

Dell™ OpenManage™  
Deployment Toolkit Version 2.4  
Command Line Interface  
Reference 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

Dell™ OpenManage™ Deployment Toolkit (DTK) includes a set of utilities for configuring and deploying Dell PowerEdge™ systems. DTK is designed for customers who need to build scripted installations in order to deploy large numbers of systems in a reliable fashion without having to dramatically change their current deployment processes.

DTK consists of command line utilities to configure various system features, sample scripts to perform common deployment tasks, and documentation for each utility. You can use DTK in a Microsoft® Windows® Preinstallation Environment (Windows PE) or a Linux environment.

## What's New

Deployment Toolkit version 1.0 was the first release of a Dell-designed and tested suite of utilities, sample script files, and best practices models to use for configuring and deploying Dell systems in a customized, predictable, and unattended manner. DTK versions 1.1, 1.3, and 1.4 included added support and additional utility options. DTK version 2.0 was the first release with flexibility to use DTK in either a Windows PE or an embedded Linux environment.

The new features for DTK version 2.4 include:

- Support for Dell PowerEdge systems T105, R200, R805, R900, M600, M605



**NOTE:** R805, M600, and M605 are scheduled to be available in Q4 CY07 - Q1 CY08.

- Support for installing Windows PE 2.0
- Support for PowerEdge Expandable RAID controller (PERC) 6 and Serial Attached SCSI (SAS) 6
- Support for Redundant Array of Independent Disks (RAID) 6 and RAID 60
- Support for installing Microsoft Windows Server® 2008



**NOTE:** Microsoft Windows Server 2008 is scheduled to be available in the first half of 2008. For the latest information, see <http://www.microsoft.com/windowsserver2008/default.mspx>

# Requirements

For Windows PE, the DTK utilities support Windows PE version 2005 (released with Microsoft Windows Server® 2003, Service Pack 1 [SP1]).

For embedded Linux, the DTK utilities can be run on Red Hat® Enterprise Linux® (version 4, update 4) 32-bit.

## Supported Systems

For the list of Dell systems supported for this version of DTK, see the `readme.txt` file located at the root folder or the *Dell Systems Software Support Matrix* on the Dell Support website at [support.dell.com](http://support.dell.com).

# Toolkit Utilities

## Overview

DTK contains utilities that allow you to configure the BIOS, baseboard management controller (BMC), remote access controller (RAC), RAID controllers, and hard-drive partitions on supported Dell systems. Additionally, the utilities can be integrated with the sample files provided with the toolkit to fully configure one-to-many target systems in a scripted mass system deployment.



**NOTE:** In a Linux environment, the DTK utilities do not have a `.exe` extension.

## System Configuration Utility

The SYSCFG utility performs the following tasks:

- Reports and sets BIOS configuration options
- Reports and sets BMC/RAC configuration options
- Reports and sets user-configurable states
- Reports system information, including PCI device detection

## RAID Configuration Utility

The RAIDCFG utility reports and sets RAID configuration options.

## RAC Configuration Utility

The RACADM utility reports and sets RAC configuration options for Dell Remote Access Controller (DRAC) III (Linux only) and DRAC 4.



**NOTE:** DRAC 5 is configured by SYSCFG.

## Disk Partitioning Utility

The UPINIT script creates, formats, and populates a Dell Utility Partition.

# Replication

### File Format

The **-i** and **-o** options use a **.ini** file format for SYSCFG options. All name/value entries that follow the `[ syscfg ]` section header in the **.ini** file belong to the SYSCFG utility. For an example of the `syscfg.ini` file, see "Sample SYSCFG Utility .ini File Format."

### SYSCFG Replication Rules

Not all BIOS and BMC options can be replicated using a **.ini** file. For example, boot sequence and device sequence are only replicated if a device name list can be supplied. A numerical device list cannot be replicated since these index values can change from system to system. In addition, because the service tag information is static, it is not commented out in the output file or replicated. See the description of each option for further replication information.

The `syscfg.ini` file cannot be used across different systems. The file output operation places system identification information at the beginning of the `[ syscfg ]` section. This information is used to determine if the file can be accepted as input for a system. The following information is used for system identification:

- System ID Byte(s)
- System Name
- BIOS Version

If these values do not match the values found on the system, the file input operation fails.

The following is the SYSCFG behavior during replication:

- Options not available in SYSCFG are termed invalid options. If SYSCFG encounters an invalid option in the `syscfg.ini` file, the SYSCFG utility terminates.
- Unsupported options are options available in SYSCFG but not applicable on certain systems. If SYSCFG encounters an unsupported option, SYSCFG logs this option and continues to the next option.

For example, the **virtualization** option is not available on x8xx series systems.

- Unsupported arguments are arguments valid in SYSCFG but not applicable on certain systems. If SYSCFG encounters an unsupported argument, SYSCFG terminates.

For example, `syscfg --embsataraid=ahci` is not applicable on some x9xx series systems.

- SYSCFG logs a message in the log file for each option processed in the `syscfg.ini` file. To generate the log file, use the `logfile` option.

## **RAID Replication**

The RAID replication feature reads the RAID configuration information from the source system and creates a **raid.ini** file. This **raid.ini** file can be applied on the RAID configurations of the target system. The RAID replication requires both, the source system and the target system to have similar RAID controllers.

## **RACADM Replication**

The **RACREP.BAT** sample script applies RAC configuration options to the target system based on the configuration information that has been saved in a configuration file. User input is optional, depending on variables set in the **RACREP.BAT** sample script. This script uses the **RACADM.EXE** utility to configure the RAC in the target system using the RAC configuration file, **raccfg.ini**. The **raccfg.ini** configuration file is passed as the first parameter to the **RACREP.BAT** script. If this parameter is not passed, the default variable values used in this script are set in the **TKENVSET.BAT** scripts. An optional second parameter can be passed to this file, which specifies the IP address used in configuring the RAC. The **raccfg.ini** file is generated with the **RACCAP.BAT** sample script.

## Other Dell Documents You Might Need

Besides this *Command Line Interface Reference Guide*, you can find the following guides on the Dell OpenManage documentation page of the Dell Support website at [support.dell.com](http://support.dell.com) or on the *Dell Systems Documentation CD*.

- The *Dell OpenManage Installation and Security User's Guide* provides additional information about performing an unattended installation of Dell OpenManage Server Administrator on systems running supported Windows, Red Hat Enterprise Linux, and SUSE® Linux Enterprise Server operating systems.
- The *Dell OpenManage Server Administrator Compatibility Guide* provides compatibility information about Server Administrator installation and operation on various hardware platforms (or systems) running supported Windows, Red Hat Enterprise Linux, and SUSE Linux Enterprise Server operating systems.
- The *Dell Remote Access Controller Racadm User's Guide* provides additional information about using the RACADM command line utility.
- The *Dell Update Packages User's Guide* provides information about obtaining and using Dell Update Packages as part of your system update strategy.

Additionally, the Deployment Toolkit `readme.txt` file, which is available as part of the DTK download and on the Dell Support website at [support.dell.com](http://support.dell.com), provides the latest available information about the installation and operation of the DTK components.

## Obtaining Technical Assistance

If at any time you do not understand a procedure described in this guide or if your product does not perform as expected, help tools are available to assist you. For more information about these help tools, see "Getting Help" in your system's *Hardware Owner's Manual*.

Additionally, Dell Enterprise Training and Certification is available; see [www.dell.com/training](http://www.dell.com/training) for more information. This service may not be offered in all locations.



# Command Syntax Overview

Syntax refers to the way a command and its parameters are entered. Dell™ OpenManage™ Deployment Toolkit (DTK) Command Line Interface (CLI) commands can be arranged in any order in a command line instance as long as they conform to the basic command line syntax.

## Command Line Syntax

The general usage models of the DTK utilities are as follows:

- SYSCFG

```
syscfg option1 [arg1] ... optionX [argX]
```

OR

```
syscfg bmcoption1 bmcoption1
[arg1]...bmcoptionX [argX]
```

- RAIDCFG

```
raidcfg [mandatory options] <optional arguments>
```

- RACADM

```
racadm <options> <subcommand> <subcommand_options>
```

- UPINIT

```
For WinPE:upinit --disk=0 --size=32 --file=
t:\upimage.bin
```

```
For Linux:upinit --disk=/dev/sda --size=32 --file=
/tmp/upimage.bin
```

The DTK command line switches, configuration file formatting, and error reporting follow similar style and behavior. However, individual DTK utilities can sometimes differ from one another in significant ways. You should familiarize yourself with the command line syntax and utility-specific options and arguments for each utility before using DTK.



**NOTE:** Some of the command line options in DTK are followed by an asterisk. Such options are used for reporting purposes only.

Table 2-1 lists the generic command line characters and arguments present in the command line options with a short description of these characters.

**Table 2-1. Command Line Syntax**

<b>Element</b>	<b>Description</b>
-	Single-character options are prefixed with a preceding hyphen (-). <b>NOTE:</b> This delimiter is not applicable to Baseboard Management Controller (BMC) suboptions.
--	Multi-character options are prefixed with two (2) preceding hyphens (--).
utilname	Generic designation for a DTK utility name.
o	Generic single-character designation for an option.
optionX	Generic multi-character designation for a utility name, where X can be used to distinguish multiple options used in the same command line instance.
argX	Generic designation for an argument, where X can be used to distinguish multiple arguments used in the same command line instance.
[mandatory option]	Generic designation for a mandatory argument.
<optional argument>	Generic designation for an optional argument.
<string>	Generic designation for a string.
<filename>	Generic designation for a filename.
[ ]	Indicates a component of the command line. Enter only the information within the brackets, not the brackets themselves.
...	Indicates that the previous argument can be repeated several times in a command. Enter only the information, not the ellipsis (...) itself.
	Separates two mutually exclusive choices in a syntax line. For example:  usb: Turns the usb controller on or off. Argument: enable   disable   legacy Enter only one choice: --usb=enable, --usb=disable, or --usb=legacy.



## Case Sensitivity

- Command line options, predefined and user-defined arguments, and filenames given as arguments are all case sensitive.
- Unless specified otherwise, enter all commands, options, arguments, and command line switches in lowercase letters.

## Command Line Option Delimiters

- Single-character options are prefixed with a preceding hyphen (-).
- Multi-character options are prefixed with two (2) preceding hyphens (--).

Example: `utilname -o --option`


Table 2-2 lists some examples of valid and invalid DTK command lines.


**Table 2-2. DTK Command Line Examples**

Valid/ Invalid	DTK Command Line	Example
valid	<code>syscfg --option1 -- option2</code>	<code>syscfg --asset --floppy</code>
invalid	<code>syscfg --option1=argument --option2 --option3</code>	<code>syscfg --asset=1750 -- floppy --bootseq</code>
valid	<code>syscfg -o=filename -- option1 --option2</code>	<code>syscfg -o=/tmp/myfile.txt --floppy --bootseq</code>
valid	<code>syscfg -l=filename -- option1 --option2</code>	<code>syscfg -l= /tmp/myfile.txt --floppy --bootseq</code>
valid	<code>syscfg -i=filename -- option1 --option2</code>	<code>syscfg -i= /tmp/myfile.txt --floppy --bootseq</code>
valid	<code>syscfg --option= argument bmoption -- option1=argument</code>	<code>syscfg --embnic=on pcp --hostname=webserver</code>




**NOTE:** Options that specify report or set actions should not be mixed in a command line instance.

 **NOTE:** Example 2 is invalid because the **report** and **set** actions are used in the same command line.

 **NOTE:** Examples 3, 4, and 5 are valid because the aliases use neither **report** nor **set** actions.

## Read and Write Commands

Options can report a certain value or set of values based on the presence of an argument. These **read** or **write** actions are implied in the DTK command line arguments. The **get**, **read**, **set**, or **write** commands, for example, are not required.

 **NOTE:** Options that specify **read** or **write** actions should not be mixed in a command line instance.

**Table 2-3. Read and Write Command Examples**

Valid/Invalid	DTK Command Line Example
valid	<code>syscfg --option1 --option2</code>
valid	<code>syscfg --option1=arg --option2=arg</code>
invalid	<code>syscfg --option1=arg --option2</code>

## File Input and Output Commands

- File input is specified by the `-i <filename>` command, where `<filename>` is the name of the input file.
- File output is specified by the `-o <filename>` command, where `<filename>` is the name of the output file.

## Log Files

The `-l <filename>` or `--logfile <filename>` option records information output on the command line to the specified log file. Each new line of output is preceded by a time stamp.

If the log file already exists, information is appended to the file. This allows multiple tools to use the same log file to record information. This option should be used instead of redirection to record a utility's output since time data can assist with task diagnosis.

The log duplicates all standard output and error information to the specified file. Each log file begins with a time stamp and utility name. For example, *YYYY/MM/DD HH:MM:SS <utilname> - <output text>*.

The following is an example of the logging behavior:

```
2003/11/28 10:23:17 syscfg - option1=on
```

```
2003/11/28 10:23:17 syscfg - option2=on
```

```
2003/11/28 10:23:17 syscfg - option3=off
```



**NOTE:** The log files may contain sensitive information such as passwords and authentication information. To protect such information, it is recommended that only the administrator access the log files.

## Help Option

The **-h** and **--help** options display general usage information for the utility. If the argument matches a valid option, that option's usage information is displayed. If the option has arguments, the arguments are displayed, separated by a | character. If the argument does not match a valid option, a usage error is given (and usage information is displayed). This option cannot be replicated.

## Error Checking and Error Messages

The DTK utilities check your commands for correct syntax when you enter them. When a command is executed successfully, a message displays stating that your command has been successful. Unrecognized or invalid options and arguments result in a usage error that displays the DTK utility name and version along with a short message. For information about the error messages, see "Messages and Codes."



# SYSCFG

This section documents the Deployment Toolkit (DTK) system configuration utility. It describes the command line parameters, configuration file format, and individual executables used to configure server BIOS and baseboard management controller (BMC) settings, DTK state settings, and system information including PCI device detection.

## Features

The SYSCFG utility has the following general features:

- Displays help and usage information
- Outputs configuration options to a file or screen
- Reads configuration options from a file or CLI parameters
- Configures BMC/remote access controller (RAC) users, local area network (LAN) channel and serial channel settings, BMC/RAC platform event filter (PEF) settings, and BMC/RAC serial-over-LAN (SOL) settings
- Configures the nonmaskable interrupt (NMI) and power button
- Reports the BMC/RAC firmware version, BMC/RAC device global unique identifier (GUID), and BMC/RAC LAN channel and serial channel information
- Reports BMC/RAC session information
- Clears BMC/RAC system event log (SEL)
- Restores BMC/RAC factory defaults
- Records and reports the state data value
- Displays system configuration information
- Returns specific error codes and messages
- Logs activity to a given filename
- Configures the BIOS features



**NOTE:** In Microsoft® Windows® Preinstallation Environment (Windows PE), the SYSCFG utility is located at `\dell\toolkit\tools`. In Linux, you can find it in `/opt/dell/toolkit/bin`.

# SYSCFG General Options


 **NOTE:** Some of the options in SYSCFG are followed by an asterisk. These commands do not accept any suboptions or arguments. The values associated with these commands are those that are reported by the BIOS. These values cannot be modified.

Table 3-1 lists the SYSCFG general options.

**Table 3-1. SYSCFG General Options**

Options	Suboptions	Valid Arguments	Description
No option	NA	NA	<p>If an option is not given, the SYSCFG utility outputs usage information. The usage information is displayed in the format shown below.</p> <p>Example:</p> <pre>A:&gt;syscfg syscfg version 1.X.123 A06 © 2005 Dell Inc. All rights reserved. Usage: syscfg --option[=argument] or syscfg --option [argument] or syscfg option --suboption [=suboptionargument]</pre> <p>For more information about a particular command, use the option '-h' followed by the command name.</p> <p>Example: <code>syscfg -h bmcversion</code>.</p> <p>Options without preceding delimiters have suboptions.</p> <p>Example: <code>syscfg lancfgparams</code></p> <p>Options with preceding delimiters do not have suboptions.</p> <p>Example: <code>syscfg --powerbutton</code></p> <pre>option1      option4      option7 option2      option5      option8 option3      option6      option9</pre>

**Table 3-1. SYSCFG General Options (continued)**

Options	Suboptions	Valid Arguments	Description
--envar		valid filename valid path media should be writable	<p>When used with the <code>-s</code> option, this option stores the environment variable data to a file. This file can be called from other scripts to set the environment variable. The value of <code>&lt;filename&gt;</code> need not be specified if the <code>DTKENVSCR</code> environment variable is set to a valid filename. In this case, the filename pointed to by <code>DTKENVSCR</code> is used to store the environment variable data.</p> <p>Example:</p> <pre>syscfg --mem -s=temp --envar= z:\scripts\file.bat</pre> <p>When used without the <code>-s</code> option, <code>--envar</code> takes the default variable.</p> <p>Linux Example:</p> <pre>syscfg --svctag --envar= /tmp/myvars.txt svctag = 2G8LC1S syscfg_var = '2G8LC1S' source /tmp/myvars.txt</pre> <p>Windows PE Example:</p> <pre>syscfg --svctag --envar= i:\myvars.bat svctag = 2G8LC1S syscfg_var = '2G8LC1S' call i:\myvars.bat</pre>

**Table 3-1. SYSCFG General Options (continued)**

Options	Suboptions	Valid Arguments	Description
-h or --help	NA	none or <valid option name>	<p>Without an argument, this option displays general usage information for the utility. If the argument matches a valid option, that option's usage information is displayed. If the option has arguments, the arguments are displayed, separated by a   character. If the option has suboptions, all suboptions, valid arguments, and a description are listed. If the argument does not match a valid option, a usage error is given (and usage information is displayed). This option cannot be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg -h lanchannelaccess lanchannelaccess: Reports LAN channel access information.  Suboptions: pefalerting: Enable or disable PEF (Platform Event Filter) alerting. Arguments: enable   disable ipmioverlan: Enable or disable IPMI over LAN access. Arguments: disable   alwaysavail channelprivlmt: Sets the maximum privilege level that can be accepted on the LAN channel. Arguments: user   operator   administrator</pre>



**Table 3-1. SYSCFG General Options (continued)**

Options	Suboptions	Valid Arguments	Description
-i or --infile	NA	<filename>	<p>This option directs the SYSCFG utility to take input from a .ini file. The utility searches the file for a section heading identical to the utility name. An error is returned if the file or section is not found. If the section is found, each name/value pair is applied to the system. The names must match a valid option, and the arguments must be in the proper format for the option. If an option is not available on a system and it is specified in a file, the utility ignores the option. If any errors are found in the format of the names or values, an error is returned and the options are not applied to the system. If this option is used with other function command options, they are applied in the order in which they appear on the command line, overriding any previous commands. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg -i filename.ini</pre>
-l or --logfile	NA	<filename>	<p>This option logs the command line output to a time-stamped file. The utility either appends the information to an existing log file or creates a new file. The log file contains the same information as the standard output, plus timestamp information. Users should use this option instead of redirection for task diagnosis. This option can be replicated. See "Log Files" for more information.</p> <p>Example:</p> <pre>A:&gt;syscfg -l logfile</pre>

**Table 3-1. SYSCFG General Options (continued)**

Options	Suboptions	Valid Arguments	Description
-o or --outfile-o or -- outfile	NA	<filename>	<p>This option outputs all replicable options to the specified filename. The format of the output is in a .ini format, with the utility name as the section header. If a file with the same name already exists, the information is appended to the file. If this option is used with other function commands, the commands are applied in the order in which they appear. This option captures replicable BMC and BIOS options.</p> <p>Example:</p> <pre>A:&gt;syscfg -o filename.ini</pre>
-s	NA	<string>	<p>This option prints the variable name and the value assigned to it to the console. This option when used with --envar, picks up the environment variable data and stores it in a file. This file can be called from a script. See "--envar" for more information.</p> <p>Example:</p> <pre>A:&gt;syscfg -s ENVNAME --svctag svctag=SERVICE ENVNAME=SERVICE</pre>
--envar	NA	<filename>	<p>This option stores the environment variable data to a file so that this file can be called from other scripts.</p> <p>Must have a valid path, and media should be writable.</p>

**Table 3-1. SYSCFG General Options (continued)**

Options	Suboptions	Valid Arguments	Description
--version*			<p>This option displays the version information, current time, and date for the utility. This option cannot be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --version syscfg version 1.X.XX AXX © 2005 Dell Inc. All rights reserved.</pre> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>

## SYSCFG for BIOS Configuration

SYSCFG uses BIOS interfaces to manipulate boot order and BIOS settings. It configures all options available on the BIOS setup screen, including boot order, embedded device configuration, and asset tag management.

### Options for BIOS Configuration

Table 3-2 documents valid options and arguments along with a description of their expected behavior. Options and arguments are case sensitive. All options and predefined arguments are lowercase unless stated otherwise.



**NOTE:** Some of the following options or arguments might not be available on all systems due to the BIOS version or hardware feature set. Running SYSCFG without arguments displays only those options that are valid for your system.

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
<code>--acpower</code>	on, off, last	<p>This option sets the behavior for the system after AC power is lost. This option specifies how the system responds to the restoration of AC power and is particularly useful in systems that are turned off using a power strip. When set to <b>on</b>, the system turns on after AC is restored. When set to <b>off</b>, the system does not turn on after AC is restored. When set to <b>last</b>, the system turns on if the system was on when AC power was lost; if the system was off when AC power was lost, the system remains off when power is restored. This option is available on all supported systems. This value can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --acpower=on acpower=on</pre>
<code>--adjcacheprefetch</code>	enable, disable	<p>When this option is set to <b>enabled</b>, the processor fetches the cache line containing the currently requested data, and prefetches the following cache line.</p> <p>When this option is set to <b>disabled</b>, the processor fetches only the cache line containing the currently requested data.</p> <p>Example:</p> <pre>A:&gt;syscfg --adjcacheprefetch=enable adjcacheprefetch=enable</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
<code>--asset</code>	<code>&lt;string&gt;</code>	<p>This option reports or sets the customer-programmable asset tag number for a system. The maximum length of an asset tag is 10 characters. Asset tag values cannot contain any spaces. This option is available on all supported systems. This value can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --asset=ASSETTAG asset=ASSETTAG</pre>
<code>--assignintr</code>	standard, distributed	<p>This option controls the interrupt assignment of PCI devices in the system. This option is set to <b>standard</b> by default, causing standard interrupt routing that uses interrupt A, B, C, D for all PCIe devices. When set to <b>distributed</b>, the interrupt routing is swizzled at the MCH root ports to minimize sharing of interrupts across all PCIe (and PCI-X in the Programmable Interrupt Controller (PIC) mode) devices.</p> <p>Example:</p> <pre>A:&gt;syscfg --assignintr=standard assignintr=standard</pre>
<code>--bezelir</code>	enable, disable	<p>This option enables or disables the ESM to monitor and log front bezel intrusion conditions.</p> <p>Example:</p> <pre>A:&gt;syscfg --bezelir=enable bezelir=enable</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--bootseq	numerical list, separated by commas or list of device names, separated by commas	<p>This option sets the boot order for a system. Without an argument, this option prints the boot order list. The argument must be formatted as a comma-separated numerical list with no spaces. The list must be within the bounds of the current boot list, i.e. the low and high numbers must match, and the same number of entries must be supplied. This option is available on all supported systems. Systems that use a numerical list for boot order cannot be replicated.</p> <p>Some systems also allow the boot order to be expressed as a list of device names. Device names are formatted as a <i>name.location.instance</i> string, where <i>name</i> is the name of the device, <i>location</i> is either <b>slot</b> or <b>embedded (emb)</b>, and <i>instance</i> is the numerical position of the device. Some device name examples are shown below. Systems that support a list of device names for boot order can be replicated.</p> <p><b>Numerical Lists Examples</b></p> <pre>A:&gt;syscfg --bootseq=2,3,4,5,1,6</pre> <p>The following devices are set in the boot sequence:</p> <pre>Device 2:* usbcdrom.slot.1 - USB CD-ROM device Device 3:* virtualcd.slot.1 - VIRTUAL CDROM Device 4:* hdd.emb.0 - Hard drive C: Device 5:* nic.emb.1 - MBA v2.5.12 Slot 0500 Device 1:* virtualfloppy.slot.1 - VIRTUAL FLOPPY</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
		<p>Device 6:* usbfloppy.slot.1 - USB Floppy device</p> <p><b>NOTE:</b> The asterisk indicates that the device is enabled in the BIOS.</p> <p><b>Device Name Examples</b></p> <p>Example of device names:</p> <p>nic.slot.1 (network adapter 1 in PCI slot)</p> <p>nic.emb.1 (network adapter 1 on system board)</p> <p>hdd.emb.0 (hard drive C:)</p> <p>cdrom.emb.0 (CD drive)</p> <p>Device Name Lists Examples</p> <p>Example 1:</p> <pre>#syscfg --bootseq</pre> <p>The following devices are set in the boot sequence:</p> <p>Device 2:* cdrom.emb.0 - IDE CD-ROM device</p> <p>Device 3:* hdd.emb.0 - Hard drive C:</p> <p>Device 5:* virtual.slot.1 - VIRTUALCDROM DRIVE</p> <p>Device 1:* floppy.emb.0 - Diskette drive A:</p> <p>Device 6:* virtual.slot.2 - VIRTUALFLOPPY DRIVE</p> <p>Device 4:* nic.emb.1 - IBA GE Slot 0638 v1226</p>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
		<p>Example 2:</p> <pre>#syscfg --bootseq= nic.emb.1,virtual.slot.1</pre> <p>The following devices are set in the boot sequence:</p> <p>Device 4:* nic.emb.1 - IBA GE Slot 0638 v1226</p> <p>Device 6:* virtual.slot.2 - VIRTUALFLOPPY DRIVE</p> <p>Device 2:* cdrom.emb.0 - IDE CD-ROM device</p> <p>Device 3:* hdd.emb.0 - Hard drive C:</p> <p>Device 5:* virtual.slot.1 - VIRTUALCDROM DRIVE</p> <p>Device 1:* floppy.emb.0 - Diskette drive A:</p> <p><b>NOTE:</b> The asterisk indicates that the device is enabled in the BIOS.</p>
--bootseqretry	enable, disable	<p>This option enables or disables the boot sequence retry feature. When set to <b>enable</b>, the system will re-attempt to set the boot order after a 30 seconds timeout if the last boot attempt has failed. This option can be replicated.</p> <pre>A:&gt;syscfg --bootseqretry=enable bootseqretry=enable</pre>



**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
<code>--conboot</code>	enable, disable	This option configures or reports whether console redirection occurs after boot. This option is available on all supported systems that support console redirection. This option can be replicated.  Example: <pre>A:&gt;syscfg --conboot=enable conboot=enable</pre>
<code>--conred</code>	serial1, serial2, off, bmcso1, mmb	This option configures or reports the communication port for console redirection. If this option is set to a serial port, then the serial port option is not available. See the descriptions for <code>--serial1</code> and <code>--serial2</code> . If only one serial port is present on a system, the <b>serial2</b> argument is not available. This option can be replicated.  Example: <pre>A:&gt;syscfg --conred=serial1 conred=serial1</pre>
<code>--conterm</code>	vt100, ansi	This option configures or reports the terminal type for console redirection. This option is available on all supported systems that support console redirection. This option can be replicated.  Example: <pre>A:&gt;syscfg --conterm=vt100 conterm=vt100</pre>
<code>--dbpm</code>	enable, disable	This option enables or disables demand-based power management. This option can be replicated.  Example: <pre>A:&gt;syscfg --dbpm=enable dbpm=enable</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--devseq	numerical list, separated by commas or list of device names, separated by commas	<p>This option sets the hard-drive sequence for a system. Without an argument, this option displays the device list. The argument must be formatted as a comma-separated numerical list of device index values. The list must be within the bounds of the current boot list. For example, the low and high numbers must match. Systems that use a numerical list for boot order cannot be replicated. This option is available on all supported systems.</p> <p>Some systems allow the boot order to be expressed as a list of device names. Systems that support device names also support replication of the boot order through the output file option. Device names are formatted as a <i>name.location.instance</i> string, where <i>name</i> is the name of the device, <i>location</i> is either <b>slot</b> or <b>embedded (emb)</b>, and <i>instance</i> is the numerical position of the device. Some device name examples are shown below. Systems that support a list of device names for boot order can be replicated.</p> <p>Example 1:</p> <pre>A:&gt;syscfg --devseq</pre> <p>The following devices are set in the disk device sequence:</p> <pre>Device 1:* hdd.emb.0 - System BIOS boot devices Device 2:* scsiraid.slot.3 - PERC 4/SC Adapter(bus 02 dev 02) Device 3:* usbkey.slot.0 - Hard-disk-emulated USB flash drive</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
		Example 2: A:>syscfg --devseq= hdd.emb.1,scsiraid.emb.1  The following devices are set in the disk device sequence:Device 1:* hdd.emb.0 - System BIOS boot devices  Device 2:* scsiraid.emb.1 - AIC-7899, A:00 Seagate  <b>NOTE:</b> The asterisk indicates that the device is enabled in the BIOS.
--embhypervisor	off, on	This option enables or disables the embedded hypervisor port.  Example: A:>syscfg --embhypervisor=on embhypervisor=on
--embideraid	on, off	This option enables or disables the embedded IDE RAID controller. This option is only valid for supported systems that have IDE ROMB. This option can be replicated.  Example: A:>syscfg --embideraid=on embideraid=on

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--embnic1	on, off, onnopxe, onwithiscsi	<p>This option turns the first embedded NIC on with PXE on, off, or on without PXE enabled. This option is only valid for supported systems that have an NIC. If the NIC is enabled without PXE, it is not found in the boot order. If the NIC is turned on with PXE, it is placed at the end of the boot order. The <b>onnopxe</b> argument is not supported on all systems.</p> <p>The <b>onwithiscsi</b> argument enables the embedded NIC to boot from the iSCSI server. The <b>embnic1</b> option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --embnic1=onnopxe embnic1=onnopxe</pre>
--embnic2	on, off, onnopxe, onwithiscsi	<p>This option turns the second embedded NIC on with PXE enabled, off, or on without PXE enabled. This option is only valid for supported systems that have two embedded NICs. If the second NIC is enabled without PXE, it is not found in the boot order. If the second NIC is turned on with PXE, it is placed at the end of the boot order. The <b>onnopxe</b> argument is not supported on all systems. This option can be replicated.</p> <p>The <b>onwithiscsi</b> argument enables the embedded NIC to boot from the iSCSI server. The <b>embnic2</b> option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --embnic2=onnopxe embnic2=onnopxe</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
<code>--embnic3</code>	on, off, onnopxe, onwithiscsi	<p>This option turns the third embedded NIC on with PXE enabled, off, or on without PXE enabled. This option is only valid for supported systems that have three embedded NICs. If the second NIC is enabled without PXE, it is not found in the boot order. If the third NIC is turned on with PXE, it is placed at the end of the boot order. The <b>onnopxe</b> argument is not supported on all systems. This option can be replicated.</p> <p>The <b>onwithiscsi</b> argument enables the embedded NIC to boot from the iSCSI server. The <b>embnic3</b> option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --embnic3=onnopxe embnic3=onnopxe</pre>
<code>--embnic4</code>	on, off, onnopxe, onwithiscsi	<p>This option turns the fourth embedded NIC on with PXE enabled, off, or on without PXE enabled. This option is only valid for supported systems that have four embedded NICs. If the fourth NIC is enabled without PXE, it is not found in the boot order. If the fourth NIC is turned on with PXE, it is placed at the end of the boot order. The <b>onnopxe</b> argument is not supported on all systems. This option can be replicated.</p> <p>The <b>onwithiscsi</b> argument enables the embedded NIC to boot from the iSCSI server. The <b>embnic4</b> option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --embnic4=onnopxe embnic4=onnopxe</pre>


**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
--embnics	on, off	<p>This option enables or disables both embedded NICs. This option is only present on systems that do not support the <b>embnic1</b> and <b>embnic2</b> options. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --embnics=on embnics=on</pre>
--embnic1pxe	enable, disable	<p>This option enables or disables PXE on the first embedded NIC. If PXE is disabled, the first NIC is not found in the boot order. If PXE is enabled, the first NIC is placed at the end of the boot order. This option is only present on systems that do not support the <b>embnic1</b> option. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --embnic1pxe=enable embnic1pxe=enable</pre>
--embnic2pxe	enable, disable	<p>This option enables or disables PXE on the second embedded NIC. If PXE is disabled, the second NIC is not found in the boot order. If PXE is enabled, the second NIC is placed at the end of the boot order. This option is only present on systems that do not support the <b>embnic2</b> option. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --embnic2pxe=disable embnic2pxe=disable</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
<code>--embsataraid</code>	<code>off</code> , <code>combined</code> , <code>ata</code> , <code>raid</code> , <code>qdma</code>	<p>This option configures an embedded SATA RAID controller. This option can be replicated.</p> <p><code>off</code> — disables the embedded SATA RAID controller.</p> <p><code>combined</code> — sets the SATA RAID controller to combined mode.</p> <p><code>ata</code> — sets SATA RAID controller to ATA mode.</p> <p><code>raid</code> — sets SATA RAID controller to RAID mode.</p> <p><code>qdma</code> — sets the SATA RAID controller to support ATAPI devices at transfer rates much higher than PIO. A device driver must be installed on your system to use the the QDMA mode.</p> <p>Example:</p> <pre>A:&gt;syscfg --embsataraid=off embsataraid=off</pre>
<code>--embscsi1</code>	<code>on</code> , <code>off</code>	<p>This option enables or disables the first embedded SCSI controller. This option is only valid for supported systems that have an embedded SCSI controller. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --embscsi1=on embscsi1=on</pre>
<code>--embscsi2</code>	<code>on</code> , <code>off</code>	<p>This option enables or disables the second embedded SCSI controller. This option is only valid for supported systems that have an embedded SCSI controller. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --embscsi2=on embscsi2=on</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--embbscsiraid	raid, off, scsi	<p>This option enables or disables the embedded SCSI RAID controller. This option is only valid for supported systems that have SCSI ROMB. Some systems do not support the <code>scsi</code> argument. This option can be replicated.</p> <p> <b>NOTICE:</b> If you change the controller from SCSI to RAID mode, data loss may occur. Backup any data you need to save before changing modes.</p> <p>Example:</p> <pre data-bbox="449 644 852 707">A:&gt;syscfg --embbscsiraid=raid embbscsiraid=raid</pre>
--embbscsiraidchb	raid, scsi	<p>This option sets the second channel on an embedded RAID controller to SCSI or RAID. This option is only valid for supported systems that support RAID/RAID and RAID/SCSI settings for channels A and B. This option can be replicated.</p> <p>Example:</p> <pre data-bbox="449 954 897 1016">A:&gt;syscfg --embbscsiraidchb=raid embbscsiraidchb=raid</pre>



**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--extserial	com1, com2, rad	<p>This option sets the behavior of the external serial connector. When set to <b>com1</b>, the BIOS maps the external serial connector to COM port 1. The <b>com1</b> setting is the default.</p> <p>When set to <b>com2</b>, the external serial connector is routed to the COM2 interface. Terminal escape sequences can toggle the external connector between the system (COM2) and the remote access device.</p> <p>When set to <b>rad</b>, the external serial connector is routed to the remote access device interface. Terminal escape sequences can toggle the external connector between the system (COM2) and the remote access device.</p> <p>This option can be replicated.</p> <p><b>NOTE:</b> This option is not supported on PowerEdge 1955 systems.</p> <p>Example:</p> <pre>A:&gt;syscfg --extserial=com1 extserial=com1</pre> <p>On Dell™ PowerEdge™ x9xx systems, the <b>--serialcomm</b> option can be used with the external serial (<b>--extserial</b>) option instead of the <b>--conred</b> option.</p>
--fiberchannel	enable, disable	<p>This option enables or disables embedded fiber channel. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --fiberchannel=enable fiberchannel=enable</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
--floppy	auto, off, readonly	<p>This option sets the diskette drive controller to auto, off, or read-only. This option is available on all supported systems that have a supported diskette drive. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --floppy=auto floppy=auto</pre>
--fsbr	115200, 57600, 19200, 9600	<p>This option sets the console redirection fail safe baud rate in bps.</p> <p>Example:</p> <pre>A:&gt;syscfg --fsbr=9600 fsbr=9600</pre>
--hddfailover	off, on	<p>This option specifies the device in the hard disk drive sequence menu that has not been attempted in the boot sequence. When set to <b>on</b>, all devices are attempted in order. When set to <b>off</b>, only the first device in the hard disk sequence is attempted. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --hddfailover=on hddfailover=on</pre>
--hwprefetcher	enable, disable	<p>When set to <b>enable</b>, this option makes the processor look ahead and see what data might be needed next. When some data is found, it loads several steps in advance.</p> <p>When set to <b>disable</b>, it does not look ahead.</p> <p>This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --hwprefetcher=enable hwprefetcher=enable</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
--idecdrom	auto, off	This option enables or disables the CD drive. This option can be replicated. Example: A:>syscfg --idecdrom=auto idecdrom=auto
--idracgui	enable, disable	Enables and disables the iDRAC GUI. This option can be replicated. Example: A:>syscfg --idracgui=disable idracgui=disable
--integratedraid	enable, disable	This option enables or disables the integrated RAID controller. This option can be replicated. Example: A:>syscfg --integratedraid=disable integratedraid=disable
--integratedsas	enable, disable	This option enables or disables the integrated SAS controller. This option can be replicated. Example: A:>syscfg --integratedsas=enable integratedsas=enable
--internalusb	off, on	This option enables or disables all the user-accessible USB ports. This option can be replicated. Example: A:>syscfg --internalusb=on internalusb=on

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
<code>--ioat</code>	enable, disable	<p>This option enables or disables the I/O Acceleration Technology (I/OAT) DMA Engine option. This option must be enabled only if the hardware and software support I/OAT on your system. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --ioat=enable ioat=enable</pre>
<code>--lcd</code>	default, none, user	<p>This option selects whether to display the default string (model name and number) or a user-defined string in the front-panel LCD (Liquid Crystal Display). This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --lcd=default lcd=default</pre>
<code>--lcd1</code>	<code>&lt;string&gt;</code>	<p>This option sets the first line of user-defined text on the system LCD. This option can be replicated.</p> <p><b>NOTE:</b> Before setting user strings for this option, ensure that <code>--lcd</code> is set to <code>user</code>.</p> <p><b>NOTE:</b> If you have a PowerEdge x6xx, x7xx, or x8xx system, you need to reboot your system for the settings to take effect.</p>
<code>--lcd2</code>	<code>&lt;string&gt;</code>	<p>This option sets the second line of user-defined LCD strings.</p>
<code>--logicproc</code>	enable, disable	<p>This option enables or disables logical processing for a system. This option is available on all systems that support logical processing (Hyperthreading). This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --logicproc=enable logicproc=enable</pre>


**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
<code>--lpt</code>	<code>lpt1, lpt2, lpt3, disable</code>	<p>This option configures or reports the I/O address of the LPT (parallel) port. This option is available on all supported systems with an LPT port. This option is recorded to an output file for replication.</p> <p>Example:</p> <pre>A:&gt;syscfg --lpt=lpt1 lpt=lpt1</pre>
<code>--lptmode</code>	<code>ps2, at</code>	<p>This option configures or reports the mode of an LPT (parallel) port. This option is available on all supported systems with an LPT port. This option is recorded to an output file for replication.</p> <p>Example:</p> <pre>A:&gt;syscfg --lptmode=ps2 lptmode=ps2</pre>
<code>--memintleave</code>	<code>enable, disable</code>	<p>This option enables or disables the memory interleave mode. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --memintleave=enable memintleave=enable</pre>
<code>--memremap</code>	<code>off, auto</code>	<p>This option enables or disables memory remapping.</p> <pre>A:&gt;syscfg --memremap=off memintleave=off</pre>
<code>--memtest</code>	<code>enable, disable</code>	<p>This option enables or disables the POST extended memory test.</p> <p>Example:</p> <pre>A:&gt;syscfg --memtest=disable memtest=disable</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--mouse	off, on	This option turns the mouse controller on or off. This option can be replicated. Example: A:>syscfg --mouse=off mouse=off
--nextboot	valid device name (from the --bootseq option device list)	This option sets the specified device as the first device in the boot order for the next boot cycle only. The device must be a device from the --bootseq option device list. Run the --bootseq option to see a list of available device names. See --bootseq for more information. This option is not replicated. Example 1: A:>syscfg --bootseq Device 1: floppy.emb.0 - Diskette Drive A: Device 2: cdrom.emb.0 - CD-ROM device Device 3: hdd.emb.0 - Hard Drive C: Device 4: nic.emb.1 - Intel Boot Agent Version 4.0.17 Device 5: nic.emb.2 - Intel Boot Agent Version 4.0.17 Example 2: A:>syscfg --nextboot=nic.emb.1 nextboot=nic.emb.1

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--noraidprompt*	NA	<p>This option specifies that the BIOS must not prompt for confirmation when changing the mode of a RAID controller. This option can only be used with the <code>--embscsiraid</code> or <code>--embscsiraidchb</code> options. Without this option, the user is prompted during POST to confirm the change of a RAID controller from RAID(SCSI) to SCSI(RAID). This option is not replicated.</p> <p> <b>NOTICE:</b> When changing a RAID controller from SCSI to RAID or from RAID to SCSI, data is lost on the affected hard drives. You do not see the message warning you of this data loss when using the <code>--noraidprompt</code> option. To avoid data loss, back up any information on the hard drives before changing the type of controller used with the drives.</p> <p>Example:</p> <pre>A:&gt;syscfg --embscsiraid=raid --noraidprompt embscsiraid=raid</pre> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>
--numlock	on, off	<p>This option enables or disables the keyboard number lock during POST. This option is not replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --numlock=on numlock=on</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--oldsetuppwd	<string>	<p>This option is required to set a new setup password when a setup password is currently set. The setup password locks the BIOS setup screen. The argument string supplied to this option is the current password. If this password is not correct, the new setup password is not applied to the system. Generally, passwords are limited to alphanumeric characters and cannot exceed 32 characters in length. This option is not replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --setuppwd= asetuppassword --oldsetuppwd= currentpassword</pre> <p>The password has been set. Please use a warm reboot to apply the password to the system.</p>



**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--oldsyspwd	<string>	<p>This option supplies the current system password for the BIOS. This option is only given when setting the new system password. If this password does not match the current system password, the new password is not applied to the system. The system password is required when booting the system. The argument string supplied to this option will be the password. Generally, passwords are limited to alphanumeric characters and cannot exceed 32 characters in length. This option is not replicated.</p> <p>Example 1:</p> <pre>A:&gt;syscfg --syspwd=anotherpassword --oldsyspwd=password</pre> <p>The password has been set. Please use a warm reboot to apply the password to the system.</p> <p>Example 2:</p> <pre>A:&gt;syscfg --syspwd=asyspassword --oldsyspwd=currentpassword</pre> <p>The old password entered is incorrect. The new password will not be set. Please try again.</p>
--opticaldrivectl	enable, disable	<p>This option enables or disables the optical CD-ROM controller.</p> <p>Example:</p> <pre>A:&gt;syscfg --opticaldrivectl= enable opticaldrivectl=enable</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--osmode	enable, disable	<p>This option enables or disables operating system installation mode for installing operating systems. Enabling this option causes the BIOS to only report 256 MB to the operating system. Some operating systems cannot be installed if a system has more than 2 GB of memory. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --osmode=enable osmode=enable</pre>
--oswatchdogtimer	enable, disable	<p>If your system stops responding, the watchdog timer aids in the recovery of your operating system. When this option is set to <b>enable</b>, the operating system is allowed to initialize the timer. When set to <b>disable</b> (the default), the timer will have no effect on the system.</p> <p>Example:</p> <pre>A:&gt;syscfg --oswatchdogtimer=enable oswatchdogtimer=enable</pre>
--ovrwt*	NA	<p>This option is only used with the <b>-o</b> option to cause the output file to be overwritten if a file of the same name already exists. This option cannot be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg -o=filename.ini --ovrwt</pre> <p>The file <i>filename</i> has been overwritten.</p> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--powerbutton	enable, disable	<p>This option enables or disables the power button for a system. This option is recorded to an output file for replication. This option is available on all supported systems.</p> <p>Example:</p> <pre>A:&gt;syscfg --powerbutton=enable powerbutton=enable</pre> <p><b>NOTE:</b> The system must be rebooted for BIOS options to take effect.</p>
--pwdlock	lock, unlock	<p>This option locks the system password. If the system password is locked, it can be modified only through the F2 screen with the setup password. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --pwdlock=lock pwdlock=lock</pre>
--redmem	off, spare, mirror, raid	<p>This option allows selection of the desired redundant memory mode, or disables redundant memory. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --redmem=off redmem=off</pre> <p><b>NOTE:</b> The system must be rebooted for BIOS options to take effect.</p>
--rptkeyerr	enable, disable	<p>This option configures or reports whether the BIOS reports keyboard errors during POST. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --rptkeyerr=disable rptkeyerr=disable</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
--sata0	auto, off	<p>This option enables or disables SATA port 0. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --sata0=auto sata0=auto</pre> <p><b>NOTE:</b> This option maps to --sata_a for PowerEdge x9xx systems.</p>
--sata1	auto, off	<p>This option enables or disables SATA port 1. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --sata1=auto sata1=auto</pre> <p><b>NOTE:</b> This option maps to --sata_b for PowerEdge x9xx systems.</p>
--sata2	auto, off	<p>This option enables or disables SATA port 2. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --sata2=auto sata2=auto</pre> <p><b>NOTE:</b> This option maps to --sata_c for PowerEdge x9xx systems.</p>
--sata3	auto, off	<p>This option enables or disables SATA port 3. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --sata3=auto sata3=auto</pre> <p><b>NOTE:</b> This option maps to --sata_d for PowerEdge x9xx systems.</p>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
--sata4	auto, off	<p>This option enables or disables SATA port 4. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --sata_4=auto sata_4=auto</pre> <p><b>NOTE:</b> This option maps to --sata_e for PowerEdge x9xx systems.</p>
--sata5	auto, off	<p>This option enables or disables SATA port 5. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --sata_5=auto sata_5=auto</pre> <p><b>NOTE:</b> This option maps to --sata_f for PowerEdge x9xx systems.</p>
--sata6	auto, off	<p>This option enables or disables SATA port 6. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --sata_6=auto sata_6=auto</pre> <p><b>NOTE:</b> This option maps to --sata_g for PowerEdge x9xx systems.</p>
--sata7	auto, off	<p>This option enables or disables SATA port 7. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --sata_7=auto sata_7=auto</pre> <p><b>NOTE:</b> This option maps to --sata_h for PowerEdge x9xx systems.</p>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--snoopfilter	enable, disable	This option enables or disables the snoop filter option from the system BIOS. Example: A:>syscfg --snoopfilter=enable snoopfilter=enable
--speaker	on, off	This option turns the built-in speaker on or off. This option can be replicated. <b>NOTE:</b> The --speaker option is not supported on certain PowerEdge systems. Example: A:>syscfg --speaker=on speaker=on
--serial1	disable, com1, com3, com1_bmc, bmcserial, bmclan, rac	This option configures or reports the first serial port communication port. This option can be replicated. <b>bmcserial</b> — maps serial port 1 to BMC Serial. <b>bmclan</b> — routes the serial traffic destined for serial1 out to NIC1. <b>com1_bmc</b> — maps serial port 1 to COM port 1 BMC. <b>rac</b> — maps serial port 1 to the RAC device. Example: A:>syscfg --serial1=rac serial1=rac
--serial2	auto, disable, com2, com4	This option configures or reports the second serial port communication port. This option can be replicated. Example: A:>syscfg --serial2=disable serial2=disable

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--serialcomm	on, com1cr, com2cr, off	<p>This option sets the behavior of the serial port communication. When set to <b>on</b>, this option tells the BIOS to enable COM port 1 and COM port 2. These ports are made available for use by the operating system or applications. BIOS Console Redirection is disabled.</p> <p>When set to <b>com1cr</b>, this option tells the BIOS to enable COM port 1 and COM port 2. These ports are made available for use by the operating system or applications. BIOS Console Redirection is through COM port 1.</p> <p>When set to <b>com2cr</b>, this option tells the BIOS to enable COM port 1 and COM port 2. These ports are made available for use by the operating system or applications. BIOS Console Redirection is through COM port 2.</p> <p>When set to <b>off</b>, this option tells the BIOS to disable COM port 1 and COM port 2.</p> <p>This option is replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --serialcomm=on serialcomm=on</pre> <p>On Dell PowerEdge x9xx systems, the <b>--serialcomm</b> option can be used with the external serial (<b>--extserial</b>) option instead of the <b>--conred</b> option.</p>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--setuppwd	<string>	<p>This option sets the setup password for the BIOS. The setup password locks the BIOS F2 screen. The argument string supplied to this option is the password. Generally, passwords are limited to alphanumeric characters and cannot exceed 32 characters in length. If a current setup password is set, it must be given through the <code>--oldsetuppwd</code> option. This option is not replicated.</p> <p>Example 1:</p> <pre>A:&gt;syscfg --setuppwd= asetuppassword</pre> <p>The password has been set. Please use a warm reboot to apply the password to the system.</p> <p>Example 2:</p> <pre>A:&gt;syscfg --setuppwd= asetuppassword --oldsetuppwd=currentpassword</pre> <p>The password has been set. Please use a warm reboot to apply the password to the system.</p> <p>Example 3:</p> <pre>A:&gt;syscfg --setuppwd= asetuppassword --oldsetuppwd=currentpassword</pre> <p>The old password entered is incorrect. The new password will not be set. Please try again.</p> <p><b>NOTE:</b> You cannot disable your password using DTK. To disable your password, you must use the system BIOS.</p>



**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--sma	enable, disable	This option enables or disables processor sequential memory access.  Example: <pre>A:&gt;syscfg --sma=disable sma=disable</pre>
--svctag*	NA	This option reports the service tag for a system. If the system is modular, it displays the service tag for PowerEdge 1855. If used with the -s general option, the environment variable is set to the service tag.  Example: <pre>A:&gt;syscfg --svctag svctag=113CD1S</pre> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--syspwd	<string>	<p>This option sets the system password for the BIOS. The system password is required when booting the system. The argument string supplied to this option is the password. Generally, passwords are limited to alphanumeric characters and cannot exceed 32 characters in length. If a current system password is set, it must be given through the <code>--oldsyspwd</code> option. This option is not replicated.</p> <p>Example 1:</p> <pre>A:&gt;syscfg --syspwd=password</pre> <p>The password has been set. Please use a warm reboot to apply the password to the system.</p> <p>Example 2:</p> <pre>A:&gt;syscfg --syspwd=password --oldsyspwd=password</pre> <p>The password has been set. Please use a warm reboot to apply the password to the system.</p> <p><b>NOTE:</b> You cannot disable your password using DTK. To disable your password, you must use the system BIOS.</p>

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--tpm

**NOTE:** For details about the `tpm` suboptions and arguments, see Table 3-3. This option is available only on `xx0x` systems.

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

Option	Valid Arguments	Description
--usb	on, legacy, off	<p>This option sets or reports the status of the USB port. When set to <b>on</b>, USB keyboards and mice function only for systems with operating systems that have native USB support. When set to <b>legacy</b>, USB keyboards and mice are supported through the BIOS to function in operating systems that do not natively support USB. This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --usb=on usb=on</pre>
--usbflash	auto, fdd, hdd	<p>This option sets or reports the emulation for a USB flash device. The USB flash device can be set to emulate a hard drive (<b>hdd</b>) or a diskette drive (<b>fdd</b>). This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --usbflash=auto usbflash=auto</pre> <p><b>NOTE:</b> This option cannot be set on <b>x9xx</b> and <b>xx0x</b> systems.</p>
--usbports	enable, enablebackonly, disable	<p>This option enables or disables USB ports. When set to <b>enable</b>, it enables all user accessible USB ports. When set to <b>enablebackonly</b>, the front user accessible ports are disabled. When set to <b>disable</b>, both front and back user accessible ports are disabled.</p> <p>This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --usbports=enable usbports=enable</pre>

**Table 3-2. SYSCFG Options and Arguments for BIOS Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
--virtualization	enable, disable	<p>This option enables or disables virtualization in the CPU. When set to <b>enable</b>, it enables the additional hardware capabilities provided by Virtualization Technology in applicable CPUs.</p> <p>When set to <b>disable</b>, it disables the additional hardware capabilities provided by Virtualization Technology.</p> <p>This option can be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --virtualization=enable virtualization=enable</pre>
--virtualmedia	enable, disable	<p>This option enables or disables virtual media in Dell Remote Access Controller (DRAC) 5.</p> <p>Example:</p> <pre>A:&gt;syscfg --virtualmedia=enable virtualmedia=enable</pre>

Table 3-3 lists the suboptions and arguments for the **tpm** option.

**Table 3-3. Suboptions and Arguments for the tpm Option**

<b>Option</b>	<b>Suboption</b>	<b>Arguments</b>	<b>Description</b>
tpm	--tpmsecurity	off	Does not report the presence of TPM to the operating system.
		onwithpbm	Directs the BIOS to store the TCG compliant measurements to the TPM during a POST operation.
		onwithoutpbm	Directs the BIOS to bypass the pre-boot measurements. Example: A:>syscfg tpm --tpmsecurity = onwithoutpbm -- setuppwdoverride

**Table 3-3. Suboptions and Arguments for the tpm Option (continued)**

Option	Suboption	Arguments	Description
	--tpmactivation	enabled disabled nochange	<p>Enables and activates the TPM feature.</p> <p>Disables and deactivates the TPM feature.</p> <p>Does not alter the operational state of the TPM feature.</p> <p>Example:</p> <pre>A:&gt;syscfg tpm -- tpmactivation=enabled -- setuppwdoverride</pre>
			<p><b>NOTE:</b> You cannot set <code>tpmactivation</code> when <code>tpmsecurity</code> is set to off.</p> <p><b>NOTE:</b> After setting <code>tpmactivation</code> to <code>enabled</code> or <code>disabled</code>, if you reboot your system, DTK displays the 'TPM Configuration Honoured system will reset and the system reboots again' message and reboots once again.</p>
	--tpmclear	NA	<p>Clears the contents of the TPM chip without erasing the <code>tpmsecurity</code> and <code>tpmactivation</code> settings.</p> <p>Example:</p> <pre>A:&gt;syscfg tpm -- tpmactivation=enabled -- tpmclear --setuppwdoverride</pre>
	--undotpmclear	NA	<p>Undoes the result of the <code>tpmclear</code> setting. If you specify this setting before specifying the <code>tpmclear</code> setting, the 'There is currently no pending TPM Clear request' message is displayed.</p> <p>Example:</p> <pre>A:&gt;syscfg tpm -- tpmactivation=enabled -- undotpmclear -- setuppwdoverride</pre>

**Table 3-3. Suboptions and Arguments for the tpm Option (continued)**

Option	Suboption	Arguments	Description
	--valsetuppwd	<string>	Validates the setup password for TPM authentication. If you try to change DTK settings, you will be prompted to enter this password to access the settings.  Example:  A:>syscfg tpm -- tpmactivation=enabled -- tpmclear --valsetuppwd= <setup_password>
	-- setuppwdoverride	NA	On systems that do not have a setup password configured, if you set this option, you will not be prompted for a password to access DTK settings.  A:>syscfg tpm -- tpmactivation=enabled -- tpmclear --setuppwdoverride

## SYSCFG for BMC and Remote Access Controller Configuration

SYSCFG configures BMC and Remote Access Controller settings.



**NOTE:** Some of the following options or arguments might not be available on all systems.



**NOTE:** For options that use text strings such as username, password, hostname, and community string, using some characters such as <space>, <, >, |, or = on the command line can be misinterpreted by the command line parser and cause errors.



**NOTE:** The following options or arguments are also applicable to DRAC 5.

The following tables document valid options, suboptions, and arguments along with a description of the expected behavior of each option and suboption. Options, suboptions, and arguments are case sensitive. All options, suboptions, and predefined arguments are lowercase unless explicitly stated otherwise.

The following section documents all the valid options, suboptions, and their arguments along with a description of the expected behavior using an example. Some features that need to be noted while reading this section are:

- Unless otherwise specified, all suboptions to options are optional.
- If a suboption is not specified for an option, all valid suboption values are displayed for the option. If suboptions are specified, then only those suboptions are reported.
- Wherever options or suboptions take empty strings as input, the string NULL should be input. For example, options such as **username** and suboptions such as **commstring** and **hostname** can take an empty string as input.



**NOTE:** Some of the following options or arguments might not be available on all systems.



**NOTE:** The following options or arguments are also applicable to DRAC 5.

## **BMC and Remote Access Controller Configuration Options**

Table 3-4 lists the options, suboptions, and predefined arguments for configuring your system BMC and remote access controller (RAC).



**Table 3-4. BMC and Remote Access Controller Configuration Options**

<b>Options</b>	<b>Suboptions</b>	<b>Valid Arguments</b>	<b>Description</b>
bmcversion			Displays the version information for the BMC and the BMC firmware. This option cannot be replicated.
	--devid	NA	Reports the BMC device ID.
	--devrevision	NA	Reports the BMC device revision.
	--majorfwrevision	NA	Reports the BMC device major firmware revision.
	--minorfwrevision	NA	Reports the BMC device minor firmware revision.
			Example: A:>syscfg bmcversion devid=32 devrevision=0 majorfwrevision= 0 minorfwrevision= 40

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
<code>--clearsel*</code>	NA	NA	<p>Clears the SEL. This option cannot be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --clearsel</pre> <p>Clearing SEL...</p> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>
<code>--deviceguid*</code>	NA	NA	<p>Displays the GUID for the BMC. This option cannot be replicated.</p> <p>Example:</p> <pre>A:&gt;syscfg --deviceguid</pre> <pre>deviceguid=XXXXXXXXXX</pre> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
--encryptkey	NA	<hexadecimal number>	<p>Encrypts the IPMI sessions.</p> <p>The hexadecimal number entered as an argument is not case sensitive although the value returned by the <b>encryptkey</b> option is always in uppercase.</p> <p>The value returned is appended with zeroes so that it is always 40 characters long.</p> <p>Example:</p> <pre>A:&gt;syscfg --encryptkey=abcd encryptkey= ABCD000000000000 0000000000000000 00000000</pre>
--identify	NA	0–254 <b>NOTE:</b> Use 0 to stop flashing the LED.	<p>Flashes the identification LED for a specified number of seconds.</p> <p><b>NOTE:</b> This option applies only to PowerEdge systems with a BMC.</p>
lanchannelacce ss or lca			<p>Sets or displays the LAN channel access settings such as alerting, IPMI over LAN, and user privilege. This option can be replicated.</p>

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
	--pefalerting	enable, disable	Enables or disables PEF alerts. This suboption can be replicated.
	--ipmioverlan	disable, alwaysavail	Sets the LAN channel access mode. This suboption can be replicated.
	--channelprivlmt	user, operator, administrator	Sets the maximum privilege level accepted for the LAN channel. This suboption can be replicated.
			Example (to configure the LAN channel with alerts and IPMI over LAN enabled): <pre>A:&gt;syscfg lanchannelaccess --pefalerting= enable --ipmioverlan= alwaysavail lanchannelaccess pefalerting= enable ipmioverlan= alwaysavail</pre>
lanchannelinfo or lci			Displays media and protocol information about the LAN channel. This option cannot be replicated.

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
lanefgparams or lcp			Configures and displays LAN configuration parameters. This option can be replicated.
	--ipaddrsrc	static, dhcp	Sets the IP address source for the LAN channel. This suboption can be replicated.
	--ipaddress	<ipaddress>	Sets the IP address for the LAN channel. This suboption cannot be replicated.
	--subnetmask	<subnetmask>	Sets the subnet mask for the LAN channel. This suboption can be replicated.
	--gateway	<gateway>	Sets the gateway for the LAN channel. This suboption can be replicated.

**Table 3-4. BMC and Remote Access Controller Configuration Options (*continued*)**

<b>Options</b>	<b>Suboptions</b>	<b>Valid Arguments</b>	<b>Description</b>
	--commstring	<string>	Sets the community string (maximum of 16 printable ASCII characters) used in a platform event trap (PET). This suboption can be replicated.
	--destipaddr	<ipaddress>	Sets the destination IP address for the alert destination specified with the <b>alertdest</b> suboption. The <b>destipaddr</b> suboption is dependent on the <b>alertdest</b> suboption. If the <b>alertdest</b> suboption is not specified on the command line, the first alert destination ( <b>alertdest=1</b> ) is set with this IP address. This suboption can be replicated.
	--alertdest	1, 2, 3, 4	Sets the destination for the LAN alert. This suboption can be replicated.
	--vlantag	enable, disable	Enables or disables VLAN tagging. This suboption can be replicated.
	--vlanid	<string>	Sets the 12-bit VLAN ID. This suboption can be replicated.

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

<b>Options</b>	<b>Suboptions</b>	<b>Valid Arguments</b>	<b>Description</b>
	--vlanpriority	0–7	Sets the VLAN priority value. This suboption can be replicated.
	--macaddress	NA	Displays the BMC MAC address. This suboption cannot be replicated.
	--nicselection	shared, sharedfailover, dedicated	Sets the operating mode of the NIC to shared/sharedfailover/dedicated. Some of these options are not applicable on certain systems.
	fullduplex	enable, disable	Enables or disables full duplex on the RAC network interface.
	--autoneg	enable, disable	Enables or disables autonegotiation.
	--speed	10,100	Sets the network interface speed to 10 or 100 Mbps.
	--dnshcp	enable, disable	Enables or disables obtaining the DNS server IP address through DHCP.
	--dnserver1	<ipaddress>	Sets the IP address of the primary DNS server for domain name resolution.
	--dnserver2	<ipaddress>	Sets the IP address of the secondary DNS server for domain name resolution.

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

<b>Options</b>	<b>Suboptions</b>	<b>Valid Arguments</b>	<b>Description</b>
	--dnsterrac	enable, disable	Enables or disables binding of the RAC name to the IP address.
	--dnstracname	<string>	Sets the name of the RAC.
	--domainnamefromdhcp	enable, disable	Enables or disables getting the RAC domain name through DHCP.
	--domainname	<string>	Sets the domain name of the RAC.  Example 1 (to display the current LAN configuration settings): A:>syscfg -- lancfgparams lancfgparams destipaddr= 192.168.100.15 vlantag=enable vlanid=1000 vlanpriority=7 macaddress= 0:6:5b:fb:c8:a7 commstring= public ipaddrsrc=static ipaddress= 192.168.100.10 subnetmask= 255.255.255.0 gateway= 192.168.100.1



**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
			Example 2 (to set the LAN configuration parameters): A:>syscfg lancfgparams --destipaddr= 192.168.100.15 --vlantag=enable --vlanid=1000 --vlanpriority=7 --commstring= public --ipaddrsrc= static --ipaddress= 192.168.100.10 --subnetmask= 255.255.255.0 --gateway= 192.168.100.1  lancfgparams destipaddr= 192.168.100.15 vlantag=enable vlanid=1000 vlanpriority=7 macaddress= 0:6:5b:fb:c8:a7 commstring= public ipaddrsrc=static ipaddress= 192.168.100.10 subnetmask= 255.255.255.0 gateway= 192.168.100.1

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
lanuseraccess or lua			Configures the privilege level and channel accessibility associated with a specified User ID for the LAN channel.
	--userid	2–10 if your system has a DRAC 4 controller  2–16 if your system has a DRAC 5 controller	Sets the User ID. This suboption can be replicated.
	--usrprivlmt	user, operator, administrator, noaccess	Sets the maximum BMC user privilege level for the LAN channel for the <code>userid</code> suboption. This suboption can be replicated. This suboption is dependent on the <code>userid</code> suboption.
	-- currentenableduserids	NA	Reports the number of currently enabled User IDs on the LAN channel.

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

<b>Options</b>	<b>Suboptions</b>	<b>Valid Arguments</b>	<b>Description</b>
	-- useridswithfixednames	NA	Reports the number of User IDs with fixed names on the LAN channel.  Example 1 (to enable User ID 2 on the LAN channel with administrator privileges):  A:>syscfg lanuseraccess  --userid=2 --usrprivlmt=administrator  userid=2 usrprivlmt=administrator  Example 2 (to enable User ID 4 on the LAN channel with user privileges):  A:>syscfg lanuseraccess  --userid=4 --usrprivlmt=user  userid=4 usrprivlmt=user

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
--loaddefaults*	NA	NA	<p>Restores the BMC to the defaults that were originally loaded on the controller. This option is used to return the BMC to a known-good state. This option cannot be replicated.</p> <p><b>NOTE:</b> The NMI, power button, and SOL defaults are not reset by using this option.</p> <p>Example:</p> <pre>A:&gt;syscfg --loaddefaults</pre> <p>Loading defaults...</p> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
--nextboot	NA	valid device name (from the <b>--bootseq</b> option device list)	<p>This option sets the specified device as the first device in the boot order for the next boot cycle only. The device must be a device from the <b>--bootseq</b> option device list. Run the <b>--bootseq</b> option to see a list of available device names. See <b>--bootseq</b> for more information. This option is not replicated.</p> <p>Example 1:</p> <pre>A:&gt;syscfg --bootseq</pre> <p>Device 1: floppy.emb.0 - Diskette Drive A:</p> <p>Device 2: cdrom.emb.0 - CD-ROM device</p> <p>Device 3: hdd.emb.0 - Hard Drive C:</p> <p>Device 4: nic.emb.1 - Intel Boot Agent Version 4.0.17</p>

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
--nmibutton	NA	enable, disable	<p>Device 5:            nic.emb.2 -            Intel Boot Agent            Version 4.0.17</p> <p>Example 2:            A:&gt;syscfg --nextboot=            nic.emb.1            nextboot=nic.emb.1</p> <p>This option enables or            disables the NMI            button.</p> <p>This option can be            replicated.</p> <p>Example:            A:&gt;syscfg --            nmibutton=            enable</p> <p>nmibutton=            enable</p>

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
passwordaction			Configures and tests the password for the specified User ID. This option cannot be replicated. All three suboptions, <b>action</b> , <b>userid</b> , and <b>password</b> , must be included in the command line.
	--userid	2–10 if your system has a DRAC 4 controller 2–16 if your system has a DRAC 5 controller	Specifies the BMC User ID. This suboption cannot be replicated.
	--action	setpassword, testpassword	Sets or tests the password for the specified User ID. This suboption cannot be replicated.
	--password	<string>	Sets the password (maximum of 16 printable ASCII characters) for the specified BMC User ID. This suboption cannot be replicated.  Example (to set and test the password for User ID 3):

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
			<pre>A:&gt;syscfg passwordaction --userid=3 --action= setpassword --password= bcmaster passwordaction userid=3 action= setpassword password= *****</pre>
			<pre>A:&gt;syscfg passwordaction --userid=3 --action= testpassword --password= bcmastor Password test failed.</pre>
<p>pefcfgparams or pcp</p>			<p>Configures and displays PEF configuration parameters. This option can be replicated.</p>



**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
	--filter	fanfail, voltfail, discretevoltfail, tempwarn, tempfail, intrusion, redundegraded, redunlost, procwarn, procfail, powerwarn, powerfail, hardwarelogfail, autorecovery, batterywarn, batteryfail, powerabsent, procabsent, systempowerwarn, systempowerfail	Specifies a PEF value. This suboption can be replicated. See "BMC Platform Events Filter Alert Messages" for a complete list of all possible PEF messages along a description of each event. <b>NOTE: The fanfail option is not supported on x0xx systems.</b>
	--filteraction	powercycle, reset, powerdown, powerreduction, none	Sets the event filter action for the filter specified using the <b>filter</b> suboption. This suboption depends on the <b>filter</b> suboption. This suboption can be replicated.

**Table 3-4. BMC and Remote Access Controller Configuration Options (*continued*)**

<b>Options</b>	<b>Suboptions</b>	<b>Valid Arguments</b>	<b>Description</b>
	--hostname	< <i>string</i> >	<p>Sets the host name (maximum of 62 printable ASCII characters) for the BMC. This suboption can be replicated.</p> <p>The <b>--hostname</b> string must comprise only these characters: hyphen (-), underscore (_), and period (.).</p> <p>The length of the <b>--hostname</b> string must be 48 characters or less for <i>x8xx</i> systems and 62 characters or less for <i>x9xx</i> systems and later.</p>
	--filteralert	enable, disable	<p>Enables or disables alerts for the filter specified using the <b>filter</b> suboption. This suboption is dependent on the <b>filter</b> suboption. This suboption can be replicated.</p>
	--alertpolnum	1, 2, 3, 4	<p>Specifies the alert policy entry number. This suboption can be replicated.</p>

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

<b>Options</b>	<b>Suboptions</b>	<b>Valid Arguments</b>	<b>Description</b>
	--alertpolstatus	enable, disable	Enables or disables the alert policy specified using the <b>alertpolnum</b> suboption. This suboption can be replicated. This suboption is dependent on the <b>alertpolnum</b> suboption.

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
			Example (to set the PEF configuration parameters):
			Example 1 (To configure the PEF so that the system is powered down in response to a fan failure event):
		<pre>A:&gt;syscfg pefcfgparams --filter=fanfail --filteraction= powerdown</pre>	
		<pre>pefcfgparams filter=fanfail filteraction= powerdown</pre>	
			Example 2 (To configure the PEF so that a PEF alert is not sent to the destination IP address in response to a chassis intrusion event):
		<pre>A:&gt;syscfg pefcfgparams --filter= intrusion --filteralert= disable</pre>	
		<pre>pefcfgparams filter=intrusion filteralert= disable</pre>	

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

<b>Options</b>	<b>Suboptions</b>	<b>Valid Arguments</b>	<b>Description</b>
--powerbutton	NA	enable, disable	This option enables or disables the power button. This option can be replicated.  Example:  A:>syscfg --powerbutton=enable  powerbutton=enable

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
--powerctl	NA	powerdown </argument>	This option performs a chassis powerdown and controls the reset of the system.  Powerdown shuts off the system.
		powercycle </argument>	Powercycle shuts off the system and automatically turns on your system after a few seconds.
		reset </argument>	Resets the system.
		softshutdown </argument>	In Linux, the system shuts down immediately.  In Windows PE, this option does not work.  <b>NOTE:</b> This option applies only to PowerEdge systems that are configured with a BMC.  This argument requires ACPI support to function properly.
--racreset	NA	NA	This option resets the RAC. It cannot be accompanied with any other option. This option cannot be replicated.

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
-- serialchannelac cess or sca			Sets or displays the channel access settings for the serial channel. This option can be replicated.
	--ipmioverserial	disable, alwaysavail	Sets the serial channel access mode. This suboption can be replicated.
	--channelprivlmt	user, operator, administrator	Sets the maximum privilege level accepted for the serial channel. This suboption can be replicated.
			Example (to configure the serial channel with IPMI over serial disabled and the maximum privilege level set to administrator):  A:>syscfg serialchannelac cess  -- ipmioverserial= disable  -- channelprivlmt= administrator serialchannelac cess  ipmioverserial= disable  channelprivlmt= administrator

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
-- serialchannelinfo or sci			Displays media and protocol information about the serial channel. This option cannot be replicated.
	--mediumtype	NA	Displays the medium type for the serial channel. This suboption cannot be replicated.
	--prottype	NA	Displays the protocol type for the serial channel. This suboption cannot be replicated.
	--ssnsupport	NA	Displays the session support information for the serial channel. This suboption cannot be replicated.
	--activessncount	NA	Displays the number of sessions that are activated on the serial channel. This suboption cannot be replicated.
			Example: A:>syscfg serialchannelinf o --mediumtype mediumtype= asynch



**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
serialcfgparams or scp			Configures and displays serial configuration parameters. This option can be replicated.
	--connectionmode	basic, terminal	Sets the connection mode used to perform IPMI messaging to the BMC. This suboption can be replicated.
	--msgcommflowctrl	noflowctrl, rtsets	Sets the IPMI message communication flow control. This suboption can be replicated.
	--msgcommdtrhangup	NA	Reports the IPMI message communication DTR hang-up. This suboption cannot be replicated.
	--msgcommbitrate	9600, 19200, 38400, 57600	Sets the IPMI message communication baud rate in bits per second (bps). This suboption can be replicated.
	--tmcflineediting	enable, disable	Sets the line editing value for terminal mode configuration. This suboption can be replicated.
	--tmcfgdelctrl	del, bksp	Sets the delete control value for terminal mode configuration. This suboption can be replicated.

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

<b>Options</b>	<b>Suboptions</b>	<b>Valid Arguments</b>	<b>Description</b>
	--tmcfgechoctrl	echo, noecho	Sets the echo control value for terminal mode configuration. This suboption can be replicated.
	--tmcfghandshakectrl	enable, disable	Sets the handshake control value for terminal mode configuration. This suboption can be replicated.
	--tmcfgnewlineseq	noterm, crlf, null, cr, lfcr,lf	Sets the new line sequence value for terminal mode configuration. This suboption can be replicated.
	-- tmcfginputnewlineseq	cr, null	Sets the input new line sequence value for terminal mode configuration. This suboption can be replicated.

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
serialuseraccess or sua			<p>Example (to display the current serial configuration settings):</p> <pre>A:&gt; syscfg serialcfgparams serialcfgparams tmcfgdclctrl=del tmcfgechoctrl= echo tmcfghandshakectrl= enable connectionmode= terminal tmcfgnewlineseq= crlf msgcommflowctrl= rtscts tmcfginputnewlineseq= cr msgcommdtrhangup= disable msgcommbitrate= 19200 tmcfglineediting= enable</pre> <p>Configures the privilege level and channel accessibility associated with a specified User ID for the serial channel. This option can be replicated.</p>

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

<b>Options</b>	<b>Suboptions</b>	<b>Valid Arguments</b>	<b>Description</b>
	--userid	2–10 if your system has a DRAC 4 controller  2–16 if your system has a DRAC 5 controller	Sets the User ID. This suboption can be replicated.
	--usrprivlmt	user, operator, administrator, noaccess	Sets the maximum BMC user privilege level for the serial channel for the User ID specified using the <b>userid</b> suboption. This suboption can be replicated. This suboption is dependent on the <b>userid</b> suboption.
	--currentenableduserids	NA	Reports the number of currently enabled User IDs on the serial channel. This suboption can be replicated.
	--useridswithfixednames	NA	Reports the number of User IDs with fixed names on the serial channel. This suboption can be replicated.

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
			Example 1 (to enable User ID 2 on the serial channel with administrator privileges): A:>syscfg serialuseraccess --userid=2 --usrprivlmt=administrator --status=enable userid=2 usrprivlmt=administrator status=enable
			Example 2 (to enable User ID 4 on the serial channel with user privileges): A:>syscfg serialuseraccess --userid=4 --usrprivlmt=user --status=enable userid=4 usrprivlmt=user status=enable

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
solaction			<p>This option enables or disables Serial-Over-LAN (SOL) access for a particular user. This option can be replicated.</p> <pre>A:&gt;syscfg solaction -- userid=2 -- action=disable  solaction userid=2 action= disable</pre>
	--userid	<p>2–10 if your system has a DRAC 4 controller</p> <p>2–16 if your system has a DRAC 5 controller</p>	<p>Specifies the BMC user ID. This suboption can be replicated.</p>
	--action	enable, disable	<p>Enables or disables the user ID specified using the userid suboption. This suboption can be replicated and is dependent on the userid suboption.</p>

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
solcfgparams			Configures and displays SOL configuration parameters. This option can be replicated.
	--solenable	enable, disable	Enables or disables whether the SOL payload type can be activated. This option can be replicated.
	--solprivlevel	user, operator, administrator	Sets the minimum user privilege level required to activate the SOL. This option can be replicated.
	--solcharaccuminterval	1–255	Sets the Character Accumulate Interval in 5-ms increments (1–255). This sets the typical amount of time that the BMC will wait before transmitting a partial SOL character data packet. This option can be replicated.

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
	--solcharsendthreshold	1-255	<p>Specifies that the BMC will automatically send an SOL character data packet containing this number of characters in increments of 5 (1-255) as soon as this number of characters (or greater) has been accepted from the baseboard serial controller into the BMC. This option can be replicated.</p> <p><b>NOTE:</b> On x8xx systems, the maximum limit for --solcharsendthreshold is 200. On x9xx systems, the maximum limit is 255. On the Dell PowerEdge SC1435 system, the maximum limit is 255.</p>



**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
	--solbitrate	9600, 19200	<p>Sets the serial channel communication bit rate (in bps) with the BMC when SOL is activated. This option can be replicated.</p> <p><b>NOTE:</b> The arguments for --solbitrate vary with various generations of Dell systems. If an argument valid for a particular generation is entered for another generation, the 'Parameter out of range' error is displayed.</p> <p>Valid arguments are:</p> <ul style="list-style-type: none"><li>19200 - for x8xx systems</li><li>57600 - for x9xx systems that do not have DRAC 5 installed</li><li>115200 - for x9xx systems that have DRAC 5 installed</li></ul>

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
			Example 1 (to display the current SOL configuration):  A:> syscfg solcfgparams  solcfgparams solenable=enable solprivlevel=administrator solcharaccuminteval=25 solcharsendthres hold=25 solbitrate=9600

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
solcfgparams			Example 2 (to set the SOL configuration parameters): <pre>A:&gt;syscfg solcfgparams --solenable= disable --solprivlevel= administrator -- solcharaccuminte rval=25 -- solcharsendthres hold=100 --solbitrate= 9600  solcfgparams solenable= disable solprivlevel= administrator solcharaccuminte rval=25 solcharsendthres hold=100 solbitrate=9600</pre>

**Table 3-4. BMC and Remote Access Controller Configuration Options *(continued)***

<b>Options</b>	<b>Suboptions</b>	<b>Valid Arguments</b>	<b>Description</b>
ssninfo			Displays information about the number of possible active sessions and the number of currently active sessions on all channels on the BMC. This option cannot be replicated.
	--maxactivessns	NA	Displays the maximum possible active BMC sessions. This suboption cannot be replicated.
	--currentactivessns	NA	Displays the number of currently active sessions on all channels of the BMC. This suboption cannot be replicated.
			Example: A:>syscfg ssninfo currentactives sns=1 maxactivessns= 4

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
useraction			Enables and disables BMC, sua, and lua user IDs. This option can be replicated.
	--userid	2–10 if your system has a DRAC 4 controller 2–16 if your system has a DRAC 5 controller	Specifies the BMC user ID. This suboption can be replicated.
	--action	enable, disable	Enables or disables the user ID specified using the <b>userid</b> suboption. This suboption can be replicated. This suboption is dependent on the <b>userid</b> suboption.  Example (to disable User ID 3):  <pre>A:&gt;syscfg useraction --userid=3 -- action=disable  useraction userid=3 action=disable</pre>

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
username			Sets the BMC User ID and username. This option can be replicated.
	--userid	2–10 if your system has a DRAC 4 controller 2–16 if your system has a DRAC 5 controller	Specifies the User ID. This suboption can be replicated.
	--name	<string>	Sets the username (maximum of 16 printable ASCII characters) for the User ID specified using the <b>userid</b> suboption. This suboption can be replicated. This suboption is dependent on the <b>userid</b> suboption.  Example 1 (to configure User ID 3 with a user name):  A:>syscfg username --userid=3 --name= <i>bcmaster</i>  username userid=3 name= <i>bcmaster</i>

**Table 3-4. BMC and Remote Access Controller Configuration Options (continued)**

Options	Suboptions	Valid Arguments	Description
			Example 2 (to display the username for User ID 3):  <pre>A:&gt;syscfg username -- userid=3 --name username userid=3 name=bcmaster</pre>
--version*	NA	NA	Displays the version information for the SYSCFG utility.  <b>NOTE:</b> The asterisk is not part of the command syntax.

## SYSCFG for State Configuration

The SYSCFG utility allows the user to write a state data value on a system. This value is preserved across reboot or power-off operations. Users can use this state data value for storing important state information, such as the progress of a multi-reboot deployment process.

### SYSCFG Options for State Configuration

Table 3-5 documents all valid options and arguments along with a description of the expected behavior of each option.



**NOTE:** Some of the following options or arguments might not be available on all systems.

**Table 3-5. SYSCFG Options and Arguments for State Configuration**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
-b or --byte	<string>	<p>This option specifies a value to write to state data. The format of the argument must be in decimal format unless the -x option is given. If the -x option is given, the value is interpreted as hexadecimal format. The value can optionally contain 0x. The decimal range is 0–255, and the hexadecimal range is 0x00–0xFF.</p> <p>Example:</p> <pre>A:&gt;syscfg -b 1</pre> <p>The state byte has been set to 1.</p> <pre>A:&gt;syscfg -b 2 -x</pre> <p>The state byte has been set to 0x02.</p>
-r or --read*	NA	<p>This option reads the value of state data. When used with the -x option, the value is reported in hexadecimal format (0xNN).</p> <p>Example:</p> <pre>A:&gt;sysfg -r -x</pre> <p>The state byte has been set to 0x02.</p> <pre>A:&gt;syscfg -r</pre> <p>The state byte has been set to 2.</p> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>
-x or --hex	None	<p>This option specifies that a value should be in hexadecimal format.</p> <p>Example:</p> <pre>A:&gt;sysfg -r -x</pre> <p>The state byte has been set to 0x01.</p> <pre>A:&gt;sysfg -x -b 0x02</pre> <p>The state byte has been set to 0x02.</p> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>



# SYSCFG for System Configuration

SYSCFG enables system configuration and reporting. It reports system identification values, processor types and speeds, memory size, and detects device using PCI scan.

## Options for System Configuration

Table 3-6 documents valid options and arguments along with a description of the expected behavior of each option. Options and arguments are case sensitive. All options and predefined arguments are lowercase unless stated otherwise.



**NOTE:** Some of the following options or arguments might not be available on all systems.

**Table 3-6. SYSCFG Options and Arguments for System Configuration**

Option	Valid Arguments	Description
--asset	None	This option reports the customer-programmable asset tag number for a system. This option displays the asset tag for a system. For modular systems, the SYSCFG utility reports the asset tag for both the server module and the asset tag for its chassis.  Example: <pre>A:&gt;syscfg--asset asset=ASSET</pre>
--biosver*	None	This option reports the BIOS version for a system. If used with the -s option, the environment variable is set to the BIOS version.  Example: <pre>A:&gt;syscfg --biosver biosver=A08</pre> <b>NOTE:</b> The asterisk is not part of the command syntax.

**Table 3-6. SYSCFG Options and Arguments for System Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
<code>--chassvctag*</code>	None	This option reports the chassis service tag for modular systems. Example: <code>A:&gt;syscfg --chassvctag</code> <code>chassvctag=SVCTAG1</code>
<code>--cpucount*</code>	None	This command reports the number of processors found on the system. Example 1: <code>A:&gt;syscfg --cpucount</code> <code>cpucount=1</code> Example 2: <code>A:&gt;syscfg --cpucount</code> <code>cpucount=2</code> <b>NOTE:</b> The asterisk is not part of the command syntax.
<code>--cpuspeed*</code>	None	This option reports the speed of all processors in a system. Example: <code>A:&gt;syscfg --cpuspeed</code> <code>cpuspeed=1000MHZ</code> <b>NOTE:</b> The asterisk is not part of the command syntax.

**Table 3-6. SYSCFG Options and Arguments for System Configuration (continued)**

Option	Valid Arguments	Description
--envfile	<filename>	<p>This option reads the environment variable file (included in DTK as <code>sys.ini</code>) and sets environment variables to names in the file, based on the system's information. Primarily, this command performs a PCI scan and matches the vendor/device numbers of the devices to those specified in the environment variable file. For more information, see the "Environment Variable File" section.</p> <p>Example:</p> <pre>A:&gt;syscfg --envfile sys.ini DELLNIC1=INTEL PRO100 DELLNIC2=INTEL PRO100 DVIDEO1=RAGEXL DIDE1=PEQUR/ROSS IDE DSCSI1=AIC-7899</pre>
--mem*	None	<p>This option reports the amount of system memory physically installed in the system, not the amount of memory available to an operating system. If used with the <code>-s</code> option, the environment variable is set to the amount of system memory. The last two characters of the memory value indicate the order of magnitude used (KB or MB).</p> <p>Example:</p> <pre>A:&gt;syscfg --mem mem=256MB</pre> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>

**Table 3-6. SYSCFG Options and Arguments for System Configuration (continued)**

Option	Valid Arguments	Description
-n	<filename>	<p>This option specifies an input file to use for resolving PCI vendor and device numbers to strings. The file must be present (with read rights) and contain a properly formatted list. See "PCI Reporting" for more information. This option must be used with the <code>--pci</code> option.</p> <p>Example:</p> <pre>A:&gt;syscfg -n pci.txt --pci PCI Bus: 2, Device: 4, Function: 0   Vendor:      8086 - Intel Corp.   Device:      1229 - 82557/8/9 [Ethernet Pro 100]   Sub Vendor:8086 - Intel Corp.   Sub Device:1017 - EtherExpress PRO/100+ Dual Port Server Adapter   Slot:        01   Class:       02 - Network   SubClass:   00 - Ethernet</pre>
--ovrwt*	None	<p>When used with the <code>--outfile</code> option, this option specifies that the output file should be overwritten if it exists.</p> <p>Example:</p> <pre>A:&gt;syscfg -outfile=out.ini --ovrwt</pre> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>

**Table 3-6. SYSCFG Options and Arguments for System Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
<code>--pci*</code>	None	<p>This option performs a scan of all PCI buses and displays the results. The utility uses an open source <code>pci.ids</code> file for vendor/device name resolution. The utility looks for a file called <code>pci.ids</code> in the current working directory. If the file is not found in the current working directory, the directory containing the SYSCFG executable is searched. If the <code>-n</code> option is used to specify a filename, this filename is used for resolution. If a specific filename is not given and the <code>pci.ids</code> file cannot be found, Unknown will be printed for all vendor and device codes.</p> <p>For more information, see the "PCI Reporting" section.</p> <p>Example 1 (the <code>pci.ids</code> filename is specified in the command line instance):</p> <pre>A:&gt;syscfg -n pci.ids --pci PCI Bus: 0, Device: 0, Function: 0   Vendor:    1166 - ServerWorks   Device:    0012 - CMIC-LE   Slot:      00   Class:     06 - Bridge   SubClass:  00 - CPU/PCI PCI Bus: 0, Device: 0, Function: 1   Vendor:    1166 - ServerWorks   Device:    0012 - CMIC-LE   Slot:      00   Class:     06 - Bridge   SubClass:  00 - CPU/PCI PCI Bus: 0, Device: 0, Function: 2   Vendor:    1166 - ServerWorks   Device:    0000 - Unknown</pre>

**Table 3-6. SYSCFG Options and Arguments for System Configuration (continued)**

Option	Valid Arguments	Description
		Slot: 00
		Class: 06 - Bridge
		SubClass: 00 - CPU/PCI
	None	Example 2 (the <code>pci.ids</code> file is located in the same directory as the utility so that names resolve): <pre>A:&gt;syscfg --pci PCI Bus: 0, Device: 0, Function: 0   Vendor: 1166 - ServerWorks   Device: 0012 - CMIC-LE   Slot: 00   Class: 06 - Bridge   SubClass: 00 - CPU/PCI PCI Bus: 0, Device: 0, Function: 1   Vendor: 1166 - ServerWorks   Device: 0012 - CMIC-LE   Slot: 00   Class: 06 - Bridge   SubClass: 00 - CPU/PCI PCI Bus: 0, Device: 0, Function: 2   Vendor: 1166 - ServerWorks   Device: 0000 - Unknown   Slot: 00   Class: 06 - Bridge   SubClass: 00 - CPU/PCI</pre>

**Table 3-6. SYSCFG Options and Arguments for System Configuration (continued)**

Option	Valid Arguments	Description
None		<p>Example 3 (a <code>pci.ids</code> file does not exist):</p> <pre>A:&gt;syscfg --pci PCI Bus: 0, Device: 0, Function: 0 Vendor:    1166 - Unknown Device:    0012 - Unknown Slot:      00 Class:     06 - Bridge SubClass:  00 - CPU/PCI PCI Bus: 0, Device: 0, Function: 1 Vendor:    1166 - Unknown Device:    0012 - Unknown Slot:      00 Class:     06 - Bridge SubClass:  00 - CPU/PCI PCI Bus: 0, Device: 0, Function: 2 Vendor:    1166 - Unknown Device:    0000 - Unknown Slot:      00 Class:     06 - Bridge SubClass:  00 - CPU/PCI</pre>
<b>NOTE:</b> The asterisk is not part of the command syntax.		
-s	<string>	<p>This option sets an environment variable to the value of a function command option. The string argument must be alphanumeric without any spaces or symbols. The variable name is upper-cased before being set. This option must be used with at least one function command.</p> <p>Example:</p> <pre>A:&gt;syscfg -s ENVNAME --svctag ENVNAME=SERVICE</pre>

**Table 3-6. SYSCFG Options and Arguments for System Configuration (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
<code>--slot*</code>	None	<p>This option reports the slot of a modular system. If the system is not modular, the slot is reported as 0. If used with the <code>-s</code> option, the environment variable is set to the slot.</p> <p>Example 1 (for a modular system):</p> <pre>A:&gt;syscfg --slot slot=1</pre> <p>Example 2 (for a non-modular system):</p> <pre>A:&gt;syscfg --slot slot=0</pre> <p><b>NOTE:</b> This option is valid for PowerEdge 1855 servers only. The asterisk is not part of the command syntax.</p>
<code>--svctag*</code>	None	<p>This option reports the service tag for a system. If used with the <code>-s</code> option, the environment variable is set to the BIOS version.</p> <p>Example:</p> <pre>A:&gt;syscfg --svctag svctag=113CD1S</pre> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>
<code>--sysasset</code>	None	<p>This option reports the system asset tag for modular systems.</p> <p>Example:</p> <pre>A:&gt;syscfg --sysasset sysasset=ASSET01</pre>



**Table 3-6. SYSCFG Options and Arguments for System Configuration (continued)**

Option	Valid Arguments	Description
--sysid*	None	<p>This function command reports the unique system id bytes for a server. Servers contain a unique ID value based on their model. The ID value is reported as a hexadecimal value with a leading 0x, lowercase hexadecimal letters, and zero-padded to 2 bytes. If used with the -s general option, the environment variable is set to the system ID.</p> <p>Example:</p> <pre>A:&gt;syscfg --sysid sysid=0x00df</pre> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>
--sysname*	None	<p>This function command reports the system identification string for a server, which is the string displayed under the Dell logo during POST. If used with the -s option, the environment variable is set to the system name.</p> <p>Example:</p> <pre>A:&gt;syscfg --sysname sysname=PowerEdge 1550/1000</pre> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>
--sysvctag*	None	<p>This option reports the system service tag for a modular system.</p> <p>Example:</p> <pre>A:&gt;syscfg --sysvctag sysvctag=BLADE01</pre> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>
--uuid*	None	<p>This option reports the UUID for a system. The UUID is a unique system identifier used in PXE requests.</p> <p>Example:</p> <pre>A:&gt;syscfg --uuid uuid=44454C4C-5300-104C-8044- B1C04F423131</pre> <p><b>NOTE:</b> The asterisk is not part of the command syntax.</p>

## PCI Reporting

The scan of the PCI bus will use a file to resolve PCI vendor and device codes to vendor information strings. The format of the PCI output is as follows:

```
PCI Bus: 2, Device: 4, Function: 0
  Vendor:      8086 - Intel Corp.
  Device:      1229 - 82557/8/9 [Ethernet Pro 100]
  Sub Vendor:8086 - Intel Corp.
  Sub Device:1017 - EtherExpress PRO/100+ Dual Port
Server Adapter
  Slot:        01
  Class:       02 - Network
  SubClass:    00 - Ethernet
```

If the file for vendor resolution is not present, the utility will print `Unknown` next to a vendor name. If the file for environment variable names is not present, the utility will fail the environment variable operation.

The `pci.ids` file is located at `\DELL\TOOLKIT\TOOLS` on Windows systems and `/opt/dell/toolkit/bin` on Linux systems. For more information and examples, see the `--pci` option in Table 3-3.

## Environment Variable File

The environment variable file can be used for discovering and recording system information to environment variables. The file consists of several `.ini`-formatted sections that map PCI vendor/device numbers to environment variable values. The environment variable file is `sys.ini` in `\DELL\TOOLKIT\TOOLS` on Windows systems and on Linux systems, you can find it in `/opt/dell/toolkit/bin`. For example, the `[DELLNIC]` section header designates that an environment variable named `dellnic1` should be set to the value of the name/value pair whose name matches the NIC's vendor/device number. If multiple NICs are present on a system, the environment variables are numbered sequentially: `dellnic1`, `dellnic2`, and so on.

## Environmental Variable File Excerpt (sys.ini)

```
[DELLNIC]
```

```
;environment variable will be set to INTELPRO100F for  
vendor 8086, dev 1001
```

```
8086,1001=INTELPRO1000F
```

```
;environment variable will be set to INTELPRO100T for  
vendor 8086, dev 1004
```

```
8086,1004=INTELPRO1000T
```

```
;environment variable will be set to INTELPRO100XT for  
vendor 8086, dev 1008
```

```
8086,1008=INTELPRO1000XT
```

The names of the environment variables can be changed in the **Variable Names** section. If a name is changed, the section that corresponds to that name must be changed as well.

Also available in the **.ini** file is a section that maps the system ID number to a string. This string can be used to identify the system during the discovery phase of deployment. The section name is the environment variable that will be set to the value of the name/value pair whose name matches the system ID.

To change the name of the environment variable, change the value of the **MACHINE** name in the **Variable Names** section, and change the corresponding section name.



# RAIDCFG

This section documents the Deployment Toolkit (DTK) RAID configuration utility. The RAIDCFG utility provides a single command line tool that can configure all supported RAID controllers.

## Features

The RAID configuration utility has the following general features:

- Displays help and usage information.
- Reads configuration options from the Command Line Interface (CLI) parameters.
- Enumerates RAID controllers, physical disks, and virtual disks.
- Creates and deletes virtual disks.
- Logs activity to a given filename.
- Returns specific error codes and messages.
- Assigns and unassigns global and dedicated hot spares.



**NOTE:** In Microsoft® Windows® Preinstallation Environment (Windows PE), you can find the RAIDCFG utility in `\DELL\TOOLKIT\TOOLS`. In Linux, you can find it in `/opt/dell/toolkit/bin`.

## Supported RAID Controllers

The RAIDCFG utility supports the following RAID controllers:

- PERC 3/DC, PERC 3/QC, PERC 3/SC
- PERC 4/SC, PERC 4/DC, PERC 4/Di, PERC 4/IM
- PERC 4e/DC, PERC 4e/Di, PERC 4e/Si
- PERC 5/E Adapter, PERC 5/I Integrated, PERC 5/i Adapter
- CERC SATA 1.5/6-Channel (CH), CERC SATA 1.5/2S, and PERC 3/Di (These controllers are supported in Linux only.)
- SAS 5iR Integrated, SAS 5iR Adapter

- SAS 6iR Integrated, SAS 6iR Adapter
- PERC 6/E Adapter, PERC 6/i Integrated, PERC 6/i Adapter

## RAIDCFG Dependencies

For the RAIDCFG utility to run successfully in Windows PE, it requires that the mr2kserv utility is located in the same directory as RAIDCFG. The RAIDCFG utility also requires that **lsivil.dll** (for Windows) or **lsivil.so** (for Linux) and **sasvil.dll** (for Windows) or **sasvil.dll** (for Linux) be in the same directory as RAIDCFG.

The mr2kserv is a service that is automatically started by the DTK startup script. This service is required to configure all LSI RAID controllers in Windows PE. This will be automatically started by the DTK startup script. This service provides Plug and Play support.

## RAIDCFG Options and Arguments

Table 4-1 lists all of the valid options, parameters, and arguments for the RAIDCFG utility. For more information on valid RAIDCFG options and their specific uses, see "RAID Configuration Utility Options and Arguments."

Mandatory command line options must be present in the command.

Optional command line options can be typed in any order after all mandatory options have been typed. Many options have both a short and long format. Short and long format options cannot be used in the same command line instance.

Table 4-1 shows some examples of valid and invalid short and long format command line instances. See "RAID Configuration Utility Options and Arguments" for an explanation of the specific order for each option. See Table 4-13 for a list of frequently used RAID commands.



**NOTE:** Some of the following options or arguments might not be available on all systems.

**Table 4-1. RAIDCFG Short and Long Format Options**

<b>Option</b>	<b>Valid Arguments</b>	<b>Short Description</b>	<b>Mandatory or Optional</b>
No option -h -? or /?	NA	Displays general usage information for the utility. The usage information consists of a comprehensive list of valid options, parameters, and arguments.	Optional. See Table 4-2 for specific usage information.
-ac or action	cvd or createvdisk	Creates a virtual disk. <b>NOTE:</b> When providing multiple physical disks for the createvdisk command, do not separate the disks with spaces. For example, -ad=1 : 4 , 1 : 5 causes an error. The correct syntax for displaying multiple physical disks is -ad=1 : 4 , 1 : 5 , 1 : 6.	See Table 4-4 for specific usage information.
-ac or action	dvd or deletevdisk	Deletes a virtual disk.	See Table 4-7 for specific usage information.
-ac or action	rghs or removeglobalhot pare	Unassigns all global hot spares to disks on the specified controller.	Optional. See Table 4-8 for specific usage information.
-ac or action	sghs or setglobalhotspare	Assigns the specified disks as global hot spares on the specified controller.	Optional. See Table 4-8 for specific usage information.
-ad or adisk	NA	Specifies an array disk command.	See Table 4-5 for specific usage information.

**Table 4-1. RAIDCFG Short and Long Format Options (continued)**

Option	Valid Arguments	Short Description	Mandatory or Optional
-ad or adisk	ch:targ, ch:targ, ... or ch:targ:lun,... or ch:targ:enc  channel:target, or channel:target:lun, or channel:target:enclosure	Specifies an array disk.  For SCSI controllers, the value of lun should always be 0.  For SAS controllers, the value of enclosure can be non-zero, in which case you need to specify values for channel, target, and enclosure.  <b>NOTE:</b> You can also use <code>pdisk</code> or <code>-pd</code> instead of <code>adisk</code> or <code>-ad</code> to specify an array disk.	Optional.  See Table 4-5 for specific usage information.
-c or controllerid	<valid controller ID number>	Specifies a RAID controller.	See Table 4-3 for specific usage information.
-cp or cachepolicy	d, c	Specifies the virtual disk cache policy.	Optional.  See Table 4-4 for specific usage information.
-ctrl or controller	NA	Displays a list of the supported RAID controllers in the system, along with select property information.	Mandatory, must be typed in the correct order.  See Table 4-3 for specific usage information.
-envc or envcommand	<string>	Sets a user-defined environmental variable (<string>) to the value returned from a function call.	See Table 4-9 for specific usage information.



**Table 4-1. RAIDCFG Short and Long Format Options (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Short Description</b>	<b>Mandatory or Optional</b>
-envn or envname	<string>	Sets the environment variable (<string>) that equates to the value returned from a function call.	See Table 4-9 for specific usage information.
-fd or failoverdrive	ch:targ, ch:targ, ... or ch:targ:lun,... or ch:targ:enc channel:target, or channel:target:lun, or channel:target:enclosure	Specifies the location of the failover drive in an array.  For SCSI controllers, the value of lun should always be 0.  For SAS controllers, the value of enclosure can be non-zero, in which case you need to specify values for channel, target, and enclosure.  <b>NOTE:</b> From DTK 2.4 onwards, the -fd option creates dedicated hot spares instead of global hot spares. To set global hot spares, see Table 4-8.	Optional.  See Table 4-4 for specific usage information.
-i	<filename>	Reads the RAID configuration information from the given .ini filename and creates the RAID configurations on the specified controllers.	Mandatory.  See Table 4-11 for specific usage information.
-l or logfile	<filename>	Logs command line output to a file.	Optional.  See Table 4-12 for specific usage information.
-o	<filename>	Reads the RAID configurations from all available controllers and write these configurations in the given .ini filename.	Mandatory.  See Table 4-11 for specific usage information.

**Table 4-1. RAIDCFG Short and Long Format Options (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Short Description</b>	<b>Mandatory or Optional</b>
-r or raid	<valid RAID level number>	Sets the RAID level for the array.  Valid RAID values are 0, 1, 5, 10, 50.  If no value is specified for RAID, 0 is taken as the default level.	Optional.  See Table 4-4 for specific usage information.
-rp or readpolicy	ra, ara, nra, rc, nrc	Sets the read policy for the virtual disk.	Optional.  See Table 4-4 for specific usage information.
-se or setenvironme nt	NA	Sets a user-defined environment variable to the value returned from the function call. Function calls are:  getcontrollerslots, getfirmware, getcontrollertype, getadisks, getadiskcount, getfreeadisks, getfreeadiskcount, getfreeadisksize, gethotspares.	Mandatory.  See Table 4-9 for specific usage information.
-si or silent	NA	Does not display any information on the terminal console.	Optional.  See Table 4-12 for specific usage information.
-sz or size	<number>	Sets the maximum size on the virtual disk in MB or GB if the size is not provided.  The default size is in MB. If GB follows the number, the size is expressed in GB.	Optional.  See Table 4-4 for specific usage information.

**Table 4-1. RAIDCFG Short and Long Format Options (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Short Description</b>	<b>Mandatory or Optional</b>
-sp or spanlength	<number>	The span size of RAID 5, which is a mandatory parameter for RAID 50. <b>NOTE:</b> Spanlength is applicable only for RAID 50. The minimum permissible spanlength value is 3. The number of array disks for creating virtual disks should not be a prime number and should be divisible by the specified spanlength.	Mandatory. See Table 4-4 for specific usage information.
-ssz or stripesize	<number>	Sets the stripe size on the virtual disk in KB. <b>NOTE:</b> When creating virtual disks, do not specify the units for chunk (stripe) size. The units are always listed in KB.	Optional. See Table 4-4 for specific usage information.
-vd or vdisk	NA	Displays the virtual disks under all of the controllers along with the physical array disks that make up the virtual disks.	See Table 4-6 for specific usage information.
-vd or vdisk	<valid virtual disk ID number>	Displays the specified virtual disk.	Optional. See Table 4-6 for specific usage information.
-ver or version	NA	Displays the version number of the utility.	Optional. See Table 4-12 for specific usage information.

**Table 4-1. RAIDCFG Short and Long Format Options (continued)**

Option	Valid Arguments	Short Description	Mandatory or Optional
-wp or writepolicy	wb, wt, wc, nwc	Sets the write policy for a virtual disk. The valid arguments are: <b>wb</b> (write-back caching), <b>wt</b> (write-through caching), <b>wc</b> (write-caching), and <b>nwc</b> (no-write-caching).	Optional. See Table 4-12 for specific usage information.

## RAID Configuration Utility Options and Arguments

The following tables document valid options, parameters, and arguments along with a description of the expected behavior of each option. Options, parameters, and predefined arguments are case sensitive and entered in lowercase, unless stated otherwise. The information is grouped by task in the following sections:

- General Help
- Enumerating RAID Controllers
- Creating Virtual Disks
- Enumerating Array Disks
- Enumerating Virtual Disks
- Deleting Virtual Disks
- Miscellaneous Options



**NOTE:** Some of the following options or arguments might not be available on all systems.

### General Help

Table 4-2 lists the RAIDCFG general help options.

**Table 4-2. General Help**

<b>Options</b>	<b>Parameters</b>	<b>Valid Arguments</b>	<b>Description</b>
No option -h -? or /?	NA	NA	<p>Displays general usage information for the utility. The usage information consists of a comprehensive list of valid options, parameters, and arguments. This option is optional and can be added to the command line in any order.</p> <p>Example:</p> <pre>A:&gt;raidcfg -h</pre> <p>Provides users with general help options that may be used with this utility.</p> <pre>[raidcfg]</pre> <p>Version 2.4</p> <p>Help: options in &lt;&gt; are mandatory options in [] are optional and can be in any order after mandatory ones.</p> <pre>raidcfg &lt;controller&gt;</pre> <pre>raidcfg &lt;-ctrl&gt;</pre> <p>Lists all controllers on the host and select property information.</p> <p>...</p> <p><i>—output continues, listing all possible option/parameter/argument combinations—</i></p>

## Enumerating RAID Controllers

Table 4-3 lists the RAIDCFG options, parameters, and predefined arguments for enumerating RAID controllers.

**Table 4-3. Enumerating RAID Controllers**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameters</b>	<b>Valid Parameters Arguments</b>	<b>Description</b>
-ctrl or controller	NA	NA	<p>Lists all the RAID controllers on the host system, along with select property information. This option is mandatory.</p> <p>Example:</p> <pre> Controller_ID/Slot_ID: 0     Controller_PCI_ID: 2:14:0     Controller_Name: PERC 4e/Di         Channels: 2     No.of Virtual_Disks: 1         Array_Disks: 0:0:0,1:2:0,1:3:0,1:4:0,1:5:0         Firmware Version: 5130  Controller_ID/Slot_ID: 3     Controller_PCI_ID: 3:11:0     Controller_Name: PERC 4/DC         Channels: 2     No.of Virtual_Disks: 0         Firmware Version: 3500  RAIDCFG Command successful!</pre>

**Table 4-3. Enumerating RAID Controllers (*continued*)**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameters</b>	<b>Valid Parameters Arguments</b>	<b>Description</b>
	-c or controller rid	<valid controller ID number>	Displays the properties for the RAID controller with the specified controller ID. This option combination is mandatory. Example: A:>raidcfg -ctrl -c=2 Controller_ID/Slot_ID: 2 Controller_PCI_ID: 8:14:0 Controller_Name: PERC 4e/DC Channels: 2 Virtual_Disks: 1 Firmware Version: 521S RAIDCFG Command successful!

### **Creating Virtual Disks**

Table 4-4 lists the RAIDCFG options, parameters, and predefined arguments for creating virtual disks.



**NOTE:** If you create a virtual disk on Windows PE, you need to reboot your system.



**NOTE:** On CERC SATA 1.5/2S, CERC SATA 1.5/6CH, SAS 5/iR, and SAS 6/iR controllers, use the entire array disk to create a virtual disk.

**Table 4-4. Creating Virtual Disks**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameters</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
-ctrl -ac=cvd -c= <i>id</i> -ad= <i>ch:targ,ch:targ</i> , ... [or <i>ch:targ:encl,...</i> ] or controller action= createvdisk controllerid= <i>id</i> adisk= <i>channel:target:</i> <i>lun,...</i> <i>channel:target:</i> <i>lun,...</i> [or <i>channel:target:</i> <i>enclosure,...</i> ]	NA	NA	Creates a virtual disk comprising the properties supplied. This option combination is mandatory.  For SCSI controllers, the value of lun should always be 0.  For SAS controllers, the value of enclosure can be non-zero, in which case you need to specify values for channel, target, and enclosure.  Example: <pre>A:&gt;raidcfg -ctrl -ac=cvd -c=2 -ad=1:4,1:8 -r=1 -ssz=32 -cp=d -rp=nra -wp=wt -fd=1:1</pre> RAIDCFG command successful!



**Table 4-4. Creating Virtual Disks (continued)**

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
	-cp or cachepolicy	d, c	<p>Sets the cache policy for the virtual disk. The valid arguments are:</p> <p><b>d</b> — (Direct I/O) Reads are not buffered in cache memory.</p> <p><b>c</b> — (Cache I/O) All reads are buffered in cache memory.</p> <p><b>NOTE:</b> This option is not supported on the following controllers: CERC SATA 1.5/6 CH, CERC SATA 1.5/2S, and PERC 3/Di.</p> <p><b>NOTE:</b> The PERC 4/IM controller has a fixed set of read, write, and cache policies. If you set any of these policies while creating a virtual disk, your settings will be ignored.</p> <p>The <b>-cp</b> option is optional and can be added to the command line in any order after the mandatory option combination.</p> <p>For SCSI controllers, the value of lun should always be 0.</p> <p>For SAS controllers, the value of enclosure can be non-zero, in which case you need to specify values for channel, target, and enclosure.</p>

**Table 4-4. Creating Virtual Disks (continued)**

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
-fd or failoverdrive	ch:targ, ch:targ, ... or ch:targ:lun,... or ch:targ:enc channel:target, or channel:target:lun, or channel:target:enclosure	<p>Sets the failover drive for the virtual disk. The <b>-fd</b> option is optional and can be added to the command line in any order after the mandatory option combination.</p> <p><b>NOTE:</b> From DTK 2.4 onwards, the <b>-fd</b> option creates dedicated hot spares instead of global hot spares. For information about setting global hot spares, see Table 4-8.</p> <p>For SCSI controllers, the value of lun should always be 0.</p> <p>For SAS controllers, the value of enclosure can be non-zero, in which case you need to specify values for channel, target, and enclosure.</p>	

**Table 4-4. Creating Virtual Disks (continued)**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameters</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
	-r or -raid	0, 1, 5, 6, 10, 50, 60	<p>Sets the RAID type or level for the virtual disk.</p> <p><b>NOTE:</b> If this option is not specified for any RAID controller, RAID 0 is taken as the default.</p> <p>The valid arguments are:</p> <p>0 — RAID 0 uses data striping, which is writing data in equal-sized segments across the array disks. RAID 0 does not provide data redundancy.</p> <p>1 — RAID 1 is the simplest form of maintaining redundant data. In RAID 1, data is mirrored or duplicated on one or more drives.</p> <p>5 — RAID 5 provides data redundancy by using data striping in combination with parity information. Rather than dedicating a drive to parity, the parity information is striped across all disks in the array.</p> <p>6 — RAID 6 is an extension of RAID 5 and uses an additional parity block. It uses block-level striping with two parity blocks distributed across all member disks. RAID 6 provides protection against double disk failures and failures while a single disk is rebuilding. In case there is only one array, RAID 6 may be a better option than a hotspare disk.</p> <p>10 — RAID 10 is a stripe of mirrors. Multiple RAID 1 mirrors are created, and a RAID 0 stripe is created over these.</p>


**Table 4-4. Creating Virtual Disks (continued)**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameters</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
			<p>50 — RAID 50 is a dual level array that uses multiple RAID 5 sets in a single array. A single hard drive failure can occur in each of the RAID 5 without any loss of data on the entire array. Although the RAID 50 has increased write performance, when a hard drive fails and reconstruction takes place, performance decreases, data/program access is slower, and transfer speeds on the array are affected.</p> <p>60 — RAID 60 is a combination of RAID 6 and RAID 0. A RAID 0 array is striped across RAID 6 elements. It requires at least 8 disks.</p>

**Table 4-4. Creating Virtual Disks (continued)**

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
-ctrl -ac=cvd -c= <i>id</i> -ad= <i>ch:targ,ch:targ</i> , ... [or <i>ch:targ:encl,...</i> ] or controller action= createdisk controllerid= <i>id</i> adisk= <i>channel:target:</i> <i>lun</i> , <i>channel:target:</i> <i>lun</i> ,... [or <i>channel:target:</i> <i>enclosure,...</i> ]	-rp  or readpolicy	ra, ara, nra, rc, nrc	<p>Sets the SCSI read policy for the virtual disk. Specify the SCSI read policy for the logical drive. The valid arguments are:</p> <p><b>ra</b> — (read-ahead) The controller reads sequential sectors of the disk when seeking data.</p> <p><b>ara</b> — (Adaptive Read-Ahead) The controller initiates read-ahead only if the two most recent read requests accessed sequential sectors of the disk. If subsequent read requests access random sectors of the disk, the controller reverts to No-Read-Ahead policy. The controller continues to evaluate whether or not read requests are accessing sequential sectors of the disk and can initiate read-ahead if necessary.</p> <p><b>nra</b> — (No-Read-Ahead) The controller does not read sequential sectors of the disk when seeking data.</p> <p><b>NOTE:</b> The <b>ra</b>, <b>ara</b>, and <b>nra</b> options are supported on the following RAID controllers only:</p>
			<ul style="list-style-type: none"> <li>• PERC 3/DC, PERC 3/QC, PERC 3/Di, PERC 3/SC</li> <li>• PERC4/SC, PERC 4/DC, PERC 4/Di, PERC 4/IM, PERC4e/DC, PERC 4e/Di, PERC 4e/Si</li> <li>• PERC 5/E Adapter, PERC 5/I Integrated, PERC 5/i Adapter</li> <li>• PERC 6/i Integrated, PERC 6/i Adapter, PERC 6/E Adapter</li> </ul>

**Table 4-4. Creating Virtual Disks (continued)**

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
			<p><b>NOTE:</b> The PERC 4/IM controller has a fixed set of read, write, and cache policies. If you set any of these policies while creating a virtual disk, your settings will be ignored.</p>
			<p><code>rc</code> — (Read-Caching) Enables read caching.</p>
			<p><code>nrc</code> — (No-Read-Caching) Disables read caching.</p>
			<p><b>NOTE:</b> The <code>rc</code> and <code>nrc</code> options are supported on the following RAID controllers only: CERC SATA 1.5/CH and PERC 3/Di.</p>
			<p>The <code>-rp</code> option is optional and can be added to the command line in any order after the mandatory option combination.</p>
			<p> <b>NOTICE:</b> If the controller is changed from SCSI to RAID mode, expect data loss to occur. Back up any data you want to save before changing the modes.</p>

**Table 4-4. Creating Virtual Disks (continued)**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameters</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
-ctrl -ac=cvd -c= <i>id</i> -ad= <i>ch:targ,ch:targ,</i> ... [or <i>ch:targ:encl,...]</i> or controller action= createdisk controllerid= <i>id</i> adisk= <i>channel:target:</i> <i>lun,...</i> <i>channel:target:</i> <i>lun,...</i> [or <i>channel:target:</i> <i>enclosure,...]</i>	-sp or spanlength	<i>&lt;number&gt;</i>	<p>Creates a virtual disk comprised of the properties supplied. The <b>-sp</b> option is optional and can be added to the command line in any order after the mandatory option combination.</p> <p><b>NOTE:</b> Spanlength is applicable only for RAID 50 and RAID 60. The minimum permissible spanlength value for RAID 50 is 3 and for RAID 60 is 4. The number of array disks for creating a virtual disk should not be a prime number and should be divisible by the specified spanlength.</p> <p>For SCSI controllers, the value of lun should always be 0.</p> <p>For SAS controllers, the value of enclosure can be non-zero, in which case you need to specify values for channel, target, and enclosure.</p>

**Table 4-4. Creating Virtual Disks (continued)**

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
-ctrl -ac=cvd -c=id -ad= ch:targ,ch:targ, ... [or ch:targ:encl,...] or controller action= createvdisk controllerid= id adisk= channel:target: lun, channel:target: lun,... [or channel:target: enclosure,...]	-ssz  or stripesize	<number>	Sets the stripe size for the virtual disk. The stripe size is the amount of array disk space used on each array disk included in the stripe. A valid argument is a number that is less than the size of the virtual disk. The -ssz option is optional and can be added to the command line in any order after the mandatory option combination. However, do not specify a unit for stripe size when creating virtual disks. The unit is always displayed in KB. For SCSI controllers, the value of lun should always be 0. For SAS controllers, the value of enclosure can be non-zero, in which case you need to specify values for channel, target, and enclosure.



**Table 4-4. Creating Virtual Disks (continued)**

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
<p>-ctrl -ac=cvd            -c=<i>id</i> -ad=            ch:targ,ch:targ            , ...            [or            ch:targ:encl,...]            strict            or            controller            action=            createdisk            controllerid=            id adisk=            channel:target:            lun,            channel:target:            lun,...            [or            channel:target:            enclosure,...]</p>	<p>-str            or            strict</p>	<p>&lt;number&gt;</p>	<p>Strict (-str parameter) is the percentage of expected array disk utilization.</p> <p>Example:</p> <pre>A:&gt; raidcfg -ctrl -ac=cvd -c=0 -ad=0:0,0:1 -r=1 -str=20</pre> <p>If the unused portion of an array disk is greater than the above percent, raidcfg will abort.</p> <p>For SCSI controllers, the value of lun should always be 0.</p> <p>For SAS controllers, the value of enclosure can be non-zero, in which case you need to specify values for channel, target, and enclosure.</p>

**Table 4-4. Creating Virtual Disks (continued)**

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
-ctrl -ac=cvd -c=id -ad= <i>ch:targ,ch:targ,</i> ... [or <i>ch:targ:encl,...]</i> or controller action= createvdisk controllerid= id adisk= <i>channel:target:</i> <i>lun,...</i> <i>channel:target:</i> <i>lun,...</i> [or <i>channel:target:</i> <i>enclosure,...]</i>	-sz or -size	<i>&lt;number&gt;</i>	<p>Sets the maximum size of the virtual disk in MB or GB. A valid argument is a number representing the maximum size for the virtual disk. The <b>-sz</b> option is optional and can be added to the command line in any order after the mandatory option combination.</p> <p>The minimum virtual disk size that you can create for various controllers is given below.</p> <ul style="list-style-type: none"> <li>• For CERC-SATA 1.5/6ch controllers:               <ul style="list-style-type: none"> <li>RAID 0: 10MB</li> <li>RAID 1: 9MB</li> <li>RAID 5: 9MB</li> </ul> </li> <li>• For PERC 3 controllers:               <ul style="list-style-type: none"> <li>RAID 0: 10MB</li> <li>RAID 1: 10MB</li> <li>RAID 5: 10MB</li> </ul> </li> <li>• For PERC 4 (except PERC 4/IM) controllers:               <ul style="list-style-type: none"> <li>RAID 0: 10MB</li> <li>RAID 1: 10MB</li> <li>RAID 5: 10MB</li> </ul> </li> </ul>

**Table 4-4. Creating Virtual Disks (continued)**

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
			<ul style="list-style-type: none"> <li>• For PERC 5 controllers:               <ul style="list-style-type: none"> <li>RAID 0: 100MB</li> <li>RAID 1: 100MB</li> <li>RAID 5: 100MB</li> </ul> </li> <li>• For PERC 6 controllers:               <ul style="list-style-type: none"> <li>RAID 0: 100MB</li> <li>RAID 1: 100MB</li> <li>RAID 5: 100MB</li> <li>RAID 6: 100MB</li> <li>RAID 60: 100MB</li> </ul> </li> </ul> <p><b>NOTE:</b> If this option is not provided, RAIDCFG will determine the maximum possible virtual disk size and create it. RAID 10, RAID 50, and RAID 60 do not accept this option.</p>

**Table 4-4. Creating Virtual Disks (continued)**

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
	-wp or writepolicy	wb, wt, wc, nwc	<p>Sets the write policy for the virtual disk. The valid arguments are:</p> <p><b>wb</b> — (Write-Back Caching) sets the controller to send a write-request completion signal as soon as the data is in the controller cache but has not yet been written to disk.</p> <p><b>wt</b> — (Write-Through Caching) sets the controller to send a write-request completion signal only after the data is written to the disk.</p> <p><b>NOTE:</b> The <b>wb</b> and <b>wt</b> options are supported on the following RAID controllers only:</p> <ul style="list-style-type: none"> <li>• PERC 3/DC, PERC 3/QC, PERC 3/Di, PERC 3/SC</li> <li>• PERC 4/IM, PERC 4/SC, PERC 4/Di, PERC 4/DC, PERC 4e/DC, and PERC 4e/Di</li> <li>• PERC 5/E Adapter, PERC 5/I Integrated, PERC 5/i Adapter</li> <li>• PERC 6/i Integrated, PERC 6/i Adapter, PERC 6/E Adapter</li> </ul> <p><b>NOTE:</b> The PERC 4/IM controller has a fixed set of read, write, and cache policies. If you set any of these policies while creating a virtual disk, your settings will be ignored.</p> <p><b>wc</b> — (Write-Caching) sets the controller to send a write-request completion signal only after the data is written to the disk.</p>

**Table 4-4. Creating Virtual Disks (continued)**

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
			<p><code>nwc</code> — (No-Write-Caching) specifies that the controller does not send a write-request completion signal after the data is written to the disk.</p> <p><b>NOTE:</b> The <code>wc</code> and <code>nwc</code> options are supported on the following RAID controllers only: CERC SATA 1.5/CH and PERC 3/Di.</p> <p>The <code>-wp</code> option is optional and can be added to the command line in any order after the mandatory option combination.</p> <p>For SCSI controllers, the value of <code>lun</code> should always be 0.</p> <p>For SAS controllers, the value of <code>enclosure</code> can be non-zero, in which case you need to specify values for <code>channel</code>, <code>target</code>, and <code>enclosure</code>.</p>

## Enumerating Array Disks

Table 4-5 lists the RAIDCFG options, parameters, and predefined arguments for enumerating array disks (hard drives).

**Table 4-5. Enumerating Array Disks (Hard Drives)**

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
<p>-ad -c=<i>id</i></p> <p>or</p> <p>adisk controllerid=<i>id</i></p>	NA	NA	<p>Lists all the array disks attached to the specified RAID controller. This option combination is mandatory.</p> <p><b>NOTE:</b> You can also use <code>pdisk</code> or <code>-pd</code> instead of <code>adisk</code> or <code>-ad</code> to specify an array disk.</p> <p>Example:</p> <pre>A:&gt;raidcfg -ad -c=2 Controller: PERC 4e/DC  ***** Physical Drive ***** Drive Vendor: FUJITSU Drive Model: MAP3367NC Drive Location: 0:0:0 Drive Size: 34680 MB Drive Avail: 0 MB ***** Physical Drive ***** Drive Vendor: SEAGATE Drive Model: ST336607LC Drive Location: 0:1:0 Drive Size: 34680 MB Drive Avail: 0 MB</pre>

**Table 4-5. Enumerating Array Disks (Hard Drives) (continued)**

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
			<pre>***** Physical Drive ***** Drive Vendor: FUJITSU Drive Model: MAP3367NC Drive Location: 0:2:0 Drive Size: 34680 MB Drive Avail: 34680 MB  ***** Physical Drive ***** Drive Vendor: SEAGATE Drive Model: ST336607LC Drive Location: 0:3:0 Drive Size: 34680 MB Drive Avail: 34680 MB  ***** Physical Drive ***** Drive Vendor: SEAGATE Drive Model: ST373405LC Drive Location: 0:4:0 Drive Size: 69880 MB Drive Avail: 69880 MB  ***** Physical Drive ***** Drive Vendor: SEAGATE Drive Model: ST318453LC Drive Location: 0:5:0 Drive Size: 17280 MB Drive Avail: 17280 MB</pre>

**Table 4-5. Enumerating Array Disks (Hard Drives) (continued)**

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
			RAIDCFG Command successful!
			<pre> ***** Physical Drive ***** Drive Vendor: FUJITSU Drive Model: MAN3367MC Drive Location: 1:2:0 Drive Size: 34678MB Drive Avail: 34678MB </pre>
			<pre> ***** Physical Drive ***** Drive Vendor: FUJITSU Drive Model: MAN3367MC Drive Location: 1:4:0 Drive Size: 34678MB Drive Avail: 24438MB RAIDCFG command successful! </pre>



**Table 4-5. Enumerating Array Disks (Hard Drives) (continued)**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameter</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
<p>-ad -c=<i>id</i></p> <p>or</p> <p>adisk controllerid=<i>id</i></p>	<p>-vd=<i>id</i></p> <p>vdisk=<i>id</i></p>	<p>&lt;<i>valid virtual disk</i>&gt;</p>	<p>Lists the array disks that make up the virtual disk on the specified RAID controller. This option combination is mandatory.</p> <p>Example:</p> <pre>A:&gt;raidcfg -ad -c=2 -vd=0 Controller: PERC 4e/DC Drive Vendor: FUJITSU Drive Model: MAP3367NC Drive Location: 0:0:0 Drive Size: 34680 MB Drive Avail: 0 MB ***** Physical Drive ***** Drive Vendor: SEAGATE Drive Model: ST336607LC Drive Location: 0:1:0 Drive Size: 34680 MB Drive Avail: 0 MB RAIDCFG Command successful!</pre>

**Table 4-5. Enumerating Array Disks (Hard Drives) (continued)**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameter</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
-ad -c= <i>id</i> or adisk controllerid= <i>id</i> vdisk= <i>id</i>	-ad= <i>ch:targ,ch:t</i> <i>arg,...</i> adisk= <i>channel:tar</i> <i>get,</i> <i>channel:tar</i> <i>get,...</i>	< <i>valid</i> <i>array disk</i> > < <i>valid</i> <i>array disk</i> >	Displays information about the specified array disk. This option combination is mandatory. Example: A:>raidcfg -ad -c=2 -ad=0:1,0:2 Controller: PERC 4e/DC  ***** Physical Drive ***** Drive Vendor: SEAGATE Drive Model: ST336607LC Drive Location: 0:1:0 Drive Size: 34680 MB Drive Avail: 0 MB ***** Physical Drive ***** Drive Vendor: FUJITSU Drive Model: MAP3367NC Drive Location: 0:2:0 Drive Size: 34680 MB Drive Avail: 34680 MB RAIDCFG Command successful!

### Enumerating Virtual Disks

Table 4-6 lists the RAIDCFG options, parameters, and predefined arguments for enumerating virtual disks.

**Table 4-6. Enumerating Virtual Disks**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameter</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
-vd or vdisk	NA	NA	<p>Lists the virtual disks for each controller along with the array disks that make up each virtual disk. This option is mandatory.</p> <p>Example:</p> <pre>A:&gt;raidcfg -vd Controller: PERC 4e/DC Virtual disk not found Controller: PERC 4e/DC VDisk ID: 0 Size: 34680 MB Type: RAID 1 Read Policy: Normal Read Ahead Write Policy: Writeback Cache Policy: Direct_IO Drives: 0:0:0,0:1:0 Controller: PERC 4/SC Virtual disk not found Controller: PERC 4/SC Virtual disk not found RAIDCFG Command successful!</pre>

**Table 4-6. Enumerating Virtual Disks (*continued*)**

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
-vd or vdisk	-c or controller id	< <i>valid controllerID number</i> >	<p>Lists all the virtual disks under the indicated controllers. Each virtual disk is displayed with the physical disk that comprises it. The -c option is optional and can be added to the command line in any order after the mandatory option.</p> <p>Example:</p> <pre>A:&gt;raidcfg -vd -c=2 Controller: PERC 4e/DC VDisk ID: 0 Size: 34680 MB Type: RAID 1 Read Policy: Normal Read Ahead Write Policy: Writeback Cache Policy: Direct_IO Drives: 0:0:0,0:1:0 RAIDCFG Command successful!</pre>

**Table 4-6. Enumerating Virtual Disks (continued)**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameter</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
<code>-vd -c=id</code> or <code>vdisk controllerid=id</code>	<code>-vd</code> or <code>vdisk</code>	<i>&lt;valid virtual disk ID number&gt;</i>	Displays details about a single virtual disk under the indicated controller. The <code>-vd -c=id</code> option combination is mandatory. The second <code>-vd</code> option is optional and can be added to the command line in any order after the mandatory option combination.  Example: <pre>A:&gt;raidcfg -vd -c=2 -vd=0 Controller: PERC 4e/DC VDisk ID: 0 Size: 34680 MB Type: RAID 1 Read Policy: Normal Read Ahead Write Policy: Writeback Cache Policy: Direct_IO Drives: 0:0:0,0:1:0 Dedicated HS: 1:2:0 RAIDCFG Command successful!</pre>

## Deleting Virtual Disks


Table 4-7 lists the RAIDCFG options, parameters, and predefined arguments for deleting virtual disks.




**NOTE:** If you delete a virtual disk on PERC 4/IM on Windows PE, you need to reboot the system.

**Table 4-7. Deleting Virtual Disks**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameter</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
-vd -ac=dvd -c= <i>id</i> or vdisk action= deletevdisk controllerid= <i>id</i>	NA	NA	Deletes all virtual disks on the indicated controller. This option combination is mandatory.  Example:  A:>raidcfg -vd -ac=dvd -c=2  RAIDCFG command successful!
-vd -ac=dvd -vd c= <i>id</i> or vdisk action= deletevdisk controllerid= <i>id</i>	or vdisk	< <i>valid virtual disk ID number</i> >	Deletes the indicated virtual disk on the indicated controller. The -vd -ac=dvd -c= <i>id</i> option combination is mandatory. The second -vd option is optional and can be added to the command line in any order after the mandatory option.  Example:  A:>raidcfg -vd -ac=dvd -c=2 -vd=0  RAIDCFG command successful!

 **NOTE:** When virtual disks are being created, the RAID controller starts the background initialization operation. Virtual disks cannot be deleted until this operation completes. This limitation affects mostly PERC 3/Di and CERC SATA controllers.

 **NOTE:** If the `raid.ini` file contains the `[Reset]` section, then the RAIDCFG utility removes all the hot spares (dedicated and global) and virtual disks on the specified RAID controllers in the system.

### Assigning and Unassigning Global Hot Spares

Table 4-8 lists the RAIDCFG options, parameters, and predefined arguments for assigning and unassigning global hot spares.

**Table 4-8. Assigning and Unassigning Global Hot Spares**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameter</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
<code>-ctrl -ac=sghs -c=id -ad -pd=ch:targ:encl,c h:targ:encl</code>	NA	NA	Assigns the specified disks as global hot spares on the specified controller.  Example:  <code>A:&gt;raidcfg -ctrl -ac=sghs -c=2 -ad=0:1,0:2</code>  RAIDCFG command successful!
<code>-ctrl ac=rghs -c=id -ad -pd=ch:targ:encl,c h:targ:encl</code>	NA	NA	Unassigns all global hot spares to disks on the specified controller.  Example:  <code>A:&gt;raidcfg -ctrl -ac=rghs -c=2</code>  RAIDCFG command successful!

## Setting Environment Variables

Table 4-9 lists the RAIDCFG options, parameters, and predefined arguments for setting the CLI environment.

**Table 4-9. Setting Environment**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameter</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
-se -envn= <string> - envc= <function>	NA	NA	Sets a user-defined environment variable to the value returned from the <code>getcontrollerslots</code> function call. This option combination is mandatory.
or			Example:
setenvironme nt envname= <string> envcommand = <function>			A:>raidcfg -se -envn=CNTRL - envc=getcontrollerslots CNTRL=0 1 2 RAIDCFG command successful!
-se -envn= <string> - envc= <function>	-f or filename	<filename >	When used, this option captures the environment output to the given filename. This option either appends the information to an existing file or creates a new file.
or			
setenvironme nt envname= <string> envcommand = <function>			



**Table 4-9. Setting Environment (*continued*)**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameter</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
-se -envn= <string> - envc= <function> - c=id or setenvironment nt envname= <string> envcommand = <function> controllerid= id	NA	NA	Sets a user-defined environment variable to the value returned from the <code>getfirmware</code> , <code>getcontrollertype</code> , <code>getadisks</code> , <code>getadiskcount</code> , <code>getfreeadisks</code> , <code>getfreeadiskcount</code> , <code>getfreeadisksize</code> , or <code>gethotspares</code> function call. This option combination is mandatory.  Example:  A:>raidcfg -se -envn=FIRMWARE - envc=getfirmware -c=2  FIRMWARE=531T  RAIDCFG command successful!

Table 4-10 lists the function calls of the `setenvironment` option.

**Table 4-10. Function Calls of the `setenvironment` Option**

<b>Function Call</b>	<b>Description</b>
<code>getfirmware</code>	Returns the firmware version of the specified controllers.  Example:  A:>raidcfg -se -envn=FIRMWARE -envc= getfirmware -c=2  FIRMWARE=531T  RAIDCFG command successful!

**Table 4-10. Function Calls of the setenvironment Option (continued)**

Function Call	Description
getcontrollertype	Returns LSI for LSI controllers and ADAP for Adaptec controllers. Example: A:>raidcfg -se -envn=CONTROLLERTYPE -envc=getcontrollertype -c=2 CONTROLLERTYPE=LSI  RAIDCFG command successful!
getadisks	Returns the array disks attached to the controller. Example: A:>raidcfg -se -envn=ADISKS -envc=getadisks -c=2 ADISKS=0:0:1,0:1:1,0:2:1  RAIDCFG command successful!
getfreeadiskcount	Returns the number of free array disks found in the specified controller. Example: A:>raidcfg -se -envn=FREEADISKCOUNT -envc=getfreeadiskcount -c=2 FREEADISKCOUNT=2  RAIDCFG command successful!
getfreeadisksize	Returns the total size of the free array disks in megabytes. Example: A:>raidcfg -se -envn=FREEADISKSIZESIZE -envc=getfreeadisksize -c=2 FREEADISKSIZESIZE=15346  RAIDCFG command successful!

**Table 4-10. Function Calls of the setenvironment Option (continued)**

<b>Function Call</b>	<b>Description</b>
gethotspares	Returns the global hot spares (global failover disks) found on the specified controller.  Example:  A:>raidcfg -se -envn=HOTSPARES -envc=gethotspares -c=2  HOTSPARES=1:8:1,1:9:1  RAIDCFG command successful!
getfreeadisks	Returns the free array disks.  A:>raidcfg -se -envn=GETFREEADISKS -envc=getfreeadisks -c=2  GETFREEADISKS=0:3:1,0:4:1  RAIDCFG command successful!
getadiskcount	Returns the total number of array disks.  A:>raidcfg -se -envn=GETADISKCOUNT -envc=getadiskcount -c=2  GETADISKCOUNT=1  RAIDCFG command successful!

## RAID Replication Options

Table 4-11 lists the RAID replication options.

**Table 4-11. RAID Replication Options**

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
-i	NA	<filename>	<p>Reads the RAID configuration information from the given .ini filename and creates the RAID configurations on the specified controllers. This option is mandatory.</p> <p>Example:</p> <pre>A:&gt; raidcfg -i=tmp\raid.ini</pre>
-o	NA	<filename>	<p>Reads the RAID configurations from all available controllers and writes these configurations in the <b>raid.ini</b> file under the /tmp directory (in Linux systems). This option is mandatory.</p> <p>Example:</p> <pre>A:&gt; raidcfg -o=tmp\raid.ini</pre> <p>The contents of the <b>raid.ini</b> file are:</p> <pre>[vdisk0] controllerid=0 size=123456 raid=5 readpolicy=ra writepolicy=wt stripesize=32 cachepolicy=d adisk=0:0:1,0:1:1,0:2:1 [vdisk1]</pre>

**Table 4-11. RAID Replication Options (continued)**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameters</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
			<code>controllerid=0</code> <code>size=65345</code> <code>raid=1</code> <code>readpolicy=ra</code> <code>wriTEpolicy=wt</code> <code>stripesize=64</code> <code>cachepolicy=d</code> <code>adisk=0:3:1,0:4:1</code> If the controller uses global hot spares, the <code>raid.ini</code> file contains the following section: <code>[GlobalHotspare0]</code> <code>controllerid=0</code> <code>failoverdrive=0:8:0</code>

### **Miscellaneous Options**

Table 4-12 lists all other RAIDCFG options, parameters, and predefined arguments.

**Table 4-12. Miscellaneous Optional Parameters**

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
any	-l or logfile	<filename>	<p>Logs command line output to a file. The utility either appends the information to an existing log file or creates a new file. The log file contains the same information as standard output. This option is optional and can be added to the command line in any order after the mandatory options have been added.</p> <p>Example:</p> <pre>A:&gt;raidcfg -ctrl -l=log.txt Controller_ID/Slot_ID: 0 Controller_PCI_ID:      4:2:1 Controller_Name:       Dell PERC 3/Di Channels:              2 Virtual_Disks:         0 Firmware Version:     V2.8- 0[6064] Controller_ID/Slot_ID: 2 Controller_PCI_ID:     2:0:0 Controller_Name:       PERC 3/DC Channels:              2 Virtual_Disks:         0 Firmware Version:     1.74 RAIDCFG command successful!</pre>

**Table 4-12. Miscellaneous Optional Parameters (continued)**

<b>Mandatory Options and Arguments</b>	<b>Optional Parameter</b>	<b>Valid Parameter Arguments</b>	<b>Description</b>
any	-si or silent	NA	Does not display any information on the terminal console. This option is optional and can be added to the command line in any order after any mandatory options have been added.  Example: A:>raidcfg -ctrl -si RAIDCFG command successful!
any	-ver or version	NA	Displays the version number of the RAIDCFG utility. This option is optional and can be added to the command line in any order after any mandatory options have been added.  Example: A:>raidcfg -ver RAIDCFG V2.4 Copyright (c) 2005-2007 Dell Inc. RAIDCFG Command successful!

## Quick Reference to RAIDCFG Commands

Table 4-13 lists the basic RAIDCFG commands.

**Table 4-13. Basic RAIDCFG Commands**

<b>Purpose</b>	<b>Command</b>	<b>Description</b>
To list all the RAID controllers in a system	<code>raidcfg -ctrl</code>	Lists all the RAID controllers in the system.  Note the slot ID of the controllers. You will need it for all the other commands.

**Table 4-13. Basic RAIDCFG Commands (continued)**

<b>Purpose</b>	<b>Command</b>	<b>Description</b>
To list all the disks attached to a particular controller	<code>raidcfg adisk -c=slotid</code>	Lists all the disks attached to the controller. The slot ID is obtained from the first command.  Note the drive location of the disks. You will need this information later.
To create a virtual disk with all the default settings	<code>raidcfg -ctrl ac=cvd -c=slotid -ad=x:y,x:y,...</code>	Creates a virtual disk of maximum available size for type RAID 0. RAID 0 is the default.  The slot ID in <code>&lt;-c=slotid&gt;</code> and the array disks in <code>&lt;-ad=...&gt;</code> are obtained from the first two commands.
To create a virtual disk of a certain size with all the default settings	<code>raidcfg -ctrl ac=cvd -c=slotid -ad=x:y,x:y,... -sz=5GB</code>	Creates a virtual disk of 5GB size for type RAID 0. RAID 0 is the default.  The slot ID in <code>&lt;-c=slotid&gt;</code> and the array disks in <code>&lt;-ad=...&gt;</code> are obtained from the first two commands.
To create a virtual disk of a certain size and make it RAID 1	<code>raidcfg -ctrl ac=cvd -c=slotid -ad=x:y,x:y -sz=5GB -r=1</code>	Creates a virtual disk of 5GB size for type RAID 1.  The slot ID in <code>&lt;-c=slotid&gt;</code> and the array disks in <code>&lt;-ad=...&gt;</code> are obtained from the first two commands.
To create a virtual disk of a certain size and make it RAID 5	<code>raidcfg -ctrl ac=cvd -c=slotid -ad=x:y,x:y,x:y,... -sz=5GB -r=5</code>	Creates a virtual disk of 5GB size for type RAID 5.  The slot ID in <code>&lt;-c=slotid&gt;</code> and the array disks in <code>&lt;-ad=...&gt;</code> are obtained from the first two commands.



**Table 4-13. Basic RAIDCFG Commands (continued)**

<b>Purpose</b>	<b>Command</b>	<b>Description</b>
To create a virtual disk of a certain size and make it RAID 1 with a hot spare	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad=x:y,x:y -sz=5GB -r=1 -fd=x:y</code>	<p>Creates a virtual disk of 5GB size for type RAID 1.</p> <p>The slot ID in <code>&lt;-c=slotid&gt;</code> and the array disks in <code>&lt;-ad=...&gt;</code> are obtained from the first two commands.</p> <p>The option <code>&lt;-fd&gt;</code> stands for failover drive and requires the drive location of the drive you want the dedicated hot spare to be in. The drive location is obtained from the second command.</p>
To create a virtual disk of RAID 10	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad=x:y,x:y,x:y,x:y -r=10</code>	<p>Creates a virtual disk of max size for type RAID 10.</p> <p>The slot ID in <code>&lt;-c=slotid&gt;</code> and the array disks in <code>&lt;-ad=...&gt;</code> are obtained from the first two commands. The drive location is obtained from the second command.</p>
To create a virtual disk of RAID 50	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad=x:y,x:y,x:y,x:y,x:y,x:y -r=50 -sp=x</code>	<p>Creates a virtual disk of maximum size for type RAID 50.</p> <p>The slot ID in <code>&lt;-c=slotid&gt;</code> and the array disks in <code>&lt;-ad=...&gt;</code> are obtained from the first two commands. The drive location is obtained from the second command.</p>

**Table 4-13. Basic RAIDCFG Commands (continued)**

Purpose	Command	Description
To create a virtual disk of RAID 6	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad=x:y,x:y,x:y,x:y ,x:y,x:y -r=6 -sp=x</code>	Creates a virtual disk of maximum size for type RAID 6. The slot ID in <code>&lt;-c=slotid&gt;</code> and the array disks in <code>&lt;-ad=...&gt;</code> are obtained from the first two commands. The drive location is obtained from the second command.  <b>NOTE:</b> The minimum number of drives required to create a virtual disk of RAID 6 is 4.
To create a virtual disk of RAID 60	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad=x:y,x:y,x:y,x:y ,x:y,x:y -r=60 -sp=x</code>	Creates a virtual disk of maximum size for type RAID 60. The slot ID in <code>&lt;-c=slotid&gt;</code> and the array disks in <code>&lt;-ad=...&gt;</code> are obtained from the first two commands. The drive location is obtained from the second command.  <b>NOTE:</b> The minimum number of drives required to create a virtual disk of RAID 60 is 8.
To view all the virtual disks in a system	<code>raidcfg vdisk</code>	Lists the virtual disks on a system for all RAID controllers.
To view all the virtual disks for a specific controller	<code>raidcfg vdisk -c=slotid</code>	Lists all the virtual disks on a specific controller. The slot ID in <code>&lt;-c=slotid&gt;</code> is obtained from the first command.
To delete a specific virtual disk on a controller	<code>raidcfg vdisk -ac=dvd -c=slotid -vd=vdiskid</code>	Deletes a specific virtual disk on a controller. The slot ID in <code>&lt;-c=slotid&gt;</code> is obtained from the first command and the <code>vdiskid</code> in <code>&lt;-vd=vdiskid&gt;</code> is obtained from command 10.

# UPINIT

The UPINIT utility is used to make a utility partition (UP) on a hard drive, format the partition, and extract the partition contents onto the disk.

## Features

The UPINIT utility has the following general features:

- Displays help and usage information.
- Returns specific error codes and messages.



**NOTE:** In Microsoft® Windows® Preinstallation Environment (Windows PE), you can find the UPINIT utility in `\DELL\TOOLKIT\TEMPLATES\SCRIPTS`. In Linux, you can find it in `/opt/dell/toolkit/templates/scripts`.

## Creating a Partition Using UPINIT

The size of the virtual disk where a utility partition is to be created must be a minimum of 8 GB.

UPINIT performs the following steps:

- Ensures that the UP image file is present and readable.
- Ensures that no partitions are present on the target disk.
- Creates a utility partition of type Dell Utility (DE)

If there is an existing UP, UPINIT does not create a new one. It only updates the existing UP. If no UP is found, UPINIT exits.

- Updates the boot sector with the UP boot sector image. If required, it updates the master boot record as well.
- Mounts the partition.

- Uncompresses the UP file onto the UP image.
- Unmounts the partition.



**NOTE:** On Windows PE, UPINIT runs as a batch file. In Linux, it is a shell script that uses standard Linux commands to accomplish the same tasks done by the Windows PE counterpart. Both command lines are identical and the output of the two utilities will be identical if the same image is used.

## UPINIT Dependencies

In Linux, UPINIT looks for the following files:

- `mbr` file in the `dell/dmkm` directory
- `sysdmk` in the `dell/toolkit/bin` directory

In Windows, UPINIT looks for the following files:

- `createup.cfg`, `mountup.cfg`, `umountup.cfg`, `listup.cfg` in the `DELL\TOOLKIT\TEMPLATE\SCRIPTS` directory
- `sysdmk.exe` in the `DELL\TOOLKIT\TOOLS` directory

## UPINIT Options and Arguments

Table 5-1 lists the valid options and arguments for the UPINIT utility.

**Table 5-1. UPINIT Options and Arguments**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
none	none	<p>If no options are given, the tool will output usage information. The usage information will be printed in the format shown below.</p> <p>Example 1:</p> <pre>A:&gt;upinit upinit version 1.0 © 2005 Dell Inc. All rights reserved upinit.sh --disk -d=disk --size -s=size --file -f=file                 [--overwrite -o] [--help -h]                 --help or -h prints help.                 --disk or -d disk device on which to                 create the Dell Utility Partition.                 --size or -s Size in MB for the Dell                 Utility Partition.                 --file or -f filename of Dell Utility                 Partition Image File.                 --overwrite or -o Installs the Dell                 Utility partition over an existing one.</pre> <p>Example 2:</p> <pre>upinit --disk=/dev/sda --size=32 -- file=upimg.bin</pre> <p>In the example, upinit creates a Dell Utility Partition of size 32 MB on /dev/sda using upimg.bin file.</p> <p><b>NOTE:</b> The <b>--overwrite</b> option should be used for upgrading/downgrading purposes. The <b>--size</b> option is not required when using the <b>--overwrite</b> option because the <b>--overwrite</b> option does not resize an existing Dell™ Utility Partition. If any partitions exist, they will not be deleted.</p>

**Table 5-1. UPINIT Options and Arguments (continued)**

Option	Valid Arguments	Description
-h	none	<p>This function command requires an argument that matches a valid option. If the argument matches a valid option, that option's usage information is displayed. This option cannot be used with other options.</p> <p>Windows PE Example:</p> <pre>upinit version 1.0 © 2005 Dell Inc. All rights reserved</pre> <p>This utility creates a utility partition for your system.</p> <p>This utility requires a Utility Partition image file which can be found on your Dell Systems Build and Update Utility CD. For more information, please consult the Deployment Toolkit Documentation.</p> <p>Usage:</p> <pre>upinit.bat [--overwrite] --disk=ID or -d=ID --size=size or -s=size --file=file or -f=file --help or -h prints usage. --disk or -d ID of the disk on which to create the Dell Utility Partition. --size or -s Size in MB for the Dell Utility Partition. --file or -f Filename of the Dell Utility Partition Image File. --overwrite or -o Overwrites an existing Dell Utility Partition.</pre> <p>Example:</p> <pre>upinit --disk=0 --size=32 --file=upimg.bin</pre>

**Table 5-1. UPINIT Options and Arguments (continued)**

Option	Valid Arguments	Description
		<p data-bbox="445 309 1000 362">In the example, upinit creates a Dell Utility Partition of size 32 MB using the <b>upimg.bin</b> image file.</p> <p data-bbox="445 379 1000 547">The <b>--overwrite</b> option should be used for upgrading/downgrading purposes. The <b>--size</b> option is not required when using the <b>--overwrite</b> option because the <b>--overwrite</b> option does not resize an existing Dell Utility Partition. If any partitions exist, they will not be deleted.</p> <p data-bbox="445 564 605 588">Linux Example:</p> <pre data-bbox="445 606 705 630">upinit version 1.0</pre> <p data-bbox="445 647 966 671">© 2005 Dell Inc. All rights reserved</p> <p data-bbox="445 689 880 742">This utility creates a utility partition for your system.</p> <p data-bbox="445 759 1000 927">This utility requires a Utility Partition image file which can be found on your Dell Systems Build and Update Utility CD. For more information, please consult the Deployment Toolkit Documentation.</p> <p data-bbox="445 944 512 968">Usage:</p> <pre data-bbox="445 986 1000 1106">upinit.sh --disk -d=disk --size -s=size --file -f=file                 [--overwrite -o] [--help -h]</pre> <p data-bbox="471 1123 826 1147"><b>--help</b> or <b>-h</b> prints help.</p> <p data-bbox="445 1165 988 1217"><b>--disk</b> or <b>-d</b> disk device on which to create the Dell Utility Partition.</p> <p data-bbox="445 1235 988 1287"><b>--size</b> or <b>-s</b> Size in MB for the Dell Utility Partition.</p> <p data-bbox="445 1305 1000 1358"><b>--file</b> or <b>-f</b> filename of Dell Utility Partition Image File.</p> <p data-bbox="445 1375 1000 1428"><b>--overwrite</b> or <b>-o</b> Installs the Dell Utility partition over an existing one.</p>

**Table 5-1. UPINIT Options and Arguments (continued)**

Option	Valid Arguments	Description
disk	integer, required (Windows) string, required (Linux)	<p>Example:</p> <pre>upinit --disk=/dev/sda --size=32 --file=upimg.bin</pre> <p>In the example, upinit creates a Dell Utility Partition of size 32 MB on <code>/dev/sda</code> using the <code>upimg.bin</code> file.</p> <p>The <code>--overwrite</code> option should be used for upgrading/downgrading purposes. The <code>--size</code> option is not required when using the <code>--overwrite</code> option because the <code>--overwrite</code> option does not resize an existing Dell Utility Partition. If any partitions exist, they will not be deleted.</p> <p>Specifies the disk on which to create a utility partition. This disk will be checked to ensure that there are no existing partitions. Utility will exit with an error if the disk has partitions other than a utility partition.</p> <p>Use option <code>--overwrite</code> to overwrite an existing utility partition.</p> <p>Example:</p> <pre>A:&gt; upinit --disk=0 --size=32 --file=c:\upimage.bin (WinPE Example)</pre> <pre># upinit --disk=/dev/hda --size=32 --file=/home/BIN/upimage.bin (Linux Example)</pre>
size	integer, required	<p>The size of the utility partition to create. The created utility will be at least the size specified by size and be as close to actual size as drive geometry will allow.</p> <p>Example:</p> <pre>A:&gt; upinit --disk=0 --size=32 --file=c:\upimage.bin</pre>



**Table 5-1. UPINIT Options and Arguments (continued)**

<b>Option</b>	<b>Valid Arguments</b>	<b>Description</b>
file	string, required	Specifies a file that will be decompressed onto the utility partition. This file will be checked for existence and availability before any partitions are created on the disk. If the file is not specified, the utility will simply create the utility partition, format it, and exits. It will be up to the user to mount and populate the utility partition. It is very unlikely that the user will NOT specify the utility partition format.  Example:  A:> upinit --disk=0 --size=32 --file=c:\upimage.bin
--overwrite	string, optional	Overwrites an existing utility partition. It does not create a new partition or delete an existing partition.



# RACADM

The RACADM utility provides a scriptable interface that allows you to locally or remotely configure your remote access controller (RAC).

Using the RACADM utility, you can enter command line options to configure RAC properties. When you enter command line options, the RACADM utility sets or retrieves object property values in the RAC properties database.

You can also use the RACADM utility to write scripts that will automatically configure multiple RACs. For example, when configuring in batch mode, a series of calls to the RACADM utility can perform actions such as upgrading RAC firmware, setting a property to a specific value, and reading the configuration of the RAC. All command switches are case sensitive. For more information about configuring multiple RACs, see "RAC Configuration File" in the *Dell Remote Access Controller Racadm User's Guide*.



**NOTICE:** Commands and code samples in this section are RAC-specific. Some commands or samples may not be applicable to your RAC. Also, the `-r` option for performing `racadm` commands remotely is not available for the RACADM utility.



**NOTE:** In Microsoft® Windows® Preinstallation Environment (Windows PE), you can find the RACADM utility in `\DELL\TOOLKIT\TOOLS`. In Linux, you can find it in `/opt/dell/toolkit/bin`. The RAC service must be started before issuing `racadm` commands. In Linux systems, the RAC service is started by the `racsvc3.sh` (for DRAC III, DRAC III/XT, ERA, ERA/O, and ERA/MC RACs) or the `racsvc4.sh` (for DRAC 4/P and DRAC 4/I RACs) script located at `/opt/dell/toolkit/bin`. In Windows systems, the RAC service is called `racsvc` and is located at `\DELL\DRIVERS\RAC 4`.


## Features

The RAC configuration utility has the following general features:

- Displays help and usage information.
- Configures RAC information.
- Saves RAC configuration information to a configuration file.
- Logs activity to a given filename.
- Returns specific error codes and messages.

# RACADM Options

Table 6-1 lists the options and arguments for the RACADM utility that apply to deployment. For more information about the valid RACADM options, see "RAC Configuration Utility Options, Subcommands, and Arguments."

 **NOTE:** Some of the following options or arguments might not be available on all systems.

**Table 6-1. RACADM Options**

<b>RACADM Options and Arguments</b>	<b>RACADM Subcommands</b>	<b>Short Description</b>
-i	NA	Tells the RACADM utility to interactively query the user for the user's user name and password.
-l<integer>	NA	Specifies the log level for debug. See "Log/Verbose Levels." <b>NOTE:</b> Ensure that you run this option from a writable folder.
-L<filename>	NA	Specifies the location for the debug log file.
-p<password>	NA	Specifies the password used to authenticate the command transaction. If the -p option is used, the -i option is not allowed.
-u<username>	NA	Specifies the user name that is used to authenticate the command transaction. If not specified, the default user name racadmusr is used. If the -u option is used, the -p option must be used, and the -i option (interactive) is not allowed.
-v<integer>	NA	Specifies the verbose level for screen output. See "Log/Verbose Levels."
NA	clearasrscreen	Clears the last automatic server restart (ASR) (crash) screen.
NA	clrraclog	Clears the RAC log.

**Table 6-1. RACADM Options (continued)**

<b>RACADM Options and Arguments</b>	<b>RACADM Subcommands</b>	<b>Short Description</b>
NA	clrsl	Clears RAC system event log (SEL).
NA	config	Configures the RAC. See "config/getconfig" for more information about the subcommand options and arguments.
NA	coredump	Displays the last RAC coredump.
NA	coredumpdelete	Deletes the last RAC coredump.
NA	fwupdate	Updates the firmware on the RAC. See "fwupdate" for more information about the subcommand options and arguments.
NA	getconfig	Gets the RAC configuration data. See "config/getconfig" for more information about the subcommand options and arguments.
NA	getniccfg	Displays the current network settings.
NA	getssninfo	Retrieves session information for one or more currently active or pending sessions from the Session Manager's session table. See "getssninfo" for more information about the subcommand options and arguments.
NA	getraclog	Displays the RAC log. See "getraclog" for more information about the subcommand options and arguments.
NA	getractime	Displays the current RAC time.
NA	getsel	Displays records from the SEL.
NA	getssninfo	Displays the session information. See "getssninfo" for more information about the subcommand options and arguments.
NA	getsvctag	Displays the service tag information.

**Table 6-1. RACADM Options (continued)**

<b>RACADM Options and Arguments</b>	<b>RACADM Subcommands</b>	<b>Short Description</b>
NA	getsysinfo	Retrieves session information for one or more currently active or pending sessions from the Session Manager's session table. See "getsysinfo" for more information about the subcommand options and arguments.
NA	gettracelog	Displays the RAC diagnostic trace log. See "gettracelog" for more information about the subcommand options and arguments.
NA	help	Lists all of the subcommands available to use with the RACADM utility and provides a short description for each. See "getraclog" for more information about the subcommand options and arguments.
NA	localauthenticate	Enables or disables the local operating system authentication.
NA	localConRedirDisable	Performs local vKVM disable from local system.
NA	racdump	Displays status and general RAC information. See "racdump" for more information about the subcommand options and arguments.
NA	racreset	Resets the RAC. See "racreset" for more information about the subcommand options and arguments.
NA	racresetcfg	Resets all database configuration parameters to default values; equivalent to a soft reset. See "racresetcfg" for more information about the subcommand options and arguments.

**Table 6-1. RACADM Options (continued)**

<b>RACADM Options and Arguments</b>	<b>RACADM Subcommands</b>	<b>Short Description</b>
NA	setrac	Sets RAC parameters from the managed system. See "setrac" for more information about the subcommand options and arguments.
NA	serveraction	Performs system power management operations.
NA	setniccfg	Modifies the network configuration properties.
NA	sslcertupload	Uploads an SSL (Secure Socket Layer) certificate to the RAC.
NA	sslcertdownload	Downloads an SSL certificate from the RAC.
NA	sslcertview	Displays the SSL certificate information.
NA	sslcsrgen	Generates a certificate CSR (certificate signing request) from the RAC.
NA	sslkeyupload	Uploads an SSL key to the RAC.
NA	testemail	Tests RAC e-mail notifications.
NA	testtrap	Tests RAC SNMP trap notifications.
NA	version	Displays the RACADM version information.
NA	vmdisconnect	Disconnects virtual media connections.
NA	vmkey	Performs virtual media key operations.
NA	usercontentupload	Uploads a user certificate to the DRAC.
NA	usercontentview	Displays the user certificate information.

## Error Messages

When using RACADM utility commands and subcommands, you may encounter one or more of the following errors:

- Local error messages occur when problems occur with syntax, typographical errors, incorrect names, and so on.

Example:

```
racadm <subcmd> : ERROR : <message>
```

- Transport error messages occur when the RACADM utility communication paths to the RAC are not accessible.

Example:

```
racadm <subcmd> : Transport : ERROR : <message>
```

- RAC firmware errors occur when a fault exists in the RAC firmware operation.

Example:

```
racadm <subcmd> : Firmware : ERROR : <message>
```

## RAC Configuration Utility Options, Subcommands, and Arguments

The following sections document all valid options, subcommands, and arguments along with a description of the expected behavior of many option-subcommand-argument combinations. Options, subcommands, and arguments are case sensitive. All options, subcommands, and predefined arguments are lowercase unless explicitly stated otherwise.

- racadm Command
- config/getconfig
- fwupdate
- getssninfo
- getsysinfo
- getraclog
- racdump



- racreset
- racresetcfg
- setrac



**NOTE:** Some of the following options or arguments might not be available on all systems.

## racadm Command

**Table 6-2. racadm Command Help Option**

Command	Definition
racadm	Command line status and configuration utility for RACs.

### Description

Without options, the RACADM utility executes the **help** command, which displays a list of available tests and a one-line description of each. The RACADM utility `help <subcommand>` displays any syntax and command line options.

### racadm Syntax

```
racadm <options> <subcommand> <subcommand_options>
```

### racadm Options

The base **racadm** command has the following options and arguments:

**Table 6-3. Base racadm Command Options and Arguments**

Option	Description
-l <lvl>	Specifies the log level for debug. <b>NOTE:</b> Ensure that you run this option from a writable folder.
-v <lvl>	Specifies the verbose level for screen output.
-L <file>	Specifies a debug log file.

### Enabling and Disabling Remote Security



**NOTE:** It is recommended that you run these commands on your local system. You must reset the RAC controller to enable these commands.

Enter the following command to enable remote security:

```
racadm config -g cfgRacTuning -o  
cfgRacTuneRemoteRacadmEnable 1
```

Enter the following command to disable remote security:

```
racadm config -g cfgRacTuning -o  
cfgRacTuneRemoteRacadmEnable 0
```

### ***Log/Verbose Levels***

**Table 6-4. Log/Verbose Levels**

<b>Option</b>	<b>Description</b>
0x1	Standard out messages
0x2	Standard error messages
0x4	Debug messages

Example:

```
racadm -l 0x3 -L log <subcommand [subcommand_options]>
```

The argument 0x3 for the log level is the OR of STDOUT and STDERR messages. Both of these message types are written to the filename **log**. The verbose, or -v, option defaults to 0x3, or STDOUT, STDERR.

### **racadm Subcommands/Arguments**

**Table 6-5. racadm Subcommands and Arguments**

<b>Command</b>	<b>Description</b>
config/getconfig	Configures the RAC and displays the RAC configuration.
fwupdate	Executes or gets status on RAC firmware updates.
getsysinfo	Displays general RAC and system information.
getraclog	Lists RAC subcommands.
getraclog <subcommand>	Lists usage statement for the specified subcommand.
racdump	Dumps RAC status and state information for debug.
racreset	Resets the RAC.

**Table 6-5. racadm Subcommands and Arguments (continued)**

Command	Description
racresetcfg	Resets the RAC to the default configuration.
setrac	Sets time, managed system name, operating system name, and type from the managed system to the RAC.

## config/getconfig

**Table 6-6. config/getconfig Subcommands**

Command	Definition
config	Configures the RAC.
getconfig	Gets the RAC configuration data.

### Synopsis

```
racadm config [-p -c] -f <filename>
```

```
racadm config -g <groupName> -o <objectName> [-i  
<index>] <Value>
```



**NOTE:** Option **-f** excludes the use of the **g**, **o**, and **i** options.

```
racadm getconfig [-p] -f <filename>
```

```
racadm getconfig -g <groupName> [-i <index>]
```

```
racadm getconfig -u <username>
```

```
racadm getconfig -h
```

### config Subcommand Description

The configuration subcommand allows the user to set RAC configuration parameters individually or to batch them as part of a configuration file. After the **.cfg** file has been correctly parsed, each object is read. If the content is the same, a write to the RAC does not occur. If the data is different, that RAC object is written with the new value.

## Input

**Table 6-7. config Subcommand Options**

Option	Description
-f	The <b>-f</b> <filename> option causes config to read the contents of the file specified by <filename> and configure the RAC. The file must contain data in the format specified in "Parsing Rules."
-p	The <b>-p</b> , or password option, directs <b>config</b> to delete the password entries contained in the config file <b>-f</b> <filename> after the configuration is complete.
-g	The <b>-g</b> <groupName>, or group option, must be used with the <b>-o</b> option. The <groupName> specifies the group containing the object that is to be set.
-o	The <b>-o</b> <objectName> <Value>, or object option, must be used with the <b>-g</b> option. This option specifies the object name that is written with the string <Value>.
-i	The <b>-i</b> <index>, or index option, is only valid for indexed groups and can be used to specify a unique group. The <index> is a decimal integer from 1–16. The index is specified here by the index value, not a named value.
-c	The <b>-c</b> , or check option, is used with the <b>config</b> subcommand and allows the user to parse the <b>.cfg</b> file to find syntax errors. If errors are found, the line number and a short description of what is incorrect are displayed. Writes do not occur to the RAC. This option is a check only.

## Output

This subcommand generates error output upon encountering either of the following:

- Invalid syntax, group name, object name, index, or other invalid database members
- RACADM utility transport failures

If errors are not encountered, this subcommand returns an indication of how many configuration objects that were written out of how many total objects were in the **.cfg** file.

## getconfig Subcommand Description

The `getconfig` subcommand allows the user to retrieve RAC configuration parameters on an individual basis, or all the configuration groups may be retrieved and saved into a file.

### Input

**Table 6-8. getconfig Subcommand Options**

Option	Description
-f	The <code>-f &lt;filename&gt;</code> , or <code>filename</code> option, causes <code>getconfig</code> to create the file <code>&lt;filename&gt;</code> . It then reads all the configuration data from the RAC and places it into the file <code>&lt;filename&gt;</code> . The created file is a format that can be used with the <code>racadm config -f &lt;filename&gt;</code> command.
-p	The <code>-p</code> , or <code>password</code> option, causes <code>getconfig</code> to include password information in the file for all passwords except for the user passwords (which are stored encrypted and cannot be decrypted). A <code># cfgUserAdmPassword</code> line is displayed as an indication that the password is present, but password text is not displayed.
-g	The <code>-g &lt;groupName&gt;</code> , or <code>group</code> option, can be used to display the configuration for a single group. The <code>groupName</code> is the name for the group used in the <code>racadm.cfg</code> files. If the group is an indexed group, use the <code>-i</code> option.
-h	The <code>-h</code> , or <code>help</code> option, displays a list of all available configuration groups so the user may enter the desired group. This option is useful when you do not remember exact group names.
-i	The <code>-i &lt;index&gt;</code> , or <code>index</code> option, is valid only for indexed groups and can be used to specify a unique group. The <code>&lt;index&gt;</code> is a decimal integer from 1 through 16. If <code>-i &lt;index&gt;</code> is not specified, a value of 1 is assumed for groups, which are tables that have multiple entries. The index is specified by the index value, not a “named” value.
-u	The <code>-u &lt;username&gt;</code> , or <code>user name</code> option, can be used to display the configuration for the specified user. The <code>&lt;username&gt;</code> option is the log in user name for the user.


## Output

This subcommand generates error output upon encountering either of the following:

- Invalid syntax, group name, object name, index, or other invalid database members
- RACADM utility transport failures

If errors are not encountered, this subcommand displays the contents of the specified configuration.

## Examples

- `racadm getconfig -g cfgLanNetworking`  
Displays all of the configuration parameters (objects) that are contained in the group `cfgLanNetworking`.
- `racadm config -g cfgLanNetworking -o cfgNicIpAddress 10.35.10.100`  
Sets the `cfgNicIpAddress` configuration parameter (object) to the value 10.35.10.110. This IP address object is contained in the group `cfgLanNetworking`.
- `racadm getconfig -f myrac.cfg`  
Reads *all* of the configuration objects, from all of the RAC group configuration parameters and place them in a file called `myrac.cfg`.
- `racadm config -f myrac.cfg`  
Configures or reconfigures the RAC. The `myrac.cfg` file may be created from the command specified in the previous example if the RAC has a desired configuration to be replicated. The `myrac.cfg` file may also be edited manually as long as the parsing rules are followed.  
 **NOTE:** The `myrac.cfg` file does not contain password information. To include this information in the file, it must be input manually. If you want to remove password information from the `myrac.cfg` file, use the `-p` option.
- `racadm getconfig -h`  
Displays a list of the available configuration groups on the RAC.
- `racadm getconfig -u root`  
Displays the configuration parameters for the user named root.

## fwupdate



**NOTE:** To use this command, you must have **Configure DRAC 4** permission.

Table 6-9 describes the **fwupdate** subcommand.

**Table 6-9. fwupdate**

Subcommand	Definition
fwupdate	Updates the firmware on the Dell Remote Access Controller (DRAC 4).

### Synopsis

```
racadm fwupdate -u [-w] [-D]
```

```
racadm fwupdate -s
```

```
racadm fwupdate -g [-u ] [-w][-D] [-a <IP address>]  
[-f <path/file>]
```

```
racadm fwupdate -c
```

```
racadm fwupdate -p -f <update filename> [-u] [-w] [-D]
```

### Description

The **fwupdate** subcommand allows the caller to update the firmware on the DRAC 4. The user may:

- Start updating a firmware update file that has previously been loaded into the RAM disk update area.
- Check the status of the firmware update process.
- Instruct the DRAC 4 firmware to get the firmware update file from a TFTP server and load it into the RAM disk area.

The user may specify the IP address and path/filename or IP address and directory, or use the default values found in the database. The user may also specify that the update be started after loading, or to terminate and make a separate call to start the update process.

- Load the update file into the DRAC 4 RAM disk area.

## Input

Table 6-10 describes the **fwupdate** subcommand options.



**NOTE:** The **-p** and **-u** options are not supported for the serial/telnet console.

**Table 6-10. fwupdate Subcommand Options**

Option	Description
<b>-u</b>	The <b>update</b> option performs a checksum of the firmware update file and starts the actual update process. If this option is typed by itself, it is assumed that a firmware update file has already been loaded into the RAM disk using the <b>-g</b> or <b>-p</b> options. This option may also be used along with the <b>-g</b> or <b>-p</b> options. After the firmware update file has been loaded, the update process is started within the same call. At the end of the update, the DRAC 4 performs a soft reset.
<b>-w</b>	The <b>wait</b> option represents a delay in seconds to wait before proceeding with the update. The <b>-w</b> option is only valid with the <b>-u</b> option.
<b>-s</b>	The <b>status</b> option returns the current status of where you are in the update process. This option is always typed by itself. Do not type the <b>-s</b> options with other options. If you do, the status will display as if it was the only option typed.
<b>-g</b>	The <b>get</b> option instructs the firmware to get the firmware update file from the TFTP server and place it in the RAM disk area. The user may also specify the <b>-a</b> and/or the <b>-f</b> or <b>-d</b> options that are described next. In the absence of the <b>-a</b> or <b>-f</b> options the defaults are read from properties contained in the group <b>cfgRemoteHosts</b> , using properties <b>cfgRhostsFwUpdateIpAddr</b> and <b>cfgRhostsFwUpdatePath</b> .
<b>-a</b>	The <b>IP Address</b> option specifies the IP address of the TFTP server.
<b>-d</b>	The <b>-d</b> , or <b>directory</b> , option specifies the directory on the TFTP server or on the DRAC 4's host server where the firmware update file resides. Do not use the <b>-f</b> option with the <b>-d</b> option.
<b>-c</b>	The <b>-c</b> , or <b>checksum</b> , option allows the user to verify an update file that has been loaded into the RAM disk area. The update file can be loaded by one of the two loading mechanisms (racadm CLI or TFTP). This option essentially gets the size of the firmware update file and calculates the checksum, and verifies the file token. The TFTP interface verifies the checksum after loading automatically. This option is used mainly when using FTP. The <b>-c</b> option is not used with other options. (The <b>-u</b> option will <i>always</i> checksum before programming. It can be used along with the <b>-u</b> option).



**Table 6-10. fwupdate Subcommand Options (continued)**

Option	Description
-D	After the update is complete, the DRAC 4 is reset. Upon boot, a call is made to reset all firmware configuration parameters to the default values. For more information, see "racresetcfg."
-p	The <b>-p</b> , or <b>put</b> , option is used when you want to FTP the firmware update file from the managed system to the DRAC 4. If the <b>-f</b> option is used, the name of the update image must be <b>firmimg.dml</b> . The update file is sent by way of FTP into the DRAC 4. Checksum runs on the newly loaded image. If the checksum is not correct, an error message is displayed. The user is not required to use <b>fwupdate -s</b> option to do this. If you type the <b>-u</b> option on the same command line, the update process starts.

## Output

Displays a message indicating which operation is being performed.

## Examples

- `racadm fwupdate -g -a 143.166.154.143 -f firmimg.dml`

In this example, the **-g** option tells the firmware to download the firmware update file from a location (specified by the **-f** option) on the TFTP server at a specific IP address (specified by the **-a** option). The update file is then loaded into RAM disk. Since the **-u** option is not present, an update does *not* occur.

- `racadm fwupdate -s`

This option reads the current status of the firmware update.

- **racadm fwupdate -u**

The **-u** option starts the update process. This command assumes that a valid firmware update file has been previously loaded using the **-g** or **-p** option. The update file checksum is verified for correctness before proceeding.

- **racadm fwupdate -g -u -a 143.166.154.143 -f firmimg.dml**

In this example, the **-g** option tells the firmware to download the firmware update file from a location (specified by the **-f** option) on the TFTP server at a specific IP address (specified by the **-a** option). The update file is then loaded into RAM disk. The **-u** option tells the firmware to proceed with the update after the firmware is loaded.

## Updating the Firmware

If you use the **-f** option, specify the **firmimg.dml** file.

If you are updating your firmware *locally*, use one of the following commands to update your firmware:

```
racadm fwupdate -p -u -d <directory>
```

```
racadm fwupdate -p -u -f <filename>
```

**Example:**

```
racadm fwupdate -p -u -d \my\updatefiles\path
```

```
racadm fwupdate -p -u -f  
\my\updatefiles\path\<filename>
```

If you are updating your firmware *remotely*, use the following command to update your firmware:

```
racadm <RAC_IP> -u <user> -p <password> fwupdate -g -  
u -a <TFTP_IP> -d <TFTP_dir_path>
```



**NOTE:** The **-p** option does not support remote firmware updates.

## getssninfo

**Table 6-11. getssninfo Subcommand**

Command	Definition
getssninfo	Retrieves session information for one or more currently active or pending sessions from the Session Manager's session table.

## Synopsis

```
racadm getssninfo [-A] [-u <username> | *]
```

## Description

The **getssninfo** command returns a list of currently active or pending users and optionally includes summary session table information. The summary information provides the total number of sessions in each of the following defined Session Manager states:

- Free
- Preliminary
- Unvalidated
- Valid
- Invalid

## Input

**Table 6-12. getssninfo Subcommand Options**

Option	Description
-A	The -A option eliminates the printing of data headers.
-u	The -u <username> user name option limits the printed output to only the detail session records for the given user name. If an * symbol is given as the user name, all users are listed. Summary information is not printed when this option is specified.

## Output

None

## Examples

- ```
racadm getssninfo
```

Session table summary status:

```
1  VALID
15 AVAILABLE
```

| Type | User | IP Address           | Login Date/Time                           | Consoles |
|------|------|----------------------|-------------------------------------------|----------|
| Web  | RAC  | root<br>192.168.1.23 | Thu, 06 Mar 2003<br>10:32:39<br>GMT-06:00 | NONE     |

- ```
racadm getssninfo -A
1 15
"Web" "RAC\root" 192.168.1.23 "Thu, 06 Mar 2003
10:32:39 GMT-06:00" "NONE"
```
- ```
racadm getssninfo -A -u *
"Web" "RAC\root" 192.168.1.23 "Thu, 06 Mar 2003
10:32:39 GMT-06:00" "NONE"
```

## getsysinfo

**Table 6-13. getsysinfo Subcommand**

| Command    | Definition                                                                     |
|------------|--------------------------------------------------------------------------------|
| getsysinfo | Displays RAC information, system information, and watchdog status information. |

### Synopsis

```
racadm getsysinfo [-d] [-s] [-w] [-A][-c]
```

### Description

The `getsysinfo` command returns information about the RAC, system, or watchdog status, depending on the command options. The order of data on output is always the same: RAC information, system information, and watchdog information.

## Input

**Table 6-14. getsysinfo Subcommand Options**

| Option | Description                                |
|--------|--------------------------------------------|
| -d     | Displays RAC information.                  |
| -s     | Displays system information.               |
| -w     | Displays watchdog information.             |
| -A     | Eliminates the printing of headers/labels. |
| -c     | Displays chassis information.              |

If a **-d**, **-s**, or **-w** option is not specified, then these three options are used as defaults.

## Output

Every data element is output as a string with the exception of the following:

- System information/operating system type
- Watchdog information/recovery action

Enumeration values or bitmaps are defined for these elements. When the **-A** (API) option is included on the command, the enumeration/bit value of the element is listed in the output. Otherwise, the enumeration or bit value is mapped to a string before being output.

The following bullet items define the mapping of values to strings:

**Table 6-15. Mapping of Values to Strings**

| Value                                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System information/operating system type | <p>A bitmap defines three subfields for this value, as follows:</p> <ul style="list-style-type: none"> <li>IA type - Bit position 0 (least significant bit):<br/>0 = 32 bit, 1 = 64 bit</li> <li>Major operating system - Bit positions 1–7:<br/>000000 = Microsoft Windows 000001 = Red Hat<sup>®</sup> Enterprise Linux<sup>®</sup>,<br/>000010 = Novell<sup>®</sup> NetWare<sup>®</sup></li> <li>Minor operating system - Bit positions 8–15:<br/>0 = Red Hat Linux, 00000000 = Windows NT<sup>®</sup>,<br/>00000001 = Windows 2000, 0 = NetWare</li> </ul> |
| Watchdog recovery action                 | <p>An enumeration defines the meaning of this value:</p> <ul style="list-style-type: none"> <li>0 = no-action</li> <li>1 = hard-reset</li> <li>2 = power-down</li> <li>3 = power-cycle</li> </ul>                                                                                                                                                                                                                                                                                                                                                              |

**Examples**

- ```
racadm getsysinfo -A -w -s
"123456" "PowerEdge 1650" "A08" "EF23VQ-0023" ""
0x100 "Server1"

"Microsoft Windows 2000 version 5.0, Build Number
2195, Service Pack 2" "1.60"

"Watchdog Info:" 2 39 40
```
- ```
racadm getsysinfo -w -s
System Information:

System ID          = 123456
System Model       = PowerEdge 1650
```

```

BIOS Version      = A08
Asset Tag         = EF23VQ-0023
Service Tag       = 2MP9Z01
Hostname          = Server1
OS name           = Microsoft Windows 2000 version
5.0,
                  Build 2195 Service Pack 2
ESM Version       = 1.60
Watchdog Information:
Recovery Action   = Power Down
Present countdown value = 36
Initial countdown value = 40

```

## getraclog



**NOTICE:** The system may hang if this command is run. You may have to powercycle the system if it hangs.



**NOTE:** To use this command, you must have **Log In DRAC 4** permission.

Table 6-16 describes the **getraclog** command.

**Table 6-16. getraclog**

| Command                   | Definition                                        |
|---------------------------|---------------------------------------------------|
| <code>getraclog -i</code> | Displays the number of entries in the DRAC 4 log. |
| <code>getraclog</code>    | Displays the DRAC 4 log entries.                  |

## Synopsis

```
racadm getraclog -i
```

```
racadm getraclog [-A] [-c count] \[-s start-record]
[-v] [-V] [-m]
```

## Description



**NOTE:** The command name and the `racadm` subcommand names may be different. This behavior is normal.

The `gettracelog -i` command displays the number of entries in the DRAC 4 log.

The following options allow the `gettracelog` command to read entries:

- `-A` — Provides API-formatted output (no header).
- `-c` — Provides the maximum count of entries to be returned.
- `<blank>` — Displays the entire log; `racadm` and serial only (default).
- `-s` — Provides the associated number of the first displayed entry (default = 0 [list begins with the first DRAC 4 log entry]).
- `-v` — Provides *verbose* output.
- `-V` — Provides *Very verbose* output.
- `-m` — Displays 24 rows at a time, and queries for more (such as the UNIX<sup>®</sup> `more` command).

## Output

One line of output is displayed for each DRAC 4 log entry.

## Restrictions

The output buffer size is too big for execution across IPMI transport.

## gettracelog



**NOTICE:** The system may hang if this command is run. You may have to powercycle the server if it hangs.



**NOTE:** To use this command, you must have **Log In DRAC 4** permission.

Table 6-17 describes the `gettracelog` command.

**Table 6-17. gettracelog**

| Command                     | Definition                                              |
|-----------------------------|---------------------------------------------------------|
| <code>gettracelog -i</code> | Displays the number of entries in the DRAC 4 trace log. |
| <code>gettracelog</code>    | Displays the DRAC 4 trace log entries.                  |



## Synopsis

```
racadm gettracelog -i  
racadm gettracelog -m
```

## Description

The **gettracelog -i** command displays the number of entries in the DRAC 4 trace log. The **gettracelog** command (without the **-i** option) reads entries.

The **-m** option displays 24 rows at a time, and queries for more (such as the UNIX **more** command).

## Output

One line of output is displayed for each trace log entry.

## help

**Table 6-18. help Subcommand**

| Command | Definition                                                                                                       |
|---------|------------------------------------------------------------------------------------------------------------------|
| help    | Lists all of the subcommands available to use with the RACADM utility and provides a short description for each. |

## Synopsis

```
racadm help  
racadm help <subcommand>
```

## Description

The **help** subcommand lists all of the subcommands that are available under the **racadm** command along with a one-line description. You may also enter a subcommand after **help** to get the syntax for a specific subcommand.

## Input

None

## Output

**racadm help** displays a complete list of subcommands.

`racadm help <subcommand>` displays usage information for the specified subcommand only.

## racdump

**Table 6-19. racdump Subcommand**

| Command | Definition                                   |
|---------|----------------------------------------------|
| racdump | Displays status and general RAC information. |

### Synopsis

```
racadm racdump
```

### Description

The `racdump` subcommand provides a single command to get a dump, status, and general RAC board information with a single command.

The following commands are executed as a result of the single `racdump` subcommand:

- `getsysinfo`
- `coredump`
- `memmap`
- `netstat`
- `getssninfo`
- `getsensors`

### Input

None

### Output

The output of the individual commands are displayed.

## racreset

**Table 6-20. racreset Subcommand**

| Command  | Definition      |
|----------|-----------------|
| racreset | Resets the RAC. |

## Synopsis

```
racadm racreset [hard | soft | graceful] [delay]
```

## Description

The **racreset** subcommand issues a reset to the RAC. The user is allowed to select how many seconds of delay occur before the reset sequence is started. The reset event is written into the RAC log.

The default option is **soft**. If you do not enter an option, the RACADM utility waits three seconds and then runs the **soft** option with the **racreset** subcommand.



**NOTE:** A reboot is not necessary to apply configuration settings to the RAC. When the configuration settings affect other system components, on the other hand, a reboot is necessary for the affected components to detect the changes. For example, if remote floppy boot is enabled by the RACADM utility, the remote floppy image will not be accessible by the system until the next reboot.

## Input



**NOTICE:** You must reboot your system after performing a hard reset of the RAC as described in the following table.

**Table 6-21. racreset Subcommand Options**

| Option   | Description                                                                                                                                                                                                                                                                              |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| hard     | A <i>hard</i> reset resets the entire RAC and is as close to a power-on reset as can be achieved using software. The RAC log, database, and selected daemons are shutdown gracefully prior to the reset. A hard reset should be considered as a final effort. PCI configuration is lost. |
| soft     | A <i>soft</i> reset is a microprocessor and microprocessor subsystem reset that resets the processor core to restart the software. PCI configurations are preserved. The RAC log, database, and selected daemons are shutdown gracefully prior to the reset.                             |
| graceful | A <i>graceful</i> reset is the same as a soft reset.                                                                                                                                                                                                                                     |
| <delay>  | The user is allowed to select how many seconds of delay occur before the reset sequence is started. A valid delay entry is between 1–60 seconds. The default is 3 seconds.                                                                                                               |

## Output

None

## Examples

- `racadm racreset soft 1`  
Start the RAC soft reset sequence in 1 second.
- `racadm racreset soft 20`  
Start the RAC soft reset sequence after 20 seconds.

## racresetcfg

**Table 6-22. racresetcfg Subcommand**

| Command                                         | Definition                                                                                  |
|-------------------------------------------------|---------------------------------------------------------------------------------------------|
| <code>racadm</code><br><code>racresetcfg</code> | Resets all database configuration parameters to default values; equivalent to a soft reset. |

## Synopsis

```
racadm racresetcfg
```

## Description

The `racresetcfg` command removes all database property entries that have been configured by the user. The database has default properties for all entries that are used to restore the card back to its original default settings. After resetting the database properties, the RAC resets automatically.



**NOTICE:** Before using this command, ensure that you want to restore your database to its original default state with default user `root` and default password `calvin`.



**NOTE:** After issuing a `racresetcfg` subcommand, stop and then restart the following services: Server Agent, Server Agent Event Monitor, and SNMP. See the *Dell OpenManage Server Administrator's User's Guide* for information on stopping and restarting the services in your operating system.

## Input

None

## Output

None

## setrac

**Table 6-23. setrac Subcommand**

| Command | Definition                                   |
|---------|----------------------------------------------|
| setrac  | Sets RAC parameters from the managed system. |

## Synopsis

```
racadm setrac [-h -o -T -d]
```

## Description

This command sets time, managed system name, operating system name, or operating system type from the managed system to the RAC. If no options are entered, all four parameters are set. The **-d** option allows the user to display the parameters only without actually writing them to the RAC firmware. Any combination of options, or no options, may be entered.

## Input

**Table 6-24. setrac Subcommand Options**

| Option | Description                                                                                                                                                                                                                                                                                          |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -h     | Gets the <code>Hostname</code> from the managed system and writes it to the RAC. This parameter is available for viewing using the <code>getsysinfo</code> command, and under the object ID interface using <code>config/getconfig</code> as <code>[ifcRacManagedNodeOs] ifcRacMnOsHostname</code> . |
| -o     | Gets the <code>OS Name</code> from the managed system and writes it to the RAC. This parameter is available for viewing under the object ID interface using <code>config/getconfig</code> as <code>[ifcRacManagedNodeOs] ifcRacMnOsName</code> .                                                     |
| -T     | Gets the <code>OS Type</code> from the managed system and writes it to the RAC. This parameter is available for viewing using the <code>getsysinfo</code> command and under the object ID interface using <code>config/getconfig</code> as <code>[ifcRacManagedNodeOs] ifcRacMnOsOsType</code> .     |

**Table 6-24. setrac Subcommand Options (continued)**

| Option | Description                                                                                                                                                                                                                                                                                                                                                                                |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| -d     | The <code>-d</code> , or <code>display</code> option, allows the user to get the <code>UTC time</code> , <code>Hostname</code> , <code>OS Name</code> , and <code>OS Type</code> from the managed system and display these items only. Parameters are not written to the RAC. If the <code>-d</code> option is entered along with other options, then those parameters are displayed only. |

**Output**

A message is displayed indicating the values obtained from the managed system, and if they are being written to the RAC or only displayed.


**Examples**

- `racadm setrac -d`  
Only the parameter values are displayed.
- `racadm setrac -h`  
The UTC time and managed system name are taken from the managed system and written to the RAC.

# DRAC III, DRAC 4, and DRAC 5 Property Database Group and Object Definitions

The Dell Remote Access Controller (DRAC) III, DRAC 4, and DRAC 5 property database contain the configuration information for the DRAC III, DRAC 4, and DRAC 5 controllers respectively. Data is organized by associated object, and objects are organized by object group. The IDs for the groups and objects that the property database supports are listed in this section.

Use the group and object IDs with the RACADM utility to configure the DRAC controllers. The following sections describe each object and indicate whether the object is readable, writable, or both.

 **NOTICE:** Object and group IDs in this section are system specific. Some may not be applicable to your system.

## DRAC III Object Groups

Use the following syntax to configure DRAC III controllers:

```
racadm getconfig -g <groupName> -o <objectName>  
<Value>
```

For example, to always monitor the external source of power such an AC power adapter, type:

```
racadm config -g cfgMonitor -o  
cfgMonitorExtPwrScrRule 1
```

Table A-1 lists the object groups for DRAC III, a brief description of the objects, and valid values for these objects.

**Table A-1. DRAC III Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>       | <b>Description</b>                                                                                                                             | <b>Valid Values</b>                                         | <b>Default</b>                  |
|---------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------|
| idRACInfo           | idRacType            | Identifies the type of RAC. This object has read-only attributes.                                                                              | 0=invalid, 1=other, 2=unknown, 3=DRAC III, 4=all other RACs | 0x3 or 0x4                      |
|                     | idRacProductInfo     | Identifies the product using a text string. This object has read-only attributes.                                                              | String of up to 63 ASCII characters.                        | RAC                             |
|                     | idRacDescriptionInfo | A text description of the RAC type. This object has read-only attributes.                                                                      | String of up to 255 ASCII characters.                       | RAC                             |
|                     | idRacVersionInfo     | A string containing the current firmware version of the product, where <i>x</i> is the current revision. This object has read-only attributes. | String of up to 63 ASCII characters.                        | RAC firmware version <i>x.x</i> |
|                     | idRacName            | A user-assigned name to identify this controller. This object has read/write attributes.                                                       | String of up to 15 ASCII characters.                        | RAC                             |
|                     | idPcmciaInfo         | Text description of the PCMCIA modem card. This object has read-only attributes.                                                               | String of up to 63 ASCII characters.                        | Null string                     |



**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b>                                                                                                                            | <b>Objects</b>          | <b>Description</b>                                                                                                                                                                                                | <b>Valid Values</b>                    | <b>Default</b> |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|----------------|
|                                                                                                                                                | idRacMisc               | Generic property undefined at this release. This object has read/write attributes.                                                                                                                                | String of up to 63 ASCII characters.   | Null string    |
| <b>cfgMonitor</b>                                                                                                                              |                         |                                                                                                                                                                                                                   |                                        |                |
| The <b>cfgMonitor</b> group contains parameters to configure the monitoring of the optional external AC power adapter and the onboard battery. | cfgMonitorExtPwrSerRule | 0=disable, do not monitor the external power source.<br>1=always monitor the external power source.<br>2=only monitor the external power source if it is connected.<br><br>This object has read/write attributes. | 0x0, 0x1, or 0x2                       | 0x2            |
|                                                                                                                                                | cfgMonitorBatteryRule   | The battery is not optional at the first release.<br><br>1=always monitor the onboard battery.<br><br>This object has read/write attributes.                                                                      | 0x1                                    | 0x1            |
| <b>cfgLanNetworking</b>                                                                                                                        |                         |                                                                                                                                                                                                                   |                                        |                |
| This group contains parameters to configure the RAC network adapter interface.                                                                 | cfgNicEnable            | 0=disable<br>1=enable the RAC network adapter<br><br>This object has read/write attributes.                                                                                                                       | Boolean, either 1 or 0 (TRUE or FALSE) | 1              |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>  | <b>Description</b>                                                                                                                                                                                              | <b>Valid Values</b>                                                          | <b>Default</b>    |
|---------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------------|
|                     | cfgNicIpAddress | IP address of the RAC network adapter. This object has read/write attributes.                                                                                                                                   | A string of "." separated numeric fields containing the static IP address.   | 192.168.2<br>0.1  |
|                     | cfgNicNetmask   | The network mask used by the RAC network adapter. This object has read/write attributes.                                                                                                                        | A string of "." separated numeric fields containing the static network mask. | 255.255.2<br>55.0 |
|                     | cfgNicGateway   | The gateway used by the RAC network adapter. This object has read/write attributes.                                                                                                                             | A string of "." separated numeric fields containing the static gateway.      | 192.168.2<br>0.1  |
|                     | cfgNicUseDhcp   | 0=use the static RAC network adapter parameters described above.<br><br>1=use DHCP and obtain the necessary parameters from the DHCP server for the RAC network adapter. This object has read/write attributes. | Boolean, either 1 or 0 (TRUE or FALSE).                                      | 0                 |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b>                                                                            | <b>Objects</b>           | <b>Description</b>                                                                                                                                                                                    | <b>Valid Values</b>                                                      | <b>Default</b> |
|------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------|
| <b>cfgCurrentLanNetworking</b>                                                                 |                          |                                                                                                                                                                                                       |                                                                          |                |
| This group contains parameters that are currently in use by the RAC network adapter interface. | cfgNicCurrentIpAddress   | The current IP address of the RAC network adapter. This object has read-only attributes.                                                                                                              | A string of "." separated numeric fields containing the IP address.      | None           |
|                                                                                                | cfgNicCurrentNetmask     | The current network mask used by the RAC network adapter. This object has read-only attributes.                                                                                                       | A string of "." separated numeric fields containing the network mask.    | None           |
|                                                                                                | cfgNicCurrentGateway     | The current gateway used by the RAC network adapter. This object has read-only attributes.                                                                                                            | A string of "." separated numeric fields containing the gateway address. | None           |
|                                                                                                | cfgNicCurrentDhcpWasUsed | Indicates whether or not DHCP was used to configure the network adapter.<br><br>0=IP address is static.<br>1=IP address was obtained from a DHCP server.<br><br>This object has read-only attributes. | Boolean, either 1 or 0 (TRUE or FALSE).                                  | None           |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group                                                                                                     | Objects                   | Description                                                                                                                                                                                                                                                  | Valid Values                            | Default |
|------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------|
| <b>cfgDialupNetworking</b>                                                                                       |                           |                                                                                                                                                                                                                                                              |                                         |         |
| This group contains parameters to configure the capabilities of the DRAC III dial-in and dial-out (demand dial). | cfgDialupDialInEnable     | 0=enable<br>1=disable the dial in capabilities.<br>This object has read/write attributes.                                                                                                                                                                    | Boolean, either 1 or 0 (TRUE or FALSE). | 1       |
|                                                                                                                  | cfgDialupDialOutEnable    | 0=enable<br>1=disable the dial out capabilities.<br>This object has read/write attributes.                                                                                                                                                                   | Boolean, either 1 or 0 (TRUE or FALSE). | 1       |
|                                                                                                                  | cfgDialupDialInDhcpEnable | 0=enable<br>1=disable<br>Gets the IP address from the DHCP server to become the PPP IP address(es). Depending on the network adapter configuration, either 1 or 2 DHCP addresses are used (the RAC is the client).<br>This object has read/write attributes. | Boolean, either 1 or 0 (TRUE or FALSE). | 0       |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group | Objects                   | Description                                                                                                                                                                                                                                                                                                                                                                 | Valid Values                                                        | Default           |
|--------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-------------------|
|              | cfgDialupDialInBaseIpAddr | Static IP base address for PPP. When static addresses are enabled, two IP addresses are used. The first is the base, and the second is base+1. When the base IP address is 0.0.0.0, <b>cfgDialupDialInDfltIpAddr</b> is used instead.<br><br>This object has read/write attributes.                                                                                         | A string of "." separated numeric fields containing the IP address. | 0.0.0.0           |
|              | cfgDialupDialInDfltIpAddr | Statically configures the IP base address for PPP. Used when either <b>cfgDialupDialInBaseIpAddr</b> is 0 or when DHCP fails to obtain IP addresses from the DHCP server (only when DHCP is enabled using <b>cfgDialupDialInDhcpEnable</b> ). When set to 0.0.0.0, a unique address on the 10.0.0.0 network is autogenerated.<br><br>This object has read/write attributes. | A string of "." separated numeric fields containing the IP address. | Autogenerated     |
|              | cfgDialupDiIdleTimeout    | 0=infinite, otherwise, when the line is idle for this many seconds, the line is disconnected.<br><br>This object has read/write attributes.                                                                                                                                                                                                                                 | Hexadecimal values.                                                 | 0x3C (60 seconds) |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>                      | <b>Description</b>                                                                                                                                                      | <b>Valid Values</b>                                          | <b>Default</b>         |
|---------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------|
|                     | cfgDialupDiMaxConnectTime           | 0=infinite, otherwise, the maximum time in seconds that the link will stay connected before the connection is terminated.<br><br>This object has read/write attributes. | Hexadecimal values.                                          | 0x0                    |
|                     | cfgDialupDialType                   | 0x0=pulse, 0x1=tone<br><br>This object has read/write attributes.                                                                                                       | Hexadecimal values.                                          | 0x1                    |
|                     | cfgDialupModemInitString            | A command string passed to the modem to initialize it. This object has read/write attributes.                                                                           | String of up to 63 ASCII characters meaningful to the modem. | ATL1M1<br>X3E0S0<br>=2 |
|                     | cfgDialupModemBaudRate              | Baud rate of the modem.<br>This object has read/write attributes.                                                                                                       | Hexadecimal values.                                          | 0x9600<br>or 38400     |
|                     | cfgDialupDialInAuthType             | 0=PAP protocol, 1=CHAP, 2=MS CHAP (MS CHAP is not supported.)<br><br>This object has read/write attributes.                                                             | Hexadecimal values.                                          | 0x1                    |
|                     | cfgDialupDialOutModemConnectTimeout | 0=infinite, otherwise, the maximum time in seconds that the link will stay connected before the connection is terminated.<br><br>This object has read/write attributes. | Hexadecimal values.                                          | 0x1E or 30             |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group                                                                                                                      | Objects                     | Description                                                                                                                                                                        | Valid Values                            | Default |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------|
| <b>cfgRemoteHosts</b>                                                                                                             |                             |                                                                                                                                                                                    |                                         |         |
| The group contains parameters to configure various firmware update loading, remote floppy boot, IP addresses, enables, and so on. | cfgRhostsSmtpeMailEnable    | 0=disable, 1=enable the SMTP protocol to send e-mail alerts.<br><br>This object requires a RAC reset before it becomes active.<br><br>This object has read/write attributes.       | Boolean, either 1 or 0 (TRUE or FALSE). | 1       |
|                                                                                                                                   | cfgRhostsFloppyTftpEnable   | 0=disable, 1=enable remote floppy boot.<br><br>This object requires a RAC reset before it becomes active.<br><br>This object has read/write attributes.                            | Boolean, either 1 or 0 (TRUE or FALSE). | 0       |
|                                                                                                                                   | cfgRhostsFwUpdateTftpEnable | 0=disable, 1=enable loading the firmware update file through TFTP.<br><br>This object requires a RAC reset before it becomes active.<br><br>This object has read/write attributes. | Boolean, either 1 or 0 (TRUE or FALSE). | 1       |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>             | <b>Description</b>                                                                                                                                                                                                                    | <b>Valid Values</b>                                                           | <b>Default</b> |
|---------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|----------------|
|                     | cfgRhostsSmtppServerIpAddr | <p>The IP address of the server used in e-mail alerts.</p> <p>This object requires a RAC reset before it becomes active.</p> <p>This object has read/write attributes.</p>                                                            | <p>A string of "." separated numeric fields containing the IP address.</p>    | 127.0.0.1      |
|                     | cfgRhostsFloppyTftpIpAddr  | <p>The IP address of the TFTP server where the boot image is located.</p> <p>This object has read/write attributes.</p>                                                                                                               | <p>A string of "." separated numeric fields containing the IP address.</p>    | 192.168.0.3    |
|                     | cfgRhostsFloppyTftpPath    | <p>The path name pointing to the remote floppy boot image. If this is a filename only, the path needs to be specified in the TFTP server, or the entire path can be specified here.</p> <p>This object has read/write attributes.</p> | <p>String of up to 255 ASCII characters that designate a valid path name.</p> | BOOTIMG.BIN    |
|                     | cfgRhostsFwUpdateIpAddr    | <p>The address of the TFTP server where the firmware update image is located.</p> <p>This object has read/write attributes.</p>                                                                                                       | <p>A string of "." separated numeric fields containing the IP address.</p>    | 192.168.0.4    |



**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group                                                                                       | Objects               | Description                                                                                                                                                                                                                                                                                     | Valid Values                                                           | Default         |
|----------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------|
|                                                                                                    | cfgRhostsFwUpdatePath | The path name pointing to the firmware update binary file. If this is a filename only, then the path needs to be specified in the TFTP server. Otherwise, the entire path can be specified here.<br><br>This object has read/write attributes.                                                  | String of up to 255 ASCII characters that designate a valid path name. | FIRMIM<br>G.BIN |
| <b>cfgUserAdmin</b>                                                                                |                       |                                                                                                                                                                                                                                                                                                 |                                                                        |                 |
| This group contains parameters to allow configuration of users that are allowed access to the RAC. | cfgUserAdminUserName  | The name of the user for this index. The user index is created by writing a string into this name field if the index is empty. Writing a "" string deletes the user at that index. You cannot change the name. You must delete and then recreate.<br><br>This object has read/write attributes. | A string of up to 19 ASCII characters.                                 | None            |
|                                                                                                    | cfgUserAdminPassword  | The password for this user. The user passwords are encrypted and cannot be seen or displayed after this property is written.<br><br>This object has write-only attributes.                                                                                                                      | A string of up to 255 ASCII characters.                                | None            |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group | Objects                                 | Description                                                                                                                                                | Valid Values                            | Default  |
|--------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------|
|              | cfgUserAdminAlertFilter<br>RacEventMask | See "RAC-Generated Event Mask Definitions" in the <i>Dell Remote Access Controller Racadm User's Guide</i> .<br><br>This object has read/write attributes. | Hexadecimal values.                     | 0x777777 |
|              | cfgUserAdminAlertFilter<br>SysEventMask | See "RAC-Generated Event Mask Definitions" in the <i>Dell Remote Access Controller Racadm User's Guide</i> .<br><br>This object has read/write attributes. | Hexadecimal values.                     | 0x777777 |
|              | cfgUserAdminPageNum<br>ricEnable        | 0=disable, 1=enable numeric paging on a per user basis.<br><br>This object has read/write attributes.                                                      | Boolean, either 1 or 0 (TRUE or FALSE). | 0        |
|              | cfgUserAdminPageNum<br>ricNumber        | The default sets the entry to an empty string.                                                                                                             | A string of up to 95 ASCII characters.  | ""       |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group | Objects                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                | Valid Values                           | Default |
|--------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------|
|              | cfgUserAdminPageNumericMessage     | A string of digits consisting of the following: 0-9, <i>SENI</i> . In the numeric message, <i>S</i> will be replaced by the decimal value of the message severity. The <i>E</i> is replaced by the three-decimal digit event number. The <i>N</i> is replaced by the two-decimal digit sensor number. The <i>I</i> is replaced by the IP address of the RAC (dotted-decimal notation with the dots deleted).<br><br>This object has read/write attributes. | A string of up to 32 ASCII characters. | SE      |
|              | cfgUserAdminPageNumericHangupDelay | Number of seconds to extend the time duration of a numeric page. This object has read/write attributes.                                                                                                                                                                                                                                                                                                                                                    | Integer from 0 to any positive number. | 0x0     |
|              | cfgUserAdminPageAlphaEnable        | 0=disable, 1=enable alpha numeric paging on a per user basis.<br><br>This object has read/write attributes.                                                                                                                                                                                                                                                                                                                                                | Boolean either 1 or 0 (TRUE or FALSE). | 0       |
|              | cfgUserAdminPageAlphaNumber        | See "Telephone Number Properties" in the <i>Dell Remote Access Controller Racadm User's Guide</i> for valid telephone number characters.<br><br>This object has read/write attributes.                                                                                                                                                                                                                                                                     | A string of up to 95 ASCII characters. | ""      |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>                               | <b>Description</b>                                                                                                                             | <b>Valid Values</b>                             | <b>Default</b>   |
|---------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------------|
|                     | cfgUserAdminPageAlpha<br>Protocol            | Number of data bits, N=<br>no parity, E=even parity,<br>number of stop bits.<br><br>This object has read/write<br>attributes.                  | 8N1 or 7E0                                      | 8N1              |
|                     | cfgUserAdminPageAlpha<br>BaudRate            | Baud rate for the modem.<br>This object has read/write<br>attributes.                                                                          | Integer from<br>0 to 115200.                    | 0x4B0 or<br>1200 |
|                     | cfgUserAdminPageAlpha<br>CustomMsg           | User-defined message to<br>be sent on an alpha page.<br><br>This object has read/write<br>attributes.                                          | A string of<br>up to 31<br>ASCII<br>characters. | ""               |
|                     | cfgUserAdminPageAlpha<br>ModemConnectTimeout | 0=infinite (The time in<br>seconds that the remote<br>system has to answer the<br>telephone.)<br><br>This object has read/write<br>attributes. | Integer from<br>0 to any<br>positive<br>number. | 0x3C or<br>60    |
|                     | cfgUserAdminPageAlpha<br>PagerId             | Assigned by the paging<br>service. This object has<br>read/write attributes.                                                                   | A string of<br>up to 31<br>ASCII<br>characters. | ""               |
|                     | cfgUserAdminPageAlpha<br>Password            | Assigned by the paging<br>service. This object has<br>read/write attributes.                                                                   | A string of<br>up to 31<br>ASCII<br>characters. | ""               |
|                     | cfgUserAdminEmailEna<br>ble                  | 0=disable, 1=enable e-<br>mail alerting on a per user<br>basis.<br><br>This object has read/write<br>attributes.                               | Boolean<br>either 1 or 0<br>(TRUE or<br>FALSE). | 0                |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group    | Objects                         | Description                                                                                         | Valid Values                                                        | Default   |
|-----------------|---------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------|
|                 | cfgUserAdminEmailAddress        | Standard e-mail address, such as john_doe@mycompany.com. This object has read/write attributes.     | A string of up to 63 ASCII characters.                              | ""        |
|                 | cfgUserAdminEmailCustomMsg      | User-defined message to be sent on a e-mail alert. This object has read/write attributes.           | A string of up to 31 ASCII characters.                              | ""        |
|                 | cfgUserAdminPageModemInitString | Characters that make up a valid modem initialization string. This object has read/write attributes. | A string of up to 31 ASCII characters.                              | AT+GCI=B5 |
| <b>cfgTraps</b> |                                 |                                                                                                     |                                                                     |           |
|                 |                                 | This group contains parameters to configure the delivery of SNMP traps.                             |                                                                     |           |
|                 | cfgTrapsDestIpAddress           | IP address of an SNMP trap daemon. This object has read/write attributes.                           | A string of "." separated numeric fields containing the IP address. | ""        |
|                 | cfgTrapsEnable                  | 0=disabled, 1=enabled for this indexed entry. This object has read/write attributes.                | Boolean, either 1 or 0 (TRUE or FALSE).                             | 1         |
|                 | cfgTrapsSnmpCommunity           | A SNMP community name. This object has read/write attributes.                                       | A string of up to 31 ASCII characters.                              | ""        |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group | Objects                    | Description                                                                                                                                                | Valid Values        | Default  |
|--------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|
|              | cfgTrapsFilterRacEventMask | See "RAC-Generated Event Mask Definitions" in the <i>Dell Remote Access Controller Racadm User's Guide</i> .<br><br>This object has read/write attributes. | Hexadecimal values. | 0x777777 |
|              | cfgTrapsFilterSysEventMask | See "RAC-Generated Event Mask Definitions" in the <i>Dell Remote Access Controller Racadm User's Guide</i> .<br><br>This object has read/write attributes. | Hexadecimal values. | 0x777777 |

**cfgDemandDial**

This group contains parameters to configure dial-out capabilities of the DRAC III controller.

|                          |                                                                                                                                                                                                                                                                                              |                                                                        |    |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----|
| cfgDemandDialIpAddress   | This address is the destination IP address. This IP address may not be the IP address of the system that responds to the telephone number. However, the system that responds to the telephone number must be able to route to this IP address.<br><br>This object has read/write attributes. | A string of "." "" separated numeric fields containing the IP address. | "" |
| cfgDemandDialPhoneNumber | The telephone number of a system that is able to route packets to the IP address set in <b>cfgDemandDialIpAddress</b> .<br><br>This object has read/write attributes.                                                                                                                        | A string of up to 95 ASCII characters.                                 | "" |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group                                                                                           | Objects                         | Description                                                                                                                                        | Valid Values                           | Default |
|--------------------------------------------------------------------------------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------|
|                                                                                                        | cfgDemandDialPppUser<br>Name    | User name for PPP authentication. This object has read/write attributes.                                                                           | A string of up to 31 ASCII characters. | ""      |
|                                                                                                        | cfgDemandDialPppPass<br>word    | Password for PPP authentication. This object has read/write attributes.                                                                            | A string of up to 31 ASCII characters. | ""      |
|                                                                                                        | cfgAuthType                     | PPP authentication type; 0=Any (including clear text), 1=CHAP, 2=MS CHAP (MS CHAP is not supported.)<br><br>This object has read/write attributes. | 0, 1, 2                                | 0x0     |
| <b>cfgDialinUsers</b>                                                                                  |                                 |                                                                                                                                                    |                                        |         |
| This group contains parameters to configure the dial in PPP authentication capability of the DRAC III. | cfgDialinUsrPppUserNa<br>me     | User name for PPP authentication. This object has read/write attributes.                                                                           | A string of up to 15 ASCII characters. | ""      |
|                                                                                                        | cfgDialinUsrPppUserPass<br>word | Password for PPP authentication. This object has read/write attributes.                                                                            | A string of up to 15 ASCII characters. | ""      |
|                                                                                                        | cfgDialinUsrCallbackType        | 0=None, 1=Admin preset, 2=User-specified. Used by the callback control protocol (CBCP).<br><br>This object has read/write attributes.              | Hexadecimal values.                    | 0x0     |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group                                                                                    | Objects                      | Description                                                                                                                                                                             | Valid Values                           | Default    |
|-------------------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------|
|                                                                                                 | cfgDialinUsrCallbackNumber   | Administrative preset telephone number for CBCP if a 1 is selected in <code>cfgDialinUsrCallbackType</code> .<br><br>This object has read/write attributes.                             | A string of up to 95 ASCII characters. | ""         |
| <b>cfgSessionManagement</b>                                                                     |                              |                                                                                                                                                                                         |                                        |            |
| This group contains parameters to configure the number of sessions that can connect to the RAC. | cfgSsnMgtMaxConRedirSessions | The maximum number of simultaneous console redirect sessions that are allowed at one time from the RAC Web-based remote access interface.<br><br>This object has read/write attributes. | 0x1, 0x2, 0x3, 0x4                     | 0x4        |
|                                                                                                 | cfgSsnMgtMaxSessions         | The maximum number of simultaneous sessions that are allowed at one time from the RAC Web-based remote access interface.<br><br>This object has read/write attributes.                  | 0x1 through 0x10                       | 0x10 or 16 |
|                                                                                                 | cfgSsnMgtMaxSessionsPerUser  | The maximum number of simultaneous sessions allowed per user. This object has read/write attributes.                                                                                    | 0x1 through 0x10                       | 0x10 or 16 |



**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group | Objects                                                                                                               | Description                                                                                   | Valid Values                                                                                                                                                                  | Default                                                                                    |   |
|--------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---|
| cfgSerial    |                                                                                                                       |                                                                                               |                                                                                                                                                                               |                                                                                            |   |
|              | This group contains configuration parameters for the system external serial port or DRAC III VT-100 serial connector. | cfgSerialBaudRate                                                                             | Sets the baud rate on the external serial port. This object has read/write attributes.                                                                                        | 9600, 28800, 57600, 115200, 9600                                                           |   |
|              |                                                                                                                       | cfgSerialConsoleEnable                                                                        | 0=disabled, 1=enabled<br>Enables the serial port and terminal interface. This object requires a RAC reset before it becomes active.<br>This object has read/write attributes. | Boolean, either 1 or 0 (TRUE or FALSE).                                                    | 1 |
|              | cfgSerialConsoleQuitKey                                                                                               | Terminates text console redirection when using VT-100. This object has read/write attributes. | A string of 3 or fewer characters.                                                                                                                                            | <F3><br>The <CR> key represents a carriage return; press <Enter> as a substitute for <CR>. |   |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>           | <b>Description</b>                                                                 | <b>Valid Values</b> | <b>Default</b>                         |
|---------------------|--------------------------|------------------------------------------------------------------------------------|---------------------|----------------------------------------|
|                     | cfgSerialConsoleIdleTime | The maximum amount of line idle time (in seconds) before the line is disconnected. | 0x12c               | Integer from 1 to any positive number. |
|                     | cout                     | This object has read/write attributes.                                             |                     |                                        |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>            | <b>Description</b>                     | <b>Valid Values</b>                                                                                                                                                                                                                                                                                                                                                            | <b>Default</b> |
|---------------------|---------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|                     | cfgSerialConsoleShellType | This object has read/write attributes. | 1=DRAC III style VT-100 block screen interface; has limited command function compared to type 2<br>2=UNIX®-style command line data stream interface.<br>3=dial-in to UNIX-style command line data stream interface.<br>4=PPP dial-in through an external modem.<br><br>(An external modem must be attached to the external serial port. On DRAC III this is the serial cable.) | 1              |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group | Objects                 | Description                                                                                                                                                                                                     | Valid Values                                                                                                      | Default                    |
|--------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------|
|              | cfgSerialConsoleNoAuth  | Allows you to disable authentication on serial shell. This object has read/write attributes.                                                                                                                    | 0=log-in prompt is <b>Enabled</b> on the serial shell.<br><br>1=log-in prompt is <b>Disabled</b> on serial shell. | 0                          |
|              | cfgSerialConsoleCommand | The serial command runs after login at the start of a session and allows you to set up a command such as <b>connect com2</b> that autoruns when a session begins.<br><br>This object has read/write attributes. |                                                                                                                   | Empty string (no command). |
|              | cfgSerialTelnetEnable   | Enables/disables Telnet console. This object has read/write attributes.                                                                                                                                         | 0=disabled,<br>1=enabled                                                                                          | 0                          |
|              | cfgSerialConsoleColor   | Enables/disables the serial text console color when connecting using the <b>connect video</b> command. This object has read/write attributes.                                                                   | 0=monochrome,<br>1=color                                                                                          | 0                          |
|              | cfgSerialConsoleAnsi    | Enables/disables the serial text console ANSI graphics mode when connecting using the <b>connect video</b> command. This object has read/write attributes.                                                      | 0=VT100 graphics mode,<br>1=ANSI graphics mode.                                                                   | 1                          |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b>                                                  | <b>Objects</b>         | <b>Description</b>                                                                                                                                                | <b>Valid Values</b>                           | <b>Default</b> |
|----------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------|
|                                                                      | cfgSerialTelnetColor   | Enables/disables the Telnet text console color when connecting using the <b>connect video</b> command.<br><br>This object has read/write attributes.              | 0=monochrome, 1=color                         | 1              |
|                                                                      | cfgSerialTelnetAnsi    | Enables/disables the Telnet text console ANSI graphics mode when connecting using the <b>connect video</b> command.<br><br>This object has read/write attributes. | 0=VT-100 graphics mode, 1=ANSI graphics mode. | 1              |
| <b>cfgNetTuning</b>                                                  |                        |                                                                                                                                                                   |                                               |                |
| The group contains parameters to tune the RAC network configuration. | cfgNetTuningNicMtu     | The size in bytes of the maximum transmission unit used by the RAC network adapter. This object has read/write attributes.                                        | Integer from 576 to 1500.                     | 0x5dc (1500)   |
|                                                                      | cfgNetTuningIpTtl      | The maximum IP packet lifetime in seconds. This object has read/write attributes.                                                                                 | Integer from 1 to 255.                        | 0x40 (64)      |
|                                                                      | cfgNetTuningIpReassTtl | The maximum IP packet fragment reassembly time in 1/2 second units. This object has read/write attributes.                                                        | Integer from 60 to 240.                       | 0x3c (60)      |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>           | <b>Description</b>                                                                                                                                     | <b>Valid Values</b>     | <b>Default</b> |
|---------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------|
|                     | cfgNetTuningTcpSrttBase  | The smoothed round trip time-out base minimum value for TCP round trip retransmission time in 1/2 second units. This object has read/write attributes. | Integer from 0 to 256.  | 0x0 (0)        |
|                     | cfgNetTuningTcpSrttDflt  | The smoothed round trip time-out base default value for TCP retransmission round trip time in 1/2 second units. This object has read/write attributes. | Integer from 6 to 384.  | 0x6 (6)        |
|                     | cfgNetTuningTcpReXmt Min | The minimum number of TCP retransmission time in 1/2 second units. This object has read/write attributes.                                              | Integer from 0 to 1024. | 0x2 (2)        |
|                     | cfgNetTuningTcpReXmt Max | The maximum number of TCP retransmission time in 1/2 second units. This object has read/write attributes.                                              | Integer from 8 to 124.  | 0x80 (128)     |
|                     | cfgNetTuningTcpMsl       | The maximum TCP segment lifetime in 1/2 second units. This object has read/write attributes.                                                           | Integer from 60 to 240. | 0x3c (60)      |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b>                                                                         | <b>Objects</b>           | <b>Description</b>                                                                                                                                                                 | <b>Valid Values</b>                                                 | <b>Default</b>  |
|---------------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------|
| <b>cfgOobSnmpp</b>                                                                          |                          |                                                                                                                                                                                    |                                                                     |                 |
| The group contains parameters to configure the SNMP agent and trap capabilities of the RAC. | cfgOobSnmppTrapsEnable   | 0=disable, 1=enable transmission of SNMP traps.<br><br>This object has read/write attributes.                                                                                      | Boolean, either 1 or 0 (TRUE or FALSE).                             | 1               |
|                                                                                             | cfgOobSnmppAgentEnable   | 0=disable, 1=enable the RAC SNMP agent.<br><br>This object has read/write attributes.                                                                                              | Boolean, either 1 or 0 (TRUE or FALSE).                             | 0               |
| <b>cfgRacTuning</b>                                                                         |                          |                                                                                                                                                                                    |                                                                     |                 |
| The group contains various tuning configuration parameters.                                 | cfgRacTuneMnNwIpAddrBase | A base of two IP addresses used for the PPP connection to the RAC.<br><br>This object requires a RAC reset before it becomes active.<br><br>This object has read/write attributes. | A string of "." separated numeric fields containing the IP address. | 192.168.234.235 |
|                                                                                             | cfgRacTuneHostVncPort    | The fixed port number for the client connection.<br><br>This object requires a RAC reset before it becomes active.<br><br>This object has read/write attributes.                   | 5951                                                                | 5981            |
|                                                                                             | cfgRacTuneGenericFtpUser | The user name used in FTP authentication. This object has read/write attributes.                                                                                                   | A string of up to 15 ASCII characters.                              | racadm          |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>                   | <b>Description</b>                                                                                                                                                                                 | <b>Valid Values</b>                                  | <b>Default</b>                 |
|---------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|--------------------------------|
|                     | cfgRacTuneGenericFtp<br>Passwd   | The user password. This object has read/write attributes.                                                                                                                                          | A string of up to 15 ASCII characters.               | racadm                         |
|                     | cfgRacTuneRemoteCrs<br>Port      | The port connection from the browser to the firmware console redirection server. This object requires a RAC reset before it becomes active.<br><br>This object has read/write attributes.          | Integer from 5900 to any positive valid port number. | 0Validx4<br>5B86000<br>or 5900 |
|                     | cfgRacTuneFwUpdateRe<br>setDelay | The maximum number in seconds to wait between when the firmware update file is loaded and the update sequence is started.<br><br>This object has read/write attributes.                            | Integer from 0 to 600.                               | 0x46 or<br>70                  |
|                     | cfgRacTuneDialOutIdle<br>Time    | 0=infinite, otherwise, when line is idle for this many seconds, the line is disconnected. This object requires a RAC reset before it becomes active.<br><br>This object has read/write attributes. | Integer from 0 to any positive value.                | 0x28 or<br>40                  |



**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>                  | <b>Description</b>                                                                                                                                                                                                                    | <b>Valid Values</b>                     | <b>Default</b> |
|---------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------|
|                     | cfgRacTuneDialOutMaxConnectTime | 0=infinite, otherwise, maximum time in seconds that the link will stay connected before the connection is terminated.<br><br>This object requires a RAC reset before it becomes active.<br><br>This object has read/write attributes. | Integer from 1 to 128.                  | 0x0            |
|                     | cfgRacTuneD3debugEnable         | 0=disable, 1=enable the RAC debug command.<br><br>This object requires a RAC reset before it becomes active.<br><br>This object has read/write attributes.                                                                            | Boolean, either 1 or 0 (TRUE or FALSE). | 1              |
|                     | cfgRacTuneRemoteRacadmEnable    | 0=disable, 1=enable<br><br>This object requires a RAC reset before it becomes active. This object has read/write attributes.                                                                                                          | Boolean, either 1 or 0 (TRUE or FALSE). |                |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| Object Group                                                                                                     | Objects                           | Description                                                                                                                                                                                                                                                                                                                                                    | Valid Values                            | Default |
|------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------|
|                                                                                                                  | cfgRacTuneMnConsoleDisableAllowed | This command is applicable only to Microsoft® Windows® 2000 and Windows Server® 2003 operating systems. When <b>TRUE</b> , a user performing remote console redirection through the RAC Web-based remote access interface can disable the managed system's keyboard and mouse. When <b>FALSE</b> , the managed system's keyboard and mouse cannot be disabled. | Boolean, either 1 or 0 (TRUE or FALSE). | FALSE   |
|                                                                                                                  | cfgRacTuneHostCom2BaudRate        |                                                                                                                                                                                                                                                                                                                                                                | 115200, 57600, 19200, and 9600          | 57600   |
| <b>ifcRacManagedNodeOs</b>                                                                                       |                                   |                                                                                                                                                                                                                                                                                                                                                                |                                         |         |
| This group contains parameters to configure the RAC with managed system and operating system naming information. | ifcRacMnOsHostname                | The host name of the managed system. This object has read/write attributes.                                                                                                                                                                                                                                                                                    | A string of up to 255 ASCII characters. | ""      |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b>   | <b>Objects</b>               | <b>Description</b>                                                                        | <b>Valid Values</b>               | <b>Default</b> |
|-----------------------|------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------|----------------|
|                       | ifcRacMnOsOsName             | The operating system name of the managed system. This object has read/write attributes.   | A string of any ASCII characters. | ""             |
|                       | ifcRacMnOsOsType             | See the <b>getsysinfo</b> command. This object has read-only attributes.                  | Not user-writable                 | 0              |
| <b>cfgRacSecurity</b> |                              |                                                                                           |                                   |                |
|                       | cfgRacSecCapabilities        | The current RAC security capability setting. This object has read-only attributes.        | 0x1ff                             | 0x1ff          |
|                       | cfgRacSecCsrKeySize          | The Web SSL handshake RSA key size. This object has read-only attributes.                 | 512 or 1024                       | 1024           |
|                       | cfgRacSecCsrCommonName       | The certificate signing request (CSR) common name. This object has read/write attributes. | A string of any ASCII characters. | ""             |
|                       | cfgRacSecCsrOrganizationName | The CSR organization name. This object has read/write attributes.                         | A string of any ASCII characters. | ""             |
|                       | cfgRacSecCsrOrganizationUnit | The CSR organization unit. This object has read/write attributes.                         | A string of any ASCII characters. | ""             |
|                       | cfgRacSecCsrLocalityName     | The CSR locality name. This object has read/write attributes.                             | A string of any ASCII characters. | ""             |
|                       | cfgRacSecCsrStateName        | The CSR state. This object has read/write attributes.                                     | A string of any ASCII characters. | ""             |

**Table A-1. DRAC III Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>              | <b>Description</b>                                                                                                                                                                                                 | <b>Valid Values</b>                     | <b>Default</b> |
|---------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------|
|                     | cfgRacSecCsrCountryCode     | The CSR country code. This object has read/write attributes.                                                                                                                                                       | The two-letter country code.            | ""             |
|                     | cfgRacSecCsrEmailAddr       | The CSR e-mail address. This object has read/write attributes.                                                                                                                                                     | A string of any ASCII characters.       | ""             |
|                     | cfgRacSecVncInEncryptEnable | FALSE=disable, TRUE=enable<br><br>Enables VNC (virtual network computing) console redirection encryption. This object requires a RAC reset before it becomes active.<br><br>This object has read/write attributes. | Boolean, either 1 or 0 (TRUE or FALSE). | TRUE           |
|                     | cfgRacSecAuthLocalRacEnable | Enables RAC local base authentication. This object has read-only attributes                                                                                                                                        | 0x01                                    | 0x01           |
|                     | cfgRacSecAuthLocalOsEnable  | FALSE=disable, TRUE=enable<br><br>Enables RAC operating system base authentication. This object requires a RAC reset before it becomes active.<br><br>This object has read/write attributes.                       | Boolean, either 1 or 0 (TRUE or FALSE). | TRUE           |

# DRAC 4 Object Groups

Use the following syntax to configure DRAC 4 controllers:

```
racadm getconfig -g <groupName> -o <objectName>  
<Value>
```

For example, to enable the DRAC 4 NIC, type:

```
racadm config -g cfgLanNetworking -o cfgNicEnable 1
```

Table A-2 lists the object groups for DRAC 4, a brief description of the objects, and valid values for these objects.

**Table A-2. DRAC 4 Object Groups and Objects**

| Object Group | Objects              | Description                                                                                                                             | Valid Values                          | Default                  |
|--------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------|
| idRacInfo    | idRacProductInfo     | Uses a text string to identify the product. This object has read-only attributes.                                                       | String of up to 63 ASCII characters.  | DRAC 4                   |
|              | idRacDescriptionInfo | A text description of the RAC type. This object has read-only attributes.                                                               | String of up to 255 ASCII characters. | RAC                      |
|              | idRacVersionInfo     | A string containing the current firmware version of the product, where x is the current revision. This object has read-only attributes. | String of up to 63 ASCII characters.  | RAC Firmware Version x.x |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects   | Description                                                                                       | Valid Values                         | Default     |
|--------------|-----------|---------------------------------------------------------------------------------------------------|--------------------------------------|-------------|
|              | idRacName | A user assigned name to identify this controller. This object has read/write attributes.          | String of up to 15 ASCII characters. | RAC         |
|              | idRacMisc | Generic property undefined at this release. This object has read/write attributes.                | String of up to 63 ASCII characters. | Null string |
|              | idRacType | Identifies the remote access controller type as the DRAC 4. This object has read-only attributes. |                                      | 5           |

**cfgLanNetworking**

This group contains parameters to configure the DRAC 4 NIC.

|                          |                                                                                                                                                                                                            |                                                                                          |          |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------|
| cfgDNSDomainNameFromDHCP | Obtains the domain name from the DHCP server. This parameter is only valid if <b>cfgDNSRegisterRac</b> is set to 1 (TRUE).<br><br>This object has read/write attributes.                                   | Boolean, either 1 or 0 (TRUE or FALSE).                                                  | 0        |
| cfgDNSDomainName         | The DNS domain name. This parameter is only valid if <b>cfgDNSRegisterRac</b> is set to 1 (TRUE) and if <b>cfgDNSDomainNameFromDHCP</b> is set to 0 (FALSE).<br><br>This object has read/write attributes. | String of up to 254 ASCII characters. At least one of the characters must be alphabetic. | MYDOMAIN |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>        | <b>Description</b>                                                                                                                                                                               | <b>Valid Values</b>                                                                                                                                      | <b>Default</b>          |
|---------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
|                     | cfgDNSRacName         | Displays the RAC name, which is RAC- <i>service tag</i> (by default). This parameter is only valid if <b>cfgDNSRegisterRac</b> is set to 1 (TRUE).<br><br>This object has read/write attributes. | String of up to 63 ASCII characters.<br><br>Only alphanumeric characters and hyphens (-) are allowed. At least one of the characters must be alphabetic. | RAC- <i>service tag</i> |
|                     | cfgDNSRegisterRac     | Registers the DRAC 4 name on the DNS server. This object has read/write attributes.                                                                                                              | Boolean, either 1 or 0 (TRUE or FALSE).                                                                                                                  | 0                       |
|                     | cfgDNSServersFromDHCP | Retrieves DNS server addresses from the DHCP server. This object has read/write attributes.                                                                                                      | Boolean, either 1 or 0 (TRUE or FALSE).                                                                                                                  | 0                       |
|                     | cfgDNSServer1         | Retrieves the IP address for DNS server 1. This parameter is only valid if <b>cfgDNSServersFromDHCP</b> parameter is set to 0 (FALSE).<br><br>This object has read/write attributes.             | Any legal IP address.                                                                                                                                    | 192.168.0.5             |
|                     | cfgDNSServer2         | Retrieves the IP address for DNS server 2. This parameter is only valid if <b>cfgDNSServersFromDHCP</b> is set to 0 (FALSE).<br><br>This object has read/write attributes.                       | Any legal IP address including 0.0.0.0                                                                                                                   | 192.168.0.6             |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>   | <b>Description</b>                                                                                                                                                                           | <b>Valid Values</b>                                                          | <b>Default</b> |
|---------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|----------------|
|                     | cfgNicEnable     | 0=Disable.<br>1=Enable the DRAC 4 NIC.<br>This object has read/write attributes.                                                                                                             | Boolean, either 1 or 0 (TRUE or FALSE).                                      | 1              |
|                     | cfgNicIpAddress  | The IP address of the DRAC 4 NIC. This object has read/write attributes.                                                                                                                     | A string of "." separated numeric fields containing the static IP address.   | 192.168.0.120  |
|                     | cfgNicNetmask    | The network mask used by the DRAC 4 NIC. This object has read/write attributes.                                                                                                              | A string of "." separated numeric fields containing the static network mask. | 255.255.255.0  |
|                     | cfgNicGateway    | The gateway used by the DRAC 4 NIC. This object has read/write attributes.                                                                                                                   | A string of "." separated numeric fields containing the static gateway.      | 192.168.0.120  |
|                     | cfgNicUseDhcp    | 0=Use the static DRAC 4 NIC parameters described above.<br>1=Use DHCP and obtain the necessary parameters from the DHCP server for the DRAC 4 NIC.<br>This object has read/write attributes. | Boolean, either 1 or 0 (TRUE or FALSE).                                      | 0              |
|                     | cfgNicMacAddress | MAC address for the integrated NIC. This object has read-only attributes.                                                                                                                    |                                                                              |                |



**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| <b>Object Group</b>                                                         | <b>Objects</b>           | <b>Description</b>                                                                                                                                                                   | <b>Valid Values</b>                                                      | <b>Default</b> |
|-----------------------------------------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------|
| <b>cfgCurrentLanNetworking</b>                                              |                          |                                                                                                                                                                                      |                                                                          |                |
| This group contains parameters that are currently in use by the DRAC 4 NIC. | cfgNicCurrentIpAddress   | The current IP address of the DRAC 4 NIC. This object has read-only attributes.                                                                                                      | A string of "." separated numeric fields containing the IP address.      | None           |
|                                                                             | cfgNicCurrentNetmask     | The current network mask used by the DRAC 4 NIC. This object has read-only attributes.                                                                                               | A string of "." separated numeric fields containing the network mask.    | None           |
|                                                                             | cfgNicCurrentGateway     | The current gateway used by the DRAC 4 NIC. This object has read-only attributes.                                                                                                    | A string of "." separated numeric fields containing the gateway address. | None           |
|                                                                             | cfgNicCurrentDhcpWasUsed | Indicates whether or not DHCP was used to configure the NIC.<br>0 = IP address is static<br>1 = IP address was obtained from a DHCP server.<br>This object has read-only attributes. | Boolean, either 1 or 0 (TRUE or FALSE).                                  | None           |
|                                                                             | cfgDNSCurrentDomainName  | Current DNS domain name. This object has read-only attributes.                                                                                                                       |                                                                          |                |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group                                                                                                  | Objects                           | Description                                                                                                      | Valid Values                                                        | Default   |
|---------------------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------|
|                                                                                                               | cfgDNSServer1                     | Current IP address used for DNS Server 1. This object has read-only attributes.                                  |                                                                     |           |
|                                                                                                               | cfgDNSServer2                     | Current IP address used for DNS Server 2. This object has read-only attributes.                                  |                                                                     |           |
| <b>cfgRemoteHosts</b>                                                                                         |                                   |                                                                                                                  |                                                                     |           |
| The group contains parameters to configure various firmware update loading, IP addresses, enables, and so on. | cfgRhostsSMTPmailEnable           | 0=disable, 1=enable the SMTP protocol to send e-mail alerts.<br><br>This object has read/write attributes.       | Boolean, either 1 or 0 (TRUE or FALSE).                             | 1         |
|                                                                                                               | cfgRhostsSMTPServerIPAddr         | IP address of the server used in e-mail alerts.<br><br>This object has read/write attributes.                    | A string of "." separated numeric fields containing the IP address. | 127.0.0.1 |
|                                                                                                               | cfgRhostsFirmwareUpdateTFTPEnable | 0=disable, 1=enable loading the firmware update file through TFTP.<br><br>This object has read/write attributes. | Boolean, either 1 or 0 (TRUE or FALSE).                             | 1         |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>              | <b>Description</b>                                                                                                                                                                                                                      | <b>Valid Values</b>                                                    | <b>Default</b> |
|---------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------|
|                     | cfgRhostsFwUpd<br>atelpAddr | The address of the TFTP server where the firmware update image is located. This object has read/write attributes.                                                                                                                       | A string of "." separated numeric fields containing the IP address.    | 192.168.0.4    |
|                     | cfgRhostsFwUpd<br>atelpAddr | The address of the TFTP server where the firmware update image is located. This object has read/write attributes.                                                                                                                       | A string of "." separated numeric fields containing the IP address.    | 192.168.0.4    |
|                     | cfgRhostsFwUpd<br>atePath   | The path name pointing to the firmware update binary file. If this is a filename only, then the path needs to be specified in the TFTP server. Otherwise, the entire path can be specified here. This object has read/write attributes. | String of up to 255 ASCII characters that designate a valid path name. | ""             |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group                                                                                          | Objects               | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Valid Values                       | Default |
|-------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------|
| <b>cfgUserAdmin</b>                                                                                   |                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |         |
| This group contains parameters to allow configuration of users that are allowed access to the DRAC 4. | cfgUserAdminPrivilege | <p>Use the bit mask numbers below to set role-based authority privileges for a DRAC 4 user:</p> <ul style="list-style-type: none"> <li>• To log in to DRAC 4, the bit mask number is 0x80000001</li> <li>• To configure DRAC 4, the bit mask number is 0x80000002</li> <li>• To configure users, the bit mask number is 0x80000004</li> <li>• To clear logs, the bit mask number is 0x80000008</li> <li>• To execute server control commands, the bit mask number is 0x80000010</li> <li>• To access console redirection, the bit mask number is 0x80000020</li> <li>• To access virtual media, the bit mask number is 0x80000040</li> <li>• To test alerts, the bit mask number is 0x80000080</li> <li>• To execute debug commands, the bit mask number is 0x80000100</li> </ul> <p>This object has read/write attributes.</p> | 0x80000000 to 0x8000001ff, and 0x0 |         |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                   | Valid Values                         | Default  |
|--------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------|
|              | cfgUserAdminUserName            | The name of the user for this index. The user index is created by writing a string into this name field if the index is empty. Writing a "" string deletes the user at that index. You cannot change the name. You must delete and then recreate the name. The string must not contain "/" (forward slash), "\" (backslash), "." (period), "@" (at symbol) or quotations marks.<br><br>This object has read/write attributes. | String of up to 19 ASCII characters. | None     |
|              | cfgUserAdminPassword            | The password for this user. The user passwords are encrypted and cannot be seen or displayed after this property is written. This object has write-only attributes.                                                                                                                                                                                                                                                           | String of up to 20 ASCII characters. | None     |
|              | cfgUserAlertFilterRaceEventMask | See "RAC-Generated Event Mask Definitions" in the <i>Dell Remote Access Controller Racadm User's Guide</i> .<br><br>This object has read/write attributes.                                                                                                                                                                                                                                                                    | Hexadecimal values.                  | 0x777777 |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group                                                            | Objects                             | Description                                                                                                                                                | Valid Values                                                        | Default  |
|-------------------------------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------|
|                                                                         | cfgUserAdminAlertFilterSysEventMask | See "RAC-Generated Event Mask Definitions" in the <i>Dell Remote Access Controller Racadm User's Guide</i> .<br><br>This object has read/write attributes. | Hexadecimal values.                                                 | 0x777777 |
|                                                                         | cfgUserAdminEmailEnable             | 0=disable, 1=enable<br><br>This object has read/write attributes.                                                                                          | Boolean, either 1 or 0 (TRUE or FALSE).                             | 0        |
|                                                                         | cfgUserAdminEmailAddress            | Standard e-mail address, such as john_doe@mycompany.com. This object has read/write attributes.                                                            | String of up to 63 ASCII characters.                                | ""       |
|                                                                         | cfgUserAdminEmailCustomMsg          | User-defined message to be sent on an e-mail alert. This object has read/write attributes.                                                                 | String of up to 31 ASCII characters.                                | ""       |
|                                                                         | cfgUserAdminIndex                   | Index of user entry. This object has read-only attributes.                                                                                                 |                                                                     |          |
| <b>cfgTraps</b>                                                         |                                     |                                                                                                                                                            |                                                                     |          |
| This group contains parameters to configure the delivery of SNMP traps. | cfgTrapsDestIpAddr                  | IP address of an SNMP trap daemon. This object has read/write attributes.                                                                                  | A string of "." separated numeric fields containing the IP address. | ""       |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects                    | Description                                                                                                                                                | Valid Values                                                                                                 | Default  |
|--------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------|
|              | cfgTrapsEnable             | 0=disabled, 1=enabled for this indexed entry. This object has read/write attributes.                                                                       | Boolean, either 1 or 0 (TRUE or FALSE).                                                                      | 1        |
|              | cfgTrapsSnmpCommunity      | An SNMP community name. This object has read/write attributes.                                                                                             | String of up to 31 ASCII characters.                                                                         | ""       |
|              | cfgTrapsFilterRacEventMask | See "RAC-Generated Event Mask Definitions" in the <i>Dell Remote Access Controller Racadm User's Guide</i> .<br><br>This object has read/write attributes. | Hexadecimal values.                                                                                          | 0x300000 |
|              | cfgTrapsFilterSysEventMask | See "RAC-Generated Event Mask Definitions" in the <i>Dell Remote Access Controller Racadm User's Guide</i> .<br><br>This object has read/write attributes. | Hexadecimal values.                                                                                          | 0x777777 |
|              | cfgTrapsIndex              | Index of the trap entry. This object has read-only attributes.                                                                                             | See "RAC-Generated Event Mask Definitions" in the <i>Dell Remote Access Controller Racadm User's Guide</i> . | 0x77777  |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group                                                                                       | Objects                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                      | Valid Values                                                    | Default                   |
|----------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------|
| <b>cfgSessionManagement</b>                                                                        |                               |                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                 |                           |
| This group contains parameters to configure the number of sessions that can connect to the DRAC 4. | cfgSsnMgtMaxSessions          | The maximum number of simultaneous sessions that are allowed at one time from the DRAC 4 Web-based remote access interface.<br><br>This object has read/write attributes.                                                                                                                                                                                                                                                        | 0x1, 0x2, 0x3, 0x4                                              | 0x4                       |
|                                                                                                    | cfgSsnMgtMaxSessionsPerUser   | The maximum number of simultaneous sessions allowed per user.<br><br>This object has read/write attributes.                                                                                                                                                                                                                                                                                                                      | 0x1 through 0x4                                                 | 0x4                       |
|                                                                                                    | cfgSsnMgtSshTelnetIdleTimeout | Defines the Secure Shell (SSH) idle time-out. This property sets the amount of time in seconds that a connection is allowed to remain idle (there is no user input). The session is cancelled if the time limit set by this property is reached. Changes to this setting do not affect the current session (you must log out and log in again to make the new settings effective).<br><br>This object has read/write attributes. | 0x0 through 0x780 seconds (0-32 minutes)<br><br>0 = No time-out | 0x12C seconds (5 minutes) |



**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group                                                                      | Objects                  | Description                                                                                                                                                                                                                                                                                         | Valid Values                                                                                     | Default                    |
|-----------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------|
| <b>cfgSerial</b>                                                                  |                          |                                                                                                                                                                                                                                                                                                     |                                                                                                  |                            |
| This group contains configuration parameters for the system external serial port. | cfgSerialBaudRate        | <p>Sets the baud rate on the external serial port. (Type decimal values).</p> <p>To modify this property, you must have <b>Configure DRAC 4</b> permission. For best results redirecting BIOS System Setup screens, Dell recommends using 115200.</p> <p>This object has read/write attributes.</p> | 9600, 28800, 57600, 115200                                                                       | 115200                     |
|                                                                                   | cfgSerialConsole Enable  | <p>0=disabled, 1=enabled</p> <p>Enables the serial port and terminal interface. To modify this property, you must have <b>Configure DRAC 4</b> permission.</p> <p>This object has read/write attributes.</p>                                                                                        | Boolean, either 1 or 0 (TRUE or FALSE).                                                          | 0                          |
|                                                                                   | cfgSerialConsole QuitKey | <p>This key sequence terminates text console redirection when using VT-100.</p> <p>This object has read/write attributes.</p>                                                                                                                                                                       | <p>A string of 3 or fewer characters. Terminates text console redirection when using VT-100.</p> | <CR><~><.> key combination |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects                         | Description                                                                                                                                                                             | Valid Values                                                                                                                                  | Default |
|--------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------|
|              | cfgSerialConsole<br>IdleTimeout | The maximum amount of line idle time (in seconds) before the line is disconnected. (Type hexadecimal values.) This object has read/write attributes.                                    | Integer from 1 to any positive number.                                                                                                        | 0x12c   |
|              | cfgSerialConsole<br>ShellType   | Sets the serial console shell type. (Type hexadecimal values.)<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. | 1 = VT100 block screen interface, has limited command function compared to type 2.<br><br>2 = UNIX®-style command line data stream interface. | 2       |
|              | cfgSerialConsole<br>NoAuth      | Allows you to disable authentication on serial shell.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.          | 0=log-in prompt is <b>Enabled</b> on the serial shell.<br><br>1=log-in prompt is <b>Disabled</b> on serial shell.                             | 0       |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>           | <b>Description</b>                                                                                                                                                                                                                                                                                | <b>Valid Values</b>                                                                                                                          | <b>Default</b>            |
|---------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
|                     | cfgSerialConsole Command | <p>The serial command runs after login at the start of a session and allows you to set up a command such as <b>connect com2</b> that autoruns when a session begins.</p> <p>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.</p> | connect com2                                                                                                                                 | Empty string (no command) |
|                     | cfgSerialHistory Size    | <p>Sets the size of the serial history buffer.</p> <p>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.</p>                                                                                                                       | Any integer less than or equal to 8192. (If a value larger than 8192 is supplied, no error is returned and the history size is set to 8192.) | 8192 characters           |
|                     | cfgSerialSshEnable       | <p>Enables/disables secure shell on the DRAC 4.</p> <p>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.</p>                                                                                                                      | 0=disabled, 1=enabled                                                                                                                        | 1=enabled                 |
|                     | cfgSerialTelnetEnable    | <p>Enables/disables Telnet console. To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.</p>                                                                                                                                         | 0=disabled, 1=enabled                                                                                                                        | 0=Telnet disabled         |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects                          | Description                                                                                                                                                                                                                                                                                                                                                | Valid Values             | Default                      |
|--------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------------|
|              | cfgSerialCom2Re<br>dirEnable     | Enables/disables the console through the COM 2 port.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.                                                                                                                                                                              | 0=Disabled,<br>1=Enabled | 1=COM 2<br>(console enabled) |
|              | cfgSerialTelnet7fls<br>Backspace | When enabled, the DRAC 4 will interpret 0x7f characters as backspaces from a telnet session. Some telnet clients send 0x7f characters when you press <Backspace>. Normally, when you press <Backspace>, 0x08 characters are sent.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. | 0=Disabled,<br>1=Enabled | 0                            |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| <b>Object Group</b>                                                     | <b>Objects</b>            | <b>Description</b>                                                                                                                                                                                                                                                                                                              | <b>Valid Values</b> | <b>Default</b> |
|-------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------|
| <b>cfgNetTuning</b>                                                     |                           |                                                                                                                                                                                                                                                                                                                                 |                     |                |
| The group contains parameters to tune the DRAC 4 network configuration. | cfgNetTuningNicAutoneg    | Enables autonegotiation of physical link speed and duplex. If enabled, autonegotiation takes priority over values set in the <b>cfgNetTuningNic100MB</b> and <b>cfgNetTuningNicFullDuplex</b> objects.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. | 1 or 0              | 1              |
|                                                                         | cfgNetTuningNic100MB      | Sets the DRAC 4 link speed to 100 Mbit (1) or 10 Mbit (0).<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.                                                                                                                                             | 1 or 0              | 1              |
|                                                                         | cfgNetTuningNicFullDuplex | Sets the duplex to full duplex(1) or half duplex (0).<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.                                                                                                                                                  | 1 or 0              | 1              |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| <b>Object Group</b> | <b>Objects</b>         | <b>Description</b>                                                                                                                                                                                                                    | <b>Valid Values</b>      | <b>Default</b> |
|---------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------|
|                     | cfgNetTuningNicMtu     | <p>The size in bytes of the maximum transmission unit used by the DRAC 4 NIC. (Type hexadecimal values.)</p> <p>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.</p> | Integer from 576 to 1500 | 0x5dc (1500)   |
|                     | cfgNetTuningIpTtl      | <p>The maximum IP packet lifetime in seconds. (Type hexadecimal values.)</p> <p>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.</p>                                 | Integer from 1 to 255    | 0x40 (64)      |
|                     | cfgNetTuningIpReassTtl | <p>The maximum IP packet fragment reassembly time in 1/2 second units. (Type hexadecimal values.)</p> <p>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.</p>        | Integer from 60 to 240   | 0x3c (60)      |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects                     | Description                                                                                                                                                                                                                                                         | Valid Values           | Default |
|--------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------|
|              | cfgNetTuningTcp<br>SrttBase | The smoothed round trip time-out base minimum value for TCP round trip retransmission time in 1/2 second units. (Type hexadecimal values.)<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. | Integer from 0 to 256  | 0x0 (0) |
|              | cfgNetTuningTcp<br>SrttDflt | The smoothed round trip time-out base default value for TCP retransmission round trip time in 1/2 second units. (Type hexadecimal values.)<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. | Integer from 6 to 384  | 0x6 (6) |
|              | cfgNetTuningTcp<br>ReXmtMin | The minimum number of TCP retransmission time in 1/2 second units. (Type hexadecimal values.)<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.                                              | Integer from 2 to 1024 | 0x2 (2) |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects                           | Description                                                                                                                                                                                                                   | Valid Values           | Default    |
|--------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------|
|              | cfgNetTuningTcp<br>ReXmtMax       | <p>The maximum number of TCP retransmission time in 1/2 second units. (Type hexadecimal values.)</p> <p>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.</p> | Integer from 8 to 1024 | 0x80 (128) |
|              | cfgNetTuningTcp<br>Msl            | <p>The maximum TCP segment lifetime in 1/2 second units. (Type hexadecimal values.)</p> <p>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.</p>              | Integer from 60 to 240 | 0x3c (60)  |
|              | cfgNetTuningIp<br>SubnetsAreLocal | <p>Packets addressed to subnets of the local net do not go to the gateway.</p> <p>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.</p>                       | 1 or 0                 | 1          |



**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group                                                                                   | Objects                   | Description                                                                                                                                                              | Valid Values                            | Default |
|------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------|
| <b>cfgOobSnmpp</b>                                                                             |                           |                                                                                                                                                                          |                                         |         |
| The group contains parameters to configure the SNMP agent and trap capabilities of the DRAC 4. | cfgOobSnmppAgentCommunity | Use this to modify the SNMP Community Name.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.     | A string of up to 31 ASCII characters.  | public  |
|                                                                                                | cfgOobSnmppTrapsEnable    | 0=disable, 1=enable transmission of SNMP traps.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. | Boolean, either 1 or 0 (TRUE or FALSE). | 1       |
|                                                                                                | cfgOobSnmppAgentEnable    | 0=disable, 1=enable the DRAC 4 SNMP agent.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.      | Boolean, either 1 or 0 (TRUE or FALSE). | 0       |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group                                                | Objects             | Description                                                                                                                                                                                               | Valid Values | Default |
|-------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------|
| <b>cfgRacTuning</b>                                         |                     |                                                                                                                                                                                                           |              |         |
| The group contains various tuning configuration parameters. | cfgRacTuneHttpPort  | Use this property to configure the DRAC 4 HTTP port. (Type hexadecimal values.)<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.  | 0 – 65535    | 80      |
|                                                             | cfgRacTuneHttpsPort | Use this property to configure the DRAC 4 HTTPS port. (Type hexadecimal values.)<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. | 0 – 65535    | 443     |
|                                                             | cfgRacTuneSshPort   | Use this property to configure the DRAC 4 SSH port. (Type hexadecimal values.)<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.   | 0 – 65535    | 22      |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects                            | Description                                                                                                                                                                                                                                        | Valid Values                            | Default    |
|--------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------|
|              | cfgRacTuneTelnetPort               | Use this property to configure the DRAC 4 telnet port. (Type hexadecimal values.)<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.                                         | 0 – 65535                               | 23         |
|              | cfgRacTuneFirmwareUpdateResetDelay | The maximum number in seconds to wait between when the firmware update file is loaded and the update sequence is started.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. | Integer from 0 to 600                   | 0x46 or 70 |
|              | cfgRacTuneDebugEnable              | 0=disable, 1=enable the DRAC 4 debug command.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.                                                                             | Boolean, either 1 or 0 (TRUE or FALSE). | 1          |
|              | cfgRacTuneRemoteRacadmEnable       | 0=disable, 1=enable<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.                                                                                                       | Boolean, either 1 or 0 (TRUE or FALSE). | 1          |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects                        | Description                                                                                                                                                                                                                                                                                                                                                                                                            | Valid Values                         | Default          |
|--------------|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------|
|              | cfgRacTuneHost<br>Com2BaudRate | To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.<br><br>For best results when redirecting BIOS System Setup screens, Dell recommends setting this baud rate to 57600.                                                                                                                                                                                 | 115200,<br>57600, 19200,<br>and 9600 | 57600            |
|              | cfgRacTuneCon<br>RedirPort     | Determines the port used during vKVM sessions with the <b>Console Redirection</b> window. After changing this property, the RAC must be reset prior to opening any new Console Redirection sessions. (Type hexadecimal values.)<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. This object requires a DRAC 4 reset before it becomes active. | 0-65535                              | 5900<br>(0x170c) |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group                                                                                                        | Objects                    | Description                                                                                                                                                                | Valid Values                          | Default |
|---------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------|
| <b>ifcRacManagedNodeOs</b>                                                                                          |                            |                                                                                                                                                                            |                                       |         |
| This group contains parameters to configure the DRAC 4 with managed system and operating system naming information. | ifcRacMnOsHost<br>name     | The host name of the managed system.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.              | String of up to 255 ASCII characters. | ""      |
|                                                                                                                     | ifcRacMnOsOsNa<br>me       | The operating system name of the managed system. To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.         | String of ASCII characters.           | ""      |
|                                                                                                                     | ifcRacMnOsOsTy<br>pe       | Manage system operating system type. This object has read-only attributes.                                                                                                 | Not user-writable.                    | 0       |
| <b>cfgRacSecurity</b>                                                                                               |                            |                                                                                                                                                                            |                                       |         |
| This group contains parameters to configure the DRAC 4 SSL (Secure Socket Layer) security features.                 | cfgRacSecCsrCo<br>mmonName | The CSR (certificate signing request) common name.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read-only attributes. | String of ASCII characters.           | ""      |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects                      | Description                                                                                                                                  | Valid Values                 | Default |
|--------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------|
|              | cfgRacSecCsrOrganizationName | The CSR organization name. To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. | String of ASCII characters.  | ""      |
|              | cfgRacSecCsrOrganizationUnit | The CSR organization unit. To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. | String of ASCII characters.  | ""      |
|              | cfgRacSecCsrLocalityName     | The CSR locality name. To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.     | String of ASCII characters.  | ""      |
|              | cfgRacSecCsrStateName        | The CSR state. To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.             | String of ASCII characters.  | ""      |
|              | cfgRacSecCsrCountryCode      | The CSR country code. To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.      | The two-letter country code. | ""      |
|              | cfgRacSecCsrEmailAddr        | The CSR e-mail address. To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.    | String of ASCII characters.  | ""      |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects             | Description                                                                                                                                                                  | Valid Values      | Default |
|--------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|
|              | cfgRacSecCsrKeySize | DRAC 4 SSL asymmetric key size. (Type hexadecimal values.) To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. | Positive integers | 0x400   |

**cfgRacVirtual**

This group contains parameters to configure the DRAC 4 Virtual Media feature.

cfgFloppyEmulation

0 (False) is the default setting, causing the DRAC 4 IDE Option ROM utility to display DELL VIRTUALS-120 instead of VIRTUALFLOPPY DRIVE. Operating systems, such as Microsoft Windows, assign drive letters A or B to the RAC Virtual Floppy drive and configure the drive as a floppy drive. The RAC Virtual CD is required to assign drive letters D and higher.  
  
To modify this property, you must have **Configure DRAC 4** permission. This object has read/write attributes.

1 or 0 (True or False)

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Valid Values                    | Default     |
|--------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------|
|              | cfgVirMediaDisable | <p>0 (Enabled) enables the Dell Virtual floppy on the next system restart.</p> <p>1 (Disabled) disables the Dell Virtual floppy and CD-ROM on the next system restart. After restart:</p> <ul style="list-style-type: none"> <li>• The operating system cannot access the drives.</li> <li>• The virtual devices do not appear in the BIOS Setup screen.</li> </ul> <p>The DRAC 4 IDE Option ROM utility displays the following messages when this feature is disabled:</p> <pre>Drive Number: 0 failed to detect Virtual device  Drive Number: 1 failed to detect Virtual device</pre> <p>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.</p> <p>You must restart your system to enable all changes.</p> | 1 or 0<br>(Disabled or Enabled) | 0 (Enabled) |



**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group                                                                     | Objects            | Description                                                                                                                                                                                               | Valid Values                                                                        | Default                               |
|----------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------|
|                                                                                  | cfgVirAtapiSrvPort | Sets the port number or virtual media connection. (Type hexadecimal values).<br><br>To modify this property, you must have <b>Access Virtual Media</b> permission. This object has read/write attributes. | Any unused port number between 0 and 65535 decimal.                                 | 0E54 in hexadecimal( 3668 in decimal) |
| <b>cfgActiveDirectory</b>                                                        |                    |                                                                                                                                                                                                           |                                                                                     |                                       |
| This group contains parameters to configure the DRAC 4 Active Directory feature. | cfgADRadDomain     | Active Directory Domain in which the DRAC resides.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.                               | Any printable text string with no white space. Length is limited to 254 characters. | (blank)                               |
|                                                                                  | cfgADRadName       | Name of DRAC as recorded in the Active Directory forest.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.                         | Any printable text string with no white space. Length is limited to 254 characters. | (blank)                               |

**Table A-2. DRAC 4 Object Groups and Objects (continued)**

| Object Group | Objects          | Description                                                                                                                                                                                                                                 | Valid Values                                                                        | Default            |
|--------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------|
|              | cfgADEnable      | 1 (True) allows Active Directory authentication to take place. 0 (False) enables local DRAC 4 authentication only.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes. | 1 or 0 (True or False)                                                              | 0                  |
|              | cfgADAuthTimeout | Time in seconds to wait for Active Directory queries to complete. (Type hexadecimal values.)<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.                       | Integer greater than 15                                                             | 0x78 (120 seconds) |
|              | cfgADRootDomain  | Root domain of the Domain Forest.<br><br>To modify this property, you must have <b>Configure DRAC 4</b> permission. This object has read/write attributes.                                                                                  | Any printable text string with no white space. Length is limited to 254 characters. | (blank)            |

## DRAC 5 Object Groups

Use the following syntax to configure DRAC 5 controllers:

```
racadm getconfig -g <groupName> -o <objectName> <Value>
```

For example, to enable the virtual media key feature of DRAC 5, type:

```
racadm config -g cfgRacVirtual -o cfgVirMediaKeyEnable 1
```

Table A-2 lists the object groups for DRAC 5, a brief description of the objects, and valid values for these objects.

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b>                                                                                            | <b>Objects</b>       | <b>Description</b>                                                                              | <b>Valid Values</b>                   | <b>Default</b>                                                                                             |
|----------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>idRacInfo</b>                                                                                               |                      |                                                                                                 |                                       |                                                                                                            |
| This group contains display parameters to provide information about the specifics of the DRAC 5 being queried. | idRacProductInfo     | Uses a text string to identify the product.<br><br>This object has read-only attributes.        | String of up to 63 ASCII characters.  | "Dell Remote Access Controller 5"                                                                          |
|                                                                                                                | idRacDescriptionInfo | A text description of the RAC type. This object has read-only attributes.                       | String of up to 255 ASCII characters. | "This system component provides a complete set of remote management functions for Dell PowerEdge servers." |
|                                                                                                                | idRacVersionInfo     | A string containing the current product firmware version. This object has read-only attributes. | String of up to 63 ASCII characters.  | "1.0"                                                                                                      |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b> | <b>Description</b>                                                                                | <b>Valid Values</b>                  | <b>Default</b>                                                   |
|---------------------|----------------|---------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------------------------------------|
|                     | idRacBuildInfo | A string containing the current product build version. This object has read-only attributes.      | String of up to 16 ASCII characters. | The current RAC firmware build version. For example, "05.12.06". |
|                     | idRacName      | A user assigned name to identify this controller. This object has read-only attributes.           | String of up to 15 ASCII characters. | DRAC 5                                                           |
|                     | idRacType      | Identifies the remote access controller type as the DRAC 5. This object has read-only attributes. |                                      | 6                                                                |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                | Objects                  | Description                                                                                                                                                                                                                                                                                                                                    | Valid Values                                                                                                                                                    | Default         |
|-------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>cfgLanNetworking</b>                                     |                          |                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                 |                 |
| This group contains parameters to configure the DRAC 5 NIC. | cfgDNSDomainNameFromDHCP | Specifies that the RAC DNS Domain Name should be assigned from the network DHCP server.<br><br>This object has read/write attributes.                                                                                                                                                                                                          | 1 (TRUE)<br>0 (FALSE)                                                                                                                                           | 1               |
|                                                             | cfgDNSDomainName         | The DNS domain name. This parameter is only valid if <b>cfgDNSDomainNameFromDHCP</b> is set to 0 (FALSE).<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.<br><br>Microsoft® Active Directory® only supports Fully Qualified Domain Names (FQDN) of 64 bytes or fewer. | String of up to 254 ASCII characters. At least one of the characters must be alphabetic. Characters are restricted to alphanumeric, '-' and '.'.                | ""              |
|                                                             | cfgDNSRacName            | Displays the RAC name, which is rac-service tag (by default). This parameter is only valid if <b>cfgDNSRegisterRac</b> is set to 1 (TRUE).<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                            | String of up to 254 ASCII characters. At least one of the characters must be alphabetic.<br><br>Some DNS servers only register names of 31 characters or fewer. | rac-service tag |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group | Objects               | Description                                                                                                                                                                                                                                                                                                                                                 | Valid Values                                                           | Default |
|--------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|---------|
|              | cfgDNSRegisterRac     | Registers the DRAC 5 name on the DNS server.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                                                                                                                                       | 1 (TRUE)<br>0 (FALSE)                                                  | 0       |
|              | cfgDNSServersFromDHCP | Specifies that the DNS server IP addresses should be assigned from the DHCP server on the network.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                                                                                 | 1 (TRUE)<br>0 (FALSE)                                                  | 0       |
|              | cfgDNSServer1         | Specifies the IP address for DNS server 1. This property is only valid if <b>cfgDNSServersFromDHCP</b> is set to 0 (FALSE). <b>cfgDNSServer1</b> and <b>cfgDNSServer2</b> may be set to identical values while swapping addresses.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | A string representing a valid IP address. For example: "192.168.0.20". |         |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b> | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                  | <b>Valid Values</b>                                                    | <b>Default</b> |
|---------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------|
|                     | cfgDNSServer2  | Retrieves the IP address for DNS server 2. This property is only valid if <b>cfgDNSServersFromDHC P</b> is set to 0 (FALSE). <b>cfgDNSServer1</b> and <b>cfgDNSServer2</b> may be set to identical values while swapping addresses.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.        | A string representing a valid IP address. For example: "192.168.0.20". | 0.0.0.0        |
|                     | cfgNicEnable   | Enables or disables the RAC network interface controller. If the NIC is disabled, the remote network interfaces to the RAC will no longer be accessible, and the RAC will only be available through the serial or local RACADM interfaces.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 1 (TRUE)<br>0 (FALSE)                                                  | 0              |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group | Objects         | Description                                                                                                                                                                                                                                                                                                                                                                      | Valid Values                                                                    | Default              |
|--------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------|
|              | cfgNicIpAddress | <p>Specifies the static IP address to assign to the RAC. This property is only valid if <b>cfgNicUseDhcp</b> is set to 0 (FALSE).</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> <p>This parameter is only configurable if the <b>cfgNicUseDhcp</b> parameter is set to 0 (FALSE).</p>             | <p>A string representing a valid IP address. For example: "192.168.0.20".</p>   | <p>192.168.0.120</p> |
|              | cfgNicNetmask   | <p>The subnet mask used for static assignment of the RAC IP address. This property is only valid if <b>cfgNicUseDhcp</b> is set to 0 (FALSE).</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> <p>This parameter is only configurable if the <b>cfgNicUseDhcp</b> parameter is set to 0 (FALSE).</p> | <p>A string representing a valid subnet mask. For example: "255.255.255.0".</p> | <p>255.255.255.0</p> |



**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b> | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                      | <b>Valid Values</b>                                                   | <b>Default</b> |
|---------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------------|
|                     | cfgNicGateway  | <p>The gateway IP address used for static assignment of the RAC IP address. This property is only valid if <b>cfgNicUseDhcp</b> is set to 0 (FALSE).</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> <p>This parameter is only configurable if the <b>cfgNicUseDhcp</b> parameter is set to 0 (FALSE).</p> | A string representing a valid IP address. For example: "192.168.0.1". | 192.168.0.1    |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group | Objects         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Valid Values                                            | Default |
|--------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------|
|              | cfgNicUseDhcp   | Specifies whether DHCP is used to assign the RAC IP address. If this property is set to 1 (TRUE), then the RAC IP address, subnet mask, and gateway are assigned from the DHCP server on the network. If this property is set to 0 (FALSE), the static IP address, subnet mask, and gateway is assigned from the <b>cfgNicIpAddress</b> , <b>cfgNicNetmask</b> , and <b>cfgNicGateway</b> properties.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.<br><br>If you are updating your system remotely, use the <b>setniccfg</b> command. | 1 (TRUE)<br>0 (FALSE)                                   | 0       |
|              | cfgNicSelection | Specifies the current mode of operation for the RAC network interface controller (NIC). For details about the supported modes, see the <i>Dell Remote Access Controller 5 Firmware Version 1.30 User's Guide</i> .<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                                                                                                                                                                                                                       | 0 (shared)<br>1 (shared with failover)<br>2 (dedicated) | 2       |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>   | <b>Description</b>                                                                                                                                                                                                                                               | <b>Valid Values</b>                            | <b>Default</b>                                                            |
|---------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------|
|                     | cfgNicMacAddress | The RAC NIC MAC address. This object has read-only attributes.                                                                                                                                                                                                   | A string representing the RAC NIC MAC address. | The current MAC address of the RAC NIC. For example, "00:12:67:52:51:A3". |
|                     | cfgNicVlanEnable | Enables or disables the VLAN capabilities of the RAC/BMC.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                               | 1 (TRUE)<br>0 (FALSE)                          | 0                                                                         |
|                     | cfgNicVlanId     | Specifies the VLAN ID for the network VLAN configuration. This property is only valid if <b>cfgNicVlanEnable</b> is set to 1 (enabled).<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 0-4094                                         | 0                                                                         |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                                                                                                                                             | Objects                     | Description                                                                                                                                                                                                                                                            | Valid Values                                                                     | Default |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------|
|                                                                                                                                                                                          | cfgNicVlanPriority          | Specifies the VLAN Priority for the network VLAN configuration. This property is only valid if <b>cfgNicVlanEnable</b> is set to 1 (enabled).<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 0-7                                                                              | 0       |
| <b>cfgRemoteHosts</b>                                                                                                                                                                    |                             |                                                                                                                                                                                                                                                                        |                                                                                  |         |
| This group provides properties that allow configuration of various remote components, which include the SMTP server for e-mail alerts and TFTP server IP addresses for firmware updates. | cfgRhostsSmtPServerIpAddr   | The IP address of the network SMTP server. The SMTP server transmits e-mail alerts from the RAC if the alerts are configured and enabled.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.     | A string representing a valid SMTP server IP address. For example, 192.168.0.55. | 0.0.0.0 |
|                                                                                                                                                                                          | cfgRhostsFwUpdateTftpEnable | Enables or disables the RAC firmware update from a network TFTP server..<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                      | 1 (TRUE)<br>0 (FALSE)                                                            | 0       |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>        | <b>Description</b>                                                                                                                                                                                                                                                                                                                                           | <b>Valid Values</b>                                                              | <b>Default</b> |
|---------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------|
|                     | cfgRhostsFwUpdateAddr | Specifies the network TFTP server IP address that is used for TFTP RAC firmware update operations.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                                                                                  | A string representing a valid TFTP server IP address. For example, 192.168.0.61. | 0.0.0.0        |
|                     | cfgRhostsFwUpdatePath | Specifies TFTP path where the RAC firmware image file exists on the TFTP server. The TFTP path is relative to the TFTP root path on the TFTP server.<br><br>The server may still require you to specify the drive (for example, C).<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | String.<br>Maximum length = 255.                                                 | ""             |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                                                                                             | Objects                         | Description                                                                                                                                                               | Valid Values                                                       | Default                       |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------|
| <b>cfgUserAdmin</b>                                                                                                                      |                                 |                                                                                                                                                                           |                                                                    |                               |
| This group provides configuration information about the users who are allowed to access the RAC through the available remote interfaces. | cfgUserAdminIpmiLanPrivilege    | The maximum privilege on the IPMI LAN channel.<br><br>To modify this property, you must have <b>Configure Users</b> permission. This object has read/write attributes.    | 2 (User)<br>3 (Operator)<br>4<br>(Administrator)<br>15 (No access) | 4 (User 2)<br>15 (All others) |
|                                                                                                                                          | cfgUserAdminIpmiSerialPrivilege | The maximum privilege on the IPMI serial channel.<br><br>To modify this property, you must have <b>Configure Users</b> permission. This object has read/write attributes. | 2 (User)<br>3 (Operator)<br>4<br>(Administrator)<br>15 (No access) | 4 (User 2)<br>15 (All others) |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>            | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Valid Values</b>             | <b>Default</b> |
|---------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------|
|                     | cfgUserAdmin<br>Privilege | <p>This property specifies the allowed role-based authority privileges allowed for the user. The value is represented as a bitmask that allows for any combination of privilege values.</p> <p>For details about the bit masks for user privileges, see the <i>Dell Remote Access Controller 5 Firmware Version 1.30 User's Guide</i>.</p> <p>To modify this property, you must have <b>Configure Users</b> permission. This object has read/write attributes.</p> | 0x0000000 to 0x00001ff, and 0x0 | 0x0000000      |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group | Objects                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Valid Values                                  | Default |
|--------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------|
|              | cfgUserAdmin<br>UserName | <p>The name of the user for this index. The user index is created by writing a string into this name field if the index is empty. Writing a string of double quotes ("" ) deletes the user at that index. You cannot change the name. You must delete and then recreate the name. The string must not contain "/" (forward slash, "\" (backslash), "." (period), "@" ("at" symbol) or quotations marks.</p> <p>This property value MUST be unique from other user instances.</p> <p>To modify this property, you must have <b>Configure Users</b> permission. This object has read/write attributes.</p> | <p>String.<br/>Maximum length = 16.</p>       | ""      |
|              | cfgUserAdmin<br>Password | <p>The password for this user. The user passwords are encrypted and cannot be seen or displayed after this property is written.</p> <p>To modify this property, you must have <b>Configure Users</b> permission. This object has write-only attributes.</p>                                                                                                                                                                                                                                                                                                                                              | <p>A string of up to 20 ASCII characters.</p> | ""      |



**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b>                                                               | <b>Objects</b>            | <b>Description</b>                                                                                                                      | <b>Valid Values</b>                                                  | <b>Default</b>                                               |
|-----------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------|
|                                                                                   | cfgUserAdmin<br>Enable    | Enables or disables an individual user.<br><br>To modify this property, you must have <b>Configure Users</b> permission.                | 1 (TRUE)<br>0 (FALSE)                                                | 0                                                            |
|                                                                                   | cfgUserAdmin<br>SolEnable | Enables or disables Serial Over LAN (SOL) user access.<br><br>To modify this property, you must have <b>Configure Users</b> permission. | 1 (TRUE)<br>0 (FALSE)                                                | 0                                                            |
| <b>cfgEmailAlert</b>                                                              |                           |                                                                                                                                         |                                                                      |                                                              |
| This group contains parameters to configure the RAC e-mail alerting capabilities. | cfgEmailAlert<br>Index    | The unique index of an alert instance. This object has read-only attributes.                                                            | 1-4                                                                  | This parameter is populated based on the existing instances. |
|                                                                                   | cfgEmailAlert<br>Enable   | Specifies the destination e-mail address for e-mail alerts. For example, user1@company.com. This object has read-write attributes.      | 1 (TRUE)<br>0 (FALSE)                                                | 0                                                            |
|                                                                                   | cfgEmailAlert<br>Address  | The e-mail address of the alert source. This object has read-only attributes.                                                           | E-mail address format, with a maximum length of 64 ASCII characters. | ""                                                           |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                                                       | Objects                       | Description                                                                                                                                                                                                                                                                                                  | Valid Values                       | Default |
|----------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------|
|                                                                                                    | cfgEmailAlert<br>CustomMsg    | Specifies a custom message that is sent with the alert. This object has read-only attributes.                                                                                                                                                                                                                | String.<br>Maximum<br>Length = 32. | ""      |
| <b>cfgSessionManagement</b>                                                                        |                               |                                                                                                                                                                                                                                                                                                              |                                    |         |
| This group contains parameters to configure the number of sessions that can connect to the DRAC 5. | cfgSsnMgtConsRedirMaxSessions | Specifies the maximum number of console redirection sessions allowed on the RAC. This object has read/write attributes.                                                                                                                                                                                      | 1-2                                | 2       |
|                                                                                                    | cfgSsnMgtRacadmTimeout        | Defines the idle time-out in seconds for the Remote RACADM interface. If a remote RACADM session remains inactive for more than the specified sessions, the session will be closed.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 10-1920                            | 30      |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>            | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Valid Values</b> | <b>Default</b> |
|---------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------|
|                     | cfgSsnMgtWebserverTimeout | <p>Defines the Web server time-out. This property sets the amount of time in seconds that a connection is allowed to remain idle (there is no user input). The session is cancelled if the time limit set by this property is reached. Changes to this setting do not affect the current session (you must log out and log in again to make the new settings effective).</p> <p>An expired Web server session logs out the current session.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> | 60-1920             | 300            |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>              | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Valid Values</b>          | <b>Default</b> |
|---------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------|
|                     | cfgSsnMgtSs<br>hIdleTimeout | <p>Defines the Secure Shell idle time-out. This property sets the amount of time in seconds that a connection is allowed to remain idle (there is no user input). The session is cancelled if the time limit set by this property is reached. Changes to this setting do not affect the current session (you must log out and log in again to make the new settings effective).</p> <p>An expired Secure Shell session displays the following error message only after you press &lt;Enter&gt;:</p> <p><b>Warning: Session no longer valid, may have timed out</b></p> <p>After the message appears, the system returns you to the shell that generated the Secure Shell session.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> | 0 (No time-out)<br>60 – 1920 | 300            |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>         | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Valid Values</b>         | <b>Default</b> |
|---------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------|
|                     | cfgSsnMgtTelnetTimeout | <p>Defines the Telnet idle time-out. This property sets the amount of time in seconds that a connection is allowed to remain idle (there is no user input). The session is cancelled if the time limit set by this property is reached. Changes to this setting do not affect the current session (you must log out and log in again to make the new settings effective).</p> <p>An expired Telnet session displays the following error message only after you press &lt;Enter&gt;:</p> <p><b>Warning: Session no longer valid, may have timed out</b></p> <p>After the message appears, the system returns you to the shell that generated the Telnet session.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> | 0 (No timeout)<br>60 – 1920 | 0              |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b>                                                      | <b>Objects</b>         | <b>Description</b>                                                                                                                                                             | <b>Valid Values</b>        | <b>Default</b> |
|--------------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------|
| <b>cfgSerial</b>                                                         |                        |                                                                                                                                                                                |                            |                |
| This group contains configuration parameters for the DRAC 5 serial port. | cfgSerialBaudRate      | Sets the baud rate on the DRAC 5 serial port.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.         | 9600, 28800, 57600, 115200 | 57600          |
|                                                                          | cfgSerialConsoleEnable | Enables or disables the RAC serial console interface.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 1 (TRUE)<br>0 (FALSE)      | 0              |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group | Objects                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Valid Values                    | Default                                          |
|--------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------------------------------------------|
|              | cfgSerialConsoleQuitKey | <p>This key or key combination terminates text console redirection when using the <b>connect com2</b> command. The <b>cfgSerialConsoleQuitKey</b> value can be represented by one of the following:</p> <p>Decimal value — For example: "95"</p> <p>Hexidecimal value — For example: "0x12"</p> <p>Octal value — For example: "007"</p> <p>ASCII value — For example: "^a"</p> <p>ASCII values may be represented using the following Escape Key codes:</p> <p>(a) ^ followed by any alphabetic (a-z, A-Z)</p> <p>(b) ^ followed by the listed special characters: [ ] \ ^ _</p> <p>The "^" is the &lt;Ctrl&gt; key.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> | <p>STRING</p> <p>MaxLen = 4</p> | <p>^\</p> <p>(&lt;Ctrl&gt;&lt;</p> <p>\&gt;)</p> |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group | Objects                     | Description                                                                                                                                                                                                                      | Valid Values                                                                                   | Default |
|--------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------|
|              | cfgSerialConsoleIdleTimeout | <p>The maximum number of seconds to wait before an idle serial session is disconnected.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p>             | <p>0 = No timeout</p> <p>60 – 1920</p>                                                         | 300     |
|              | cfgSerialConsoleNoAuth      | <p>Enables or disables the RAC serial console login authentication.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p>                                 | <p>0 (enables serial login authentication)</p> <p>1 (disables serial login authentication)</p> | 0       |
|              | cfgSerialConsoleCommand     | <p>Specifies a serial command that is executed after a user logs into the serial console interface.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> | <p>Example: "connect com2"</p>                                                                 | ""      |
|              | cfgSerialHistorySize        | <p>Specifies the maximum size of the serial history buffer.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p>                                         | 0 – 8192                                                                                       | 8192    |



**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>           | <b>Description</b>                                                                                                                                                                                  | <b>Valid Values</b>              | <b>Default</b> |
|---------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------|
|                     | cfgSerialSshEnable       | <p>Enables or disables the secure shell (SSH) interface on the DRAC 5.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> | <p>1 (TRUE)</p> <p>0 (FALSE)</p> | 1              |
|                     | cfgSerialTelnetEnable    | <p>Enables or disables the telnet console interface on the RAC.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p>        | <p>1 (TRUE)</p> <p>0 (FALSE)</p> | 0              |
|                     | cfgSerialCom2RedirEnable | <p>Enables or disables the console for COM 2 port redirection.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p>         | <p>1 (TRUE)</p> <p>0 (FALSE)</p> | 1              |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                                                                                                                                     | Objects                       | Description                                                                                                                                                                                                                                                                                                                     | Valid Values                       | Default |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------|
| <b>cfgNetTuning</b>                                                                                                                                                              |                               |                                                                                                                                                                                                                                                                                                                                 |                                    |         |
| This group enables users to configure the advanced network interface parameters for the RAC NIC. When configured, the updated settings may take up to a minute to become active. | cfgNetTuning<br>NicAutoneg    | Enables autonegotiation of physical link speed and duplex. If enabled, autonegotiation takes priority over values set in the <b>cfgNetTuningNic100MB</b> and <b>cfgNetTuningNicFullDuplex</b> objects.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 1 (TRUE)<br>0 (FALSE)              | 1       |
|                                                                                                                                                                                  | cfgNetTuning<br>Nic100MB      | Specifies the speed to use for the RAC NIC. This property is not used if <b>cfgNetTuningNicAutoNeg</b> is set to 1 (enabled).<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                          | 0 (10 MBit)<br>1 (100 MBit)        | 1       |
|                                                                                                                                                                                  | cfgNetTuning<br>NicFullDuplex | Specifies the duplex setting for the RAC NIC. This property is not used if <b>cfgNetTuningNicAutoNeg</b> is set to 1 (enabled).<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                        | 0 (Half Duplex)<br>1 (Full Duplex) | 1       |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                                                   | Objects                       | Description                                                                                                                                                                                                                                                         | Valid Values                       | Default |
|------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------|
|                                                                                                | cfgNetTuning<br>NicMtu        | The size in bytes of the maximum transmission unit used by the DRAC 5 NIC.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                 | 576 – 1500                         | 1500    |
|                                                                                                | cfgNetTuning<br>TcpSrttDflt   | The smoothed round trip time-out base default value for TCP retransmission round trip time in 1/2 second units. (Type hexadecimal values.)<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 6-384                              | 6       |
| <b>cfgOobSnmpp</b>                                                                             |                               |                                                                                                                                                                                                                                                                     |                                    |         |
| The group contains parameters to configure the SNMP agent and trap capabilities of the DRAC 5. | cfgOobSnmpp<br>AgentCommunity | Specifies the SNMP Community Name used for SNMP traps.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                                     | String.<br>Maximum<br>Length = 31. | public  |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                                                                              | Objects                 | Description                                                                                                                                                                                             | Valid Values          | Default |
|---------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|
|                                                                                                                           | cfgOobSnmppAgentEnable  | Enables or disables the SNMP agent in the RAC.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                 | 1 (TRUE)<br>0 (FALSE) | 0       |
| <b>cfgRacTuning</b>                                                                                                       |                         |                                                                                                                                                                                                         |                       |         |
| This group is used to configure various RAC configuration properties, such as valid ports and security port restrictions. | cfgRacTuneHttpPort      | Specifies the port number to use for HTTP network communication with the RAC.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.  | 10 – 65535            | 80      |
|                                                                                                                           | cfgRacTuneHttpsPort     | Specifies the port number to use for HTTPS network communication with the RAC.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 10 – 65535            | 443     |
|                                                                                                                           | cfgRacTuneIpRangeEnable | Enables or disables the IP Address Range validation feature of the RAC.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission.                                               | 1 (TRUE)<br>0 (FALSE) | 0       |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>           | <b>Description</b>                                                                                                                     | <b>Valid Values</b>                                      | <b>Default</b> |
|---------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|----------------|
|                     | cfgRacTuneIpRangeAddr    | Specifies the acceptable IP address bit pattern in positions determined by the 1's in the range mask property (cfgRacTuneIpRangeMask). | String, IP address formatted. For example, 192.168.0.44. | 192.168.1.1    |
|                     |                          | To modify this property, you must have <b>Configure DRAC 5</b> permission.                                                             |                                                          |                |
|                     | cfgRacTuneIpRangeMask    | String, IP-address formatted. For example, 255.255.255.0.                                                                              | Standard IP mask values with left-justified bits.        | 255.255.255.0  |
|                     |                          | To modify this property, you must have <b>Configure DRAC 5</b> permission.                                                             |                                                          |                |
|                     | cfgRacTuneIpBlkEnable    | Enables or disables the IP address blocking feature of the RAC.                                                                        | 1 (TRUE)<br>0 (FALSE)                                    | 0              |
|                     |                          | To modify this property, you must have <b>Configure DRAC 5</b> permission.                                                             |                                                          |                |
|                     | cfgRacTuneIpBlkFailcount | The maximum number of login failure to occur within the window before the login attempts from the IP address are rejected.             | 2-16                                                     | 5              |
|                     |                          | To modify this property, you must have <b>Configure DRAC 5</b> permission.                                                             |                                                          |                |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>             | <b>Description</b>                                                                                                                                                                                                                            | <b>Valid Values</b> | <b>Default</b> |
|---------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------|
|                     | cfgRacTuneIpBlkFailWindow  | Defines the timespan in seconds that the failed attempts are counted. When the failure attempts age to this limit, the failures are dropped from the count.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. | 2-65535             | 60             |
|                     | cfgRacTuneIpBlkPenaltyTime | Defines the timespan in seconds that session requests from an IP address with excessive failures are rejected.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission.                                              | 2-65535             | 300            |
|                     | cfgRacTuneSSHPort          | Specifies the port number used for the RAC SSH interface.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                            | 1-65535             | 22             |
|                     | cfgRacTuneTelnetPort       | Specifies the port number used for the RAC telnet interface.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                         | 1-65535             | 23             |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>                               | <b>Description</b>                                                                                                                                                           | <b>Valid Values</b>   | <b>Default</b> |
|---------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------|
|                     | cfgRacTuneRemoteRacadmEnable                 | Enables or disables the Remote RACADM interface in the RAC.                                                                                                                  | 1 (TRUE)<br>0 (FALSE) | 1              |
|                     |                                              | To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                            |                       |                |
|                     | cfgRacTuneConsoleRedirectionEncryptionEnable | Encrypts the video in a console redirection session.                                                                                                                         | 1 (TRUE)<br>0 (FALSE) | 0              |
|                     |                                              | To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                            |                       |                |
|                     | cfgRacTuneConsoleRedirectionPort             | Specifies the port to be used for keyboard and mouse traffic during Console Redirection activity with the RAC. This object requires a DRAC 5 reset before it becomes active. | 1-65535               | 5901           |
|                     |                                              | To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                            |                       |                |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>              | <b>Description</b>                                                                                                                                                                                                                                                                       | <b>Valid Values</b>   | <b>Default</b> |
|---------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------|
|                     | cfgRacTuneConRedirVideoPort | Specifies the port to be used for video traffic during Console Redirection activity with the RAC. This object requires a DRAC 5 reset before it becomes active.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 1-65535               | 5901           |
|                     | cfgRacTuneAsrEnable         | Enables or disables the crash screen capture feature of the RAC. This object requires a DRAC 5 reset before it becomes active.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                  | 1 (TRUE)<br>0 (FALSE) | 1              |
|                     | cfgRacTuneDaylightOffset    | Specifies the daylight savings offset (in minutes) to use for the RAC Time.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                                     | 0-60                  | 0              |



**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group | Objects                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Valid Values          | Default |
|--------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|
|              | cfgRacTuneTimezoneOffset   | <p>Specifies the timezone offset (in minutes) from GMT/UTC to use for the RAC Time. Some common timezone offsets for timezones in the United States are shown below:</p> <ul style="list-style-type: none"> <li>-480 (PST — Pacific Standard Time)</li> <li>-420 (MST — Mountain Standard Time)</li> <li>-360 (CST — Central Standard Time)</li> <li>-300 (EST — Eastern Standard Time)</li> </ul> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> | -720 – 780            | 0       |
|              | cfgRacTuneWebserverEnabled | <p>Enables and disables the RAC webserver. If this property is disabled, the RAC will not be accessible using client web browsers or remote RACADM. This property has no effect on the telnet/ssh/serial or local RACADM interfaces.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p>                                                                                                                                                           | 0 (FALSE)<br>1 (TRUE) | 1       |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                         | Objects | Description                                                                                                                                       | Valid Values          | Default |
|--------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|
| cfgRacTune<br>LocalServer<br>Video   |         | Enables (switches ON) or disables (switches OFF) the local server video.                                                                          | 0 (FALSE)<br>1 (TRUE) | 1       |
|                                      |         | To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                 |                       |         |
| cfgRacTune<br>LocalConfig<br>Disable |         | Enables or disables the ability of a local user to configure the DRAC 5 using local racadm or the Dell OpenManage Server Administrator Utilities. | 0 (FALSE)<br>1 (TRUE) | 0       |
|                                      |         | To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                 |                       |         |
| cfgRacTune<br>CtrlEConfig<br>Disable |         | Enables or disables the ability to disable the ability of the local user to configure the DRAC 5 from the BIOS POST option-ROM.                   | 0 (FALSE)<br>1 (TRUE) | 0       |
|                                      |         | To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                 |                       |         |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                                                                                                                                                       | Objects                    | Description                                                                                                                                                               | Valid Values                        | Default |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------|
| <b>ifcRacManagedNodeOs</b>                                                                                                                                                                         |                            |                                                                                                                                                                           |                                     |         |
| This group contains properties that describe the Managed Server operating system.                                                                                                                  | ifcRacMnOs<br>Hostname     | The host name of the managed system.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.             | String.<br>Maximum<br>Length = 255. | ""      |
|                                                                                                                                                                                                    | ifcRacMnOs<br>OsName       | The operating system name of the managed system.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | String.<br>Maximum<br>Length = 255. | ""      |
| <b>cfgRacSecurity</b>                                                                                                                                                                              |                            |                                                                                                                                                                           |                                     |         |
| This group is used to configure settings related to the RAC SSL certificate signing request (CSR) feature. The properties in this group MUST be configured prior to generating a CSR from the RAC. | cfgRacSecCsr<br>CommonName | Specifies the CSR Common Name (CN).<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.              | String.<br>Maximum<br>Length = 254. | ""      |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group | Objects           | Description                                                                                                                                                         | Valid Values                     | Default |
|--------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------|
| cfgRacSecCsr | Organization Name | Specifies the CSR Organization Name (O).<br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.       | String.<br>Maximum Length = 254. | ""      |
| cfgRacSecCsr | Organization Unit | Specifies the CSR Organization Unit (OU).<br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.      | String.<br>Maximum Length = 254. | ""      |
| cfgRacSecCsr | LocalityName      | Specifies the CSR Organization Locality (L).<br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.   | String.<br>Maximum Length = 254. | ""      |
| cfgRacSecCsr | StateName         | Specifies the CSR Organization State Name (S).<br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | String.<br>Maximum Length = 254. | ""      |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>              | <b>Description</b>                                                                                                                                                          | <b>Valid Values</b>                 | <b>Default</b> |
|---------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------|
|                     | cfgRacSecCsr<br>CountryCode | Specifies the CSR Organization Country Code (CC).<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.  | String.<br>Maximum<br>Length = 2.   | ""             |
|                     | cfgRacSecCsr<br>EmailAddr   | Specifies the CSR e-mail Address.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                  | String.<br>Maximum<br>Length = 254. | ""             |
|                     | cfgRacSecCsr<br>KeySize     | Specifies the SSL asymmetric key size for the CSR.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 1024<br>2048<br>4096                | 1024           |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                                  | Objects              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Valid Values          | Default |
|-------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|
| <b>cfgRacVirtual</b>                                                          |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                       |         |
| This group contains parameters to configure the DRAC 5 Virtual Media feature. | cfgVirMedia Attached | <p>This object is used to attach your virtual devices to the system via the USB bus. When the devices are attached the server will recognize valid USB Mass Storage devices attached to the system. This is equivalent to attaching a local USB CDROM/Floppy drive to a USB port on the system. When the devices are attached you then can connect to the virtual devices remotely using DRAC5 web-based interface or the CLI. Setting this object to 0 will cause the devices to detach from the USB bus.</p> <p>You must restart your system to enable all changes.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> | 1 (TRUE)<br>0 (FALSE) | 0       |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>        | <b>Description</b>                                                                                                                                                                                              | <b>Valid Values</b>                                 | <b>Default</b> |
|---------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|----------------|
|                     | cfgVirAtapiSrvPort    | Specifies the port number used for encrypted virtual media connections to the RAC.<br><br>To modify this property, you must have <b>Access Virtual Media</b> permission. This object has read/write attributes. | 1 – 65535                                           | 3669           |
|                     | cfgVirAtapiSrvPortSsl | Sets the port used for SSL Virtual Media connections.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                  | Any unused port number between 0 and 65535 decimal. | 3669           |
|                     | cfgVirMediaKeyEnable  | Enables or disables the virtual media key feature of the RAC.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                          | 1 (TRUE)<br>0 (FALSE)                               | 0              |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group | Objects             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Valid Values                        | Default |
|--------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------|
|              | cfgVirMediaBootOnce | <p>Enables or disables the virtual media boot-once feature of the RAC. If this property is enabled when the host server is rebooted, this feature will attempt to boot from the virtual media devices—if the appropriate media is installed in the device.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p>                                                                                                                      | <p>1 (Enabled)<br/>0 (Disabled)</p> | 0       |
|              | cfgFloppyEmulation  | <p>When set to 0, the Virtual Floppy drive is recognized as a removable disk by Windows operating systems. Windows operating systems will assign a drive letter that is C: or higher during enumeration. When set to 1, the Virtual Floppy drive will be seen as a floppy drive by Windows operating systems. Windows operating systems will assign a drive letter of A: or B:.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> | <p>1 (TRUE)<br/>0 (FALSE)</p>       | 1       |



**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b>                                                              | <b>Objects</b>     | <b>Description</b>                                                                                                                                                                                                                                                                    | <b>Valid Values</b>                                                                 | <b>Default</b> |
|----------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------|
| <b>cfgActiveDirectory</b>                                                        |                    |                                                                                                                                                                                                                                                                                       |                                                                                     |                |
| This group contains parameters to configure the DRAC 5 Active Directory feature. | cfgADRacDo<br>main | Active Directory Domain in which the DRAC resides.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                                                           | Any printable text string with no white space. Length is limited to 254 characters. | ""             |
|                                                                                  | cfgADRacName       | Name of DRAC as recorded in the Active Directory forest.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                                                     | Any printable text string with no white space. Length is limited to 254 characters. | ""             |
|                                                                                  | cfgADEnable        | Enables or disables Active Directory user authentication on the RAC. If this property is disabled, local RAC authentication is used for user logins instead.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 1 (TRUE)<br>0 (FALSE)                                                               | 0              |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group | Objects                   | Description                                                                                                                                                                                                                         | Valid Values                                                   | Default           |
|--------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------|
|              | cfgADSpecifyServerEnable  | <p>1 (True) enables you to specify an LDAP or a Global Catalog server. 0 (False) disables this option.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> | <p>1 (TRUE)</p> <p>0 (FALSE)</p>                               | 0                 |
|              | cfgADDomainController     | <p>DRAC 5 uses the value you specify, to search the LDAP server for user names.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p>                        | <p>Valid IP address or fully qualified domain name (FQDN).</p> | No default values |
|              | cfgADGlobalCatalog        | <p>DRAC 5 uses the value you specify, to search the Global Catalog server for user names.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p>              | <p>Valid IP address or FQDN.</p>                               | No default values |
|              | cfgADSmartCardLogonEnable | <p>Enables or disables the Smart Card logon on DRAC 5.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p>                                                 | <p>1 (TRUE)</p> <p>0 (FALSE)</p>                               | 0                 |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group | Objects              | Description                                                                                                                                                                                                                                  | Valid Values                                                                        | Default |
|--------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------|
|              | cfgADCRL<br>enable   | Enables or disables the Certificate Revocation List (CRL) check for Active Directory-based Smart Card users.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.        | 1 (TRUE)<br>0 (FALSE)                                                               | 0       |
|              | cfgADAuthTi<br>meout | Specifies the number of seconds to wait for Active Directory authentication requests to complete before timing out.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 15-300                                                                              | 120     |
|              | cfgADRootDo<br>main  | Root domain of the Domain Forest.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                                   | Any printable text string with no white space. Length is limited to 254 characters. | ""      |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                              | Objects                | Description                                                                                                                                                                                 | Valid Values                                                                                                 | Default             |
|---------------------------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------------------|
|                                                                           | cfgADType              | Determines the schema type to use with Active Directory.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.           | 1 = Enables Extended Schema with Active Directory.<br><br>2 = Enables Standard Schema with Active Directory. | 1 = Extended Schema |
| <b>cfgStandardSchema</b>                                                  |                        |                                                                                                                                                                                             |                                                                                                              |                     |
| This group contains parameters to configure the Standard Schema settings. | cfgSSADRoleGroupIndex  | Index of the Role Group as recorded in the Active Directory. This object has read-only attributes.                                                                                          | Integer from 1 to 5.                                                                                         |                     |
|                                                                           | cfgSSADRoleGroupName   | Name of the Role Group as recorded in the Active Directory forest.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | Any printable text string with no white space. Length is limited to 254 characters.                          | (blank)             |
|                                                                           | cfgSSADRoleGroupDomain | Active Directory Domain in which the Role Group resides.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.           | Any printable text string with no white space. Length is limited to 254 characters.                          | (blank)             |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>                | <b>Description</b>                                                                                                                                                                                                                                                                                            | <b>Valid Values</b>         | <b>Default</b> |
|---------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------------|
|                     | cfgSSADRole<br>GroupPrivilege | For information about bit mask numbers used to set role-based authority privileges for a Role Group, see <i>Dell Remote Access Controller 5 Firmware Version 1.30 User's Guide</i> .<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 0x00000000 to<br>0x000001ff | (blank)        |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                                            | Objects                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Valid Values                  | Default |
|-----------------------------------------------------------------------------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------|
| <b>cfgIpmiSerial</b>                                                                    |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                               |         |
| This group specifies properties used to configure the IPMI serial interface of the BMC. | cfgIpmiSerialConnectionMode | When the DRAC 5 <code>cfgSerialConsoleEnable</code> property is set to 0 (disabled), the DRAC 5 serial port becomes the IPMI serial port. This property determines the IPMI defined mode of the serial port.<br><br>In Basic mode, the port uses binary data with the intent of communicating with an application program on the serial client. In Terminal mode, the port assumes that a dumb ASCII terminal is connected and allows very simple commands to be entered.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 1 (Terminal)<br>0 (Basic)     | 1       |
|                                                                                         | cfgIpmiSerialBaudRate       | Specifies the baud rate for a serial connection over IPMI.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                                                                                                                                                                                                                                                                                                                                                                | 9600, 19200,<br>57600, 115200 | 57600   |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>                | <b>Description</b>                                                                                                                                                                                 | <b>Valid Values</b>                              | <b>Default</b> |
|---------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------|
|                     | cfgIpmiSerialChanPrivLimit    | Specifies the maximum privilege level allowed on the IPMI serial channel.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 2 (User)<br>3 (Operator)<br>4<br>(Administrator) | 4              |
|                     | cfgIpmiSerialFlowControl      | Specifies the flow control setting for the IPMI serial port.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.              | 0 (None)<br>1 (CTS/RTS)<br>2 (XON/XOFF)          | 1              |
|                     | cfgIpmiSerialHandshakeControl | Enables or disables the IPMI terminal mode handshake control.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.             | 1 (TRUE)<br>0 (FALSE)                            | 1              |
|                     | cfgIpmiSerialLineEdit         | Enables or disables line editing on the IPMI serial interface.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.            | 1 (TRUE)<br>0 (FALSE)                            | 1              |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>                    | <b>Description</b>                                                                                                                                                                                         | <b>Valid Values</b>                                                      | <b>Default</b> |
|---------------------|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------|
|                     | cfgIpmiSerialEchoControl          | Enables or disables echo control on the IPMI serial interface.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                    | 1 (TRUE)<br>0 (FALSE)                                                    | 1              |
|                     | cfgIpmiSerialDeleteControl        | Enables or disables delete control on the IPMI serial interface.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                  | 1 (TRUE)<br>0 (FALSE)                                                    | 0              |
|                     | cfgIpmiSerialNewLineSequence      | Specifies the newline sequence specification for the IPMI serial interface.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.       | 0 (None)<br>1 (CR-LF)<br>2 (NULL)<br>3 (<CR>)<br>4 (<LF-CR>)<br>5 (<LF>) | 1              |
|                     | cfgIpmiSerialInputNewLineSequence | Specifies the input newline sequence specification for the IPMI serial interface.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 0 (<Enter>)<br>1 (NULL)                                                  | 1              |



**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                 | Objects                                                                                                                                                                                                                                                                         | Description                                                                                                                                                               | Valid Values                  | Default |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------|
| cfgIpmiSol                   |                                                                                                                                                                                                                                                                                 |                                                                                                                                                                           |                               |         |
|                              |                                                                                                                                                                                                                                                                                 | This group is used to configure the Serial-Over-LAN capabilities of the system.                                                                                           |                               |         |
|                              | cfgIpmiSolEnable                                                                                                                                                                                                                                                                | Enables or disables Serial Over LAN (SOL).<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.       | 1 (TRUE)<br>0 (FALSE)         | 1       |
|                              | cfgIpmiSolBaudRate                                                                                                                                                                                                                                                              | The baud rate for serial communication over LAN.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 9600, 19200,<br>57600, 115200 | 57600   |
| cfgIpmiSolMinPrivilege       | Specifies the minimum privilege level required for serial over LAN access.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                             | 2 (User)<br>3 (Operator)<br>4<br>(Administrator)                                                                                                                          | 4                             |         |
| cfgIpmiSolAccumulateInterval | Specifies the typical amount of time that the BMC waits before transmitting a partial SOL character data packet. This value is 1-based 5ms increments.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 1-255                                                                                                                                                                     | 10                            |         |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                                  | Objects                 | Description                                                                                                                                                                                                                                            | Valid Values                                  | Default |
|-------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------|
|                                                                               | cfgIpmiSolSendThreshold | The SOL threshold limit value.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                                                | 1-255                                         | 255     |
| <b>cfgIpmiLan</b>                                                             |                         |                                                                                                                                                                                                                                                        |                                               |         |
| This group is used to configure the IPMI-Over-LAN capabilities of the system. | cfgIpmiLanEnable        | Enables or disables the IPMI-Over-LAN interface.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                                              | 1 (TRUE)<br>0 (FALSE)                         | 1       |
|                                                                               | cfgIpmiLanPrivLimit     | Specifies the maximum privilege level allowed for IPMI over LAN access.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                                       | 2 (User)<br>3 (Operator)<br>4 (Administrator) | 0       |
|                                                                               | cfgIpmiLanAlertEnable   | Enables or disables global e-mail alerting. This property overrides all individual e-mail alerting enable/disable properties.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 1 (TRUE)<br>0 (FALSE)                         | 1       |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b>                                                                         | <b>Objects</b>          | <b>Description</b>                                                                                                                                      | <b>Valid Values</b>                                                    | <b>Default</b>                                     |
|---------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------|
|                                                                                             | cfgIpmiEncryptionKey    | The IPMI encryption key.<br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.           | A string of hexadecimal digits from 0 to 20 characters with no spaces. | "00000000<br>00000000<br>000"                      |
|                                                                                             | cfgIpmiPefCommunityName | The SNMP community name for traps.<br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | A string up to 18 characters.                                          | "public"                                           |
| <b>cfgIpmiPef</b>                                                                           |                         |                                                                                                                                                         |                                                                        |                                                    |
| This group is used to configure the platform event filters available on the managed server. | cfgIpmiPefName          | Specifies the name of the platform event filter. This object has read-only attributes.                                                                  | String.<br>Maximum Length = 255.                                       | The name of the index filter.                      |
|                                                                                             | cfgIpmiPefIndex         | Specifies the index of a specific platform event filter. This object has read-only attributes.                                                          | 1-17                                                                   | The index value of a platform event filter object. |

**Table A-3. DRAC 5 Object Groups and Objects**

| Object Group                                                                | Objects          | Description                                                                                                                                                                                                        | Valid Values                                               | Default                      |
|-----------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------|
|                                                                             | cfgIpmiPefAction | Specifies the action that is performed on the managed system when the alert is triggered.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes. | 0 (None)<br>1 (Power Down)<br>2 (Reset)<br>3 (Power Cycle) | 0                            |
|                                                                             | cfgIpmiPefEnable | Enables or disables a specific platform event filter..<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                    | 1 (TRUE)<br>0 (FALSE)                                      | 1                            |
| <b>cfgIpmiPet</b>                                                           |                  |                                                                                                                                                                                                                    |                                                            |                              |
| This group is used to configure platform event traps on the managed system. | cfgIpmiPetIndex  | Unique identifier for the index corresponding to the trap.<br><br>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.                                | 1-4                                                        | The appropriate index value. |

**Table A-3. DRAC 5 Object Groups and Objects**

| <b>Object Group</b> | <b>Objects</b>            | <b>Description</b>                                                                                                                                                                                                                                                                                   | <b>Valid Values</b>                                                | <b>Default</b> |
|---------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------|
|                     | cfgIpmiPetAlertDestIpAddr | <p>Specifies the destination IP address for the trap receiver on the network. The trap receiver receives an SNMP trap when an event is triggered on the managed system.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p> | String representing a valid IP address. For example, 192.168.0.67. | 0.0.0.0        |
|                     | cfgIpmiPetAlertEnable     | <p>Enables or disables a specific trap.</p> <p>To modify this property, you must have <b>Configure DRAC 5</b> permission. This object has read/write attributes.</p>                                                                                                                                 | 1 (TRUE)<br>0 (FALSE)                                              | 1              |



# Messages and Codes

This section documents the error messages and codes used in Dell™ OpenManage™ Deployment Toolkit (DTK).

## SYSCFG Error Codes and Messages

The SYSCFG utility checks your commands for correct syntax and valid input. When you enter a command, a message is displayed stating the results of the command.

### Failure Messages

The SYSCFG utility failure messages provide error codes to help diagnose why some commands do not succeed.

Table B-1 lists SYSCFG error codes and messages.

**Table B-1. SYSCFG Error Codes and Messages**

| <b>Error Code</b> | <b>Message</b>                                            |
|-------------------|-----------------------------------------------------------|
| 0                 | Success                                                   |
| 1                 | Attempt to read write-only parameter.                     |
| 2                 | Password cannot exceed 16 characters.                     |
| 3                 | A BMC was either not detected or is not supported.        |
| 4                 | This username is already in use. Enter a unique username. |
| 5                 | Access mode not supported.                                |
| 6                 | Cannot return number of requested data bytes.             |
| 7                 | User ID 1 cannot be assigned a username.                  |
| 8                 | Cannot execute duplicated request.                        |
| 9                 | There was an error clearing the SEL.                      |

**Table B-1. SYSCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                            |
|-------------------|-------------------------------------------------------------------------------------------|
| 10                | Clear SEL cannot be accompanied with any other option.                                    |
| 11                | racreset cannot be accompanied with any other option.                                     |
| 12                | Cannot execute command. Command, or request parameter(s), not supported in present state. |
| 13                | Command not supported on given channel.                                                   |
| 14                | The community string may only contain printable ASCII characters.                         |
| 15                | Destination unavailable. Cannot deliver request to selected destination.                  |
| 16                | Cannot execute command. Insufficient privilege level.                                     |
| 17                | Command illegal for specified sensor or record type.                                      |
| 18                | Invalid commstring value.                                                                 |
| 19                | Hardware subsystem error. Invalid data field in request.                                  |
| 20                | Invalid destination IP address.                                                           |
| 21                | The GUID is invalid.                                                                      |
| 22                | Invalid gateway.                                                                          |
| 23                | Invalid hostname.                                                                         |
| 24                | Invalid IP address.                                                                       |
| 25                | Invalid DNS IP address.                                                                   |
| 26                | Invalid sub net mask.                                                                     |
| 27                | Invalid value for PEF. PEF value should be between 1 and 16.                              |
| 28                | Reservation Canceled or Invalid Reservation ID.                                           |
| 29                | Invalid time to live value.                                                               |



**Table B-1. SYSCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                                                                   |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 30                | Invalid VLANID value.                                                                                                            |
| 31                | Invalid Command. Used to indicate an unrecognized or unsupported command.                                                        |
| 32                | Command invalid for given LUN.                                                                                                   |
| 33                | Load defaults cannot be accompanied with any other option.                                                                       |
| 34                | There was an error loading the defaults.                                                                                         |
| 35                | Node Busy. Command could not be processed because command processing resources are temporarily unavailable.                      |
| 36                | Out of space. Command could not be completed because of a lack of storage space required to execute the given command operation. |
| 37                | This parameter is not supported.                                                                                                 |
| 38                | Parameter out of range. One or more parameters in the data field of the Request are out of range.                                |
| 39                | The password may only contain printable ASCII characters.                                                                        |
| 40                | Password test failed.                                                                                                            |
| 41                | Request data length invalid.                                                                                                     |
| 42                | Request data field length limit exceeded.                                                                                        |
| 43                | Requested Sensor, data, or record not present.                                                                                   |
| 44                | Request data truncated.                                                                                                          |
| 45                | Command response could not be provided.                                                                                          |
| 46                | Command response could not be provided. BMC initialization or initialization agent in progress.                                  |
| 47                | Command response could not be provided. Device in firmware update mode.                                                          |

**Table B-1. SYSCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                      |
|-------------------|-------------------------------------------------------------------------------------|
| 48                | Command response could not be provided. SDR Repository in update mode.              |
| 49                | Cannot execute command, SEL erase in progress.                                      |
| 50                | Attempt to set the 'set in progress' value when not in the 'set in complete' state. |
| 51                | The SOL character accumulate interval is invalid.                                   |
| 52                | The SOL character send threshold is invalid.                                        |
| 53                | The SOL retry interval is invalid.                                                  |
| 54                | Command completed successfully.                                                     |
| 55                | Time-out while processing command. Response unavailable.                            |
| 56                | Unspecified error.                                                                  |
| 57                | The password may only contain printable ASCII characters.                           |
| 58                | Username cannot exceed 16 characters.                                               |
| 59                | Invalid VLANID value. Enter in dddd format.                                         |
| 60                | Attempt to write read-only parameter.                                               |
| 61                | BMC is busy.                                                                        |
| 62                | Response data did not return successfully.                                          |
| 63                | BMC time out error.                                                                 |
| 64                | Option requires an argument.                                                        |
| 65                | The asset tag for this system is not available.                                     |
| 66                | The asset tag cannot be more than 10 characters long.                               |
| 67                | The required BIOS interfaces cannot be found on this system.                        |
| 68                | The BIOS version information is not available.                                      |

**Table B-1. SYSCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                                                                                                                                  |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 69                | There is not enough free system memory to complete the BIOS update.                                                                                                                             |
| 70                | The BIOS update file version is a different version class (A00, X00) than the current system BIOS. Use the --force option to use this BIOS image.                                               |
| 71                | The BIOS update file version is older than the current system bios. Use the --force option to use this BIOS image.                                                                              |
| 72                | The BIOS update file version is identical to the current system bios. Use the --force option to use this BIOS image.                                                                            |
| 73                | The sequence list must be a comma-separated numerical list of valid unique boot device numbers (ex: 2, 1, 3).                                                                                   |
| 74                | The sequence list must be a comma-separated list of valid unique device names (ex: nic.emb.1, hdd.emb.1) or a comma-separated numerical list of valid unique boot device numbers (ex: 2, 1, 3). |
| 75                | There was an error setting the sequence.                                                                                                                                                        |
| 76                | The list is not formatted correctly. See the help for more details.                                                                                                                             |
| 77                | The size of returned buffer is larger than the size of allocated buffer.                                                                                                                        |
| 78                | There was a problem getting the state byte.                                                                                                                                                     |
| 79                | The state byte is not available on this system.                                                                                                                                                 |
| 80                | There was a problem setting the state byte.                                                                                                                                                     |
| 81                | The state byte must be a value between 0 and 255 decimal.                                                                                                                                       |
| 82                | The CPU information is not available.                                                                                                                                                           |

**Table B-1. SYSCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                    |
|-------------------|-----------------------------------------------------------------------------------|
| 83                | The dependent option required for this subcommand is missing in the command line. |
| 84                | Duplicate sub command has been entered.                                           |
| 85                | The script file does contain not a valid DTK environment script signature.        |
| 86                | The format of the environment variable is incorrect.                              |
| 87                | The --envar option can only be used for a single option.                          |
| 88                | The --envar option can only be used for report operations.                        |
| 89                | The individual sub commands should be specified for the -s option.                |
| 90                | Getting external serial connector settings failed.                                |
| 91                | Setting external serial connector settings failed.                                |
| 92                | There was an error opening the file.                                              |
| 93                | File does not have write permission.                                              |
| 94                | The file contains invalid options.                                                |
| 95                | The replication information does not match for this system.                       |
| 96                | There can only be one section in the input file.                                  |
| 97                | Bad ini file, the section cannot be found.                                        |
| 98                | The format of the bios image file is incorrect.                                   |
| 99                | Report operations and set operations must be separate.                            |
| 100               | Help is not available for the option.                                             |
| 101               | The -x (--hex) option can only be used with -b or -r.                             |
| 102               | Input file not found.                                                             |

**Table B-1. SYSCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                                              |
|-------------------|-------------------------------------------------------------------------------------------------------------|
| 103               | Input file cannot be read.                                                                                  |
| 104               | Invalid argument for option.                                                                                |
| 105               | Function table lookup error.                                                                                |
| 106               | The machine ID was not found in the file.                                                                   |
| 107               | The system memory information is not available.                                                             |
| 108               | Mode can only be used with the --pci option.                                                                |
| 109               | The device name or index must be present in the boot order.                                                 |
| 110               | The output file could not be opened. Please make sure the path exists and the media is not write protected. |
| 111               | Could not write to output file, disk may be full.                                                           |
| 112               | The current password must be supplied with a new password using --oldsyspwd.                                |
| 113               | The current password must be supplied with a new password using --oldsetupwd.                               |
| 114               | The current password can only be supplied when setting a new password.                                      |
| 115               | Actions are not allowed for this filter. Only alerts are allowed.                                           |
| 116               | There was an error getting the option.                                                                      |
| 117               | The option is not available or cannot be configured through software.                                       |
| 118               | There was an error setting the option.                                                                      |
| 119               | The -n (--namefile) option can only be used with -pci.                                                      |
| 120               | The password may only contain alphanumeric characters.                                                      |
| 121               | The BIOS passwords have been disabled via jumper.                                                           |

**Table B-1. SYSCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                              |
|-------------------|---------------------------------------------------------------------------------------------|
| 122               | The password length must be between 1 and 32.                                               |
| 123               | This password is locked and can only be unlocked by the admin user.                         |
| 124               | There was an error setting the password.                                                    |
| 125               | The LCD string length must be between 1 and %s.                                             |
| 126               | The LCD string may only contain alphanumeric characters.                                    |
| 127               | There was an error setting the LCD string.                                                  |
| 128               | The second channel can only be set if the RAID controller is set to RAID.                   |
| 129               | The set operation requires sub commands.                                                    |
| 130               | The service tag for this system is not available.                                           |
| 131               | The system ID value is not available.                                                       |
| 132               | The system information string is not available.                                             |
| 133               | A system error has occurred.                                                                |
| 134               | Usage error.                                                                                |
| 135               | The uuid information is not present on this system                                          |
| 136               | Version cannot be accompanied with any other option.                                        |
| 137               | The self-identify blinker timer should be set to 0..255 second(s).                          |
| 138               | Encrypt key is too long.                                                                    |
| 139               | Encrypt key is invalid, accepted characters are 0 to 9 or A to F.                           |
| 140               | Parameter has been temporarily disabled due to a dependency on other settings.              |
| 141               | The old password supplied is incorrect. The new password will not be set. Please try again. |

**Table B-1. SYSCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                                                                                            |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 142               | Cannot stat /etc/omreg.cfg file. Please ensure /etc/omreg.cfg file is present and is valid for your environment. You can copy this file from the DTK iso. |
| 143               | Getting nicselection settings failed.                                                                                                                     |
| 144               | HAPI Driver Load Error.                                                                                                                                   |
| 145               | Filter action power reduction is only supported for the system power warn/fail filters.                                                                   |
| 146               | TPM Clear settings requires setup password.                                                                                                               |
| 147               | There is currently no TPM Clear request pending.                                                                                                          |
| 148               | Password is not required for retrieving the TPM options.                                                                                                  |
| 149               | Setup password is required for setting the TPM options.                                                                                                   |
| 150               | Invalid Password override.                                                                                                                                |
| 151               | Invalid TPM set option.                                                                                                                                   |
| 152               | There was an error setting the TPM option.                                                                                                                |
| 153               | There is no setup password installed on this system.                                                                                                      |
| 154               | The setup password supplied is incorrect. Please try again.                                                                                               |

## **UPINIT Common Error Codes and Messages**

The UPINIT utility checks your commands for correct syntax. When you enter a command, a message is displayed stating the results of the command.

### **Failure Messages**

The UPINIT utility failure messages provide error codes to help diagnose why some commands do not succeed.

Table B-2 lists error codes and messages common to Linux and Microsoft®Windows® PE environments.

**Table B-2. UPINIT Common Error Codes and Messages**

| <b>Error Code</b> | <b>Message</b>                                                                                       |
|-------------------|------------------------------------------------------------------------------------------------------|
| 0                 | Dell Utility Partition created successfully.                                                         |
| 1                 | Error: Disk ID not specified.                                                                        |
| 2                 | Error: SIZE not specified.                                                                           |
| 3                 | Error: Utility Partition Image file not specified.                                                   |
| 4                 | Error: DRMK Path not specified.                                                                      |
| 5                 | Error: Dell Utility Partition already exists. Please use --overwrite option to upgrade or overwrite. |
| 6                 | Error: Partitions exists. Please clear all the partitions before running upinit.sh.                  |
| 7                 | Error: DOS file(s) not found at the specified path.                                                  |
| 8                 | Error: UP IMAGE not found at the specified location.                                                 |
| 9                 | Error: format failed.                                                                                |
| 10                | Error: Invalid size. Size should be a number between 32 and 2000.                                    |
| 11                | Error: sysdrmk failed.                                                                               |
| 12                | System Error.                                                                                        |
| 13                | Error: Invalid Argument: <argument>.                                                                 |
| 14                | Error: Unzip failed.                                                                                 |



## UPINIT Linux-Specific Error Codes and Messages

Table B-3 lists error codes and messages specific to the Linux environment.

**Table B-3. UPINIT Linux-Specific Error Codes and Messages**

| <b>Error Code</b> | <b>Message</b>                                        |
|-------------------|-------------------------------------------------------|
| 31                | Error: Invalid disk specified.                        |
| 32                | Error: Mount failed.                                  |
| 33                | Cannot create mount point <mount point>. File exists. |
| 34                | Error: fdisk failed.                                  |

## UPINIT Windows PE-Specific Error Codes and Messages

Table B-4 lists error codes and messages specific to the Windows PE environment.

**Table B-4. UPINIT Windows PE-Specific Error Codes and Messages**

| <b>Error Code</b> | <b>Message</b>                          |
|-------------------|-----------------------------------------|
| 31                | Error: DISKPART failed.                 |
| 32                | Error: DISKPART command file not found. |

## RAIDCFG Error Codes and Messages

The RAIDCFG utility checks your commands for correct syntax when you enter them. When you enter a command, a message displays stating the results of the command.

### Failure Messages

The RAIDCFG utility failure messages provide error codes to help diagnose why some commands do not succeed. See Table B-5 for a list of the error codes and the associated messages.

Table B-5 lists RAIDCFG error codes and messages.

**Table B-5. RAIDCFG Error Codes and Messages**

| <b>Error Code</b> | <b>Message</b>                                                           |
|-------------------|--------------------------------------------------------------------------|
| 0                 | RAIDCFG Command successful!                                              |
| 1                 | Error! Incorrect Syntax.                                                 |
| 2                 | Failure!                                                                 |
| 3                 | Illegal operation                                                        |
| 4                 | Unsupported operation                                                    |
| 5                 | Device not found.                                                        |
| 6                 | Format boot drive illegal                                                |
| 7                 | Buffer too small.                                                        |
| 8                 | Virtual Disk contains boot partition. Use force option to delete.        |
| 9                 | Init boot drive failed.                                                  |
| 10                | Format boot drive failed.                                                |
| 11                | Cannot write boot drive.                                                 |
| 12                | Unsupported RAID value.                                                  |
| 13                | Invalid RAID configuration.                                              |
| 14                | Span depth not in range.                                                 |
| 15                | RAID 1 failed.                                                           |
| 16                | Exactly 2 array disks are required to create a RAID 1 virtual disk.      |
| 17                | Unsupported stripe size value.                                           |
| 18                | RAID 5 only.                                                             |
| 19                | RAID 5 error.                                                            |
| 20                | A minimum of 3 array disks are required to create a RAID 5 virtual disk. |
| 21                | RAID 0 failed.                                                           |
| 22                | RAID 10 failed.                                                          |

**Table B-5. RAIDCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                     |
|-------------------|----------------------------------------------------|
| 23                | RAID 50 failed.                                    |
| 24                | RAID 5 not supported.                              |
| 25                | RAID 50 not supported.                             |
| 26                | Size too small for given RAID type.                |
| 27                | Wrong number of disks for RAID 1-<br>concatenated. |
| 28                | Insufficient space to mirror disks.                |
| 29                | Create Mirror not supported.                       |
| 30                | Disk in use.                                       |
| 31                | Disk Lock operation failed.                        |
| 32                | Disk locked.                                       |
| 33                | Disk Unlock operation failed.                      |
| 34                | Disk Unlocked.                                     |
| 35                | Disk failed on rebuild.                            |
| 36                | Hot Spare not free.                                |
| 37                | Disk Diagnostic failed.                            |
| 38                | Disk Rebuild failed.                               |
| 39                | Disk Format failed.                                |
| 40                | Cancel of Disk Diagnostic failed.                  |
| 41                | Cancel of Disk Rebuild failed.                     |
| 42                | Cancel of Disk Format failed                       |
| 43                | Assign Hot Spare failed                            |
| 44                | Disk too Small for Hot Spare.                      |
| 45                | Unassign Hot Spare failed.                         |
| 46                | Prepare Disk for Removal failed.                   |

**Table B-5. RAIDCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                                                                                                                          |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 47                | Disk Online failed.                                                                                                                                                                     |
| 48                | Disk Offline failed.                                                                                                                                                                    |
| 49                | UnMount Operation failed.                                                                                                                                                               |
| 50                | Mount Operation failed.                                                                                                                                                                 |
| 51                | Cannot Format Array Disk.                                                                                                                                                               |
| 52                | Bad chunk size.                                                                                                                                                                         |
| 53                | Invalid disk.                                                                                                                                                                           |
| 54                | Virtual disk not found.                                                                                                                                                                 |
| 55                | Virtual disk locked.                                                                                                                                                                    |
| 56                | Drive in use.                                                                                                                                                                           |
| 57                | Reached maximum physical size.                                                                                                                                                          |
| 58                | Reached maximum count of virtual disks.                                                                                                                                                 |
| 59                | There is not enough free space on the array disk(s) to allow the operation to complete; the size of the virtual disk is too large; or communication to the array disk(s) has been lost. |
| 60                | Limit your array disk selection to those disks already included in another single virtual disk or to those array disks that are not used at all by another virtual disk.                |
| 61                | Invalid Parameter                                                                                                                                                                       |
| 62                | Failed drive cannot be added.                                                                                                                                                           |
| 63                | The controller cannot support the number of array disks that you have selected. Choose a smaller number.                                                                                |
| 64                | Delete virtual disk failed. Controller busy.                                                                                                                                            |
| 65                | Delete virtual disk failed.                                                                                                                                                             |

**Table B-5. RAIDCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                   |
|-------------------|----------------------------------------------------------------------------------|
| 66                | Create virtual disk failed.                                                      |
| 67                | Create virtual disk failed. Controller busy.                                     |
| 68                | Create virtual disk failed. Failed to map virtual disk to operating system disk. |
| 69                | Create virtual disk failed. Failed to map virtual disk to operating system disk. |
| 70                | Virtual disk initialization failed.                                              |
| 71                | Virtual disk initialization failed. Controller busy.                             |
| 72                | Virtual disk reconstruction failed. Controller busy.                             |
| 73                | Virtual disk resynching failed. Controller busy.                                 |
| 74                | Flush Virtual disk's cache failed on controller.                                 |
| 75                | Virtual disk partition specified not found.                                      |
| 76                | Unsupported cache policy value.                                                  |
| 77                | Unsupported write policy value.                                                  |
| 78                | Unsupported read policy value.                                                   |
| 79                | Cancel initialization on virtual disk failed.                                    |
| 80                | Cancel reconstruction on virtual disk failed.                                    |
| 81                | Cancel resynchronization on virtual disk failed.                                 |
| 82                | The maximum number of virtual disks that can be created has been reached.        |

**Table B-5. RAIDCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                                                                                                                                       |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 83                | The new virtual disk must use only the remaining free space on the array disks used in the last virtual disk you created. Select all array disks that are used in the last virtual disk you created. |
| 84                | You have selected an array disk that is in a degraded or failed state. Choose another array disk.                                                                                                    |
| 85                | Delete the last created virtual disk first.                                                                                                                                                          |
| 86                | Virtual disk initialized for use and no override requested.                                                                                                                                          |
| 87                | Virtual disk type requested is invalid for the attempted operation.                                                                                                                                  |
| 88                | Virtual disk Move operation failed. Cannot rename, virtual disk is already in use.                                                                                                                   |
| 89                | Failover invalid.                                                                                                                                                                                    |
| 90                | Virtual disk resynching.                                                                                                                                                                             |
| 91                | Virtual disk resynch failed.                                                                                                                                                                         |
| 92                | Virtual disk reconstruct failed.                                                                                                                                                                     |
| 93                | Cannot format a virtual disk that contains a boot or system partition.                                                                                                                               |
| 94                | Cannot initialize a virtual disk that contains a boot or system partition.                                                                                                                           |
| 95                | Virtual disk Copy failed.                                                                                                                                                                            |
| 96                | Virtual disk mirror set required.                                                                                                                                                                    |
| 97                | Virtual disk Create - Read-only failed.                                                                                                                                                              |
| 98                | Virtual disk Create - Read-write failed.                                                                                                                                                             |
| 99                | Virtual disk - Clear-to-zero failed.                                                                                                                                                                 |

**Table B-5. RAIDCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                    |
|-------------------|-----------------------------------------------------------------------------------|
| 100               | Virtual Disk Requires Non Multilevel.                                             |
| 101               | Virtual Disk Promote Operation failed.                                            |
| 102               | Specified virtual disk has no drive letter assigned to it.                        |
| 103               | Cannot expose virtual disk.                                                       |
| 104               | Cannot reconfigure virtual disk.                                                  |
| 105               | Cannot stop the reconfiguration of the virtual disk.                              |
| 106               | SMART report count not supported.                                                 |
| 107               | Operations on hidden virtual disks are not allowed.                               |
| 108               | Virtual disk is in use.                                                           |
| 109               | The virtual disk is in use. It cannot be reconfigured at this time.               |
| 110               | Virtual disk operation is temporarily unavailable. Initialization in progress.    |
| 111               | Virtual disk operation is temporarily unavailable. Reconstruction in progress.    |
| 112               | Virtual disk operation is temporarily unavailable. Rebuild in progress.           |
| 113               | Virtual disk operation is temporarily unavailable. Check consistency in progress. |
| 114               | Specified virtual disk too small.                                                 |
| 115               | Virtual disk operation not supported. Size too small.                             |
| 116               | Operation is temporarily unavailable. Space in use.                               |
| 117               | Cannot reconfigure to the given RAID level.                                       |

**Table B-5. RAIDCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                        |
|-------------------|---------------------------------------------------------------------------------------|
| 118               | Cannot reconfigure from current RAID level to the given RAID level.                   |
| 119               | One of the array disks selected for the virtual disk is already in use.               |
| 120               | Virtual disk operation not supported. Cannot use non-RAID disk.                       |
| 121               | Controller Read Configuration failed.                                                 |
| 122               | Controller Write Configuration failed.                                                |
| 123               | Controller cache flush failed.                                                        |
| 124               | Enable alarm on controller failed.                                                    |
| 125               | Disable alarm on controller failed.                                                   |
| 126               | Quiet alarm on controller failed.                                                     |
| 127               | Controller failed to perform the task.                                                |
| 128               | Specified bus not found for controller.                                               |
| 129               | Call to set cache mode on the controller failed.                                      |
| 130               | Unexpected controller error.                                                          |
| 131               | Controller out of memory.                                                             |
| 132               | Invalid controller state.                                                             |
| 133               | Controller failed.                                                                    |
| 134               | Controller busy.                                                                      |
| 135               | Controller does not exist.                                                            |
| 136               | Controller name is invalid.                                                           |
| 137               | Controller is iterated.                                                               |
| 138               | Rename of virtual disk was not successful.                                            |
| 139               | The controller was not able to erase the file system from the specified virtual disk. |



**Table B-5. RAIDCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                               |
|-------------------|------------------------------------------------------------------------------|
| 140               | The controller was not able to add space to the specified concatenation set. |
| 141               | The controller was not able to get the status of the specified mirror set.   |
| 142               | The controller was not able to set the requested failover space.             |
| 143               | The controller cannot get the failover space information.                    |
| 144               | Controller cannot unmirror the specified virtual disk.                       |
| 145               | The controller could not split the specified virtual disk.                   |
| 146               | The controller could not lock the specified virtual disk.                    |
| 147               | Controller IO paused.                                                        |
| 148               | No controller parameter support.                                             |
| 149               | Controller does not recognize parameter symbol.                              |
| 150               | Controller Battery Recondition failed.                                       |
| 151               | Controller Get disk signature failed.                                        |
| 152               | Controller Read Flags failed.                                                |
| 153               | Controller Set Flags failed.                                                 |
| 154               | Controller Remove Snap Shot failed.                                          |
| 155               | Controller not supported.                                                    |
| 156               | Controller device initialization failure.                                    |
| 157               | Partner controller already opened read-write.                                |
| 158               | No partner controller found.                                                 |

**Table B-5. RAIDCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                                                                                                                                                                                                            |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 159               | The virtual disk is not valid for requested operation.                                                                                                                                                                                                                    |
| 160               | Cannot communicate with controller.                                                                                                                                                                                                                                       |
| 161               | Set operation failed.                                                                                                                                                                                                                                                     |
| 162               | Operation to update error count of SMART device has failed.                                                                                                                                                                                                               |
| 163               | Operation to clear error count of SMART device has failed.                                                                                                                                                                                                                |
| 164               | Driver could not execute.                                                                                                                                                                                                                                                 |
| 165               | Cannot delete virtual disk.                                                                                                                                                                                                                                               |
| 166               | Cannot set temperature probe. Invalid value entered.                                                                                                                                                                                                                      |
| 167               | Cannot set enclosure tag. Invalid value entered.                                                                                                                                                                                                                          |
| 168               | Cannot set enclosure alarm.                                                                                                                                                                                                                                               |
| 169               | Temperature probe value out of range.                                                                                                                                                                                                                                     |
| 170               | Cannot set cache mode.                                                                                                                                                                                                                                                    |
| 172               | Data will be lost on the secondary disk and a reboot will be forced.                                                                                                                                                                                                      |
| 173               | Cluster Services (MSCS) is running. Deleting a virtual disk that contains a cluster resource can result in unpredictable errors or system hangs (quorum disk). You should shut down cluster services before deleting cluster resources. Are you sure you want to proceed? |
| 174               | Cannot perform Create Virtual Disk or Delete Virtual Disk while the other server in a cluster is online. Please shut one of the servers down and retry the operation.                                                                                                     |

**Table B-5. RAIDCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                                                                                                                                                                                                                     |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 176               | Invalid array disks or failover drives selected for reconfigure/create operation. Please make sure that all array disks and failover drives associated with the virtual disk are selected.                                                                                         |
| 177               | The maximum number of partitions have already been created on one of the selected array disk(s). Each array disk can hold portions (partitions) of up to 10 virtual disks. This virtual disk cannot be created because one or more array disk(s) have reached the partition limit. |
| 178               | The virtual disk is in use. Please close any applications that use the virtual disk and unmount any file systems that reside on the virtual disk.                                                                                                                                  |
| 179               | The firmware version is not supported. Please update the firmware from <a href="http://support.dell.com">http://support.dell.com</a> .                                                                                                                                             |
| 180               | The specified device does not have enough free space to be used as failover space for the specified virtual disk.                                                                                                                                                                  |
| 181               | The operation failed. Please rescan the controller and retry the operation.                                                                                                                                                                                                        |
| 182               | The operation cannot be performed while a task is running on the specified virtual disk.                                                                                                                                                                                           |
| 183               | The specified virtual disk has no dead disk segments.                                                                                                                                                                                                                              |

**Table B-5. RAIDCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                                                                                                                                                                                        |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 184               | The operation cannot be performed at this time. The firmware can recondition a battery that has a Degraded or Power Low state. The firmware will not recondition a battery that is functioning normally or that has a Ready, Failed or Missing state. |
| 185               | The version of the controller firmware installed on your system does not support this operation.                                                                                                                                                      |
| 186               | There are no disks of the correct type available to be assigned as a hot spare.                                                                                                                                                                       |
| 187               | There are no disks of sufficient size available to be assigned as a hot spare.                                                                                                                                                                        |
| 188               | There are no disks of the correct type and sufficient size available to be assigned as a hot spare.                                                                                                                                                   |
| 189               | The Create Virtual Disk task was successful but the operating system may not be aware of the new virtual disk.                                                                                                                                        |
| 191               | The import of foreign configurations is complete. Some configurations could not be imported.                                                                                                                                                          |
| 192               | Enable alarm command failed. The enclosure processor is busy or a firmware download is in progress.                                                                                                                                                   |
| 193               | Disable alarm command failed. The enclosure processor is busy or a firmware download is in progress.                                                                                                                                                  |
| 194               | Quiet alarm command failed. The enclosure processor is busy or a firmware download is in progress.                                                                                                                                                    |

**Table B-5. RAIDCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                                                                                            |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 195               | An error occurred while resetting a temperature probe.                                                                                                    |
| 200               | No array disks found!                                                                                                                                     |
| 201               | Invalid Virtual Disk ID!                                                                                                                                  |
| 202               | RAID Type & Size are required to create a virtual disk. Ensure that the RAID type and the size are correct.                                               |
| 203               | Invalid Environment command!                                                                                                                              |
| 204               | File is not writable!                                                                                                                                     |
| 205               | Setting Environment Variable Command failed!                                                                                                              |
| 206               | Filename is not provided!                                                                                                                                 |
| 207               | Invalid Strict option! Please provide a valid number between 1 and 100.                                                                                   |
| 208               | Span depth is not needed for this RAID type.                                                                                                              |
| 209               | Array disk(s) cannot be part of virtual disk(s) and also be hotspares.                                                                                    |
| 210               | Cannot have silent and logfile switch with the same command.                                                                                              |
| 211               | Invalid array disk(s)!                                                                                                                                    |
| 212               | Invalid failover disk(s)!                                                                                                                                 |
| 213               | Creation of a virtual disk on this RAID controller requires the use of the entire disk space of the array disks. The size or -sz parameter is not needed. |
| 214               | Invalid size given! size=max or -sz=max is not supported for this RAID controller.                                                                        |
| 215               | The value given for envname or -envn is null or too long.                                                                                                 |

**Table B-5. RAIDCFG Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                                                                                                                                                                                                                                                                         |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 216               | Invalid virtual disk size!                                                                                                                                                                                                                                                                                                             |
| 217               | The strict option provided failed! Virtual disk is not created.                                                                                                                                                                                                                                                                        |
| 218               | Unable to determine optimum size for Virtual disk. Ensure that the array disks are of the same protocol (i.e. SAS, SATA, SCSI). If there is a mismatch of the array disks then the RAIDCFG will not be able to determine the optimum size. In addition, also ensure that there is drive size available for the specified virtual disk. |
| 219               | One or more array disks selected to create virtual disk or hotspare doesn't have enough disk space. Please make sure that all the array disks and failover drives selected have enough free space.                                                                                                                                     |
| 220               | The number of array disks provided is incorrect for the requested RAID Type! RAID 1 requires exactly 2 array disks, RAID 5 requires at least 3 array disks, RAID 10 requires at least 4 array disks and RAID 50 requires at least 6 array disks.                                                                                       |
| 221               | Input file cannot be read.                                                                                                                                                                                                                                                                                                             |
| 222               | Input file not found.                                                                                                                                                                                                                                                                                                                  |
| 223               | Error in opening the file.                                                                                                                                                                                                                                                                                                             |

# RACADM Firmware Error Codes and Messages

Table B-6 lists RACADM firmware error codes and messages.

**Table B-6. RACADM Firmware Error Codes and Messages**

| <b>Error Code</b> | <b>Message</b>                       |
|-------------------|--------------------------------------|
| 1                 | UNKNOWN COMMAND.                     |
| 2                 | OUTPUT ERROR                         |
| 3                 | TOO FEW ARGUMENTS                    |
| 4                 | UNKNOWN PARAMETER                    |
| 5                 | CAN'T LOCK RESOURCE                  |
| 6                 | RESOURCE LOCKED                      |
| 7                 | USER NOT IN DATABASE                 |
| 8                 | WRONG PASSWORD                       |
| 9                 | Login incorrect                      |
| 10                | NOT ACCESSIBLE VIA TELNET CONNECTION |
| 11                | ACCESS DENIED                        |
| 12                | INVALID ARGUMENT                     |
| 13                | INVALID GROUP NAME                   |
| 14                | USER DATABASE FULL                   |
| 15                | CAN'T CHANGE FACTORY DEFAULT         |
| 16                | USER ALREADY IN DATABASE             |
| 17                | CLOSING TELNET CONNECTION            |
| 18                | USER DATABASE NOT INITIALIZED        |
| 19                | INVALID COMMAND SHELL CALL           |
| 20                | INVALID INPUT FILE                   |
| 21                | TFTP ERROR                           |
| 22                | PCI ERROR                            |

**Table B-6. RACADM Firmware Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                     |
|-------------------|------------------------------------|
| 23                | SERVER IS IN GRAPHICS MODE         |
| 24                | SYSTEM DATE AND TIME NOT SET       |
| 25                | OUT OF MEMORY                      |
| 26                | ACCESS LOCKED                      |
| 27                | PAGING ERROR                       |
| 28                | PAGING ALREADY IN PROGRESS         |
| 29                | ERROR ACCESSING DEVICE             |
| 30                | WRONG NUMBER OF ARGUMENTS          |
| 31                | NO SCREEN FOR ASR STORED           |
| 32                | CAN'T ADD HISTORY MONITOR          |
| 33                | INVALID IDENTIFIER                 |
| 34                | CANNOT WRITE TO FLASH              |
| 35                | FIRMWARE FILE INVALID              |
| 36                | CANNOT READ REGISTER               |
| 37                | CANNOT UNLOCK RESOURCE             |
| 38                | TIME OUT                           |
| 39                | SERVER IN TEXT MODE                |
| 40                | WRONG GRAPHICS MODE                |
| 41                | CONFIG SPACE LOCKED                |
| 42                | MASTER LOCKED                      |
| 43                | ASB BUS LOCKED                     |
| 44                | HISTORY MONITORS NOT YET AVAILABLE |
| 45                | NO VALID VALUE FOR THIS FIELD      |
| 46                | DIAGNOSTIC TASK ERROR              |
| 47                | DIAGNOSTIC TASK IS ALREADY RUNNING |



**Table B-6. RACADM Firmware Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                    |
|-------------------|-----------------------------------|
| 48                | NO DIAGNOSTIC TASK RUNNING        |
| 49                | READ ONLY                         |
| 50                | SNARFING IS NOT AVAILABLE         |
| 51                | TEXT RESOLUTION OF SERVER CHANGED |
| 52                | MODULE NOT LOADED                 |
| 53                | IPMI ERROR                        |
| 54                | ERROR IN DIAGNOSTIC FUNCTION      |

## **RACADM Utility Error Codes and Messages**

Table B-7 lists RACADM utility error codes and messages.

**Table B-7. RACADM Error Codes and Messages**

| <b>Error Code</b> | <b>Message</b>                                               |
|-------------------|--------------------------------------------------------------|
| 513               | An unknown failure occurred.                                 |
| 514               | Librac library not initialized.                              |
| 515               | An invalid parameter was passed into function.               |
| 516               | Invalid DRSTYPE specified.                                   |
| 517               | Librac library already initialized.                          |
| 518               | Invalid transport type specified.                            |
| 519               | Invalid library user.                                        |
| 520               | A connection to the RAC controller could not be established. |
| 521               | Failed to perform read operation with RAC controller.        |

**Table B-7. RACADM Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                         |
|-------------------|--------------------------------------------------------|
| 522               | Failed to perform write operation with RAC controller. |
| 523               | Invalid message ID.                                    |
| 524               | Invalid message type.                                  |
| 525               | Invalid response message.                              |
| 526               | Specified user buffer is too small to hold data.       |
| 527               | Authentication failed - Invalid user name or password. |
| 528               | Invalid CHAP protocol response encountered.            |
| 529               | CHAP buffer too small.                                 |
| 530               | Timeout occurred.                                      |
| 531               | Insufficient user privileges to perform operation.     |
| 532               | TFTP write error encountered.                          |
| 533               | TFTP read error encountered.                           |
| 534               | TFTP local file write error encountered.               |
| 535               | TFTP local file read error encountered.                |
| 536               | TFTP write request failed.                             |
| 537               | TFTP read request failed.                              |
| 538               | Failed to open file.                                   |
| 539               | Failed to load socket library.                         |
| 540               | Invalid socket library.                                |
| 541               | Unable to resolve HostName.                            |
| 542               | Failed to create socket.                               |
| 543               | Socket read operation failed.                          |

**Table B-7. RACADM Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                          |
|-------------------|-----------------------------------------|
| 544               | Socket write operation failed.          |
| 545               | Failed to create SSL context object.    |
| 546               | Failed to create SSL BIO object.        |
| 547               | Unable to create SSL socket connection. |
| 548               | Failed to initialize socket.            |
| 549               | Failed to login to RAC successfully.    |
| 550               | Invalid session ID specified.           |
| 551               | Failed to logout from RAC successfully. |
| 552               | Command execution failed.               |
| 553               | FTP Get operation failed.               |
| 554               | FTP Put operation failed.               |
| 555               | Failed to initialize FTP interface.     |
| 556               | Failed to load SSL library.             |
| 557               | Failed to initialize librac library.    |
| 558               | Invalid session ID.                     |
| 559               | SpcmpObjectName failed.                 |
| 560               | SpcmpObjectIdGet failed.                |
| 561               | SpcmpObjectIdSet failed.                |
| 562               | Failed to send SPCMP message to RAC.    |
| 563               | Invalid transport session info.         |

**Table B-7. RACADM Error Codes and Messages (continued)**

| <b>Error Code</b> | <b>Message</b>                                                                   |
|-------------------|----------------------------------------------------------------------------------|
| 564               | LAN Proxy error - please make sure your proxy settings are configured correctly. |
| 565               | RAC service not currently installed.                                             |
| 566               | RAC service is not started.                                                      |
| 567               | RAC service is starting.                                                         |
| 568               | RAC controller not present.                                                      |
| 569               | RAC controller is currently resetting.                                           |

# BMC Platform Events Filter Alert Messages

All possible Platform Event Filter (PEF) Alert Messages along with a description of each event are listed in Table C-1.

**Table C-1. BMC PEF Alert Events**

| <b>Event</b>                    | <b>Description</b>                                                                                |
|---------------------------------|---------------------------------------------------------------------------------------------------|
| Fan Probe Failure               | The fan is running too slow or not at all.                                                        |
| Voltage Probe Failure           | The voltage is too low for proper operation.                                                      |
| Discrete Voltage Probe Failure  | The voltage is too low for proper operation.                                                      |
| Temperature Probe Warning       | The temperature is approaching excessively high or low limits.                                    |
| Temperature Probe Failure       | The temperature is either too high or too low for proper operation.                               |
| Chassis Intrusion Detected      | The system chassis has been opened.                                                               |
| Redundancy (PS or Fan) Degraded | Redundancy for the fans and/or power supplies has been reduced.                                   |
| Redundancy (PS or Fan) Lost     | No redundancy remains for the system's fans and/or power supplies.                                |
| Processor Warning               | A processor is running at less than peak performance or speed.                                    |
| Processor Failure               | A processor has failed.                                                                           |
| PPS/VRM/DCtoDC Warning          | The power supply, voltage regulator module, or DC-to-DC converter is pending a failure condition. |
| Power Supply/VRM/D2D Failure    | The power supply, voltage regulator module, or DC-to-DC converter has failed.                     |
| Hardware log is full or emptied | Either an empty or a full hardware log requires administrator attention.                          |

**Table C-1. BMC PEF Alert Events**

| <b>Event</b>               | <b>Description</b>                                                                                       |
|----------------------------|----------------------------------------------------------------------------------------------------------|
| Automatic System Recovery  | The system is hung or is not responding and is taking an action configured by Automatic System Recovery. |
| System Power Probe Warning | The system is setting actions when a power consumption probe detects a warning value.                    |
| System Power Probe Failure | The system is setting actions when a power consumption probe detects a failure value.                    |

## Sample File Formats

This appendix lists the sample SYSCFG utility `.ini`, RAIDCFG utility `.ini`, and the RACADM utility `.ini` files.

### Sample SYSCFG Utility `.ini` File Format

```
[syscfg]
sysname=PowerEdge R805
sysid=0221
biosver=0.2.6
;svctag=VSPT067
;do not edit information above this line
acpower=last
asset=
bootseq=
nic.emb.1,nic.emb.2,nic.emb.3,satacdrom.emb.0,nic.emb
.4
bootseqretry=enable
conboot=enable
conterm=vt100
dbpm=disable
embhypervisor=on
embnic1=on
embnic2=onwithiscsi
embnic3=onwithiscsi
embnic4=onwithiscsi
```

```
extserial=com1
fsbr=115200
integratedsas=enable
internalusb=on
lancfgparams
alertdest=1
destipaddr=0.0.0.0
lancfgparams
alertdest=2
destipaddr=0.0.0.0
lancfgparams
alertdest=3
destipaddr=0.0.0.0
lancfgparams
alertdest=4
destipaddr=0.0.0.0
commstring=public
gateway=192.168.0.1
;ipaddress=192.168.0.120
ipaddrsrc=static
nicselection=dedicated
autoneg=enable
dnsserver1=0.0.0.0
dnsserver2=0.0.0.0
dnshcp=disable
dnsrcname=megh
```



```
dnsregisterrac=disable
domainname=
domainnamednsdhcp=disable
fullduplex=enable
speed=100Mbps
subnetmask=255.255.255.0
vlanid=1
vlanpriority=0
vlantag=disable
lanchannelaccess
ipmioverlan=alwaysavail
channelprivlmt=administrator
pefalerting=disable
lanuseraccess
userid=2
usrprivlmt=administrator
lanuseraccess
userid=3
usrprivlmt=noaccess
lanuseraccess
userid=4
usrprivlmt=noaccess
lanuseraccess
userid=5
usrprivlmt=noaccess
lanuseraccess
```

```
userid=6
usrprivlmt=noaccess
lanuseraccess
userid=7
usrprivlmt=noaccess
lanuseraccess
userid=8
usrprivlmt=noaccess
lanuseraccess
userid=9
usrprivlmt=noaccess
lanuseraccess
userid=10
usrprivlmt=noaccess
lanuseraccess
userid=11
usrprivlmt=noaccess
lanuseraccess
userid=12
usrprivlmt=noaccess
lanuseraccess
userid=13
usrprivlmt=noaccess
lanuseraccess
userid=14
usrprivlmt=noaccess
```

```
lanuseraccess
userid=15
usrprivlmt=noaccess
lanuseraccess
userid=16
usrprivlmt=noaccess
lcd=default
lcd1=jagan!
memtest=enable
nmibutton=disable
numlock=on
opticaldrivectrl=enable
oswatchdogtimer=enable
pefcfgparams
alertpolnum=1
alertpolstatus=enable
pefcfgparams
alertpolnum=2
alertpolstatus=enable
pefcfgparams
alertpolnum=3
alertpolstatus=enable
pefcfgparams
alertpolnum=4
alertpolstatus=enable
pefcfgparams
```

filter=fanfail  
filteralert=enable  
filteraction=none  
pefcfgparams  
filter=discretevoltfail  
filteralert=enable  
filteraction=none  
pefcfgparams  
filter=tempwarn  
filteralert=enable  
filteraction=none  
pefcfgparams  
filter=tempfail  
filteralert=enable  
filteraction=none  
pefcfgparams  
filter=intrusion  
filteralert=enable  
filteraction=none  
pefcfgparams  
filter=redundegraded  
filteralert=enable  
filteraction=none  
pefcfgparams  
filter=redunlost  
filteralert=enable

```
filteraction=none
pefcfgparams
filter=procwarn
filteralert=enable
filteraction=none
pefcfgparams
filter=procfail
filteralert=enable
filteraction=none
pefcfgparams
filter=powerwarn
filteralert=enable
filteraction=none
pefcfgparams
filter=powerfail
filteralert=enable
filteraction=none
pefcfgparams
filter=hardwarelogfail
filteralert=enable
pefcfgparams
filter=autorecovery
filteralert=enable
pefcfgparams
filter=procabsent
filteralert=enable
```

filteraction=none  
pefcfgparams  
filter=powerabsent  
filteralert=enable  
filteraction=none  
pefcfgparams  
filter=batterywarn  
filteralert=enable  
filteraction=none  
pefcfgparams  
filter=batteryfail  
filteralert=enable  
filteraction=none  
pefcfgparams  
filter=systempowerwarn  
filteralert=enable  
filteraction=none  
pefcfgparams  
filter=systempowerfail  
filteralert=enable  
filteraction=none  
hostname=DTK2.4-host  
powerbutton=enable  
pwdlock=unlock  
rptkeyerr=enable  
serialcfgparams

```
connectionmode=basic
msgcommbitrate=57600
msgcommflowctrl=rtscts
tmcfgdelctrl=bksp
tmcfgechoctrl=echo
tmcfghandshakectrl=enable
tmcfginputnewlineseq=cr
tmcfglineediting=enable
tmcfgnewlineseq=crlf
serialchannelaccess
ipmioverserial=alwaysavail
channelprivlmt=administrator
serialcomm=on
serialuseraccess
userid=2
usrprivlmt=administrator
serialuseraccess
userid=3
usrprivlmt=noaccess
serialuseraccess
userid=4
usrprivlmt=noaccess
serialuseraccess
userid=5
usrprivlmt=noaccess
serialuseraccess
```

userid=6  
usrprivlmt=noaccess  
serialuseraccess  
userid=7  
usrprivlmt=noaccess  
serialuseraccess  
userid=8  
usrprivlmt=noaccess  
serialuseraccess  
userid=9  
usrprivlmt=noaccess  
serialuseraccess  
userid=10  
usrprivlmt=noaccess  
serialuseraccess  
userid=11  
usrprivlmt=noaccess  
serialuseraccess  
userid=12  
usrprivlmt=noaccess  
serialuseraccess  
userid=13  
usrprivlmt=noaccess  
serialuseraccess  
userid=14  
usrprivlmt=noaccess



```
serialuseraccess
userid=15
usrprivlmt=noaccess
serialuseraccess
userid=16
usrprivlmt=noaccess
solaction
userid=2
action=enable
solaction
userid=3
action=disable
solaction
userid=4
action=disable
solaction
userid=5
action=disable
solaction
userid=6
action=disable
solaction
userid=7
action=disable
solaction
userid=8
```

action=disable  
solaction  
userid=9  
action=disable  
solaction  
userid=10  
action=disable  
solaction  
userid=11  
action=disable  
solaction  
userid=12  
action=disable  
solaction  
userid=13  
action=disable  
solaction  
userid=14  
action=disable  
solaction  
userid=15  
action=disable  
solaction  
userid=16  
action=disable  
solcfgparams

solbitrate=57600  
solcharaccuminterval=10  
solcharsendthreshold=220  
solenable=enable  
solprivlevel=administrator  
sysid=0221  
sysname=PowerEdge R805  
tpm  
tpmactivation=nochange  
tpmsecurity=onwithoutpbm  
usbports=enable  
useraction  
userid=2  
action=enable  
useraction  
userid=3  
action=disable  
useraction  
userid=4  
action=disable  
useraction  
userid=5  
action=disable  
useraction  
userid=6  
action=disable

useraction  
userid=7  
action=disable  
useraction  
userid=8  
action=disable  
useraction  
userid=9  
action=disable  
useraction  
userid=10  
action=disable  
useraction  
userid=11  
action=disable  
useraction  
userid=12  
action=disable  
useraction  
userid=13  
action=disable  
useraction  
userid=14  
action=disable  
useraction  
userid=15

action=disable  
useraction  
userid=16  
action=disable  
username  
userid=2  
name=root  
username  
userid=3  
name=NULL  
username  
userid=4  
name=NULL  
username  
userid=5  
name=NULL  
username  
userid=6  
name=NULL  
username  
userid=7  
name=NULL  
username  
userid=8  
name=NULL  
username

```
userid=9
name=NULL
username
userid=10
name=NULL
username
userid=11
name=NULL
username
userid=12
name=NULL
username
userid=13
name=NULL
username
userid=14
name=NULL
username
userid=15
name=NULL
username
userid=16
name=NULL
;uuid=44454C4C530010508054D6C04F303637
virtualization=disable
virtualmedia=enable
```

## Sample RAIDCFG Utility .ini File Format

```
[Reset]
controllerid=1,2,3,6

[vdisk0]
controllerid=4
size=139392
raid=1
readpolicy=ra
writepolicy=wb
stripesize=64
cachepolicy=d
adisk=0:1:1,0:0:1

[vdisk1]
controllerid=4
size=139392
raid=1
readpolicy=ra
writepolicy=wb
stripesize=64
cachepolicy=c
adisk=0:3:1,0:2:1

[vdisk2]
controllerid=2
size=278784
raid=0
readpolicy=ra
```

```
wriTEpolicY=wb
stripESize=64
cachepolicY=d
adisk=0:5:1,0:4:1
failoverdrive=0:9:1
[vdisk3]
controllErid=4
size=278784
raid=5
readpolicY=ra
wriTEpolicY=wb
stripESize=64
cachepolicY=c
adisk=0:8:1,0:7:1,0:6:1
[GlobalHotspare0]
controllErid=0
failoverdrive=0:8:0
```

## Sample RACADM Utility .ini File Format

```
[idRacInfo]
#idRacType=0x05
#idRacProductInfo=Dell Remote Access Controller 4/I
#idRacDescriptionInfo=This system component provides
a complete set of #remote management functions for
Dell PowerEdge servers.
#idRacVersionInfo=1.20 (Build 01.17)
idRacName=DRAC 4/I
```



idRacMisc=

[cfgLanNetworking]

cfgNicEnable=1

cfgNicIpAddress=10.98.8.121

cfgNicNetmask=255.255.255.0

cfgNicGateway=192.168.0.1

cfgNicUseDhcp=0

#cfgNicMacAddress=00:11:43:34:5f:4a

cfgDNSServersFromDHCP=0

cfgDNSServer1=192.168.0.5

cfgDNSServer2=192.168.0.6

cfgDNSRegisterRac=0

cfgDNSRacName=RAC-HHS7C1S

cfgDNSDomainNameFromDHCP=0

cfgDNSDomainName=MYDOMAIN

[cfgCurrentLanNetworking]

#cfgNicCurrentIpAddress=10.98.8.121

#cfgNicCurrentNetmask=255.255.255.0

#cfgNicCurrentGateway=192.168.0.1

#cfgNicCurrentDhcpWasUsed=0

#cfgDNSCurrentDhcpWasUsed=0

#cfgDNSCurrentServer1=192.168.0.5

#cfgDNSCurrentServer2=192.168.0.6

#cfgDNSCurrentDomainName=MYDOMAIN

```
[cfgRemoteHosts]
cfgRhostsSmtpeMailEnable=1
cfgRhostsFwUpdateTftpEnable=1
cfgRhostsSmtpeServerIpAddr=127.0.0.1
cfgRhostsFwUpdateIpAddr=192.168.0.4
cfgRhostsFwUpdatePath=
```

```
[cfgUserAdmin]
#cfgUserAdminIndex=1
cfgUserAdminUserName=root
#cfgUserAdminPassword=
cfgUserAdminPrivilege=0
cfgUserAdminAlertFilterRaceEventMask=0x300000
cfgUserAdminAlertFilterSysEventMask=0x77777
cfgUserAdminEmailEnable=0
cfgUserAdminEmailAddress=
cfgUserAdminEmailCustomMsg=
```

```
[cfgSessionManagement]
cfgSsnMgtMaxSessions=0x4
cfgSsnMgtMaxSessionsPerUser=0x4
```

```
[cfgSerial]
cfgSerialBaudRate=115200
cfgSerialConsoleEnable=0
```

```
cfgSerialConsoleQuitKey=<CR>~.  
cfgSerialConsoleIdleTimeout=0x12c  
cfgSerialConsoleShellType=0x2  
cfgSerialConsoleNoAuth=0  
cfgSerialConsoleCommand=  
cfgSerialTelnetEnable=0  
cfgSerialCom2RedirEnable=1  
cfgSerialTelnet7fIsBackspace=0
```

```
[cfgNetTuning]
```

```
cfgNetTuningNicMtu=0x5dc  
cfgNetTuningIpTtl=0x40  
cfgNetTuningTcpSrttBase=0x0  
cfgNetTuningTcpSrttDflt=0x6  
cfgNetTuningTcpReXmtMin=0x2  
cfgNetTuningTcpReXmtMax=0x80  
cfgNetTuningIpSubnetsAreLocal=0x1  
cfgNetTuningIpReassTtl=0x3c  
cfgNetTuningTcpMsl=0x3c  
cfgNetTuningNicAutoneg=1  
cfgNetTuningNic100MB=1  
cfgNetTuningNicFullDuplex=1
```

```
[cfgOobSnmp]
```

```
cfgOobSnmpTrapsEnable=1  
cfgOobSnmpAgentEnable=1
```

```
cfgOobSnmpAgentCommunity=public
```

```
[cfgRacTuning]
```

```
cfgRacTuneFwUpdateResetDelay=0x46
```

```
cfgRacTuneD3debugEnable=1
```

```
cfgRacTuneRemoteRacadmEnable=1
```

```
cfgRacTuneHostCom2BaudRate=57600
```

```
cfgRacTuneHttpPort=0x50
```

```
cfgRacTuneHttpsPort=0x1bb
```

```
cfgRacTuneTelnetPort=0x17
```

```
cfgRacTuneConRedirPort=0x170c
```

```
[ifcRacManagedNodeOs]
```

```
ifcRacMnOsHostname=(none)
```

```
ifcRacMnOsOsName=Linux 2.4.21-20.ELIhugemem
```

```
ifcRacMnOsOsType=0x2
```

```
[cfgRacSecurity]
```

```
cfgRacSecCsrKeySize=0x400
```

```
cfgRacSecCsrCommonName=
```

```
cfgRacSecCsrOrganizationName=
```

```
cfgRacSecCsrOrganizationUnit=
```

```
cfgRacSecCsrLocalityName=
```

```
cfgRacSecCsrStateName=
```

```
cfgRacSecCsrCountryCode=
```

```
cfgRacSecCsrEmailAddr=
```

```
[cfgRacVirtual]
cfgVirAtapiSvrPort=0xe54
cfgVirMediaDisable=0
cfgFloppyEmulation=0
```

```
[cfgActiveDirectory]
cfgADRacDomain=
cfgADRacName=
cfgADEnable=0
cfgADAuthTimeout=0x78
cfgADRootDomain=
```



# Summary of SYSCFG and RAIDCFG Options

This appendix contains a summary of all the SYSCFG and RAIDCFG options.

## SYSCFG Options

Table E-1 lists all the SYSCFG options and gives a brief description of these options. For details on these options, see the section, "SYSCFG".

**Table E-1. SYSCFG Options**

| Options               | Suboptions | Valid Arguments                                           | Description                                                                                                                                               | Replicated |
|-----------------------|------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| --envar               |            | <filename><br><pathname><br>><br>media should be writable | When used with the <code>-s</code> option, this option stores the environment variable data to a file so that this file can be called from other scripts. |            |
| -h<br>or<br>--help    |            | none<br>or<br><valid option name>                         | Without an argument, this option displays general usage information for the utility.                                                                      | No         |
| -i<br>or<br>--infile  |            | <filename>                                                | Directs the SYSCFG utility to take input from a <code>.ini</code> file.                                                                                   | Yes        |
| -l<br>or<br>--logfile |            | <filename>                                                | Logs the command line output to a time-stamped file.                                                                                                      | Yes        |

**Table E-1. SYSCFG Options (continued)**

| <b>Options</b>        | <b>Suboptions</b> | <b>Valid Arguments</b> | <b>Description</b>                                                                                                                                                                                | <b>Replicated</b> |
|-----------------------|-------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| -o<br>or<br>--outfile |                   | <filename>             | Outputs all replicable options to the specified filename. The format of the output is in a .ini format, with the utility name as the section header.                                              |                   |
| -s                    |                   | <string>               | Prints the variable name and the value assigned to it to the console.                                                                                                                             |                   |
| --version*            |                   |                        | Displays the version information, current time, and date for the utility.                                                                                                                         | No                |
| --acpower             |                   | on, off, last          | Specifies the behavior of the system after AC power is lost.                                                                                                                                      | Yes               |
| --adjcacheprefetch    |                   | enable, disable        | Enables the processor to fetch the cache line containing the currently requested data and prefetch the following cache line or fetch only the cache line containing the currently requested data. | Yes               |
| --assignintr          |                   | standard, distributed  | Controls the interrupt assignment of PCI devices in the system.                                                                                                                                   |                   |
| --asset               |                   | <string>               | Sets the asset tag value.                                                                                                                                                                         | Yes               |
| --bezelir             |                   | enable, disable        | Enables or disables the ESM to monitor and log front bezel intrusion conditions.                                                                                                                  | Yes               |



**Table E-1. SYSCFG Options (continued)**

| Options        | Suboptions | Valid Arguments                                                                        | Description                                                                                                                                                                                                                                                                                                              | Replicated                                                 |
|----------------|------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| --bootseq      |            | numerical list, separated by commas<br>or<br>list of device names, separated by commas | Sets the boot order.                                                                                                                                                                                                                                                                                                     | Yes (for systems that support a list of device names only) |
| --bootseqretry |            | enable, disable                                                                        | Enables or disables the boot sequence retry feature.                                                                                                                                                                                                                                                                     | Yes                                                        |
| --conboot      |            | enable, disable                                                                        | Enables or disables console redirection after boot.                                                                                                                                                                                                                                                                      | Yes                                                        |
| --conred       |            | off, serial1, serial2, bmc sol, mmb                                                    | Sets console redirection to a particular port.                                                                                                                                                                                                                                                                           | Yes                                                        |
| --conterm      |            | vt100, ansi                                                                            | Sets console redirection terminal type.                                                                                                                                                                                                                                                                                  | Yes                                                        |
| --dbpm         |            | enable, disable                                                                        | Enables or disables demand-based power management.                                                                                                                                                                                                                                                                       | Yes                                                        |
| --devseq       |            | numerical list, separated by commas<br>or<br>list of device names, separated by commas | Sets the boot order for hard drives.<br><b>NOTE:</b> This option appears only if your system is configured with two or more bootable storage controllers. If your system is not configured with bootable storage controllers and this option is included in the configuration file, the utility generates a usage error. | Yes (for systems that support a list of device names only) |

**Table E-1. SYSCFG Options (continued)**

| <b>Options</b>  | <b>Suboptions</b> | <b>Valid Arguments</b>         | <b>Description</b>                                                                    | <b>Replicated</b> |
|-----------------|-------------------|--------------------------------|---------------------------------------------------------------------------------------|-------------------|
| --embhypervisor |                   | enable, disable                | Enables or disables the embedded hypervisor port.                                     | Yes               |
| --embideraid    |                   | on, off                        | Enables or disables the embedded IDE RAID controller.                                 | Yes               |
| --embnic1       |                   | on, off, onnopxe, onwithiscsi  | Enables or disables the first embedded network interface controller (NIC).            | Yes               |
| --embnic2       |                   | on, off, onnopxe, onwithiscsi  | Enables or disables the second embedded NIC.                                          | Yes               |
| --embnic3       |                   | on, off, onnopxe, onwithiscsi  | Enables or disables the third embedded NIC.                                           | Yes               |
| --embnic4       |                   | on, off, onnopxe, onwithiscsi  | Enables or disables the fourth embedded NIC.                                          | Yes               |
| --embnics       |                   | on, off                        | Enables or disables the embedded NICs.                                                | Yes               |
| --embnic1pxe    |                   | enable, disable                | Enables or disables Pre-boot eXecution Environment (PXE) on the first embedded NIC.   | Yes               |
| --embnic2pxe    |                   | enable, disable                | Enables or disables PXE on the second embedded NIC.                                   | Yes               |
| --embsataraid   |                   | off, combined, ata, raid, qdma | Configures the embedded SATA (Serial Advanced Technology Attachment) RAID controller. | Yes               |
| --embscsi1      |                   | on, off                        | Enables or disables the first SCSI controller.                                        | Yes               |
| --embscsi2      |                   | on, off                        | Enables or disables the second SCSI controller.                                       | Yes               |

**Table E-1. SYSCFG Options (continued)**

| <b>Options</b>       | <b>Suboptions</b> | <b>Valid Arguments</b>             | <b>Description</b>                                                                             | <b>Replicated</b> |
|----------------------|-------------------|------------------------------------|------------------------------------------------------------------------------------------------|-------------------|
| --embcsiraid         |                   | raid, off, scsi<br>or<br>raid, off | Enables or disables the embedded SCSI RAID controller.                                         | Yes               |
| --embcsiraidchb      |                   | raid, scsi                         | Sets the second channel of the embedded SCSI RAID controller to operate in RAID or SCSI mode.  | Yes               |
| --extserial          |                   | com1, com2,<br>rad                 | Sets the behavior of the external serial connector.                                            | Yes               |
| --fiberchannel       |                   | enable,<br>disable                 | Enables or disables embedded fiber channel.                                                    | Yes               |
| --floppy             |                   | auto, off,<br>readonly             | Enables or disables the diskette drive controller.                                             | Yes               |
| --fsbr               |                   | 115200,<br>57600,<br>19200, 9600   | Sets the console redirection fail safe baud rate.                                              | Yes               |
| --hwprefetcher       |                   | enable,<br>disable                 | Enables or disables hardware prefetching by the processor.                                     | Yes               |
| --hddfailover        |                   | off, on                            | Specifies which device in the hard disk drive sequence menu is attempted in the boot sequence. | Yes               |
| -i<br>or<br>--infile |                   | <filename>                         | Reads BIOS configuration options from a file. A file can be generated with the -o option.      | No                |
| --idecdrom           |                   | auto, off                          | Enables or disables the CD drive controller.                                                   | Yes               |
| --idectrl            |                   | auto, off                          | Enables or disables the IDE controller.                                                        | Yes               |
| --idracgui           |                   | enable,<br>disable                 | Enables or disables iDRAC GUI.                                                                 | Yes               |

**Table E-1. SYSCFG Options (continued)**

| Options          | Suboptions | Valid Arguments     | Description                                                                                                                                                                                                                                                                                        | Replicated |
|------------------|------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| --integratedraid |            | enable, disable     | Enables or disables the integrated RAID controller.                                                                                                                                                                                                                                                | Yes        |
| --integratedsas  |            | enable, disable     | Sets the behavior for the integrated SAS controller.                                                                                                                                                                                                                                               | Yes        |
| --internalusb    |            | off, on             | Enables or disables the internal USB.                                                                                                                                                                                                                                                              | Yes        |
| --ioat           |            | enable, disable     | Enables or disables the I/O Acceleration Technology (I/OAT)\nDMA Engine option.                                                                                                                                                                                                                    | Yes        |
| --lcd            |            | default, none, user | Selects whether to display the default string (model name and number) or a user-defined string in the front-panel LCD (Liquid Crystal Display).                                                                                                                                                    | Yes        |
| --lcd1           |            | <string>            | Sets the first line of user-defined LCD strings.<br><br><b>NOTE:</b> Before setting user strings for this option, ensure that --lcd is set to user.<br><br><b>NOTE:</b> If you have a Dell™ PowerEdge™ x6xx, x7xx, or x8xx system, you need to reboot your system for the settings to take effect. | Yes        |

**Table E-1. SYSCFG Options (continued)**

| Options       | Suboptions | Valid Arguments           | Description                                                                                                                                                                                                                                                                                 | Replicated |
|---------------|------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| --lcd2        |            | <string>                  | Sets the second line of user-defined LCD strings.<br><b>NOTE:</b> Before setting user strings for this option, ensure that --lcd is set to user.<br><b>NOTE:</b> If you have a Dell™ PowerEdge™ x6xx, x7xx, or x8xx system, you need to reboot your system for the settings to take effect. | Yes        |
| --logicproc   |            | enable, disable           | Enables or disables the logical processor (Hyperthreading).                                                                                                                                                                                                                                 | Yes        |
| --lpt         |            | disable, lpt1, lpt2, lpt3 | Disables or sets the parallel port address.                                                                                                                                                                                                                                                 | Yes        |
| --lptmode     |            | at, ps2                   | Sets the parallel port mode.                                                                                                                                                                                                                                                                | Yes        |
| --mem*        |            | none                      | Reports the size of system memory.<br><b>NOTE:</b> The asterisk is not part of the command syntax.                                                                                                                                                                                          | Yes        |
| --memintleave |            | enable, disable           | Enables or disables the memory interleave mode.                                                                                                                                                                                                                                             | Yes        |
| --memremap    |            | off, auto                 | Enables or disables memory remapping.                                                                                                                                                                                                                                                       | Yes        |
| --memtest     |            | enable, disable           | Enables or disables the power-on self-test (POST) extended memory test.                                                                                                                                                                                                                     | Yes        |
| --mouse       |            | on, off                   | Turns the mouse controller on or off.                                                                                                                                                                                                                                                       | Yes        |

**Table E-1. SYSCFG Options (continued)**

| Options            | Suboptions | Valid Arguments | Description                                                                                                                                                                                                                                                               | Replicated |
|--------------------|------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| --noraidprompt*    |            | none            | Disables the POST prompt message when the SCSI controller type is changed.<br><b>NOTE:</b> The asterisk is not part of the command syntax.                                                                                                                                | No         |
| --numlock          |            | on, off         | Enables or disables the keyboard number lock.                                                                                                                                                                                                                             | Yes        |
| --oldsetuppwd      |            | <string>        | Confirms the existing setup password when setting a new setup password.                                                                                                                                                                                                   | No         |
| --oldsyspwd        |            | <string>        | Confirms the existing system password when setting a new system password.                                                                                                                                                                                                 | No         |
| --opticaldrivectrl |            | enable, disable | Enables or disables the optical CD-ROM controller.                                                                                                                                                                                                                        | Yes        |
| --osmode           |            | enable, disable | Enables or disables the operating system installation mode.                                                                                                                                                                                                               | Yes        |
| --oswatchdogtimer  |            | enable, disable | If your system stops responding, this option aids in the recovery of your operating system. When set to <b>enabled</b> , the operating system is allowed to initialize the timer. When set to <b>disabled</b> (the default), the timer will have no effect on the system. | Yes        |
| --ovrwr*           |            | none            | Overwrites the file contents when used with the <b>-o</b> option.<br><b>NOTE:</b> The asterisk is not part of the command syntax.                                                                                                                                         | No         |

**Table E-1. SYSCFG Options (continued)**

| Options       | Suboptions | Valid Arguments          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Replicated |
|---------------|------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| --powerbutton |            | enable, disable          | Enables or disables the front bezel power button.                                                                                                                                                                                                                                                                                                                                                                                                               | Yes        |
| --pwdlock     |            | lock, unlock             | Enables or disables the ability to set the system password.                                                                                                                                                                                                                                                                                                                                                                                                     | No         |
| --redmem      |            | off, spare, mirror, raid | <p>Sets the redundant memory mode.</p> <p>If you perform operations that change the <b>--redmem</b> option, you must immediately reboot the system. This applies to command line usage as well as <b>--infile</b> usage. Additionally, the <b>--redmem</b> option should not be issued with any other command and should be immediately followed by a system reboot. This is important when you develop scripts that can alter the <b>--redmem</b> setting.</p> | Yes        |
| --rptkeyerr   |            | enable, disable          | Enables or disables the reporting of keyboard errors during POST.                                                                                                                                                                                                                                                                                                                                                                                               | Yes        |
| --sata0       |            | auto, off                | <p>Enables or disables SATA port 0.</p> <p><b>NOTE:</b> This option maps to <b>--sata_a</b> for PowerEdge x9xx systems.</p>                                                                                                                                                                                                                                                                                                                                     | Yes        |

**Table E-1. SYSCFG Options (continued)**

| Options | Suboptions | Valid Arguments | Description                                                                                               | Replicated |
|---------|------------|-----------------|-----------------------------------------------------------------------------------------------------------|------------|
| --sata1 |            | auto, off       | Enables or disables SATA port 1.<br><b>NOTE:</b> This option maps to --sata_b for PowerEdge x9xx systems. | Yes        |
| --sata2 |            | auto, off       | Enables or disables SATA port 2.<br><b>NOTE:</b> This option maps to --sata_c for PowerEdge x9xx systems. | Yes        |
| --sata3 |            | auto, off       | Enables or disables SATA port 3.<br><b>NOTE:</b> This option maps to --sata_d for PowerEdge x9xx systems. | Yes        |
| --sata4 |            | auto, off       | Enables or disables SATA port 4.<br><b>NOTE:</b> This option maps to --sata_e for PowerEdge x9xx systems. | Yes        |
| --sata5 |            | auto, off       | Enables or disables SATA port 5.<br><b>NOTE:</b> This option maps to --sata_f for PowerEdge x9xx systems. | Yes        |
| --sata6 |            | auto, off       | Enables or disables SATA port 6.<br><b>NOTE:</b> This option maps to --sata_g for PowerEdge x9xx systems. | Yes        |



**Table E-1. SYSCFG Options (continued)**

| Options       | Suboptions | Valid Arguments                                       | Description                                                                                                                                                         | Replicated |
|---------------|------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| --sata7       |            | auto, off                                             | Enables or disables SATA port 7.<br><b>NOTE:</b> This option maps to --sata_h for PowerEdge x9xx systems.                                                           | Yes        |
| --serial1     |            | disable, com1, com3, com1_bmc, bmcserial, bmclan, rac | Sets the behavior for serial port 1.                                                                                                                                | Yes        |
| --serial2     |            | auto, disable, com2, com4                             | Sets the behavior for serial port 2.                                                                                                                                | Yes        |
| --serialcomm  |            | on, com1cr, com2cr, off                               | Sets the behavior of serial port communication.                                                                                                                     | Yes        |
| --setuppwd    |            | <string>                                              | Sets the setup password for the system BIOS.                                                                                                                        | No         |
| --sma         |            | enable, disable                                       | Enables or disables processor sequential memory access.                                                                                                             | Yes        |
| --slot*       |            | none                                                  | Reports the slot number for a modular system.<br><b>NOTE:</b> This option is valid for PowerEdge 1855 systems only. The asterisk is not part of the command syntax. | Yes        |
| --snoopfilter |            | enable, disable                                       | Enables or disables the snoop filter option from the system BIOS.                                                                                                   | Yes        |
| --speaker     |            | on, off                                               | Turns the built-in speaker on or off.                                                                                                                               | Yes        |

**Table E-1. SYSCFG Options (continued)**

| Options   | Suboptions      | Valid Arguments              | Description                                                                                                                                                                                                       | Replicated |
|-----------|-----------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| --svctag* |                 | none                         | Reports the service tag for the system.<br><b>NOTE:</b> The asterisk is not part of the command syntax.                                                                                                           | No         |
| --sypwd   |                 | <string>                     | Sets the system password for the system BIOS.                                                                                                                                                                     | No         |
| tpm       | --tpmsecurity   | off, onwithpbm, onwithoutpbm | Configures the TPM security feature.                                                                                                                                                                              | Yes        |
|           | --tpmactivation | enabled, disabled, nochange  | Enables or disables the TPM activation feature.                                                                                                                                                                   | Yes        |
|           | --tpmclear      | NA                           | Clears the contents of the TPM chip without erasing the <b>tpmsecurity</b> and <b>tpmactivation</b> settings.                                                                                                     | No         |
|           | --undotpmclear  | NA                           | Undoes the result of the <b>tpmclear</b> setting. If you specify this setting before specifying the <b>tpmclear</b> setting, the ‘ <b>There is currently no pending TPM Clear request</b> ’ message is displayed. | No         |
|           | --valsetuppwd   | <string>                     | Validates the setup password for TPM authentication. If you try to change DTK settings, you will be prompted to enter this password to access the settings.                                                       | No         |

**Table E-1. SYSCFG Options (continued)**

| Options          | Suboptions                                                  | Valid Arguments                 | Description                                                                                                                                      | Replicated |
|------------------|-------------------------------------------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|                  | --setuppwdoveride                                           | NA                              | On systems that do not have a setup password configured, if you set this option, you will not be prompted for a password to access DTK settings. | No         |
| --usb            |                                                             | on, off, legacy                 | Enables or disables the USB port.                                                                                                                | Yes        |
| --usbflash       |                                                             | auto, fdd, hdd                  | Sets the emulation of a USB flash device to <b>auto</b> , diskette ( <b>fdd</b> ), or hard drive ( <b>hdd</b> ).                                 | Yes        |
| --usbports       |                                                             | enable, enablebackonly, disable | Enables or disables USB ports.                                                                                                                   | Yes        |
| --virtualization |                                                             | enable, disable                 | Enables or disables virtualization in the CPU.                                                                                                   | Yes        |
| --virtualmedia   |                                                             | enable, disable                 | Enables or disables virtual media in Dell Remote Access Controllers 5 (DRAC 5).                                                                  | Yes        |
| bmcversion       | --devidevrevision<br>--majorfwrevision<br>--minorfwrevision | NA                              | Displays revision information for the BMC and the firmware.                                                                                      |            |
| --clearsel       | NA                                                          | NA                              | Clears the SEL.                                                                                                                                  |            |
| --deviceguid     | NA                                                          | NA                              | Displays the GUID for the BMC.                                                                                                                   |            |

**Table E-1. SYSCFG Options (continued)**

| <b>Options</b>          | <b>Suboptions</b>                                                 | <b>Valid Arguments</b>                                              | <b>Description</b>                                                                           | <b>Replicated</b> |
|-------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------|
| --encryptkey            | NA                                                                | <hexadecimal number>                                                | Encrypts the Intelligent Platform Management Interface (IPMI) sessions.                      | Yes               |
| --identify              | NA                                                                | 0–254                                                               | Flashes the identification LED for a specified number of seconds.                            |                   |
| lanchannelaccess or lca | -- pefalerting<br>-- ipmioverlan<br>-- channelpriority            | enable, disable, disable, alwaysavail user, operator, administrator | Sets or displays the LAN channel access settings such as alerting and user privilege limits. |                   |
| lanchannelinfo or lci   | -- mediumtype<br>-- protype<br>-- ssnsupport<br>-- activessncount | NA<br>NA<br>NA<br>NA                                                | Displays media and protocol information about the LAN channel.                               |                   |

**Table E-1. SYSCFG Options (continued)**

| Options                   | Suboptions       | Valid Arguments                         | Description                                           | Replicated |
|---------------------------|------------------|-----------------------------------------|-------------------------------------------------------|------------|
| lancfgparams<br>or<br>lcp | --ipaddrsrc      | static, dhcp                            | Configures and displays LAN configuration parameters. |            |
|                           | --ipaddress      | <ipaddress>                             |                                                       |            |
|                           | --subnetmas<br>k | <subnetmas<br>k>                        |                                                       |            |
|                           | --gateway        | <gateway>                               |                                                       |            |
|                           | --commstring     | <string>                                |                                                       |            |
|                           | --destipaddress  | <destipaddress>                         |                                                       |            |
|                           | --alertdest      | 1, 2, 3, 4                              |                                                       |            |
|                           | --vlantag        | enable,<br>disable                      |                                                       |            |
|                           | --vlanid         | 0–4095                                  |                                                       |            |
|                           | --vlanpriority   | 0–7                                     |                                                       |            |
|                           | --macaddresses   | NA                                      |                                                       |            |
|                           | --nicselection   | shared,<br>sharedfailover,<br>dedicated |                                                       |            |

**Table E-1. SYSCFG Options (continued)**

| Options | Suboptions    | Valid Arguments | Description | Replicated |
|---------|---------------|-----------------|-------------|------------|
|         | fullduplex    | enable, disable |             |            |
|         | --autoneg     | enable, disable |             |            |
|         | --speed       | 10,100          |             |            |
|         | --dnssdhcp    | enable, disable |             |            |
|         | --dnsserver1  | <ipaddress>     |             |            |
|         | --dnsserver2  | <ipaddress>     |             |            |
|         | --dnsregister | enable, disable |             |            |
|         | rac           |                 |             |            |
|         | --dnssracname | <string>        |             |            |
|         | --domainname  | enable, disable |             |            |
|         | mefromdhcp    |                 |             |            |
|         | --domainname  | <string>        |             |            |
|         | me            |                 |             |            |

**Table E-1. SYSCFG Options (continued)**

| Options                    | Suboptions                  | Valid Arguments                                  | Description                                                                                                                                  | Replicated |
|----------------------------|-----------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------|
| lanuseraccess<br>or<br>lua | --<br>usrprivlmt            | user,<br>operator,<br>administrator,<br>noaccess | Configures and displays user access parameters for the LAN channel.                                                                          |            |
|                            | --userid                    | 2-10                                             | Returns the number of User IDs with fixed names.                                                                                             |            |
|                            | --<br>currentenableduserids | NA                                               |                                                                                                                                              |            |
|                            | --<br>useridswithfixednames | NA                                               |                                                                                                                                              |            |
| --loaddefaults             | NA                          | NA                                               | Restores the BMC to the defaults that were originally loaded on the controller. This option is used to return the BMC to a known-good state. |            |
| --nextboot                 | NA                          | <device name>                                    | Sets the device for the next boot operation only.                                                                                            |            |
| --nmibutton                | NA                          | enable,<br>disable                               | Enables or disables the NMI button.                                                                                                          |            |
| passwordaction             | --action                    | setpassword,<br>testpassword                     | Configures and displays passwords associated with User IDs.                                                                                  |            |

**Table E-1. SYSCFG Options (continued)**

| <b>Options</b>            | <b>Suboptions</b>  | <b>Valid Arguments</b>                                                                                                                                                                                                                                                                                                                       | <b>Description</b>                                                                                                                                                                        | <b>Replicated</b> |
|---------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| pefcfgparams<br>or<br>pcp | --filter           | fanfail,<br>voltfail,<br>discretevoltf<br>ail,<br>tempwarn,<br>tempfail,<br>intrusion,<br>redundegrad<br>ed,<br>redunlost,<br>procwarn,<br>procfail,<br>powerwarn,<br>powerfail,<br>hardwarelogf<br>ail,<br>autorecovery<br>,<br>batterywarn,<br>batteryfail,<br>powerabsent<br>, procabsent,<br>systempower<br>warn,<br>systempower<br>fail | Configures and displays PEF configuration parameters. See "BMC Platform Events Filter Alert Messages" for a complete list of all possible PEF messages along a description of each event. |                   |
|                           | --<br>filteraction | powercycle,<br>reset,<br>powerdown,<br>powerreduct<br>ion, none                                                                                                                                                                                                                                                                              |                                                                                                                                                                                           |                   |
|                           | --<br>hostname     | <string>                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                           |                   |
|                           | --filteralert      | enable,<br>disable                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                           |                   |



**Table E-1. SYSCFG Options (continued)**

| Options                    | Suboptions         | Valid Arguments                                                                                                       | Description                                                          | Replicated |
|----------------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------------|
|                            | -- alertpolnum     | 1, 2, 3, 4                                                                                                            |                                                                      |            |
|                            | -- alertpolstatus  | enable, disable                                                                                                       |                                                                      |            |
| --powerbutton              | NA                 | enable, disable                                                                                                       | Enables or disables the power button.                                |            |
| --powerctl                 | NA                 | powerdown </argument><br>><br>powercycle</argument><br>><br>reset</argument><br>><br>softshutdown<br></argument><br>> | Performs a chassis powerdown and controls the reset of the system.   |            |
| --racreset                 | NA                 | NA                                                                                                                    | Resets the RAC. It cannot be accompanied with any other option.      | No         |
| serialchannelaccess or sca | -- ipmioverserial  | disable, alwaysavail                                                                                                  | Sets or displays the channel access settings for the serial channel. |            |
|                            | -- channelpriority | user, operator, administrator                                                                                         |                                                                      |            |

**Table E-1. SYSCFG Options (continued)**

| <b>Options</b>                 | <b>Suboptions</b>        | <b>Valid Arguments</b> | <b>Description</b>                      | <b>Replicated</b> |
|--------------------------------|--------------------------|------------------------|-----------------------------------------|-------------------|
| serialchannelinfo<br>or<br>sci | --<br>mediumty<br>pe     | NA                     | Displays serial channel<br>information. |                   |
|                                | --proctype               | NA                     |                                         |                   |
|                                | --<br>ssnsupport         | NA                     |                                         |                   |
|                                | --<br>activessnco<br>unt | NA                     |                                         |                   |

**Table E-1. SYSCFG Options (continued)**

| Options                      | Suboptions               | Valid Arguments                                              | Description                                                                                                                                                              | Replicated |
|------------------------------|--------------------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| serialcfgparams<br>or<br>scp | --                       | basic,<br>connection<br>terminal<br>mode                     | Configures and displays serial configuration parameters.<br><br><b>NOTE:</b> The BMC firmware does not support serial port Point-to-Point Protocol (PPP) configurations. |            |
|                              | --                       | noflowctrl,<br>msgcommf<br>rtscts<br>lowctrl                 |                                                                                                                                                                          |            |
|                              | --                       | NA                                                           |                                                                                                                                                                          |            |
|                              | --                       | msgcomm<br>dtrhangup                                         |                                                                                                                                                                          |            |
|                              | --                       | 9600, 19200                                                  |                                                                                                                                                                          |            |
|                              | --                       | msgcomm<br>bitrate                                           |                                                                                                                                                                          |            |
|                              | --                       | enable,<br>tmcfplinee<br>disable<br>diting                   |                                                                                                                                                                          |            |
|                              | --                       | del, bksp                                                    |                                                                                                                                                                          |            |
|                              | --                       | tmcfgdelet<br>rl                                             |                                                                                                                                                                          |            |
|                              | --                       | echo,<br>tmcfgecho<br>noecho<br>ctrl                         |                                                                                                                                                                          |            |
|                              | --                       | enable,<br>tmcfghand<br>disable<br>shakectrl                 |                                                                                                                                                                          |            |
|                              | --                       | noterm, crlf,<br>tmcfgnewli<br>null, cr, lfc,<br>neseq<br>lf |                                                                                                                                                                          |            |
| --                           | cr, null                 |                                                              |                                                                                                                                                                          |            |
| --                           | tmcfginput<br>newlineseq |                                                              |                                                                                                                                                                          |            |

**Table E-1. SYSCFG Options (continued)**

| Options                       | Suboptions               | Valid Arguments                                                                            | Description                                                             | Replicated |
|-------------------------------|--------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------|
| serialuseraccess<br>or<br>sua | --usrprivlmt             | user,<br>operator,<br>administrator,<br>noaccess                                           | Configures and displays user access parameters for the serial channel.  |            |
|                               | --userid                 | 2–10                                                                                       |                                                                         |            |
|                               | --currentenableduserids  | NA                                                                                         |                                                                         |            |
|                               | --useridswitchfixednames | NA                                                                                         |                                                                         |            |
| --solaction                   |                          |                                                                                            | Enables or disables Serial-Over-LAN (SOL) access for a particular user. |            |
|                               | --userid                 | 2–10 if your system has a DRAC 4 controller<br>2–16 if your system has a DRAC 5 controller |                                                                         |            |
|                               | --action                 | enable,<br>disable                                                                         |                                                                         |            |

**Table E-1. SYSCFG Options (continued)**

| Options      | Suboptions             | Valid Arguments               | Description                                                                                                                                      | Replicated |
|--------------|------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| solcfgparams | --solenable            | enable, disable               | Configures and displays SOL configuration parameters.                                                                                            |            |
|              | --solprivlevel         | user, operator, administrator |                                                                                                                                                  |            |
|              | --solcharaccuminterval | 1-255                         |                                                                                                                                                  |            |
|              | --solcharsendthreshold | 1-255                         |                                                                                                                                                  |            |
|              | --solbitrate           | 9600, 19200                   |                                                                                                                                                  |            |
| ssninfo      | --maxactivesns         | NA                            | Displays information about the number of possible active sessions and the number of currently active sessions on all channels on the controller. |            |
|              | --currentactivevessns  | NA                            |                                                                                                                                                  |            |
| useraction   | --userid               | 2-10                          | Enables and disables User IDs for the <b>serialchannelaccess</b> and <b>lanchannelaccess</b> options.                                            |            |
|              | --action               | enable, disable               |                                                                                                                                                  |            |
| username     | --name                 | <string>                      | Assigns user names to a given User ID and displays user names associated with a given User ID.                                                   |            |
|              | --userid               | 2-10                          |                                                                                                                                                  |            |
| --version    | NA                     | NA                            | Displays the version information for the SYSCFG utility.                                                                                         |            |
| -b           |                        | <string>                      | Specifies the value to write to state data.                                                                                                      |            |
| -r or --read |                        | NA                            | Reads the value of state data.                                                                                                                   |            |

**Table E-1. SYSCFG Options (continued)**

| <b>Options</b> | <b>Suboptions</b> | <b>Valid Arguments</b> | <b>Description</b>                                                                                                    | <b>Replicated</b> |
|----------------|-------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------|
| -x             |                   | NA                     | Specifies that the state data value should be in hexadecimal format.                                                  |                   |
| --asset        |                   | NA                     | Reports the asset tag for a system.                                                                                   |                   |
| --biosver      |                   | NA                     | Reports the BIOS version for a system.                                                                                |                   |
| --chassvctag   |                   | NA                     | Reports the chassis service tag for modular systems.                                                                  |                   |
| --cpucount     |                   | NA                     | Reports the number of processors in a system.                                                                         |                   |
| --cpuspeed     |                   | NA                     | Reports the speed of all processors in a system.                                                                      |                   |
| --envfile      |                   | <string>               | Specifies the input file to use for resolving PCI vendor, device, and class codes to environment variables and names. |                   |
| --mem          |                   | NA                     | Reports the amount of system memory in a system.                                                                      |                   |
| --n            |                   | <string>               | Specifies an input file to use for resolving PCI vendor and device numbers to strings.                                |                   |
| --ovrwr        |                   | NA                     | Overwrites the specified file contents when used with the <b>-o</b> option.                                           |                   |
| --pci          |                   | NA                     | Scans all PCI buses and reports the results.                                                                          |                   |
| --slot         |                   | NA                     | Reports the slot of a modular system.                                                                                 |                   |
| --svctag       |                   | NA                     | Reports the service tag for a system.                                                                                 |                   |

**Table E-1. SYSCFG Options (continued)**

| Options    | Suboptions | Valid Arguments | Description                                                              | Replicated |
|------------|------------|-----------------|--------------------------------------------------------------------------|------------|
| --sysasset |            | NA              | Reports the asset tag for a server module in a modular system chassis.   |            |
| --sysid    |            | NA              | Reports the unique system ID bytes for a system.                         |            |
| --sysname  |            | NA              | Reports the system identification string for a system.                   |            |
| --sysvctag |            | NA              | Reports the service tag for a server module in a modular system chassis. |            |
| --uuid     |            | NA              | Reports the unique universal identifier (UUID) for a system.             |            |

## RAIDCFG Options

Table E-2 lists all the RAIDCFG options and gives a brief description of these options. For details on these options, see the section, "RAIDCFG".

**Table E-2. RAIDCFG Short and Long Format Options**

| Option                            | Valid Arguments | Short Description                                                                                                                                       | Mandatory or Optional                                      |
|-----------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| No option<br>-h<br>-?<br>or<br>/? | NA              | Displays general usage information for the utility. The usage information consists of a comprehensive list of valid options, parameters, and arguments. | Optional.<br>See Table 4-1 for specific usage information. |

**Table E-2. RAIDCFG Short and Long Format Options (continued)**

| Option                   | Valid Arguments                                                                                                                              | Short Description                                                                                                                                                                                                                                                                                                                               | Mandatory or Optional                                          |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| -ac<br>or<br>action      | cvd<br>or<br>createvdisk                                                                                                                     | Creates a virtual disk.<br><br><b>NOTE:</b> When providing multiple physical disks for the createvdisk command, do not separate the disks with spaces. For example, -ad=1 : 4 , 1 : 5 causes an error. The correct syntax for displaying multiple physical disks is -ad=1 : 4 , 1 : 5 , 1 : 6.                                                  | See Table 4-4 for specific usage information.                  |
| -ac<br>or<br>action      | dvd<br>or<br>deletevdisk                                                                                                                     | Deletes a virtual disk.                                                                                                                                                                                                                                                                                                                         | See Table 4-7 for specific usage information.                  |
| -ad<br>or<br>adisk       | NA                                                                                                                                           | Specifies an array disk command.                                                                                                                                                                                                                                                                                                                | See Table 4-5 for specific usage information.                  |
| -ad<br>or<br>adisk       | ch:targ, ch:targ, ...<br>or ch:targ:lun,...<br>or ch:targ:enc<br>channel:target, or<br>channel:target:lun,<br>or<br>channel:target:enclosure | Specifies an array disk.<br><br>For SCSI controllers, the value of lun should always be 0.<br><br>For SAS controllers, the value of enclosure can be non-zero, in which case you need to specify values for channel, target, and enclosure.<br><br><b>NOTE:</b> You can also use pdisk or -pd instead of adisk or -ad to specify an array disk. | Optional.<br><br>See Table 4-5 for specific usage information. |
| -c<br>or<br>controllerid | <valid controller ID number>                                                                                                                 | Specifies a RAID controller.                                                                                                                                                                                                                                                                                                                    | See Table 4-3 for specific usage information.                  |



**Table E-2. RAIDCFG Short and Long Format Options (continued)**

| Option                     | Valid Arguments                                                                                                                              | Short Description                                                                                                                                                                                                                                                    | Mandatory or Optional                                                                           |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| -cp<br>or<br>cachepolicy   | d, c                                                                                                                                         | Specifies the virtual disk cache policy.                                                                                                                                                                                                                             | Optional.<br>See Table 4-4 for specific usage information.                                      |
| -ctrl<br>or<br>controller  | NA                                                                                                                                           | Displays a list of the supported RAID controllers in the system, along with select property information.                                                                                                                                                             | Mandatory, must be typed in the correct order.<br>See Table 4-3 for specific usage information. |
| -envc<br>or<br>envcommand  | <string>                                                                                                                                     | Sets a user-defined environmental variable (<string>) to the value returned from a function call.                                                                                                                                                                    | See Table 4-9 for specific usage information.                                                   |
| -envn<br>or<br>envname     | <string>                                                                                                                                     | Sets the environment variable (<string>) that equates to the value returned from a function call.                                                                                                                                                                    | See Table 4-9 for specific usage information.                                                   |
| -fd<br>or<br>failoverdrive | ch:targ, ch:targ, ...<br>or ch:targ:lun,...<br>or ch:targ:enc<br>channel:target, or<br>channel:target:lun,<br>or<br>channel:target:enclosure | Specifies the location of the failover drive in an array.<br>For SCSI controllers, the value of lun should always be 0.<br>For SAS controllers, the value of enclosure can be non-zero, in which case you need to specify values for channel, target, and enclosure. | Optional.<br>See Table 4-4 for specific usage information.                                      |
|                            |                                                                                                                                              | <b>NOTE:</b> From DTK 2.4 onwards, the -fd option creates dedicated hot spares instead of global hot spares. To set global hot spares, see Table 4-8.                                                                                                                |                                                                                                 |

**Table E-2. RAIDCFG Short and Long Format Options (continued)**

| <b>Option</b>           | <b>Valid Arguments</b>    | <b>Short Description</b>                                                                                                                            | <b>Mandatory or Optional</b>                                 |
|-------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| -i                      | <filename>                | Reads the RAID configuration information from the given .ini filename and creates the RAID configurations on the specified controllers.             | Mandatory.<br>See Table 4-11 for specific usage information. |
| -l<br>or<br>logfile     | <filename>                | Logs command line output to a file.                                                                                                                 | Optional.<br>See Table 4-12 for specific usage information.  |
| -o                      | <filename>                | Reads the RAID configurations from all available controllers and write these configurations in the given .ini filename.                             | Mandatory.<br>See Table 4-11 for specific usage information. |
| -r<br>or<br>raid        | <valid RAID level number> | Sets the RAID level for the array.<br>Valid RAID values are 0, 1, 5, 10, 50.<br>If no value is specified for RAID, 0 is taken as the default level. | Optional.<br>See Table 4-4 for specific usage information.   |
| -rp<br>or<br>readpolicy | ra, ara, nra, rc, nrc     | Sets the read policy for the virtual disk.                                                                                                          | Optional.<br>See Table 4-4 for specific usage information.   |

**Table E-2. RAIDCFG Short and Long Format Options (*continued*)**

| Option                          | Valid Arguments | Short Description                                                                                                                                                                                                                                                                                                         | Mandatory or Optional                                           |
|---------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| -se<br>or<br>setenviro<br>nment | NA              | Sets a user-defined environment variable to the value returned from the function call. Function calls are:<br><br>getcontrollerslots,<br>getfirmware,<br>getcontrollertype,<br>getadisks, getadiskcount,<br>getfreeadisks,<br>getfreeadiskcount,<br>getfreeadisksize,<br>gethotspares.                                    | Mandatory.<br><br>See Table 4-9 for specific usage information. |
| -si<br>or<br>silent             | NA              | Does not display any information on the terminal console.                                                                                                                                                                                                                                                                 | Optional.<br><br>See Table 4-12 for specific usage information. |
| -sz<br>or<br>size               | <number>        | Sets the maximum size on the virtual disk in MB or GB if the size is not provided.<br><br>The default size is in MB. If GB follows the number, the size is expressed in GB.                                                                                                                                               | Optional.<br><br>See Table 4-4 for specific usage information.  |
| -sp<br>or<br>spanlength         | <number>        | The span size of RAID 5, which is a mandatory parameter for RAID 50.<br><br><b>NOTE:</b> Spanlength is applicable only for RAID 50. The minimum permissible spanlength value is 3. The number of array disks for creating virtual disks should not be a prime number and should be divisible by the specified spanlength. | Mandatory.<br><br>See Table 4-4 for specific usage information. |

**Table E-2. RAIDCFG Short and Long Format Options (continued)**

| Option                   | Valid Arguments                | Short Description                                                                                                                                                                                   | Mandatory or Optional                                       |
|--------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| -ssz<br>or<br>stripesize | <number>                       | Sets the stripe size on the virtual disk in KB.<br><b>NOTE:</b> When creating virtual disks, do not specify the units for chunk (stripe) size. The units are always listed in KB.                   | Optional.<br>See Table 4-4 for specific usage information.  |
| -vd<br>or<br>vdisk       | NA                             | Displays the virtual disks under all of the controllers along with the physical array disks that make up the virtual disks.                                                                         | See Table 4-6 for specific usage information.               |
| -vd<br>or<br>vdisk       | <valid virtual disk ID number> | Displays the specified virtual disk.                                                                                                                                                                | Optional.<br>See Table 4-6 for specific usage information.  |
| -ver<br>or<br>version    | NA                             | Displays the version number of the utility.                                                                                                                                                         | Optional.<br>See Table 4-12 for specific usage information. |
| -wp<br>or<br>writepolicy | wb, wt, wc, nwc                | Sets the write policy for a virtual disk. The valid arguments are: <b>wb</b> (write-back caching), <b>wt</b> (write-through caching), <b>wc</b> (write-caching), and <b>nwc</b> (no-write-caching). | Optional.<br>See Table 4-12 for specific usage information. |

# Glossary

The following list defines or identifies technical terms, abbreviations, and acronyms used in your system 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.

## **ACL**

Abbreviation for access control list. ACL files are text files that contain lists that define who can access resources stored on a Novell® Web server.

## **adapter card**

An expansion card that plugs into an expansion-card connector on the system's system board. An adapter card adds some specialized function to the system 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 advanced graphics port.

## **ANSI**

Abbreviation for American National Standards Institute.

**API**

Abbreviation for application program interface, which is a set of routines, protocols, and tools for building software applications that act as an interface between the operating system and application programs.

**argument**

The value supplied with an option, such as in the following command line instance:

```
utilname --option=argument
```

**ARP**

Acronym for Address Resolution Protocol, which is a method for finding a host's Ethernet address from its Internet address.

**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**

Acronym for advanced SCSI programming interface.

**asset tag code**

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

**attribute**

As it relates to DMI, 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.

**autoexec.bat file**

The **autoexec.bat** file is executed when you boot your system (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 system, 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 system's hard drive on a regular basis. Before making a change to the configuration of your system, 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 system.

**beep code**

A diagnostic message in the form of a pattern of beeps from your system'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 integrated circuit (IC) package that uses an array of solder balls, instead of pins, to connect to a system board.

**binary**

A base-2 numbering system that uses 0 and 1 to represent information. The system performs operations based on the ordering and calculation of these numbers.

**BIOS**

Acronym for basic input/output system. Your system'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 system.

**BMC**

Abbreviation for baseboard management controller, which is the controller interface between the RAC and the managed system's ESM.

**boot routine**

When you start your system, 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 system by pressing <Ctrl><Alt><Del>; otherwise, you must perform a cold boot by pressing the reset button or by turning the system off and then back on.

**bootable diskette**

You can start your system from a diskette. To make a bootable diskette on a system running Windows, insert a diskette in the diskette drive, type `sys a:` at the command line prompt, and press <Enter>. Use this bootable diskette if your system does 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 system. Your system contains an expansion bus that allows the microprocessor to communicate with controllers for all the various peripheral devices connected to the system. Your system also contains an address bus and a data bus for communication between the microprocessor and RAM.

**byte**

Eight contiguous bits of information, the basic data unit used by your system.

**C**

Abbreviation for Celsius.

**CA**

Abbreviation for certification authority.



**cache**

A fast storage area that keeps a copy of data or instructions for quicker data retrieval. For example, your system'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 system'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.

**CHAP**

Acronym for Challenge-Handshake Authentication Protocol, an authentication scheme used by PPP servers to validate the identity of the originator of the connection upon connection or any time later.

m for Challenge-Handshake Authentication chip

**chip**

A set of microminiaturized, electronic circuits that are designed for use as processors and memory in systems. 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 inch square by 1/30 inch 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.

**CIMOM**

Acronym for common information model object manager.

**CI/O**

Abbreviation for comprehensive input/output.

**CLI**

Abbreviation for command line interface.

**CMOS**

Acronym for complementary metal-oxide semiconductor. In systems, CMOS memory chips are often used for NVRAM storage.

**command**

The combination of an option and argument or just an option if no argument is required, such as in the following command line instances:

```
utilname --option
```

```
utilname --option=argument
```

**command line example**

A series of valid commands, options, and arguments typed in the command line. For example, the DTK utility name and all necessary options and arguments as they are entered through the operating system shell:

```
A:>utilname --option --option=argument
```

**COMn**

The device names for the first through fourth serial ports on your system 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.

**config.sys file**

The **config.sys** file is executed when you boot your system (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.

**ConsoleOne**

Novell ConsoleOne is a Java-based foundation for graphical utilities that manage and administer network resources from different locations and platforms. ConsoleOne provides a single point of control for all Novell and external products.

**console redirection**

Console redirection is a function that directs a managed system's display screen, mouse functions, and keyboard functions to the corresponding devices on a management station. You may then use the management station's system console to control the managed system.

**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 system 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 systems. Unless they are specially designed, MS-DOS® programs are limited to running in conventional memory.

**C00**

Abbreviation for cost of ownership.

**cooling unit**

Sets of fans or other cooling devices in a system chassis.

**coprocessor**

A chip that relieves the system'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.

**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**

Abbreviation for Dynamic Host Configuration Protocol, a protocol that provides a means to dynamically allocate IP addresses to computers on a LAN.

**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 one 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 personal computers 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 and an off position.

**directory**

Directories help keep related files organized on a disk in an 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.

**DKS**

Abbreviation for dynamic kernel support.

**DMA**

Abbreviation for direct memory access. A DMA channel allows certain types of data transfer between RAM and a device to bypass the microprocessor.

**DMTF**

Abbreviation for Distributed Management Task Force, a consortium of companies representing hardware and software providers.

**dpi**

Abbreviation for dots per inch.

**DRAM**

Acronym for dynamic random-access memory. A system's RAM is usually made up entirely of DRAM chips. Because DRAM chips cannot store an electrical charge indefinitely, your system continually refreshes each DRAM chip in the system.

**drive-type number**

Your system 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 system's System Setup program must match the actual drive(s) installed in the system. 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.

**DSU**

Abbreviation for disk storage unit.

**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 communication line. The DTE is connected to the cable or communication line through a data communication 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 microprocessor.

**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 system 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.

**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.

**ESD**

Abbreviation for electrostatic discharge.

**ESM**

Abbreviation for embedded systems management, which is a set of instruction coding in system software and firmware that notifies a user about potential hardware problems on a system.

**expanded memory**

A technique for accessing RAM above 1 MB. To enable expanded memory on your system, 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 system 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 system'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.



## **FAT**

Acronym for file allocation table. FAT and FAT32 are file systems that are defined as follows:

- **FAT** — A file system used by MS-DOS, Windows 3.x, Windows 95, and Windows 98. Windows NT® and Windows 2000 also can use the FAT file system. The operating system maintains a table to keep track of the status of various segments of disk space used for file storage.
- **FAT32** — A derivative of the FAT file system. FAT32 supports smaller cluster sizes than FAT, thus providing more efficient space allocation on FAT32 drives.
- **FAT16** — A derivative of the FAT file system. A volume using FAT16 can hold a maximum of 65,526 clusters. FAT16 is used for hard disk volumes ranging in size from 16 MB to 2,048 MB.

## **FEPRM**

Acronym for flash erasable programmable read-only memory. Flash memory is a kind of nonvolatile storage device similar to EEPROM, but the erasing is done only in blocks or the entire chip.

## **Fibre Channel**

A data transfer interface technology that allows for high-speed I/O and networking functionality in a single connectivity technology. The Fibre Channel Standard supports several topologies, including Fibre Channel Point-to-Point, Fibre Channel Fabric (generic switching topology), and Fibre Channel Arbitrated Loop (FC\_AL).

## **firmware**

Software (programs or data) that has been written onto read-only memory (ROM). Firmware can boot and operate a device. Each controller contains firmware which helps provide the controller's functionality.

## **flash BIOS**

A BIOS that is stored in flash memory rather than in 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 system; 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**

Abbreviation for field programmable gate array, a programmable logic chip (PLD) with a high density of gates.

**FRU**

Abbreviation for field replaceable unit.

**ft**

Abbreviation for feet.

**FTP**

Abbreviation for file transfer protocol.

**FQDN**

Abbreviation for fully qualified domain name. It consists of a host and domain name, including top-level domain.

Example: *www.webopedia.com*.

*www* is the host, *webopedia* is the second-level domain, and *.com* is the top-level domain.

**function commands**

Commands that specify an action to be performed.

**G**

Abbreviation for gravities.

**GB**

Abbreviation for gigabyte(s). A gigabyte equals 1024 megabytes or 1,073,741,824 bytes.

**gcc**

Abbreviation for gnu C complier.

**GMT**

Abbreviation for Greenwich Mean Time, which is the standard time common to every place in the world. GMT nominally reflects the mean solar time along the prime meridian (0 longitude) that runs through the Greenwich Observatory outside of London, UK.

**graphics coprocessor**

See coprocessor.

**graphics mode**

A video mode that can be defined as x horizontal by y vertical pixels by z colors.

**GUI**

Acronym for graphical user interface.

**GUID**

Globally unique identifier. A 16-byte identifier based on the host's network interface card (NIC) address and time stamp.

**h**

Abbreviation for hexadecimal. A base-16 numbering system, often used in programming to identify addresses in the system'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.

**HBA**

Abbreviation for host bus adapter. A PCI adapter card that resides in the system whose only function is to convert data commands from PCI-bus format to storage interconnect format (examples: SCSI, Fibre Channel) and communicate directly with hard drives, tape drives, CD drives, or other storage devices.

**heat sink**

A metal plate with metal pegs or ribs that help dissipate heat. Most microprocessors include a heat sink.

**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. *Also see* XMM.

**host adapter**

A host adapter implements communication between the system'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 still running. Also called a *hot spare*.

**HPFS**

Abbreviation for the High Performance File System option in the Windows NT operating systems.

**HTTP**

Abbreviation for Hypertext Transfer Protocol. HTTP is the client-server TCP/IP protocol used on the World Wide Web for the exchange of HTML documents.

**HTTPS**

Abbreviation for HyperText Transmission Protocol, Secure. HTTPS is a variant of HTTP used by Web browsers for handling secure transactions. HTTPS is a unique protocol that is simply SSL underneath HTTP. You need to use https:// for HTTP URLs with SSL, whereas you continue to use http:// for HTTP URLs without SSL.

**Hz**

Abbreviation for hertz.

**ICES**

Abbreviation for Interface-Causing Equipment Standard (in Canada).

**ICMB**

Abbreviation for Intelligent Chassis Management Bus.

**ICMP**

Abbreviation for Internet Control Message Protocol. ICMP is a TCP/IP protocol used to send error and control messages.

**ICU**

Abbreviation for ISA Configuration Utility.

**ID**

Abbreviation for identifier, commonly used when referring to a user identifier (user ID), object identifier (object ID), or hardware identifier (controller ID).

**IDE**

Abbreviation for Integrated Drive 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.

**IHV**

Abbreviation 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 address**

Abbreviation for Internet Protocol address. *See* TCP/IP.

**IPMB**

Abbreviation for intelligent platform management bus, which is a bus used in systems management technology.

**IPMI**

Abbreviation for Intelligent Platform Management Interface, which is a part of systems management technology.

**IPX**

Abbreviation 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 system (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 system are also compatible with 8-bit ISA expansion cards.

**ISV**

Abbreviation for independent software vendor.

**ITE**

Abbreviation for information technology equipment.

**Java**

A cross-platform programming language developed by Sun Microsystems.

**JSSE**

Abbreviation for Java Secure Socket Extension.

**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.

**K**

Abbreviation for kilo-, indicating 1000.

**KB**

Abbreviation for kilobyte(s), 1024 bytes.

**KB/sec**

Abbreviation for kilobyte(s) per second.

**Kbit(s)**

Abbreviation for kilobit(s), 1024 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 system by pressing the <Ctrl><Alt><Del> key combination.

**kHz**

Abbreviation for kilohertz, 1000 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**

Abbreviation for leaded or leadless chip carrier.

**LCD**

Abbreviation for liquid crystal display.

A type of display used in many portable computers. LCDs utilize two sheets of polarizing material with a liquid crystal solution between them. An electric current passed through the liquid causes the crystals to align so that light cannot pass through them. Each crystal, therefore, is like a shutter, either allowing light to pass through or blocking the light.

**LIF**

Acronym for low insertion force. Some systems 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 system 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 system's microprocessor.

**LPT<sub>n</sub>**

The device names for the first through third parallel printer ports on your system are LPT1, LPT2, and LPT3.

**LRA**

Abbreviation for local response agent.

**mA**

Abbreviation for milliamper(e)s.

**MAC**

Acronym for media access control, which is a network sublayer between a network node and the network physical layer.

**MAC address**

Acronym for media access control address, which is a unique address embedded in the physical components of a NIC.

**mAh**

Abbreviation for milliamper(e)-hour(s).

**managed system**

A managed system is any system that is monitored and managed using Server Administrator. Systems running Server Administrator can be managed locally or remotely through a supported Web browser. *See* remote management system.

**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 system 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 system with 16 MB of memory" refers to a system with 16 MB of RAM.

**memory address**

A specific location, usually expressed as a hexadecimal number, in the system'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. The MIB is used to send detailed status/commands from or to an SNMP managed device.

**microprocessor**

The primary computational chip inside the system 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**

Acronym for musical instrument digital interface.

**modem**

A device that allows your system to communicate with other systems over telephone lines.

**modular system**

A system that can include multiple server modules. Each server module functions as an individual system. To function as a system, a server module is inserted into a chassis which includes power supplies, fans, a system management module, and at least one network switch module. The power supplies, fans, system management module, and network switch module are shared resources of the server modules in the chassis. *See* server module.

**MOF**

Acronym for managed object format, which is an ASCII file that contains the formal definition of a CIM schema.

**mouse**

A pointing device that controls the movement of the cursor on a screen. Mouse-aware software allows you to activate commands by clicking a mouse button while pointing at objects displayed on the screen.

**MPEG**

Acronym for Motion Picture Experts Group. MPEG is a digital video file format.

**ms**

Abbreviation for millisecond(s).

**MTBF**

Abbreviation for mean time between failures.

**multifrequency monitor**

A monitor that supports several video standards. A multifrequency monitor can adjust to the frequency range of the signal from a variety of video adapters.

**mV**

Abbreviation for millivolt(s).

**name**

The name of an object or variable is the exact string that identifies it in an SNMP Management Information Base (MIB) file or in a CIM Management Object File (MOF).

**NDIS**

Abbreviation for Network Driver Interface Specification.

**NDS**

Abbreviation for NetWare® Directory Structure.

**NIC**

Acronym for network interface controller.

**NICI**

Abbreviation for NetWare International Cryptographic Infrastructure.

**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 Windows NT File System option in the Windows NT operating system. NTFS is an advanced file system designed for use specifically within the Windows NT operating system. It supports file system recovery, extremely large storage media, and long filenames. It also supports object-oriented applications by treating all files as objects with user-defined and system-defined attributes. *See also* FAT and FAT32.

**NTLM**

Abbreviation for Windows NT LAN Manager. NTLM is the security protocol for the Windows NT operating system.

**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 system. NVRAM is used for maintaining the date, time, and system configuration information.

**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.

**operation**

The process of applying a command through the appropriate interface.

**option**

An argument to a command that modifies its function rather than providing data and is usually set off by a delimiter such as - or /. Some options may or must be followed by a value, for example:

```
utilname -option=argument
```

**OTP**

Abbreviation for one-time programmable.

**PAM**

Acronym for Pluggable Authentication Modules. PAM allows system administrators to set an authentication policy without having to recompile authentication programs.

**parallel port**

An I/O port used most often to connect a parallel printer to your system. You can usually identify a parallel port on your system 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.

**PC card**

A credit-card sized, removable module for portable computers standardized by PCMCIA. PC Cards are also known as *PCMCIA cards*. PC Cards are 16-bit devices that are used to attach modems, network adapters, sound cards, radio transceivers, solid state disks and hard disks to a portable computer. The PC Card is a plug-and-play device, which is configured automatically by the Card Services software.

**PCI**

Abbreviation for Peripheral Component Interconnect. The predominant 32-bit or 64-bit local-bus standard 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 system.

**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 MB and 127 MB.

**PIC**

Acronym for programmable interrupt controller.

**PIP**

Acronym for peripheral interchange program.

**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.

**PKCS #7**

Abbreviation for Public Key Cryptography Standard #7. PKCS #7 is an RSA Data Security, Inc., standard for encapsulating signed data such as a certificate chain.

**PKIS**

Abbreviation for Novell Public Key Infrastructure Services.

**PLCC**

Abbreviation for plastic leaded chip carrier.

**PEF**

Abbreviation for Platform Event Filter.

A PEF is a function that compares an event against a set of configurable event filters and triggers a selectable action, such as, an alert on a match.

**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 system, 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 system 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.

**PPP**

Short for Point-to-Point Protocol; it is a method of connecting a computer to the Internet.

**PQFP**

Abbreviation for plastic quad flat pack, a type of microprocessor socket in which the microprocessor chip is permanently mounted.

**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 to 4 GB
- Multitasking
- Virtual memory, a method for increasing addressable memory by using the hard drive

**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**

Abbreviation for quad flat pack.

**RAC**

Acronym for remote access controller.

**RAID**

Acronym for redundant array of independent drives.



**RAM**

Acronym for random-access memory. A system'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 system.

**RAMDAC**

Acronym for random-access memory digital-to-analog converter.

**RAM disk**

A memory-resident program that emulates a hard drive.

**RAS**

Acronym for remote access service, which is a service provided by some Microsoft Windows operating systems that allows most of the services that would be available on a network to be accessed over a modem. The service includes support for dial-up and logon tasks and presents the same network interface as the normal network drivers used for the NIC.

**RBAC**

Abbreviation for role-based access control.

**RDRAM**

Acronym for Rambus DRAM. A dynamic RAM chip technology from Rambus, Inc. Direct RDRAMs are used in systems. 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.

**remote management system**

A remote management system is any system that accesses the Server Administrator home page on a managed system from a remote location using a supported Web browser. *See* managed system.

**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 system contains some programs essential to its operation in ROM code. Unlike RAM, a ROM chip retains its contents even after you turn off your system. Examples of code in ROM include the program that initiates your system's boot routine and the POST.

**rpm**

Abbreviation for revolutions per minute.

**RPM**

Abbreviation for RPM Package Manager.

**RSA**

Abbreviation for Rivest, Shamir, and Adleman, the inventors of a public key encryption technology developed by RSA Data Security, Inc.

**RTC**

Abbreviation for real-time clock. Battery-powered clock circuitry inside the system that keeps the date and time after you turn off the system.

**SAN**

Acronym for storage area network.

**SAS**

Acronym for Secure Authentication Services.

**SATA**

Abbreviation for Serial Advanced Technology Attachment.

**SCA**

Abbreviation 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.

**SEL**

Acronym for system event log.

The system event log is a time-stamped nonvolatile record of the most recent platform events that have been logged in the shelf.

**SDMS**

Abbreviation for SCSI device management system.

**sec**

Abbreviation for second(s).

**SEC**

Abbreviation for single-edge contact.

**secure port server**

An application that makes Web pages available for viewing by Web browsers using the HTTPS protocol. *See* Web server.

**serial port**

An I/O port used most often to connect a modem to your system. You can usually identify a serial port on your system 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 system 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.

**server module**

A modular system component that functions as an individual system. To function as a system, a server module is inserted into a chassis which includes power supplies, fans, a system management module, and at least one network switch module. The power supplies, fans, system management module, and network switch module are shared resources of the server modules in the chassis. *See* modular system.

**service tag number**

A bar code label that identifies each system in the event that you need to call 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 and 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**

Abbreviation for surface mount device.

**SMTP**

Abbreviation for Simple Mail Transfer Protocol.

**SNMP**

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

**SNMP trap**

A notification (event) generated by the RAC or ESM that contains information about state changes on the managed system or about potential hardware problems.

**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 portable computers.

**SOIC**

Abbreviation for Small Outline IC, a small-dimension, plastic, rectangular, surface mount chip package that uses gull-wing pins extending outward.

**SOJ**

Abbreviation for small outline package J-lead, a small-dimension, plastic, rectangular surface mount chip package with j-shaped pins on its two long sides.

**SOL**

Abbreviation for Serial Over LAN. SOL enables suitably designed servers to transparently redirect the serial character stream of a baseboard UART to/from a remote client over a shared LAN. The architecture requires software running on the managed system's BMC and client software running on a management station and/or a central network proxy.

**SRAM**

Abbreviation for static random-access memory. Because SRAM chips do not require continual refreshing, they are substantially faster than DRAM chips.

**SSH**

Abbreviation for Secure Shell.

SSH is a program that may be used to log into another system over a network, to execute commands in a remote system, and to move files from one system to another. It provides strong authentication and secure communication over insecure channels.

**SSL**

Abbreviation for secure socket layer.

**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.

**support commands**

Commands that specify how an action should be performed.

**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 system.

**switch**

On a 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 system 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 system'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 system what hardware is installed and how the system 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 system's hardware and customize the system's operation by setting such features as password protection and energy management. Some options in the System Setup program require that you reboot the system (or the system 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.



**TAP**

Abbreviation for Telelocator Alphanumeric Protocol, which is a protocol used for submitting requests to a pager service.

**TCP/IP**

Abbreviation for Transmission Control Protocol/Internet Protocol. A system for transferring information over a computer network containing dissimilar systems, such as systems running Windows and UNIX<sup>®</sup>.

**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.

**TFTP**

Abbreviation for Trivial File Transfer Protocol. TFTP is a version of the TCP/IP FTP protocol that has no directory or password capability.

**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. Server Administrator-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**

Abbreviation 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 system without starting any TSR programs.

**TSOP**

Abbreviation for thin small outline package. A very thin, plastic, rectangular surface mount chip package with gull-wing pins on its two short sides.

**UART**

Acronym for universal asynchronous receiver transmitter, the electronic circuit that makes up the serial port.

**UDP**

Abbreviation 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.

**UPS**

Abbreviation for uninterruptible power supply. A battery-powered unit that automatically supplies power to your system in the event of an electrical failure.

**URL**

Abbreviation for Uniform Resource Locator (formerly Universal Resource Locator).

**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.

**utility partition**

A bootable partition on the hard drive that provides utilities and diagnostics for your hardware and software. When activated, the partition boots and provides an executable environment for the partition's utilities.

**UTC**

Abbreviation for Universal Coordinated Time. *See* GMT.

**UTP**

Abbreviation for unshielded twisted pair.

**UUID**

Abbreviation for Universal Unique Identification.

**V**

Abbreviation for volt(s).

**VAC**

Abbreviation for volt(s) alternating current.

**Validation**

Process of checking a command.

**varbind**

An algorithm used to assign an object identifier (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.

**VDC**

Abbreviation for volt(s) direct current.

**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 system. 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 system'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 systems, 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 system.

**video memory**

Most VGA and SVGA video adapters include memory chips in addition to your system'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 system 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 system or network runs out of memory. The most common way that virus programs move from one system to another is by 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 system'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.

**VNC**

Abbreviation for virtual network computing.

**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.

**VT-100**

Abbreviation for Video Terminal 100, which is used by the most common terminal emulation programs.

## **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*.

## **WAN**

Abbreviation for wide area network.

### **Web server**

An application that makes Web pages available for viewing by Web browsers using the HTTP protocol.

## **WH**

Abbreviation for watt-hour(s).

### **winbom.ini file**

**Winbom.ini** provides a bill-of-materials to guide the installation and configuration process. **Winbom.ini** is used in different ways throughout the preinstallation and manufacturing process. You can start a computer using Windows PE as the operating system, and run the command `factory -winpe` to preinstall Windows from a configuration set specified in the **Winbom.ini** file.

### **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.

**Windows 95**

An integrated and complete Microsoft Windows operating system that does not require MS-DOS and that provides advanced operating system performance, improved ease of use, enhanced workgroup functionality, and simplified file management and browsing.

**Windows NT**

High-performance server and workstation operating system software developed by Microsoft that is intended for technical, engineering, and financial applications.

**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.

**X.509 Certificate**

An X.509 certificate binds a public encryption key to the identity or other attribute of its principal. Principals can be people, application code (such as a signed applet) or any other uniquely identified entity (such as a secure port server or Web server).

**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.

**X Windows system**

The graphical user interface used in the Red Hat Enterprise Linux environment.

**ZIF**

Acronym for zero insertion force. Some systems 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 100-MB removable cartridges. The drive is bundled with software that can catalog the disks and lock the files for security. A 250-MB version of the Zip drive also reads and writes the 100-MB Zip cartridges.



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