Dell OpenManage™

Server Administrator

Version 2.3

Command Line Interface 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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November 2005

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Introduction

Whether you are using the graphical user interface (GUI) or the command line interface (CLI), Server Administrator performs essential systems management tasks.

The reporting and viewing features allow retrieval of overall health status for systems on your network. At the component level, you can view information about the voltages, temperatures, current, fan RPM, memory functioning, and many other critical component details. You see a detailed account of many relevant cost of ownership (COO) facts about your system in summary view. Version information for BIOS, firmware, operating system, and all installed software is easy to retrieve. You can also run diagnostic tests on system components.

Configuration features allow the Server Administrator to perform essential tasks described in detail in the following sections.

NOTE: You can use the CLI instead of the Server Administrator home page, and turn the Server Administrator Web server off if you have security concerns. The CLI does not use the Web server. Use the **omconfig system webserver action=stop** command to turn off the Web server. The Web server starts automatically after a reboot, so this command must be issued every time a system starts up. See "omconfig system webserver" for more information.

What's New for Version 2.3

Added Serial Attached SCSI (SAS) support for Dell™ PowerEdge™ 6800 and 6850

Using CLI Commands from Windows Command Prompts

If you are running the Windows operating system, use the 32-bit command prompt to issue a Server Administrator CLI command. You can access the 32–bit command prompt by clicking the **Start** button and pointing to **Programs**→ **Accessories**→ **Command Prompt** shortcut, or by clicking the **Start** button and selecting **Run**, then typing `cmd.exe` in the **Run** dialog box.

Do not type `command` into the **Run** dialog box to launch a command line window; this activates the MS-DOS® emulator **command.com,** which has environment variable limitations that can cause subtle problems with the CLI.

Primary CLI Commands

The commands that carry out the functions of Server Administrator are:

- **omconfig**
- **omdiag**
- **omhelp**
- **omreport**

The **omconfig** command writes values that you assign to an object's properties. You can specify values for warning thresholds on components or prescribe what action your system is to take when a certain warning or failure event occurs. You can also use the **omconfig** command to assign specific values to your system's asset information parameters, such as the purchase price of the system, the system's asset tag, or the system's location.

The **omdiag** command runs diagnostic tests against system hardware to isolate problems.

The **omhelp** command displays short text help for CLI commands. The shorthand equivalent of **omhelp** is the command for which you want help followed by **-?**. For example, to display help for the **omreport** command, type one of the following commands:

```
omhelp omreport
omreport -?
```

The **omreport** command produces reports of your system's management information.

NOTE: For an overall summary of CLI commands, type `omhelp`.

Table 1-1 lists the primary CLI commands used by Server Administrator. This guide contains a section for each primary command.

Table 1-1. CLI Commands and Sections in This Guide

Primary CLI Command	Section Title	Related Sections
omconfig	omconfig: Managing Components Using the Instrumentation Service	omconfig system assetinfo: Editing Cost of Ownership Values omconfig rac: Managing the Remote Access Controller
omdiag	omdiag: Using the Diagnostic Service	
omhelp	omhelp: Getting Help With CLI Commands	
omreport	omreport: Viewing System Status Using the Instrumentation Service	omreport storage: Using the Storage Reports omreport rac: Viewing Remote Access Controller Components

NOTE: **Omupdate** commands are no longer supported in Server Administrator and are replaced by Dell Update Package or Server Update Utility commands. To update the different components, download the Dell Update Package and run **<package name> /s [/f]**. See the *Dell Update Packages for Microsoft® Windows® Operating Systems User's Guide*, the *Dell Update Packages for Red Hat® Enterprise Linux User's Guide*, or the *Server Update Utility User's Guide* for more information on corresponding CLI syntax.

Additional useful topics about the CLI include:

- Working With CLI Command Results
- Glossary

CLI Error Checking and Error Messages

The CLI checks your commands for correct syntax when you enter them. If you enter a command and the command is executed successfully, a message displays, stating that your command has been successful.

Success Messages

For a successful **omreport** command, data about the component displays. When data for the component displays, your command is successful.

The following **omconfig** command examples show valid CLI commands and their success messages:

Command:

```
omconfig chassis temps index=0 warnthresh=default
```

Message:

```
Temperature probe warning threshold value(s) set successfully.
```

Command:

```
omconfig chassis biossetup attribute=speaker setting=on
```

Message:

```
BIOS setup configured successfully.
```

Command:

```
omconfig system assetinfo info=depreciation duration=6
```

Message:

```
Asset information set successfully.
```

Failure Messages

CLI failure messages provide reasons why some commands do not succeed. Some common reasons why commands fail include syntax errors and components that are not present. Many error messages provide syntax information that you can use to execute the command successfully.

If you try to execute a command for a component or feature that is not present in your system configuration, the error message states that the component is not present.

Command:

```
omreport chassis currents
```

Example message:

```
Error! No current probes found on this system.
```

Command:

```
omconfig chassis volts index=3 minwarnthresh=3.3000
```

Example message:

```
Error! Number with up to 3 digits after decimal point expected,
read 3.3000

The value given by the command specifies more than 3 digits after the
decimal point. A valid minimum warning threshold value for volts
contains up to 3 digits after the decimal point.
```

Type:

```
omconfig chassis volts index=3 minwarnthresh=3.300
```

When you enter the revised command with three decimal points, you receive another error message:

```
Error! This voltage probe min warning threshold must be between
11.400 and 12.480.
```

Revised command:

```
omconfig chassis volts index=3 minwarnthresh=11.500
```

Message:

```
Voltage probe warning threshold(s) set successfully.
```

Scripting and Comparing With the CLI

The Server Administrator CLI allows administrators to write batch programs or scripts to be executed by the operating system. For an enterprise with many systems, an administrator could write a configuration script that specified the warning thresholds for each major component of a system and also specified a set of actions that the administrator wants each system to take in case of a warning or failure event. In the most critical cases, the administrator could write a script so that the system shuts down to prevent damage. The administrator could then distribute and execute the script to many managed systems at the same time. Such a scenario facilitates configuring any number of new systems acquired by a company and makes implementation of new system administration policies easier across many existing systems that require reconfiguration.

A similar scenario could be used to populate a large number of newly acquired systems with detailed asset information. Much of the information would be the same, such as the manufacturer or lessor of the system, whether support for the system is outsourced, name of the system's insurance company, method of depreciation, and so on. Any variable that is common to all systems could be scripted, sent to all managed systems, and executed. Asset information that is unique to a system could be scripted as a group and sent to that managed node for execution. For example, a script could specify values for all unique variables such as owner, primary user phone number, asset tag, and so on. Scripts to populate unique values would set all unique variables at once rather than one by one through the system's command line.

In many cases, the CLI allows a user with a very well-defined task in mind to retrieve information about the system rapidly. If a user wants to review a comprehensive summary of all system components and save that summary information to a file for comparison with later system states, the CLI is ideal.

Using CLI commands, administrators can write batch programs or scripts to execute at specific times. When these programs execute, they can capture reports on components of interest, such as fan RPMs during periods of high system usage compared with the same measurements at times of lowest system usage. Command results can be routed to a file for later analysis. Reports can help administrators gain information that can be used to adjust usage patterns, to justify purchasing new system resources, or to focus on the health of a problem component.

Command Syntax Overview

Commands vary in complexity. The simplest command has only command level 1. The **omhelp** command is a simple command. When you type `omhelp`, a list of the main CLI commands is displayed.

The next level of complexity includes commands that contain command levels 1 and 2. All of the **about** commands are examples of command level 2 complexity. The **omconfig about**, **omdiag about**, and **omreport about** commands all cause a very brief summary to display. The summary shows version information for the systems management software installed on your system; for example, Server Administrator 1.*x*.

Some commands have command level 1 and command level 2 and one name=value pair. Consider the following example command that instructs Server Administrator for more details about the environment for Server Administrator:

```
omreport about details=true
```

Command level 1 is **omreport**, command level 2 is **about**, and the name=value pair is **details=true.**

Many commands use command level 1, command level 2, and command level 3, but do not require any parameters (name=value pairs). Most **omreport** commands are of this type. For example:

```
omreport system alertaction
```

causes a list of alert actions that are configured for components on your system to be displayed.

The most complex commands have all three command levels and can have multiple name=value pairs. An example of two name=value pairs:

```
omconfig system assetinfo info=depreciation duration=3
```

An example of nine name=value pairs:

```
omconfig system assetinfo info=acquisition
purchasecost=<n> waybill=<n> installdate=<mmddyy> purchasedate=
<mmddyy> ponum=<n> signauth=<text>
expensed=<yes | no> costcenter=<text>
```

In each section, command syntax and other information about commands is formatted with any of the following fields that apply:

command level 1	command level 2	command level 3	name=value pair 1	name=value pair 2

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omhelp: Getting Help With CLI Commands

The **omhelp** command and its equivalent, <*command*> **-?**, accesses the CLI's detailed help text interface. You can get help at several levels of detail.

Each fully qualified CLI command may have a variable number of distinct parts: the command (command level 1), one or more subcommands (command level 2 and command level 3, if present), and one or more name=value pair(s).

By appending **-?** (space-dash-question mark) to any command, you can get help on the command.

Example Help Commands

When you type `omconfig -?`, you get general help about the **omconfig** command. The help at this level lists the available subcommands for **omconfig**:

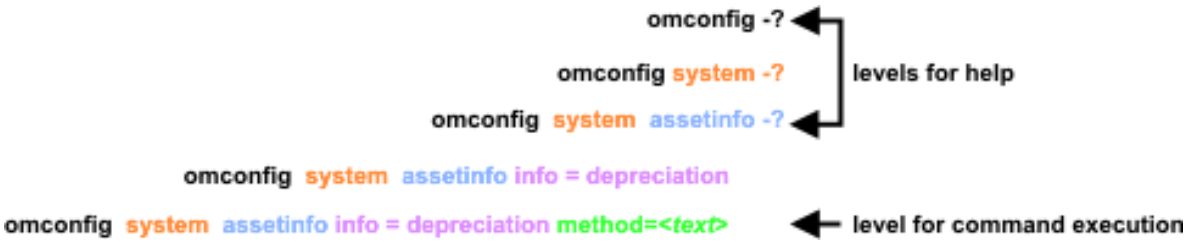
- about
- preferences
- chassis
- system

When you type `omconfig system -?`, CLI help lists all of the subcommands that are available for **omconfig system**:

- alertaction
- alertlog
- assetinfo
- cmdlog
- esmlog
- events
- recovery
- shutdown
- thrmshutdown
- webserver

Figure 2-1 shows the levels of help for a command.

Figure 2-1. Different Levels of Help for a Command



You can also parse the **omconfig system assetinfo** command as follows:

```
<command level 1 command level 2 command level 3> <name=value pair 1>
[name=value pair 2]
```

where command levels 1, 2, and 3 are represented by **omconfig system assetinfo**, name=value pair 1 is represented by **info=depreciation**, and name=value pair 2 is represented by **method=straightline**.

To set your depreciation method to straight line, type:

```
omconfig system assetinfo info=depreciation method=straightline
```

The CLI responds with the following message:

```
Asset information set successfully.
```

When you type `omconfig system assetinfo -?`, the help that displays provides information about assigning values for the name and option fields. Partial results for the request **omconfig system assetinfo -?** are as follows:

```
assetinfo              Set asset information.
```

For one info value, specify one or more optional parameter(s). Table 2-1 displays the optional parameters for **info=acquisition**:

Table 2-1. Optional Parameters

Info Value	Optional parameters
Info=acquisition	purchasecost=<num> waybill=<num> installdate=<mmddyy> purchasedate=<mmddyy> ponum=<num> signauth=<text> expensed=<yes|no> costcenter=<text> info=depreciation method=<text> duration=<num> percent=<percent> unit=<months|years|unknown>

3

omdiag: Using the Diagnostic Service

The **omdiag** command allows you to test chassis and storage components such as hard drives, physical memory, communications and printer ports, NICs, CMOS, and more.

Most tests described in this section take less than one minute. Some test can take longer depending on the device being tested. You cannot abort tests you start through the command line interface.

NOTICE: If you run **omdiag** commands from more than one console when the secure port server (for systems running Microsoft® Windows®) or omawsd (for systems running Red Hat® Enterprise Linux) is not running, then the test in the first console will run to completion, but the test(s) in the subsequent console(s) may exit with a "Test was interrupted" message.

NOTE: You can abort a Diagnostic Service test run through the CLI by using the **Diagnostic Status** window in the Server Administrator GUI. Click the **Diagnostics** tab, click **Status**, and click **Abort** to stop the currently running test or click **Abort All** to stop the currently running test and all queued tests.

NOTE: You cannot use <Ctrl-C> to cancel a CLI session from the console. However, tests started from the CLI can be aborted using the "Abort" link in the "Diagnostic Status" page in the GUI.

NOTE: If the secure port server is not running when you type an **omdiag** command, there will be a noticeable delay before the command executes because the system must check the hardware to determine the diagnostic information to display.

NOTE: On systems running the Microsoft Windows operating system, the enumeration process requires that the Windows Management Instrumentation (WMI) services be running.

Table 3-1 is a high-level summary of the **omdiag** command. The columns titled "Command level 2" and "Command level 3" list the major arguments that can be used with **omdiag**. The "Use" column provides a very general statement about the actions that can be performed using **omdiag**. More details about syntax and use of the command appear later in this section.

Table 3-1. omdiag Command Level 1, Level 2, and Level 3

Command level 1	Command level 2	Command level 3	name=value pair	Use
omdiag				
	about			Displays version number and properties for the Server Administrator program.
		details=	true	Displays information for all of the Server Administrator programs that are installed.

Table 3-1. omdiag Command Level 1, Level 2, and Level 3 *(continued)*

Command level 1	Command level 2	Command level 3	name=value pair	Use
	system	any level 3 command for chassis or storage		Runs the test for specified chassis or storage component.
			passes=<*n*>	Runs a test *n* time(s).
			time=<*minutes*>	Runs a test for the specified number of minutes <*minutes*>.
			quicktest=<*true /false*>	Uses a faster algorithm to conduct a specific test if one is available.
			haltonerror=<*true/false*>	Stops the tests if an error is encountered.
			Device=<*number*>	Specifies the device on which to run test.
	chassis	cmos		Runs the CMOS test.
		memory		Runs the memory test.
		modem		Runs the modem test.
		network		Runs the NIC test.
		parallelport		Runs the parallel port test.
		pci		Runs the PCI test.
		serialport		Runs the serial port test.
		rac		Runs the RAC test.
		usbctrl		Tests the Universal Serial Bus (USB) controller(s).
			passes=<*n*>	Runs a test *n* time(s).
			time=<*minutes*>	Runs a test for no more than the specified number of minutes <*minutes*>.
			quicktest=<*true/false*>	Uses a faster algorithm to conduct a specific test if one is available.
			haltonerror=<*true/false*>	Stops the tests if an error is encountered.
			Device=<*number*>	Specifies the device on which to run test.

Table 3-1. omdiag Command Level 1, Level 2, and Level 3 *(continued)*

Command level 1	Command level 2	Command level 3	name=value pair	Use
	storage	cddvd		Runs the CD/DVD drive test.
		floppy		Runs the diskette drive test.
		raidctrl		Runs the RAID control and attached device test.
		idedevdiag		Runs the IDE disk tests.
		sasdevdiag		Runs Serial Attached SCSI (SAS), SAS RAID controller, and attached device tests.
		scsidevdiag		Runs the SCSI controller and attached tape and hard drive tests.
			passes=<*n*>	Runs a test *n* time(s).
			time=<*minutes*>	Runs a test for no more than the specified number of minutes <*minutes*>.
			quicktest=<*true/false*>	Uses a faster algorithm to conduct a specific test if one is available.
			haltonerror=<*true/false*>	Stops the tests if an error is encountered.
			Device=<*number*>	Specifies the device on which to run the test.

omdiag about

Use the **omdiag about** command to learn the product name and version number of the systems management application installed on your system. The following is example output from the **omdiag about** command:

```
Product name : Server Administrator
Version      : 2.x.x
Copyright    : Copyright (C) Dell Inc.
               1995-2005. All rights reserved.
Company      : Dell Inc.
```

omdiag about details=true

Use the **omdiag about details=true** command to see information about all of the Server Administrator programs that are installed. The following is example output from the **omdiag about details=true** command:

```
Product name : Server Administrator
Version      : 2.x.x
Copyright    : Copyright (C) Dell Inc.
               1995-2005. All rights reserved.
Company      : Dell Inc.
Contains     : Instrumentation Service 5.x.x
               Storage Management Service 3.x.x
               Diagnostic Service 3.x.x
               Sun JRE - OEM Installed Version 1.x.x
               Secure Port Server 1.x.x
               Core Service 1.x.x
               Instrumentation Service Integration Layer 1.x.x
               Storage Management Service Integration Layer 1.x.x
               Server Administrator 2.x.x
```

omdiag chassis

Use the **omdiag chassis** commands to perform tests on nonstorage components of a system, such as the memory, NICs, PCI, and ports.

NOTE: When you issue CLI commands to a server module in a modular system, *chassis* refers only to the server module.

omdiag chassis -?

Use the **omdiag chassis -?** command to see a list of all chassis components on the system.

omdiag chassis cmos

Use the **omdiag chassis cmos** command to test the system configuration information in the CMOS settings. The following test is performed:

- Checksum Test — Performs a checksum test on the CMOS memory to determine if any bytes are corrupt. This test scans the CMOS memory and calculates the checksum of the bytes read from the checksum range. The calculated result is compared with the results stored in the CMOS memory. If they match, the test succeeds; otherwise, the test logs errors.

omdiag chassis memory

Use the **omdiag chassis memory** command to test the system's RAM. The following test is performed:

NOTE: Shut down all other programs before running this test.

NOTE: Sufficient swap-space (temporary storage space used during a move or reconfiguration) is needed to support the demands of the memory test.

NOTE: This test checks only memory seen by the operating system on systems that have redundant memory support (spare bank or mirroring).

- Pattern Test — Checks your system's memory by using a data patterns test. These patterns test the memory's storage integrity and its ability to store data accurately. This test writes a pattern to each byte in the memory and reads the pattern back. This verifies that the data paths, error-correction circuits, and the memory devices themselves are working correctly.

omdiag chassis modem

Use the **omdiag chassis modem** command to run tests on all modems.

NOTE: This test runs on analog communication lines (regular telephone lines) and will not test a cable or Digital Subscriber Link (DSL) modem. Currently, a test is not provided for testing cable or DSL modems; you can, however, test cable or DSL Internet connections. To test an Internet connection that uses a cable or DSL modem, you must use the network test.

NOTE: Shut down all other programs before running this test. If other programs use the modem, the test does not run and you see "Cannot Run" in the **Results** window.

- Modem Test — Sends a series of AT command set commands to your modem to see if it is working. The AT command set is a series of industry-standard instructions for the modem to perform.

  NOTE: The correct modem drivers, when required, should be installed for the modem diagnostic tests to run and provide the best results. For systems running Red Hat Enterprise Linux, in some cases, the "setserial" command can be used to configure the modems without drivers.

  The modem test performs the following tests:

  – Hayes Basic Command Test— Uses the Hayes basic command set to exercise and diagnose the functionality of the modem. The Hayes basic commands are written to the modem and the result codes are verified and displayed either textually or numerically. Only important commands that are common across different modems are used during this test.

  – Hayes Extended Command Test — Uses the extended command group of the Hayes command set to exercise and diagnose the functionality of the modem. The Hayes extended commands are written to the modem and the result codes are verified and displayed either textually or numerically. Only important commands that are common across different modems are used during this test.

– S-Registers Test — Uses the selected range of S-Registers to exercise and diagnose the functionality of the modem. The test saves the current S-register values, sets a new value, verifies that the new value can be read and is correct, and restores the original value. The result codes are verified and displayed either textually or numerically.

NOTE: In cases where the Windows registry with modem drivers is corrupted due to bad installs/uninstalls, the modem diagnostic might give unexpected results.

- Broadcom Modem Test — Used for both external (for example, connected to a serial port) and internal modems (for example, connected to a PCI slot).

  The Broadcom Modem test performs the following tests:

  NOTE: The following tests are not supported on systems running a Red Hat Enterprise Linux operating system.

  – Broadcom Modem Dialtone Detection Test — Verifies the correct operation of the codec, DAA, and control logic on the Broadcom V.92 56K modem. This is accomplished by detecting the presence of a dial tone on the telephone line. A telephone line must be attached to the modem for this test to pass. If a dialtone is not detected, a warning is reported.

  – Broadcom Modem Loopback Test — Instructs the Broadcom V.92 56K modem to perform a standard local analog loopback test. A test pattern is looped back and checked by the modem. The test fails if the modem reports any errors during the test.

  – Broadcom Modem AT Command Test — Verifies the correct operation of the AT command microprocessor and associated control functions on the Broadcom V.92 56K modem. A series of AT commands are issued and the responses are checked for correctness. Each command must correctly return "OK" or an error is reported.

omdiag chassis network

Use the **omdiag chassis network** command to test the NIC.

- Generic Network Diagnostic Test — The following two tests are available on all Dell™ supported NICs:

  – NIC Communication Test — Checks whether the NIC under test is physically connected (wired) to the network. It also checks whether the NIC has a valid IP address.

  NOTE: The network team test is only available on systems running a supported Microsoft Windows operating system.

  – NIC Team Test — Checks whether the NIC under test is in team mode. NIC teaming is one method for providing high availability and fault tolerance in systems.

The following test runs on the Broadcom NIC:

NOTE: The following Broadcom NIC tests are not supported on systems running a Red Hat Enterprise Linux 4 (for Intel® x86 and Intel EM64T) operating system.

- Broadcom Network Diagnostic Test — Analyzes overall controller health by checking for I/O conflicts, memory faults, EEPROM operability, and transmit and receive functionality.

- The following tests are available on Dell supported Broadcom NICs:
  - BRCMNetwork Control Registers Test — Tests most of the internal registers on the chip. Each chip contains many internal registers. Each register can contain some read-only bits and some read/write bits. This diagnostic tests read-only bits that cannot be overwritten, and tests if read/write bits can be written properly.
  - BRCMNetwork MII Registers Test — Tests most MII registers on the chip. Each chip contains many MII registers. Each MII register may contain some read-only bits and some read/write bits. This diagnostic tests read-only bits that cannot be overwritten, and tests if read/write bits can be written properly.
  - BRCMNetwork EEPROM Test — Tests the EEPROM checksum of the bootstrap record and the configuration block on the chip.
  - BRCMNetwork Internal Memory Test — Tests most of the internal memory of the chip. Each chip contains a certain amount of on-chip memory to support on-chip processor operations.
  - BRCMNetwork Interrupt Test — Tests the interrupt capability of the chip by verifying that the NDIS driver is able to receive interrupts from the NIC.
  - BRCMNetwork MAC Loop–back Test — Verifies that the NDIS driver is able to send and receive packets from the NIC. It issues IOCTL (Input Output Controls) to request driver setup (MAC layer loop back) in hardware.
  - BRCMNetwork PHY Loop–back Test — Verifies that the NDIS driver is able to send and receive packets from the NIC. It issues IOCTL (Input Output Controls) to request driver setup (PHY layer loop back) in hardware.
  - BRCMNetwork On Chip CPU Test — Tests the internal processor(s) on the chip. The test will halt all on-chip processors, download an executable binary to the processor memory, and execute the program.
  - BRCMNetwork LED Test — Blinks the LEDs on the NIC.
  - BRCMNetwork ASF Test — Tests various processor event registers and SMBus control registers. Exercises ASF related hardware on the chip.

The following tests run on the Intel NIC:

- Intel FIFO Registers Test — Tests FIFO memory on the adapter by writing and reading patterns to and from the FIFO memory.
- Intel Network Diagnostic Test — Analyzes overall controller health by checking for I/O conflicts, memory faults, EEPROM operability, and transmit and receive functionality. The following tests are available on Dell–supported Intel NICs.

  NOTE: The Intel PROSet management agent is required for the Intel network adapter diagnostics. If the management agent is not installed (or partially installed), the Intel vendor tests are not available (only the default network diagnostics are available). You can access the Intel PROSet from either the *Installation and Server Management* CD (version 8.*x*) or from **support.dell.com**. The Intel PROSet is listed under the Intel PRO Family of Adapters.

NOTE: The following tests are only available on systems running a supported Microsoft Windows operating system.

- Intel Control Registers Test — Checks for any conflicts in the I/O address and tests the accessibility of the registers. This test includes all General Registers, Receive Registers, and Transmit Registers. It does not test the EEPROM Control/Data Register.
- Intel EEPROM Test — Verifies the integrity of data read from the EEPROM. This test completes a write and read from the EEPROM and then compares the results for consistency.
- Intel Interrupt Test — Uses the Interrupt registers to confirm that all NIC interrupts work.
- Intel MAC Loopback Test — Tests the NIC's ability to send and receive packets by sending packets to itself. This test uses the MAC Loopback mode.

NOTE: The Intel MAC Loopback Test is not supported on the Intel PRO/1000 MF and the Intel PRO/1000 MT DP network cards.

- Intel PHY Loopback Test — Tests the NIC's ability to send and receive packets by sending packets to itself. This test uses the PHY Loopback mode. Not all NICs support PHY Loopback.
- Intel Link Test — Checks the network connection, and the NICs send and receive functionality by sending 1000 proprietary packets out on the network and retrieving those same packets.

The Intel Online Diagnostics tests and the Intel Offline Diagnostics tests are only available on systems running a supported Red Hat Enterprise Linux operating system.

- Intel Online Diagnostics Tests — Performs a limited set of tests without interrupting normal NIC operation during the tests.
- Intel Offline Diagnostics Tests — Performs a full set of tests. This test might disrupt the normal operation of the NIC.

omdiag chassis parallelport

Use the **omdiag chassis parallelport** command to test the parallel port, which is a high-speed communications port for attaching certain devices to your system.

The parallel port test writes a series of characters to the port and then reads it back again. If this test detects differences between the written and read character series it logs an error message and the test fails. The parallel port test performs the following tests:

- Mode Test — Tests the different modes of the Extended Capabilities Port (ECP). The following modes are tested:
  - Standard Mode (unidirectional)
  - Byte Mode (a bi-directional mode, also called Reverse Mode)
  - Parallel Port FIFO Mode (SPP hardware-handshake)
  - EPP Mode (may not be available depending on chipset)
  - ECP FIFO Mode (ECP hardware-handshake)

- FIFO Test Mode (test mode to determine FIFO depth)
- Configuration Mode (cnfgX registers are available)

NOTE: The Mode test may disrupt normal operation of a device connected to the parallel port, for example, a printer that is printing.

- Parallel Port Register Test — Tests the parallel port registers using a write-read strategy, for example, writing some data into the register, reading the data of the same registry and verifying it against the data written (data-pattern, walking-bit). The following registers are tested:
  - Standard Parallel Port (SPP) Registers: Control, Data, and Status Port registers
  - Extended Parallel Port (EPP) Registers: Address and EPP Data Port registers
  - Extended Capabilities Port (ECP) Register: Extended Control Register (ECR)
  - ECP Configuration Registers A and B (cnfgA, cnfgB)
- FIFO Test — Configures the parallel port to the FIFO Test Mode. It detects the FIFO's depth, writes different data patterns to the FIFO, and reads the patterns back from the FIFO. If the data written and read are different, the test sends out an appropriate result.
- ECP Protocol Test — ECP protocol includes a simple compression scheme (maximum compression of 64:1) called Run-Length Encoding (consecutive repeated bytes are sent as a single byte with a repeat-count). This test configures the parallel port to FIFO Test Mode, tests if the compression is supported, and sends out an appropriate result.

  NOTE: Turn off all connected external devices before running this diagnostic.

omdiag chassis pci

Use the **omdiag chassis pci** command to test the PCI bus and check all PCI devices.

The PCI test includes the boards configuration test, which checks for the presence of PCI capability and then scans all PCI devices for proper communication. PCI diagnostics enumerate the various kinds of buses on the system board. In addition to the PCI bus, the package enumerates SCSI, IDE, and USB buses. On systems running Microsoft Windows, the enumeration process requires that the WMI (Windows Management Instrumentation) services is running. The following tests are performed by the PCI test:

- PCI Device Configuration Test — Scans through the PCI bus, enumerating all the PCI devices. This test examines the interrupt requests (IRQs) for each PCI device in use and issues a warning for those devices that share the same ones. This test also checks if the driver for the device is loaded and functioning correctly.

omdiag chassis rac

Use the **omdiag chassis rac** command to run the tests on the remote access controller (RAC).

The RAC test provides IT administrators with continuous access to their systems, enabling a full range of systems management functions including monitoring, controlling, updating, and recovering. The RAC can be connected to a PCI expansion slot or embedded on the system board. DRAC III and above are enumerated and tested, whereas DRAC II is only enumerated, but not tested.

NOTE: In order to run the diagnostics, all the RAC drivers are required to be installed on the system, and the RAC-specific services are required to be running on the system.

NOTE: In cases where the Windows registry is corrupted due to bad installs/uninstalls of RAC drivers, the RAC diagnostic might give unexpected results

The following tests are performed by the RAC test:

- POST Result Test — Runs the power–on self–test (post) on the RAC hardware and firmware, gets the result of the POST operation, and reports any errors.
- In–Band Access Test — Checks the status of the RAC–specific service running on the system that is used for the in–band access of the RAC (through the operating system).
- Out–of–Band Test — Verifies the connectivity to the out–of–band interface of the RAC (the NIC on the RAC). It first checks if the NIC is enabled on the RAC and if a valid IP address is assigned to it. It then checks if it can connect to the HTTPS and FTP services running at this IP address.

omdiag chassis serialport

Use the **omdiag chassis serialport** command to test all 9-pin (AT) and 25-pin (PC, XT, and PS/2) serial ports. The following tests are performed:

- Serial Port Register Test — Writes different data-patterns to the read-write registers of the serial port, reads them back, and verifies the data against the written data. If this test detects differences between the written and read data, it logs an error message and the test fails.
- Internal Loopback Test — Tests serial ports that have an internal loop-back mode, specifically for testing. This test uses the internal loop-back mode to transmit and receive data and compare that the data received is the same as the data transmitted. The write-only and read-only buffers are tested. Error conditions such as buffer overrun are also detected.
- Baud Rate Test — Verifies the speed of the port against the system clock to ensure that the baud rate is within an acceptable range. The baud rate is controlled by writing appropriate values to the Divisor Latch bytes. The port transmits and receives (in internal loop-back mode) for 2 seconds, and checks whether the number of characters transmitted and received is two times the baud rate divided by 10 (10 bits are used to transfer 1 byte).
- Interrupt Test — Verifies that the serial port is generating or receiving interrupt requests (IRQs) correctly when key events occur. Otherwise error events are generated and the test fails.

NOTICE: This test may disrupt normal operation of a device connected to the serial port, for example, a modem. It is recommended that any connected external device is turned off when this test is running.

omdiag chassis usbctrl

Use the **omdiag chassis usbctrl** command to test the USB controller(s).

The USB test performs the following test:

NOTE: The following test is available on systems running supported Microsoft Windows and Red Hat Enterprise Linux (version 3) and later operating systems.

NOTE: On systems running supported Red Hat Enterprise Linux operating systems, connecting or removing a USB device from the server while the diagnostics enumeration is in progress, may cause the system to hang.

- USB Node Detection Test — Scans the USB bus, enumerating all the USB devices connected to the USB controller being tested. USB diagnostics enumerate the various kinds of USB controllers on the system board. In addition to the on-board USB controllers, the package enumerates USB controller cards inserted in the PCI slot and any other USB devices connected to the ports of these USB controllers. This test examines hot plugged and unplugged devices from the tested USB controller.

omdiag storage

Use the **omdiag storage** commands to perform tests on your system's storage components, such as the CD drive, DVD drive, diskette drive, hard drive, tape drive, and SCSI or RAID controller.

omdiag storage -?

Use the **omdiag storage -?** command to see a list of all storage components on the system.

omdiag storage cddvd

Use the **omdiag storage cddvd** command to test CD and DVD drives.

The CD or DVD drive test runs several tests on a CD or DVD drive to make sure the drive is working properly. This test determines how many CD or DVD drives are in your system and tests only those drives that support the appropriate CD or DVD media. To run this test, you must have a data CD or DVD (such as a program CD or DVD or your system's recovery CD or DVD) in the drive to be tested. Standard music CDs are not suitable for testing.

NOTE: USB CD and DVD drives present at enumeration should not be disconnected at the time of testing if the USB CD or DVD drive is being tested. A CD must be present in the CD drive being tested.

If there is no data CD or DVD present in the drive to be tested, you will see the following error message:

```
Media not present in the drive, or the device may have become
disconnected, or the cable may be bad. Make sure that the cable is
properly connected. Insert media in the drive and run the test again.
```

The CD/DVD drive test performs the following tests:

- Extremity Test — Conducts negative testing on the drive. The drive is requested to execute illegal commands to access particular extreme sectors or play illegal lists. The test is expected to fail.
- Driver Mechanism Test — Performs the eject, close, and stop actions to determine if the drive servo mechanism, the door motor, and the spindle motor are operating correctly. Slim CD/DVD drives like those generally available in portable and rack-optimized systems do not allow retracting of the eject tray. This kind of CD/DVD drive cannot be tested for drive mechanism test eject and close functionality.
- Read Exerciser Test — Accesses and reads the actual contents of the media. If the data is in the format of files, the data is read sector by sector into a temporary memory buffer during the first attempt. During subsequent reads, the read pattern will follow a random set of sectors for the quick test and a sequential set of sectors for the complete test. This data is then compared with data that was previously stored in the memory to ensure the correctness of the read operation.

NOTICE: Allow sufficient time for the operating system to detect the presence of media in the drive before running the CD/DVD diagnostics.

NOTE: This is the longest test in the CD/DVD diagnostics.

NOTE: Multi-session CDs are not supported by this test on supported Red Hat Enterprise Linux operating systems. If the test fails, insert a different CD without multiple sessions and run the test again.

NOTE: Defective CDs may cause CD drive test failures. If an error occurs, insert a different CD and run the test again.

omdiag storage floppy

Use the **omdiag storage floppy** command to test the diskette drive.

The diskette drive test examines your diskette drive using a series of seek and read tests to see if your drive is working correctly. You must insert a diskette into the diskette drive in order to run this test. The diskette test performs the following tests:

- Linear seek Test— Tests the integrity of the diskette drive mechanics. Moves the diskette drive heads continuously, starting from the center of the diskette and moving outward to the maximum track, one track at a time, until the entire disk is tested.
- Random seek Test — Tests the integrity of the diskette drive mechanics. Moves the diskette drive heads to several hundred random locations on the diskette, one track at a time.
- Funnel seek Test — Tests the integrity of the diskette drive mechanics. Moves the diskette drive heads continuously in a funnel fashion. For example, the test moves the heads from the first track on the disk to the last, then to the second track, and from the second to the last track, and then to the third track, and so on.

- Extremity Test — Attempts to access sectors beyond the range and confirms the error received.
- Read-Write Test — Targets an appropriate number of sectors. The data on each of these sectors is read into a buffer where it is stored until it is restored. The algorithm then writes a stream of roving data onto each sector. It then returns to the first designated sector and reads back the data to confirm the data integrity. After this, the original data is restored.

NOTICE: On systems running a supported Red Hat Enterprise Linux operating system, disconnecting the USB cable of a USB diskette drive while the test is running might cause unpredictable results.

NOTE: Defective diskettes may cause the diskette drive test to fail. If an error occurs, insert a different diskette and run the test again.

NOTE: Read-only diskettes will cause diskette drive test failures. If the test fails, ensure that the read-only switch on the diskette is in the read-write (or unlocked) position and run the test again.

omdiag storage idedevdiag

Use the **omdiag storage idedevdiag** to test IDE hard drives to verify that they are functional. The storage controller test performs the following tests:

IDE Hard Disk Test — Tests the hard drives on your system. This test verifies a drive's ability to respond to commands, return diagnostic information, and ensure data integrity across the entire hard-drive surface.

omdiag storage raidctrl

Use the **omdiag storage raidctrl** command to validate normal operations of Adaptec and LSI RAID controllers and connected hard drives. This command allows a user to test all RAID controllers and attached drives. With more command options, a specific controller and its connected hard drives may be tested.

- Adaptec RAID Controller Hardware Test — Performs various tests to validate normal operations of Adaptec RAID controllers. It allows a user to selectively test a specific controller. The test retrieves and verifies the status information of the main components of the controller. It performs basic and advanced operations to verify the working status of the controller. The Adaptec Controller Hardware test performs the following tests:
  - Pause-resume I/O Test — Verifies the Pause I/O and Resume I/O functions of the controller on all of the buses.
  - Device scan Test — Verifies the status of devices attached to the controller. This test takes a snapshot of the status of current attached devices, rescans for all devices, and then compares the status with the first snapshot, reporting any changes.
  - NVRAM and battery test Test — Checks for the existence of a nonvolatile random access memory (NVRAM) and a battery module. If an NVRAM and a battery are present, the test verifies the normal operation of these modules.
  - Global cache Test — Retrieves the global cache parameters and verifies the normal operation of this function.

You must stop an application that reserves the RAID controller before you attempt to run the Adaptec RAID controller diagnostic test or the hard disk diagnostic test. If you do not, the diagnostic reports a failure with the following message:

```
An application or service that manipulates RAID such as Array
Manager, FAST, or PERC Console has reserved the controller and must
be stopped before running this test. See the Server Administrator
online context-sensitive help or the "Server Administrator CLI User's
Guide" for more information.
```

NOTE: To stop the Array Manager service on a system running Microsoft Windows, go to the Control Panel, select **Services**, right-click the **Disk Management Service**, and select **Stop**. To stop FAST or the PERC Console, exit the application.

- LSI RAID Controller Hardware Test — Consists of two parts:
  - Configuration Test — Tests and verifies the format and content of the configuration data and compares it to the actual configuration for any discrepancies. Any format violations and configuration mismatches are reported. Failing this test does not imply that the controller is defective. Instead, failing this test means that the controller's configuration is not the same as the data from NVRAM.
  - Timer Test — Tests the timer sequence of the RAID controller. Any nonsupported timer sequence verifications result in a timer test failure. Timer test failures cause the controller to be marked as failed.
- LSI RAID Controller Battery Test — Tests the voltage and temperature on the battery, if one is present. If this test fails and a battery is installed on your RAID controller, replace the battery. The test is nondestructive; it does not write data to the storage devices managed by the controller.
- Adaptec and LSI Array Disk Test — Tests the hard drives on your system. You can test hard drives attached to a system through a qualified Adaptec or LSI RAID controller and determine if the drives have failed. This test verifies a drive's ability to respond to commands, return diagnostic information, and ensure data integrity across the entire hard-drive surface.
- Identify Connected Disks —Ensures that the SCSI subsystem between the controller and the connected device is intact. The Identify Connected Disk test is only available if the Adaptec and/or LSI controller have devices connected to them.

NOTE: The hard disk diagnostics are designed to run as a low-priority background task to limit the effect on I/O. Because of their low priority, it is recommended that you limit hard disk activity while running the diagnostics. The diagnostics may run slowly or even stop while hard disk I/O activity is running simultaneously.

The diagnostics resume when the hard drive I/O activity has decreased. If the following message appears:

```
Device Inquiry command failed
```

it is likely that the hard drive is not connected properly. Check the cables to ensure that the hard drive is properly connected to the controller. The hard drive may also fail and display the following message:

```
Device failed a send diagnostic command: Check cable connections and
termination and run this test again. If this error still occurs, it
may indicate a hardware problem.
```

To avoid this message, run the diagnostic when the system is experiencing light hard-drive I/O activity.

- Adaptec and LSI Blink Disk Light — Blinks the lights of a hard drive for 30 seconds to assist in locating the hard drive.

omdiag storage sasdevdiag

Use the **omdiag storage sasdevdiag** command to test the SAS, SAS RAID controllers, and connected devices. This test performs the following tests:

- Physical Integrity Test — Verifies the integrity of the physical layer of the SAS enclosure and its connected hard drives. When a failure is identified, an error message will be displayed indicating that an error has occurred. The detailed Phy error report log (Comma Separated Value, CSV file) is available for Dell technical support personnel for further analysis. Prior knowledge of Phy is required to interpret this log file. CSV files can be opened with common applications such as Microsoft Excel, Open Office, and so on. Contact Dell technical support in case of repeated failures.
- Controller Log Test — SAS RAID controllers store all historical events in their memory. This test exports the logs to a readable text file and Comma Separated Value (CSV) files. Entries in the exported log file are intended for Dell technical support personnel. The messages in the log are informational at the user level. Quick test will only retrieve entries since the last system boot. Using the text or CSV files, Dell support personnel can analyze the logs to identify any potential failure of the system. By default, the test runs for approximately 5 minutes. But in quick mode, it runs for 90 seconds.
- Enclosure Log Test — Enclosures store all historical events in their memory. This test exports the logs to a readable text file and Comma Separated Value (CSV) files. Entries in the exported log file are intended for Dell technical support personnel. The messages in the log are informational at the user level. Using the text or CSV files, Dell support personnel can analyze the logs to identify any potential failure of the system.
- Disk Self Test — Verifies the hard disks attached to a system through a qualified SAS or RAID controller to determine if the hard disk has failed.

NOTE: The hard disk diagnostics are designed to run as a low-priority background task to limit the effect on I/O. Because of their low priority, it is recommended that you limit hard disk activity while running the diagnostics. The diagnostics may run slowly or even stop while hard disk I/O activity is running simultaneously.

omdiag storage scsidevdiag

Use the **omdiag storage scsidevdiag** command to test the SCSI controller, connected hard drives, and tape devices. This test performs the following tests:

- SCSI Channel Communication Test — Ensures that the SCSI subsystem between the controller and connected device is intact. This test is only available if the controller has devices connected to it.
- SCSI Disk Test — Moves the hard drive heads continuously, starting from the center of the disk and moving outward to the maximum track, one track at a time, until the entire disk is tested. For a quick test, this test moves the drive heads to several hundred random locations on the disk, one track at a time.
- Blink Disk Light — Blinks the lights of a hard drive for 30 seconds to assist in locating the drive.
- SCSI Tape Drive Tests — Performs several tests on the SCSI tape drive, which is connected to a SCSI controller channel using a SCSI cable. The appropriate tape drive and SCSI controller drivers must be installed to enumerate the tape drive. The following tests are performed on SCSI tape drives:
  - Tape Device Self-Test — Ensures that any media in the drive is writable. For autoloaders/changers, this test does not require a tape cartridge. For tape drives, a tape cartridge is required as this test writes data to the media installed in the drive. This test initially verifies the communication path from the host to the tape drive. If communication can be established, the test performs a quick test of the drive's RAM and then performs the built-in RAM diagnostic. This diagnostic can vary depending on the type of the drive. For autoloaders/changers, no other tests are performed. For tape drives, the diagnostic writes several blocks of data and filemarks on the drive and tests the drive's ability to space along the filemarks.
  - Tape Drive Media Test — Writes data to media present in the drive. Ensure that any media in the drive is writable. The quick test will attempt to write 30 percent of the media's capacity and then space back to the beginning of the media. The data is then read to confirm the written data's integrity. The data is erased when the test is complete. The full test will attempt to write 80 percent of the media's capacity.

    NOTE: Tape tests can take several hours to complete because the tests are proportional to the tape capacities. Regular tests can take more than ten hours to complete, while the quick test can take up to ten hours to complete.
  - Tape Drive Insert Test — Verifies the tape drive's ability to load a tape cartridge. This test is not available for autoloader/changer tape drives. This test also writes a small amount of data, verifies the data written, and then ejects the media.

    NOTE: When the media is ejected from the tape drive, run the Tape Drive Insert Test as an individual test. Do not group this test with any other tests on this device.
  - Tape Drive Eject Test — Verifies the tape drive's ability to eject a tape cartridge. It will issue a **Prevent Allow Medium Removal SCSI** command and then attempt to unload the tape cartridge. This test is not available for autoloader/changer tape drives.

    NOTE: When the media is ejected from the tape drive, run the Tape Drive Eject Test as an individual test. Do not group this test with any other tests on this device.
  - Check Tape Drive Firmware (optional) — Checks the tape drive firmware revision number to see if any updates exist.

- SCSI Tape Library/Changer Tests — Performs several tests on a SCSI tape library or changer, which is connected to a SCSI controller channel using a SCSI cable. Appropriate SCSI controller and tape changer or library drives must be installed for the tape changer or library to be enumerated. The following tests are performed on a SCSI tape library or changer:
  - Tape Device Self Test — Initially verifies the communication path from the host to the tape drive. If communication can be established, the test performs a quick test of the drive's RAM and then performs the built-in RAM diagnostic. This test does not require a tape cartridge. This diagnostic can vary based on the type of the drive.
  - Tape Changer Automation Test — Tests the functionality of the robotic components in the autoloader or library. The test consists of two individual tests: a slot-to-slot test and a slot-to-drive test. The complete tape changer automation test repeats both tests twice.

    The slot-to-slot test is not supported on all devices. For devices that support this type of functionality, the test randomly moves tape cartridges from one storage slot to another, and back again.

    The slot-to-drive test randomly loads and unloads tape cartridges to and from one or more drives.
  - Check Tape Changer/Library Firmware (optional) — Checks the tape changer/library firmware revision and verifies if an update is required.

omdiag system

You can use the **omdiag system** command to test any of the components for the system, regardless of whether they are part of the chassis. For example, **omdiag system memory** tests the memory just the same as if you run **omdiag chassis memory**.

omdiag system -?

Use the **omdiag system -?** command to see a list of all components on the system.

4

omreport: Viewing System Status Using the Instrumentation Service

The **omreport** command allows you to see detailed information about your system components. You can retrieve summaries for many system components at one time, or you can get details about a specific component. This chapter shows you how to get reports with the level of detail that you want.

Commands documented in this chapter vary in whether they define the fields that appear in the results of a particular **omreport** command. Fields are defined only if they have a special or less familiar use.

As with all other components, you can use **omreport** to *view* component status, and **omconfig** to *manage* a component. For information on how to configure components for management, see "omconfig: Managing Components Using the Instrumentation Service."

Often you can use **omreport** commands to get information you need to execute an **omconfig** command. For example, if you want to edit the minimum temperature for a warning event on a temperature probe, you need to know the index of the probe you want to configure. You can use **omreport chassis temps** to display a list of probes and their indexes.

Conventions for Parameter Tables

When listing the parameters that a command can take, the parameters are listed in alphabetical order instead of the order in which they appear in the command line interface.

The symbol |, often called *pipe*, is the logical *exclusive or* operator. For example, enable | disable means that you can enable or disable the component or feature, but you cannot simultaneously enable and disable the component or feature.

omreport Command Summary

NOTE: Although this chapter lists all possible **omreport** commands, the commands available on your system depend on your system configuration. The results that display for the **omreport** command vary from one system to another. Data displays for installed components only.

NOTE: When a system includes an external chassis, the displayed results vary by operating system. For Red Hat® Enterprise Linux systems, **omreport** commands display external chassis information in a separate section after the main chassis information. On Microsoft® Windows® systems, data about the external chassis does not appear in **omreport** output. Use Array Manager to get information about an external chassis attached to a Windows system; for instructions, see the *Dell OpenManage™ Array Manager User's Guide*.

Table 4-1 is a high-level summary of the **omreport** command. The column titled "Command level 1" shows the **omreport** command at its most general. "Command level 2" shows the major objects or components that you can view using **omreport** (about, chassis, storage, system, and rac). "Command level 3" lists the specific objects and components for which you can view reports. "User privilege required" refers to the type of privilege you need to perform the command, where U=User, P=Power User, and A=Administrator. "Use" is a very general statement about the actions that can be performed using **omreport**. More details about syntax and use of the command appear later in this section.

Table 4-1 shows the **omreport** commands available for about, system, and main system chassis. For information about viewing storage components, see "omreport storage: Using the Storage Reports."

Table 4-1. omreport Command Level 1, Level 2, and Level 3

Command level 1	Command level 2	Command level 3	User privilege required	Use
omreport				
	about		U, P, A	Shows version number and properties for the Server Administrator program.
		details=true	U, P, A	Displays information for all of the Server Administrator programs that are installed.
	chassis		U, P, A	Shows a general status for all main components.
		acswitch	U, P, A	Shows failover settings where redundant power units are installed in a system.
		bios	U, P, A	Shows BIOS facts such as manufacturer, version, date last updated.
		biossetup	U, P, A	Shows BIOS setup properties that you have configured during system boot.
		bmc	U, P, A	Shows general information on the baseboard management controller (BMC).
		currents	U, P, A	Shows the status and thresholds for the current system sensors.
		fancontrol	U, P, A	Shows properties you have set for fan speed.
		fans	U, P, A	Shows status and thresholds for system fans.
		firmware	U, P, A	Shows firmware properties such as version, date of last update, and whether the firmware is updatable.
		frontpanel	U, P, A	Shows whether the front panel button settings, such as for the Power button and/or Nonmasking Interrupt (NMI) button (if present on the system), are enabled or disabled.

Table 4-1. omreport Command Level 1, Level 2, and Level 3 *(continued)*

Command level 1	Command level 2	Command level 3	User privilege required	Use
		fru	U, P, A	Shows the Field Replaceable Unit (FRU) information.
		info	U, P, A	Shows a status summary for main system chassis components.
		intrusion	U, P, A	Shows the status of the system's intrusion sensor(s).
		leds	U, P, A	Shows the properties you have set for LEDs to flash under various alert conditions.
		memory	U, P, A	Shows properties of your system's memory arrays.
		nics	U, P, A	Shows number of NICs installed in your system, NIC vendor, NIC description, IP address, and connection status.
		ports	U, P, A	Shows properties for your system's parallel and serial ports, such as I/O address, IRQ level, connector type, and maximum speed.
		processors	U, P, A	Shows properties of your system's processors, including speed, manufacturer, and processor family.
		pwrsupplies	U, P, A	Shows properties of power supplies.
		slots	U, P, A	Shows properties of your system's expansion slots and other slot types.
		temps	U, P, A	Shows the status and thresholds for the system temperature sensors.
		volts	U, P, A	Shows the status and thresholds for the system voltage sensors.
	storage		A	See "omreport storage: Using the Storage Reports" and "Using the Storage Management Service."
	system		U, P, A	Shows a high-level summary of system components.
		alertaction	U, P, A	Shows warning and failure threshold values, as well as actions that have been configured when an essential components detects a warning or failure state.
		alertlog	U, P, A	Allows the administrator to show the alert log.

Table 4-1. omreport Command Level 1, Level 2, and Level 3 *(continued)*

Command level 1	Command level 2	Command level 3	User privilege required	Use
		assetinfo	U, P, A	Shows cost of ownership information for your system.
		cmdlog	U, P, A	Allows the administrator to show the command log.
		esmlog	U, P, A	Allows the administrator to show the hardware log.
		events	U, P, A	Shows the system's SNMP event settings.
		operatingsystem	U, P, A	Shows the name and version of your operating system.
		pedestinations	U, P, A	Shows destinations where alerts for a platform event have been sent.
		platformevents	U, P, A	Shows the system's response for each listed platform event.
		postlog	U, P, A	Shows your system's POST log.
		recovery	U, P, A	Shows how your system is configured to respond to a hung operating system.
		shutdown	U, P, A	Shows how the shutdown action is to be performed.
		summary	U, P, A	Shows key facts for all system components, including main system chassis, software, and storage.
		thrmshutdown	U, P, A	Shows what shutdown action, if any, is to be taken when a temperature warning or failure condition is detected.
		version	U, P, A	Shows a summary for all updatable components on your system.
	rac		U, P, A	See "omreport rac: Viewing Remote Access Controller Components."

Help With the omreport Command

Use the **omreport -?** command to get a list of the available commands for **omreport**.

Use **omreport <command level 2> -?** to get help on the level 2 commands about, chassis, and system. The following information on **omreport system -?** applies equally to getting help for the **omreport chassis** command.

To see a list of valid commands for **omreport** system, type:

```
omreport system -? | more
```

omreport about

Use the **omreport about** command to learn the product name and version number of the systems management application installed on your system. The following is example output from the **omreport about** command:

```
Product name  : Server Administrator
Version       : 2.x.x
Copyright     : Copyright (C) Dell Inc. 1995-2005. All rights reserved.
Company       : Dell Inc.
```

For even more details about the environment for Server Administrator, type:

```
omreport about details=true
```

Server Administrator includes a number of services, each of which has a version number of its own. The **Contains** field reports version numbers for the services as well as other useful details. The output below is an example, and can change depending on your configuration and the version of Server Administrator that is installed on your system:

```
Contains:   Instrumentation Service 5.x.x
            Storage Management Service 3.x.x
            Diagnostic Service 2.x.x
            Sun JRE - OEM Installed Version 3.x.x
            Secure Port Server 1.x.x
            Core Service 1.x.x
            Instrumentation Service Integration Layer 1.x.x
            Storage Management Service Integration Layer 1.x.x
            Server Administrator 2.x.x
```

omreport chassis Commands

Use **omreport chassis** commands to view details for the entire chassis or for a particular component.

omreport chassis

When you type:

```
omreport chassis
```

Server Administrator displays a general status for your main system chassis components.

NOTE: The **omreport chassis** command does not list the health status of the Diagnostics Service. To view the health of the Diagnostics Service, see the **Properties** page for the **Main System Chassis** object on the Server Administrator home page.

NOTE: When you issue CLI commands to a server module in a modular system, chassis refers only to the server module.

NOTE: As with all output shown in this guide, the following output is an example and may vary depending on your system configuration.

```
SEVERITY   : COMPONENT
Ok         : Fans
Critical   : Intrusion
Ok         : Memory
Ok         : Power Supplies
Ok         : Temperatures
Ok         : Voltages
```

omreport chassis acswitch

Use the **omreport chassis acswitch** command if your system has redundant power supplies that are configured in a failover arrangement. When you type:

```
omreport chassis acswitch
```

Server Administrator displays the following output:

```
AC Failover Switch
AC Switch Redundancy

Redundancy Status                    : Full
Number of devices required for full  : 2
redundancy
Redundancy Mode                      :
Redundancy Configuration             : Input Source Line 1,
upon redundancy restoration, return to Line 1

AC Power Lines
Status                               : Ok
Location                             : AC Power Line 1
AC Present                           : Power Present
Active Source                        : Active
Status                               : Ok
Location                             : AC Power Line 2
AC Present                           : Power Present
Active Source                        : Not Active
```

Server Administrator reports values for the **Redundancy Status** and **Redundancy Mode** fields.

omreport chassis bios

Use the **omreport chassis bios** command to view current BIOS information. When you type:

```
omreport chassis bios
```

Server Administrator displays a summary of your system's BIOS information.

omreport chassis biossetup

Use the **omreport chassis biossetup** command to view BIOS setup parameters that are normally available only during system boot.

Type:

```
omreport chassis biossetup
```

Table 4-2 displays the BIOS setup parameters that are available:

NOTE: Not all the parameters are displayed. Only those BIOS setup properties that are configured during system boot are displayed.

Table 4-2. BIOS Setup Parameters

Parameters	Description
Bezel	Displays whether the bezel removal intrusion check during system reboot is enabled or disabled.
Bootsequence	Displays the device that is used to boot the system.
Console Redirection	Displays if the BIOS screen is redirected over a particular serial port or if it is turned off.
Diskette	Displays whether the diskette is disabled, auto enabled, or read only.
Demand Based Power Management (DBS)	Displays whether DBS is enabled or disabled on the system.
Dual NIC	Displays whether NIC 1 and NIC 2 with PXE is enabled or disabled.
Console Redirection Failsafe Baud Rate	Displays the setting for console redirection failsafe baud rate.
IDE	Displays whether the drive is enabled or disabled.
IDE Primary Drive 0	Displays whether the device is automatically detected and enabled or if the device is disabled.
IDE Primary Drive 1	Displays whether the device is automatically detected and enabled or if the device is disabled.
Intrusion	Displays whether the intrusion check is enabled or disabled during system boot.
Mouse	Displays whether the mouse is enabled or disabled.
NIC and NIC 2	Displays whether the first and second NICs are enabled (with or without PXE) or disabled during system boot.
Numlock	Displays whether the keypad can be used as number keys.
Parallel port address	Displays whether the address is located on LPT1, LPT2, and LPT3, or if it is disabled.
Parallel port mode	Displays the setting associated with the parallel port.

Table 4-2. BIOS Setup Parameters *(continued)*

Parameters	Description
Primary SCSI	Displays whether the device is on or off.
RAID on motherboard	Displays whether RAID-on-motherboard is detected as a RAID device, a SCSI device, or if the device is disabled during system boot.
RAID Channel A	Displays whether RAID-on-motherboard Channel A is detected as a RAID device or a SCSI device.
RAID Channel B	Displays whether RAID-on-motherboard Channel B is detected as a RAID device or a SCSI device.
SATA	Displays whether the onboard SATA controller is set to ATA mode, RAID mode, or is disabled.
SATA port	Displays if the SATA port is enabled or disabled.
Secondary SCSI	Displays whether the device is enabled or disabled.
Serial Port 1	Displays whether serial port 1 is mapped to a COM port, a COM port 1, a COM port 3, a BMC Serial, a BMC NIC, a BMC RAC, or is disabled.
Serial Port 2	Displays whether serial port 2 is mapped to a COM port, a COM port 2, a COM port 4, or is disabled.
Speaker	Displays whether the speaker is on or off.
USB or USBB	Displays whether the USB port is enabled or disabled.

omreport chassis bmc

Use the **omreport chassis bmc** command to view baseboard management controller (BMC) general information.

Type:

```
omreport chassis bmc
```

The output from the **omreport chassis bmc** command lists each of the valid parameters. Table 4-3 shows the available settings.

Table 4-3. omreport chassis bmc

name=value pair	Description
config=advsol	Reports advanced BMC information on a serial over local area network (LAN) connection.
config=serialoverlan	Reports BMC information on a serial over LAN connection.
config=terminalmode	Reports terminal mode settings for the serial port.
config=user	Reports information on BMC users.

Table 4-3. omreport chassis bmc *(continued)*

name=value pair	Description
config=nic	Reports BMC information for the LAN.
config=serial	Reports serial port information for BMC.
config=serialoverlan	Reports BMC information on a serial over LAN connection.
config=terminalmode	Reports terminal mode settings for the serial port.
config=user	Reports information on BMC users.

omreport chassis currents

Use the **omreport chassis currents** command to view current (amperage) probe status and settings. When you type:

```
omreport chassis currents index=n
```

the `index` parameter is optional. If you do not specify the index, Server Administrator displays a summary of status, readings, and thresholds set for all current probes present on your system. If you specify the index, Server Administrator displays a summary for a specific current probe.

omreport chassis fans

Use the **omreport chassis fans** command to view fan probe status and settings. When you type:

```
omreport chassis fans index=n
```

the `index` parameter is optional. If you do not specify the index, Server Administrator displays a summary of status, readings, and thresholds set for any fan probes that might be present on your system. If you specify the index, Server Administrator displays a summary for a specific fan probe.

omreport chassis fancontrol

Use the **omreport chassis fancontrol** command to see how fan speed is set on your system. Fan speed can be set to optimize speed for cooling or for quiet operation. Table 4-4 shows the available settings.

Table 4-4. Fan Control Settings

name=value pair	Description
speed=quiet	Set fan speed for quiet operation.
speed=maxcool	Set fan speed for maximum cooling.

omreport chassis firmware

Use the **omreport chassis firmware** command to view current firmware properties. When you type:

```
omreport chassis firmware
```

Server Administrator displays a summary of your system's firmware properties.

omreport chassis frontpanel

Use the **omreport chassis frontpanel** command to view whether the front panel button control settings, such as for the Power button and/or Nonmasking Interrupt (NMI) button (if present on the system), are enabled or disabled.

If the Power button override is present on your system, you can see whether the Power button override is enabled or not. If enabled, the Power button turns the power to the system **On** and **Off**.

If the NMI button is present on your system, you can see whether the NMI button is enabled or not. The NMI button can be used to troubleshoot software and device errors when using certain operating systems.

omreport chassis fru

Use the **omreport chassis fru** command to view the Field Replaceable Unit (FRU) information. When you type:

```
omreport chassis fru
```

Server Administrator displays a summary of your system's FRU information. This information is available only through the Server Administrator CLI, and is primarily used to support troubleshooting activities.

omreport chassis info

Use the **omreport chassis info** command to see a summary of installed component versions. When you type:

```
omreport chassis info index=n
```

the `index` parameter specifies a chassis number and is optional. If you do not specify the index, Server Administrator displays summary chassis information for each chassis. If you specify the index, Server Administrator displays summary information for a specific chassis.

Depending on your configuration, output may resemble the following example:

```
Index                                  : 0
Chassis Name                           : Main System Chassis
Host Name                              : everglades
Baseboard Management Controller        : 1.80
Version
Primary Backplane Version              : 1.01
Sensor Data Record Version             : SDR Version 0.33
Chassis Model                          : PowerEdge 1750
Chassis Lock                           : Present
Chassis Service Tag                    : 8RLNB1S
Chassis Asset Tag                      :
Flash chassis indentify LED state      : Off
Flash chassis indentify LED timeout    : 300
value
```

omreport chassis intrusion

Use the **omreport chassis intrusion** command to find out whether the cover to your system is open. Server Administrator tracks chassis intrusion events because intrusions may indicate an attempt to steal a system component, or to perform unauthorized maintenance on the system. Type:

```
omreport chassis intrusion
```

A message that resembles the following may display:

```
Status      : Ok
Probe Name  : Main chassis intrusion
State       : Chassis is closed
```

omreport chassis leds

Use the **omreport chassis leds** command to find out whether clear hard drive fault is supported and what severity level lights up the LED. Type:

```
omreport chassis leds index=n
```

The `index` parameter is optional. If you do not specify the index, Server Administrator displays a summary of LED information for chassis 0. If you specify the index, Server Administrator displays a summary for a specific chassis.

The following is example output:

```
Flash chassis indentify LED state  : Off

Flash chassis indentify LED        : 300
timeout value
```

omreport chassis memory

Use **omreport chassis memory** to see details for each memory module slot in your system. If your system supports redundant memory, this command also displays the status, state, and type of memory redundancy implemented on your system. Type:

```
omreport chassis memory index=n
```

The `index` parameter is optional. If you do not specify the index, Server Administrator displays information for all memory on your system. If you specify the index, Server Administrator displays a summary for a specific memory module.

Output for an occupied memory slot may resemble the following:

```
Index           : 1
Status          : OK
Connector Name  : DIMM_B
Type            : SDRAM-SYNCHRONOUS
Size            : 256 MB
```

An unoccupied memory slot still has a connector name. Output for an unoccupied memory slot may resemble the following:

```
Index           : 2
Status          : Unknown
Connector Name  : DIMM_D
Type            : Not Occupied
Size            : Unknown
```

If your system supports redundant memory, the redundancy output may resemble the following:

```
Memory Redundancy
Redundancy Status            : Full
Fail Over State              : Inactive
Redundancy Configuration     : SpareBank
Attributes                   : Location
Memory Array 1               : Proprietary Add-on Card
Attributes                   : Use
Memory Array 1               : Unknown
Attributes                   : Installed Capacity
Memory Array 1               : 1536 MB
Attributes                   : Maximum Capacity
Memory Array 1               : 12288 MB
Attributes                   : Slots Available
Memory Array 1               : 12
```

omreport chassis nics

Use the **omreport chassis nics** command to view NIC properties. Type:

```
omreport chassis nics index=n
```

The `index` parameter is optional. If you do not specify the index, Server Administrator displays properties about all NICs on your system. If you specify the index, Server Administrator displays properties for a specific NIC.

Values display for the following fields: **Index** (number of the NIC card), **IP address**, **Vendor**, **Description**, and **Connection Status**.

omreport chassis ports

Use the **omreport chassis ports** command to view properties of your system's parallel and serial ports.

Values display for the following fields: **Port Type**, **External Name**, **Base I/O Address**, **IRQ Level**, **Connector Type**, and **Maximum Speed**.

Port Type is the detailed type of each system port, from the more general serial, parallel, and USB ports to the names of ports by device type connected to it, for example, pointing device or keyboard.

External Name is the name of the port, such as serial or parallel, USB, mouse, keyboard, and so on.

Base I/O Address is the starting I/O address expressed in hexidecimal.

IRQ Level is a hardware interrupt on a system. The hardware interrupt signals the system's CPU that an event has started or ended in a peripheral component such as a modem or printer. When communicated over a peripheral component interconnect card, the IRQ level is a standard way to identify the type of device that is sending the interrupt request.

Connector Type refers to the type of plug or cable and plug that connects two devices together, in this case, the type of connector that attaches an external device to a system. There are many connector types, each designed to connect a different device type to a system. Examples include DB-9 Male, AT, Access Bus, PS/2, and so on.

Maximum Speed is the port speed. Port speed refers to the data transmission rate of an input/output channel, measured in numbers of bits per second. Serial ports usually have a maximum speed of 115 Kbps and USB version 1.*x* ports have a maximum speed of 12 Kbps.

omreport chassis processors

Use the **omreport chassis processors** command to view properties of your system's processors.

Values display for the following fields: **Connector Name**, **Manufacturer**, **Processor Family**, **Processor Version**, **Current Speed, External Clock Speed,** and **State**.

Connector Name refers to the name or number of the device that occupies the processor slot in the system.

Manufacturer is the business entity that sells the processor.

Processor Family refers to the type of processor made by a manufacturer such as Intel® Itanium™ or Pentium® III.

Processor Version refers to the model and stepping number of the processor.

Current Speed is the actual processor speed in MHz at system boot time.

External Clock Speed is the speed of the processor's external clock in MHz.

State refers to whether the processor slot is enabled or disabled.

Core Count refers to the number of processors integrated onto one chip.

Cache Properties for a Specific Processor

To learn the cache properties for a processor on a given connector, type:

```
omreport chassis processors index=n
```

The `index` parameter is optional. If you do not specify the index, Server Administrator displays properties for all processors. If you specify the index, Server Administrator displays properties for a specific processor.

The following fields are defined for a cache present on a particular microprocessor. If the cache is internal to the processor, the fields do not appear in the cache report:

- Speed
- Cache Device Supported Type
- Cache Device Current Type
- External Socket Name

Fields Reported for Each Cache on a Particular Processor

Status reports whether a specific cache on the processor is enabled or disabled.

Level refers to primary or secondary cache. Primary-level cache is a memory bank built into the processor. Secondary-level cache is a staging area that feeds the primary cache. A secondary-level cache may be built into the processor or reside in a memory chip set outside the processor. The internal processor cache is referred to as a Level 1 (or L1). L2 cache is the external cache in a system with an Intel Pentium processor, and it is the second level of cache that is accessed. The names L1 and L2 are not indicative of where the cache is physically located (internal or external), but describe which cache is accessed first (L1, therefore internal).

Speed refers to the rate that the cache can forward data from main memory to the processor.

Max Size is the maximum amount of memory that the cache can hold in KB.

Installed Size is the actual size of the cache.

Type indicates whether the cache is primary or secondary.

Location is the location of the cache on the processor or on a chip set outside the processor.

A **Write Policy** describes how the cache deals with a write cycle. In a write-back policy, the cache acts like a buffer. When the processor starts a write cycle the cache receives the data and stops the cycle. The cache then writes the data back to main memory when the system bus is available.

In a write-through policy, the processor writes through the cache to main memory. The write cycle does not complete until the data is stored into main memory.

Associativity refers to the way main memory content is stored on the cache.

- A fully associative cache allows any line in main memory to be stored at any location in the cache.
- A 4-way set-associative cache directly maps four specific lines of memory to the same four lines of cache.
- A 3-way set-associative cache directly maps three specific lines of memory to the same three lines of cache.
- A 2-way set-associative cache directly maps two specific lines of memory to the same two lines of cache.
- A 1-way set-associative cache directly maps a specific line of memory in the same line of cache.

For example, line 0 of any page in memory must be stored in line 0 of cache memory.

Cache Device Supported Type is the type of static random access memory (SRAM) that the device can support.

Cache Device Current Type is the type of the currently installed SRAM that the cache is supporting.

External Socket Name Silk Screen Name is the name printed on the system board next to the socket.

Error Correction Type identifies the type of error checking and correction (ECC) that this memory can perform. Examples are correctable ECC or uncorrectable ECC.

This report shows cache information for each cache present on the microprocessor.

omreport chassis pwrsupplies

Use the **omreport chassis pwrsupplies** command to view properties of your system's power supplies. Type:

```
omreport chassis pwrsupplies index=n
```

The `index` parameter is optional. If you do not specify the index, Server Administrator displays properties for all power supplies in your system. If you specify the index, Server Administrator displays properties for a specific processor.

For each power supply in the system, values display for the following fields: **Status**, **Location**, **Type**, **Max Wattage**, and **Online Status**.

omreport chassis slots

Use the **omreport chassis slots** command to view properties of your system's power supplies. Type:

```
omreport chassis slots index=n
```

The `index` parameter is optional. If you do not specify the index, Server Administrator displays properties for all of the slots in your system. If you specify the index, Server Administrator displays properties for a specific slot.

For each power supply in the system, values display for the following fields: **Index**, **Slot ID**, **Adapter**, and **Data Bus Width**.

Index is the number of the slot in the system.

Slot ID is the silk screen name printed on your system's motherboard next to the slot. Alphanumeric text uniquely identifies each slot in the system.

Adapter refers to the name and or type of the card that fits into the slot, for example, a storage array controller, SCSI adapter, or HBA.

Data bus width is the width, in bits, of the information pathway between the components of a system. Data bus width range is 16 to 64 bits.

omreport chassis temps

Use the **omreport chassis temps** command to view properties of your system's temperature probes. When you type:

```
omreport chassis temps index=n
```

The `index` parameter is optional. If you do not specify the index, Server Administrator displays a summary of status, readings, and thresholds set for any temperature probes that might be present on your system. If you specify the index, Server Administrator displays a summary for a specific temperature probe.

omreport chassis volts

Use the **omreport chassis volts** command to view properties of your system's voltage probes. When you type:

```
omreport chassis volts index=n
```

The `index` parameter is optional. If you do not specify the index, Server Administrator displays a summary of status, readings, and thresholds set for any voltage probes that might be present on your system. If you specify the index, Server Administrator displays a summary for a specific voltage probe.

omreport system Commands

Use the **omreport system** commands to view logs, to see how shutdown actions are configured, and to view threshold values, cost of ownership information, and information about how recovery actions are configured.

omreport system

Use the **omreport system** command to see a general status for your system components. When you specify a level 3 command, such as **omreport system shutdown**, you can get detailed information for one system component rather than the high level status that you get with **omreport system**. Type:

```
omreport system
```

If your system has both a main system chassis and at least one direct attached storage device, Server Administrator may display a summary that resembles the following example.

NOTE: As with all output shown in this guide, the following output is an example and may vary depending on your system configuration.

```
SEVERITY   : COMPONENT
Ok         : Main System Chassis
Critical   : Storage
```

Commands for Viewing Logs

You can use the **omreport system** command to view logs: the alert log, the command log, the hardware or ESM log, and the POST log.

NOTE: If the Alert log or Command log displays invalid XML data (such as when XML data generated for the selection is not well-formed), clearing the log by typing "omconfig system alertlog action=clear or omconfig system cmdlog action=clear" resolves the issue. If you need to retain the log information for future reference, you should save a copy of the log before clearing the log. See "Commands for Clearing Logs" for more information about clearing logs.

To view the contents of the alert log, type:

```
omreport system alertlog
```

To view the contents of the command log, type:

```
omreport system cmdlog
```

To view the contents of the ESM log, type:

```
omreport system esmlog
```

To view the contents of the POST log, type:

```
omreport system postlog
```

ESM Log Overall Health Status

When you type `omreport system esmlog`, the Embedded Systems Management (ESM) report displays. The first line of the report reflects the overall health of the system hardware. For example, `Health: OK` means that less than 80 percent of the space allotted for the esmlog is occupied with messages. If 80 percent or more of the allotted space for the esmlog is occupied, the following caution appears:

```
Health: Non-Critical
```

If a caution appears, resolve all warning and critical severity conditions, and then clear the log.

omreport system alertaction

Use this command to see a summary of alert actions that have been configured for warning and failure events on your system components. Alert actions determine how Server Administrator responds when a component has a warning or failure event.

The **omreport system alertaction** command is useful for *viewing* which alert actions have been specified for components. To *set* an alert action for a component, you must use the **omconfig system alertaction** command. See "omconfig: Managing Components Using the Instrumentation Service."

Components and Events for Which You Can View Alert Actions

You can view alert action properties for the following components and the events:

- current probe warning
- current probe failure
- fan warning
- fan failure
- chassis intrusion
- memory pre-failure
- memory failure
- power supply failure
- degraded redundancy
- lost redundancy
- temperature warning
- temperature failure
- voltage warning
- voltage failure
- power supply warning
- processor warning
- processor failure
- hardware log warning
- hardware log full
- watchdog ASR

omreport system assetinfo

Use this command to see cost of ownership data for the system, such as acquisition, depreciation, and warranty information. To *set* any of these fields, you must use the **omconfig system assetinfo** command. See "omconfig: Managing Components Using the Instrumentation Service."

omreport system events

Use the **omreport system events** command to view the current enabled or disabled SNMP traps. This command displays a summary of each component in your system for which events can be generated. For each component, the report shows which severities are set to be reported and which severities are set not to be reported. The following is example output for a few components:

```
omreport system events
Current SNMP Trap Configuration
-----------
System
-----------
Settings
Enable  : Informational, Warning and Critical
Disable : None

---------------
Power Supplies
----------------
Settings
Enable  : Informational, Warning and Critical
Disable : None

-----------
Fans
-----------
Settings
Enable  : Critical
Disable : Informational and Warning
```

The full report lists the settings for all components in your system for which events can be generated.

To view the status for components of a specific type, use the **omreport system events type=** *<component name>* command. This command displays a summary of each component in your system for which events can be generated. Table 4-5 shows the events displayed for various component types.

NOTE: Some component types may be unavailable on your system.

Table 4-5. System Events by Component Type

name=value pair	Description
type=accords	Configures events for AC power cords.
type=currents	Reports events for fan amperage probes.
type=fanenclosures	Reports events for fan enclosures.
type=fans	Reports events for fans.
type=intrusion	Reports events for chassis intrusion.

Table 4-5. System Events by Component Type *(continued)*

name=value pair	Description
type=log	Reports events for logs.
type=memory	Reports events for memory.
type=powersupplies	Reports events for power supplies.
type=redundancy	Reports events for redundancy.
type=temps	Reports events for temperatures.
type=volts	Reports events for voltages.

Example Command for Event Type

When you type:

```
omreport system events type=fans
```

The following is example output:

```
-----------
Fans
-----------
Settings
Enable  : Critical
Disable : Informational and Warning
```

omreport system operatingsystem

Use the **omreport system operatingsystem** command to display operating system information.

omreport system pedestinations

Use the **omreport system pedestinations** command to view destinations where alerts for a platform event have been sent. Depending on the number of destinations displayed, you can configure a separate IP address for each destination address.

Type:

```
omreport system pedestinations
```

The output from the **omreport system pedestinations** command lists each of the valid parameters.

NOTE: The actual number of destinations that can be configured on your system may differ.

Table 4-6 shows the available settings.

Table 4-6. omreport system pedestinations

Output	Attributes	Description
Destination List		
	Destination Number: Destination1	**destination 1**: Displays the first destination.
	Destination IP Address: 101.102.103.104	**101.102.103.104**: IP address of the first destination.
	Destination Number: Destination 2	**destination 2**: Displays the second destination.
	Destination IP Address: 110.120.130.140	**110.120.130.140**: IP address of the second destination.
	Destination Number: Destination 3	**destination 3**: Displays the third destination.
	Destination IP Address: 201.202.203.204	**201:202:203:204**: IP address of the third destination.
	Destination Number: Destination 4	**destination 4**: Displays the fourth destination.
	Destination IP Address: 210.211.212.213	**210.211.212.213**: IP address of the fourth destination.
Destination Configuration Settings		
	attribute=communitystring	**communitystring**: Displays the text string that acts as a password and is used to authenticate SNMP messages sent between the baseboard management controller (BMC) and the destination management station.

omreport system platformevents

Use the **omreport system platformevents** command to view how the system responds for each listed platform event.

omreport system recovery

Use the **omreport system recovery** command to see whether there is an action configured for a hung operating system. You can also view the number of seconds that must elapse before an operating system is considered to be hung.

omreport system shutdown

Use the **omreport system shutdown** command to view any pending shutdown actions for your system. If properties for shutdown are configured, executing this command displays them.

omreport system summary

Use the **omreport system summary** command to view a comprehensive summary of software and hardware components currently installed on your system.

Example Command Output

When you type:

```
omreport system summary
```

the output that appears in your CLI window depends on the systems management software, operating system, and hardware components and options that are installed on your system. The following *partial* command results are unique and may not resemble the results for your system's hardware and software configuration:

```
System Summary
------------------
Software Profile
------------------
System Management
Name                 : Server Administrator
Version              : 2.x.x
Description          : Systems Management Software
Contains:            : Instrumentation Service 5.x.x
                     : Storage Management Service 3.x.x
                     : Diagnostic Service 3.x.x
                     : Sun JRE - OEM Installed Version 3.x.x
                     : Secure Port Server 1.x.x
                     : Dell OpenManage Core Service 1.x.x
                     : Instrumentation Service Integration Layer 1.x.x
                     : Storage Management Service Integration Layer 1.x.x
Operating System
Name                 : Microsoft Windows 2000 Server
Version              : Service Pack 3 (Build 2XXX)
System Time          : Fri Sep 20 18:02:52 2XXX
System Bootup Time   : Wed Sep 18 18:37:58 2XXX
```

The system summary hardware information includes data values for installed components of the following types that are present in your system:

System Attributes

- Host name
- System location

Main System Chassis

Chassis

- Chassis model
- Chassis service tag
- Chassis lock
- Chassis asset tag

Processor

The following are listed for each processor in the system:

- Processor manufacturer
- Processor family
- Processor version
- Current speed
- Maximum speed
- External clock speed
- Voltage

Memory

- Total installed capacity
- Memory available to the operating system
- Total maximum capacity
- Memory array count

Memory Array

The following details are listed for each memory board or module in the system (for example, the system board or the memory module in a given slot number):

- Location
- Use
- Installed capacity
- Maximum capacity
- Slots available
- Slots used
- ECC type

BIOS

- Manufacturer
- BIOS version
- Release date
- BIOS firmware information
- Name
- BIOS firmware version

Firmware

- Name
- Version

Network Interface Card

The following details are listed for each NIC in the system:

- IP address
- Subnet mask
- Default gateway
- MAC address

Storage Enclosures

The following details are listed for each storage enclosure attached to the system:

- Name
- Product ID

omreport system thrmshutdown

Use the **omreport system thrmshutdown** command to view which properties, if any, have been configured for a thermal shutdown action.

The three properties that display for thermal shutdown are disabled, warning, or failure. If the CLI displays the following message, the thermal shutdown feature has been disabled:

```
Thermal protect shutdown severity: disabled
```

If the system is configured to shutdown when a temperature probe detects a warning or failure event, one of the following messages displays:

```
Thermal protect shutdown severity: warning
```

```
Thermal protect shutdown severity: failure
```

omreport system version

Use the **omreport system version** command to list the version numbers of the BIOS, firmware, systems management software, and operating system that are installed on your system.

Example Command Output

When you type:

```
omreport system version
```

the output that appears in your CLI window depends on the version of the BIOS, RAID controllers, and firmware installed on your system. The following *partial* command results are unique and may not resemble the results for your system's configuration:

```
System Version Report
---------------------
Main System Chassis
---------------------
Name                : BIOS
Version             : A12
Updateable          : N/A
Name                : Baseboard Management Controller
Version             : 1.74
Updateable          : N/A
Name                : Primary Backplane
Version             : 1.01
Updateable          : N/A
---------------------
Software
---------------------
Name                : Microsoft Windows 2000 Advanced Server
Version             : 5.0 Service Pack 4 (Build 2195) on x86
Updateable          : N/A
Name                : Dell Server Administrator
Version             : 2.0.0
Updateable          : N/A
```

5

omreport storage: Using the Storage Reports

Use the **omreport storage** command to view information about enclosures, volumes, arrays, and disks that are part of your storage system.

NOTE: This chapter only documents commands that are available when Array Manager is installed. See "Using the Storage Management Service" for information on using the **omreport storage** command when the enhanced Storage Management Service is installed. See the *Dell OpenManage™ Server Administrator User's Guide* for information on Array Manager and the enhanced Storage Management Service. See the *Dell OpenManage Installation and Security User's Guide* for installation information.

Conventions for Parameter Tables

When listing the parameters that a command can take, the parameters are listed in alphabetical order instead of the order in which they appear in the command line interface.

The symbol |, often called *pipe*, is the logical *exclusive or* operator. For example, enable | disable means that you can enable or disable the component or feature, but you cannot simultaneously enable and disable the component or feature.

omreport storage Command Summary

NOTE: Although this section lists all possible **omreport storage** commands, the commands available on your system depend on your system configuration. The results that display for the **omreport storage** command vary from one system to another. Data displays for installed components only.

Table 5-1 is a high-level summary of the **omreport storage** command. The column titled "Command level 1" shows the **omreport** command at its most general. "Command level 2" shows the major objects or components that you can view using **omreport storage**. "Command level 3" lists the specific storage objects and components for which you can view reports. "User privilege required" refers to the type of privilege you need to perform the command, where U=User, P=Power User, and A=Administrator. "Use" is a very general statement about the actions that can be performed using **omreport storage**. More details about syntax and use of the command appear later in this section.

Table 5-1. omreport storage Command Level 1, Level 2, and Level 3

Command level 1	Command level 2	Command level 3	User privilege required	Use
omreport				
	storage		A	Displays a high-level status for all storage components.
		arraydisks	A	Displays a high-level status for array disks.
		arrays	A	Displays detailed information for an array disk on a particular controller.
		osdiskinfo	A	Displays detailed information for a particular operating system disk.
		osdisks	A	Displays operating system disk properties.
		volumes	A	Displays properties for all volumes.
		enclosures	A	Displays properties for all enclosures.
		enclosureinfo	A	Displays detailed information for a particular enclosure.

omreport storage Commands

When you type:

```
omreport storage
```

Server Administrator displays a general status for storage components.

NOTE: As with all output shown in this guide, the following output is an example and may vary depending on your system configuration.

```
SEVERITY   : COMPONENT
Ok         : Array Subsystems
Warning    : OS Disks
Ok         : Volumes
```

omreport storage arraydisks

Use the **omreport storage arraydisks controller=*ID*** command (where *ID* is the ID number for the controller that controls the disks in the array) to view information for all enclosures and disks attached to a specific RAID controller. For example, if the controller's ID is "447244640307," enter the following command to see all enclosures and disks attached to that controller:

```
omreport storage arraydisks controller=47244640307
```

The report includes the following information for each enclosure in the array:

- ID — Assigned ID number for the enclosure.
- Status — Status of the enclosure.
- Name — Name of the enclosure.
- Application Version — Version of firmware installed on the enclosure.
- Product ID — Vendor-assigned ID for the enclosure.
- Asset Tag — A label that specifies either manufacturer's information or, in the case of a customer-specified asset tag, customer's information (such as inventory number, serial number, and so on).
- Service Tag — An alphanumeric code that uniquely identifies a storage device.

The report includes the following information for each physical disk in the array:

- Status — Status of the disk.
- Name — Name of the array disk. If more than one array disk comprises a virtual disk, the name may include the number of the array disk, for example, ArrayDisk0:0, ArrayDisk0:1 means the first and second array disks on virtual disk 0.
- State — Current state of the array disk.
- Type — Type of disk, such as SCSI. Also indicates the port ID and LUN for the disk.
- Product ID — Vendor-assigned ID for the physical disk.
- Rev — Revision number of the firmware on the array disk.
- Vendor — Manufacturer of the disk.
- Capacity — Amount of total storage space on the physical disk.
- Unallocated Space — Amount of usable storage space that is available.

If you want to see all disks that comprise a virtual disk, use the virtual disk ID in the command. For example, to see all disks that make up a virtual disk with the ID of "47244640361," type the following command:

```
omreport storage arraydisks vdisk=47244640361
```

NOTE: You can find virtual disk and controller IDs by running the **omreport storage arrays** command, which shows the properties for all of the controllers in the system.

omreport storage arrays

Use the **omreport storage arrays** command to view detailed information about the disk controller and the storage subsystems attached to the controller. The following information is provided about the controller:

- ID — Assigned ID number for the controller.
- Name — Name of the controller.
- State — Current state of the controller.
- Firmware Version— Version of firmware installed on the controller.

For each controller, you can view the following information about the virtual disks controlled by the controller:

- ID — Assigned ID number for the virtual disk.
- Status — Status of the virtual disk.
- Name — Name of the virtual disk.
- State — Current state of the virtual disk.
- Read Cache — Read policies indicate whether or not the controller should read sequential sectors of the logical drive when seeking data. The read policies are as follows:
  - Read-Ahead — When using read-ahead policy, the controller reads sequential sectors of the logical drive when seeking data. Read-ahead policy may improve system performance if the data is actually written to sequential sectors of the logical drive.
  - No-Read-Ahead — Selecting no-read-ahead policy indicates that the controller should not use read-ahead policy.
  - Adaptive Read-Ahead — When using adaptive read-ahead policy, the controller initiates read-ahead only if the two most recent read requests accessed sequential sectors of the disk. If subsequent read requests access random sectors of the disk, the controller reverts to no-read-ahead policy. The controller continues to evaluate whether read requests are accessing sequential sectors of the disk, and can initiate read-ahead if necessary.

- Write Cache — Write policies specify whether the controller sends a write-request completion signal as soon as the data is in the cache or after it has been written to disk. The write policies are as follows:
  - Write-Back Caching — When using write-back caching, the controller sends a write-request completion signal as soon as the data is in the controller cache but has not yet been written to disk. Write-back caching may provide improved performance since subsequent read requests can more quickly retrieve data from the controller cache than they could from the disk. Write-back caching also entails a data security risk, however, since a system failure could prevent the data from being written to disk even though the controller has sent a write-request completion signal. In this case, data may be lost. Other applications may also experience problems when taking actions that assume the data is available on the disk.
  - Write-Through Caching — When using write-through caching, the controller sends a write-request completion signal only after the data is written to the disk. Write-through caching provides better data security than write-back caching, since the system assumes the data is available only after it has been safely written to the disk.
- Cache Policy — Indicates whether read cache, write cache, or both are enabled for a specific disk.

  The direct I/O and cache I/O cache policies apply to reads on a specific logical drive. These settings do not affect the read-ahead policy. The cache I/O and direct I/O cache policies are as follows:
  - Cache I/O — Specifies that all reads are buffered in cache memory.
  - Direct I/O (default) — Specifies that reads are not buffered in cache memory. When using direct I/O, data is transferred to the controller cache and the host system simultaneously during a read request. If a subsequent read request requires data from the same data block, it can be read directly from the controller cache. The direct I/O setting does not override the cache policy settings.
- Layout — RAID level for the array. See your Array Manager documentation for more information about RAID levels.
- Size — Amount of storage on the disk in GB.

omreport storage enclosureinfo

Use the **omreport storage enclosureinfo enclosure=*ID*** command (where *ID* is the ID number for the enclosure) to view information about a single enclosure. For example, if the enclosure's ID is "447244640512," enter the following command to see detailed information for that enclosure:

```
omreport storage enclosureinfo enclosure=47244640512
```

NOTE: You can find an enclosure ID by running the **omreport storage enclosures** command, which shows the properties for all of the enclosures in the system.

The following information displays for the enclosure:

- Fans
  - Status — Status of the fan.
  - Name — Name of the fan.
  - State — Current state of the fan.
  - Speed — Speed at which the fan is running.
- Temperature Probes
  - Status — Status of the temperature probes.
  - State — State of the temperature probes.
  - Reading — Actual temperature measured by a particular probe. Readings are always a snapshot of a device's measurements at a point in time.
  - Minimum Warning Threshold — Minimum temperature, expressed in degrees, that will activate an alarm.
  - Maximum Warning Threshold — Maximum temperature, expressed in degrees, that will activate an alarm.
  - Minimum Failure Threshold — Minimum temperature, expressed in degrees, that will cause the enclosure to fail.
  - Maximum Failure Threshold — Maximum temperature, expressed in degrees, that will cause the enclosure to fail.
  - Units — Measurement type of temperature, such as Celsius.
- Power Supplies
  - Status — Status of the power supplies.
  - Name — Name of the power supply, such as "Power Supply 1."
  - State — Current state of the power supply.

omreport storage enclosures

Use the **omreport storage enclosures** command to view the enclosures that contain array disks for a particular controller. The following information displays for each enclosure on the controller:

- ID — Assigned ID number for the enclosure.
- Status — Status of the enclosure.
- Name — Name of the enclosure.
- Application Version — Version of firmware on the enclosure.
- Product ID — Identifying information for the storage enclosure, such as model and short description.
- Asset Tag — A label that specifies either manufacturer's information or, in the case of a customer-specified asset tag, customer's information (such as inventory number, serial number, and so on).
- Service Tag — An alphanumeric code that uniquely identifies a storage device.

omreport storage osdiskinfo

Use the **omreport storage osdiskinfo osdisk=*ID*** command (where *ID* is the ID number for the operating system disk) to view detailed information for the operating system disks. For example, if the operating system disk's ID is "447244640714," enter the following command to see the disks that comprise the operating system disk:

```
omreport storage osdiskinfo osdisk=447244640714
```

NOTE: You can find the ID by using the **omreport storage osdisks** command, which provides information for all operating system disks.

The **osdiskinfo** command provides information, as applicable, about the volumes, virtual disks, and array disks that make up an operating system disk.

osdiskinfo provides the following information about the volumes that contain operating system disks:

- Status — Status of the volume.
- Label — Name of the volume.
- State — State of the volume.
- File System — File system for the volume, such as NTFS or FAT.
- Size — Total space on the volume in GB.
- Free Space — Space available for creating logical drives within an extended partition, in GB.

The **osdiskinfo** command provides the following information about the virtual disk(s) that comprise the operating system disk:

- Status — Status of the virtual disk.
- Name — Name of the virtual disk.
- State — Current state of the virtual disk.

- Read Cache — Read policies indicate whether or not the controller should read sequential sectors of the logical drive when seeking data. The read policies are as follows:
  - Read-Ahead — When using read-ahead policy, the controller reads sequential sectors of the logical drive when seeking data. Read-ahead policy may improve system performance if the data is actually written to sequential sectors of the logical drive.
  - No-Read-Ahead — Selecting no-read-ahead policy indicates that the controller should not use read-ahead policy.
  - Adaptive Read-Ahead — When using adaptive read-ahead policy, the controller initiates read-ahead only if the two most recent read requests accessed sequential sectors of the disk. If subsequent read requests access random sectors of the disk, the controller reverts to no-read-ahead policy. The controller continues to evaluate whether read requests are accessing sequential sectors of the disk, and can initiate read-ahead if necessary.
- Write Cache — Write policies specify whether the controller sends a write-request completion signal as soon as the data is in the cache or after it has been written to disk. The write policies are as follows:
  - Write-Back Caching — When using write-back caching, the controller sends a write-request completion signal as soon as the data is in the controller cache but has not yet been written to disk. Write-back caching may provide improved performance since subsequent read requests can more quickly retrieve data from the controller cache than they could from the disk. Write-back caching also entails a data security risk, however, since a system failure could prevent the data from being written to disk even though the controller has sent a write-request completion signal. In this case, data may be lost. Other applications may also experience problems when taking actions that assume the data is available on the disk.
  - Write-Through Caching — When using write-through caching, the controller sends a write-request completion signal only after the data is written to the disk. Write-through caching provides better data security than write-back caching, since the system assumes the data is available only after it has been safely written to the disk.
- Cache Policy — Indicates whether the cache policy for privileges to read from and write to the disk cache is enabled or not.

  The direct I/O and cache I/O cache policies apply to reads on a specific logical drive. These settings do not affect the read-ahead policy. The Cache I/O and Direct I/O cache policies are as follows:
  - Cache I/O — Specifies that all reads are buffered in cache memory.
  - Direct I/O (default) — Specifies that reads are not buffered in cache memory. When using direct I/O, data is transferred to the controller cache and the host system simultaneously during a read request. If a subsequent read request requires data from the same data block, it can be read directly from the controller cache. The direct I/O setting does not override the cache policy settings.
- Layout — RAID level on the virtual disk. See your Array Manager documentation for more information.
- Size — Amount of storage on the virtual disk in GB.

The **omreport storage osdiskinfo** command provides the following information about the physical array disks that comprise the operating system disk:

- Status — Status of the array disk.
- Label — Name of the array disk. If more than one array disk comprises a virtual disk, the name may include the number of the array disk, for example, ArrayDisk0:0, ArrayDisk0:1 means the first and second array disks that make ArrayDisk0.
- State — Current state of the array disk.
- Controller — Name of the RAID controller that controls the array disk.

omreport storage osdisks

Use the **omreport storage osdisks** command to view information about all of your operating system disks. The following information displays for each disk that contains operating system files:

- ID — Assigned ID number for the disk. You can use this number in conjunction with the **omreport storage osdiskinfo** command to view information about a specific operating system disk. See "omreport storage osdiskinfo" for more information.
- Status — Status of the operating system disk.
- Name — Name of the operating system disk.
- State — Current state of the operating system disk.
- Type — Type of disk, such as SCSI. Also indicates the port ID and LUN for the operating system disk.
- Vendor — Manufacturer of the disk.
- Unallocated Space — Amount of usable storage space that is available.

You can view operating system disk information for a volume by entering the volume ID as part of the parameter. For example:

```
omreport storage osdisks volume=60129542154
```

You obtain a volume's ID by running the **omreport storage volumes** command. See "omreport storage volumes" for more information.

omreport storage volumes

Use the **omreport storage volumes** command to view information about the volumes on your storage system. The following information displays for each volume:

- ID — Assigned ID number for the volume. You can use this number in conjunction with the **omreport storage osdisks** command to view information about an operating system disk on a specific volume. See "omreport storage osdisks" for more information.
- Status — Status of the volume.
- Label — Name of the volume.
- State — Current state of the volume.
- File System — File system for the volume, such as NTFS or FAT.
- Size — Total space on the volume in GB.
- Free Space— Space available for creating logical drives within an extended partition, in GB.

6

omconfig: Managing Components Using the Instrumentation Service

The **omconfig** command allows you to provide values that define warning events, configure alert actions, clear logs, and configure system shutdown, as well as allowing you to perform other systems management tasks.

Examples of **omconfig** capabilities include the administrator's privilege to clear command, alert, and hardware logs; the administrator's privilege to configure and execute system shutdown; power user and administrator's privilege to default or specify values for warning events on current probes, fans, voltage probes, and temperature probes; power user and administrator's privilege to set alert actions in the event of a warning or failure event from intrusion, current probes, fans, voltage probes, and temperature probes.

For information on how to use the **omconfig** system command to view and to manage cost of ownership information (**assetinfo**), see "omconfig system assetinfo: Editing Cost of Ownership Values."

Often you must use the **omreport** commands to get the information you need to execute an **omconfig** command. For example, if you want to edit the minimum temperature for a warning event on a temperature probe, you need to know the index of the probe you want to configure. You can use the **omreport chassis temps** command to display a list of probes and their indexes. For more information on using the **omreport** command, see "omreport: Viewing System Status Using the Instrumentation Service."

Conventions for Parameter Tables

When listing the parameters that a command can take, the parameters are listed in alphabetical order instead of the order in which they appear in the command line interface.

The symbol |, often called *pipe*, is the logical *exclusive or* operator. For example, enable | disable means that you can enable or disable the component or feature, but you cannot simultaneously enable and disable the component or feature.

omconfig Command Summary

NOTE: Although this section lists all possible **omconfig** commands, the commands available on your system depend on your system configuration. If you try to get help or execute a command for a component that is not installed on your system, Server Administrator issues a message that the component or feature is not "found on this system."

NOTE: For Microsoft® Windows® systems, use Array Manager to configure an external chassis. See the *Dell OpenManage™ Array Manager User's Guide* for instructions.

Table 6-1 is a high-level summary of the **omconfig** command. The columns titled "Command level 2" and "Command level 3" list the major arguments that can be used with **omconfig**. "User privilege required" refers to the type of privilege you need to perform the command, where U=User, P=Power User, and A=Administrator. "Use" is a very general statement about the actions that can be performed using **omconfig**. More details about syntax and use of the command appear later in this section.

Table 6-1. omconfig Command Level 1, Level 2, and Level 3

Command level 1	Command level 2	Command level 3	User privilege required	Use
omconfig				
	about		U, P, A	Shows version number and properties for the Server Administrator program.
		details=true	U, P, A	Displays information for all of the Server Administrator programs that are installed.
	preferences			
		cdvformat	A	Specifies the delimiter for separating data fields reported in custom delimited format (cdv).
		dirservice	A	Configures the Active Directory service.
		snmp	A	Sets the SNMP root password.
		useraccess	A	Determines whether users below the administrator level are allowed to use Server Administrator or not.
	system			
		alertaction	P, A	Determines in advance what actions are to be taken for warning or failure events on intrusion, fans, temperatures, voltages, power supplies, memory, and redundancy.
		alertlog	P, A	Allows the administrator to clear the log.
		assetinfo	P, A	Enters and edits cost of ownership information for your system, including values for depreciation, lease, maintenance, service, and support.
		cmdlog	P, A	Allows the administrator to clear the log.

Table 6-1. omconfig Command Level 1, Level 2, and Level 3 *(continued)*

Command level 1	Command level 2	Command level 3	User privilege required	Use
		esmlog	P, A	Allows the administrator to clear the log.
		events	P, A	Enables and disables SNMP traps.
		pedestinations	P, A	Sets IP addresses for alert destinations.
		platformevents	A	Determines the shutdown action, if any, to be taken for a specific platform event. Also, enables and disables platform events filter alert generation.
		recovery	P, A	Determines in advance how your system responds to a hung operating system.
		shutdown	A	Allows the administrator to select from several options when shutting down the system.
		thrmshutdown	A	Sets the severity level at which a thermal event triggers a system shutdown.
		webserver	A	Starts or stops the Web server.
	chassis			
		biossetup	A	Configures behavior of specific system components that are controlled by the BIOS.
		bmc	P, A	Configures the baseboard management controller (BMC).
		currents	P, A	Configures current probe warning thresholds by default or by value.
		fans	P, A	Configures fan probe warning thresholds by default or by value. **NOTE:** You cannot set warning threshold values by default on embedded server management (ESM3) systems.
		fancontrol	P, A	Allows you to optimize fan speed for maximum cooling or quiet operation.
		frontpanel	A	Configures the Power button and Nonmasking Interrupt (NMI) button if present on the system.
		info	P, A	Allows you to set an initial value for, or to edit the value for, asset tag or chassis name.
		leds	P, A	Specifies when to flash a chassis fault LED or chassis identification LED, and allows you to clear the LED for the system's hard drive.

Table 6-1. omconfig Command Level 1, Level 2, and Level 3 *(continued)*

Command level 1	Command level 2	Command level 3	User privilege required	Use
		memorymode	A	Enables or disables the spare bank and mirroring memory modes, and also specify which mode to use.
		temps	P, A	Sets warning threshold values by default or value. **NOTE:** You cannot set warning threshold values by default on ESM3 systems.
		volts	P, A	Sets warning threshold values by default or value. **NOTE:** You cannot set warning threshold values by default on ESM3 systems.
	storage			See "Using the Storage Management Service."

Help With the omconfig Command

Use the **omconfig -?** command to get a list of the available commands for **omconfig**.

Use **omconfig** <*command level 2*> **-?** to get help on the level 2 commands **about**, **chassis**, **preferences**, and **system**. The following information on **omconfig system -?** applies equally to getting help for the **omconfig chassis** command.

Use the **omconfig system -?** command to get a list of the available commands for **omconfig system**.

Use the **omconfig preferences -?** command to get a list of the available commands for **omconfig preferences**, such as **cdvformat**, which is the custom delimiter format (cdv). Type the following command to display the list of delimiter values for the cdv:

```
omconfig preferences cdvformat -?
```

Use a command of the form **omconfig system** <*command level 3*> **-?** to get a list of the parameters you must use to execute a particular **omconfig system** command. For example, the following commands produce a list of valid parameters for **omconfig system alertaction** and **omconfig system shutdown**:

```
omconfig system alertaction -?
omconfig system shutdown -?
```

In the case of the **omconfig system alertaction** command, you can use various options to prevent all of the CLI help from scrolling by before you can read it.

To scroll command output one screen at a time, type:

```
omconfig system alertaction -? | more
```

where **| more** allows you to press the spacebar to see the next screen of CLI help output.

To make a file that contains all of the help for the **omconfig system alertaction -?** command, type:

```
omconfig system alertaction -? -outa alert.txt
```

where **-outa** directs the output of the command to a file called **alert.txt**.

To read the help for the **alertaction** command on a Microsoft Windows or Red Hat® Enterprise Linux operating system, type:

```
more alert.txt
```

omconfig about

Use the **omconfig about** command to learn the product name and version number of the systems management application installed on your system. The following is example output from the **omconfig about** command:

```
Product name : Server Administrator
Version : 2.x.x
Copyright : Copyright (C) Dell Inc.
1995-2005. All rights reserved.
Company : Dell Inc.
```

For even more details about the environment for Server Administrator, type:

```
omconfig about details=true
```

Server Administrator includes a number of services, each of which has a version number of its own. The **Contains** field reports version numbers for the services and provides other useful details. The output that follows is an example, and it can change depending on your configuration and the version of Server Administrator that is available:

```
Contains:  Instrumentation Service 5.x.x
           Storage Management Service 3.x.x
           Diagnostic Service 2.x.x
           Sun JRE - OEM Installed Version 3.x.x
           Secure Port Server 1.x.x
           Core Service 1.x.x
           Instrumentation Service Integration Layer 1.x.x
           Storage Management Service Integration
           Layer 1.x.x
           Server Administrator 2.x.x
```

omconfig chassis

Use the **omconfig chassis** commands to default or to set values for current, fan, voltage, and temperature probes, to configure BIOS behavior during system start up, to clear memory error counts, and to enable or disable power button control features where system configuration permits.

Use the **omconfig chassis -?** command to see a list of all **omconfig chassis** commands.

NOTE: When you issue CLI commands to a server module in a modular system, chassis refers only to the server module.

omconfig chassis biossetup

Use the **omconfig chassis biossetup** command to configure system BIOS settings that are normally available only in your system's BIOS setup boot time settings.

NOTICE: Changing certain BIOS setup options might disable your system or require you to reinstall the operating system.

NOTE: You must reboot your system before any changes to the BIOS setup options take effect.

NOTE: Not all BIOS setup options are available on every system.

Table 6-2 shows the name=value pairs you can use with this command.

Table 6-2. BIOS Setup

name=value pair 1 attribute=	name=value pair 2 setting=	Description
attribute=acpwrrecovery	setting=off | last | on	**off**: System is turned off. **last**: System returns to previous state. **on**: System is turned on.
attribute=bezel	setting=enable | disable	**enable**: Enable the bezel removal intrusion check during system boot. **disable**: Disable the bezel removal intrusion check during system boot.
attribute=bootsequence	setting=diskettefirst | hdonly | devicelist |cdromfirst	Tells the BIOS which device is used to boot the system, and the order in which the boot routine is to check each device.
attribute=conredirect	setting=enable | disable	**enable**: Redirects the BIOS screen over Serial Port 1. Keyboard and text output are redirected over Serial Port 2. **disable**: Turns off the BIOS console redirection.

Table 6-2. BIOS Setup *(continued)*

name=value pair 1 attribute=	name=value pair 2 setting=	Description
attribute=dbs	setting=enable | disable	**enable**: Enables Demand Based Power Management (DBS) on the system. **disable**: Disables DBS on the system.
attribute=diskette	setting=off | auto | writeprotect	**off**: Disable the diskette drive. **auto**: Auto enable the diskette drive. **writeprotect:** Do not allow writes. Make the diskette drive read only.
attribute=dualnic	setting=off | onpxeboth | onpxenone | onpxenic1 | onpxenic2	**off**: The NICs are disabled. **onpxeboth**: Both the NICs are PXE enabled. **onpxenone**: PXE is not enabled on either of the NICs. **onpxenic1**: PXE is enabled on NIC 1. **onpxenic2**: PXE is enabled on NIC 2.
attribute=fbr	setting=9600 | 19200 | 57600 | 115200	**9600**: Sets the console redirection failsafe baud rate to 9600 bits per second. **19200**: Sets the console redirection failsafe baud rate to 19200 bits per second. **57600**: Sets the console redirection failsafe baud rate to 57600 bits per second. **115200**: Sets the console redirection failsafe baud rate to 115200 bits per second.
attribute=ide	setting=on | off force=true	**on**: Enable this device. **off**: Disable this device. **force=true**: Verification of setting change.
attribute=idepridrv	setting=off | auto	**off**: Disable the device. **auto**: Automatically detect and enable the device.
attribute=intrusion	setting=enable | disable	**enable**: Enable the intrusion check during system boot. If the system also has bezel intrusion checking, then the intrusion option checks for removal of the back of the system. **disable**: Disable the intrusion check during system boot.

Table 6-2. BIOS Setup *(continued)*

name=value pair 1 attribute=	name=value pair 2 setting=	Description
attribute=mouse	setting=on | off	**on**: Enable the mouse. **off**: Disable the mouse.
attribute=nic	setting=enabled | disabled | enablednonepxe	**enabled**: Enable the NIC during system boot (with PXE on if the system has PXE). **disabled**: Disable the NIC during system boot. **enablednonepxe**: Enable the NIC during system boot (with PXE off if the system has PXE).
attribute=nic2	setting=enabled | disabled | enablednonepxe	**enabled**: Enable the second NIC during system boot (with PXE on if the system has PXE). **disabled**: Disable the second NIC during system boot. **enablednonepxe**: Enable the second NIC during system boot (with PXE off if the system has PXE)S.
attribute=numlock	setting=on | off	**on**: Use the keypad as number keys. **off**: Use the keypad as arrow keys.
attribute=ppaddress	setting=off | lpt1 | lpt2 | lpt3	**off**: Disable the parallel port address. **lpt1**: Locate the device on LPT1. **lpt2**: Locate the device onLPT2. **lpt3**: Locate the device on LPT3.
attribute=ppmode	setting=at | ps2 | ecp | epp	**at**: Set the parallel port mode to type AT. **ps2**: Set the parallel port mode to type PS/2. **ecp**: Set the parallel port mode to type ECP (extended capabilities port). **epp**: Set the parallel port mode to type EPP (enhanced parallel port).

Table 6-2. BIOS Setup *(continued)*

name=value pair 1 attribute=	name=value pair 2 setting=	Description
attribute=primaryscsi	setting=on | off force=true	**NOTICE:** If you modify the setting for **primary scsi, romb, romba**, or **rombb**, your system becomes inoperable until you reinstall the operating system. **on**: Enable this device. **off**: Disable this device. **force=true:** Verification of setting change.
attribute=romb	setting=raid | off | scsi force=true	**raid**: Instructs the BIOS to detect RAID-on-motherboard as a RAID device. **off**: Disable the device during system boot. **scsi**: Instructs the BIOS to detect this device as a SCSI device. **force=true:** Verification of setting change.
attribute=romba	setting=raid | scsi force=true	**raid**: Instructs the BIOS to detect RAID-on-motherboard channel A as a RAID device. **scsi**: Instructs the BIOS to detect this device as a SCSI device. **force=true:** Verification of setting change.
attribute=rombb	setting=raid | scsi force=true	**raid**: Instructs the BIOS to detect RAID-on-motherboard channel B as a RAID device. **scsi**: Instructs the BIOS to detect this device as a SCSI device. **force=true:** Verification of setting change.
attribute=sata	setting=off| ata | raid	**off**: Disables SATA controller. **ata**: Sets the onboard SATA controller to ATA mode. **raid**: Sets the onboard SATA controller to RAID mode.

Table 6-2. BIOS Setup *(continued)*

name=value pair 1 attribute=	name=value pair 2 setting=	Description
attribute=sataport (0...7)	setting=off | auto	**off**: Disable the SATA port. **auto**: Automatically enable the SATA port.
attribute=secondaryscsi	setting=on | off	**on**: Enable this device. **off**: Disable this device.
attribute=serialport1	setting=off | auto | com1 | com3 | bmcserial | bmcnic | rac	**off**: Disable serial port 1. **auto**: Map serial port 1 to a COM port. **com1**: Map serial port 1 to COM port 1. **com3**: Map serial port 1 to COM port 3. **bmcserial**: Map serial port 1 to BMC Serial. **bmcnic**: Map serial port 1 to BMC NIC. **rac**: Map serial port 1 to RAC.
attribute=serialport2	setting=off | auto | com2 | com4	**off:** Disable serial port 2. **auto:** Map serial port 2 to a COM port. **com2:** Map serial port 2 to COM port 2. **com4:** Map serial port 2 to COM port 4.
attribute=speaker	setting=on | off	**on**: Enable the speaker. **off**: Disable the speaker.
attribute=usb	setting=enabled | disabled	**NOTE:** Only one of the two attributes **usb** and **usbb** is available for configuring the USB port(s), depending on your system's hardware. **enabled**: Enable the USB port(s). **disabled**: Disable the USB port(s).
attribute=usbb	setting=enabled | enabledwithbios| disabled	**enabled**: Enable the USB port(s) during system boot, without BIOS support. **enabledwithbios:** Enable the USB port(s) during the system boot, with BIOS support. **disabled**: Disable the USB port(s) during system boot.

omconfig chassis bmc

Use the **omconfig chassis bmc** command to configure:

- The BMC on a local area network (LAN)
- The serial port for BMC
- The BMC on a serial over LAN connection
- Terminal settings for the serial port
- Advanced settings for a serial over LAN connection
- Information on a BMC user

NOTE: You have to enter the user ID to configure user information.

Type:

```
omconfig chassis bmc
```

The output from the **omconfig chassis bmc** command lists each of the available configurations. Table 6-3 shows the valid parameters:

Table 6-3. omconfig chassis bmc

name=value pair 1 config=	name=value pair 2	Description
config=advsol	characcuminterval=number	**number**: Sets the character accumulate interval in 5 millisecond intervals.
	charsendthreshold=number	**number**: Sets the number of characters. BMC automatically sends a serial over LAN data packet that contains this number of characters as soon as this number of characters (or greater) has been accepted from the baseboard serial controller into the BMC.
config=nic	enable=true | false	**true**: Enables IPMI over LAN. **false**: Disables IPMI over LAN.
	gateway=Gateway	**gateway**: Sets a gateway address if you have selected static as the IP address source for the BMC LAN interface.
	IP address=IP	**ip**: Sets the IP address if you have selected static as the IP address source for the BMC LAN interface.

Table 6-3. omconfig chassis bmc *(continued)*

name=value pair 1 config=	name=value pair 2	Description
config=nic *(continued)*	ipsource=static | dhcp | systemsoftware	**static**: Static if the IP address of the BMC LAN interface is a fixed, assigned IP address. **dhcp**: DHCP if the source of the IP address of the BMC LAN interface is the dynamic host configuration protocol. **systemsoftware**: System software if the source of the IP address of the BMC LAN interface is from the system software. **NOTE:** Not all commands may be supported on the system.
	privilegelevel=administrator | operator | user	**administrator**: Sets the maximum privilege level that can be accepted on a LAN channel to Administrator. **operator**: Sets the maximum privilege level that can be accepted on a LAN channel to Operator. **user**: Sets the maximum privilege level that can be accepted on a LAN channel to User.
	subnet=Subnet	**subnet**: Sets a subnet mask if you have selected static as the IP address source for the BMC LAN interface.
	vlanenable=true | false	**true**: Enables the virtual LAN identification. **false**: Disables the virtual LAN identification.
	vlanid=number	**number**: Virtual LAN identification in the range of 1 to 4094.
	vlanpriority=number	**number**: Priority of virtual LAN identification in the range of 0 to 7.

Table 6-3. omconfig chassis bmc *(continued)*

name=value pair 1 config=	name=value pair 2	Description
config=serial	baudrate=9600 | 19200 | 38400 | 57600	**9600:** Sets connection speed to 9600 bits per second. **19200**: Sets connection speed to 19200 bits per second. **38400**: Sets connection speed to 38400 bits per second. **57600**: Sets connection speed to 57600 bits per second.
	flowcontrol=none | rtscts	**none**: No control over the flow of communication through the serial port. **rtscts**: RTS is ready to send and CTS is clear to send.
	mode=directbasic | directterminal | directbasicterminal | modembasic | modemterminal | modembasicterminal	**directbasic**: Type of messaging used for IPMI messaging over a serial connection. **directterminal**: Messaging that uses printable ASCII characters and that allows a limited number of text commands over a serial connection. **directbasicterminal**: Both basic and terminal mode messaging over a serial connection. **modembasic**: Type of messaging used for IPMI messaging over a modem. **modemterminal**: Messaging that uses printable ASCII characters and that allows a limited number of text commands over a modem. **modembasicterminal**: Both basic and terminal messaging over a modem. **NOTE:** Not all commands may be supported on the system.

Table 6-3. omconfig chassis bmc *(continued)*

name=value pair 1 config=	name=value pair 2	Description
config=serial *(continued)*	privilegelevel=administrator | operator | user	**administrator**: Sets the maximum privilege level that can be accepted on a serial connection, to Administrator. **operator**: Sets the maximum privilege level that can be accepted on a serial connection, to Operator. **user**: Sets the maximum privilege level that can be accepted on a serial connection, to User.
	enable=true | false	**true**: Enables serial over LAN for the BMC. **false**: Disables serial over LAN for the BMC.
	baudrate=9600 | 19200	**9600**: Sets the volatile and nonvolatile connection speed to 9600 bits per second. **19200**: Sets the volatile and nonvolatile connection speed to 19200 bits per second.
	privilegelevel=administrator | operator | user	**administrator**: Sets the maximum privilege level that can be accepted on a serial over LAN channel, to Administrator. **operator**: Sets the maximum privilege level that can be accepted on a serial over LAN channel, to Operator. **user**: Sets the maximum privilege level that can be accepted on a serial over LAN channel, to User.
config=settodefault		Takes the default configuration settings.
config=terminalmode	deletecontrol=outputdel | outputbkspspbksp	**outputdel**: BMC outputs a <del> character when <bksp> or <del> is received. **outputbkspspbksp**: BMC outputs a <bksp><sp><bksp> character when <bksp> or <del> is received.

Table 6-3. omconfig chassis bmc *(continued)*

name=value pair 1 config=	name=value pair 2	Description
config=terminalmode *(continued)*	echocontrol=enabled | disabled	**enabled**: Enables characters to be sent to the screen.
		disabled: Disables characters to be sent to the screen.
	handshakingcontrol=enabled | disabled	**enabled**: Directs the BMC to output a character sequence that indicates when its input buffer is ready to accept another command.
		disabled: Does not direct the BMC to output a character sequence that indicates when its input buffer is ready to accept another command.
	inputlinesequence=cr | null	**cr**: The console uses <CR> as a new line sequence.
		null: The console uses <NULL> as a new line sequence.
	lineediting=enabled | disabled	**enabled**: Enables line editing as a line is typed.
		disable: Disables line editing as a line is typed.
	newlinesequence=none | crlf | null | cr | lfcr | lf	**none**: BMC does not use a termination sequence.
		crlf: BMC uses <CR-LF> as a new line sequence when the BMC writes a new line to the console.
		null: BMC uses <Null> as a new line sequence when the BMC writes a new line to the console.
		cr: BMC uses <CR> as a new line sequence when the BMC writes a new line to the console.
		lfcr: BMC uses <LF-CR> as a new line sequence when the BMC writes a new line to the console.
		lf: BMC uses <LF> as a new line sequence when the BMC writes a new line to the console.

Table 6-3. omconfig chassis bmc *(continued)*

name=value pair 1 config=	name=value pair 2	Description
config=user	id=number enable=true | false	**id=number**: ID number of the user being configured. **enable=true**: Enables user. **enable=false**: Disables user.
	id=number name=text	**number**: ID number of the user being configured. **name=text**: Name of the user.
	id=number newpw=text confirmnewpw=text	**number**: ID number of the user being configured. **newpw=text**: New password of the user. **confirmnewpw=text**: Confirm new password of the user.
	id=number serialaccesslevel= administrator | operator | user | none	**id=number**: ID number of the user being configured. **serialaccesslevel=administrator**: User with an ID has access privileges of an Administrator for the Serial Port channel. **serialaccesslevel=operator**: User with an ID has access privileges of an Operator for the Serial Port channel. **serialaccesslevel=user**: User with an ID has access privileges of a User for the Serial Port Channel. **serialaccesslevel=none**: User with an ID does not have access privileges for the Serial Port Channel.

Table 6-3. omconfig chassis bmc *(continued)*

name=value pair 1 config=	name=value pair 2	Description
config=user *(continued)*	id=number lanaccesslevel= administrator | operator | user| none	**id=number**: ID number of the user being configured. **lanaccesslevel=administrator**: User with an ID has access privileges of an Administrator for the LAN channel. **lanaccesslevel=operator**: User with an ID has access privileges of an Operator for the LAN channel. **lanaccesslevel=user**: User with an ID has access privileges of a User for the LAN channel. **lanaccesslevel=none**: User with an ID does not have access privileges for the LAN channel.

omconfig chassis currents

Use the **omconfig chassis currents** command to set amperage probe warning thresholds. As with other components, you can view both warning and failure threshold values, but you cannot set failure thresholds. Your system's manufacturer sets the minimum and maximum failure thresholds.

NOTE: Settable thresholds vary from one system configuration to another.

NOTE: Systems that contain embedded systems management 3 (ESM3) capabilities do not allow you to set warning threshold values to default values.

Valid Parameters for Current Warning Thresholds

Table 6-4 shows the valid parameters for setting current warning thresholds:

NOTE: The index parameter is optional. If you do not specify the index, Server Administrator displays a summary of status, readings, and thresholds set for all current probes present on your system. "Current probes are not present in all systems". If you specify the index, Server Administrator displays a summary for a specific current probe.

Table 6-4. omconfig chassis currents

name=value pair	Description
index=<*n*>	Number of the probe or probe index (must be specified).
warnthresh=default	Sets minimum and maximum warning thresholds to default.
minwarnthresh=<*n*>	Minimum warning threshold (3 decimal places).
maxwarnthresh=<*n*>	Maximum warning threshold (3 decimal places).

Default Minimum and Maximum Warning Thresholds

If you want to set both the upper and lower current warning threshold values to the recommended default value, type:

```
omconfig chassis currents index=0 warnthresh=default
```

You cannot default one value and set another. In other words, if you default the minimum warning threshold value, you are also selecting the default value for the maximum warning threshold value.

Specify a Value for Minimum and Maximum Warning Thresholds

If you prefer to specify values for the current probe warning thresholds, you must specify the number of the probe you are configuring and the minimum and/or maximum warning threshold values. In the following example, the probe that is being configured is probe 0:

```
omconfig chassis currents index=0 minwarnthresh=3.310 maxwarnthresh=
3.381
```

When you issue the command and the system sets the values you specify, the following message appears:

```
Current probe warning threshold(s) set successfully.
```

omconfig chassis fans

Use the **omconfig chassis fans** command to set fan probe warning thresholds. As with other components, you can view both warning and failure threshold values, but you cannot set failure thresholds. Your system's manufacturer sets the minimum and maximum failure thresholds.

Valid Parameters for Fan Warning Thresholds

Table 6-5 shows the valid parameters for setting fan warning thresholds:

Table 6-5. omconfig chassis fans

name=value pair	Description
index=<*n*>	Number of the probe or probe index (must be specified).
warnthresh=default	Sets minimum and maximum warning thresholds to default.
minwarnthresh=<*n*>	Minimum warning threshold.
maxwarnthresh=<*n*>	Maximum warning threshold.

Default Minimum and Maximum Warning Thresholds

NOTE: Systems that contain ESM3 capabilities do not allow you to set warning threshold values to default values.

If you want to set both the upper and lower fan warning threshold values to the recommended default value, type:

```
omconfig chassis fans index=0 warnthresh=default
```

You cannot default one value and set another. In other words, if you default the minimum warning threshold value, you are also selecting the default value for the maximum warning threshold value.

Specify a Value for Minimum and Maximum Warning Thresholds

If you prefer to specify values for the fan probe warning thresholds, you must specify the number of the probe you are configuring and the minimum and/or maximum warning threshold values. In the following example, the probe that is being configured is probe 0. The first command sets only the minimum threshold; the second sets minimum and maximum thresholds:

```
omconfig chassis fans index=0 minwarnthresh=3.31

omconfig chassis fans index=0 minwarnthresh=3.32 maxwarnthresh=3.38
```

When you issue the command and the system sets the values you specify, the following message appears:

```
Fan probe warning threshold(s) set successfully.
```

omconfig chassis fancontrol

Use the **omconfig chassis fancontrol** command to set fan speed. You can optimize speed for cooling or for quiet operation. Table 6-6 shows the valid parameters for the command.

Table 6-6. omconfig chassis fancontrol

name=value pair	Description
speed=quiet	Sets fan speed for quiet operation.
speed=maxcool	Sets fan speed for maximum cooling.

omconfig chassis frontpanel

Use the **omconfig chassis frontpanel** command to configure the Power button and the Nonmasking Interrupt (NMI) button.

NOTE: The Power and NMI buttons can be configured only if present on the system.

Table 6-7 shows the valid parameters for the command.

Table 6-7. omconfig chassis frontpanel

Subcommand	name=value pair	Description
nmibutton	enable=true | false	**true**: Enables the NMI button on the system.
		false: Disables the NMI button on the system.
powerbutton	enable=true | false	**true**: Enables the Power button on the system.
		false: Disables the Power button on the system.

omconfig chassis info

Use the **omconfig chassis info** command to enter an asset tag name for your system and a chassis name for your system. If your system is a modular one, you can enter asset tag names for modular components as well. Table 6-8 shows the valid parameters for the command.

Table 6-8. omconfig chassis info

name=value pair	Description
index=<*n*>	Number of the chassis whose asset tag or name you are setting.
tag=<*text*>	Asset tag in the form of alphanumeric text. Letters or numbers cannot exceed 10 characters.
name=<*text*>	Name of the chassis.

In the following example, the asset tag for the main system chassis is being set to **buildsys**:

```
omconfig chassis info index=0 tag=buildsys
```

Index 0 always defaults to main system chassis. The following command omits index=*n*, but accomplishes the same thing:

```
omconfig chassis info tag=buildsys
```

An acceptable command, when executed, results in the following message:

```
Chassis info set successfully.
```

For some chassis, you can assign a different name. You cannot rename the main system chassis. In the example below, the command renames chassis 2 from **storscsi1** to **storscsia**:

```
omconfig chassis info index=2 name=storscsia
```

As with other commands, the CLI issues an error message if you do not have a chassis 2 (the main chassis=0). The CLI allows you to issue commands only for the system configuration you have.

omconfig chassis leds

Use the **omconfig chassis leds** command to specify when to flash a chassis fault LED or chassis identification LED and allow you to clear the LED for the system's hard drive. Table 6-9 shows the valid parameters for the command.

Table 6-9. omconfig chassis leds

name=value pair 1	name=value pair 2	Description
index=<*n*>	NA	Number of the chassis where the LED resides (defaults to chassis 0, main system chassis).
led=fault	severity=warning | critical	Select to flash the LED either when a warning event occurs or when a critical event occurs.
led=hdfault	action=clear	Sets the number of faults for the hard drive back to zero (0).
led=identify	flash=off | on time-out=<*n*>	Sets the chassis identification LED to off or on. Set the time-out value for the LED to flash to a number of seconds.

omconfig chassis memorymode

Use the **omconfig chassis memorymode** command to specify the redundancy mode you want to use for your system's memory in case of memory errors.

Redundant memory enables a system to switch to other available memory modules if unacceptable errors are detected in the modules it is currently using. The **omconfig chassis memorymode** command allows you to disable redundancy; when you disable redundancy, you instruct the system not to switch to other available memory modules when the module the system is using begins to encounter errors. If you want to enable redundancy, you must choose between spare bank and mirroring.

Spare bank mode disables a bank of system memory in which a correctable memory event is detected, enables the spare bank, and copies all the data from the original bank to the spare bank. Spare bank requires at least three banks of identical memory; the operating system does not recognize the spare bank.

Mirroring mode switches to a redundant copy of memory when an uncorrectable memory event is detected. After switching to the mirrored memory, the system does not switch back to the original system memory until the next reboot. The operating system does not recognize half of the installed system memory in this mode.

Table 6-10 shows the valid parameters for the command.

Table 6-10. omconfig chassis memorymode

name=value pair 1	Description
index=<*n*>	Number of the chassis where the memory module resides (the default is chassis 0, the main system chassis).
redundancy=spare | mirrored | disabled | raid5	**Spare** disables the memory module that has a correctable memory event and copies the failing module's data to a spare bank. **Disabled** indicates that the system is not to use other available memory modules if uncorrectable memory events are detected. **Mirrored** switches the systems to a mirrored copy of the memory if the failing module has an uncorrectable memory event. In mirrored mode, the operating system does not switch back to the original module until the system reboots. **RAID5** is a method of system memory configuration. This is logically similar to the RAID5 mode used in hard drive storage systems. This memory mode gives you an extra level of memory checking and error recovery at the expense of some memory capacity. The RAID mode supported is RAID level 5 striping with rotational parity.

omconfig chassis temps

Use the **omconfig chassis temps** command to set warning thresholds for temperature probes. As with other components, you can view both warning and failure threshold values, but you cannot set failure thresholds. Your system's manufacturer sets the minimum and maximum failure thresholds.

NOTE: Settable thresholds vary from one system configuration to another.

Valid Parameters for Temperature Warning Thresholds

Table 6-11 shows the valid parameters for setting temperature warning thresholds:

Table 6-11. omconfig chassis temps

name=value pair	Description
index=<*n*>	Number of the probe or probe index (must be specified).
warnthresh=default	Sets minimum and maximum warning thresholds to default.
minwarnthresh=<*n*>	Minimum warning threshold (1 decimal place).
maxwarnthresh=<*n*>	Maximum warning threshold (1 decimal place).

Default Minimum and Maximum Warning Thresholds

NOTE: The capabilities for managing sensors vary by systems.

If you want to set both the upper and lower temperature warning threshold values to the recommended default value, type:

```
omconfig chassis temps index=0 warnthresh=default
```

You cannot default one value and set another. In other words, if you default the minimum warning threshold value, you are also selecting the default value for the maximum warning threshold value.

Specify a Value for Minimum and Maximum Warning Thresholds

If you prefer to specify values for the temperature probe warning thresholds, you must specify the number of the probe you are configuring and the minimum and/or maximum warning threshold value. In the following example, the probe that is being configured is probe 4:

```
omconfig chassis temps index=4 minwarnthresh=11.2 maxwarnthresh=58.7
```

When you issue the command and the system sets the values you specify, the following message appears:

```
Temperature probe warning threshold(s) set successfully.
```

omconfig chassis volts

Use the **omconfig chassis volts** command to set voltage probe warning thresholds. As with other components, you can view both warning and failure threshold values, but you cannot set failure thresholds. Your system's manufacturer sets the minimum and maximum failure thresholds.

Valid Parameters for Voltage Warning Thresholds

Table 6-12 shows the valid parameters for setting voltage warning thresholds.

NOTE: Settable thresholds vary from one system configuration to another.

Table 6-12. omconfig chassis volts

name=value pair	Description
index=<*n*>	Probe index (must be specified).
warnthresh=default	Sets minimum and maximum warning thresholds to default.
minwarnthresh=<*n*>	Minimum warning threshold (3 decimal places).
maxwarnthresh=<*n*>	Maximum warning threshold (3 decimal places).

Default Minimum and Maximum Warning Thresholds

NOTE: Systems that contain ESM3, ESM4, and BMC capabilities do not allow you to set warning threshold values to default values.

If you want to set both the upper and lower voltage warning threshold values to the recommended default value, type:

```
omconfig chassis voltage index=2 warnthresh=default
```

You cannot default one value and set another. In other words, if you default the minimum warning threshold value, you are also selecting the default value for the maximum warning threshold value.

Specify a Value for Minimum and Maximum Warning Thresholds

If you prefer to specify values for the voltage probe warning thresholds, you must specify the number of the probe you are configuring and the minimum and/or maximum warning threshold values. In the following example, the probe that is being configured is probe 0:

```
omconfig chassis volts index=0 minwarnthresh=1.900 maxwarnthresh=
2.250
```

When you issue the command and the system sets the values you specify, the following message appears:

```
Voltage probe warning threshold(s) set successfully.
```

omconfig preferences

Use the **omconfig preferences** command to set system preferences. On the command line, you can set the SNMP root password and specify which user levels are able to access Server Administrator. You can also configure the Active Directory service.

omconfig preferences cdvformat

You can use the **omconfig preferences cdvformat** to specify the delimiters for separating data fields reported in the custom delimited format. The valid values for delimiters are: exclamation, semicolon, at, hash, dollar, percent, caret, asterisk, tilde, question, colon, comma, and pipe.

The following example shows how to set the delimiter for separating data fields to asterisk:

```
omconfig preferences cdvformat delimiter=asterisk
```

omconfig preferences dirservice

You can use the **omconfig preferences dirservice** command to configure the Active Directory service. The <productname>oem.ini file is modified to reflect these changes. If the "adproductname" is not present in the <productname>oem.ini file then a default value will be used. The default value will be <computername>–<productname>, where <computername> refers to the name of the computer running Server Administrator and <productname> refers to the name of the product defined in omprv32.ini. For Server Administrator, it is "omsa".

Therefore, for a computer named "myOmsa" running Server Administrator, the default name would be "myOmsa–omsa". This is the name of Server Administrator defined in Active Directory by using the snap–in tool. This name must match the name for the application object in Active Directory in order to find user privileges.

NOTE: This command is applicable only on systems running the Windows operating system.

Table 6-13 shows the valid parameters for the command.

Table 6-13. Active Directory Service Configuration Parameters

name=value pair	Description
prodname=<text>	Specify the product to which you want to apply the Active Directory configuration changes. **Prodname** refers to the name of the product defined in omprv32.ini. For Server Administrator, it is "omsa".
enable=<true | false>	**true**: Enables Active Directory service authentication support and the **Active Directory Login** option on the login page.
	false: Disables Active Directory service authentication support and the **Active Directory Login** option on the login page. If the **Active Directory Login** option is not present, you can only login to the local machine accounts.
adprodname=<text>	Specify the name of the product as defined in the Active Directory service. This name links the product with the Active Directory privilege data for user authentication.

omconfig preferences snmp

Setting the SNMP root password allows administrators to restrict access to SNMP set operations that allow important systems management interventions. You can configure the SNMP root password normally (by typing all of the parameters in one command line) or interactively.

NOTICE: Interactive mode is the more secure method of setting the SNMP root password. In noninteractive mode, the values you enter for the **newpw** and **confirmnewpw** options appear on your system's monitor when you type them. In interactive mode, the values you type for passwords are masked.

The parameters for configuring the SNMP root password are the same whether you configure it interactively or iteratively.

NOTE: If you specify **setting=rootpw** but do not specify the other name=value pair parameters, you enter interactive mode, and the command line prompts you for the remaining values.

Table 6-14 shows the valid parameters for the command.

Table 6-14. SNMP Root Password Parameters

name=value pair	Description
setting=rootpw	Required.
oldpw=<*oldpassword*>	Enter the old SNMP root password.
newpw=<*newpassword*>	Sets the new SNMP root password.
confirmnewpw=<*newpassword*>	Confirms the new SNMP root password.

When you type `omconfig preferences snmp setting=rootpw`, the system prompts you to supply values for the required parameters.

When you type `omconfig preferences snmp`, you must supply all of the parameters in the initial command line. For example:

```
omconfig preferences snmp setting=rootpw oldpw=openmanage newpw=
serveradmin confirmnewpw=serveradmin
```

omconfig preferences useraccess

Depending on the policies of your enterprise, you may want to restrict the access that some user levels have to Server Administrator. The **omconfig preferences useraccess** command allows you to grant or withhold the right of Users and Power Users to access Server Administrator.

Table 6-15 shows the valid parameters for the command.

Table 6-15. Enabling User Access for Administrators, Power Users, and Users

Command	Result	Description
omconfig preferences useraccess enable=user	Grants Server Administrator access to Users, Power Users, and Administrators.	Least restrictive form of user access.
omconfig preferences useraccess enable=poweruser	Grants Server Administrator access to Power Users and Administrators.	Excludes user level access only.
omconfig preferences useraccess enable=admin	Grants Server Administrator access to Administrators *only*.	Most restrictive form of user access.

omconfig system

Use the **omconfig system** commands to clear logs, determine how various shutdown actions occur, set initial values or edit values for cost of ownership information, and determine how to respond to a hung operating system.

omconfig system alertaction

You can use the **omconfig system alertaction** command to determine how Server Administrator responds when a component has a warning or failure event.

Defining Alert Actions

An alert action is an action that you can specify for your system to take when specified conditions are met. Alert actions determine in advance what actions are to be taken for warning or failure events on intrusion, fans, temperatures, voltages, power supplies, memory, and redundancy.

For example, if a fan probe on your system reads a fan RPM of 300 and your minimum warning threshold value for that fan probe is 600 RPM, then your system generates a fan probe warning. Alert action settings determine how persons are notified of this event. For temperature, voltage, and current probe readings that fall within the warning or failure range, you can also configure alert actions.

Syntax for Setting Alert Actions

Setting an alert action requires two name=value pairs. The first name=value pair is the event type. The second name=value pair is the action you want to take for this event. For example, in the command:

```
omconfig system alertaction event=powersupply broadcast=true
```

the event is a power supply failure and the action is to broadcast a message to all Server Administrator users.

Available Alert Actions

Table 6-16 shows the alert actions for each component that allows you to configure an alert action.

Table 6-16. Alert Actions You Can Set for Warning and Failure Events

Alert Action Setting	Description
beep=true | false	**true**: Enables your system's beep speaker. When enabled, the speaker on the system from which you are running Server Administrator beeps.
	false: Disables your system's beep speaker.
alert=true | false	**true**: Enables your system's console alert. When enabled, the monitor attached to the system from which you are running Server Administrator displays a visual alert message.
	false: Disables your system's console alert.
broadcast=true | false	**true**: Enables a message or alert to be broadcast to all users that have drives mapped to the system.
	false: Disables alert broadcasts.
clearall=true	Clears all actions for this event.
defaultall =true	Sets all actions for this event to the default for events of this type.
execappath	Sets the fully qualified path and filename of the application you want to execute in case of an event for the component described in this window.
execapp=false	Disables the executable application.

Components and Events for Which You Can Set Alert Actions

Table 6-17 lists the components and the events for which you can set alert actions. Components are listed in alphabetical order, except that warning events always precede failure events for a component.

Table 6-17. Events for Which You Can Set Alert Actions

Event Name	Description
event=currentwarn	Sets actions when a current probe detects a warning value.
event=currentfail	Sets actions when a current probe detects a failure value.
event=fanwarn	Sets actions when a fan probe detects a warning value.
event=fanfail	Sets actions when a fan probe detects a failure value.
event=hardwarelogwarn	Sets actions when a hardware log detects a warning value.
event=hardwarelogfull	Sets actions when a hardware log is full.
event=intrusion	Sets actions when a chassis intrusion event is detected.
event=memprefail	Sets actions when a memory probe detects a prefailure value.
event=memfail	Sets actions when a memory probe detects a failure value.

Table 6-17. Events for Which You Can Set Alert Actions *(continued)*

Event Name	Description
event=powersupply	Sets actions when a power supply probe detects a failure value.
event=powersupplywarn	Sets actions when a power supply probe detects a warning value.
event=processorwarn	Sets actions when a processor probe detects a warning value.
event=processorfail	Sets actions when a processor probe detects a failure value.
event=redundegrad	Sets actions when a redundant component becomes inoperative, resulting in less than full redundancy for that component.
event=redunlost	Sets actions when one or more redundant components become inoperative, resulting in a lost or a "no redundant components working" condition for that component.
event=tempwarn	Sets actions when a temperature probe detects a warning value.
event=tempfail	Sets actions when a temperature probe detects a failure value.
event=voltwarn	Sets actions when a voltage probe detects a warning value.
event=voltfail	Sets actions when a voltage probe detects a failure value.
event=watchdogasr	Sets actions when a watchdog Automatic System Recovery (ASR) detects a value.

Example Set Alert Action Commands

The examples below are valid example commands. For each successful command issued, the following message appears:

```
Alert action(s) configured successfully.
```

Example Current Probe Actions

To disable system speaker beeping if a current probe detects a warning event, type:

```
omconfig system alertaction event=currentwarn beep=false
```

To enable broadcast messages if a current probe detects a failure event, type:

```
omconfig system alertaction event=currentfail broadcast=true
```

Example Fan Probe Actions

To set fan warning alert actions to default, type:

```
omconfig system alertaction event=fanwarn defaultall=true
```

To generate alerts when a fan probe detects a failure value, type:

```
omconfig system alertaction event=fanfail alert=true
```

Example Chassis Intrusion Actions

To clear all alert actions for chassis intrusion, type:

```
omconfig system alertaction event=intrusion clearall=true
```

Commands for Clearing Logs

NOTE: For more information about alert messages, see the *Dell OpenManage Server Administrator Messages Reference Guide*.

You can use the **omconfig system** command to clear three logs: the alert log, the command log, and the hardware, or ESM, log.

To clear the contents of the alert log, type:

```
omconfig system alertlog action=clear
```

NOTE: Entering an invalid RAC user name may prevent the command log from displaying. Clearing the command log resolves this condition.

To clear the contents of the command log, type:

```
omconfig system cmdlog action=clear
```

To clear the contents of the ESM log, type:

```
omconfig system esmlog action=clear
```

omconfig system pedestinations

Use the **omconfig system pedestinations** command to set IP addresses for alert destinations.

Table 6-18 shows the valid parameters for the command.

NOTE: You can either specify the index and IP address as parameters together OR you can set the community string as a parameter alone.

Table 6-18. omconfig system pedestinations

name=Value Pair	Description
destenable=true | false	**true**: Enables an individual platform event filter destination after a valid IP address has been set. **false**: Disables an individual platform event filter**.**
index=number	Sets the index for the destination.
ipaddress=ip address	Sets the IP address for the destination.
communitystr=text	Sets the text string that acts as a password and is used to authenticate SNMP messages sent between the BMC and the destination management station.

omconfig system platformevents

Use the **omconfig system platformevents** command to configure shutdown action, if any, to be taken for a specific platform event. You can also enable or disable platform event filter alert generation.

NOTICE: If you set a platform event shutdown action to anything other than "none", your system will forcefully shutdown when the specified event occurs. This shutdown is initiated by firmware and is carried out without first shutting down the operating system or any of the applications running on your system.

Table 6-19 shows the valid parameters for the command.

NOTE: Alert settings are mutually exclusive and can be set one at a time only. The action settings are also mutually exclusive and can be set one at a time only. However, alert and action settings are not mutually exclusive of each other.

Table 6-19. Shutdown Action

Shutdown Action	Description
alert=disable	Disables the SNMP alert.
alert=enable	Enables the SNMP alert to be sent.
action=none	Takes no action when the system is hung or has crashed.
action=powercycle	Turns the electrical power to the system off, pauses, turns the power on, and reboots the system.
action=poweroff	Turns off the electrical power to the system.
action=reboot	Forces the operating system to shut down and initiates system startup, performs BIOS checks, and reloads the operating system.

Table 6-20 lists the components and the events for which you can set platform events. Components are listed in alphabetical order, except that warning events always precede failure events for a component.

Table 6-20. omconfig system platformevents

Event Name	Description
alertsenable=true | false	**true**: Enables platform event filter alert generation. **false**: Disables platform event filter alert generation. **NOTE:** This setting is independent of the individual platform event filter alert settings. For a platform event filter to generate an alert, both the individual alert and the global event alert must be enabled.
event=discretevol	Sets action or enables/disables alert generation when a discrete voltage probe detects that the voltage is too low for proper operation.
event=fanfail	Sets action or enables/disables alert generation when a fan probe detects that the fan is running too slow or not at all.
event=hardwarelogfail	Enables/disables alert generation when a hardware log detects a failure value.

Table 6-20. omconfig system platformevents *(continued)*

Event Name	Description
event=intrusion	Sets action or enables/disables alert generation when a chassis has been opened.
event=powerwarn	Sets action or enables/disables alert generation when a power device probe detects that the power supply, voltage regulator module, or DC to DC converter is pending a failure condition.
event=powerfail	Sets action or enables/disables alert generation when a power device probe detects that the power supply, voltage regulator module, or DC to DC converter has failed.
event=processorwarn	Sets action or enables/disables alert generation when a processor probe detects that the processor is running at less than peak performance or speed.
event=processorfail	Sets action or enables/disables alert generation when a processor probe detects that the processor has failed.
event=redundegrad	Sets action or enables/disables alert generation when the system's fans and/or power supplies become inoperative, resulting in less than full redundancy for that component.
event=redunlost	Sets action or enables/disables alert generation when the system's fans and/or power supplies become inoperative, resulting in a lost or a "no redundant components working" condition for that component.
event=tempwarn	Sets action or enables/disables alert generation when a temperature probe detects that the temperature is approaching the maximum high or low limits.
event=tempfail	Sets action or enables/disables alert generation when a temperature probe detects that the temperature is either too high or low for proper operation.
event=voltfail	Sets action or enables/disables alert generation when a voltage probe detects that the voltage is too low for proper operation.
event=watchdogasr	Enables or disables alert generation configured by the ASR when the system has hung or is not responding.

omconfig system events

Use the **omconfig system events** command to enable and disable SNMP traps for components on your system.

NOTE: Not all event types may be present on your system.

There are four parameters in the name=value pair component of the **omconfig system events** command:

- source
- type
- severity
- index

Source

At present, `source=snmptraps` is a required name=value pair because SNMP is currently the only supported source of event notification for your system's components.

```
omconfig system events source=snmptraps
```

Type

The event type refers to the name of the component(s) involved in the event. Table 6-21 shows the valid parameters for system event types.

Table 6-21. System Event Type Parameters

name=value pair	Description
type=accords	Configures events for AC power cords.
type=all	Configures events for all device types.
type=currents	Configures events for amperage.
type=fanenclosures	Configures events for fan enclosures.
type=fans	Configures events for fans.
type=intrusion	Configures events for chassis intrusion.
type=log	Configures events for logs.
type=memory	Configures events for memory.
type=powersupplies	Configures events for power supplies.
type=redundancy	Configures events for redundancy.
type=temps	Configures events for temperatures.
type=volts	Configures events for voltages.

Severity

In the context of configuring events, severity determines how severe an event must be before Server Administrator notifies you of the event for a component type. When there are multiple components of the same type in the same system chassis, you can also specify whether you want to be notified for event severity according to the number of the component by using the index=<*n*> parameter. Table 6-22 shows the valid severity parameters.

Table 6-22. System Event Severity Parameters

Command	Result	Description
omconfig system events type=<*component name*> severity=info	Enables notification for informational, warning, and critical events.	Least restrictive form of event notification.
omconfig system events type=<*component name*> severity=warning	Enables notification for warning and critical events.	Omits informational event notification, for example, when a component returns to normal status.
omconfig system events type=<*component name*> severity=critical	Enables notification for critical events only.	Restrictive form of event notification.
omconfig system events type=<*component name*> severity=none	Disables event notification.	No event notification.

Index

Index refers to the number of an event for a particular component. Index is an optional parameter. When you omit the index parameter, events are configured for all components of the specified type, such as all fans. When a system contains more than one fan, for example, you can enable or disable event notification for a particular fan. An example command is as follows:

```
omconfig system events type=fan index=0 severity=critical
```

As a result of the example command, Server Administrator will send an SNMP trap only when the first fan in the system chassis (index 0) has reached critical fan RPMs.

omconfig system webserver

Use the **omconfig system webserver** command to start or stop the Web server. Table 6-23 shows the valid parameters for the command.

Table 6-23. Web Server Configuration Parameters

name=value pair	Description
action=start	Starts the Web server.
action=stop	Stops the Web server.
action=restart	Restarts the Web server.

omconfig system recovery

Use the **omconfig system recovery** command to set the action that is to be taken when the operating system has hung or crashed. You can also set the number of seconds that must pass before the system is considered to have a hung operating system. Table 6-24 shows the valid parameters for the command.

NOTE: Upper and lower limits for the timer are dependent on your system model and configuration.

Table 6-24. Recovery Parameters

name=value pair	Description
action=none	Takes no action when the operating system is hung or has crashed.
action=reboot	Shuts down the operating system and initiates system startup, performing BIOS checks and reloading the operating system.
action=poweroff	Turns off electrical power to the system.
action=powercycle	Turns off electrical power to the system, pauses, turns the power on, and reboots the system. Power cycling is useful when you want to reinitialize system components such as hard drives.
timer=<*n*>	Number of seconds that must pass before a system is considered to have a hung operating system (from 20 seconds to 480 seconds).

Example Recovery Commands

To set the action on hung operating system detection to powercycle, type:

```
omconfig system recovery action=powercycle
```

To set the amount of time that the system must be hung before a recovery action is initiated to 120 seconds, type:

```
omconfig system recovery timer=120
```

omconfig system shutdown

Use the **omconfig system shutdown** command to determine how the system shuts down. During system shutdown, the default is to shut down the operating system before powering off the system. Shutting down the operating system first closes down the file system before powering the system down. If you do not want to shut down the operating system first, you can use the parameter **osfirst=false**. Table 6-25 shows the valid parameters for the command.

Table 6-25. Shutdown Parameters

name=value pair	Description
action=reboot	Shuts down the operating system and initiates system startup, performing BIOS checks and reloading the operating system.
action=poweroff	Turns the electrical power to the system off.

Table 6-25. Shutdown Parameters *(continued)*

name=value pair	Description
action=powercycle	Turns the electrical power to the system off, pauses, turns the power on, and reboots the system. Power cycling is useful when you want to reinitialize system components such as hard drives.
osfirst=true | false	**true**: Closes the file system and exits the operating system before shutting down the system.
	false: Does not close the file system or shut down the operating system before shutting down the system.

Example Shutdown Commands

To set the shutdown action to reboot, type:

```
omconfig system shutdown action=reboot
```

To bypass operating system shutdown before the system is powered off, type:

```
omconfig system shutdown action=reboot osfirst=false
```

omconfig system thrmshutdown

Use the **omconfig system thrmshutdown** command to configure a thermal shutdown action. A thermal shutdown can be configured to occur when a temperature probe detects a temperature probe warning or failure event. Table 6-26 shows the valid parameters for the command.

Table 6-26. Thermal Shutdown Parameters

name=value pair	Description
severity=disabled | warning | failure	**disabled**: Disable thermal shutdown. An administrator must intervene.
	warning: Perform a shutdown when a temperature warning event is detected. A warning event occurs when any temperature probe inside a chassis reads a temperature (in degrees Celsius) which exceeds the maximum temperature warning threshold.
	failure: Perform a shutdown when a temperature failure event is detected.

Example Thermal Shutdown Commands

To trigger a thermal shutdown when a temperature probe detects a failure event, type:

```
omconfig system thrmshutdown severity=failure
```

To disable thermal shutdown so that an administrator has to initiate an **omconfig system shutdown**, type:

```
omconfig system thrmshutdown severity=disabled
```

7

omconfig system assetinfo: Editing Cost of Ownership Values

omconfig System Asset Info Overview

The **omconfig system assetinfo** command helps you to edit a comprehensive set of parameters that make up your system's total cost of ownership. This section explains the parameters that can be reported and configured under the **omconfig system assetinfo** command.

Using the **omconfig system assetinfo** command, you can set governing values for configurable objects. Examples of **assetinfo** configuration capabilities include setting values for system owner, purchase price, details of any lease that is in effect, depreciation methods and rates, and location of the system, warranty and extended warranty duration, outsourcing details, and service level agreement.

User Level Required for Adding Asset Information

Power Users and Administrators can add and edit asset information.

Adding Acquisition Information

Acquisition refers to the facts about a business entity's purchase or lease of a system. Use the **omconfig system assetinfo info=acquisition** command to add detailed information about the purchase or lease of a system. Table 7-1 shows the valid parameters for the command.

Table 7-1. omconfig system assetinfo info=acquisition

Command level 1	Command level 2	Command level 3	name=value pair 1	name=value pair 2	Use
omconfig					
	system				
		assetinfo			
			info=acquisition		
				costcenter=<*text*>	The name or code for the business entity that acquired the system.

Table 7-1. omconfig system assetinfo info=acquisition *(continued)*

Command level 1	Command level 2	Command level 3	name=value pair 1	name=value pair 2	Use
				expensed=yes | no	Whether the system is charged to a specific purpose or department such as research and development or sales.
				installdate=<*mmddyy*>	Date the system was put into service.
				ponum=<*n*>	Number of the document that authorized payment for the system.
				purchasecost=<*n*>	Price the owner paid for the system.
				purchasedate=<*mmddyy*>	Date the owner purchased the system.
				signauth=<*text*>	Name of the person who approved the purchase or the service call on the system.
				waybill=<*n*>	Receipt from the carrier for the goods received.

Example Commands for Adding Acquisition Information

To provide a value for an acquisition parameter, type a command of the form: **omconfig system assetinfo info=acquisition** <*name=value pair* 2>. For example, type:

```
omconfig system assetinfo info=acquisition purchasedate=122101
```

The following message appears:

```
Asset information set successfully.
```

You can enter more than one **omconfig system assetinfo** command at the same time, as long as all of the parameters for name=value pair 2 belong to the same name=value pair 1. For example, if you want to enter more than one parameter value for **info=acquisition**, use the following example as a syntax guide:

```
omconfig system assetinfo info=acquisition purchasecost=5000
waybill=123456 installdate=120501 purchasedate=050601 ponum=9999
signauth="John Smith" expensed=yes costcenter=finance
```

The following message appears:

```
Asset information set successfully.
```

Adding Depreciation Information

Depreciation is a set of methods for computing the devaluation of your asset over time. For example, the depreciation of a system that is expected to have a useful life of 5 years would be 20 percent. Use the **omconfig system assetinfo=depreciation** command to add details about how your system's depreciation is to be computed. Table 7-2 shows the valid parameters for the command.

Table 7-2. omconfig system assetinfo info=depreciation

Command level 1	Command level 2	Command level 3	name=value pair 1	name=value pair 2	Use
omconfig					
	system				
		assetinfo			
			info=depreciation		
				duration=<*n*>	Number of years or months over which a system is depreciated.
				method=<*text*>	Steps and assumptions used to compute the system's depreciation.
				percent=<*n*>	Portion of 100 that an asset is devalued or depreciated.
				unit=months | years	Unit is months or years.

Example Commands for Adding Depreciation Information

To provide a value for a depreciation parameter, type a command of the form: **omconfig system assetinfo info=depreciation** <*name=value pair* 2>. For example, type:

```
omconfig system assetinfo info=depreciation method=straightline
```

The following message appears:

```
Asset information set successfully.
```

You can enter more than one **omconfig system assetinfo** command at the same time, as long as all of the parameters for name=value pair 2 belong to the same name=value pair 1. For an example, see "Example Commands for Adding Acquisition Information."

Adding Extended Warranty Information

Use the **omconfig system extwarranty** command to assign values for extended warranty information. A warranty is a contract between the manufacturer or dealer and the purchaser of a system. The warranty identifies the components that are covered for repair or replacement for a specified length of time or usage. The extended warranty comes into force after the original warranty expires. For details on how to edit warranty values, see "Adding Warranty Information."

Table 7-3 shows the valid parameters for the command.

Table 7-3. omconfig system assetinfo info=extwarranty

Command level 1	Command level 2	Command level 3	name=value pair 1	name=value pair 2	Use
omconfig					
	system				
		assetinfo			
			info=extwarranty		
				cost=<*cost*>	Cost of the extended warranty service.
				enddate=<*enddate*>	Date the extended warranty agreement ends.
				provider=<*provider*>	Business entity that provides the extended warranty service.
				startdate=<*startdate*>	Date the extended warranty service begins.

Example Command for Adding Extended Warranty Information

To provide a value for an extended warranty parameter, type a command of the form: **omconfig system assetinfo info=extwarranty** <*name=value pair* 2>. For example, type:

```
omconfig system assetinfo info=extwarranty enddate=012503
```

The following message appears:

```
Asset information set successfully.
```

You can enter more than one **omconfig system assetinfo** command at the same time, as long as all of the parameters for name=value pair 2 belong to the same name=value pair 1. For an example, see "Example Commands for Adding Acquisition Information."

Adding Lease Information

A lease is an agreement to pay for the use of a system for a specified period of time. The lessor retains ownership of the system. Table 7-4 shows the valid parameters for the command.

Table 7-4. omconfig system assetinfo info=lease

Command level 1	Command level 2	Command level 3	name=value pair 1	name=value pair 2	Use
omconfig					
	system				
		assetinfo			
			info=lease		
				buyout=<*amount*>	Amount of money paid to purchase a system from a lessor.
				lessor=<*lessor*>	Business entity that is leasing the system out.
				multischedule=true | false	Whether cost of leasing the system is computed by more than one rate schedule.
				ratefactor=<*factor*>	Factor used to calculate the lease payment.
				value=<*residual*>	Fair market value of the system at the end of the lease period.

Example Command for Adding Lease Information

To provide a value for a lease parameter, type a command of the form: **omconfig system assetinfo info=lease** <*name=value pair* 2>. For example, type:

```
omconfig system assetinfo info=lease value=4500
```

The following message appears:

```
Asset information set successfully.
```

You can enter more than one **omconfig system assetinfo** command at the same time, as long as all of the parameters for name=value pair 2 belong to the same name=value pair 1. For an example, see "Example Commands for Adding Acquisition Information."

Adding Maintenance Information

Maintenance refers to activities required to keep the system in good working order. Table 7-5 shows the valid parameters for adding maintenance information.

Table 7-5. omconfig system assetinfo info=maintenance

Command level 1	Command level 2	Command level 3	name=value pair 1	name=value pair 2	Use
omconfig					
	system				
		assetinfo			
			info=maintenance		
				enddate=<*enddate*>	Date the extended warranty agreement ends.
				provider=<*provider*>	Business entity providing the maintenance service.
				startdate=<*startdate*>	Date the maintenance begins.
				restrictions=<*string*>	Activities not covered by the maintenance contract.

Example Command for Adding Maintenance Information

To provide a value for a maintenance parameter, type a command of the form: **omconfig system assetinfo info=maintenance** <*name=value pair 2*>. For example, type:

```
omconfig system assetinfo info=maintenance startdate=012504
```

The following message appears:

```
Asset information set successfully.
```

You can enter more than one **omconfig system assetinfo** command at the same time, as long as all of the parameters for name=value pair 2 belong to the same name=value pair 1. For an example, see "Example Commands for Adding Acquisition Information."

Adding Outsource Information

Outsourcing is the practice of contracting with another business to maintain the system in good working order. Table 7-6 shows the valid parameters for adding outsource information.

Table 7-6. omconfig system assetinfo info=outsource

Command level 1	Command level 2	Command level 3	name=value pair 1	name=value pair 2	Use
omconfig					
	system				
		assetinfo			
			info=outsource		
				levels=<*n*>	Levels of service offered by the provider.
				problemcomponent=<*component*>	System component that requires maintenance.
				providerfee=<*providerfee*>	Amount of money charged for maintenance.
				servicefee=<*servicefee*>	Amount of money charged for service.
				signauth=<*name*>	Person who signed or authorized the service.

Example Command for Adding Outsource Information

To provide a value for an outsource parameter, type a command of the form: **omconfig system assetinfo info=outsource** <*name=value pair 2*>. For example, type:

```
omconfig system assetinfo info=outsource providerfee=75
```

The following message appears:

```
Asset information set successfully.
```

You can enter more than one **omconfig system assetinfo** command at the same time, as long as all of the parameters for name=value pair 2 belong to the same name=value pair 1. For an example, see "Example Commands for Adding Acquisition Information."

Adding Owner Information

The owner is the party that holds legal property title to the system. Table 7-7 shows the valid parameters for adding owner information.

Table 7-7. omconfig system assetinfo info=owner

Command level 1	Command level 2	Command level 3	name=value pair 1	name=value pair 2	Use
omconfig					
	system				
		assetinfo			
			info=owner		
				insuranceco=<*company*>	Name of the insurance company that insures the system.
				ownername=<*business*>	Business entity that owns the system.
				type=owned | leased | rented	Whether the user of the system owns, leases, or rents the system.

Example Command for Adding Owner Information

To provide a value for an owner parameter, type a command of the form: **omconfig system assetinfo info=owner** <*name=value pair* 2>. For example, type:

```
omconfig system assetinfo info=owner type=rented
```

The following message appears:

```
Asset information set successfully.
```

You can enter more than one **omconfig system assetinfo** command at the same time, as long as all of the parameters for name=value pair 2 belong to the same name=value pair 1. For an example, see "Example Commands for Adding Acquisition Information."

Adding Service Contract Information

A service contract is an agreement that specifies fees for preventive maintenance and repair of the system. Table 7-8 shows the valid parameters for adding contract information.

Table 7-8. omconfig system assetinfo info=service

Command level 1	Command level 2	Command level 3	name=value pair 1	name=value pair 2	Use
omconfig					
	system				
		assetinfo			
			info=service		
				renewed=true | false	Whether the service agreement has been renewed.
				type=<*string*>	Type of service covered by the contract.
				vendor=<*business*>	Business entity that offers service on the system.

Example Command for Adding Service Information

To provide a value for a service parameter, type a command of the form: **omconfig system assetinfo info=service** <*name=value pair 2*>. For example, type:

```
omconfig system assetinfo info=service vendor=fixsystemco
```

The following message appears:

```
Asset information set successfully.
```

You can enter more than one **omconfig system assetinfo** command at the same time, as long as all of the parameters for name=value pair 2 belong to the same name=value pair 1. For an example, see "Example Commands for Adding Acquisition Information."

Adding Support Information

Support refers to technical assistance that the system user can seek when the user desires guidance on the proper use of a system to perform tasks. Table 7-9 shows the valid parameters for adding support information.

Table 7-9. omconfig system assetinfo info=support

Command level 1	Command level 2	Command level 3	name=value pair 1	name=value pair 2	Use
omconfig					
	system				
		assetinfo			
			info=support		
				automaticfix=<*programname*>	Name of any application used to fix a problem automatically.
				helpdesk=<*text*>	The help desk name or contact information such as a phone number, e-mail address, or web site address.
				outsourced=true | false	Whether an external business entity provides technical support or the system owner's employees provide technical support.
				type=network | storage	Whether support is for network attached devices or for storage devices.

Example Command for Adding Support Information

To provide a value for a support parameter, type a command of the form: **omconfig system assetinfo info=support** <*name=value pair 2*>. For example, type:

```
omconfig system assetinfo info=support outsourced=true
```

The following message appears:

```
Asset information set successfully.
```

You can enter more than one **omconfig system assetinfo** command at the same time, as long as all of the parameters for name=value pair 2 belong to the same name=value pair 1. For an example, see "Example Commands for Adding Acquisition Information."

Adding System Information

System information includes the primary user of the system, the phone number for the primary user, and the system location. Table 7-10 shows the valid parameters for adding system information.

Table 7-10. omconfig system assetinfo info=system

Command level 1	Command level 2	Command level 3	name=value pair 1	name=value pair 2	Use
omconfig					
	system				
		assetinfo			
			info=system		
				location=<*text*>	Location of the system.
				primaryphone=<*n*>	Phone number of the system's primary user.
				primaryuser=<*user*>	Primary user of the system.

Example Command for Adding System Information

To provide a value for a system parameter, type a command of the form: **omconfig system assetinfo info=system** <*name=value pair 2*>. For example, type:

```
omconfig system assetinfo info=system location=firstfloor
```

The following message appears:

```
Asset information set successfully.
```

You can enter more than one **omconfig system assetinfo** command at the same time, as long as all of the parameters for name=value pair 2 belong to the same name=value pair 1. For an example, see "Example Commands for Adding Acquisition Information."

Adding Warranty Information

Use the **omconfig system warranty** command to assign values for warranty information. A warranty is a contract between the manufacturer or dealer and the purchaser of a system. The warranty identifies the components that are covered for repair or replacement for a specified length of time or usage. For details on how to edit extended warranty values, see "Adding Extended Warranty Information." Table 7-11 shows the valid parameters for adding warranty information.

Table 7-11. omconfig system assetinfo info=warranty

Command level 1	Command level 2	Command level 3	name=value pair 1	name=value pair 2	Use
omconfig					
	system				
		assetinfo			
			info=warranty		
				cost=<*cost*>	Cost of the warranty service.
				duration=<*duration*>	Number of days or months that the warranty is in force.
				enddate=<*enddate*>	Date the warranty agreement ends.
				unit=days | months	Whether the number for duration refers to days or months.

Example Command for Adding Warranty Information

To provide a value for a warranty parameter, type a command of the form: **omconfig system assetinfo info=warranty** <*name=value pair* 2>. For example, type:

```
omconfig system assetinfo info=warranty unit=days
```

The following message appears:

```
Asset information set successfully.
```

You can enter more than one **omconfig system assetinfo** command at the same time, as long as all of the parameters for name=value pair 2 belong to the same name=value pair 1. For an example, see "Example Commands for Adding Acquisition Information."

8

Using the Storage Management Service

Storage Management has a fully-featured command line interface (CLI) that enables you to perform all of Storage Management's reporting, configuration, and management functions from an operating system command shell. The Storage Management CLI also enables you to script command sequences.

The Storage Management CLI provides expanded options for the Dell OpenManage™ Server Administrator **omreport** and **omconfig** commands. This chapter only documents the **omreport** and **omconfig** commands that apply to Storage Management. See the *Dell OpenManage Installation and Security User's Guide* for installation information. See the Storage Management online help and *Dell OpenManage Server Administrator Storage Management User's Guide*" for more information on Storage Management.

CLI Command Syntax

Like all the Dell OpenManage Server Administrator commands, the **omreport** and **omconfig** command syntax consists of specifying command "levels." The first command level is the command name: **omreport** or **omconfig**. Subsequent command levels provide a greater degree of specificity regarding the type of object on which the command will operate or the information that the command will display.

For example, the following **omconfig** command syntax has three levels:

```
omconfig storage adisk
```

The following table describes these command levels.

Table 8-1. Example Command Levels

Command level 1	Command level 2	Command level 3	Use
omconfig			Specifies the command
	storage		Indicates the Server Administrator service (in this case, Storage Management) that implements the command
		adisk	Specifies the type of object on which the command operates

Following the command levels, the **omreport** and **omconfig** command syntax may require one or more name=value pairs. The name=value pairs specify exact objects (such as a specific array disk) or options (such as "blink" or "unblink") that the command will implement.

For example, the following **omconfig** command syntax for blinking an array disk has three levels and three name=value pairs:

```
omconfig storage adisk action=blink controller=id adisk=<ADISKID>
```

where ADISKID=<connector:enclosureID:portID | connector:targetID>

In this example, the *id* in `controller=id` is the controller number such that controller 1 would be specified as controller=1.

Syntax for Required, Optional, and Variable Command Elements

The **omreport** and **omconfig** commands have multiple name=value pairs. These name=value pairs may include required, optional, and variable parameters. The following table describes the syntax used to indicate these parameters.

Table 8-2. Syntax For Name=Value Pairs For Parameters

Syntax	Description
controller=id	Indicates the controller ID as reported by the **omreport storage controller** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=id** to display the IDs for the array disks attached to the controller. For example, the **controller=id** parameter might be specified as **controller=1**.
connector=id	Indicates the connector ID as reported by the **omreport** command. To obtain this value, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage connector controller=id** to display the IDs for the connectors attached to the controller. For example, the **connector=id** parameter might be specified as **connector=2**.
vdisk=id	Indicates the virtual disk ID as reported by the **omreport** command. To obtain this value, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=id** to display the IDs for the virtual disks on the controller. For example, the **vdisk=id** parameter might be specified as **vdisk=3**.
enclosure= <ENCLOSUREID>	Indicates a particular enclosure by specifying either **enclosure=connector** or **enclosure=connector:enclosureID.** To obtain these values, you would enter **omreport storage controller** to display the controller IDs and then enter **omreport storage enclosure controller=id** to display the IDs for the enclosures attached to the controller.

Table 8-2. Syntax For Name=Value Pairs For Parameters *(continued)*

Syntax	Description
adisk=<ADISKID>	Indicates a particular array disk by specifying either **connector:targetID** or **connector:enclosureID:portID.**
	To obtain the values for the connector, enclosure, and array disk (targetID or portID), you would enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=id** to display the IDs for the array disks attached to the controller.
connectorNo:targetID	Indicates a particular array disk by specifying the controller connector that the array disk is attached to and the array disk number. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=id** to display the IDs for the array disks attached to the controller.
	For example, the **connectorNo:targetID** parameter might be specified as **0:3**.
battery=id	Indicates the battery ID as reported by the **omreport** command. To obtain this value, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage battery controller=id** to display the ID for the controller battery.
< >	The caret symbols (< >) enclose variable elements that you must specify.
	For example, the **name=<string>** parameter might be specified as **name=VirtualDisk1.**
[ ]	The bracket symbols ([ ]) indicate optional elements that you can choose to specify or not.
	For example, when creating a virtual disk, the [**name=<string>**] parameter indicates that you have the option of specifying the virtual disk name. If you omit this parameter from the syntax, then a default name for the virtual disk is chosen for you.
|	The pipe symbol (|) separates two or more options from which one only must be selected.
	For example, when creating a virtual disk, the **cachepolicy=d|c** indicates that the cache policy must be specified as either **cachepolicy=d** or **cachepolicy=c**.

User Privileges for omreport storage and omconfig storage

Storage Management requires Administrator privileges to use the **omconfig storage** command. User and Power User privileges are sufficient to use the **omreport storage** command.

omreport Command

The following sections provide the **omreport** command syntax required to display the status of various storage components.

omreport Storage Help

The following table provides the **omreport storage** command syntax.

Table 8-3. omreport storage help

Command Level 1	Command Level 2	Command Level 3	Use
omreport			
	storage		Displays a list of storage components for which **omreport** commands are available.
		adisk	Displays a list of the **omreport storage adisk** parameters for displaying array disk information.
		vdisk	Displays a list of **omreport storage vdisk** parameters for displaying virtual disk information.
		controller	Displays a list of the **omreport storage controller** parameters for displaying controller information.
		enclosure	Displays a list of the **omreport storage enclosure** parameters for displaying enclosure information.
		connector	Displays a list of the **omreport storage connector** parameters for displaying connector information.
		battery	Displays a list of the **omreport storage battery** parameters for displaying battery information.
		globalinfo	Displays a list of the **omreport storage globalinfo** parameters for displaying global storage property information.

omreport Controller Status

Table 8-4. omreport Controller Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs	Use
omreport storage controller		Displays property information for all controllers attached to the system.
	controller=id where *id* is the controller number. For example: controller=0	Displays the specified controller and all attached components such as enclosures, virtual disks, array disks, and so on.

omreport Global Information (Smart Thermal Shutdown Status)

Table 8-5. omreport Global Information Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs	Use
omreport storage globalinfo		Displays whether smart thermal shutdown is enabled or disabled. See the "**omconfig Global Enable Smart Thermal Shutdown**" command for more information.

omreport Battery Status

Table 8-6. omreport Battery Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs	Use
omreport storage battery		Displays all batteries present on all controllers on the system. (Some controllers do not have batteries).
	controller=id where *id* is the controller number. For example: controller=0	Displays the battery on the specified controller.

omreport Connector Status

Table 8-7. omreport Connector Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs	Use
omreport storage connector		Displays all connectors present on all controllers on the system.
	controller=id where *id* is the controller number. For example: controller=0	Displays the connector on the specified controller.
	controller=id where *id* is the controller number. For example: controller=0 **connector=id** where *id* is the connector number. For example: connector=0	Displays information for the specified connector on the controller.

omreport Enclosure Status

Table 8-8. omreport Enclosure Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs	Use
omreport storage enclosure		Displays property information for all enclosures attached to the system.
	controller=id enclosure=id where *id* is the controller number and the enclosure number. For example: controller=0 enclosure=2	Displays the specified enclosure and its components.

omreport Temperature Probe Status

Table 8-9. omreport Temperature Probe Commands

Required Command Levels (1, 2, 3) and name=value pair	Optional name=value pairs	Use
omreport storage enclosure		Displays property information for all enclosures attached to the system.
	controller=id enclosure=id info=temps	Displays the temperature probes for the specified enclosure.
	where *id* is the controller number and the enclosure number. For example: controller=0 enclosure=2	
	controller=id enclosure=id info=temps index=n	Displays the specified temperature probe.
	where *id* is the controller number and the enclosure number and "n" is the number of a temperature probe. For example: controller=0 enclosure=2 info=temps index=1	

omreport Fan Status

Table 8-10. omreport Fan Status

Required Command Levels (1, 2, 3) and name=value pair	Optional name=value pairs	Use
omreport storage enclosure		Displays property information for all enclosures attached to the system.
	controller=id enclosure=id info=fans	Displays the fans for the specified enclosure.
	where *id* is the controller number and the enclosure number. For example: controller=0 enclosure=2	
	controller=id enclosure=id info=fan index=n	Displays the specified fan.
	where *id* is the controller number and the enclosure number and "n" is the number of a fan. For example: controller=0 enclosure=2 info=fans index=1	

omreport Power Supply Status

Table 8-11. omreport Power Supply Commands

Required Command Levels (1, 2, 3) and name=value pair	Optional name=value pairs	Use
omreport storage enclosure		Displays property information for all enclosures attached to the system.
	controller=id enclosure=id info=pwrsupplies where *id* is the controller number and the enclosure number. For example: controller=0 enclosure=2	Displays the power supplies for the specified enclosure.
	controller=id enclosure=id info=pwrsupplies index=n where *id* is the controller number and the enclosure number and "n" is the number of a power supply. For example: controller=0 enclosure=2 info=pwrsupplies index=1	Displays the specified power supply.

omreport EMM Status

Table 8-12. omreport EMM Commands

Required Command Levels (1, 2, 3) and name=value pair	Optional name=value pairs	Use
omreport storage enclosure		Displays property information for all enclosures attached to the system.
	controller=id enclosure=id info=emms where *id* is the controller number and the enclosure number. For example: controller=0 enclosure=2	Displays the enclosure management modules (EMMs) for the specified enclosure.

Table 8-12. omreport EMM Commands *(continued)*

Required Command Levels (1, 2, 3) and name=value pair	Optional name=value pairs	Use
	controller=id enclosure=id info=emms index=n where *id* is the controller number and the enclosure number and "n" is the number of an EMM. For example: controller=0 enclosure=2 info=emms index=1	Displays the specified EMMs.

omreport Array Disk Status

Table 8-13. omreport Array Disk Commands

Required Command Levels (1, 2, 3) and name=value pair	Optional name=value pairs	Use
omreport storage adisk controller=id where *id* is the controller number. For example: controller=0		Displays all array disks attached to the specified controller.
	connector=id where *id* is the connector number. For example: connector=1	Displays all array disks attached to the specified connector on the controller.
	vdisk=id where *id* is the virtual disk number. For example: vdisk=1	Displays all array disks included in the specified virtual disk on the controller.
	adisk=connectorID:targetID where *id* is the connector and array disk number. For example: adisk=0:3	Displays the specified array disk on the specified connector on the controller.

omreport Virtual Disk Status

Table 8-14. omreport Virtual Disk Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs	Use
omreport storage vdisk		Displays property information for all virtual disks on all controllers.
	controller=id where *id* is the controller number. For example: controller=0.	Displays all virtual disks on the specified controller.
	controller=id vdisk=id where *id* is the controller number and the virtual disk number. For example: controller=0 vdisk=1.	Displays the specified virtual disk on the controller.

omconfig Global Commands

The following sections provide the **omconfig** command syntax required to execute the global commands. When executed, these commands apply to all controllers. These global commands also correspond to the global tasks provided by the Storage tree view object's **Information/Configuration** subtab.

Table 8-15. omconfig Global Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs
omconfig storage globalinfo	
	action=enablests
	action=disablests
	action=globalrescan

omconfig Global Enable Smart Thermal Shutdown

By default, the operating system and server shut down when the PV220S and PV221S enclosures reach a critical temperature of 0 or 50 degrees celsius. If you have implemented connector redundancy on the PV220S and PV221S enclosures, however, you can specify that only the enclosure and not the operating system and server be shut down when the enclosure reaches a critical temperature of 0 or 50 degrees celsius. Specifying that only the enclosure be shutdown during excessive temperatures is known as Smart Thermal Shutdown. See the online help for more information.

Use the following **omconfig** command syntax to enable smart thermal shutdown.

Complete Syntax

```
omconfig storage globalinfo action=enablests
```

Example Syntax

The **omconfig** command syntax for enabling thermal shutdown does not require that you specify a controller or enclosure ID. To enable thermal shutdown, enter the following:

```
omconfig storage globalinfo action=enablests
```

NOTE: You can use the **omreport storage globalinfo** command to determine whether smart thermal shutdown is currently enabled or disabled. The status of smart thermal shutdown is also displayed by the Server Administrator graphical user interface. To locate this status, select the Storage object and the **Information/Configuration** tab.

omconfig Global Disable Smart Thermal Shutdown

If you have previously enabled smart thermal shutdown using the **omconfig** command, you can disable smart thermal shutdown and return the system to its default setting. When smart thermal shutdown is disabled, the operating system and the server will shut down when the PV220S and PV221S enclosures reach a critical temperature of 0 or 50 degrees celsius.

Use the following **omconfig** command syntax to disable smart thermal shutdown. This command will disable smart thermal shutdown for all controllers.

Complete Syntax

```
omconfig storage globalinfo action=disablests
```

Example Syntax

The **omconfig** command syntax for disabling thermal shutdown does not require that you specify a controller or enclosure ID. To disable thermal shutdown, enter the following:

```
omconfig storage globalinfo action=disablests
```

NOTE: You can use the **omreport storage globalinfo** command to determine whether smart thermal shutdown is currently enabled or disabled. The status of smart thermal shutdown is also displayed by the Server Administrator graphical user interface. To locate this status, select the Storage object and the **Information/Configuration** tab.

omconfig Global Rescan Controller

Use the following **omconfig** command syntax to rescan all controllers on the system. See the online help for more information about using this command.

Complete Syntax

```
omconfig storage globalinfo action=globalrescan
```

Example Syntax

The **omconfig** command syntax for rescanning all controllers on the system does not require that you specify a controller ID. To do a global rescan of all controllers, enter the following:

```
omconfig storage globalinfo action=globalrescan
```

NOTE: Global rescan is not supported on non-RAID SCSI controllers. You must reboot the system before Storage Management can see configuration changes on non-RAID SCSI controllers.

omconfig Controller Commands

The following sections provide the **omconfig** command syntax required to execute controller tasks.

NOTICE: The **omconfig storage controller action=resetconfig controller=id** resets the controller configuration. Resetting the controller configuration permanently destroys all data on all virtual disks attached to the controller. If the system or boot partition resides on these virtual disks, it will be destroyed.

Table 8-16. omconfig Controller Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs
omconfig storage controller	
	action=rescan controller=id
	action=globalrescan
	action=enablealarm controller=id
	action=disablealarm controller=id
	action=quietalarm controller=id
	action=testalarm controller=id
	action=resetconfig controller=id [force=yes]
	action=createvdisk controller=id raid=<c| r0| r1| r1c| r5| r10| r50> size=<number | max | min> adisk=<ADISKID> [stripesize=< 2kb| 4kb| 8kb| 16kb| 32kb| 64kb| 128kb>] [cachepolicy=<d | c>] [readpolicy=<ra| nra| ara| rc| nrc>] [writepolicy=<wb | wt | wc | nwc | fwb>] [name=<string>] [spanlength=<n>]
	action=setrebuildrate controller=id rate=<0 to 100>
	action=setbgirate controller=id rate=<0 to 100 >
	action=setreconstructrate controller=id rate=<0 to 100>
	action=setcheckconsistency controller=id rate=<0 to 100>
	action=exportlog controller=id
	action=importforeignconfig controller=id
	action=clearforeignconfig controller=id

Table 8-16. omconfig Controller Commands *(continued)*

Required Command Levels (1, 2, 3)	Optional name=value pairs
	action=setpatrolreadmode controller=id mode=manual | auto | disable
	action=startpatrolread controller=id
	action=stoppatrolread controller=id

omconfig Rescan Controller

Use the following **omconfig** command syntax to rescan a controller. See the online help for more information about using this command.

Complete Syntax

```
omconfig storage controller action=rescan controller=id
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to rescan controller 1, enter:

```
omconfig storage controller action=rescan controller=1
```

NOTE: The rescan controller is not supported on non–RAID SCSI controllers. You must reboot the system before Storage Management can see configuration changes on non-RAID SCSI controllers.

omconfig Global Rescan Controller

The **omconfig storage controller action=globalrescan** command was supported in previous releases of Storage Management. This command has been replaced by the **omconfig storage globalinfo action=globalrescan** command. When rescanning all controllers on the system and creating CLI scripts, it is preferable to use the **omconfig storage globalinfo action=globalrescan** command.

See the online help for more information about using this command.

omconfig Enable Controller Alarm

Use the following **omconfig** command syntax to enable the controller alarm. See the online help for more information about using this command.

Complete Syntax

```
omconfig storage controller action=enablealarm controller=id
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to enable the alarm on controller 1, enter:

```
omconfig storage controller action=enablealarm controller=1
```

omconfig Disable Controller Alarm

Use the following **omconfig** command syntax to disable the controller alarm. See the online help for more information about using this command.

Complete Syntax

```
omconfig storage controller action=disablealarm controller=id
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to disable the alarm on controller 1, enter:

```
omconfig storage controller action=disablealarm controller=1
```

omconfig Quiet Controller Alarm

Use the following **omconfig** command syntax to silence an activated controller alarm. See the online help for more information about using this command.

Complete Syntax

```
omconfig storage controller action=quietalarm controller=id
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to quiet the alarm on controller 1, enter:

```
omconfig storage controller action=quietalarm controller=1
```

omconfig Test Controller Alarm

Use the following **omconfig** command syntax to test the functionality of the controller alarm. The alarm will sound for about two seconds. See the online help for more information about using this command.

Complete Syntax

```
omconfig storage controller action=testalarm controller=id
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to test the alarm on controller 1, enter:

```
omconfig storage controller action=testalarm controller=1
```

omconfig Reset Controller Configuration

Use the following **omconfig** command syntax to reset the controller configuration.

NOTICE: Resetting a configuration permanently destroys all data on all virtual disks attached to the controller. If the system or boot partition resides on these virtual disks, it will be destroyed. You may receive a warning message if this command will result in deleting the system or boot partition. However, this warning message is not generated in all circumstances. You should be certain that you are not deleting the system or boot partition or other vital data when using this command.

Complete Syntax

```
omconfig storage controller action=resetconfig controller=id
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

In some circumstances, you may receive a warning message if this command will delete the system or boot partition. You can override this warning by using the [**force=yes**] parameter. In this case, the syntax is as follows:

```
omconfig storage controller action=resetconfig controller=id [force=
yes]
```

Example Syntax

For example, to reset the configuration on controller 1, enter:

```
omconfig storage controller action=resetconfig controller=1
```

omconfig Create Virtual Disk

The online help provides additional information about creating virtual disks.

The **omconfig** syntax for creating a virtual disk has several parameters. You must specify the following parameters:

- Controller (controller=id)
- RAID level (raid=<c| r0| r1| r1c| r5| r10| r50>)
- Size (size=<number | max | min>)
- Array disk is specified as either:

  adisk=connector:enclosureID:portID

  or

  adisk=connector:targetID

The **omconfig** command supplies default values for any of the other parameters that you do not specify.

Complete Syntax

```
omconfig storage controller action=createvdisk controller=id raid=<c|
r0| r1| r1c| r5| r10| r50> size=<number | max | min> adisk=<ADISKID>
[stripesize=< 2kb| 4kb| 8kb| 16kb| 32kb| 64kb| 128kb>] [cachepolicy=<d |
c>] [readpolicy=<ra | nra | ara | rc| nrc>] [writepolicy=<wb| wt| wc| nwc
| fwb>] [name=<string>] [spanlength=<n>]
```

Parameter Specification for Create and Reconfigure Virtual Disk

The following sections indicate how to specify the **omconfig storage controller action=createvdisk** parameters.

controller=id Parameter (Required)

raid=<c| r0| r1| r1c| r5| r10| r50> Parameter (Required)

size=<number | max | min> Parameter (Required)

adisk=<connector:targetID,connector:targetID,.....> Parameter (Required)

[stripesize=< 2kb| 4kb| 8kb| 16kb| 32kb| 64kb| 128kb>] Parameter (Optional)

[cachepolicy=<d | c>] Parameter (Optional)

[readpolicy=<ra| nra| ara| rc| nrc>] Parameter (Optional)

[writepolicy=<wb| wt| wc| nwc | fwb>] Parameter (Optional)

[name=<string>] Parameter (Optional)

[spanlength=<n>] Parameter (Optional)

controller=id Parameter (Required)

Specify the controller ID as reported by the **omreport storage controller** command. For example:

```
controller=2
```

raid=<c| r0| r1| r1c| r5| r10| r50> Parameter (Required)

Use the **raid=<c| r0| r1| r1c| r5| r10| r50>** parameter to specify concatenation or a RAID level for a virtual disk. Different controllers support different RAID levels. See the online help for information on the RAID levels a controller supports and for general information about RAID levels and concatenation. The following table indicates how to specify the raid=n parameter for each RAID level and concatenation.

Table 8-17. Raid Level and Concatenation

RAID Level or Concatenation	raid=n Parameter Specification
RAID 0	raid=r0
RAID 1	raid=r1
RAID 5	raid=r5

Table 8-17. Raid Level and Concatenation *(continued)*

RAID Level or Concatenation	raid=n Parameter Specification
RAID 10	raid=r10
RAID 50	raid=r50
RAID 1-concatenated	raid=r1c
Concatenation	raid=c

size=<number | max | min> Parameter (Required)

The following table indicates how to specify the **size=<number | max | min>** parameter.

Table 8-18. Size Parameter

size=<number | max | min> Parameter Specification	Description
size=<n>	Use this specification to indicate a specific size for the virtual disk. The virtual disk size may be specified in b (bytes), m (megabytes), or g (gigabytes). For example, **size=500m** indicates that the virtual disk should be 500 MB.
size=max	To create a virtual disk that is the maximum size possible, specify **size=max**. When creating a RAID 50 virtual disk, this parameter must be specified as **size=max**.
size=min	To create a virtual disk that is the minimum size possible, specify **size=min**.

ADISKID=<connector:enclosureID:portID | connector:targetID>

Use this parameter to specify the array disks that will be included in the virtual disk.

When reconfiguring a virtual disk, you must specify all array disks to be included in the reconfigured virtual disk. The array disk specification applies to array disks that were in the original virtual disk and will continue to be in the reconfigured virtual disk and to any new array disks being added to the reconfigured virtual disk. Some controllers allow you to remove an array disk from a virtual disk. In this case, you would not specify the array disk to be removed.

The **adisk=<ADISKID>** parameter indicates an array disk by specifying either **connector:enclosureID:portID** or **connector:targetID**.

```
stripesize=< 2kb| 4kb| 8kb| 16kb| 32kb| 64kb| 128kb>] Parameter
(Optional)
```

Different controllers support different stripe sizes. See the online help for information on which stripe sizes are supported for a controller. All stripe sizes are specified in kilobytes. For example, when specifying 128 KB as the stripe size, enter:

```
stripesize=128kb
```

[cachepolicy=<d | c>] Parameter (Optional)

Different controllers support different cache policies. See the online help for more information. The following table indicates how to specify the [**cachepolicy=<d | c>**] parameter for each of the cache policies.

Table 8-19. Cache Policy Parameters

Cache Policy	cachepolicy=d | c Parameter Specification
Direct I/O	cachepolicy=d
Cache I/O	cachepolicy=c

[readpolicy=<ra| nra| ara| rc| nrc>] Parameter (Optional)

Different controllers support different read policies. See the online help for more information. The following table indicates how to specify the [**readpolicy=<ra| nra| ara| rc| nrc>**] parameter for each of the read policies.

Table 8-20. Read Policy Paramaters

Read Policy	readpolicy=ra | ara | nra | rc | nrc Parameter Specification
Read ahead	readpolicy=ra
Adaptive read ahead	readpolicy=ara
No read ahead	readpolicy=nra
Read cache	readpolicy=rc
No read cache	readpolicy=nrc

[writepolicy=<wb| wt| wc| nwc>] Parameter (Optional)

Different controllers support different write policies. See the online help for more information. The following table indicates how to specify the [**writepolicy=<wb| wt| wc| nwc | fwb>]** parameter for each of the write policies.

Table 8-21. Write Policy Parameters

Write Policy	writepolicy=wb | wt | wc | nwc Parameter Specification
Write–back cache	writepolicy=wb
Write–through cache	writepolicy=wt
Write cache	writepolicy=wc
Force write back	writepolicy=fwb
No write cache	writepolicy=nwc

[name=<string>] Parameter (Optional)

Use this parameter to specify a name for the virtual disk. For example:

```
name=VirtualDisk1
```

NOTE: The CERC SATA 1.5/2s controller does not allow you to specify a virtual disk name. The virtual disk will be created with a default name.

[spanlength=<n>] Parameter (Required for RAID 50)

Use this parameter to specify the number of array disks to be included in each stripe. This parameter only applies to RAID 50 virtual disks. If you are not creating a RAID 50 virtual disk, do not specify this parameter. For example:

```
spanlength=3
```

Example Syntax

For example, you may want to create a RAID 5 virtual disk on a PERC 3/QC controller. The online help will help you understand which read, write, and cache policies are supported by this controller. In this example, you decide to create a virtual disk with the following read, write, and cache policy:

- Read-ahead
- Write–through caching
- Cache I/O

The virtual disk will be 500 MB with a stripe size of 16 KB. The name of the virtual disk will be **vd1** and it will reside on connector 0 of controller 1. Because the virtual disk will be a RAID 5, it requires at least three array disks. In this example, you specify four array disks. These are array disks 0 through 3.

To create the virtual disk described in this example, enter:

```
omconfig storage controller action=createvdisk controller=1 raid=r5
size=500m adisk=0:0,0:1,0:2,0:3 stripesize=16kb cachepolicy=c
readpolicy=ra writepolicy=wt
```

The only parameters that require specification are for the controller, RAID level, virtual disk size, and array disk selection. The **omconfig** command supplies default values for all other unspecified parameters.

omconfig Set Controller Rebuild Rate

Use the following **omconfig** command syntax to set the controller rebuild rate:

Complete Syntax

```
omconfig storage controller action=setrebuildrate controller=id rate=
<0 to 100>
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to set the rebuild rate to 50 on controller 1, enter:

```
omconfig storage controller action=setrebuildrate controller=1 rate=50
```

omconfig Set Background Initialization Rate

Use the following **omconfig** command syntax to set the background initialization rate.

Complete Syntax

```
omconfig storage controller action=setbgirate controller=id rate=<0
to 100>
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to set the background initialization rate to 50 on controller 1, enter:

```
omconfig storage controller action=setbgirate controller=1 rate=50
```

omconfig Set Reconstruct Rate

Use the following **omconfig** command syntax to set the reconstruct rate.

Complete Syntax

```
omconfig storage controller action=setreconstructrate controller=id
rate=<0 to 100>
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to set the reconstruct rate to 50 on controller 1, enter:

```
omconfig storage controller action=setreconstructrate controller=1
rate=50
```

omconfig Set Check Consistency Rate

Use the following **omconfig** command syntax to set the check consistency rate.

Complete Syntax

```
omconfig storage controller action=setcheckconsistency controller=id
rate=<0 to 100>
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to set the check consistency rate to 50 on controller 1, enter:

```
omconfig storage controller action=setcheckconsistency controller=1
rate=50
```

omconfig Export the Controller Log

Use the following **omconfig** command syntax to export the controller log to a text file. For more information about the exported log file, see the online help.

Complete Syntax

```
omconfig storage controller action=exportlog controller=id
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to export the log on controller 1, enter:

```
omconfig storage controller action=exportlog controller=1
```

By default, the log file is exported to the <*install-directory*>/sm directory where <*install-directory*> is the directory where you have installed Server Administrator.

Depending on the controller, the log file name will be either **afa_**<*mmdd*>**.log** or **lsi_**<*mmdd*>**.log** where <*mmdd*> is the month and date. For more information on the controller log file, see the online help.

NOTE: The export log file command is not supported on the PERC 2/SC, 2/DC, 4/IM, CERC ATA 100/4ch, and CERC SATA 1.5/2s controllers.

omconfig Import Foreign Configuration

Use the following **omconfig** command syntax to import all virtual disks that reside on array disks newly attached to the controller.

Complete Syntax

```
omconfig storage controller action=importforeignconfig controller=id
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to import foreign configurations on controller 1, enter:

```
omconfig storage controller action=importforeignconfig controller=1
```

omconfig Clear Foreign Configuration

Use the following **omconfig** command syntax to clear or delete all virtual disks that reside on array disks that are newly attached to the controller.

Complete Syntax

```
omconfig storage controller action=clearforeignconfig controller=id
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to cancel foreign configurations on controller 1, enter:

```
omconfig storage controller action=clearforeignconfig controller=1
```

omconfig Set Patrol Read Mode

Use the following omconfig command syntax to set the patrol read mode for the controller.

Complete Syntax

```
omconfig storage controller action=setpatrolreadmode controller=id
mode=manual|auto|disable
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to set the patrol read on controller 1 to manual mode, enter:

```
omconfig storage controller action=setpatrolreadmode controller=1
mode=manual
```

omconfig Start Patrol Read

Use the following **omconfig** command syntax to start the patrol read task on the controller.

Complete Syntax

```
omconfig storage controller action=startpatrolread controller=id
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to start the patrol read task on controller 1, enter:

```
omconfig storage controller action=startpatrolread controller=1
```

omconfig Stop Patrol Read

Use the following **omconfig** command syntax to stop the patrol read task on the controller.

Complete Syntax

```
omconfig storage controller action=stoppatrolread controller=id
```

where *id* is the controller ID as reported by the **omreport storage controller** command.

Example Syntax

For example, to stop the patrol read task on controller 1, enter:

```
omconfig storage controller action=stoppatrolread controller=1
```

omconfig Virtual Disk Commands

The following sections provide the **omconfig** command syntax required to execute virtual disk tasks.

NOTICE: The **omconfig storage vdisk action=deletevdisk controller=id vdisk=id** command deletes a virtual disk. Deleting a virtual disk destroys all information including file systems and volumes residing on the virtual disk.

Table 8-22. omconfig Manage Virtual Disk Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs
omconfig storage vdisk	
	action=checkconsistency controller=id vdisk=id
	action=cancelcheckconsistency controller=id vdisk=id
	action=pausecheckconsistency controller=id vdisk=id
	action=resumecheckconsistency controller=id vdisk=id
	action=blink controller=id vdisk=id
	action=unblink controller=id vdisk=id
	action=initialize controller=id vdisk=id
	action=fastinit controller=id vdisk=id
	action=slowinit controller=id vdisk=id
	action=cancelinitialize controller=id vdisk=id
	action=cancelbginitialize controller=id vdisk=id
	action=restoresegments controller=id vdisk=id
	action=splitmirror controller=id vdisk=id
	action=unmirror controller=id vdisk=id

Table 8-22. omconfig Manage Virtual Disk Commands *(continued)*

Required Command Levels (1, 2, 3)	Optional name=value pairs
	action=assigndedicatedhotspare controller=id vdisk=id adisk=<ADISKID> assign=<yes | no>
	action=deletevdisk controller=id vdisk=id [force=yes]
	action=format controller=id vdisk=id
	action=reconfigure controller=id vdisk=id raid=<c | r0 | r1 | r1c | r5 | r10> size=<size> adisk=<ADISKID>
	action=changepolicy controller=id vdisk=id [readpolicy=<ra | nra | ara | rc | nrc> | writepolicy=<wb | wt | wc | nwc | fwb> | cachepolicy=<d | c>]
	action=rename controller=id vdisk=id

omconfig Blink Virtual Disk

Use the following **omconfig** command syntax to blink the array disks included in a virtual disk.

Complete Syntax

```
omconfig storage vdisk action=blink controller=id vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the omreport command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to blink the array disks in virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=blink controller=1 vdisk=4
```

omconfig Unblink Virtual Disk

Use the following **omconfig** command syntax to unblink the array disks included in a virtual disk.

Complete Syntax

```
omconfig storage vdisk action=unblink controller=id vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to blink the array disks in virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=unblink controller=1 vdisk=4
```

omconfig Initialize Virtual Disk

Use the following **omconfig** command syntax to initialize a virtual disk.

Complete Syntax

```
omconfig storage vdisk action=initialize controller=id vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to initialize virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=initialize controller=1 vdisk=4
```

omconfig Cancel Initialize Virtual Disk

Use the following **omconfig** command syntax to cancel the initialization of a virtual disk.

Complete Syntax

```
omconfig storage vdisk action=cancelinitialize controller=id vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to cancel the initialization of virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=cancelinitialize controller=1 vdisk=4
```

omconfig Fast Initialize Virtual Disk

Use the following **omconfig** command syntax to fast initialize a virtual disk.

Complete Syntax

```
omconfig storage vdisk action=fastinit controller=id vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, you would enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to fast initialize virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=fastinit controller=1 vdisk=4
```

omconfig Slow Initialize Virtualize Disk

Use the following **omconfig** command syntax to slow initialize a virtual disk.

Complete Syntax

```
omconfig storage vdisk action=slowinit controller=id vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, you would enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to slow initialize virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=slowinit controller=1 vdisk=4
```

omconfig Cancel Background Initialize

Use the following **omconfig** command syntax to cancel the background initialization process on a virtual disk.

Complete Syntax

```
omconfig storage vdisk action=cancelbginitialize controller=id
vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to cancel background initialization on virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=cancelbginitialize controller=1 vdisk=4
```

omconfig Restore Dead Segments

Use the following **omconfig** command syntax to recover data from a RAID 5 virtual disk that has been corrupted. This task attempts to reconstruct data from a corrupt portion of an array disk included in a RAID 5 virtual disk.

Complete Syntax

```
omconfig storage vdisk action=restoresegments controller=id vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to restore segments on virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=restoresegments controller=1 vdisk=4
```

omconfig Split Mirror

Use the following **omconfig** command syntax to separate mirrored data originally configured as a RAID 1, RAID 1–concatenated, or RAID 10 virtual disk. Splitting a RAID 1 or RAID 1–concatenated mirror creates two concatenated nonredundant virtual disks. Splitting a RAID 10 mirror creates two RAID 0 (striped) nonredundant virtual disks. Data is not lost during this operation.

Complete Syntax

```
omconfig storage vdisk action=splitmirror controller=id vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to initiate a split mirror on virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=splitmirror controller=1 vdisk=4
```

omconfig Unmirror

Use the following **omconfig** command syntax to separate mirrored data and restore one half of the mirror to free space. Unmirroring a RAID 1 or RAID 1–concatenated virtual disk results in a single, nonredundant concatenated virtual disk. Unmirroring a RAID 10 virtual disk results in a single, nonredundant RAID 0 (striped) virtual disk. Data is not lost during this operation. See the online help for more information about using this command.

Complete Syntax

```
omconfig storage vdisk action=unmirror controller=id vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to unmirror virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=unmirror controller=1 vdisk=4
```

omconfig Assign Dedicated Hot Spare

Use the following **omconfig** command syntax to assign one or more array disks to a virtual disk as a dedicated hot spare.

NOTE: The PERC 2/SC, 2/DC, and CERC SATA 1.5/2s controllers do not support dedicated hot spares.

Complete Syntax

```
omconfig storage vdisk action=assigndedicatedhotspare controller=id
vdisk=id adisk=<ADISKID> assign=yes
```

where *id* is the controller ID and virtual disk ID. The **<ADISK>** variable specifies the array disk.

To obtain the values for the controller, virtual disk and array disk, you would enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** and **omreport storage adisk controller=ID** to display the IDs for the virtual disks and array disks attached to the controller.

Example Syntax

In this example, you are assigning array disk 3 on connector 0 of controller 1 as a dedicated hot spare to virtual disk 4. On a Serial Attached SCSI (SAS) controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To assign the dedicated hot spare described in this example, enter:

```
omconfig storage vdisk action=assigndedicatedhotspare controller=1
vdisk=4 adisk=0:3 assign=yes
```

Example for SAS Controllers:

To assign the dedicated hot spare described in this example, enter:

```
omconfig storage vdisk action=assigndedicatedhotspare controller=1
vdisk=4 adisk=0:2:3 assign=yes
```

omconfig Unassign Dedicated Hot Spare

Use the following **omconfig** command syntax to unassign one or more array disks that were previously assigned as a hot spare to a virtual disk.

Complete Syntax

```
omconfig storage vdisk action=assigndedicatedhotspare controller=id
vdisk=id adisk=<ADISKID> assign=no
```

where *id* is the controller ID and virtual disk ID. The **<ADISK>** variable specifies the array disk.

To obtain the values for the controller, virtual disk and array disk, you would enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** and **omreport storage adisk controller=ID** to display the IDs for the virtual disks and array disks attached to the controller.

Example Syntax

In this example, you are unassigning array disk 3 on connector 0 of controller 1 as a dedicated hot spare to virtual disk 4. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To unassign the dedicated hot spare described in this example, enter:

```
omconfig storage vdisk action=assigndedicatedhotspare controller=1
vdisk=4 adisk=0:3 assign=no
```

Example for SAS Controllers:

To unassign the dedicated hot spare described in this example, enter:

```
omconfig storage vdisk action=assigndedicatedhotspare controller=1
vdisk=4 adisk=0:2:3 assign=no
```

omconfig Check Consistency

Use the following **omconfig** command syntax to initiate a check consistency on a virtual disk. The check consistency task verifies the virtual disk's redundant data.

Complete Syntax

```
omconfig storage vdisk action=checkconsistency controller=id vdisk=
id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to run a check consistency on virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=checkconsistency controller=1 vdisk=4
```

omconfig Cancel Check Consistency

Use the following **omconfig** command syntax to cancel a check consistency while it is in progress.

Complete Syntax

```
omconfig storage vdisk action=cancelcheckconsistency controller=id
vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to cancel a check consistency on virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=cancelcheckconsistency controller=1
vdisk=4
```

omconfig Pause Check Consistency

Use the following **omconfig** command syntax to pause a check consistency while it is in progress. See the online help for more information.

Complete Syntax

```
omconfig storage vdisk action=pausecheckconsistency controller=id
vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to pause a check consistency on virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=pausecheckconsistency controller=1
vdisk=4
```

omconfig Resume Check Consistency

Use the following **omconfig** command syntax to resume a check consistency after it has been paused.

Complete Syntax

```
omconfig storage vdisk action=resumecheckconsistency controller=id
vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to resume a check consistency on virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=resumecheckconsistency controller=1
vdisk=4
```

omconfig Delete Virtual Disk

Use the following **omconfig** command syntax to delete a virtual disk.

NOTICE: Deleting a virtual disk destroys all information including file systems and volumes residing on the virtual disk. You may receive a warning message if you attempt to delete the system or boot partition. However, this warning message is not generated in all circumstances. You should be certain that you are not deleting the system or boot partition or other vital data when using this command.

Complete Syntax

```
omconfig storage vdisk action=deletevdisk controller=id vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

In some circumstances, you may receive a warning message if you attempt to delete a virtual disk containing the system or boot partition. You can override this warning by using the [**force=yes**] parameter. In this case, the syntax is as follows:

```
omconfig storage vdisk action=deletevdisk controller=id vdisk=id
[force=yes]
```

Example Syntax

For example, to delete virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=deletevdisk controller=1 vdisk=4
```

omconfig Format Virtual Disk

Use the following **omconfig** command syntax to format a virtual disk.

Complete Syntax

```
omconfig storage vdisk action=format controller=id vdisk=id
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to format virtual disk 4 on controller 1, enter:

```
omconfig storage vdisk action=format controller=1 vdisk=4
```

omconfig Reconfiguring Virtual Disks

You can reconfigure a virtual disk in order to change the virtual disk's RAID level or increase its size by adding array disks. On some controllers, you can also remove array disks.

Complete Syntax

```
omconfig storage vdisk action=reconfigure controller=id vdisk=id
raid=<c| r0| r1| r1c| r5| r10> size=<size> adisk=<ADISK>
```

Example Syntax

For example, to reconfigure virtual disk 4 to a size of 800 MB, use RAID 5 and array disks 0 through 3 on connector 0 of controller 1. On a SAS controller, the array disks reside in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

In this example, enter:

```
omconfig storage vdisk action=reconfigure controller=1 vdisk=4 raid=
r5 size=800m adisk=0:0,0:1,0:2,0:3
```

Example for SAS Controllers:

In this example, enter:

```
omconfig storage vdisk action=reconfigure controller=1 vdisk=4 raid=
r5 size=800m adisk=0:2:0,0:2:1,0:2:2,0:2:3
```

omconfig Change Virtual Disk Policy

Use the following **omconfig** command syntax to change a virtual disk's read, write, or cache policy.

Complete Syntax

```
omconfig storage vdisk action=changepolicy controller=id vdisk=id
[readpolicy=<ra| nra| ara| rc| nrc> | writepolicy=<wb| wt| wc| nwc> |
cachepolicy=<d | c>]
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

For information on the controller-specific read, write, and cache policy, see the online help. For information on how to specify these parameters using the **omconfig** command, see the following:

- [readpolicy=<ra| nra| ara| rc| nrc>] Parameter (Optional)
- [writepolicy=<wb| wt| wc| nwc | fwb>] Parameter (Optional)
- [cachepolicy=<d | c>] Parameter (Optional)

Example Syntax

For example, to change the read policy of virtual disk 4 on controller 1 to no-read-ahead, enter:

```
omconfig storage vdisk action=changepolicy controller=1 vdisk=4
readpolicy=nra
```

omconfig Rename Virtual Disk

Use the following **omconfig** command syntax to rename a virtual disk.

NOTE: On a CERC SATA 1.5/2s controller, you cannot change the default name of a virtual disk.

Complete Syntax

```
action=rename controller=id vdisk=id name=<string>
```

where *id* is the controller ID and virtual disk ID as reported by the **omreport** command and <string> is the new name for the virtual disk. To obtain the values for controller ID and virtual disk ID, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage vdisk controller=ID** to display the IDs for the virtual disks attached to the controller.

Example Syntax

For example, to rename virtual disk 4 on controller 1 to vd4, enter:

```
omconfig storage vdisk action=rename controller=1 vdisk=4 name=vd4
```

omconfig Array Disk Commands

The following sections provide the **omconfig** command syntax required to execute array disk tasks.

Table 8-23. omconfig Array Disk Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs
omconfig storage adisk	
	action=blink controller=id adisk=<ADISKID>
	action=unblink controller=id adisk=<ADISKID>
	action=remove controller=id adisk=<ADISKID>
	action=initialize controller=id adisk=<ADISKID>
	action=offline controller=id adisk=<ADISKID>
	action=online controller=id adisk=<ADISKID>
	action=assignglobalhotspare controller=id adisk=<ADISKID> assign=<yes|no>
	action=rebuild controller=id adisk=<ADISKID>
	action=cancelrebuild controller=id adisk=<ADISKID>
	action=removedeadsegments controller=id adisk=<ADISKID>

omconfig Blink Array Disk

You can blink the light (light emitting diode or LED display) on one or more array disks attached to a controller. Use the following **omconfig** command syntax to blink one or more array disks.

Complete Syntax

```
action=blink controller=ID action=blink controller=id adisk=
<ADISKID>
```

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to blink array disks 0 through 2 on connector 0 of controller 1. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To blink the array disks described in this example, enter:

```
omconfig storage adisk action=blink controller=1 adisk=0:0,0:1,0:2
```

Example for SAS Controllers:

To blink the array disks described in this example, enter:

```
omconfig storage adisk action=blink controller=1 adisk=
0:2:0,0:2:1,0:2:2
```

omconfig Unblink Array Disk

You unblink the light (light emitting diode or LED display) on one or more array disks attached to a controller. Use the following **omconfig** command syntax to unblink one or more array disks.

Complete Syntax

omconfig storage adisk action=unblink controller=id adisk=<ADISKID>

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to unblink array disks 0 through 2 on connector 0 of controller 1. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To unblink the array disks described in this example, enter:

```
omconfig storage adisk action=unblink controller=1 adisk=0:0,0:1,0:2
```

Example for SAS Controllers:

To unblink the array disks described in this example, enter:

```
omconfig storage adisk action=unblink controller=1 adisk=
0:2:0,0:2:1,0:2:2
```

omconfig Prepare to Remove Array Disk

Use the following **omconfig** command syntax to prepare an array disk for removal:

Complete Syntax

```
omconfig storage adisk action=remove controller=id adisk=<ADISKID>
```

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to prepare array disk 3 on connector 0 of controller 1 for removal. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To prepare to remove the array disk described in this example, enter:

```
omconfig storage adisk action=remove controller=1 adisk=0:3
```

Example for SAS Controllers:

To prepare to remove the array disk described in this example, enter:

```
omconfig storage adisk action=remove controller=1 adisk=0:2:3
```

omconfig Initialize Array Disk

Use the following **omconfig** command syntax to initialize an array disk.

Complete Syntax

```
omconfig storage adisk action=initialize controller=id adisk=
<ADISKID>
```

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to initialize array disk 3 on connector 0 of controller 1. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To initialize the array disk described in this example, enter:

```
omconfig storage adisk action=initialize controller=1 adisk=0:3
```

Example for SAS Controllers:

To initialize the array disk described in this example, enter:

```
omconfig storage adisk action=initialize controller=1 adisk=0:2:3
```

omconfig Offline Array Disk

Use the following **omconfig** command syntax to offline an array disk:

Complete Syntax

```
omconfig storage adisk action=offline controller=id adisk=
connectorID:targetID
```

where *id* is the controller ID and `connectorID:targetID` is the connector number and array disk number as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

For example, to offline array disk 3 on connector 0 of controller 1, enter:

```
omconfig storage adisk action=offline controller=1 adisk=0:3
```

omconfig Offline Array Disk

Use the following **omconfig** command syntax to offline an array disk:

Complete Syntax

```
omconfig storage adisk action=offline controller=id adisk=<ADISKID>
```

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to offline array disk 3 on connector 0 of controller 1. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To offline the array disk described in this example, enter:

```
omconfig storage adisk action=offline controller=1 adisk=0:3
```

Example for SAS Controllers:

To offline the array disk described in this example, enter:

```
omconfig storage adisk action=offline controller=1 adisk=0:2:3
```

omconfig Online Array Disk

Use the following **omconfig** command syntax to bring an offline array disk back online.

Complete Syntax

```
omconfig storage adisk action=online controller=id adisk=<ADISKID>
```

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, you would enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to bring array disk 3 on connector 0 of controller 1 back online. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To online the array disk described in this example, enter:

```
omconfig storage adisk action=online controller=1 adisk=0:3
```

Example for SAS Controllers:

To online the array disk described in this example, enter:

```
omconfig storage adisk action=online controller=1 adisk=0:2:3
```

omconfig Assign Global Hot Spare

Use the following **omconfig** command syntax to assign an array disk as a global hot spare.

Complete Syntax

```
omconfig storage adisk action=assignglobalhotspare controller=id
adisk=<ADISKID> assign=yes
```

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to assign array disk 3 on connector 0 of controller 1 as a global hot spare. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To assign the array disk described in this example as a global hot spare, enter:

```
omconfig storage adisk action=assignglobalhotspare controller=1
adisk=0:3 assign=yes
```

Example for SAS Controllers:

To assign the array disk described in this example as a global hot spare, enter:

```
omconfig storage adisk action=assignglobalhotspare controller=1
adisk=0:2:3 assign=yes
```

omconfig Unassign Global Hot Spare

Use the following **omconfig** command syntax to unassign an array disk as a global hot spare.

Complete Syntax

```
omconfig storage adisk action=assignglobalhotspare controller=id
adisk=<ADISKID> assign=no
```

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to unassign array disk 3 on connector 0 of controller 1 as a global hot spare. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To unassign the array disk described in this example as a global hot spare, enter:

```
omconfig storage adisk action=assignglobalhotspare controller=1
adisk=0:3 assign=no
```

Example for SAS Controllers:

To unassign the array disk described in this example as a global hot spare, enter:

```
omconfig storage adisk action=assignglobalhotspare controller=1
adisk=0:2:3 assign=no
```

omconfig Rebuild Array Disk

Use the following **omconfig** command syntax to rebuild a failed array disk. Rebuilding a disk may take several hours. If you need to cancel the rebuild, use the **Cancel Rebuild** task. For more information, see the online help.

Complete Syntax

```
omconfig storage adisk action=rebuild controller=id adisk=<ADISKID>
```

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to rebuild array disk 3 on connector 0 of controller 1. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To rebuild the array disk described in this example, enter:

```
omconfig storage adisk action=rebuild controller=1 adisk=0:3
```

Example for SAS Controllers:

To rebuild the array disk described in this example, enter:

```
omconfig storage adisk action=rebuild controller=1 adisk=0:2:3
```

omconfig Cancel Rebuild Array Disk

Use the following **omconfig** command syntax to cancel a rebuild that is in progress. If you cancel a rebuild, the virtual disk remains in a degraded state. See the online help for more information.

Complete Syntax

```
omconfig storage adisk action=cancelrebuild controller=id adisk=
<ADISKID>
```

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to cancel the rebuild or array disk 3 on connector 0 of controller 1. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To cancel the rebuild of the array disk described in this example, enter:

```
omconfig storage adisk action=cancelrebuild controller=1 adisk=0:3
```

Example for SAS Controllers:

To cancel the rebuild of the array disk described in this example, enter:

```
omconfig storage adisk action=cancelrebuild controller=1 adisk=0:2:3
```

omconfig Remove Dead Segments

Use the following **omconfig** command syntax to recover unusable disk space. See the online help for more information.

Complete Syntax

```
omconfig storage adisk action=removedeadsegments controller=id
adisk=<ADISKID>
```

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to remove dead disk segments on array disk 3 on connector 0 of controller 1. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To remove dead segments on the array disk described in this example, enter:

```
omconfig storage adisk action=removedeadsegments controller=1 adisk=
0:3
```

Example for SAS Controllers:

To remove dead segments on the array disk described in this example, enter:

```
omconfig storage adisk action=removedeadsegments controller=1 adisk=
0:2:3
```

omconfig Clear Array Disk

Use the following **omconfig** command to clear data or a configuration from an array disk.

Complete Syntax

```
omconfig storage adisk action=clear controller=id adisk=<ADISKID>
```

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to clear array disk 3 on connector 0 of controller 1. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To clear the array disk described in this example, enter:

```
omconfig storage adisk action=clear controller=1 adisk=0:3
```

Example for SAS Controllers:

To clear the array disk described in this example, you would enter:

```
omconfig storage adisk action=clear controller=1 adisk=0:2:3
```

omconfig Cancel Clear Array Disk

Use the following **omconfig** command to cancel a clear operation that is in progress on an array disk.

Complete Syntax

```
omconfig storage adisk action=cancelclear controller=id adisk=
<ADISKID>
```

where *id* is the controller ID. The **<ADISK>** variable specifies the array disk.

To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage adisk controller=ID** to display the IDs for the array disks attached to the controller.

Example Syntax

In this example, you want to cancel the clear of array disk 3 on connector 0 of controller 1. On a SAS controller, the array disk resides in enclosure 2.

Example for SCSI, SATA, and ATA Controllers:

To cancel the clear of the array disk described in this example, enter:

```
omconfig storage adisk action=cancelclear controller=1 adisk=0:3
```

Example for SAS Controllers:

To cancel the clear of the array disk described in this example, enter:

```
omconfig storage adisk action=cancelclear controller=1 adisk=0:2:3
```

omconfig Battery Commands

The following sections provide the **omconfig** command syntax required to execute battery tasks.

Table 8-24. omconfig Battery Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs
omconfig storage battery	
	action=recondition controller=id battery=id
	action=startlearn controller=id battery=id
	action=delaylearn controller=id battery=id
	days=d hours=h

omconfig Recondition Battery

Use the following **omconfig** command to recondition a controller battery. For more information on batteries and the recondition process, see the online help.

Complete Syntax

```
omconfig storage battery action=recondition controller=id battery=id
```

where *id* is the controller ID and battery ID as reported by the **omreport** command. To obtain this value, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage battery controller=ID** to display the ID for the controller battery.

Example Syntax

For example, to recondition the battery on controller 1, enter:

```
omconfig storage battery action=recondition controller=1 battery=0
```

omconfig Start Battery Learn Cycle

Use the following **omconfig** command to start the battery learn cycle.

Complete Syntax

```
omconfig storage battery action=startlearn controller=id battery=id
```

where *id* is the controller ID and battery ID as reported by the **omreport** command. To obtain this value, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage battery controller=ID** to display the ID for the controller battery.

Example Syntax

For example, to start the learn cycle on controller 1, enter:

```
omconfig storage battery action=startlearn controller=1 battery=0
```

omconfig Delay Battery Learn Cycle

Use the following **omconfig** command to delay the battery learn cycle for a specified period of time. The battery learn cycle can be delayed for a maximum of seven days or 168 hours.

Complete Syntax

```
omconfig storage battery action=delaylearn controller=id battery=id
days=d hours=h
```

where *id* is the controller ID and battery ID as reported by the **omreport** command. To obtain this value, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage battery controller=ID** to display the ID for the controller battery.

Example Syntax

For example, to delay the learn cycle for three days and 12 hours on controller 1, enter:

```
omconfig storage battery action=delaylearn controller=1 battery=0
days=3 hours=12
```

omconfig Connector Commands

The following sections provide the **omconfig** command syntax required to execute connector tasks.

Table 8-25. omconfig Connector Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs
omconfig storage connector	
	action=rescan controller=id connector=id

omconfig Rescan Connector

Use the following **omconfig** command to rescan a controller connector. This command rescans all connectors on the controller and is therefore similar to performing a controller rescan.

Complete Syntax

```
omconfig storage connector action=rescan controller=id connector=id
```

where *id* is the controller ID and the connector ID as reported by the **omreport** command. To obtain these values, enter **omreport storage controller** to display the controller IDs and then enter **omreport storage connector controller=ID** to display the IDs for the connectors attached to the controller.

Example Syntax

For example, to rescan connector 2 on controller 1, enter:

```
omconfig storage connector action=rescan controller=1 connector=2
```

omconfig Enclosure Commands

The following sections provide the **omconfig** command syntax required to execute enclosure tasks.

Table 8-26. omconfig Enclosure Commands

Required Command Levels (1, 2, 3)	Optional name=value pairs
omconfig storage enclosure	
	action=enablealarm controller=id enclosure=id
	action=disablealarm controller=id enclosure=<ENCLOSUREID>
	action=enablests
	action=disablests
	action=setassettag controller=id enclosure=<ENCLOSUREID> assettag=<string>

Table 8-26. omconfig Enclosure Commands *(continued)*

Required Command Levels (1, 2, 3)	Optional name=value pairs
	action=setassetname controller=id enclosure=<ENCLOSUREID> assetname=<string>
	action=settempprobes controller=id enclosure=<ENCLOSUREID> index=id minwarn=n maxwarn=n
	action=resettempprobes controller=id enclosure= <ENCLOSUREID> index=id
	action=setalltempprobes controller=id
	enclosure=<ENCLOSUREID> minwarn=n
	maxwarn=n
	action=resetalltempprobes controller=id
	enclosure=<ENCLOSUREID>
	action=blink controller=id
	enclosure=<ENCLOSUREID>

omconfig Enable Enclosure Alarm

Use the following **omconfig** command syntax to enable the enclosure alarm:

Complete Syntax

```
omconfig storage enclosure action=enablealarm controller=id
enclosure=<ENCLOSUREID>
```

where *id* is the controller ID. The **<ENCLOSUREID>** variable specifies the enclosure.

Example for SCSI, SATA, and ATA Controllers:

For example, to enable the alarm on the enclosure attached to connector 2 on controller 1, enter:

```
omconfig storage enclosure action=enablealarm controller=1
enclosure=2
```

Example for SAS Controllers:

For example, to enable the alarm on enclosure 3 attached to connector 2 on controller 1, enter:

```
omconfig storage enclosure action=enablealarm controller=1
enclosure=2:3
```

omconfig Disable Enclosure Alarm

Use the following **omconfig** command syntax to disable the enclosure alarm.

Complete Syntax

```
omconfig storage enclosure action=disablealarm controller=id
enclosure=<ENCLOSUREID>
```

where *id* is the controller ID. The **<ENCLOSUREID>** variable specifies the enclosure.

Example for SCSI, SATA, and ATA Controllers:

For example, to disable the alarm on the enclosure attached to connector 2 on controller 1, enter:

```
omconfig storage enclosure action=disablealarm controller=1
enclosure=2
```

Example for SAS Controllers:

For example, to disable the alarm on enclosure 3 attached to connector 2 on controller 1, enter:

```
omconfig storage enclosure action=disablealarm controller=1
enclosure=2:3
```

omconfig Enable Smart Thermal Shutdown

The **omconfig storage enclosure action=enablests** command was supported in previous releases of Storage Management. This command has been replaced by the **omconfig storage globalinfo action=enablests** command. When enabling smart thermal shutdown and creating CLI scripts, it is preferable to use the **omconfig storage globalinfo action=enablests** command.

See the "omconfig Global Enable Smart Thermal Shutdown" command for more information.

omconfig Disable Smart Thermal Shutdown

The **omconfig storage enclosure action=disablests** command was supported in previous releases of Storage Management. This command has been replaced by the **omconfig storage globalinfo action=disablests** command. When disabling smart thermal shutdown and creating CLI scripts, it is preferable to use the **omconfig storage globalinfo action=disablests** command.

See the "omconfig Global Disable Smart Thermal Shutdown" command for more information.

omconfig Set Enclosure Asset Tag

Use the following **omconfig** command syntax to specify the enclosure's asset tag:

Complete Syntax

```
omconfig storage enclosure action=setassettag controller=id
enclosure=<ENCLOSUREID> assettag=<string>
```

where *id* is the controller ID. The **<ENCLOSUREID>** variable specifies the enclosure.

In this syntax, <string> is a user-specified alphanumeric string.

Example for SCSI, SATA, and ATA Controllers:

For example, to specify the asset tag on the enclosure attached to connector 2 on controller 1 to encl20, you would enter:

```
omconfig storage enclosure action=setassettag controller=1
enclosure=2 assettag=encl20
```

Example for SAS Controllers:

For example, to specify the asset tag on enclosure 3 attached to connector 2 on controller 1 to encl20, enter:

```
omconfig storage enclosure action=setassettag controller=1
enclosure=2:3 assettag=encl20
```

omconfig Set Enclosure Asset Name

Use the following **omconfig** command syntax to specify the asset name for an enclosure.

Complete Syntax

```
omconfig storage enclosure action=setassetname controller=id
enclosure=<ENCLOSUREID> assetname=<string>
```

where *id* is the controller ID. The **<ENCLOSUREID>** variable specifies the enclosure.

In this syntax, <string> is a user-specified alphanumeric string.

Example for SCSI, SATA, and ATA Controllers:

For example, to specify the asset name for the enclosure attached to connector 2 on controller 1 to encl43, enter:

```
omconfig storage enclosure action=setassetname controller=1
enclosure=2 assetname=encl43
```

Example for SAS Controllers:

For example, to specify the asset name for enclosure 3 attached to connector 2 on controller 1 to encl43, enter:

```
omconfig storage enclosure action=setassetname controller=1
enclosure=2:3 assetname=encl43
```

omconfig Set Temperature Probe Thresholds

Use the following **omconfig** command syntax to set the minimum and maximum warning temperature thresholds for a specified temperature probe.

Complete Syntax

```
omconfig storage enclosure action=settempprobes controller=id
enclosure=<ENCLOSUREID> index=id minwarn=n maxwarn=n
```

where *id* is the controller ID and the temperature probe ID. The **<ENCLOSUREID>** variable specifies the enclosure.

In this syntax, "n" is a user-specified value for the temperature in Celsius.

Example Syntax

For example, you may want to specify the minimum and maximum warning thresholds for temperature probe 3 to 10 degrees celsius and 40 degrees celsius.

Example for SCSI, SATA, and ATA Controllers:

In this example, temperature probe 3 resides in the enclosure attached to connector 2 on controller 1. To set the temperature probe thresholds to 10 degrees celsius and 40 degrees celsius, enter:

```
omconfig storage enclosure action=settempprobes controller=1
enclosure=2 index=3 minwarn=10 maxwarn=40
```

Example for SAS Controllers:

In this example, temperature probe 3 resides in enclosure 3 attached to connector 2 on controller 1. To set the temperature probe thresholds to 10 degrees celsius and 40 degrees celsius, enter:

```
omconfig storage enclosure action=settempprobes controller=1
enclosure=2:3 index=3 minwarn=10 maxwarn=40
```

omconfig Reset Temperature Probe Thresholds

Use the following **omconfig** command syntax to reset the minimum and maximum warning temperature thresholds back to their default values.

Complete Syntax

```
omconfig storage enclosure action=resettempprobes controller=id
enclosure=<ENCLOSUREID> index=id
```

where *id* is the controller ID and the temperature probe ID. The **<ENCLOSUREID>** variable specifies the enclosure.

Example Syntax

For example, you may want to reset the thresholds for temperature probe 3 to the default values.

Example for SCSI, SATA, and ATA Controllers:

In this example, temperature probe 3 resides in the enclosure attached to connector 2 on controller 1. To reset the thresholds for temperature probe 3 to the default values, enter:

```
omconfig storage enclosure action=resettempprobes controller=1
enclosure=2 index=3
```

Example for SAS Controllers:

In this example, temperature probe 3 resides in enclosure 3 attached to connector 2 on controller 1. To reset the thresholds for temperature probe 3 to the default values, enter:

```
omconfig storage enclosure action=resettempprobes controller=1
enclosure=2:3 index=3
```

omconfig Set All Temperature Probe Thresholds

Use the following **omconfig** command syntax to set the minimum and maximum warning temperature thresholds for all temperature probes in the enclosure.

Complete Syntax

```
omconfig storage enclosure action=setalltempprobes controller=id
enclosure=<ENCLOSUREID> minwarn=n maxwarn=n
```

where *id* is the controller ID. The **<ENCLOSUREID>** variable specifies the enclosure.

Example Syntax

For example, you may want to specify the minimum and maximum warning thresholds for all temperature probes to 10 and 40 degrees celsius.

Example for SCSI, SATA, and ATA Controllers

In this example, the temperature probes reside in the enclosure attached to connector 2 on controller 1. To set the thresholds for all temperature probes to 10 and 40 degrees celsius, enter:

```
omconfig storage enclosure action=setalltempprobes controller=1
enclosure=2 minwarn=10 maxwarn=40
```

Example for SAS Controllers

In this example, the temperature probes reside in enclosure 3 attached to connector 2 on controller 1. To set the thresholds for all temperature probes to 10 and 40 degrees celsius, enter:

```
omconfig storage enclosure action=setalltempprobes controller=1
enclosure=2:3 minwarn=10 maxwarn=40
```

omconfig Reset All Temperature Probe Thresholds

Use the following **omconfig** command syntax to reset the minimum and maximum warning temperature thresholds back to their default value for all temperature probes in the enclosure.

Complete Syntax

```
omconfig storage enclosure action=resetalltempprobes controller=id
enclosure=<ENCLOSUREID>
```

where *id* is the controller ID. The **<ENCLOSUREID>** variable specifies the enclosure.

Example Syntax

For example, you may want to reset the thresholds for all temperature probes in enclosure 2 on controller 1.

Example for SCSI, SATA, and ATA Controllers

In this example, the temperature probes reside in the enclosure attached to connector 2 on controller 1. To reset the thresholds for all temperature probes, enter:

```
omconfig storage enclosure action=resetalltempprobes controller=1
enclosure=2
```

Example for SAS Controllers

In this example, the temperature probes reside in enclosure 3 attached to connector 2 on controller 1. To reset the thresholds for all temperature probes, enter:

```
omconfig storage enclosure action=resetalltempprobes controller=1
enclosure=2:3
```

omconfig Blink

Use the following omconfig command to blink the light-emitting diodes (LEDs) on the enclosure.

Complete Syntax

```
omconfig storage enclosure action=blink controller=id enclosure=
<ENCLOSUREID>
```

where *id* is the controller ID. The **<ENCLOSUREID>** variable specifies the enclosure.

Example for SCSI, SATA, and ATA Controllers:

For example, to blink the LEDs for the enclosure attached to connector 2 on controller 1, enter:

```
omconfig storage enclosure action=blink controller=1 enclosure=2
```

Example for SAS Controllers:

For example, to blink the LEDs for enclosure 3 attached to connector 2 on controller 1, enter:

```
omconfig storage enclosure action=blink controller=1 enclosure=2:3
```

9

Working With CLI Command Results

Server Administrator Command Line Interface (CLI) users can use command output in various ways. This section explains how to save command output to a file and how to select a format for your command results that fits different objectives.

Output Options for Command Results

CLI command output displays to standard output on your system in a command window, in an X-terminal, or on a screen, depending on your operating system type.

You can redirect command results to a file instead of displaying them to standard output. Saving command output to a file allows you to use the command output for later analysis or comparison.

Whether you display command results to standard output or have the command results written to a file, you can format the results. The format you select determines the way the command output is displayed and the way the command output is written to a file.

Controlling Command Output Display

Each operating system provides a means of controlling the way that command results display to standard output. The following is a useful command for ensuring that command results do not scroll by before you can view them. The same command syntax works for both the Microsoft® Windows® command prompt and the Red Hat® Enterprise Linux terminal. To display command output with control over scrolling, type the CLI command and append the pipe symbol followed by `more`. For example, type:

```
omreport system summary | more
```

The multiscreen system summary displays the first screen. When you want to see the next screen of command output, press the spacebar.

Writing Command Output to a File

When redirecting command results to a file, you can specify a filename (and a directory path if necessary) to which you want the command results to be written. When specifying the path to which you want your file to be written, use the appropriate syntax for your operating system.

You can save command results in two ways. You can overwrite any file that has the same name as the output file you specify, or you can keep adding results of commands to a file of the same name.

Save Command Results to a File That Can Be Overwritten

Use the **-outc** option when you want to overwrite data that is stored in previously written files. For example, at 11:00 A.M. you capture fan probe RPM readings for fan probe 0 on your system and write the results to a file called **fans.txt**. You type:

```
omreport chassis fans index=0 -outc fans.txt
```

Partial results written to the file are:

```
Index                     : 0
Status                    : OK
Probe Name                : System Fan
Reading                   : 2380
Minimum Warning Threshold : 600
Maximum Warning Threshold : 5700
Minimum Failure Threshold : 500
Maximum Failure Threshold : 6000
```

Four hours later, you repeat the command. You have no interest in the 11:00 A.M. snapshot as written to **fans.txt**. You type the same command:

```
omreport chassis fans index=0 -outc fans.txt
```

The 3:00 P.M. data overwrites the 11:00 A.M. data in the **fans.txt** file.

Fans.txt now reads as follows:

```
Index                     : 0
Status                    : OK
Probe Name                : System Fan
Reading                   : 3001
Minimum Warning Threshold : 700
Maximum Warning Threshold : 5500
Minimum Failure Threshold : 500
Maximum Failure Threshold : 6000
```

You cannot refer to the previous command results to compare the earlier fan probe 0 output with the present output because in using the **-outc** option, you overwrote the **fans.txt** file.

Append Command Results to an Existing File

Use the **-outa** option when you want to append new command results to data stored in a previously written file. For example, at 11:00 A.M. you capture fan probe RPM readings for fan probe 0 on your system and write the results to a file called **fans.txt**. If you want to compare these results with output for the same probe obtained four hours later, you can use the **-outa** command to append the new output to **fans.txt**.

Type:

```
omreport chassis fans index=0 -outa fans.txt
```

Fans.txt now reads as follows:

```
Index                     : 0
Status                    : OK
Probe Name                : System Fan
Reading                   : 2380
Minimum Warning Threshold : 600
Maximum Warning Threshold : 5700
Minimum Failure Threshold : 500
Maximum Failure Threshold : 6000

Index                     : 0
Status                    : OK
Probe Name                : System Fan
Reading                   : 3001
Minimum Warning Threshold : 700
Maximum Warning Threshold : 5500
Minimum Failure Threshold : 500
Maximum Failure Threshold : 6000
```

You can use a text editor to insert the time that each block of data was captured. In comparing the two snapshots for fan probe 0, you can see that the second report shows several changes. The reading of fan RPM has increased by 621 RPM but is still within normal range. Someone has raised the minimum warning threshold by 200 RPM and has decreased the maximum warning threshold by 2000 RPM.

Selecting a Format for Your CLI Command Output

You can specify a format for your CLI command results. The format determines how the command output is displayed. If the command results are directed to a file, the format is captured by the file to which you write your command results.

NOTE: The **omconfig** command ignores most output format options and returns plain text messages. However, if you use the **xml** option, the **omconfig** command returns XML code.

The available formats include:

- List (lst)
- Semicolon-separated values (ssv)
- Table (tbl)
- Raw xml (xml)
- Custom delimited format (cdv)

Syntax for the formatting option is:

```
<command> -fmt <format option>
```

For example, type:

```
omreport system summary -fmt tbl
```

where **-fmt tbl** specifies table format.

You can combine the formatting option with the option to direct output to a file. For example, type:

```
omreport system summary -fmt tbl -outa summary.txt
```

where **-fmt tbl** specifies table format and **-outa** specifies that you append the command results to a file called **summary.txt.**

List (lst)

The default format is **lst** or list format. Use this format when you want to optimize output for simple readability. You need to specify a format for your command output only if you want a format other than **lst** format.

To see the following example command output in **lst** format, type:

```
omreport system summary
```

No special formatting option is required because list format is the default display format. The network data part of the example system summary appears as follows:

```
--------------

Network Data

--------------

Network Interface Card 0 Data
IP Address      : 143.166.152.108
Subnet Mask     : 255.255.255.0
Default Gateway : 143.166.152.1
MAC Address     : 00-02-b3-23-d2-ca
```

Table (tbl)

Use the **tbl** or table formatting option to have your data formatted in table rows and columns. To see the following example command output in table format, type:

```
omreport system summary -fmt tbl
```

The example output displays as follows:

```
-----------------------------
Network Interface Card 0 Data
-----------------------------

| ATTRIBUTE        | VALUE
| IP Address       | 143.166.152.108
| Subnet Mask      | 255.255.255.0
| Default Gateway  | 143.166.152.1
| MAC Address      | 00-02-b3-23-d2-ca
```

Semicolon-separated Values (ssv)

Use the **ssv** formatting option to deliver output formatted in semicolon-separated Value format. This format also allows you to import your command output results into a spreadsheet program such as Microsoft Excel, or into a database program. To see the following example command output in semicolon-separated value format, type:

```
omreport system summary -fmt ssv
```

The example output displays as follows:

```
-----------------------------
Network Data
-----------------------------

Network Interface Card 0 Data
IP Address;143.166.152.108
Subnet Mask;255.255.255.0
Default Gateway;143.166.152.1
MAC Address;00-02-b3-23-d2-ca
```

Raw XML (xml)

Use the **xml** formatting option to produce output suitable for use by systems management applications or for input into other applications that use xml. To see the following example command output in raw xml format, type:

```
omreport system summary -fmt xml
```

The example output displays as follows:

```
<NICStatus>1</NICStatus><IPAddress>143.166.152.108</IPAddress><Subne
tMask>255.255.255.0</SubnetMask><DefaultGateway>143.166.152.1</Defau
ltGateway><MACAddr>00-02-b3-23-d2-ca</MACAddr>
```

Custom Delimited Format (cdv)

Use the **cdv** formatting option to report exported data in custom delimited format. You can specify this option with any **omreport** command. For example, to generate a system summary in custom delimited format, type:

```
omreport system summary -fmt cdv
```

You can also set preferences for the custom delimited format with the **omconfig** command. The valid values for delimiters are: exclamation, semicolon, at, hash, dollar, percent, caret, asterisk, tilde, question, colon, comma, and pipe.

The following example shows how to set the delimiter for separating data fields to asterisk:

```
omconfig preferences cdvformat delimiter=asterisk
```

Glossary

The following list defines or identifies technical terms, abbreviations, and acronyms used in Dell user documents.

A
Abbreviation for ampere(s).

AC
Abbreviation for alternating current.

AC power switch
A switch with two AC power inputs that provides AC power redundancy by failing over to a standby AC input in the event of a failure to the primary AC input.

access
Refers to the actions a user can take on a variable value. Examples include read-only and read-write.

adapter card
An expansion card that plugs into an expansion-card connector on the computer's system board. An adapter card adds some specialized function to the computer by providing an interface between the expansion bus and a peripheral device. Examples of adapter cards include network cards, sound cards, and SCSI adapters.

ADB
Abbreviation for assign database.

AGP
Abbreviation for accelerated graphics port. A high performance graphics interface becoming available for Intel® Pentium® Pro systems.

ASCII
Acronym for American Standard Code for Information Interchange. A text file containing only characters from the ASCII character set (usually created with a text editor, such as Notepad in Microsoft® Windows®) is called an ASCII file.

ASIC
Acronym for application-specific integrated circuit.

ASPI
Advanced SCSI programming interface.

ASR
Abbreviation for automatic system recovery. ASR consists of those procedures that restore the system to running all properly configured domains after one or more domains have been rendered inactive due to software or hardware failures or due to unacceptable environmental conditions.

asset tag code
An individual code assigned to a computer, usually by a system administrator, for security or tracking purposes.

attribute
An attribute, or property, contains a specific piece of information about a manageable component. Attributes can be combined to form groups. If an attribute is defined as read-write, it may be defined by a management application.

authentication
The Server Administrator remote access controller has two methods of authenticating user access: RAC authentication and local operating system authentication. RAC authentication is always enabled. Administrators can set up specific user accounts and passwords that allow access to the RAC.

Operating systems also require administrators to define different levels of users and user accounts; each user level has different privileges. Local operating system authentication on the RAC is an option for

administrators who do not want define one set of privileges for users in the operating system and a separate set of users and accounts for the RAC. If you enable local operating system authentication for the RAC, you enable any user with Administrator status on the operating system to log into the RAC.

autoexec.bat file
The **autoexec.bat** file is executed when you boot your computer (after executing any commands in the **config.sys** file). This start-up file contains commands that define the characteristics of each device connected to your computer, and it finds and executes programs stored in locations other than the active directory.

backup
A copy of a program or data file. As a precaution, you should back up your computer's hard drive on a regular basis. Before making a change to the configuration of your computer, you should back up important start-up files from your operating system.

baud rate
A measurement of data transmission speed. For example, modems are designed to transmit data at one or more specified baud rate(s) through the COM (serial) port of a computer.

beep code
A diagnostic message in the form of a pattern of beeps from your computer's speaker. For example, one beep, followed by a second beep, and then a burst of three beeps is beep code 1-1-3.

BGA
Abbreviation for Ball Grid Array, an IC package that uses an array of solder balls, instead of pins, to connect to a PC board.

binary
A base-2 numbering system that uses 0 and 1 to represent information. The computer performs operations based on the ordering and calculation of these numbers.

BIOS
Acronym for basic input/output system. Your computer's BIOS contains programs stored on a flash memory chip. The BIOS controls the following:

- Communications between the microprocessor and peripheral devices, such as the keyboard and the video adapter
- Miscellaneous functions, such as system messages

bit
The smallest unit of information interpreted by your computer.

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

boot routine
When you start your computer, it clears all memory, initializes devices, and loads the operating system. Unless the operating system fails to respond, you can reboot (also called *warm boot*) your computer by pressing <Ctrl><Alt><Del>; otherwise, you must perform a cold boot by pressing the reset button or by turning the computer off and then back on.

bootable diskette
You can start your computer from a diskette. To make a bootable diskette, insert a diskette in the diskette drive, type `sys a:` at the command line prompt, and press <Enter>. Use this bootable diskette if your computer will not boot from the hard drive.

bpi
Abbreviation for bits per inch.

bps
Abbreviation for bits per second.

BTU
Abbreviation for British thermal unit.

bus
An information pathway between the components of a computer. Your computer contains an expansion bus that allows the microprocessor to communicate with controllers for all the various peripheral devices connected to the computer. Your computer also contains an address bus and a data bus for communications between the microprocessor and RAM.

byte
Eight contiguous bits of information, the basic data unit used by your computer.

C
Abbreviation for Celsius.

CA
Abbreviation for certificate authority.

cache
A fast storage area that keeps a copy of data or instructions for quicker data retrieval. For example, your computer's BIOS may cache ROM code in faster RAM. Or, a disk-cache utility may reserve RAM in which to store frequently accessed information from your computer's disk drives; when a program makes a request to a disk drive for data that is in the cache, the disk-cache utility can retrieve the data from RAM faster than from the disk drive.

capability
Refers to the actions that an object can perform, or actions that can be taken on a managed object. For example, if a card is hot-pluggable, it is capable of being replaced while the system power is ON.

CDRAM
Abbreviation for cached DRAM, which is a high-speed DRAM memory chip developed by Mitsubishi that includes a small SRAM cache.

CD-ROM
Abbreviation for compact disc read-only memory. CD drives use optical technology to read data from CDs. CDs are read-only storage devices; you cannot write new data to a CD with standard CD drives.

certificate authority
A certificate authority is an industry-recognized entity that verifies the identity of an organizations requesting credentials to identify them to other systems over networks or the Internet. Before issuing a certificate to an applicant, the certificate authority requires proof of identity and other security information.

chip
A set of microminiaturized, electronic circuits that are designed for use as processors and memory in computers. Small chips can hold from a handful to tens of thousands of transistors. They look like tiny chips of aluminum, no more than 1/16" square by 1/30" thick, which is where the term "chip" came from. Large chips, which can be more than a half inch square, hold millions of transistors. It is actually only the top one thousandth of an inch of a chip's surface that holds the circuits. The rest of it is just a base.

CIM
Acronym for Common Information Model, which is a model for describing management information from the DMTF. CIM is implementation independent, allowing different management applications to collect the required data from a variety of sources. CIM includes schemas for systems, networks, applications and devices, and new schemas will be added. It provides mapping techniques for interchange of CIM data with MIB data from SNMP agents and MIF data from DMI-compliant systems.

CIMOM
Acronym for common information model object manager.

CI/O
Acronym for comprehensive input/output.

cm
Abbreviation for centimeter(s).

CMOS
Acronym for complementary metal-oxide semiconductor. In computers, CMOS memory chips are often used for NVRAM storage.

COM *n*
The device names for the first through fourth serial ports on your computer are COM1, COM2, COM3, and COM4. The default interrupt for COM1 and COM3 is IRQ4, and the default interrupt for COM2 and COM4 is IRQ3. Therefore, you must be careful when configuring software that runs a serial device so that you don't create an interrupt conflict.

component
As they relate to DMI, manageable components are operating systems, computer systems, expansion cards, or peripherals that are compatible with DMI. Each component is made up of groups and attributes that are defined as relevant to that component.

config.sys file
The **config.sys** file is executed when you boot your computer (before running any commands in the **autoexec.bat** file). This start-up file contains commands that specify which devices to install and which drivers to use. This file also contains commands that determine how the operating system uses memory and controls files.

controller
A chip that controls the transfer of data between the microprocessor and memory or between the microprocessor and a peripheral device such as a disk drive or the keyboard.

control panel
The part of the computer that contains indicators and controls, such as the power switch, hard drive access indicator, and power indicator.

conventional memory
The first 640 KB of RAM. Conventional memory is found in all computers. Unless they are specially designed, MS-DOS® programs are limited to running in conventional memory.

COO
Acronym for cost of ownership.

cooling unit
Sets of fans or other cooling devices in a system chassis.

coprocessor
A chip that relieves the computer's microprocessor of specific processing tasks. A math coprocessor, for example, handles numeric processing. A graphics coprocessor handles video rendering. The Intel Pentium microprocessor for example, includes a built-in math coprocessor.

cpi
Abbreviation for characters per inch.

CPU
Abbreviation for central processing unit. See also *microprocessor*.

CRC
Abbreviation for cyclic redundancy code, which is a number derived from, and stored or transmitted with, a block of data in order to detect corruption. By recalculating the CRC and comparing it to the value originally transmitted, the receiver can detect some types of transmission errors.

CSR
Abbreviation for certificate signing request. A complex text file generated by a Web server to identify and authenticate systems that seek connections to other systems. The digital signature that is present in every CSR contributes to secure identification of systems.

When a remote access controller is present on a system running Server Administrator, the CSR that comes with the remote access controller belongs to Dell. If your company wants to generate its own CSR, you can request a unique CSR from a certificate authority and overwrite the Dell CSR.

cursor
A marker, such as a block, underscore, or pointer that represents the position at which the next keyboard or mouse action will occur.

DAT
Acronym for digital audio tape.

dB
Abbreviation for decibel(s).

dBA
Abbreviation for adjusted decibel(s).

DC
Abbreviation for direct current.

device driver
A program that allows the operating system or some other program to interface correctly with a peripheral device, such as a printer. Some device drivers—such as network drivers—must be loaded from the **config.sys** file (with a **device=** statement) or as memory-resident programs (usually, from the **autoexec.bat** file). Others—such as video drivers—must load when you start the program for which they were designed.

DHCP
Acronym for dynamic host configuration protocol. A method of configuring a network in which IP addresses are issued by a server, rather than statically assigned to each system.

DIMM
Acronym for dual in-line memory module. A small circuit board containing DRAM chips that connects to the system board.

DIN
Acronym for *Deutsche Industrie Norm* which is the standards-setting organization for Germany.

A DIN connector is a connector that conforms to one of the many standards defined by DIN. DIN connectors are used widely in personal computers. For example, the keyboard connector for PCs is a DIN connector.

DIP
Acronym for dual in-line package. A circuit board, such as a system board or expansion card, may contain DIP switches for configuring the circuit board. DIP switches are always toggle switches, with an ON position and an OFF position.

directory
Directories help keep related files organized on a disk in a hierarchical, "inverted tree" structure. Each disk has a "root" directory; for example, a `C:\>` prompt normally indicates that you are at the root directory of hard drive C. Additional directories that branch off of the root directory are called *subdirectories*. Subdirectories may contain additional directories branching off of them.

display adapter
See video adapter.

DMA
Abbreviation for direct memory access. A DMA channel allows certain types of data transfer between RAM and a device to bypass the microprocessor.

DMI
Abbreviation for Desktop Management Interface. DMI enables the management of your computer system's software and hardware. DMI collects information about the system's components, such as the operating system, memory, peripherals, expansion cards, and asset tag. Information about the system's components is displayed as a MIF file.

DMTF
Abbreviation for Distributed Management Task Force, a consortium of companies representing hardware and software providers, of which Dell is a member.

dpi
Abbreviation for dots per inch.

DPMS
Abbreviation for Display Power Management Signaling. A standard developed by the Video Electronics Standards Association (VESA®) that defines the hardware signals sent by a video controller to activate power management states in a monitor. A monitor is said to be DPMS-compliant when it is designed to enter a power management state after receiving the appropriate signal from a computer's video controller.

DRAC
Refers to a remote management capability. See *RAC*.

DRAM
Acronym for dynamic random-access memory. A computer's RAM is usually made up entirely of DRAM chips. Because DRAM chips cannot store an electrical charge indefinitely, your computer continually refreshes each DRAM chip in the computer.

drive-type number
Your computer can recognize a number of specific hard drives. Each is assigned a drive-type number that is stored in NVRAM. The hard drive(s) specified in your computer's System Setup program must match the actual drive(s) installed in the computer. The System Setup program also allows you to specify physical parameters (logical cylinders, logical heads, cylinder number, and logical sectors per pack) for drives not included in the table of drive types stored in NVRAM.

DTE
Abbreviation for data terminal equipment. Any device, such as a computer system, that can send data in digital form by means of a cable or communications line. The DTE is connected to the cable or communications line through a data communications equipment (DCE) device, such as a modem.

ECC
Abbreviation for error checking and correction.

ECP
Abbreviation for Extended Capabilities Port.

EDO
Acronym for extended data output dynamic random access memory which is a type of DRAM that is faster than conventional DRAM. EDO RAM can start fetching the next block of memory at the same time that it sends the previous block to the CPU.

EEPROM
Acronym for electrically erasable programmable read-only memory.

EIDE
Abbreviation for enhanced integrated drive electronics. EIDE devices add one or more of the following enhancements to the traditional IDE standard:

- Data transfer rates of up to 16 MB/sec
- Support for drives other than just hard drives, such as CD drives
- Support for hard drives with capacities greater than 528 MB
- Support for up to two controllers, each with up to two devices attached

EISA
Acronym for Extended Industry-Standard Architecture, a 32-bit expansion-bus design. The expansion-card connectors in an EISA computer are also compatible with 8- or 16-bit ISA expansion cards.

To avoid a configuration conflict when installing an EISA expansion card, you must use the EISA Configuration Utility. This utility allows you to specify which expansion slot contains the card and obtains information about the card's required system resources from a corresponding EISA configuration file.

EMC
Abbreviation for Electromagnetic Compatibility.

EMI
Abbreviation for electromagnetic interference.

EMM
Abbreviation for expanded memory manager. A utility that uses extended memory to emulate expanded memory on computers with an Intel386™ or higher microprocessor.

EMS
Abbreviation for Expanded Memory Specification.

EPP
Abbreviation for Enhanced Parallel Port which provides improved bidirectional data transmission. Many devices are designed to take advantage of the EPP standard, especially devices, such as network or SCSI adapters that connect to the parallel port of a portable computer.

EPROM
Acronym for erasable programmable read-only memory.

ERA
Acronym for embedded remote access.

ERA/O
Acronym for embedded remote access option.

ESD
Abbreviation for electrostatic discharge.

ESM
Acronym for embedded server management.

expanded memory
A technique for accessing RAM above 1 MB. To enable expanded memory on your computer, you must use an EMM. You should configure your system to support expanded memory only if you run application programs that can use (or require) expanded memory.

expansion bus
Your computer contains an expansion bus that allows the microprocessor to communicate with controllers for peripheral devices, such as a network card or an internal modem.

expansion-card connector
A connector on the computer's system board or riser board for plugging in an expansion card.

extended memory
RAM above 1 MB. Most software that can use it, such as the Windows operating system, requires that extended memory be under the control of an XMM.

external cache memory
A RAM cache using SRAM chips. Because SRAM chips operate at several times the speed of DRAM chips, the microprocessor can retrieve data and instructions faster from external cache memory than from RAM.

F
Abbreviation for Fahrenheit.

FAT
Acronym for file allocation table. The file system structure used by MS-DOS to organize and keep track of file storage. The Windows NT® operating systems (and later Windows versions) can optionally use a FAT file system structure.

FCC
Abbreviation for Federal Communications Commission.

FEPROM
Acronym for Flash Erasable Programmable Read-Only Memory. Flash memory is a kind of nonvolatile storage device similar to EEPROM, but the erasing is done only in blocks or the entire chip.

FiFO
Abbreviation for first-in, first-out. In computer programming, FIFO (first-in, first-out) is an approach to handling program work requests from queues or stacks so that the oldest request is handled next

flash bios
A PC BIOS that is stored in flash memory rather than in a ROM. A flash BIOS chip can be updated in place, whereas a ROM BIOS must be replaced with a newer chip.

flash memory
A type of EEPROM chip that can be reprogrammed from a utility on diskette while still installed in a computer; most EEPROM chips can only be rewritten with special programming equipment.

format
To prepare a hard drive or diskette for storing files. An unconditional format deletes all data stored on the disk.

FPBGA
Acronym for field programmable gate array, a programmable logic chip (PLD) with a high density of gates.

FRU
Acronym for field replaceable unit.

ft
Abbreviation for feet.

FTP
Abbreviation for file transfer protocol.

g
Abbreviation for gram(s).

G
Abbreviation for gravities.

GB
Abbreviation for gigabyte(s). A gigabyte equals 1,024 megabytes or 1,073,741,824 bytes.

graphics coprocessor
See **coprocessor**.

graphics mode
A video mode that can be defined as *x* horizontal by *y* vertical pixels by *z* colors.

group
As it relates to DMI, a group is a data structure that defines common information, or attributes, about a manageable component.

GUI
Acronym for graphical user interface.

h
Abbreviation for hexadecimal. A base-16 numbering system, often used in programming to identify addresses in the computer's RAM and I/O memory addresses for devices. The sequence of decimal numbers from 0 through 16, for example, is expressed in hexadecimal notation as: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F, 10. In text, hexadecimal numbers are often followed by *h*.

heat sink
A metal plate with metal pegs or ribs that help dissipate heat. Most microprocessors include a heat sink.

HIP
Abbreviation for Dell OpenManage™ Hardware Instrumentation Package.

HMA
Abbreviation for high memory area. The first 64 KB of extended memory above 1 MB. A memory manager that conforms to the XMS can make the HMA a direct extension of conventional memory. See also *upper memory area* and *XMM*.

host adapter
A host adapter implements communication between the computer's bus and the controller for a peripheral device. (Hard drive controller subsystems include integrated host adapter circuitry.) To add a SCSI expansion bus to your system, you must install or connect the appropriate host adapter.

hot plug
The ability to remove and replace a redundant part while the system is being used. Also called a "hot spare."

HPFS
Abbreviation for the High Performance File System option in the Windows NT and later Windows operating systems.

HTTPS
Abbreviation for HyperText Transmission Protocol, Secure. HTTPS is a variant of HTTP used by Web browsers for handling secure transactions. HTTPS is a unique protocol that is simply SSL underneath HTTP. You need to use "https://" for HTTP URLs with SSL, whereas you continue to use "http://" for HTTP URLs without SSL.

Hz
Abbreviation for hertz.

ICES
Abbreviation for Interface-Causing Equipment Standard (in Canada).

ICU
Abbreviation for ISA Configuration Utility.

IDE
Abbreviation for Integrated Device Electronics. IDE is a computer system interface, used primarily for hard drives and CDs.

I/O
Abbreviation for input/output. The keyboard is an input device, and a printer is an output device. In general, I/O activity can be differentiated from computational activity. For example, when a program sends a document to the printer, it is engaging in output activity; when the program sorts a list of terms, it is engaging in computational activity.

ID
Abbreviation for identification.

IHV
Acronym for independent hardware vendor. IHVs often develop their own MIBs for components that they manufacture.

interlacing
A technique for increasing video resolution by only updating alternate horizontal lines on the screen. Because interlacing can result in noticeable screen flicker, most users prefer noninterlaced video adapter resolutions.

internal microprocessor cache
An instruction and data cache built in to the microprocessor. The Intel Pentium microprocessor includes a 16-KB internal cache, which is set up as an 8-KB read-only instruction cache and an 8-KB read/write data cache.

IP
The Internet Protocol (IP) is the method or protocol by which data is sent from one computer to another on the Internet. Each computer (known as a host) on the Internet has at least one IP address that uniquely identifies it from all other computers on the Internet.

IPMI
Abbreviation for Intelligent Platform Management Interface, which is an industry standard for management of peripherals used in enterprise computers based on Intel architecture. The key characteristic of IPMI is that inventory, monitoring, logging, and recovery control functions are available independent of the main processors, BIOS, and operating system.

IPX
Acronym for internetwork packet exchange.

IRQ
Abbreviation for interrupt request. A signal that data is about to be sent to or received by a peripheral device travels by an IRQ line to the microprocessor. Each peripheral connection must be assigned an IRQ number. For example, the first serial port in your computer (COM1) is assigned to IRQ4 by default. Two devices can share the same IRQ assignment, but you cannot operate both devices simultaneously.

ISA
Acronym for Industry-Standard Architecture. A 16-bit expansion bus design. The expansion-card connectors in an ISA computer are also compatible with 8-bit ISA expansion cards.

ITE
Abbreviation for information technology equipment.

jumper
Jumpers are small blocks on a circuit board with two or more pins emerging from them. Plastic plugs containing a wire fit down over the pins. The wire connects the pins and creates a circuit. Jumpers provide a simple and reversible method of changing the circuitry in a printed circuit board.

JVM
Acronym for Java virtual machine.

K
Abbreviation for kilo-, indicating 1,000.

KB
Abbreviation for kilobyte(s), 1,024 bytes.

KB/sec
Abbreviation for kilobyte(s) per second.

Kbit(s)
Abbreviation for kilobit(s), 1,024 bits.

Kbit(s)/sec
Abbreviation for kilobit(s) per second.

key combination
A command requiring you to press multiple keys at the same time. For example, you can reboot your computer by pressing the <Ctrl><Alt><Del> key combination.

kg
Abbreviation for kilogram(s), 1,000 grams.

kHz
Abbreviation for kilohertz, 1,000 hertz.

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.

lb
Abbreviation for pound(s).

LCC
Acronym for leaded or leadless chip carrier.

LIF
Acronym for low insertion force. Some computers use LIF sockets and connectors to allow devices, such as the microprocessor chip, to be installed or removed with minimal stress to the device.

LED
Abbreviation for light-emitting diode. An electronic device that lights up when a current is passed through it.

local bus
On a computer with local-bus expansion capability, certain peripheral devices (such as the video adapter circuitry) can be designed to run much faster than they would with a traditional expansion bus. Some local-bus designs allow peripherals to run at the same speed and with the same width data path as the computer's microprocessor.

LPT*n*
The device names for the first through third parallel printer ports on your computer are LPT1, LPT2, and LPT3.

LRA
Acronym for local response agent.

LS drive
A drive that uses laser servo technology to read LS 120 diskettes that hold up to 120 MB of data as well as standard 3.5-inch diskettes.

LSI
Acronym for large-scale integration.

LUN
Acronym for logical unit number, a code used to select a specific device among several that share a SCSI ID.

mA
Abbreviation for milliampere(s).

mAh
Abbreviation for milliampere-hour(s).

math coprocessor
See *coprocessor*.

Mb
Abbreviation for megabit.

MB
Abbreviation for megabyte(s). The term *megabyte* means 1,048,576 bytes; however, when referring to hard drive storage, the term is often rounded to mean 1,000,000 bytes.

MB/sec
Abbreviation for megabytes per second.

Mbps
Abbreviation for megabits per second.

MBR
Abbreviation for master boot record.

MCA
Abbreviation for Micro Channel Architecture, which is designed for multiprocessing. MCA eliminates potential conflicts that arise when installing new peripheral devices. MCA is not compatible with either EISA or XT bus architecture, so older cards cannot be used with it.

memory
A computer can contain several different forms of memory, such as RAM, ROM, and video memory. Frequently, the word *memory* is used as a synonym for RAM; for example, an unqualified statement such as "a computer with 16 MB of memory" refers to a computer with 16 MB of RAM.

memory address
A specific location, usually expressed as a hexadecimal number, in the computer's RAM.

memory manager
A utility that controls the implementation of memory in addition to conventional memory, such as extended or expanded memory.

memory module
A small circuit board containing DRAM chips that connects to the system board.

MHz
Abbreviation for megahertz.

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

microprocessor
The primary computational chip inside the computer that controls the interpretation and execution of arithmetic and logic functions. Software written for one microprocessor must usually be revised to run on another microprocessor. *CPU* is a synonym for microprocessor.

MIDI
Abbreviation for musical instrument digital interface.

MIF
Acronym for management information format. A MIF file contains information, status, and links to component instrumentation. MIF files are installed into the MIF database by the DMI service layer. The content of a MIF is defined by a DTMF working committee and is published in the form of a MIF definition document. This document identifies the groups and attributes that are relevant to DMI-manageable components.

mm
Abbreviation for millimeter(s).

modem
A device that allows your computer to communicate with other computers over telephone lines.

MOF
Acronym for managed object format, which is an ASCII file that contains the formal definition of a CIM schema.

mouse
A pointing device that controls the movement of the cursor on a screen. Mouse-aware software allows you to activate commands by clicking a mouse button while pointing at objects displayed on the screen.

MPEG
Acronym for Motion Picture Experts Group. MPEG is a digital video file format.

ms
Abbreviation for millisecond(s).

MTBF
Abbreviation for mean time between failures.

multifrequency monitor
A monitor that supports several video standards. A multifrequency monitor can adjust to the frequency range of the signal from a variety of video adapters.

mV
Abbreviation for millivolt(s).

name
The name of an object or variable is the exact string that identifies it in an SNMP Management Information Base (MIB) file, or in a DMI Management Information Format (MIF) file, or in a CIM Management Object File (MOF).

NDIS
Abbreviation for Network Driver Interface Specification.

NIC
Acronym for network interface controller.

NIF
Acronym for network interface function. This term is equivalent to NIC.

NMI
Abbreviation for nonmaskable interrupt. A device sends an NMI to signal the microprocessor about hardware errors, such as a parity error.

noninterlaced
A technique for decreasing screen flicker by sequentially refreshing each horizontal line on the screen.

ns
Abbreviation for nanosecond(s), one billionth of a second.

NTFS
Abbreviation for the NT File System option in the Windows NT operating system and later Windows operating systems.

NuBus
Proprietary expansion bus used on Apple Macintosh personal computers.

NVRAM
Acronym for nonvolatile random-access memory. Memory that does not lose its contents when you turn off your computer. NVRAM is used for maintaining the date, time, and system configuration information.

OEM
Abbreviation for original equipment manufacturer. An OEM is a company that supplies equipment to other companies to resell or incorporate into another product using the reseller's brand name.

OID
Abbreviation for object identifier. An implementation-specific integer or pointer that uniquely identifies an object.

online access service
A service that typically provides access to the Internet, e-mail, bulletin boards, chat rooms, and file libraries.

OTP
Abbreviation for one-time programmable.

parallel port
An I/O port used most often to connect a parallel printer to your computer. You can usually identify a parallel port on your computer by its 25-hole connector.

parameter
A value or option that you specify to a program. A parameter is sometimes called a *switch* or an *argument*.

partition
You can divide a hard drive into multiple physical sections called *partitions* with the **fdisk** command. Each partition can contain multiple logical drives.

After partitioning the hard drive, you must format each logical drive with the **format** command.

PCI
Abbreviation for Peripheral Component Interconnect. A standard for local-bus implementation developed by Intel Corporation.

PCMCIA
Personal Computer Memory Card International Association. An international trade association that has developed standards for devices, such as modems and external hard drives, that can be plugged into portable computers.

PERC
Acronym for PowerEdge® Expandable RAID controller.

peripheral device
An internal or external device—such as a printer, a disk drive, or a keyboard—connected to a computer.

PGA
Abbreviation for pin grid array, a type of microprocessor socket that allows you to remove the microprocessor chip.

physical memory array
The physical memory array is the entire physical memory of a system. Variables for physical memory array include maximum size, total number of memory slots on the motherboard, and total number of slots in use.

physical memory array mapped
The physical memory array mapped refers to the way physical memory is divided. For example, one mapped area may have 640 KB and the other mapped area may have between 1 megabyte and 127 megabytes.

PIC
Acronym for programmable interrupt controller.

PIP
Acronym for peripheral interchange program. A CP/M utility program that was used to copy files.

pixel
A single point on a video display. Pixels are arranged in rows and columns to create an image. A video resolution, such as 640 x 480, is expressed as the number of pixels across by the number of pixels up and down.

PLCC
Acronym for plastic leaded chip carrier.

Plug and Play
An industry-standard specification that makes it easier to add hardware devices to personal computers. Plug and Play provides automatic installation and configuration, compatibility with existing hardware, and dynamic support of mobile computing environments.

PME
Abbreviation for Power Management Event. A PME is a pin on a peripheral component interconnect that allows a PCI device to assert a wake event.

POST
Acronym for power-on self-test. Before the operating system loads when you turn on your computer, the POST tests various system components such as RAM, the disk drives, and the keyboard.

power supply
An electrical system that converts AC current from the wall outlet into the DC currents required by the computer circuitry. The power supply in a personal computer typically generates multiple voltages.

power unit
A set of power supplies in a system chassis.

ppm
Abbreviation for pages per minute.

PQFP
Abbreviation for plastic quad flat pack, a type of microprocessor socket in which the microprocessor chip is permanently mounted.

probe
An electronic sensor for measuring a quantity or determining system state at a particular point within a system. Server Administrator can monitor temperature, voltage, fan, memory, current and chassis intrusion probes. The probes provide a snapshot of the measured quantity (such as the temperature at a particular place and time) or state (a chassis intrusion has or has not occurred).

program diskette set
The set of diskettes from which you can perform a complete installation of an operating system or application program. When you reconfigure a program, you often need its program diskette set.

protected mode
An operating mode supported by 80286 or higher microprocessors, protected mode allows operating systems to implement:

- A memory address space of 16 MB (80286 microprocessor) to 4 GB (Intel386 or higher microprocessor)
- Multitasking
- Virtual memory, a method for increasing addressable memory by using the hard drive

The Windows NT, Windows 2000, Windows XP, OS/2®, and UNIX® 32-bit operating systems run in protected mode. MS-DOS cannot run in protected mode; however, some programs that you can start from MS-DOS, such as the Windows operating system, are able to put the computer into protected mode.

provider
A provider is an extension of a CIM schema that communicates with managed objects and accesses data and event notifications from a variety of sources. Providers forward this information to the CIM Object Manager for integration and interpretation.

PS
Abbreviation for power supply.

PS/2
Abbreviation for Personal System/2.

PXE
Abbreviation for Pre-boot eXecution Environment.

QFP
Acronym for quad flat pack.

RAC
Acronym for remote access controller. Dell OpenManage Server Administrator supports all RACs. These include the DRAC II, DRAC III, DRAC III/XT, ERA, and ERA/O.

RAID
Acronym for redundant array of independent drives.

RAM
Acronym for random-access memory. The computer's primary temporary storage area for program instructions and data. Each location in RAM is identified by a number called a *memory address*. Any information stored in RAM is lost when you turn off your computer.

RAMBUS
Acronym for Rambus DRAM, a type of memory (DRAM) developed by Rambus, Inc.

RAMDAC
Acronym for random-access memory digital-to-analog converter.

RAW
Unprocessed. The term refers to data that is passed along to an I/O device without being interpreted. In contrast, *cooked* refers to data that is processed before being passed to the I/O device.

It often refers to uncompressed text that is not stored in any proprietary format. The term comes from UNIX, which supports cooked and raw modes for data output to a terminal.

RDRAM
Acronym for Rambus DRAM. A dynamic RAM chip technology from Rambus, Inc. Direct RDRAMs are used in computers. Direct RDRAM chips are housed in RIMM modules, which are similar to DIMMs but have different pin settings. The chips can be built with dual channels, doubling the transfer rate to 3.2 GB/sec.

read-only file
A read-only file is one that you are prohibited from editing or deleting. A file can have read-only status if:

- Its read-only attribute is enabled.
- It resides on a physically write-protected diskette or on a diskette in a write-protected drive.
- It is located on a network in a directory to which the system administrator has assigned read-only rights to you.

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.

real mode
An operating mode supported by 80286 or higher microprocessors, real mode imitates the architecture of an 8086 microprocessor.

refresh rate
The rate at which the monitor redraws the video image on the monitor screen. More precisely, the refresh rate is the frequency, measured in Hz, at which the screen's horizontal lines are recharged (sometimes also referred to as its *vertical frequency*). The higher the refresh rate, the less video flicker can be seen by the human eye. The higher refresh rates are also noninterlaced.

RFI
Abbreviation for radio frequency interference.

RGB
Abbreviation for red/green/blue.

RIMM
Acronym for Rambus In-line Memory Module, which is the Rambus equivalent of a DIMM module.

ROM
Acronym for read-only memory. Your computer contains some programs essential to its operation in ROM code. Unlike RAM, a ROM chip retains its contents even after you turn off your computer. Examples of code in ROM include the program that initiates your computer's boot routine and the POST.

ROMB
Acronym for RAID on motherboard. When a RAID controller is integrated into a computer's system board, the system has ROMB technology.

RPM
Abbreviation for revolutions per minute.

RTC
Abbreviation for real-time clock. Battery-powered clock circuitry inside the computer that keeps the date and time after you turn off the computer.

SAS
Acronym for Serial Attached SCSI.

SCA
Acronym for single connector attachment.

schema
A collection of class definitions that describes managed objects in a particular environment. A CIM schema is a collection of class definitions used to represent managed objects that are common to every management environment, which is why CIM is called the Common Information Model.

SCSI
Acronym for small computer system interface. An I/O bus interface with faster data transmission rates than standard ports. You can connect up to seven devices (15 for some newer SCSI types) to one SCSI interface.

SDMS
Abbreviation for SCSI device management system.

sec
Abbreviation for second(s).

SEC
Abbreviation for single-edge contact.

serial port
An I/O port used most often to connect a modem to your computer. You can usually identify a serial port on your computer by its 9-pin connector.

settings
Settings are conditions of a manageable object help to determine what happens when a certain value is detected in a component. For example, a user can set the upper critical threshold of a temperature probe to 75 degrees Celsius. If the probe reaches that temperature, the setting results in an alert being sent to the management console so that user intervention can be taken. Some settings, when reached, can trigger a system shutdown or other response that can prevent damage to the system.

service tag number
A bar code label on the computer that identifies it when you call Dell for customer or technical support.

SGRAM
Acronym for synchronous graphics RAM.

shadowing
A computer's system and video BIOS code is usually stored on ROM chips. Shadowing refers to the performance-enhancement technique that copies BIOS code to faster RAM chips in the upper memory area (above 640 KB) during the boot routine.

SIMD
Abbreviation for Single Instruction Multiple Data.

SIMM
Acronym for single in-line memory module. A small circuit board containing DRAM chips that connects to the system board.

SIP
Acronym for single in-line package, which is a type of housing for electronic components in which the connecting pins protrude from one side. A SIP is also called a Single In-line Pin Package (SIPP).

SKU
Acronym for stock keeping unit.

SMART
Acronym for Self-Monitoring Analysis Reporting Technology. A technology that allows hard drives to report errors and failures to the system BIOS, which then displays an error message on the screen. To take advantage of this technology, you must have a SMART-compliant hard drive and the proper support in the system BIOS.

SMBIOS
Acronym for system management BIOS.

SMD
Acronym for surface mount device.

SMTP
Acronym for Simple Mail Transfer Protocol, a method for exchanging e-mail over the internet.

SNMP
Abbreviation for Simple Network Management Protocol. SNMP is an industry-standard interface that allows a network manager to remotely monitor and manage workstations.

SODIMM
Acronym for small outline-DIMM. A DIMM module with a thinner profile due to the use of TSOP chip packages. SODIMMs are commonly used in laptop computers.

SRAM
Abbreviation for static random-access memory. Because SRAM chips do not require continual refreshing, they are substantially faster than DRAM chips.

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 the status normal 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.

SVGA
Abbreviation for super video graphics array. VGA and SVGA are video standards for video adapters with greater resolution and color display capabilities than previous standards.

To display a program at a specific resolution, you must install the appropriate video drivers and your monitor must support the resolution. Similarly, the number of colors that a program can display depends on the capabilities of the monitor, the video driver, and the amount of video memory installed in the computer.

switch
On a computer system board, switches control various circuits or functions in your computer system. These switches are known as *DIP* switches; they are normally packaged in groups of two or more switches in a plastic case. Two common DIP switches are used on system boards: *slide* switches and *rocker* switches. The names of the switches are based on how the settings (on and off) of the switches are changed.

syntax
The rules that dictate how you must type a command or instruction so that the computer understands it. A variable's syntax indicates its data type.

system board
As the main circuit board, the system board usually contains most of your computer's integral components, such as the following:

- Microprocessor
- RAM
- Controllers for standard peripheral devices, such as the keyboard
- Various ROM chips

Frequently used synonyms for system board are *motherboard* and *logic board*.

system configuration information
Data stored in memory that tells a computer what hardware is installed and how the computer should be configured for operation.

system diskette
System diskette is a synonym for *bootable diskette*.

system memory
System memory is a synonym for *RAM*.

System Setup program
A BIOS-based program that allows you to configure your computer's hardware and customize the computer's operation by setting such features as password protection and energy management. Some options in the System Setup program require that you reboot the computer (or the computer may reboot automatically) in order to make a hardware configuration change. Because the System Setup program is stored in NVRAM, any settings remain in effect until you change them again.

system.ini file
A start-up file for the Windows operating system. When you start Windows, it consults the **system.ini** file to determine a variety of options for the Windows operating environment. Among other things, the **system.ini** file records which video, mouse, and keyboard drivers are installed for Windows.

Running the Control Panel or Windows Setup program may change options in the **system.ini** file. On other occasions, you may need to change or add options to the **system.ini** file manually with a text editor, such as Notepad.

table
In SNMP MIBs, a table is a two dimensional array that describes the variables that make up a managed object.

termination
Some devices (such as the last device at each end of a SCSI cable) must be terminated to prevent reflections and spurious signals in the cable. When such devices are connected in a series, you may need to enable or disable the termination on these devices by changing jumper or switch settings on the devices or by changing settings in the configuration software for the devices.

text editor
An application program for editing text files consisting exclusively of ASCII characters. Windows Notepad is a text editor, for example. Most word processors use proprietary file formats containing binary characters, although some can read and write text files.

text mode
A video mode that can be defined as *x* columns by *y* rows of characters.

threshold values
Systems are normally equipped with various sensors that monitor temperature, voltage, current, and fan speed. The sensor's threshold values specify the ranges (min and max values) for determining whether the sensor is operating under normal, noncritical, critical or fatal conditions. Dell-supported threshold values are:

- UpperThresholdFatal
- UpperThresholdCritical
- UpperThresholdNon-critical
- Normal

- LowerThresholdNon-critical
- LowerThresholdCritical
- LowerThresholdFatal

time-out
A specified period of system inactivity that must occur before an energy conservation feature is activated.

tpi
Abbreviation for tracks per inch.

TQFP
Acronym for thin quad flat pack.

TSR
Abbreviation for terminate-and-stay-resident. A TSR program runs "in the background." Most TSR programs implement a predefined key combination (sometimes referred to as a *hot key*) that allows you to activate the TSR program's interface while running another program. When you finish using the TSR program, you can return to the other application program and leave the TSR program resident in memory for later use.

TSR programs can sometimes cause memory conflicts. When troubleshooting, rule out the possibility of such a conflict by rebooting your computer without starting any TSR programs.

UART
Acronym for universal asynchronous receiver transmitter, the electronic circuit that makes up the serial port.

UDP
Acronym for user datagram protocol.

UL
Abbreviation for Underwriters Laboratories.

UMB
Abbreviation for upper memory blocks.

unicode
A fixed width, 16-bit world wide character encoding, developed and maintained by the Unicode Consortium.

upper memory area
The 384 KB of RAM located between 640 KB and 1 MB. If the computer has an Intel386 or higher microprocessor, a utility called a *memory manager* can create UMBs in the upper memory area, in which you can load device drivers and memory-resident programs.

UPS
Abbreviation for uninterruptible power supply. A battery-powered unit that automatically supplies power to your computer in the event of an electrical failure.

USB
Abbreviation for Universal Serial Bus. A USB connector provides a single connection point for multiple USB-compliant devices, such as mice, keyboards, printers, and computer speakers. USB devices can also be connected and disconnected while the system is running.

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

UTP
Abbreviation for unshielded twisted pair.

UUID
Acronym for Universal Unique Identification.

V
Abbreviation for volt(s).

VAC
Abbreviation for volt(s) alternating current.

varbind
An algorithm used to assign an object identifier or OID. The varbind gives rules for arriving at the decimal prefix

that uniquely identifies an enterprise, as well as the formula for specifying a unique identifier for the objects defined in that enterprise's MIB.

variable
A component of a managed object. A temperature probe, for example, has a variable to describe its capabilities, its health or status, and certain indexes that you can use to help you in locating the right temperature probe.

VCCI
Abbreviation for Voluntary Control Council for Interference.

VCR
Abbreviation for video cassette recorder.

VDC
Abbreviation for volt(s) direct current.

VESA
Acronym for Video Electronics Standards Association.

VGA
Abbreviation for video graphics array. VGA and SVGA are video standards for video adapters with greater resolution and color display capabilities than previous standards. To display a program at a specific resolution, you must install the appropriate video drivers and your monitor must support the resolution. Similarly, the number of colors that a program can display depends on the capabilities of the monitor, the video driver, and the amount of video memory installed for the video adapter.

VGA feature connector
On some systems with a built-in VGA video adapter, a VGA feature connector allows you to add an enhancement adapter, such as a video accelerator, to your computer. A VGA feature connector can also be called a VGA pass-through connector.

video adapter
The logical circuitry that provides—in combination with the monitor—your computer's video capabilities. A video adapter may support more or fewer features than a specific monitor offers. Typically, a video adapter comes with video drivers for displaying popular application programs and operating systems in a variety of video modes.

On some Dell computers, a video adapter is integrated into the system board. Also available are many video adapter cards that plug into an expansion-card connector.

Video adapters often include memory separate from RAM on the system board. The amount of video memory, along with the adapter's video drivers, may affect the number of colors that can be simultaneously displayed. Video adapters can also include their own coprocessor for faster graphics rendering.

video driver
A program that allows graphics-mode application programs and operating systems to display at a chosen resolution with the desired number of colors. A software package may include some "generic" video drivers. Any additional video drivers may need to match the video adapter installed in the computer.

video memory
Most VGA and SVGA video adapters include memory chips in addition to your computer's RAM. The amount of video memory installed primarily influences the number of colors that a program can display (with the appropriate video drivers and monitor capabilities).

video mode
Video adapters normally support multiple text and graphics display modes. Character-based software displays in text modes that can be defined as *x* columns by *y* rows of characters. Graphics-based software displays in graphics modes that can be defined as *x* horizontal by *y* vertical pixels by *z* colors.

video resolution
Video resolution—800 x 600, for example—is expressed as the number of pixels across by the number of pixels up and down. To display a program at a specific graphics resolution, you must install the appropriate video drivers and your monitor must support the resolution.

virtual memory
A method for increasing addressable RAM by using the hard drive. For example, in a computer with 16 MB of RAM and 16 MB of virtual memory set up on the hard drive, the operating system would manage the system as though it had 32 MB of physical RAM.

virus
A self-starting program designed to inconvenience you. Virus programs have been known to corrupt the files stored on a hard drive or to replicate themselves until a computer or network runs out of memory.

The most common way that virus programs move from one computer to another is via "infected" diskettes, from which they copy themselves to the hard drive. To guard against virus programs, you should do the following:

- Periodically run a virus-checking utility on your computer's hard drive
- Always run a virus-checking utility on any diskettes (including commercially sold software) before using them

VLSI
Abbreviation for very-large-scale integration.

VLVESA
Acronym for very low voltage enterprise system architecture.

vpp
Abbreviation for peak-point voltage.

VRAM
Acronym for video random-access memory. Some video adapters use VRAM chips (or a combination of VRAM and DRAM) to improve video performance. VRAM is dual-ported, allowing the video adapter to update the screen and receive new image data at the same time.

VRM
Abbreviation for voltage regulator module.

W
Abbreviation for watt(s).

Wakeup on LAN
The ability for the power in a client station to be turned on by the network. Remote wake-up enables software upgrading and other management tasks to be performed on users' machines after the work day is over. It also enables remote users to gain access to machines that have been turned off. Intel calls remote wake-up "Wake-on-LAN."

WH
Abbreviation for watt-hour(s).

win.ini file
A start-up file for the Windows operating system. When you start Windows, it consults the **win.ini** file to determine a variety of options for the Windows operating environment. Among other things, the **win.ini** file records what printer(s) and fonts are installed for Windows. The **win.ini** file also usually includes sections that contain optional settings for Windows application programs that are installed on the hard drive.

Running the Control Panel or Windows Setup program may change options in the **win.ini** file. On other occasions, you may need to change or add options to the **win.ini** file manually with a text editor such as Notepad.

write-protected
Read-only files are said to be *write-protected*. You can write-protect a 3.5-inch diskette by sliding its write-protect tab to the open position or by setting the write-protect feature in the System Setup program.

XMM
Abbreviation for extended memory manager, a utility that allows application programs and operating systems to use extended memory in accordance with the XMS.

XMS
Abbreviation for eXtended Memory Specification.

ZIF
Acronym for zero insertion force. Some computers use ZIF sockets and connectors to allow devices such as the microprocessor chip to be installed or removed with no stress applied to the device.

ZIP
A 3.5-inch removable disk drive from Iomega. Originally, it provided a 100-MB removable cartridges. The drive is bundled with software that can catalog the disks and lock the files for security.

A 250-MB version of the Zip drive also reads and writes the 100-MB Zip cartridges.

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