Dell™ OpenManage™ Connection
for NSM® User's Guide Version 3.3

User's Guide

Notes and Cautions

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

CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.

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Introduction

Overview

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

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

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

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

- Launch and use systems management software applications such as Dell OpenManage Server Administrator, Dell OpenManage Server Administrator Storage Management, and Dell Remote Access Controllers

The 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, but are not limited to, temperature, fan speed, and chassis intrusion.

What's New for Connection 3.3?

The following are the new features introduced in the Connection 3.3:

*   Enhanced User Experience

    The enhancements include:

    *   Option to autostart the **resetdsm** and **awservices start** commands

        You can use the User Interface to run the resetdsm and awservices start commands after installing the DSM components.

    *   Selection of the Management Data Base (MDB) repository

        If you opt to install the DSM components, you can select the repository to install it.

    *   New installer with standard framework

*   Automated grouping of Dell systems

    Dell systems are grouped into modular, monolithic, and Dell out-of-band RAC systems. Modular systems are further grouped into the chassis to which they belong with its service tag name and Dell CMC listed under it. For details about the grouping, see the "Classification of Dell Systems" section.

*   Support for Dell OpenManage Server Administrator Storage Management

    Dell OpenManage Server Administrator Storage Management is a separate agent in the Connection 3.3. For information about Server Administrator Storage Management, see the *Dell OpenManage Server Administrator Storage Management User's Guide* on the Dell Support site at **http://support.dell.com**.

*   Support for Chassis Management Controller (CMC)

    CMC is a hot-pluggable systems management hardware and software solution designed to provide remote management capabilities and power control functions for Dell modular systems. You can now launch the CMC interface through Connection 3.3. For more information about CMC, see the *Dell Chassis Management Controller Firmware User Guide* on the Dell Support site at **http://support.dell.com**

- Support for iDRAC6

  The Integrated Dell Remote Access Controller (iDRAC) is a systems management hardware and software solution that provides remote management capabilities, crashed system recovery, and power control functions for Dell PowerEdge systems. You can now launch the iDRAC interface through Connection 3.3. For more information about iDRAC, see the *Integrated Dell Remote Access Controller Firmware User Guide* on the Dell Support site at **http://support.dell.com**.

- Automated removal of the World View classes and objects

  While uninstalling the DSM classes and objects, the Connection provides the option of removing the World View classes and objects also.

- Added support for new Dell systems and operating systems

  For a complete list of new and supported Dell systems and operating systems, see the *Dell Systems Software Support Matrix* on the Dell Support site at **http://support.dell.com.**

- Improved error handling, high scalability and, support for large data centers

- Improved performance by consolidating DSM policies into the following:

  - Server Administrator and Storage Services

  - Dell Remote Access

  - PET Traps

- Reduced Number of Trap Listeners per host

- Support for Out-of-Band DRAC Discovery, Monitoring and Console launch

- Console launch from Management Command Center(MCC) and Node View for all supported agents

- DRAC/MC Discovery, Status Monitoring, Console launch and support traps

- Removed support for Array Manager, DRACII and Network Attached Storage(NAS) policies

Other Documents You Might Need

Besides this guide, you can find the following guides either on the Dell Support website at **support.dell.com** or in the **docs** directory on the *Dell Systems Management Tools and Documentation* DVD:

- The *Connection readme* file contains the latest information about software, firmware, and driver versions, in addition to information about known issues. The file is available on the Dell Support site at support.dell.com.

- 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 4 User's Guide* provides complete information about installing and configuring a DRAC 4 controller and using a RAC to remotely access an inoperable system.

- 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.

Obtaining Technical Assistance

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

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

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System Requirements

Before You Begin

- Read the "Connection Installation Prerequisites" section to ensure that your system meets or exceeds the minimum requirements.

- Read the Connection readme file, which contains the latest information about software, firmware, and driver versions, in addition to information about known issues. The file is available on the Dell Support site at **support.dell.com**.

Connection Components

The Distributed State Machine (DSM), WorldView (WV), and Event Management (EM) Connection components perform the following tasks:

- DSM: Discovers 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).

Connection Installation Prerequisites

The following are system prerequisites for installing the Connection:

- Microsoft® Windows® operating system versions supported by CA NSM r11.1 SP2 or r11.2 CUM1. These include:

  - Microsoft Windows 2000 Professional, Windows Server®, Windows Advanced Server with a minimum of Service Pack 4 or any later maintenance (32-bit)

  - Microsoft Windows XP Professional (32-bit version only), with any later maintenance

  - Microsoft Windows 2003 Standard, Enterprise, and Windows Small Business Server (32-bit version only), with any later maintenance (including Microsoft Windows 2003 R2)

NOTE: Operating Systems are being added to NSM on a regular basis. Check with the CA NSM customer support for the latest information about supported operating systems.

- A minimum of 10 MB of free hard-drive space
- Administrative rights to the system on which the Connection will be installed
- CA NSM r11.1 SP2 or CA NSM r11.2 CUM1
- Ensure that all awservices are running before you install the DSM component of the Connection
- Close all CA NSM applications before starting to install or uninstall
- For distributed environment, always install Connection first in the WV machine and then install DSM and EM.

Dell™ OpenManage™ Prerequisites for the Connection

- Ensure that Dell OpenManage Server Administrator is installed on managed systems. The Connection does not install Dell OpenManage Server Administrator. For information on installing Server Administrator, see the *Dell OpenManage Software Quick Installation Guide* or the *Dell OpenManage Installation and Security User's Guide* on the Dell Support website at **http://support.dell.com**
- Ensure that SNMP Service is configured and running so that it gets classified as a Dell managed system.

Browser Requirements for Dell OpenManage Web Consoles

Supported browsers for the Dell OpenManage Web consoles are:

- Microsoft Internet Explorer® 6.0 SP2
- Internet Explorer 7.0
- Firefox® 2.0

For the latest information on supported browsers and supported systems for Dell OpenManage, see the *Dell Systems Software Support Matrix* on the Dell Support website at **http://support.dell.com**

Systems Management Software Supported

Table 2-1.   Systems Management Software Supported

Agent	Versions Supported
Dell OpenManage	5.3–6.1
Out-of-Band iDRAC6 (Monolithic)	1.10
Out-of-band DRAC4	All firmware versions
Out-of-band DRAC5	DRAC5 firmware version>=1.48
In-band RAC (DRAC 5, DRAC 4)	All firmware versions (In-band SNMP only)
Out-of-band DRAC/MC	All firmware versions
CMC	2.0

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Installing and Uninstalling the Connection

Installing the Connection

The following sections describe the requirements for the management station or remote console running the Connection.

Web Browser Support to Launch Web-Based Managed System Applications

Supported Web browsers are the same as that for Dell OpenManage Server Administrator, RAC, and Chassis Management Controller (CMC) products. For information about supported browsers, see the *Dell Systems Software Support Matrix* available on the Dell Support website at **support.dell.com** or in the docs directory on the *Dell Systems Management Tools and Documentation* DVD.

Installation Procedure

To install the Connection 3.3 on CA NSM r11.1 SP2 or CA NSM r11.2 CUM1, perform the following steps:

1 Go to the Dell Support site (**support.dell.com**).

2 Click **I'm looking for drivers and downloads**.

3 Perform either of the following steps:

- Click **Select Model** under the **Choose a Model** section. Proceed to step 5.

- Click **Enter a Tag** under the **Choose by Service Tag** section.

4 Enter the service tag of your Dell system in the **Enter a service tag** field and click **Go**. Proceed to step 8.

5 From the **Select Your Product Model** menu, select **Servers, Storage, Networking**.

6 From the **Select Your Product Line** menu, select **PowerEdge Server**.

7 From the **Select Your Product Model** list, select your PowerEdge system, and click **Confirm**.

8 From the **Category** drop-down menu, select **Systems Management**.

9 From the table of results displayed, click **OpenManage Connection for CA NSM**.

10 Download and extract the **Dell OpenManage Connection for CA NSM** installation software.

11 Close all application windows before installing the Connection.

12 Run the installer from the directory that you specified for downloading and extracting the installation software.

The **Dell OpenManage Connection for CA NSM** wizard is displayed.

13 Read the Dell Software License Agreement and click **I accept the terms of the license agreement.**

14 Click **Next** to continue.

The **Select Features** screen appears.

For more information, see "Selecting the Connection Components".

15 Select the components that you want to install and click Next.

When you select a component, a short description about that component is displayed.

✐ **NOTE:** If you have not installed the component during your NSM installation, the component is not displayed in the Select Features screen.

If you are using the Connection in a distributed environment, see "Installing the Connection in a Distributed Environment".

16 If you selected **DSM Components** or **World View Components**, the **Select MDB** screen appears when you click **Next**.

Select the repository in which you want the WV classes and objects to be installed from the **Select MDB** drop-down list. The default repository is pre-selected in the drop-down list.

If you selected to install the WV component, ensure that you install the WV component in the system where the MDB is installed.

17 Click **Install**.

If you installed the Distributed State Machine (DSM) component, the **InstallShield Wizard Complete** screen appears where you have the option of running the **resetdsm** and **awservices start** commands immediately. Select the **Yes, I want to run "resetdsm" and "awservices start" now** check box to run the commands immediately.

18 Click Finish to complete the installation process.

NOTE: If you are upgrading NSM 11.1 SP2 to NSM 11.2 CUM1, make sure that Connection is uninstalled before the upgrade and installed back after the upgrade.

Post-Installation Tasks

If you installed the DSM component and did not select the **Yes, I want to run "resetdsm" and "awservices start" now** check box, open a command prompt and run the following commands:

- `resetdsm`
- `awservices start`

If you installed the Event Management (EM) component, run the **opreload** command in the EM Message Console by performing the following steps:

1 Click the **Start** button and select **Programs** →**NSM** → **Enterprise Management** —**EM Classic.**

2 Double-click **Windows NT.**

3 Double-click **Events.**

4 Double-click **Console Logs**.

5 At the **Console Logs** command field, type **opreload**.

RAC events are now displayed in the Console log.

Ensure that all the NSM services are running.

Selecting the Connection Components

The Connection consists of three major components:

Distributed State Machine

DSM is installed on systems where the DSM component of CA NSM is installed. When you install DSM, the following components are installed:

- DSM policy files
- WV agent classes
- MIB files
- Documentation files for the Connection

World View

World View (WV) is installed on systems where the WV component/Remote Administrative Client of CA NSM is installed. When you install WV, the following components are installed:

- Bitmap and icon files
- Dell out-of-band device classes
- MIB files
- Documentation files for the Connection

Event Management

EM is installed on systems where the Enterprise Manager component of CA NSM is installed. When you install EM, the following components are installed:

- Message Record Actions file
- Documentation files for the Connection

When you select the components for installation, Connection installs the relevant files in the default directories.

✎ **NOTE:** You cannot upgrade from an earlier version to Connection 3.3. You have to uninstall the earlier version and then install the Connection 3.3.

Installing the Connection in a Distributed Environment

If you are installing the Connection in a distributed environment, perform the following steps:

1 Install the WV component/Remote Administrative Client on a system where the WV client is installed. When you install the WV component, the Connection creates Dell device classes and copies the icons and images to the respective locations.

2 Install the DSM component on a system where the CA NSM DSM component is installed. When you install the DSM component, the Connection creates Dell agent classes and menus.

3 Install the EM component on a system where the Enterpise Manager component of CA NSM is installed. When you install the EM component, the Connection creates the Message Record Actions (MRAs) and action for Dell DRAC SNMP traps.

Uninstalling the Connection

NOTE: Dell recommends that you exit CA NSM before uninstalling the Connection.

To uninstall the Connection from a management station, perform the following steps:

1   Click the Start button and select **Programs** →**Settings** →**Control Panel** → **Add or Remove Programs**.

2   In the **Add or Remove Programs** dialog box, select **Dell OpenManage for CA NSM** and click **Remove**.

   The **Uninstall Dell OpenManage Connection** window appears.

   The uninstallation procedure deletes the Connection and the associated components that were installed with the Connection.

   If you want to uninstall a specific component, select that component and click **Modify**.

   If you want to restore or overwrite your installation, click **Repair**.

3   If you have installed the WV component, the **Select MDB** screen appears.

   Select the repository in which the DSM classes and objects have been installed from the **Select MDB** drop-down list. The Connection removes the DSM classes and objects and deletes all data from the repository. If you want to remove the WV classes and objects, select the **Remove WV classes and objects** check box.

   If you are uninstalling the DSM component, an information message prompts you to run the **resetdsm** and **awservices start** commands.

   When you uninstall the DSM component, the Connection also uninstalls the **.wvc** files (installed when the DSM component is installed).

4   Click **Finish** to complete the uninstallation process.

Uninstalling the Connection in a Distributed Environment

While uninstalling the Connection in a distributed environment, perform the following steps:

1 Uninstall the EM component. This removes all the MRAs created during the installation of the EM component.

2 Uninstall the DSM component. This removes the policy files and **.wvc** files. However, Dell agent classes and objects are not removed from the MDB during the uninstallation of the DSM component.

3 Uninstall WV component. The Selected **MDB** screen displays an option to remove the WV classes and objects. If you select the **Remove WV classes and objects** check box, the Connection removes all Dell agent classes and objects from the selected MDB.

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Using the Connection

Overview

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

DSM and WV Classes

Table 4-1.   DSM and WV Agents and, Class Names

DSM Agents	DSM Class Names for Discovering and Monitoring Agents
Server Administrator Storage Management Service	DellServerAdmin
Storage Manager	DellStorageManager
RAC	DellRemoteAccessController
Dell Out-of-Band DRAC4, DRAC5, DRAC/MC, CMC, iDRAC6	DellOOBDevice
WV Agents	**WV Class Names for Launching Systems Management Applications and Displaying Subsystem Status**
Server Administrator	DellServerAdmin
Server Administrator Storage Management Service	DellStorageManager
RAC	DellRemoteAccessController
Dell Out-of-Band DRAC4, DRAC5, DRAC/MC, CMC, iDRAC6	DellOOBDevice
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 Connection polls all discovered systems in the NSM database, and those systems with Dell agents installed respond with the health status information.

The DSM and WV components proactively poll each agent and change the color of the icon to indicate the status of the agent:

- A green icon indicates a normal status.

- A yellow icon indicates a warning condition, such as a voltage, current, temperature, or fan reading that has exceeded a warning threshold.

- A red icon indicates a critical alarm; the device has failed or has crossed a failure threshold and may fail.

- A black icon indicates that the system is unavailable.

- A gray icon indicates an unknown state.

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

Classification of Dell Systems

The Connection version 3.3 classifies Dell systems into three groups under the **Dell Managed Systems** group:

- DellOOB RAC
- Modular systems
- Monolithic systems

Expand **DellOOB RAC** to display the list of DRAC devices such as DRAC4, DRAC5 and iDRAC6.

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. You may also see Servers, DRAC/MC, and CMC.

Expand **Monolithic Systems** to display the monolithic systems. Monolithic systems are displayed either by the system name or by the IP address.

The figure below displays a tree view of the classification.

Figure 4-1. Tree View of the Classification
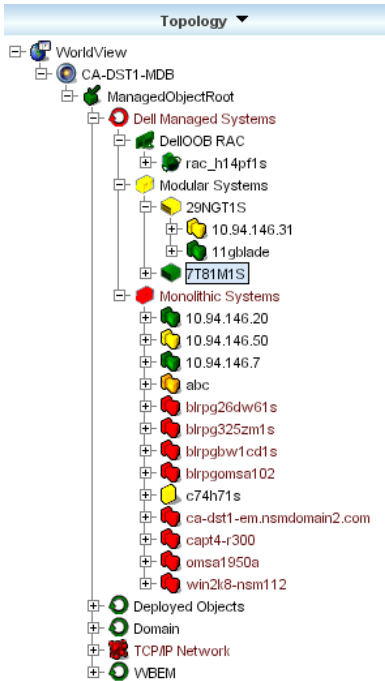
Managing Dell Systems

When discovered, Dell systems can be managed using the various Dell systems management applications such as the Dell OpenManage Server Administrator and Dell OpenManage Storage Management Service. Dell systems are not differentiated from other systems in the NSM Map; however, the Dell systems management launch points are identified with unique icons in the Unispace window or the Topology Browser as shown in Table 4-2. For more information on each of the related systems management applications, see "Other Documents You Might Need".

The Connection also dynamically creates a Business Process View called "Dell Managed Systems" and populates it with each discovered system that is running the Server Administrator.

The various systems management applications can be launched from the right-click menu.

Table 4-2.   WV Agents: Additional Information

Agent	Applications Launched	WV Icon	CA NSM Explorer Icon
Server Administrator	Server Administrator Web console		
Storage Management Service	Server Administrator		
DRACs (in-band remote access control)	RAC console (Web-based from RAC)		
Out-of-Band devices	DRAC		

Dell OpenManage Server Administrator

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 for system administrators to both locally and remotely manage systems and attached storage systems on a network. For more information, see the *Dell OpenManage Server Administrator's User's Guide* on the Dell Support site at **support.dell.com** or in the **docs** directory on the *Dell Systems Management Tools and Documentation* DVD.

Connection integration points:

- Discovery and status polling of the Server Administrator agent through the DSM
- Trap collection and formatting of Server Administrator events through DSM
- Application launch of the Server Administrator Web browser-based GUI through WV

Dell OpenManage Storage Management Service

Server Administrator Storage Management Service provides storage management information in an integrated graphical view. 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. For more information, see the *Dell OpenManage Storage Management User's Guide* on the Dell Support site at **support.dell.com** or in the **docs** directory on the *Dell Systems Management Tools and Documentation* DVD.

Connection integration points:

* Discovery and status polling of the Server Administrator Storage Management agent through the DSM
* Trap collection and formatting of Server Administrator Storage Management events through DSM
* Application launch of the Server Administrator Storage Management Web browser-based GUI through WV

Remote Access Controllers

RACs allow you to remotely manage and monitor your system even when the system is down. The DRAC 5, DRAC 4, iDRAC6, DRAC/MC, are systems management hardware and software solutions designed to provide remote management capabilities for Dell PowerEdge™ systems.

The Connection integration points:

* Discovery and status polling through DSM and Server Administrator
* Trap collection and formatting through RAC EM Message Records
* Application launch of the RAC Web console through WV

Event Management

Server Administrator generates event traps, which update the status of a given system by changing the related systems management application icon color. See Table 4-2. These events are displayed in the NSM Event 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 DellPET events, Server Administrator embeds the host name 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

NOTE: DSM performs all event message formatting.

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

Formatting Event Messages

Table 4-3 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 4-3.   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, 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`
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 4-3. Standard Event Message Format *(continued)*

Event Message Type	Scenario	Format	Example
Standard event message format for RACs (out-of-band)	RAC may send this message to the CA NSM Enterprise Management Console.	`[Dell Remote Access, Time, hostname, event message text]`	`Dell:RemoteAcces s RemoteAccess DRAC Trap Agent:DRAC Unknown <SEVERITY> <TRAP DESCRIPTION> Dell Event ID:<TRAP ID#>`

Table 4-3. 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#> serverHostNa me:<serverHo stName>`	
Standard event message format for DellOOBDevice	DellOOB devices such as DRAC4, 5, MC, iDRAC may send this message to the CA NSM Enterprise Management Console.	`[nodeClass, Dell OOB, previous state, current state, event message text, eventID]`	`OtherDevices:Del lOOB Dell OOB DellOOBDevice Trap Agent:DellOOBDev ice <previous state> <current state> <TRAP DESCRIPTION> Dell Event ID:<TRAP ID#>`

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Error Messages

Table 5-1 lists the error messages that may be displayed while using the Connection and the actions that you can take to resolve them.

Table 5-1.   Connection Error Messages

Error Message	Cause	Action
CA NSM installation is not found. Setup cannot continue.	The Connection installer is unable to detect the installation of CA NSM version 11.1 SP2/11.2 CUM1.	Install CA NSM version 11.1 SP2/11.2 CUM1 before proceeding with the installation of the Connection version 3.3.
Dell Openmanage CA Connection is not supported on the NSM installation.	You may be trying to install the Connection on NSM other than version 11.1 SP2/11.2 CUM1.	Uninstall the earlier version of the Connection and install version 3.3
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. See "Installing the Connection".
Please select a Feature	You have not selected the DSM, WV, or EM component during installation of the Connection.	Select one or more of the Connection components and proceed with the installation. See "Selecting the Connection Components".
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.

Table 5-1.   Connection Error Messages

Error Message	Cause	Action
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.
Unable to launch Server Administrator. DSM is yet to populate all information for this object.	You may encounter some delay while trying to launch Server Administrator after discovery as the Server Administrator URL may take some time to be populated.	Please wait for sometime for Server Administrator to be launched.

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Troubleshooting and Frequently Asked Questions

Troubleshooting

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

Dell Agents Not Discovered

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

- Viable network connectivity to the managed system exists by eliciting a **ping** response.
- The Dell instrumentation is installed properly 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 Connection has been properly installed on the CA management station.
- The **resetdsm** and **awservices** start commands have been executed from the command line.

The system should now appear in WorldView and Topology View. To confirm the presence of the system, you can also perform a discovery with IT Assistant.

Not Receiving Alerts

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

- Viable network connectivity exists with the managed system sending the event by eliciting a ping response.
- The Dell instrumentation is properly installed on the managed system.
- The SNMP agent and trap services are started.
- The Dell instrumentation services are started.
- 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, you can execute the opreload command in the EM Message Console by performing the following steps:

1. Click the Start button and select **Programs→NSM→Enterprise Management→EM Classic**.
2. Double-click **Windows NT**.
3. Double-click **Events**.
4. Double-click **Console Logs**.
5. At the Console Logs command field, type `opreload`.

RAC events are now displayed in the Console log.

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

1. Open a command prompt.
2. Run the following command:

   `CCS(root)\WVEM\bin directory\RACEvents.txt`

3. Execute the **opreload** command in the EM Message Console per the instructions above.

Server Administrator or Remote Access Console Not Launching

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

- The Dell instrumentation services are started on the managed system.
- The managed systems have been discovered as Dell managed systems in WorldView and Topology View.
- Proxy information for the Web browser has been set correctly.
- The RAC has a network connection, is connected to a power source, and it is properly configured.

NOTE: It may take up to twenty minutes after discovery for the launch points to become populated.

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 Connection supports discovery and monitoring of DRAC5 devices with the firmware version >= 1.48. Make sure DRAC5 has the required firmware version.

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

If DRAC/CMC devices are discovered before installing the 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 Connection. This will reclassify DRAC/CMC devices into DellOOBDevice class and the devices will be grouped under Dell Managed Systems group depending on the device type.

SNMP Traps Displayed in Event Console in Raw Format

SNMP traps will be displayed in Event Console in raw format also if they are processed by a DSM policy. This duplicate display should be prevented 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

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, you can 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 Connection EM Component

1. Verify that SNMP trap processing is turned on at the management console so you can receive SNMP Traps.

2. To turn on 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. URL information will be populated In the next poll cycle and should be able to launch the management consoles.

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.

Frequently Asked Questions

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

    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 to be stored in MDB?**

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

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

    There will be 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 Connection, close all the applications. Also, wait until awservices are up and running after installing the Connection.

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

No, Virtualization OSs are not supported.

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

No, the consoles cannot be opened on different browsers. You must use the same browser to open them.

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

You have to delete the object in NSM and re-discover the node so that the node is grouped appropriately.

Glossary

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

BMC
Acronym for baseboard management controller. BMC supports the industry-standard Intelligent Platform Management Interface (IPMI) specification, enabling the remote configuration, monitoring, and recovery of systems.

Business Process View (BPV)
A tool used for grouping managed objects. The Connection creates a Business Process View called Dell Managed Systems which is populated with each discovered system that is running Server Administrator or Server Agent instrumentation.

The Business Process View is also a managed object. It is available to users of the 2-D maps and is stored in the Common Object Repository.

Chassis Management Controller (CMC)
CMC is a hot-pluggable systems management hardware and software solution designed to provide remote management capabilities and power control functions for Dell™ modular systems systems. You can now launch the CMC interface through Connection 3.3. For more information about CMC, see the *Dell Chassis Management Controller Firmware User Guide* on the Dell Support site at **http://support.dell.com.**

Dell OpenManage IT Assistant
A system management console program, installed on management stations, that provides configuration, monitoring, and management services for Dell PowerEdge™ systems, Dell Precision™ Workstations, Dell OptiPlex™ computers, and Dell Latitude™ computers.

Dell OpenManage Server Administrator
A one-to-one systems management solution that provides a consolidated and consistent way to monitor, configure, update, and manage Dell systems. Dell OpenManage™ instrumentation is also one of the prerequisites for using the Connection to discover managed systems.

Distributed State Machine (DSM)

The CA NSM® component that discovers and monitors agents, as well as formats traps for agents. DSM provides the information to the WorldView tool.

DRAC 5, DRAC 4, DRAC/MC

Dell Remote Access Controller 5, Dell Remote Access Controller 4, Dell Remote Access Controller/Modular Chassis, Dell Remote Access Controller III, and Dell Remote Access Controller III/XT are systems management hardware and software solutions designed to provide remote management capabilities for Dell PowerEdge systems.

Enterprise Management (EM)

The tool provided for managing many enterprise functions, such as file management, tape management, and event management.

ERA, ERA/O, ERA/MC

Dell Embedded Remote Access, Dell Embedded Remote Access Optional (ERA/O), and Dell Embedded Remote Access/Modular Chassis are systems management hardware and software solutions designed to provide remote management capabilities for Dell PowerEdge systems.

Event Management

An enterprise function for managing and monitoring events.

GUI

Acronym for graphical user interface.

ISV

Abbreviation for independent software vendor.

LAN

Acronym for local area network. A LAN system is usually confined to the same building or a few nearby buildings, with all equipment linked by wiring dedicated specifically to the LAN.

MIB

Acronym for management information base. MIB is used to send detailed status/commands from or to an SNMP managed device.

NSM

Abbreviation for CA's network and systems management product.

PET

Acronym for platform event trap. An alert, error, or system message from a server reporting an exception in a server, for example, a device failure or a threshold violation. PET is defined by the Alert Standard Format (ASF), an industry standard specification developed by the Distributed Management Task Force (DMTF) that defines methods for alerting and for remote system control, targeted for operating system absent environments.

RAC

Acronym for remote access controller. RACs are remote access solutions, such as DRAC 5, DRAC 4, DRAC/MC, DRAC III, DRAC III/XT, ERA, ERA/O, and ERA/MC.

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.

SNMP

Abbreviation for Simple Network Management Protocol. SNMP, a popular network control and monitoring protocol, is part of the original TCP/IP protocol suite. SNMP provides the format in which vital information about different network devices, such as network servers or routers, can be sent to a management application.

Storage Management Service

A storage management solution that is incorporated as part of Server Administrator to provide a common user interface for configuring and remotely managing storage components including RAID and non-RAID controllers and the attached channels, enclosures, and disks.

trap

An alert, error, or system message from a server reporting an exception in a server, for example, a device failure or a threshold violation.

WorldView (WV)

The CA NSM component that launches systems management applications and displays subsystem status. WorldView contains the Common Object Repository, where managed objects are stored.