

Dell OpenManage™ Server Administrator

Version 1.8.3

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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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.

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 webservice 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 webservice" for more information.

What's New for Version 1.8.3

- Added support for Dell™ PowerEdge™ 7250 system
- Added support for Baseboard Management Controller (BMC)

Supported System

Server Administrator version 1.8.3 is only supported on the Dell PowerEdge 7250 system.



NOTE: The CLI help contains all possible commands for all versions of the Server Administrator CLI. Some of these commands are not supported in Server Administrator version 1.8.3.

Using CLI Commands from Windows Command Prompts

If you issue a Server Administrator CLI command from a command prompt in the Microsoft® Windows® operating system, make sure you use the 64-bit command prompt. You can access the 64-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.

Avoid using the DOS command prompt launched by the **command.com** command. This command launches a 16-bit DOS command prompt and may produce unpredictable results.

Primary CLI Commands

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

- **omconfig**
- **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 **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 |
| omhelp | omhelp: Getting Help With CLI Commands | |

Table 1-1. CLI Commands and Sections in This Guide (*continued*)

| Primary CLI Command | Section Title | Related Sections |
|---------------------|--|------------------|
| omreport | omreport: Viewing System Status Using the Instrumentation Service | |

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.

Using the Correct Command Line

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. Instead, use the Command Prompt shortcut (click the **Start** button and point to **Programs**→**Accessories**→**Command Prompt**) or type `cmd` in the **Run** dialog box to use the 64-bit command line application.

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 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**, 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.

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 up to nine 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=<mmdyy>  
purchasedate=<mmdyy> 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

omhelp: Getting Help With CLI Commands

 **NOTE:** The CLI help contains all possible commands for all versions of the Server Administrator CLI. Some of these commands are not supported in Server Administrator version 1.8.3.

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**:

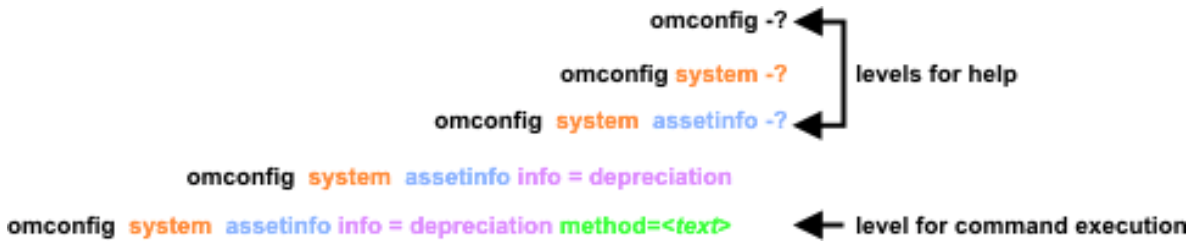
- about
- preferences
- chassis
- system

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
- thrmsshutdown
- 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):
info=acquisition  purchasecost=<num> waybill=<num>
installdate=<mmddy> purchasedate=<mmddy> ponum=<num>
signauth=<text>  expensed=<yes|no> costcenter=<text> info=
depreciation    method=<text> duration=<num> percent=<percent>
unit=<months|years|unknown>
```

You can get help for some commands that take name= value pairs, but not for all. For example, if you type:

```
omreport chassis fans index=0 -?
```

The result is:

```
fans              Fan probe(s) properties.
```

Valid parameters are:

`index=<number>` Displays properties for a particular fan probe.

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.

Table 3-1 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, and system). "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 3-1 shows the **omreport** commands available for about, system, and main system chassis.

Table 3-1. 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. |
| | | 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 frontpanel button settings, namely Power button and/or Non-Masking Interrupt (NMI) button (if present on the system), are enabled or disabled. |
| | | 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. |

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

| Command level 1 | Command level 2 | Command level 3 | User privilege required | Use |
|-----------------|-----------------|-----------------|-------------------------|---|
| | | 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. |
| | 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. |
| | | 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. |

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

| Command level 1 | Command level 2 | Command level 3 | User privilege required | Use |
|-----------------|-----------------|-----------------|-------------------------|---|
| | | 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, and software. |
| | | 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. |

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      : 1.x.x
Copyright    : Copyright (C) Dell Inc. 1995-2004. 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 4.x.x
           Storage Management Service 3.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 1.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:** 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 redundancy : 2
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.

The output from this command lists each of the available attributes and the current setting for each. Table 3-2 shows the possible settings for each parameter and whether the parameter requires the `force = true` option..

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 3-2 shows the available settings.

Table 3-2. omreport chassis bmc

| Name=value pair | Description |
|-----------------------|---|
| config= advsol | Reports advanced BMC information on a serial over LAN connection. |
| config= nic | Reports BMC information for the local area network (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 3-3 shows the available settings.

Table 3-3. 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, namely the Power button and/or Non-Masking 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 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 : finance
Host Name : finance22
Embedded System Management Controller Version : 5.xx
Primary Backplane Version : 5.xx
Chassis Model : PowerEdge 8450
Chassis Lock : Present
Chassis Service Tag : 678211C
Chassis Asset Tag : FinceDept
```

If you run this command on a Dell™ PowerEdge™ 1655MC system, the following additional information displays:

- **Server Module Service Tag** — The service tag of the server module that you are currently logged into. (The Chassis Service Tag field indicates the service tag of your PowerEdge 1655MC system chassis.)
- **Server Module Asset Tag** — The asset tag of the server module that you are currently logged into.
- **Server Module Location** — A number assigned to the server module that indicates its position in the PowerEdge 1655MC system chassis.

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:

```
Clear hard drive : Supported
fault
Flash fault led : Critical
on severity
level
```

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 hexadecimal.

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**, **Maximum Speed**, **Current Speed**, **External Clock Speed**, **Processor Upgrade**, 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.

Maximum Speed is the highest expected transmission speed that the processor can achieve in millions of cycles per second (megahertz or MHz).

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.

Processor Upgrade describes the upgrade socket or device for the processor. Options include upgrade device type unknown, there is no upgrade device type, upgrade device is on a daughter board, is in a ZIF socket, is a replacement, is in a LIF socket, is a Slot 1 processor, is a Slot 2 processor, and is a pin 370 processor.

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

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 single-bit ECC or multibit 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, and the hardware, or ESM, log.

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
```

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 3-4 shows the events displayed for various component types.


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

Table 3-4. 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. |
| 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 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        : 1.x.x
Description    : Systems Management Software
Contains:      : Instrumentation Service 4.x.x
                : Storage Management 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

If you run this command on a PowerEdge 1655MC system, the following additional information displays:

- **Server Module Service Tag** — The service tag of the server module that you are currently logged into. (The Chassis Service Tag field indicates the service tag of your PowerEdge 1655MC system chassis.)
- **Server Module Asset Tag** — The asset tag of the server module that you are currently logged into.
- **Server Module Location** — A number assigned to the server module that indicates its position in the PowerEdge 1655MC system chassis.

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, and firmware 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 and firmware installed on your system. The following *partial* command results are unique and may not resemble the results for your system's configuration:

```
Version Report
-----
Main System Chassis
-----
Name       : BIOS
Version    : A01
Updateable : Yes
-----
PERC Firmware
-----
```

Name : DELL PERC 2/Si Firmware
Version : 2.7.0.3552
Updateable : Yes

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 4-1 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 4-1. 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 | snmp | A | Sets the SNMP root password. |
| | | useraccess | A | Determines whether users below the administrator level are allowed to use Server Administrator or not. |
| | | cdvformat | A | Specifies the delimiter for separating data fields reported in custom delimited format (cdv). |
| | 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. |
| | | esmlog | P, A | Allows the administrator to clear the log. |
| | | events | P, A | Enables and disables SNMP traps. |
| | | recovery | P, A | Determines in advance how your system responds to a hung operating system. |

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

| Command level 1 | Command level 2 | Command level 3 | User privilege required | Use |
|-----------------|-----------------|-----------------|-------------------------|--|
| | | 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 | 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 Non-Masking 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. |
| | | 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. |

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® 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 : 1.x.x
Copyright : Copyright (C) Dell Inc.
1995-2004. 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 4.x.x
           Storage Management Service 3.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 1.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 bmc

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

- Baseboard management controller (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 4-2 shows the valid parameters:

Table 4-2. 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. |
| config= advsol (continued) | 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: Enable the LAN interface for BMC. false: Disable the LAN interface for BMC. |
| config= nic (continued) | gateway= Gateway | gateway: Sets a gateway address if you have selected static as the IP address source for the BMC LAN interface. |
| config= nic (continued) | IP address= IP | ip: Sets the IP address if you have selected static as the IP address source for the BMC LAN interface. |

Table 4-2. omconfig chassis bmc (continued)

| Name=value pair 1 config= | Name=value pair 2 | Description |
|------------------------------|---|--|
| config= nic (continued) | ipsource= static systemsoftware | <p>static: Static if the IP address of the BMC LAN interface is a fixed, assigned IP address.</p> <p>systemsoftware: System Software if the source of the IP address of the BMC LAN interface is from the System Software.</p> <p>The BMC NIC has a new selection for the IP address source, which is system software. While system software is selected, the BMC will obtain a DHCP address when the system is booted. When the address is obtained from the DHCP server, it will not be updated until the next reboot. It is recommended that the DHCP server provide IP addresses with permanent leases.</p> <p>NOTE: Using IP addresses that expire could result in duplicate IP addresses on the network, and inability to use the BMC Management Utilities.</p> |
| config= nic (continued) | privilegelevel= administrator operator user | <p>administrator: Administrator has access privileges to the local area network (LAN) channel.</p> <p>operator: Operator and Administrator have access privileges to the LAN channel.</p> <p>user: User, Operator, and Administrator have access privileges to the LAN channel.</p> |
| config= nic (continued) | subnet= Subnet | <p>subnet: Sets a subnet mask if you have selected static as the IP address source for the BMC LAN interface.</p> |

Table 4-2. omconfig chassis bmc (continued)

| Name=value pair 1 config= | Name=value pair 2 | Description |
|-------------------------------|--|--|
| config= serial | baudrate= 9600 19200 38400 57600 | <p>9600: Sets connection speed to 9600 bit per second.</p> <p>19200: Sets connection speed to 19200 bit per second.</p> <p>38400: Sets connection speed to 38400 bit per second.</p> <p>57600: Sets connection speed to 57600 bit per second.</p> |
| config= serial (continued) | flowcontrol= none rtscts | <p>none: No control over the flow of communication through the serial port.</p> <p>rtscts: RTS is ready to send and CTS is clear to send.</p> |
| config= serial (continued) | mode= directbasic directterminal directbasicterminal modembasic modemterminal modembasicterminal | <p>directbasic: Type of messaging used for IPMI messaging over a serial connection.</p> <p>directterminal: Type of messaging that uses printable ASCII characters and that allows a limited number of text commands over a serial connection.</p> <p>directbasicterminal: Both basic and terminal mode messaging over a serial connection.</p> <p>modembasic: Type of messaging used for IPMI messaging over a modem.</p> <p>modemterminal: Type of messaging that uses printable ASCII characters and that allows a limited number of text commands over a modem.</p> <p>modembasicterminal: Both basic and terminal mode messaging over a modem.</p> |

Table 4-2. omconfig chassis bmc (continued)

| Name=value pair 1 config= | Name=value pair 2 | Description |
|--------------------------------------|--|---|
| config= serial (continued) | privilegelevel= administrator operator user | administrator: Administrator has the access privileges for the serial over LAN channel. operator: User and Administrator have access privileges for the serial over LAN channel. user: User, Operator, and Administrator have access privileges for the serial over LAN channel. |
| config= serialoverlan | enable= true false | true: Enables serial over LAN for the BMC. false: Disables serial over LAN for the BMC. |
| config= serialoverlan (continued) | baudrate= 9600 19200 | 9600: Sets the volatile and non-volatile connection speed to 9600 bit per second. 19200: Sets the volatile and non-volatile connection speed to 19200 bit per second. |
| config= serialoverlan (continued) | privilegelevel= administrator operator user | administrator: Administrator has the access privileges for the serial over LAN channel. operator: User and Administrator have access privileges for the serial over LAN channel user: User, Operator, and Administrator have access privileges for the serial over LAN channel. |
| config= settodefault | | Takes the default configuration settings. |
| config= terminalmode | deletecontrol= outputdel outputbkspspbks | outputdel: BMC outputs a character when <bksp> or is received. outputbkspspbks: BMC outputs a <bksp><sp><bksp> character when <bksp> or is received. |

Table 4-2. 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. |
| config= terminalmode (continued) | 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. |
| config= terminalmode (continued) | inputlinesequence= cr null | cr: The console uses < CR > as a new line sequence. null: The console uses < NULL > as a new line sequence. |
| config= terminalmode (continued) | lineediting= enabled disabled | enabled: Enables line editing as a line is typed. disable: Disables line editing as a line is typed. |
| config= terminalmode (continued) | 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 4-2. 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. |
| config= user (continued) | id= number name= text | number: ID number of the user being configured. name= text: Name of the user. |
| config= user (continued) | 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. |
| config= user (continued) | id= number serialaccesslevel= administrator operator user none | id= number: ID number of the user being configured. serialaccesslevel= administrator: Administrator has access privileges for the Serial Port channel. serialaccesslevel= operator: User and Administrator have access privileges for the Serial Port channel. serialaccesslevel= user: User, Operator, and Administrator have access privileges for the Serial Port channel. serialaccesslevel= none: No one has access privileges. |

Table 4-2. omconfig chassis bmc (continued)

| Name=value pair 1 config= | Name=value pair 2 | Description |
|------------------------------|---|---|
| config= user (continued) | id= number lanaccesslevel= administrator operator user none | <p>id= number: ID number of the user being configured.</p> <p>lanaccesslevel= administrator: Administrator has access privileges for the local area network (LAN) channel.</p> <p>lanaccesslevel= operator: User and Administrator have access privileges for the LAN channel.</p> <p>lanaccesslevel= user: User, Operator, and Administrator have access privileges for the LAN channel.</p> <p>lanaccesslevel= none: No one has access privileges.</p> |

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 4-3 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 4-3. 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 4-4 shows the valid parameters for setting fan warning thresholds:

Table 4-4. 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 4-5 shows the valid parameters for the command.

Table 4-5. 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 Non-Masking Interrupt (NMI) button.


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

Table 4-6 shows the valid parameters for the command.

Table 4-6. 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 4-7 shows the valid parameters for the command.

Table 4-7. 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 4-8 shows the valid parameters for the command.

Table 4-8. 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 single-bit ECC error 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 a multibit error 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 4-9 shows the valid parameters for the command.

Table 4-9. 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 | <p>Disabled indicates that the system is not to use other available memory modules if multibit memory errors are detected. Spare disables the memory module that has a single-bit memory error and copies the failing module's data to a spare bank. Mirrored switches the systems to a mirrored copy of the memory if the failing module has a multibit error. In mirrored mode, the operating system does not switch back to the original module until the system reboots.</p> |

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 4-10 shows the valid parameters for setting temperature warning thresholds:

Table 4-10. 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:** 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 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 4-11 shows the valid parameters for setting voltage warning thresholds.



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

Table 4-11. 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 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.

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 4-12 shows the valid parameters for the command.

Table 4-12. SNMP Root Password Parameters

| Name=value pair | Description |
|-----------------|-------------|
| setting= rootpw | Required. |

Table 4-12. SNMP Root Password Parameters (*continued*)

| Name=value pair | Description |
|--------------------------------------|--------------------------------------|
| oldpw= < <i>oldpassword</i> > | Enter the old SNMP root password. |
| newpw= < <i>newpassword</i> > | Sets the new SNMP root password. |
| confirmnewpw= < <i>newpassword</i> > | 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 4-13 shows the valid parameters for the command.

Table 4-13. Enabling User Access for Administrators, Power Users, and Users

| Command | Result | Description |
|--|---|--|
| <code>omconfig preferences useraccess enable= user</code> | Grants Server Administrator access to Users, Power Users, and Administrators. | Least restrictive form of user access. |
| <code>omconfig preferences useraccess enable= poweruser</code> | Grants Server Administrator access to Power Users and Administrators. | Excludes user level access only. |
| <code>omconfig preferences useraccess enable= admin</code> | Grants Server Administrator access to Administrators <i>only</i> . | Most restrictive form of user access. |

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 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 4-14 shows the alert actions for each component that allows you to configure an alert action.

Table 4-14. 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 4-15 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 4-15. 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. |
| 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= 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= hardwarelogwarn | Sets actions when a hardware log detects a warning value. |
| event= hardwarelogfull | Sets actions when a hardware log detects a full 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= watchdogasr | Sets actions when a watchdog 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 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 4-16 shows the valid parameters for system event types.

Table 4-16. 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 4-17 shows the valid severity parameters.

Table 4-17. System Event Severity Parameters

| Command | Result | Description |
|--|---|---|
| <code>omconfig system events type= < component name> severity= info</code> | Enables notification for informational, warning, and critical events. | Least restrictive form of event notification. |
| <code>omconfig system events type= < component name> severity= warning</code> | Enables notification for warning and critical events. | Omits informational event notification, for example, when a component returns to normal status. |
| <code>omconfig system events type= < component name> severity= critical</code> | Enables notification for critical events only. | Restrictive form of event notification. |
| <code>omconfig system events type= < component name> severity= none</code> | 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 4-18 shows the valid parameters for the command.

Table 4-18. 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 4-19 shows the valid parameters for the command.


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

Table 4-19. 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= restart | 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 4-20 shows the valid parameters for the command.

Table 4-20. 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. |
| 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 | Closes the file system and exits 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 4-21 shows the valid parameters for the command.

Table 4-21. Thermal Shutdown Parameters

| Name=value pair | Description |
|---|---|
| severity= disabled warning failure | <p>disabled: Disable thermal shutdown. An administrator must intervene.</p> <p>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.</p> <p>failure: Perform a shutdown when a temperature failure event is detected.</p> |

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
```


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 5-1 shows the valid parameters for the command.

Table 5-1. 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 5-1. `omconfig system assetinfo info=acquisition` (continued)

| Command level 1 | Command level 2 | Command level 3 | Name=value pair 1 | Name=value pair 2 | Use |
|-----------------|-----------------|-----------------|-------------------|---|--|
| | | | | <code>expensed=yes no</code> | Whether the system is charged to a specific purpose or department such as research and development or sales. |
| | | | | <code>installdate= < mmdyy></code> | Date the system was put into service. |
| | | | | <code>ponum= < n></code> | Number of the document that authorized payment for the system. |
| | | | | <code>purchasecost= < n></code> | Price the owner paid for the system. |
| | | | | <code>purchasedate= < mmdyy></code> | Date the owner purchased the system. |
| | | | | <code>signauth= < text></code> | Name of the person who approved the purchase or the service call on the system. |
| | | | | <code>waybill= < n></code> | 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 5-2 shows the valid parameters for the command.

Table 5-2. **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> | The length of time over which a system is depreciated. Enter the number of months or years. |
| | | | | 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 5-3 shows the valid parameters for the command.

Table 5-3. 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 5-4 shows the valid parameters for the command.

Table 5-4. 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 5-5 shows the valid parameters for adding maintenance information.

Table 5-5. **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 5-6 shows the valid parameters for adding outsource information.

Table 5-6. `omconfig system assetinfo info=outsourcing`

| Command level 1 | Command level 2 | Command level 3 | Name=value pair 1 | Name=value pair 2 | Use |
|-----------------------|---------------------|------------------------|-------------------------------|---|--|
| <code>omconfig</code> | <code>system</code> | <code>assetinfo</code> | <code>info=outsourcing</code> | | |
| | | | | <code>levels= <n></code> | Levels of service offered by the provider. |
| | | | | <code>problemcomponent = <component></code> | System component that requires maintenance. |
| | | | | <code>providerfee= <providerfee></code> | Amount of money charged for maintenance. |
| | | | | <code>servicefee= <servicefee></code> | Amount of money charged for service. |
| | | | | <code>signauth= <name></code> | 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=outsourcing <name=value pair 2>`**. For example, type:

```
omconfig system assetinfo info=outsourcing 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 5-7 shows the valid parameters for adding owner information.

Table 5-7. `omconfig system assetinfo info=owner`

| Command level 1 | Command level 2 | Command level 3 | Name=value pair 1 | Name=value pair 2 | Use |
|-----------------------|---------------------|------------------------|--------------------------|---|---|
| <code>omconfig</code> | <code>system</code> | <code>assetinfo</code> | <code>info= owner</code> | <code>insuranceco=</code> <code>< company ></code> | Name of the insurance company that insures the system. |
| | | | | <code>ownername=</code> <code>< business ></code> | Business entity that owns the system. |
| | | | | <code>type= owned leased </code> <code>rented</code> | 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 5-8 shows the valid parameters for adding contract information.

Table 5-8. 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 5-9 shows the valid parameters for adding support information.

Table 5-9. 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 5-10 shows the valid parameters for adding system information.

Table 5-10. `omconfig system assetinfo info=system`

| Command level 1 | Command level 2 | Command level 3 | Name=value pair 1 | Name=value pair 2 | Use |
|-----------------------|---------------------|------------------------|--------------------------|--|--|
| <code>omconfig</code> | <code>system</code> | <code>assetinfo</code> | <code>info=system</code> | | |
| | | | | <code>location=</code> <code>< text ></code> | Location of the system. |
| | | | | <code>primaryphone</code> <code>= < n ></code> | Phone number of the system's primary user. |
| | | | | <code>primaryuser=</code> <code>< user ></code> | 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 5-11 shows the valid parameters for adding warranty information.

Table 5-11. `omconfig system assetinfo info=warranty`

| Command level 1 | Command level 2 | Command level 3 | Name=value pair 1 | Name=value pair 2 | Use |
|-----------------------|---------------------|------------------------|-----------------------------|---|---|
| <code>omconfig</code> | <code>system</code> | <code>assetinfo</code> | <code>info= warranty</code> | <code>cost= <cost></code> | Cost of the warranty service. |
| | | | | <code>duration= <duration></code> | Number of days or months that the warranty is in force. |
| | | | | <code>enddate= <enddate></code> | Date the warranty agreement ends. |
| | | | | <code>unit= days months</code> | 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."

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® 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.

In Novell® NetWare®, you can use the `inetcfg` command to view console messages that have scrolled past.

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>  
<SubnetMask>255.255.255.0</SubnetMask><DefaultGateway>143.166.  
152.1</DefaultGateway><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.

asset tag code

An individual code assigned to a computer, usually by a system administrator, for security or tracking purposes.

attribute

As it relates to an attribute is a piece of information related to a 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. BMC is the controller interface between the RAC and the managed system's ESM.

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>; 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 and tape 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.

FEPRM

Acronym for Flash Erasable Programmable Read-Only Memory. Flash memory is a kind of non-volatile 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.

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. IPMI is a specification that defines interfaces for use in monitoring the physical health of servers, such as temperature, voltage, fans, power supplies, and chassis. It allows easier management of large numbers of servers from multiple vendors.

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).

MS-DOS

Abbreviation for Microsoft Disk Operating System.

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.

NLM

Abbreviation for NetWare[®] Loadable Module.

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/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.

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.

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.