Dell OpenManage
Connection Version 3.4
for CA NSM

User's Guide

Notes and Cautions

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

Contents

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Introduction

Overview

This guide is intended for users who manage Dell devices using Dell OpenManage Connection for Computer Associates (CA) Network and Systems Management (NSM) r11.1 SP2, CA NSM r11.2 CUM1, CA NSM r11.2 SP1, and CA NSM r11.2 SP2(hereafter, referred to as the OpenManage Connection.)

The OpenManage Connection is a systems management integration tool that extends the management of Dell PowerEdge and PowerVault systems to the users of CA NSM. It allows users to:

- Monitor Dell systems with Dell agents to provide system health status information, which is collected from a widely-dispersed enterprise network and made available in real-time to a single CA NSM console.

- Integrate the management of Dell systems to make them easier to manage.

- Launch and use systems management software applications such as Dell OpenManage Server Administrator (OMSA), Dell OpenManage Storage Management Service (OMSS), Dell Remote Access Controllers (DRAC 5), Integrated Dell Remote Access Controllers (iDRAC), and Dell Chassis Management Controller (CMC).

- Classify and status poll the Dell Agents through the Distributed State Machine (DSM).

- Process traps of Dell agents through DSM.

- Launch the Dell agents Web browser-based GUI through WorldView (WV).

The OpenManage Connection also allows systems management professionals to take corrective action on Dell systems when a Dell-specific alert is received at the Enterprise Management Console. These alerts include temperature, fan speed, and chassis intrusion.

What's New in OpenManage Connection v3.4

- Support for CA NSM r11.2 SP1, and CA NSM r11.2 SP2
- Additional support for OpenManage version 6.2 to 6.5 (with existing support for OpenManage version 6.1)
- Support for autogrouping modular iDRAC under DellOOB
- Support for upgrade from OpenManage Connection version 3.3 to OpenManage Connection version 3.4

Systems Management Software Supported

The following table lists the Dell agents and versions supported in OpenManage Connection version 3.4:

Table 1-1.   Systems Management Software Supported

Agent	Versions Supported
Dell OpenManage	6.1- 6.5
DRAC 5	1.51 and 1.6
iDRAC 6 (Modular)	3.21 and 3.3
iDRAC 6 (Monolithic)	1.7 and 1.8
CMC	3.2 and 3.21

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Using the OpenManage Connection

Overview

To enhance the management capabilities that you can perform on Dell systems, the OpenManage Connection integrates with a suite of systems management applications.

OpenManage Connection Components

The OpenManage Connection consists of the following three components; Distributed State Machine (DSM), WorldView (WV), and Enterprise Management (EM). The OpenManage Connection components perform the following tasks:

- DSM: Classifies and monitor agents; formats traps for agents.
- WV: Provides launch points for systems management applications and displays subsystem status.
- EM: Contains message records for Remote Access Controllers (RACs).

Agents and Classes

The following table lists the agents and class names supported in OpenManage Connection version 3.4:

Table 2-1.   Agents and Class Names

Agents	Class Names
Server Administrator	DellServerAdmin
Server Administrator Storage Management Service	DellStorageManager
Inband RAC	DellRemoteAccessController
DRAC5, CMC, iDRAC6	DellOOBDevice

Device Class and Device Class Name

The following table lists the device and device class names supported in OpenManage Connection version 3.4:

Table 2-2.   Device Class and Device Class Name

Device Class	Device Class Name
Dell Out-of-band device	DellOOB

Discovering Dell Systems

During CA NSM's discovery process, systems that have Dell agents installed are discovered, but not classified. The OpenManage Connection polls discovered systems in the NSM database, and the systems with Dell agents installed are classified as Dell systems.

For more information on NSM's discovery process, see the *CA NSM* documentation.

Classification of Dell Systems

The OpenManage Connection version 3.4 classifies Dell systems into three groups under the **Dell Managed Systems** group:

- DellOOB RAC
- Modular systems
- Monolithic systems

DellOOB RAC

Expand **DellOOB RAC** to display the list of DRAC devices such as DRAC 5, and iDRAC 6.

Modular Systems

Expand **Modular Systems** to display the service tag of the chassis in which the modular systems reside. Expand the service tag to display the list of modular systems in the chassis and Chassis Management Controller (CMC) device.

Monolithic Systems

Expand **Monolithic Systems** to display the monolithic systems.

📝 **NOTE:** The OpenManage Connection also dynamically creates Business Process Views called Dell Managed Systems and populates it with each discovered system that has Dell agent(s).

📝 **NOTE:** Dell devices are displayed either by the system name or by the IP address.

The figure below displays a tree view of the classification.

Figure 2-1.   Tree View of the Classification
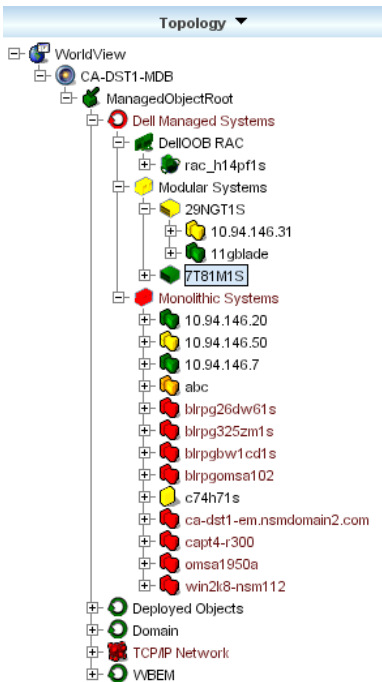
Monitoring Dell Systems

After the Dell devices are classified, periodic health polling happens in regular intervals for devices having Dell Agents. During the health poll, the global status of the Dell agents are fetched and reflected in the CA NSM console.

The DSM and WV components pro-actively poll each agent and change the color of the icon to indicate the status of the agent. Table 2-3 lists the icons that indicate the health status of the Dell agents.

Table 2-3.   Health Status Indicators of Dell Agents

Icon	Health Status of the Dell Agent
Green	Normal Status
Yellow	Warning condition, such as a voltage, current, temperature, or fan reading that has exceeded a warning threshold
Red	Critical alarm; the device has failed or has crossed a failure threshold and may fail
Black	System is unavailable
Gray	Unknown state

NOTE: The default poll interval time is 1800 seconds.

NOTE: The default SNMP time out is 16 seconds.

NOTE: The default maximum number of retry attempts is 5 incase of any failure during polling.

Processing SNMP Traps From Dell Devices

The Dell OpenManage Connection processes the traps that are generated by the Dell agents; OMSA, OMSS, and RAC. The platform event traps also gets processed by the OpenMange Connection. The DSM component of the OpenManage Connection is responsible for formatting the traps.

Enterprise Management (EM)

Server Administrator generates event traps, which update the status of a given system by changing the related systems management application icon color. For more information on health status icon colors, see Table 2-3. These events are displayed in the NSM Enterprise Management Console and written to the console log, and the status change is propagated to the system icon.

> **NOTE:** Server Administrator Storage Management Service traps are logged in the System Administrator Alert log.

For Dell Platform Event Trap (PET) events, Server Administrator embeds the hostname into the trap, so that it is appended to the event message, enabling the user to determine which system has generated the alert. See the Event Message Formats section for sample messages.

> **NOTE:** Since DellPET alerts come directly from the hardware and not through an agent, the system icon status color will not change and no systems management application icon is affected.

Event Message Formats

DSM performs formatting of all event messages.

> **NOTE:** For application-specific event messages, see the appropriate documentation.

Formatting Event Messages

Table 2-4 lists the standard event message formats and examples for Server Administrator and Server Administrator Storage Management Service traps, RACs (out-of-band), and DellPET Event messages.

Table 2-4. Standard Event Message Format

Event Message Type	Scenario	Format	Example
Standard event message format	Server Administrator may send this message to the CA NSM Enterprise Management Console as a result of a system board fan threshold change from warning to normal.	`[nodeClass, Operating System,Agent Name, Agent: Agent Name, previous state, current state, event message text, eventID]`	`Host:Windows2000 _Server Windows2000_ Server ServerAdministra tor Trap Agent:ServerAdmi nistrator Warning Up Fan sensor returned to a normal value Sensor location: ESM MB Fan1 RPM Chassis location: Main System Chassis Previous state was: Non- Critical (Warning) Fan sensor value (in RPM): 4740 Dell Event ID: 1102`

Table 2-4.   Standard Event Message Format *(continued)*

Event Message Type	Scenario	Format	Example
Standard event message format for status poll change	Server Administrator DSM policy may send this message to the CA NSM Enterprise Management Console as a result of a poll change from warning to critical.	`[nodeClass, Operating System, agent policy, status object name, previous state, current state, status variable name]`	`Host:Windows2000 _Server Windows2000_ Server ServerAdministra tor Policy DellSerAdmGblSta tus Warning Critical systemStateGloba lSystemStatus`

Table 2-4. Standard Event Message Format *(continued)*

Event Message Type	Scenario	Format	Example
Standard event message format for DellPET		`Dell:BMC BMC PET Trap Agent:BMC Unknown <SEVERITY> <TRAP DESCRIPTION> Dell Event ID:<TRAP ID#> serverHostName:<serverHostName>`	`Dell:BMC BMC PET Trap Agent:BMC Unknown Critical SD Card Redundancy Lost Dell Event ID:1379073server HostName:INBGR80 5A`
Standard event message format for DellOOBDevice	DellOOB devices such as DRAC 5, CMC, iDRAC 6 may send this message to the CA NSM Enterprise Management Console.	`[nodeClass, Dell OOB, Agent Name, previous state, current state, event message text, eventID]`	`OtherDevices:Del lOOB Dell OOB DellOOBDevice Trap Agent:DellOOBDev ice Critical Critical The RAC generated a test trap event in response to a user request. Dell Event ID: 19055`

Launching the Console

When classified, you can monitor Dell Systems using the various Dell systems management applications such as the Dell OpenManage Server Administrator, Dell OpenManage Storage Management Service, and Dell Remote Access Controller. Dell systems are not differentiated from other systems in the NSM Management Command Center (MCC) view; however, the Dell systems management launch points are identified with unique icons in the Unispace window or the Topology Browser. To view the icons, see Table 2-5 and Table 2-6. For more information on each of the related systems management applications, see Other Documents You May Need.

You can launch the various systems management applications by right-clicking the Dell classified agents; OMSA, OMSS, DRAC, and CMC.

OMSA/OMSS

Server Administrator provides a comprehensive, one-to-one systems management solution from an integrated, Web browser-based GUI (the Server Administrator home page). Server Administrator is designed to both locally and remotely manage systems and attached storage systems on a network. It enables you to view the status of local and remote storage attached to a managed system and, obtains logical and physical information about attached storage devices from the managed system. Table 2-5 lists the additional information of the Dell agents; OMSA, and OMSS.

Table 2-5.   WV Agents: Additional Information

Agent	Applications Launched	WV Icon	CA NSM Explorer Icon
Server Administrator	Server Administrator Web console		
Storage Management Service	Server Administrator		

DRAC/CMC

RACs allow you to remotely manage and monitor your system even when the system is down. The DRAC 5, and iDRAC 6 are systems management hardware and software solutions designed to provide remote management capabilities for Dell PowerEdge systems. Table 2-6 lists the additional information of the Dell agents; DRAC, and CMC.

Table 2-6.   WV Agents: Additional Information

Agent	Applications Launched	WV Icon	CA NSM Explorer Icon
DRACs (in-band remote access control)	RAC console (Web-based from RAC)		
Out-of-band devices	DRAC		
CMC	CMC console		

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Error Messages

Table 3s-1 lists the error messages that may be displayed while using the OpenManage Connection and the actions that you can take to resolve them.

Table 3-1. Connection Error Messages

Error Message	Cause	Action
CA NSM installation is not found. Setup cannot continue.	The OpenManage Connection installer is unable to detect the installation of CA NSM r11.1 SP2, CA NSM r11.2 CUM1, CA NSM r11.2 SP1 or CA NSM r11.2 SP2.	Install CA NSM r11.1 SP2, CA NSM r11.2 CUM1, CA NSM r11.2 SP1 or CA NSM r11.2 SP2 respectively before proceeding with the installation of the OpenManage Connection version 3.4.
Dell Openmanage CA Connection is not supported on the NSM installation.	You may be trying to install the OpenManage Connection on NSM other than version CA NSM r11.1 SP2, CA NSM r11.2 CUM1, CA NSM r11.2 SP1, CA NSM r11.2 SP2.	Uninstall the earlier version of the CA NSM and install one of the CA NSM 11.1 SP2 / 11.2 CUM1 / 11.2 SP1 / 11.2 SP2 OpenManage Connection and install version 3.4 .
The installation requires NSM DSM or NSM WV or NSM EM, Aborting setup.	You do not have the Distributed State Machine (DSM), WorldView (WV), or Event Management (EM) component installed on your system.	Install the DSM, WV, or EM components of CA NSM. For more information, see the *Dell OpenManage Version 3.4 for CA NSM Installation Guide.*

Table 3-1.   Connection Error Messages

Error Message	Cause	Action
Please select a Feature.	You have not selected the DSM, WV, or EM component during installation of the OpenManage Connection.	Select one or more of the OpenManage Connection components and proceed with the installation. For more information, see the see the *Dell OpenManage Version 3.4 for CA NSM Installation Guide*.
Unable to launch Management console. DSM is yet to populate all information for this object.	DSM has not populated console URL into the MDB.	Wait till the next status poll. DSM will try to put the required data into MDB.
Unable to connect to system. Please verify IP connectivity.	The managed Node is not responding to the ping command.	Check the network connectivity on the managed node.

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Troubleshooting and Frequently Asked Questions

Troubleshooting

The following are some problems you may encounter while using the OpenManage Connection.

Dell Agents Not Discovered

If you cannot locate Dell agents in the CA NSM WorldView, make sure that:

- Network connectivity to the managed system exists; confirm by eliciting a **ping** response.
- The Dell OpenManage Server Administrator (OMSA) is installed and running on the managed system.
- SNMP is configured on the managed system.
- The SNMP community name and security (read/write community names) are set properly on the managed system and that they correspond with that of the CA management station.
- The SNMP community string on the agent and the DSM poll status are the same.
- The OpenManage Connection is installed on the CA management station. For more information on installing the OpenManage Connection, see *Dell OpenManage Connection Version 3.4 for CA NSM Installation Guide*.
- The **resetdsm** and **awservices start** commands are executed from the command line.

The system should now appear in **WorldView** and **Topology Views**. To confirm the presence of the system, you can also perform a discovery with other Dell's system management consoles.

Not Receiving Alerts

If the management station is not receiving alerts, ensure that:

- Network connectivity to the managed system exists; confirm by eliciting a **ping** response.
- The Dell OpenManage Server Administrator (OMSA) is installed and running on the managed system .
- The SNMP agent and trap services are initiated on the managed system.
- The OpenManage Server Administrator (OMSA) services are initiated on the managed system.
- SNMP is configured on the managed system to send traps to the management station's IP address.
- The SNMP community name and security (read/write community names) are set properly on the managed system and that they correspond with that of the CA management station.
- If you are not receiving RAC alerts, execute the **opreload** command in the EM Message Console using the following steps:

  a Select from the following options given below depending on the OpenManage Connection versions:
  - If the OpenManage Connection version is CA NSM r11.1 SP2, then click the **Start** button and select **Programs/All Programs→ CA→ Unicenter→ NSM→ Enterprise Management→ EM Classic.**
  - If the OpenManage Connection versions are CA NSM r11.2 CUM1, CA NSM r11.2 SP1 or CA NSM r11.2 SP2, then click the **Start** button and select **Programs/All Programs→ Compute Associates→ Unicenter→ NSM→ Enterprise Management→ EM Classic.**

  b Double-click **Windows**.

  c Double-click **Event**.

  d Double-click **Console Logs**.

  e At the Console Logs command field, type `opreload`.

  RAC events are displayed in the console log.

- If the RAC alerts are still not displayed, examine EM Message Records to ensure that the messages are successfully imported. If no Dell Remote Access messages exist, perform the following:

  a Open command prompt.

  b Run the command; `CCS(root)\WVEM\bin directory\RACEvents.txt`

  c Execute the `opreload` command in the EM message console as per the preceding instructions.

Server Administrator or Remote Access Console Not Launching

If you cannot launch Server Administrator or the Remote Access Console, ensure that:

- The Dell OpenManage Server Administrator (OMSA) services are initiated on the managed system.
- The managed systems are discovered as Dell managed systems in the WorldView and Topology Views.
- Bypass proxy information for the Web browser is set correctly.
- The RAC has a network OpenManage Connection, is connected to a power source, and RAC is properly configured.

NOTE: After discovery, it may take up to twenty minutes to populate the launch points.

Dell Systems Not Found Under Dell Managed Systems Business Process View (BPV)

The discovery of Dell systems across different subnets under the Dell Managed Systems BPV fails if the domain naming system (DNS) server is not present or is improperly configured.

DRAC 5 Devices Not Getting Discovered

The OpenManage Connection supports discovery and monitoring of DRAC 5 devices with the firmware version 1.51 and 1.6. Make sure that DRAC 5 has the required firmware version.

DRAC/CMC Not Grouped After Installing the OpenManage Connection Unlike Modular/Monolithic Server

If DRAC/CMC devices are discovered before installing the OpenManage Connection, these devices are classified as Unclassified_TCP class. The DRAC/CMC policy files are run on the devices of type **DellOOBDevice**. Run reclass utility from the command line after installing the OpenManage Connection. This will reclassify DRAC/CMC devices into the DellOOBDevice class and the devices are grouped under Dell Managed Systems group depending on the device type.

SNMP Traps Displayed in Event Console in Raw Format

The SNMP traps are displayed in Event Console in raw format if the SNMP traps are processed by a DSM policy. You can prevent duplicate display by configuring the Event Management trap daemon. Note the syntax differs depending on the NSM version.

NSM r11.1 SP2

File: <WVEM>\caiuser\catrapd.cfg

```
# ignore Dell agent traps
*:*:*:*:1.3.6.1.4.1.674.10892.*  ignore
*:*:*:*:1.3.6.1.4.1.674.10893.*  ignore
```

NSM r11.2 CUM1, NSM r11.2SP1, and NSM r11.2SP2

File: <WVEM>\caiuser\catrapd_ipv6.cfg

```
# ignore Dell agent traps
*;*;*;*;1.3.6.1.4.1.674.10892.*  ignore
*;*;*;*;1.3.6.1.4.1.674.10893.*  ignore
```

Add begin/end markers in order to simplify the uninstall procedure. Changes in this file become active after a restart of the CA-Unicenter service. Alternatively, restart the trap daemon explicitly using the following commands:

catrapd sh (shutdown the daemon)

catrapd st (start the daemon)

SNMP Traps From DRAC Devices Not Translated on EM Console After Installing OpenManage Connection EM Component

1 Verify that SNMP trap processing is turned **ON** at the management console so that you can receive the SNMP traps.

2 To turn on the SNMP trap processing, select **Enterprise Management→ Configuration→ Settings→ SNMP Trap Server Activated**, and set the value to **ON**.

3 Issue the `opreload` command in the Event Console after installing DRAC message records(EM component) to load the new records into the database.

Unable to Launch Management Consoles

DSM might not have populated the URL information. The URL information is populated in the next poll cycle and the management consoles are launched.

Dell OpenManage Server Administrator Agents Property BMCIP Not Populated and Has Value "Not Set"

DSM might not have populated the BMCIP information or the Managed Node does not have Baseboard Management Controller (BMC). DSM will try to fetch and populate the BMCIP (if supported) during the next poll cycle.

Unable to Classify Dell Devices

If the node is not classified under Dell Managed Systems after the execution of Re-class command, run the commands; **resetdsm** and **awservices** on the DSM server.

Dell System With RHEL6.0 Operating System Not Classified as a Dell System

Managed node having RHEL 6.0 operating system with netsnmp-5.5-27 is discovered in CA NSM console with class name as **UNIX** instead of **LINUX**. Dell policy files does not run on these nodes because of the wrong class name and hence it will not be classified as a Dell device . To solve this issue, install the packages of **net-snmp-5.5-31** in the managed node and then delete and rediscover the system in CA NSM console.

Console Launch is Not Working for iDRAC 6 Modular Device After Changing the HTTPS Port Number

Console launch fails after changing the port number of iDRAC for iDRAC 6 modular device. Console launch will work after changing the port number in the MCC console.

To change the port number :

1 In the MCC console go to **Topology Views**, and select the iDRAC device.

2 Select **Properties→ Others**.

3 Change the value for the property **URLName** with appropriate https port number of the system.

   The iDRAC 6 modular console will be launched successfully.

Frequently Asked Questions

1 **How do I access the Dell OpenManage Server Administrator Storage Management Service?**

   The Storage Management Service is installed as a Dell OpenManage Server Administrator service. You can access Storage Management Service features by selecting the Storage object in the Server Administrator tree view.

2 **What is the maximum number of characters that a URL can have in order to store the URL information in MDB?**

   255 characters. If it is more than 255 characters, the URL is truncated to 255 characters.

3 **What happens if a user deletes Business Process Views?**

   There is no recreation unless the user rediscovers the devices after deletion.

4 **Why is there a waiting period when I install DSM component and opt for service restart on the Finish screen of the installer?**

   When you opt for **Service Restart** on the **Finish** screen, installer will execute **resetdsm** and **awservices start** commands. It may take few minutes for awservices to come up.

5 **What should I do if the images are not displayed in MCC properly?**

Before installing the OpenManage Connection, close all the applications. Also, wait until **awservices** are up and running after installing the OpenManage Connection. For more information, refer *CA NSM Diagnostics Guide*.

6 **Are virtualization Operating Systems(OS) supported?**

No, Virtualization OSs are not supported.

7 **Can I open the consoles on different browsers?**

No, you cannot open the consoles on different browsers. You can open the consoles only in the default browser.

8 **What happens if I move a modular system from one chassis to another?**

Delete the object in NSM and re-discover the node so that the node is grouped appropriately.

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Related Documentation and Resources

This chapter gives the details of documents and references to help you work with the Dell OpenManage Connection version 3.4 for CA NSM.

Other Documents You May Need

Besides this guide, you may need to refer to the following guides available at **support.dell.com/manuals**:

- The *Dell OpenManage Server Administrator's User's Guide* provides information about using Dell OpenManage Server Administrator and server instrumentation.

- The *Dell OpenManage Server Administrator SNMP Reference Guide* documents the Dell SNMP MIB. The Dell SNMP MIB defines variables that extend the standard MIB to cover the capabilities of Dell systems management agents.

- 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 Instrumentation Service Alert message that Server Administrator issues.

- The *Dell OpenManage Server Administrator Storage Management User's Guide* provides information about configuring and remotely managing storage components and includes event message and trap information.

- The *Dell Systems Software Support Matrix* has information about the various Dell systems available, the operating systems supported by these Dell systems, and the Dell OpenManage components that can be installed on these systems.

- The *Dell OpenManage IT Assistant User's Guide* provides information about IT Assistant. This guide also contains information about accessing a remote access controller (RAC) through IT Assistant.

- The *Dell Remote Access Controller 5 User's Guide* provides complete information about installing and configuring a DRAC 5 controller and using a RAC to remotely access an inoperable system.
- The *Dell Chassis Management Controller Firmware User Guide* provides complete information about configuring and using the Chassis Management Controller, which provides remote management capabilities and power control functions for Dell M1000e chassis systems.

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

Obtaining Technical Assistance

For assistance and information about CA NSM, see the NSM website at **ca.com/us/system-management.**

For assistance and information about Dell systems management software, see the Dell Support website at **support.dell.com/manuals.**