONAL	No alerts generated

When the same event occurs more than once, only one alert is generated and duplicate alerts are suppressed. You can set this criteria under **Properties** for the rule groups. An alert is considered a duplicate alert if the following criteria are met:


- An alert must be created by the same rule and must remain in the unresolved state to be considered as a duplicate alert.
- The following fields of the alert must remain identical for the alert to be considered a duplicate and to be suppressed:
 - Alert description
 - Alert source
 - Severity
 - Source name
 - Event number
 - Category
 - Description
 - Event type
 - Computer
 - Logging domain
 - Message dynamic link library (DLL)
 - Message DLL file version
 - Provider name
 - User name

When a Dell OpenManage event is received, two scripts are executed, one which adds the Server Administrator launch address and another which adds the DRAC launch address in the **Alert Description** field. This action enables the launching of the Server Administrator and the DRAC Web console from the MOM console.

 **NOTE:** The DRAC launch point is displayed in the alert descriptions for systems that have DRAC cards with the DRAC agent installed. The DRAC launch address supports HTTPS, not HTTP.

Customizing Event Processing Rules

Event processing rules can be customized from the **Event Processing Rules Properties** tabs as follows:

 **NOTE:** The information in the following list is recommended for use only by advanced users of MOM. Changing the tabs may affect the expected behavior of the Management Pack.

- **General** tab: The rule can be either enabled or disabled. If an event processing rule is disabled, MOM does not process that event and alerts are not generated.
- **Criteria** tab: Additional criteria can be added to process an event.

- **Alerts** tab: Generation of alerts can be either enabled or disabled.
- **Alert Suppression** tab: Suppression of duplicate events can be disabled or enabled; the default is that suppression of duplicate events is enabled.
- **Schedule** tab: A schedule for the event to be processed can be added.
- **Knowledge Base** tab: Additional Dell Knowledge Base information can be added.

Dell Alert Processing Rules

For all critical and warning alerts generated by Server Administrator (including the enhanced Storage Management Service) and Array Manager events, a notification message is sent to the hardware support notification groups.


Dell State Monitoring and Service Discovery Rules

Dell State Monitoring rules monitor Server Administrator events (including the enhanced Storage Management Service events) and Array Manager events. The state monitoring rule executes the Dell state monitoring script that retrieves the state of each hardware and software component and updates the component status in the **Dell State View**. The **Computer** field and **Logging Domain** field of the alert must remain identical so that the state monitoring alerts are duplicated and suppressed.

The Server Administrator launch point and the DRAC launch point are provided in the state monitoring alert description field, which enables you to launch Server Administrator and the DRAC Web console from the MOM console.

The Service Discovery rule discovers a Dell system and its attributes. The attributes are service tag, asset tag, system IP address, operating system name, and system model type. The rule also updates the status of the system and storage components in the **Dell State View**. This rule is executed every 60 minutes.

Serial Text Console Redirection

 **NOTE:** Serial Text Console redirection is provided by the BMC. The feature is available with x8xx or later systems and is not a part of the Dell Management Pack. For more information, see the *Dell OpenManage Baseboard Management Controller Utilities User's Guide*.

To redirect the BIOS console:

- 1 Launch the HyperTerminal session from your management station.
- 2 Select a name for the connection.
- 3 Select **TCP/IP (Winsock)** in the **Connect Using** field.
- 4 Enter the IP address of the system running Serial-Over-Lan(SOL) Proxy in the **Host Address** field.
- 5 Enter the **Port Number** as 623.

The BMC Management Utility console is displayed.

6 Select the BMC Management Utility.

- Option 1 to connect to the Remote Server BMC. You must enter the target computer BMC IP Address, BMC Username and BMC password.
- Option 2 to configure the Serial-Over-LAN for the remote server
- Option 3 to activate Console Redirection
- Option 4 to reboot and activate Console Redirection



NOTE: You can install SOL Proxy by installing BMC from the *Dell OpenManage Systems Management Consoles CD*.

For more information, see the *Dell OpenManage Baseboard Management Controller Utilities User's Guide* on the *Dell OpenManage Systems Management Consoles CD*.

Glossary

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

attribute

An attribute is a piece of information related to a component. Attributes can be combined to form groups. See *computer attribute*.

BMC

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

component

A sub role used as part of a health roll up, to measure the overall health of the function. For example Database Space, Performance, or Disk Space.

computer attribute

Computer attributes are attributes that can be used in formulas to populate Computer Groups with member computers for which formulas are true. Computer attributes are based on registry keys for a specific computer. See *attribute*.

FQDN

Abbreviation for fully qualified domain name, which consists of a host name and a domain name, and includes a top-level domain. For example, **www.dell.com** is an FQDN in which **www** is the host, **dell** is the second-level domain name, and **.com** is the top-level domain name.

IP address

Abbreviation for Internet Protocol address.

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.

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*.

readme file

A text file included with a software package or hardware product that contains information supplementing or updating the documentation for the software or hardware. Typically, readme files provide installation information, describe new product enhancements or corrections that have not yet been documented, and list known problems or other things you need to be aware of as you use the software or hardware.

role

A role that a system performs in an environment, as determined by service discovery, for example, SQL Server, Exchange Server, or Internet Information Server (IIS).

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 MOM Operators Console.

utility

A program used to manage system resources—for example, memory, disk drives, or printers.

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