

Dell OpenManage
Deployment Toolkit
Version 3.5

Command Line Interface Reference Guide



Notes and Cautions



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



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

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Introduction

Dell OpenManage Deployment Toolkit (DTK) includes a set of utilities, sample scripts, and sample configuration files to deploy and configure your Dell system. You can use DTK to build script-based and RPM-based installation for deploying a large number of systems reliably, without changing their current deployment processes. You can use DTK in a Microsoft Windows Preinstallation Environment (Windows PE) or a Linux environment.

What's New in This Release

The new features for this release include:

- Support for Microsoft Windows Server 2008 R2 with SP1.
- Support for the following BIOS options: coreperformanceboost, memdynamicpower, memprefailurenotify, and inteltxt. For more information, see Table 3-2.
- Support for the following Dell PowerEdge systems: R210 II, T110 II, M915, R910, R810, and M910.



NOTE: From DTK 3.4 onwards, PowerEdge systems M710HD and M610x are supported.

Requirements

For Windows PE, the DTK utilities support Windows PE 2.0 (32-bit and 64-bit) and Windows PE 3.0 (32-bit and 64-bit).

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

Toolkit Utilities

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 the **.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) 4, DRAC 5, and iDRAC 6.

Disk Partitioning Utility

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

Replication of DTK Utilities

File Format

The **-i** and **-o** options use the **.ini** file format for system configuration (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" on page 241.

SYSCFG Replication Rules

Not all BIOS and BMC options can be replicated using the `.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 PowerEdge 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, the command `syscfg --embsataraid=ahci` is not applicable on some PowerEdge 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 to 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 Documents You May Need

In addition to this guide, you can access the following guides available at support.dell.com/manuals. On the **Manuals** page, click **Software**→ **Systems Management**. Click on the appropriate product link on the right-side to access the documents.

- The *Dell OpenManage Deployment Toolkit Quick Installation Guide* provides information about installing and deploying DTK on supported Dell systems. The guide is available as part of the DTK download and at support.dell.com.
- The *Dell OpenManage Deployment Toolkit User's Guide* provides best practice procedures that focus on the basic tasks for successful deployment of Dell systems.
- The *Dell Systems Software Support Matrix* provides information about the various Dell systems, the operating systems supported by these systems, and the Dell OpenManage components that can be installed on these systems.

- 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 User's Guide* provides information on using Server Administrator on supported operating systems.
- The *Dell Update Packages User's Guide* provides information about obtaining and using Dell Update Packages as part of your system update strategy.
- For more information on RAID controllers, see *Dell OpenManage Server Administrator Storage Management User's Guide* on the Dell support site.
- The *Command Line Reference Guide for iDRAC6 and CMC* provides information about the RACADM subcommands, supported interfaces, property database groups and object definitions for iDRAC6 and CMC.
- The *Integrated Dell Remote Access Controller 6 (iDRAC6) Enterprise for Blade Servers User Guide* provides information about configuring and using an iDRAC6 for blade servers to remotely manage and monitor your system and its shared resources through a network.
- The *Integrated Dell Remote Access Controller 6 (iDRAC6) User Guide* provides complete information about configuring and using an iDRAC6 for rack and tower servers to remotely manage and monitor your system and its shared resources through a network.
- The *Glossary* provides information about the terms used in this document.
- The Deployment Toolkit **README.txt** file, which is available as part of the DTK download at support.dell.com, provides the latest available information about the installation and operation of the DTK components and the list of PowerEdge systems supported for this version of DTK.

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 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>
```



NOTE: The *Command Line Reference Guide* for iDRAC6 and CMC available on support.dell.com/manuals provides information about the RACADM subcommands, supported interfaces, property database groups and object definitions for iDRAC6 and CMC.

- 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 must 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

Element	Description
-	Prefix single character options with a single hyphen (-). NOTE: This delimiter is not applicable to Baseboard Management Controller (BMC) sub-options.
--	Prefix multi-character options with two hyphens (--).
utilname	Indicates the generic designation for a DTK utility name.
o	Indicates the generic single-character designation for an option.
optionX	Indicates the generic multi-character designation for a utility name, where you can use X to distinguish multiple options used in the same command line instance.
argX	Indicates the generic designation for an argument, where you can use X to distinguish multiple arguments used in the same command line instance.
[mandatory option]	Indicates the generic designation for a mandatory argument.
<optional argument>	Indicates the generic designation for an optional argument.
<string>	Indicates the generic designation for a string.
<filename>	Indicates the generic designation for a filename.
[]	Indicates a component of the command line. Enter only the information within the brackets and exclude the brackets.

Table 2-1. Command Line Syntax (continued)

Element	Description
...	Indicates that the previous argument can be repeated several times in a command. Enter only the information within the ellipses and exclude the ellipses.
	<p>Separates two mutually exclusive choices in a syntax line. For example:</p> <pre>usb: Turns the usb controller on or off. Argument: enable disable legacy</pre> <p>Enter only one choice: --usb=enable, --usb=disable, or --usb=legacy.</p>

Case Sensitivity

- Command line options, pre-defined 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


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=R910 --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>

Table 2-2. DTK Command Line Examples

Valid/ Invalid	DTK Command Line	Example
valid	<code>syscfg -i=filename --option1 --option2</code>	<code>syscfg -i=/tmp/myfile.txt --floppy --bootseq</code>
valid	<code>syscfg --option=argument bmcoption --option1=argument</code>	<code>syscfg --embnic=on pcp --hostname=webserver</code>

 **NOTE:** Do not combine options that specify **report** or **set** actions in a command line instance.

 **NOTE:** If you use **report** and **set** actions are in the same command line, the command is invalid.

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:** You cannot combine options that specify **read** or **write** actions 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

- Specify the file input using the `-i <filename>` command, where `<filename>` is the name of the input file.
- Specify the file output using 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. Use the `-l` option to record the output of a utility.

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 usage information of the option 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" on page 207.

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 Command Line Interface (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 in `\dell\32\toolkit\tools` or `\dell\64\toolkit\tools` directory. In Linux, you can find it in the `/opt/dell/toolkit/bin` directory.

SYSCFG General Options


 **NOTE:** Some of the options in SYSCFG are followed by an asterisk. These commands do not accept any sub-options or arguments. The values associated with these commands are reported by the BIOS. You cannot modify these values.

Table 3-1 lists the SYSCFG general options.

Table 3-1. SYSCFG General Options

Options	Sub-options	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:>syscfg syscfg Version 3.5.0192 P01 (Windows - Jan 21 2011, 16:48:48) Copyright (c) 2002-2011 Dell Inc. Usage: syscfg --option[=argument] For more information about a particular command, use the option '-h' followed by the command name. Example: syscfg -h --asset</pre>

Table 3-1. SYSCFG General Options (continued)

Options	Sub-options	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><filename></code> must 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	Sub-options	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 sub-options, all sub-options, 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:>syscfg -h lanchannelaccess lanchannelaccess: Reports LAN channel access information. Sub-options: 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	Sub- options	Valid Arguments	Description
-i or --infile	NA	<filename>	<p>This option directs the SYSCFG utility to take input from the 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:>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" on page 17 for more information.</p> <p>Example:</p> <pre>A:>syscfg -l logfile</pre>

Table 3-1. SYSCFG General Options (continued)

Options	Sub- options	Valid Arguments	Description
-o or --outfile	NA	<filename>	<p>This option prints all replicable options to the specified filename. The format of the output is in the .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:>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" on page 21 for more information.</p> <p>Example:</p> <pre>A:>syscfg -s ENVNAME --svctag svctag=SERVICE ENVNAME=SERVICE</pre>
--version* The asterisk is not part of the command syntax.			<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:>syscfg --version syscfg Version 3.5.0192 P01 (Windows - Jan 21 2011, 16:48:48) Copyright (c) 2002-2011 Dell Inc.</pre>

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 pre-defined 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 only displays the valid options.



NOTE: The system must be rebooted for BIOS options to take effect.

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

Option	Valid Arguments	Description	Applicable Systems
--acpower	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 on, the system turns on after AC is restored. When set to off, the system does not turn on after AC is restored. When set to last, 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.</p> <p>This option is available on all supported systems. This value can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --acpower=on acpower=on</pre>	All Dell PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--adjcacheprefetch	enable, disable	<p>When this option is set to enabled, the processor fetches the cache line containing the currently requested data, and the adjacent cache line.</p> <p>When this option is set to disabled, the processor fetches only the cache line containing the currently requested data.</p> <p>Example:</p> <pre>A:>syscfg -- adjcacheprefetch=enable adjcacheprefetch= disable</pre>	All PowerEdge systems
--asset	<string>	<p>This option reports or sets the customer-programmable asset tag number for a system.</p> <p>The maximum length of an asset tag is 10 characters. Asset tag values cannot contain any spaces.</p> <p>This option is available on all supported systems. This value can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --asset= ASSETTAG asset=ASSETTAG</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--assignintr	standard, distributed	<p>This option controls the interrupt assignment of PCI devices in the system. This option is set to standard by default, causing standard interrupt routing that uses interrupt A, B, C, and D for all PCIe devices. When set to distributed, 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:>syscfg --assignintr=standard assignintr=standard</pre>	All PowerEdge systems
--bezelir	enable, disable	<p>This option enables or disables the ESM to monitor and log front bezel intrusion conditions.</p> <p>Example:</p> <pre>A:>syscfg --bezelir=enable bezelir=enable</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--bootmode	uefi, bios	<p>This option enables booting to Unified Extensible Firmware Interface (UEFI) -capable operating systems or ensures compatibility with operating systems that do not support UEFI.</p> <p>Example:</p> <pre>A:>syscfg --bootmode=uefi bootmode=uefi</pre>	PowerEdge xx1x systems

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

Option	Valid Arguments	Description	Applicable Systems
--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 slot or embedded (emb), 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>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
		<p>Numerical Lists Examples:</p> <pre>A:>syscfg --bootseq= 2,3,4,5,1,6</pre> <p>The following devices are set in the boot sequence:</p> <p>Device 2:* usbcdrom.slot.1 - USB CD-ROM device</p> <p>Device 3:* virtualcd.slot.1 - VIRTUAL CDROM</p> <p>Device 4:* hdd.emb.0 - Hard drive C:</p> <p>Device 5:* nic.emb.1 - MBA v2.5.12 Slot 0500</p> <p>Device 1:* virtualfloppy.slot.1 - VIRTUAL FLOPPY</p> <p>Device 6:* usbfloppy.slot.1 - USB Floppy device</p> <p>NOTE: The asterisk indicates that the device is enabled in the BIOS.</p>	

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

Option	Valid Arguments	Description	Applicable Systems
		<p>Device Name Examples</p> <p>Example of device names:</p> <p><code>nic.slot.1</code> (network adapter 1 in PCI slot)</p> <p><code>nic.emb.1</code> (network adapter 1 on system board)</p> <p><code>hdd.emb.0</code> (hard drive C:)</p> <p><code>cdrom.emb.0</code> (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:* <code>cdrom.emb.0</code> - IDE CD-ROM device</p> <p>Device 3:* <code>hdd.emb.0</code> - Hard drive C:</p> <p>Device 5:* <code>virtual.slot.1</code> - VIRTUALCDROM DRIVE</p> <p>Device 1:* <code>floppy.emb.0</code> - Diskette drive A:</p> <p>1226</p>	

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

Option	Valid Arguments	Description	Applicable Systems
		Device 6:* virtual.slot.2 - VIRTUALFLOPPY DRIVE	
		Device 4:* nic.emb.1 - IBA GE Slot 0638 v1226	
		Example 2: <pre>#syscfg --bootseq= nic.emb.1,virtual.slot. 1</pre>	
		The following devices are set in the boot sequence:	
		Device 4:* nic.emb.1 - IBA GE Slot 0638 v VIRTUALFLOPPY DRIVE	
		Device 2:* cdrom.emb.0 - IDE CD-ROM device	
		Device 3:* hdd.emb.0 - Hard drive C:	
		Device 5:* virtual.slot.1 - VIRTUALCDROM DRIVE	
		Device 1:* floppy.emb.0 - Diskette drive A:	
		<p>NOTE: The asterisk indicates that the device is enabled in the BIOS.</p>	

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

Option	Valid Arguments	Description	Applicable Systems
--bootseqretry	enable, disable	<p>This option enables or disables the boot sequence retry feature. When set to enable, the system re-attempts to set the boot order after a 30-second time-out if the last boot attempt has failed. This option can be replicated.</p> <pre>A:>syscfg -- bootseqretry=enable bootseqretry=enable</pre>	All PowerEdge systems
--cmosdefaults	enable, disable	<p>This option requests a default CMOS value during the next reboot. The default values are on and off.</p> <pre>A:>syscfg -- cmosdefaults=enable cmosdefaults=disable</pre>	PowerEdge x9xx and later systems
--conboot	enable, disable	<p>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.</p> <p>Example:</p> <pre>A:>syscfg --conboot= enable conboot=enable</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
<code>--conred</code>	<code>serial1</code> , <code>serial2</code> , <code>off</code> , <code>bmcserial</code> , <code>mmb</code>	<p>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>" on page 74 and "<code>--serial2</code>" on page 75. If only one serial port is present on a system, the <code>serial2</code> argument is not available. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --conred= serial1 conred=serial1</pre>	PowerEdge systems earlier than PowerEdge x9xx systems
<code>--conterm</code>	<code>vt100</code> , <code>ansi</code>	<p>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.</p> <p>Example:</p> <pre>A:>syscfg --conterm= vt100 conterm=vt100</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
-- coreperformanceboost	enable, disable	<p>This option enables or disables the AMD Core Performance Boost feature. When enabled, it allows higher performance power states if additional power is available to the CPU. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg -- coreperformanceboost= enable coreperformanceboost= enable</pre>	PowerEdge R715, R815, R515, R415, and M915 systems with AMD Opteron 6000 series processor
--cpucle	enable, disable	<p>This option enables or disables C1-E. By default, it is enabled. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --cpucle= enable cpucle=enable</pre>	PowerEdge xlx systems

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

Option	Valid Arguments	Description	Applicable Systems
--cpucore	1, 2, 4, 6, 8, 10, 12, 14, 16, all	<p>This option controls the number of enabled cores in each processor. The default value is set to the maximum number of cores per processor. The number of cores depends on the processor. Reading the <code>cpucore</code> that is set to the highest value of number of cores displays as <i>all</i>.</p> <p>For example, if 6-core CPU is installed, after setting to the highest value, 6, when you read the <code>cpucore</code>, it displays as <i>all</i>.</p> <p>Example:</p> <pre>A:>syscfg --cpucore=1 cpucore=1</pre>	PowerEdge x9xx and later systems
--cpuxdsupport	enable, disable	<p>This option enables or disables the execute disable (XD) feature of the CPU.</p> <p>Example:</p> <pre>A:>syscfg -- cpuxdsupport=enable cpuxdsupport=enable</pre>	PowerEdge x9xx and later systems running on Intel processors
--cstates	enable, disable	<p>This option enables or disables the power c states of the processor.</p> <pre>A:>syscfg --cstates= enable cstates=enable</pre>	PowerEdge x1lx systems

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

Option	Valid Arguments	Description	Applicable Systems
--datareuse	enable, disable	This option enables or disables data reuse. Set to enable for High Performance Computing (HPC) applications. Set to disable for energy efficiency. This option can be replicated. A:>syscfg --datareuse=enable datareuse=enable	PowerEdge x1x systems
--dbpm	enable, disable	This option enables or disables demand-based power management. This option can be replicated. Example: A:>syscfg --dbpm=enable dbpm=enable	All PowerEdge systems
--dcustreamerprefetcher	enable, disable	This option enables or disables DCU Streamer Prefetcher. This option can be replicated. Example: A:>syscfg --dcustreamerprefetcher=enable dcustreamerprefetcher=enable	PowerEdge x1x systems

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

Option	Valid Arguments	Description	Applicable Systems
--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 slot or embedded (emb), 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>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
	numerical list, separated by commas or list of device names, separated by commas	<p>Example 1:</p> <pre>A:>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</pre> <pre>Device 2:* scsiraid.slot.3 - PERC 4/SC Adapter (bus 02 dev 02)</pre> <pre>Device 3:* usbkey.slot.0 - Hard-disk-emulated USB flash drive</pre> <p>Example 2:</p> <pre>A:>syscfg --devseq=hdd.emb.1,scsiraid.emb.1</pre> <p>The following devices are set in the disk device sequence:</p> <pre>Device 1:* hdd.emb.0 - System BIOS boot devices</pre> <pre>Device 2:* scsiraid.emb.1 - AIC-7899, A:00 Seagate</pre> <p>NOTE: The asterisk indicates that the device is enabled in the BIOS.</p>	

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

Option	Valid Arguments	Description	Applicable Systems
--embhypervisor	off, on	This option enables or disables the embedded hypervisor port. Example: A:>syscfg -- embhypervisor=on embhypervisor=on	All PowerEdge systems
--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	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--embnicl	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 onnopxe argument is not supported on all systems.</p> <p>The onwithiscsi argument enables the embedded NIC to boot from the iSCSI server. The embnicl option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --embnicl= onnopxe embnicl=onnopxe</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--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 onnopxe argument is not supported on all systems. This option can be replicated.</p> <p>The onwithiscsi argument enables the embedded NIC to boot from the iSCSI server. The embnic2 option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --embnic2= onnopxe embnic2=onnopxe</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--embnic3	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 onnopxe argument is not supported on all systems. This option can be replicated.</p> <p>The onwithiscsi argument enables the embedded NIC to boot from the iSCSI server. The embnic3 option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --embnic3= onnopxe embnic3=onnopxe</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
<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 onnopxe argument is not supported on all systems. This option can be replicated.</p> <p>The onwithiscsi argument enables the embedded NIC to boot from the iSCSI server. The embnic4 option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --embnic4= onnopxe embnic4=onnopxe</pre>	All PowerEdge systems
<code>--embnic1nic2</code>	enable, disable	<p>This option enables or disables the operating system interface of the first and second embedded NIC controllers.</p> <p>Example:</p> <pre>A:>syscfg -- embnic1nic2=enable --embnic1nic2=enable</pre>	PowerEdge 1855, PowerEdge 6850, and PowerEdge xlx systems

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

Option	Valid Arguments	Description	Applicable Systems
<code>--embnic3nic4</code>	enable, disable	This option enables or disables the operating system interface of the third and fourth embedded NIC controllers. Example: <pre>A:>syscfg --embnic3nic4=enable --embnic3nic4=enable</pre>	PowerEdge <i>xxlx</i> systems
<code>--embnics</code>	on, off	This option enables or disables both embedded NICs. This option is only present on systems that do not support the embnic1 and embnic2 options. This option can be replicated. Example: <pre>A:>syscfg --embnics=on embnics=on</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
<code>--embnic1pxe</code>	enable, disable	<p>This option enables or disables Preboot Execution Environment (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 <i>embnic1</i> option. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --embnic1pxe=enable embnic1pxe=enable</pre>	All PowerEdge systems
<code>--embnic2pxe</code>	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 <i>embnic2</i> option. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --embnic2pxe=disable embnic2pxe=disable</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--embsataraid	off, combined, ata, ahci, raid, qdma	<p>This option configures an embedded SATA RAID controller. This option can be replicated.</p> <ul style="list-style-type: none">• <code>off</code> — disables the embedded SATA RAID controller.• <code>combined</code> — sets the SATA RAID controller to combined mode.• <code>ata</code> — sets SATA RAID controller to ATA mode.• <code>ahci</code> — sets ATA RAID controller to ahci mode.• <code>raid</code> — sets SATA RAID controller to RAID mode.• <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 QDMA mode. <p>Example:</p> <pre>A:>syscfg -- embsataraid=off embsataraid=off</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--embscsi1	on, off	<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:>syscfg --embscsi1=on embscsi1=on</pre>	All PowerEdge systems
--embscsi2	on, off	<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:>syscfg --embscsi2=on embscsi2=on</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--embscsiraid	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 scsi argument. This option can be replicated.</p> <p>⚠ CAUTION: If you change the controller from SCSI to RAID mode, data loss may occur. Backup any data you must save before changing modes.</p> <p>Example:</p> <pre>A:>syscfg -- embscsiraid=raid embscsiraid=raid</pre>	All PowerEdge systems
--embscsiraidchb	raid, scsi	<p>This option sets the second channel on an embedded RAID controller to SCSI or RAID. This option is only valid for systems that support RAID/RAID and RAID/SCSI settings for channels A and B. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg -- embscsiraidchb=raid embscsiraidchb=raid</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
-- embsdcaredundancy	mirrormode, disable	<p>This option sets the redundancy to mirrormode or enabled.</p> <p>If sets to mirrormode, read-write operation happens on both the secure digital (SD) cards. If one of the SD cards fails and is replaced, on booting, the data is copied to that SD card.</p> <p>If sets to disable, read-write operation happens only on SD card 1.</p> <p>On modular systems, disable the vflash key to configure this option.</p> <p>Example:</p> <pre>A:>syscfg -- embsdcaredundancy= mirrormode embsdcaredundancy= mirrormode</pre>	PowerEdge R810, R815, R910, and M910 systems

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

Option	Valid Arguments	Description	Applicable Systems
--extserial	com1, com2, rad	<p>This option sets the behavior of the external serial connector. When set to com1, the BIOS maps the external serial connector to COM port 1. The com1 setting is the default.</p> <p>When set to com2, 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 rad, 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>Example:</p> <pre>A:>syscfg --extserial= com1 extserial=com1</pre> <p>The --serialcomm option can be used with the external serial (--extserial) option instead of the --conred (available on systems earlier than PowerEdge x9xx systems) option.</p>	PowerEdge x9xx and later systems except modular systems

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

Option	Valid Arguments	Description	Applicable Systems
--embsdcard	off, on	This option enables or disables the embedded SD card port. Example: A:>syscfg --embsdcard=off embsdcard=off	PowerEdge xx1x systems
--embvideoctrl	enable, disable	This option enables or disables the embedded video controller. Example: A:>syscfg --embvideoctrl=enable embvideoctrl=enable	PowerEdge xx1x systems
--fiberchannel	enable, disable	This option enables or disables embedded fiber channel. This option can be replicated. Example: A:>syscfg --fiberchannel=enable fiberchannel=enable	All PowerEdge systems
--flf2promptonerror	enable, disable	This option enables or disables the BIOS to prompt F1 or F2 error codes. Example: A:>syscfg --flf2promptonerror=enable flf2promptonerror=enable	PowerEdge xx0x and later systems

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

Option	Valid Arguments	Description	Applicable Systems
--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:>syscfg --floppy=auto floppy=auto</pre>	All PowerEdge systems
--formfactor	N/A	<p>This option displays the geometry of modular PowerEdge systems. This is a read-only option and can have the following values: half-height (the modular system occupies 1 slot of the chassis), half-height dual-width (the modular system occupies 2 horizontal slots of the chassis), full-height (the modular system occupies 2 vertical slots of the chassis), and full-height dual-width (the modular system occupies 4 slots of the chassis).</p> <p>Example:</p> <pre>A:>syscfg --formfactor= fullheight,dualwidth formfactor= fullheight,dualwidth</pre>	PowerEdge modular systems
--fsbr	115200, 57600, 19200, 9600	<p>This option sets the console redirection fail safe baud rate in bps.</p> <p>Example:</p> <pre>A:>syscfg --fsbr=9600 fsbr=9600</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--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 on, all devices are attempted in an order in which they are configured. When set to off, only the first device in the hard disk sequence is attempted. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg -- hddfailover=on hddfailover=on</pre>	All PowerEdge systems
--htassist	enable, disable	<p>This option enables or disables the probe filter chipset option. Some applications may have lower performance when the chipset feature is disabled.</p> <p>Example:</p> <pre>A:>syscfg --htassist= enable htassist=enable</pre>	PowerEdge systems running on AMD Opteron processors

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

Option	Valid Arguments	Description	Applicable Systems
--hwprefetcher	enable, disable	<p>When set to enable, the processor preempts what data might be needed next. When some data is found, it loads several steps in advance.</p> <p>When set to disable, the processor does not preempt.</p> <p>This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --hwprefetcher=enablehwprefetcher=enable</pre>	All PowerEdge systems
--idecdrom	auto, off	<p>This option enables or disables the CD drive. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --idecdrom=autoidecdrom=auto</pre>	All PowerEdge systems
--idracgui	enable, disable	<p>Enables and disables the iDRAC GUI. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --idracgui=disableidracgui=disable</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--integratedraid	enable, disable	This option enables or disables the integrated RAID controller. This option can be replicated. Example: A:>syscfg -- integratedraid=disable integratedraid=disable	All PowerEdge systems
--integratedsas	enable, disable	This option enables or disables the integrated SAS controller. This option can be replicated. Example: A:>syscfg -- integratedsas=enable integratedsas=enable	All PowerEdge systems
--inteltxt	enable, disable	This option enables or disables the Intel TXT option. This option can be replicated. Example: A:>syscfg --inteltxt=enable inteltxt=enable NOTE: To enable the Intel TXT option in a supported processor, ensure the following: <ul style="list-style-type: none">• Virtualization technology in Processor setting is enabled.• TPM module is installed and initialed as OK by BIOS.• TPM security in System security is set to on with pre-boot measurements.• User password is not set.	All PowerEdge x86 systems with Intel processors

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

Option	Valid Arguments	Description	Applicable Systems
--internalusb	off, on	<p>This option enables or disables all the user-accessible USB ports. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg -- internalusb=on internalusb=on</pre>	All PowerEdge systems
--ioat	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:>syscfg --ioat=enable ioat=enable</pre>	All PowerEdge systems
--lcd	default, none, user, idracipv4 address, idracmac address, ossystemname, servicetag, ipv6address, ambienttemp, systemwatts	<p>This option determines whether to display the default string (model name and number for PowerEdge systems earlier than Dell PowerEdge xx1x, and service tag for PowerEdge systems xx1x and later) or a user-defined string on the front-panel LCD. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --lcd=default lcd=default</pre>	PowerEdge xx1x systems

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

Option	Valid Arguments	Description	Applicable Systems
--lcd1	<string>	This option sets the first line of user-defined text on the system LCD. This option can be replicated. NOTE: Before setting user strings for --lcd1, ensure that --lcd is set to user.	All PowerEdge systems
--lcd2	<string>	This option sets the second line of user-defined LCD strings.	All PowerEdge systems
--logicproc	enable, disable	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. Example: A:>syscfg --logicproc=enable logicproc=enable	All PowerEdge systems
--lpt	lpt1, lpt2, lpt3, disable	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. Example: A:>syscfg --lpt=lpt1 lpt=lpt1	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
<code>--lptmode</code>	ps2, at	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. Example: <pre>A:>syscfg --lptmode=ps2 lptmode=ps2</pre>	All PowerEdge systems
<code>--memdynamicpower</code>	enable, disable	This option enables or disables the dynamic memory power states. This option can be replicated. Example: <pre>A:>syscfg -- memdynamicpower=enable memdynamicpower=enable</pre>	PowerEdge R910 system with Intel Xeon 7500 series
<code>--memintleave</code>	enable, disable	This option enables or disables the memory interleave mode. This option can be replicated. Example: <pre>A:>syscfg -- memintleave=enable memintleave=enable</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
<code>--memoperatingmode</code>	optimizer, mirror, advancedecc	This option selects the memory operating mode. This feature is active only if a valid memory configuration is detected. Example: <pre>A:>syscfg --memoperatingmode=optimizer memoperatingmode=optimizer</pre>	PowerEdge x1lx systems
<code>--memprefailurenotify</code>	enable, disable	This option enables or disables the Correctable ECC SMIs. When enabled, the SMIs report the Correctable ECC errors. This option can be replicated. Example: <pre>A:>syscfg --memprefailurenotify=enable memprefailurenotify=enable</pre>	PowerEdge R710, R610, and T610 systems with Intel Xeon processor.
<code>--memremap</code>	off, auto	This option enables or disables memory remapping. Example: <pre>A:>syscfg --memremap=off memintleave=off</pre>	All PowerEdge systems
<code>--memtest</code>	enable, disable	This option enables or disables the POST extended memory test. Example: <pre>A:>syscfg --memtest=disable memtest=disable</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--mouse	off, on	This option turns the mouse controller on or off. This option can be replicated. Example: A:>syscfg --mouse=off mouse=off	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--nextboot	valid device name (from the --bootseq 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 --bootseq option device list. Run the --bootseq option to see a list of available device names.</p> <p>See --bootseq for more information. This option is not replicated.</p> <p>Example 1:</p> <pre>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</pre> <p>Example 2:</p> <pre>A:>syscfg --nextboot= nic.emb.1 nextboot=nic.emb.1</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--noraidprompt* The asterisk is not part of the command syntax.	NA	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 --embscsiraid or --embscsiraidehb 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.	All PowerEdge systems
<p>⚠ CAUTION: When changing a RAID controller from SCSI to RAID or from RAID to SCSI, data is lost on the affected hard drives. The warning message for this data is not displayed if you use the --noraidprompt option. To avoid data loss, back up any information on the hard drives before changing the type of controller used with the drives.</p>			
Example: <pre>A:>syscfg -- embscsiraid=raid --noraidprompt embscsiraid=raid</pre>			

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

Option	Valid Arguments	Description	Applicable Systems
<code>--numlock</code>	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:>syscfg --numlock=on numlock=on</pre>	All PowerEdge systems
<code>--oldsetuppwd</code>	<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:>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>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--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 is 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:>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:>syscfg --syspwd= asyspassword --oldsyspwd= currentpassword</pre> <p>The old password entered is incorrect. The new password will not be set. Please try again.</p>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--opticaldrivectrl	enable, disable	This option enables or disables the optical CD-ROM controller. Example: A:>syscfg -- opticaldrivectrl=enable opticaldrivectrl=enable	All PowerEdge systems
--osmode	enable, disable	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. Example: A:>syscfg --osmode= enable osmode=enable	All PowerEdge systems
--oswatchdogtimer	enable, disable	If your system stops responding, the watchdog timer aids in the recovery of your operating system. When this option is set to enable , the operating system is allowed to initialize the timer. When set to disable (the default), the timer has no effect on the system. Example: A:>syscfg -- oswatchdogtimer=enable oswatchdogtimer=enable	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
<p>--ovrwt*</p> <p>The asterisk is not part of the command syntax.</p>	NA	<p>This option is only used with the <code>-o</code> 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:>syscfg -o= filename.ini --ovrwt</pre> <p>The file <i>filename</i> has been overwritten.</p>	All PowerEdge systems
power		For details about the power suboptions and arguments, see Table 3-5.	PowerEdge x1x systems
--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:>syscfg -- powerbutton=enable powerbutton=enable</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
<code>--qpibandwidthpriority</code>	<code>compute, io</code>	<p>This option sets the bandwidth priority to compute or I/O. Set to compute for computation-intensive applications. Set to I/O for I/O-intensive applications. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --qpibandwidthpriority=computeqpibandwidthpriority=compute</pre>	Dell PwerEdge xlx systems
<code>--redmem</code>	<code>off, spare, mirror, DDDC</code>	<p>This option allows selection of the required redundant memory mode, or disables redundant memory. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --redmem=offredmem=off</pre>	PowerEdge M910, R910, and R810 systems with Intel Xeon 7500 series processor.

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

Option	Valid Arguments	Description	Applicable Systems
--remflashmedia	read-only	<p>This option displays the redundancy status of internal dual SD module. The status can be:</p> <ul style="list-style-type: none"> • Full — Secure digital card (SD) 1 and 2 are functioning properly. • Lost — Either any of the secure digital cards or both is not functioning properly. <p>The option also displays the status of the individual SD cards as follows:</p> <ul style="list-style-type: none"> • Active — The card is used for secure digital reads. • Standby — The card is receiving a copy of all secure digital reads. • Failed — An error is reported during a secure digital read or write. • Absent — No secure digital media is detected. • Offline — At boot, card identification signature is different from the non-volatile storage value or card is the destination of a copying operation that is in progress. • Write Protected — The card is write-protected. 	PowerEdge R810, R815, R910, and M910 systems

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

Option	Valid Arguments	Description	Applicable Systems
		Example: <pre>A:>syscfg --remflashmedia</pre> Internal Dual SD Module Redundancy=Lost SD1 status=Absent SD1 status=Active	
--rptkeyerr	enable, disable	This option configures or reports whether the BIOS reports keyboard errors during POST. This option can be replicated. Example: <pre>A:>syscfg --rptkeyerr=disable</pre> rptkeyerr=disable	All PowerEdge systems
--sata0	auto, off	This option enables or disables SATA port 0. This option can be replicated. Example: <pre>A:>syscfg --sata0=auto</pre> sata0=auto NOTE: This option maps to --sata_a for PowerEdge x9xx systems.	All PowerEdge systems

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

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

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

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

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

Option	Valid Arguments	Description	Applicable Systems
--sata7	auto, off	<p>This option enables or disables SATA port 7. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --sata_7=auto sata_7=auto</pre> <p>NOTE: This option maps to --sata_h for PowerEdge x9xx systems.</p>	All PowerEdge systems
--snoopfilter	enable, disable	<p>This option enables or disables the snoop filter option from the system BIOS.</p> <p>Example:</p> <pre>A:>syscfg -- snoopfilter=enable snoopfilter=enable</pre>	All PowerEdge systems
--serial1	disable, com1, com3, com1_bmc, bmcserial, bmclan, rac	<p>This option configures or reports the first serial port communication port. This option can be replicated.</p> <ul style="list-style-type: none"> • bmcserial — maps serial port 1 to BMC Serial. • bmclan — routes the serial traffic destined for serial1 out to NIC1. • com1_bmc — maps serial port 1 to COM port 1 BMC. • rac — maps serial port 1 to the RAC device. <p>Example:</p> <pre>A:>syscfg --serial1=rac serial1=rac</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--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	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--serialcomm	on, com1cr, com2cr, off	<p>This option sets the behavior of the serial port communication. When set to on, the BIOS enables 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 com1cr, 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 com2cr, 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 off, this option tells the BIOS to disable COM port 1 and COM port 2.</p> <p>This option can be replicated.</p>	PowerEdge x9xx and later systems

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

Option	Valid Arguments	Description	Applicable Systems
		<p>Example:</p> <pre>A:>syscfg --serialcomm=on serialcomm=on</pre> <p>The --serialcomm option can be used with the external serial (--extserial) option instead of the --conred (available on systems earlier than PowerEdge x9xx systems) option.</p>	
--serialportaddrsel	default, alternate	<p>This option sets the port address of the serial devices.</p> <p>When this option is default, Serial Device 1 is set to COM port 1 and Serial Device 2 is set to COM port 2.</p> <p>When this option is alternate, Serial Device 1 is set to COM port 2 and Serial Device 2 is set to COM port 1.</p> <p>This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --serialportaddrsel=default serialportaddrsel=default</pre>	PowerEdge x1lx systems

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

Option	Valid Arguments	Description	Applicable Systems
<code>--setuppwd</code>	<code><string></code>	<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. 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:>syscfg --setuppwd= asetuppassword</pre> <p>The password has been set. Please use a warm reboot to apply the password to the system.</p>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
		<p>Example 2:</p> <pre>A:>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:>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>NOTE: You cannot disable your password using DTK. To disable your password, you must use the system BIOS.</p>	
--sma	enable, disable	<p>This option enables or disables processor sequential memory access.</p> <p>Example:</p> <pre>A:>syscfg --sma=disable sma=disable</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--slotname* The asterisk is not part of the command syntax.	NA	This option reports the slot name of the blade. Example: A:>syscfg --slotname slotname=Slot5	Dell modular systems
--sriov	enable, disable	This option enables or disables support for Single Root I/O Virtualization (SR-IOV) devices. Example: A:>syscfg --sriov=disable sriov=disable	PowerEdge R410, R510, R610, R710, R910, T410, T610, and T710 systems with Intel Xeon processor 7500/6500 series.
--svctag* The asterisk is not part of the command syntax.	NA	This option reports the service tag for a system. If used with the -s general option, the environment variable is set to the service tag. Example: A:>syscfg --svctag svctag=113CD1S	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
<code>--sypwd</code>	<code><string></code>	<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:>syscfg --sypwd= 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:>syscfg --sypwd= password --oldsyspwd=password</pre> <p>The password has been set. Please use a warm reboot to apply the password to the system.</p> <p>NOTE: You cannot disable your password using DTK. To disable your password, you must use the system BIOS.</p>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--sysrev	NA	This option reports the system revision. This is a read-only option.	All PowerEdge systems
tpm		For details about the tpm suboptions and arguments, see Table 3-3.	PowerEdge xx0x and later systems
--turbomode	enable, disable	<p>This option enables or disables core-based turbo mode. Turbo mode is a feature on Intel processors that allows one processor core to increase its frequency by one bin whenever the other core has gone into an idle state.</p> <p>Example:</p> <pre>A:>syscfg --turbomode=enable --turbomode=enable</pre>	PowerEdge xx1x systems running on Intel processors
--usb	on, legacy, off	<p>This option sets or reports the status of the USB port. When set to on, USB keyboards and mice function only for systems with operating systems that have native USB support. When set to legacy, 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:>syscfg --usb=on usb=on</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--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 (HDD) or a diskette drive (FDD). This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --usbflash=auto usbflash=auto</pre>	All PowerEdge systems except PowerEdge x9xx and later
--usbports	enable, enablebackonly, disable	<p>This option enables or disables USB ports. When set to enable, it enables all user accessible USB ports. When set to enablebackonly, the front user-accessible ports are disabled. When set to disable, both front and back user accessible ports are disabled.</p> <p>This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --usbports=enable usbports=enable</pre>	All PowerEdge systems

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

Option	Valid Arguments	Description	Applicable Systems
--virtualization	enable, disable	<p>This option enables or disables virtualization in the CPU. When set to enable, it enables the additional hardware capabilities provided by Virtualization Technology in applicable CPUs.</p> <p>When set to disable, it disables the additional hardware capabilities provided by Virtualization Technology.</p> <p>This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg -- virtualization=enable virtualization=enable</pre>	All PowerEdge systems
--vflash	enable, disable	<p>This option enables or disables vflash on iDRAC.</p> <p>Example:</p> <pre>A:>syscfg --vflash= enable vflash=enable</pre>	PowerEdge xx1x systems or systems with iDRAC 6

Table 3-3 lists the sub-options and arguments for the `tpm` option.

Table 3-3. Sub-options and Arguments for the `tpm` Option

Option	Sub-option	Arguments	Description
<code>tpm</code>	<code>--tpmsecurity</code>	<code>off</code>	Does not report the presence of TPM to the operating system.
		<code>onwithpbm</code>	Directs the BIOS to store the TCG compliant measurements to the TPM during a POST operation.
		<code>onwithoutpbm</code>	Directs the BIOS to bypass the pre-boot measurements. Example: <pre>A:>syscfg tpm --tpmsecurity = onwithoutpbm -- setuppwdoverride</pre>
	<code>--tpmactivation</code>	<code>enabled</code>	Enables and activates the TPM feature.
		<code>disabled</code>	Disables and deactivates the TPM feature.
		<code>nochange</code>	Does not alter the operational state of the TPM feature. Example: <pre>A:>syscfg tpm -- tpmactivation=enabled -- setuppwdoverride</pre> NOTE: You cannot set <code>tpmactivation</code> when <code>tpmsecurity</code> is set to <code>off</code> . NOTE: 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. NOTE: When you set <code>tpmactivation</code> to <code>enabled</code> or <code>disabled</code> , DTK displays the value of <code>tpmactivation</code> as <code>nochange</code> . However, the TPM feature is activated/deactivated when you reboot the system.

Table 3-3. Sub-options and Arguments for the tpm Option (continued)

Option	Sub-option	Arguments	Description
	--tpmclear	NA	<p>Clears the contents of the TPM chip without erasing the tpmsecurity and tpmactivation settings.</p> <p>Example:</p> <pre>A:>syscfg tpm -- tpmactivation=enabled -- tpmclear --setuppwdoverride</pre>
	--undotpmclear	NA	<p>Undoes the result of the tpmclear setting. If you specify this setting before specifying the tpmclear setting, the 'There is currently no pending TPM Clear request' message is displayed.</p> <p>Example:</p> <pre>A:>syscfg tpm -- tpmactivation=enabled -- undotpmclear -- setuppwdoverride</pre>
	--valsetuppwd	<string>	<p>Validates the setup password for TPM authentication. If you try to change DTK settings, you are prompted to enter this password to access the settings.</p> <p>Example:</p> <pre>A:>syscfg tpm -- tpmactivation=enabled -- tpmclear --valsetuppwd= <setup_password></pre>
	--setuppwdoverride	NA	<p>On systems that do not have a setup password configured, if you set this option, you are not prompted for a password to access DTK settings.</p> <pre>A:>syscfg tpm -- tpmactivation=enabled -- tpmclear --setuppwdoverride</pre>

Table 3-4 lists the sub-options and arguments for the **tcm** option.

Table 3-4. Sub-options and Arguments for the tcm Option

Option	Sub-option	Arguments	Description
tcm	--tcmsecurity	off	Does not report the presence of TCM to the operating system.
		on	Reports the presence of TCM to the operating system. Example: A:>syscfg tcm --tcmsecurity = off
	--tcmactivation	enabled	Enables and activates the TCM feature.
		disabled	Disables and deactivates the TCM feature.
	nochange	Does not alter the operational state of the TCM feature. Example: A:>syscfg tcm --tcmactivation=enabled	
	--tcmclear	NA	Clears the contents of the TCM chip without erasing the tcmsecurity and tcmactivation settings. Example: A:>syscfg tcm --tcmactivation=enabled --tcmclear --setuppwdoverride
	--tcmundoclear	NA	Undoes the result of the tcmclear setting. A:>syscfg tcm --tcmactivation=enabled --tcmundoclear --setuppwdoverride

Table 3-5 lists the sub-options and arguments for the `power` option.

Table 3-5. Sub-options and Arguments for the power Option

Option	Sub-option	Arguments	Description
power	--profile	< <i>powerprofile</i> > where <i>powerprofile</i> can be maxperformance, osctl, apc	Displays the settings similar to the BIOS setup screen for the respective profile. Reboot the system for the settings to take effect. If power profiles are not available on the platform, an error message is displayed. A:>syscfg power --profile= maxperformance -- setupwdoverride
		custom	Creates the custom profile. Reboot the system for the settings to take effect. A:>syscfg power --profile= custom --setupwdoverride
		min, max, osdbpm, systemdbpm	Allows you to set the CPU power and performance management to minimum power, maximum performance, operating system DBPM, or system DBPM mode. A:>syscfg power --profile= custom --cpupowermode=min -- setupwdoverride
-- memorypower mode	min, 978, 800, 1067, 1333, max	Allows you to set memory power and performance management to minimum power mode, maximum power mode, 978Mhz, 800Mhz, 1067Mhz, or 1333Mhz. A:>syscfg power --profile= custom --memorypowermode=min --setupwdoverride	

Table 3-5. Sub-options and Arguments for the power Option (continued)

Option	Sub-option	Arguments	Description
	--fanpowermode	min, max	<p>Allows you to set the fan algorithm to the minimum power optimized or maximum performance optimized mode.</p> <pre>A:>syscfg power --profile=custom --fanpowermode=min --setupwdoverride</pre> <p>NOTE: Set the value of --profile to custom to change the values of cpupowermode, memorypowermode, and fanpowermode.</p>
	--profile	NA	Displays the profile set and the respective profile parameters.
	--cap		Displays the values of budgetcap, and the maximum and minimum power thresholds in Watts.
	--cap <budgetcap> --unit <unit>	<p><budgetcap> is the limit for power consumption in Watts, or btuphr, or percent.</p> <p><unit> is the unit of the <budgetcap> value and can be watt, or btuphr, or percent.</p>	<p>The value of <budgetcap> must be between the maximum and minimum threshold values, else an error is displayed.</p> <p>If the unit is btuphr, it is converted to Watts using the formula Watt = BTU/hr /3.413. If the unit is percent, the formula is Power Cap (Watts) = [Power supply rating for input power (Watts) - Min potential power (Watts)] * Power Cap (%) + Min potential power (Watts)</p> <pre>A:>syscfg power --cap=<value> --unit=watt --setupwdoverride</pre>
	--maxpowercap		Displays the value of the maximum power threshold.
	--minpowercap		Displays the value of the minimum power threshold.

Table 3-5. Sub-options and Arguments for the power Option (continued)

Option	Sub-option	Arguments	Description
	--valsetuppwd	<string>	Validates the setup password for power authentication. If you try to change the DTK settings, you are prompted to enter this password to access the settings. A:>syscfg power --profile=maxperformance --valsetuppwd=<setup_password>
	--setuppwdoverride	NA	Does not prompt you for a password to access the DTK settings on systems that do not have a setup password configured. A:>syscfg power --profile=maxperformance -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, sub-options, and arguments along with a description of the expected behavior of each option and sub-option. Options, sub-options, and arguments are case sensitive. All options, sub-options, and pre-defined arguments are lowercase unless explicitly stated otherwise.

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

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

BMC and Remote Access Controller Configuration Options

Table 3-6 lists the options, sub-options, and pre-defined arguments for configuring your system BMC and remote access controller (RAC).

Table 3-6. BMC and Remote Access Controller Configuration Options

Option	Sub-option	Valid Arguments	Description	Applicable Systems
bmcversion			Displays the version information for the BMC and the BMC firmware. This option cannot be replicated.	All PowerEdge systems
	--devid	NA	Reports the BMC device ID.	
	--devrevision	NA	Reports the BMC device revision.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--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	
--controlpanelaccess	NA	viewandmodify, viewonly, disabled	This option sets or gets the access level for the Liquid Crystal Display (LCD).	PowerEdge x1x systems
			Example: A:>syscfg --controlpanelaccess=viewandmodify controlpanelaccess=viewandmodify	
--clearsel*	NA	NA	Clears the SEL. This option cannot be replicated.	All PowerEdge systems
			The asterisk is not part of the command syntax. Example: A:>syscfg --clearsel Clearing SEL...	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
--deviceguid* The asterisk is not part of the command syntax.	NA	NA	Displays the GUID for the BMC. This option cannot be replicated. Example: A:>syscfg --deviceguid deviceguid=XXXXXXXXXX	All PowerEdge systems
--encryptkey	NA	<hexadecimal number>	Encrypts the IPMI sessions. The hexadecimal number entered as an argument is not case sensitive although the value returned by the encryptkey option is always in uppercase. The value returned is appended with zeroes so that it is always 40 characters long. Example: A:>syscfg --encryptkey=abcd encryptkey=ABCD000000000000 0000000000000000 00000000	All PowerEdge systems
--identify	NA	0-254 NOTE: Use 0 to stop the blinking of the LED.	Flashes the identification LED for a specified number of seconds.	PowerEdge systems with a BMC.

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
-- kvmstatusonlcd		active, inactive	This option configures the Dell Virtual KVM (vKVM) session status on the LCD. Example: A:>syscfg -- kvmstatusonlcd= active kvmstatusonlcd= active	PowerEdge xx1x systems
lanchannelacce ss or lca			Sets or displays the LAN channel access settings such as alerting, IPMI over LAN, and user privilege. This option can be replicated.	All PowerEdge systems
	--pefalerting	enable, disable	Enables or disables PEF alerts. This sub-option can be replicated.	
	--ipmioverlan	disable, alwaysavail	Sets the LAN channel access mode. This sub-option can be replicated.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--channelprivlmt	user, operator, administrator	<p>Sets the maximum privilege level accepted for the LAN channel. This sub-option can be replicated.</p> <p>Example (to configure the LAN channel with alerts and IPMI over LAN enabled):</p> <pre>A:>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.	All PowerEdge systems
lancfgparams or lcp	--ipaddrsrc	static, dhcp	<p>Configures and displays LAN configuration parameters. This option can be replicated.</p> <p>Sets the IP address source for the LAN channel. This sub-option can be replicated.</p>	All PowerEdge systems

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--ipaddress	<ipaddress>	Sets the IP address for the LAN channel. This sub-option cannot be replicated.	
	--subnetmask	<subnetmask>	Sets the subnet mask for the LAN channel. This sub-option can be replicated.	
	--gateway	<gateway>	Sets the gateway for the LAN channel. This sub-option can be replicated.	
	--commstring	<string>	Sets the community string (maximum of 16 printable ASCII characters) used in a platform event trap (PET). This sub-option can be replicated.	
	--destipaddr	<ipaddress>	Sets the destination IP address for the alert destination specified with the alertdest sub-option. The destipaddr sub-option is dependent on the alertdest sub-option. If the alertdest sub-option is not specified on the command line, the first alert destination (alertdest=1) is set with this IP address. This sub-option can be replicated.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--alertdest	1, 2, 3, 4	Sets the destination for the LAN alert. This sub-option can be replicated.	
	--vlantag	enable, disable	Enables or disables VLAN tagging. This sub-option can be replicated.	
	--vlanid	<string>	Sets the 12-bit VLAN ID. This sub-option can be replicated.	
	--vlanpriority	0–7	Sets the VLAN priority value. This sub-option can be replicated.	
	--macaddress	NA	Displays the BMC MAC address. This sub-option cannot be replicated.	
	--nicselection	shared, sharedfailover, dedicated, sharedreceiveonall	Sets the operating mode of the NIC to shared/sharedfailover/dedicated/sharedreceiveonall. Some of these options are not applicable on certain systems.	NOTE: The sharedreceiveonall argument is available only on xx1x 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.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--dnssdhcp	enable, disable	Enables or disables obtaining the DNS server IP address through DHCP.	
	--dnsserver1	<ipaddress>	Sets the IP address of the primary DNS server for domain name resolution.	
	--dnsserver2	<ipaddress>	Sets the IP address of the secondary DNS server for domain name resolution.	
	--dnsregisterrac	enable, disable	Enables or disables binding of the RAC name to the IP address.	
	--dnssracname	<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.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			Example 1 (to display the current LAN configuration settings): <pre>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</pre>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			<pre> 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 </pre>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
lanuseraccess or lua			Configures the privilege level and channel accessibility associated with a specified User ID for the LAN channel.	All PowerEdge systems
	--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 sub-option can be replicated.	
	--usrprivlmt	user, operator, administrator, noaccess	Sets the maximum BMC user privilege level for the LAN channel for the userid specified using the userid sub-option. This sub-option can be replicated. This sub-option is dependent on the userid sub-option.	
	--currentenabledusersids	NA	Reports the number of currently enabled User IDs on the LAN channel.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	-- useridswithfixe dnames	NA	<p>Reports the number of User IDs with fixed names on the LAN channel.</p> <p>Example 1 (to enable User ID 2 on the LAN channel with administrator privileges):</p> <pre>A:>syscfg lanuseraccess --userid=2 --usrprivlmt= administrator userid=2 usrprivlmt= administrator</pre> <p>Example 2 (to enable User ID 4 on the LAN channel with user privileges):</p> <pre>A:>syscfg lanuseraccess --userid=4 --usrprivlmt= user userid=4 usrprivlmt=user</pre>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
--loaddefaults* The asterisk is not part of the command syntax.	NA	NA	Restores the BMC to the defaults originally loaded on the controller. This option is used to return the BMC to a known-good state. This option cannot be replicated. NOTE: The NMI, power button, and SOL defaults are not reset by using this option. Example: A:>syscfg --loaddefaults Loading defaults...	All PowerEdge systems

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
--nextboot	NA	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	All PowerEdge systems

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			Device 5: nic.emb.2 - Intel Boot Agent Version 4.0.17 Example 2: A:>syscfg -- nextboot= nic.emb.1 nextboot= nic.emb.1	
--nmibutton	NA	enable, disable	This option enables or disables the NMI button. This option can be replicated. Example: A:>syscfg -- nmibutton=enable nmibutton=enable	All PowerEdge systems

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
passwordaction			<p>Configures and tests the password for the specified User ID. This option cannot be replicated. All three sub-options, action, userid, and password, must be included in the command line.</p> <p>NOTE: 20 byte passwords are not supported for this option.</p>	All PowerEdge systems
	--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>	Specifies the BMC User ID. This sub-option cannot be replicated.	
	--action	setpassword, testpassword	Sets or tests the password for the specified User ID. This sub-option cannot be replicated.	
	--password	<string>	<p>Sets the password (maximum of 16 printable ASCII characters) for the specified BMC User ID. This sub-option cannot be replicated.</p> <p>Example (to set and test the password for User ID 3):</p>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			<pre>A:>syscfg passwordaction --userid=3 --action= setpassword --password= bcmaster passwordaction userid=3 action= setpassword password= *****</pre>	
			<pre>A:>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>	<p>All PowerEdge systems</p>

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--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 sub-option can be replicated. See "BMC Platform Events Filter Alert Messages" on page 239 for a complete list of all possible PEF messages along a description of each event. NOTE: The fanfail option is not supported on PowerEdge xx0x systems.	
	--filteraction	powercycle, reset, powerdown, powerreduction, none	Sets the event filter action for the filter specified using the filter sub-option. This sub-option depends on the filter sub-option. This sub-option can be replicated.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

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

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--alertpolstatus	enable, disable	<p>Enables or disables the alert policy specified using the alertpolnum sub-option. This sub-option can be replicated. This sub-option is dependent on the alertpolnum sub-option.</p> <p>Example (to set the PEF configuration parameters):</p> <p>Example 1 (To configure the PEF so that the system is powered down in response to a fan failure event):</p> <pre>A:>syscfg pefcfgparams --filter=fanfail --filteraction= powerdown pefcfgparams filter=fanfail filteraction= powerdown</pre>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			<p>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):</p> <pre>A:>syscfg pefcfgparams --filter= intrusion --filteralert= disable pefcfgparams filter=intrusion filteralert= disable</pre>	
--powerbutton	NA	enable, disable	<p>This option enables or disables the power button. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg -- powerbutton= enable powerbutton= enable</pre>	All PowerEdge systems

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
--powerctl	NA	powerdown </argument>	This option performs a chassis powerdown and controls the reset of the system. Powerdown shuts off the system.	All PowerEdge systems
		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. NOTE: In Windows PE, this option does not work. NOTE: This option applies only to PowerEdge systems that are configured with a BMC. NOTE: 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.	All PowerEdge systems

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
--serialchannel-access or sca			Sets or displays the channel access settings for the serial channel. This option can be replicated.	All PowerEdge systems
	-- ipmioverserial	disable, alwaysavail	Sets the serial channel access mode. This sub-option can be replicated.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	-- channelprivlmt	user, operator, administrator	<p>Sets the maximum privilege level accepted for the serial channel. This sub-option can be replicated.</p> <p>Example (to configure the serial channel with IPMI over serial disabled and the maximum privilege level set to administrator):</p> <pre>A:>syscfg serialchannelaccess -- ipmioverserial= disable -- channelprivlmt= administrator serialchannelaccess ipmioverserial= disable channelprivlmt= administrator</pre>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
--serialchannelinfo or sci			Displays media and protocol information about the serial channel. This option cannot be replicated.	All PowerEdge systems
	--mediumentype	NA	Displays the medium type for the serial channel. This sub-option cannot be replicated.	
	--prototype	NA	Displays the protocol type for the serial channel. This sub-option cannot be replicated.	
	--ssnsupport	NA	Displays the session support information for the serial channel. This sub-option cannot be replicated.	
	--activessncount	NA	Displays the number of sessions that are activated on the serial channel. This sub-option cannot be replicated. Example: A:>syscfg serialchannelinfo o --mediumentype mediumentype= asynch	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
serialcfgparams or scp			Configures and displays serial configuration parameters. This option can be replicated.	All PowerEdge systems
	-- connectionmode	basic, terminal	Sets the connection mode used to perform IPMI messaging to the BMC. This sub-option can be replicated.	
	-- msgcommflowctrl	noflowctrl, rtscts	Sets the IPMI message communication flow control. This sub-option can be replicated.	
	-- msgcommdtrhangup	NA	Reports the IPMI message communication DTR hang-up. This sub-option cannot be replicated.	
	-- msgcommbitrate	9600, 19200, 57600, 115200	Sets the IPMI message communication baud rate in bits per second (bps). This sub-option can be replicated.	
	-- tmcfglineediting	enable, disable	Sets the line editing value for terminal mode configuration. This sub-option can be replicated.	
	--tmcfgdelctrl	del, bksp	Sets the delete control value for terminal mode configuration. This sub-option can be replicated.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	-- tmcfgechoctrl	echo, noecho	Sets the echo control value for terminal mode configuration. This sub-option can be replicated.	
	-- tmcfghandshak ectl	enable, disable	Sets the handshake control value for terminal mode configuration. This sub-option can be replicated.	
	-- tmcfgnewlines eq	noterm, crlf, null, cr, lfcrlf	Sets the new line sequence value for terminal mode configuration. This sub-option can be replicated.	
	-- tmcfginputnew lineseq	cr, null	Sets the input new line sequence value for terminal mode configuration. This sub-option can be replicated.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			<p>Example (to display the current serial configuration settings):</p> <pre>A:> syscfg serialcfgparams serialcfgparams tmcfgdelctrl=del tmcfgechoctrl= echo tmcfghandshakectrl=enable connectionmode=terminal tmcfgnewlineseq=crlf msgcommflowctrl=rtscts tmcfginputnewlineseq=cr msgcommdtrhangup=disable msgcommbitrate=19200 tmcfglineediting=enable</pre>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
serialuseraccess or sua			Configures the privilege level and channel accessibility associated with a specified User ID for the serial channel. This option can be replicated.	All PowerEdge systems
	--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 sub-option 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 userid sub-option. This sub-option can be replicated. This sub-option is dependent on the userid sub-option.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	-- currentenabled userids	NA	Reports the number of currently enabled User IDs on the serial channel. This sub-option can be replicated.	
	-- useridswithfixe dnames	NA	Reports the number of User IDs with fixed names on the serial channel. This sub-option can be replicated.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			<pre>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</pre>	
			<pre>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</pre>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
solaction	--userid	2–10 if your system has a DRAC 4 controller 2–16 if your system has a DRAC 5 controller	This option enables or disables Serial-Over-LAN (SOL) access for a particular user. This option can be replicated. A:>syscfg solaction -- userid=2 -- action=disable solaction userid=2 action=disable Specifies the BMC user ID. This sub-option can be replicated.	All PowerEdge systems
	--action	enable, disable	Enables or disables the user ID specified using the userid sub-option. This sub-option can be replicated and is dependent on the userid sub-option.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
solcfgparams			Configures and displays SOL configuration parameters. This option can be replicated.	All PowerEdge systems
	--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 waits before transmitting a partial SOL character data packet. This option can be replicated.	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	-- solcharsendthreshold	1-255	<p>Specifies that the BMC automatically sends 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>NOTE: On PowerEdge x8xx systems, the maximum limit for --solcharsendthreshold is 200. On PowerEdge x9xx systems, the maximum limit is 255. On the PowerEdge SC1435 system, the maximum limit is 255.</p>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--solbitrate	9600, 19200, 57600, 115200	<p>Sets the serial channel communication bit rate (in bps) with the BMC when SOL is activated. This option can be replicated.</p> <p>NOTE: The arguments for --solbitrate vary with various Dell systems. If an argument valid for a particular Dell system is entered for another system, the 'Parameter out of range' error is displayed.</p> <p>Valid arguments are:</p> <p>19200 - for PowerEdge x8xx systems</p> <p>57600 - for PowerEdge x9xx systems that do not have DRAC 5 installed</p> <p>115200 - for Dell x9xx systems that have DRAC 5 installed.</p>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			<p>Example 1 (to display the current SOL configuration):</p> <pre>A:> syscfg solcfgparams solcfgparams solenable=enable solprivlevel= administrator solcharaccuminte rval=25 solcharsendthres hold=25 solbitrate=9600</pre>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
solcfgparams			Example 2 (to set the SOL configuration parameters): A:>syscfg solcfgparams --solenable=disable --solprivlevel=administrator -- solcharaccuminteval=25 -- solcharsendthres hold=100 --solbitrate=9600 solcfgparams solenable=disable solprivlevel=administrator solcharaccuminteval=25 solcharsendthres hold=100 solbitrate=9600	All PowerEdge systems

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
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.	All PowerEdge systems
	-- maxactivessns	NA	Displays the maximum possible active BMC sessions. This sub-option cannot be replicated.	
	-- currentactivessns	NA	Displays the number of currently active sessions on all channels of the BMC. This sub-option cannot be replicated.	
			<p>Example:</p> <pre data-bbox="613 922 844 1085">A:>syscfg ssninfo currentactivessns=1 maxactivessns=4</pre>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
<code>useraction</code>			Enables and disables BMC, <i>sua</i> , and <i>lua</i> user IDs. This option can be replicated.	All PowerEdge systems
	<code>--userid</code>	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 sub-option can be replicated.	
	<code>--action</code>	enable, disable	Enables or disables the user ID specified using the <code>userid</code> sub-option. This sub-option can be replicated. This sub-option is dependent on the <code>userid</code> sub-option. Example (to disable User ID 3): <pre>A:>syscfg useraction --userid=3 -- action=disable useraction userid=3 action=disable</pre>	

Table 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
username			Sets the BMC User ID and username. This option can be replicated.	All PowerEdge systems
	--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 sub-option can be replicated.	
	--name	<string>	Sets the username (maximum of 16 printable ASCII characters) for the User ID specified using the userid sub-option. This sub-option can be replicated. This sub-option is dependent on the userid sub-option. 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 3-6. BMC and Remote Access Controller Configuration Options (continued)

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			Example 2 (to display the username for User ID 3): <pre>A:>syscfg username -- userid=3 --name username userid=3 name=bcmaster</pre>	
--version*	NA	NA	Displays the version information for the SYSCFG utility. 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 3-7 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 3-7. SYSCFG Options and Arguments for State Configuration

Option	Valid Arguments	Description
-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 <code>-x</code> option is given. If the <code>-x</code> 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:>syscfg -b 1</pre> <p>The state byte has been set to 1.</p> <pre>A:>syscfg -b 2 -x</pre> <p>The state byte has been set to 0x02.</p>
-r or --read* The asterisk is not part of the command syntax.	NA	<p>This option reads the value of state data. When used with the <code>-x</code> option, the value is reported in hexadecimal format (0xNN).</p> <p>Example:</p> <pre>A:>sysfg -r -x</pre> <p>The state byte has been set to 0x02.</p> <pre>A:>syscfg -r</pre> <p>The state byte has been set to 2.</p>
-x or --hex	None	<p>This option specifies that a value should be in hexadecimal format.</p> <p>Example:</p> <pre>A:>sysfg -r -x</pre> <p>The state byte has been set to 0x01.</p> <pre>A:>sysfg -x -b 0x02</pre> <p>The state byte has been set to 0x02.</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 3-8 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 pre-defined arguments are lowercase unless stated otherwise.



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

Table 3-8. 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:>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:>syscfg --biosver biosver=A08</pre>

Table 3-8. SYSCFG Options and Arguments for System Configuration (continued)

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

Table 3-8. SYSCFG Options and Arguments for System Configuration (continued)

Option	Valid Arguments	Description
<code>--envfile</code>	<code><filename></code>	<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:>syscfg --envfile sys.ini DELLNIC1=INTEL PRO100 DELLNIC2=INTEL PRO100 DVIDEO1=RAGEXL DIDE1=PEQUR/ROSS IDE DSCSI1=AIC-7899</pre>
<code>--mem*</code> The asterisk is not part of the command syntax.	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:>syscfg --mem mem=256MB</pre>

Table 3-8. 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. For more information, see "PCI Reporting" on page 144. This option must be used with the <code>--pci</code> option.</p> <p>Example:</p> <pre>A:>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>
<code>--ovrwt*</code>	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:>syscfg -outfile=out.ini --ovrwt</pre>

Table 3-8. SYSCFG Options and Arguments for System Configuration (continued)

Option	Valid Arguments	Description
--pci* The asterisk is not part of the command syntax.	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 is printed for all vendor and device codes.</p> <p>For more information, see "PCI Reporting" on page 144.</p> <p>Example 1 (the <code>pci.ids</code> filename is specified in the command line instance):</p>

```
A:>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
```

Table 3-8. 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): A:>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

Table 3-8. 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:>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>
-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:>syscfg -s ENVNAME --svctag ENVNAME=SERVICE</pre>

Table 3-8. SYSCFG Options and Arguments for System Configuration (continued)

Option	Valid Arguments	Description
<code>--slot*</code> The asterisk is not part of the command syntax.	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:>syscfg --slot slot=1</pre> <p>Example 2 (for a non-modular system):</p> <pre>A:>syscfg --slot slot=0</pre> <p>NOTE: This option is valid only for PowerEdge 1855 systems.</p>
<code>--svctag*</code> The asterisk is not part of the command syntax.	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:>syscfg --svctag svctag=113CD1S</pre>
<code>--sysasset</code>	None	<p>This option reports the system asset tag for modular systems.</p> <p>Example:</p> <pre>A:>syscfg --sysasset sysasset=ASSET01</pre>

Table 3-8. SYSCFG Options and Arguments for System Configuration (continued)

Option	Valid Arguments	Description
<code>--sysid*</code> The asterisk is not part of the command syntax.	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 <code>-s</code> general option, the environment variable is set to the system ID.</p> <p>Example:</p> <pre>A:>syscfg --sysid sysid=0x00df</pre>
<code>--sysname*</code> The asterisk is not part of the command syntax.	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 <code>-s</code> option, the environment variable is set to the system name.</p> <p>Example:</p> <pre>A:>syscfg --sysname sysname=PowerEdge 1550/1000</pre>

Table 3-8. SYSCFG Options and Arguments for System Configuration (continued)

Option	Valid Arguments	Description
<code>--sysvctag*</code> The asterisk is not part of the command syntax.	None	This option reports the system service tag for a modular system. Example: <code>A:>syscfg --sysvctag</code> <code>sysvctag=BLADE01</code>
<code>--uuid*</code> The asterisk is not part of the command syntax.	None	This option reports the Unique User Identifier (UUID) for a system. The UUID is a unique system identifier used in PXE requests. Example: <code>A:>syscfg --uuid</code> <code>uuid=44454C4C-5300-104C-8044-</code> <code>B1C04F423131</code>

SYSCFG for IPv6 Configuration

Table 3-9 lists all valid options and arguments for IPv6 configuration along with a description of each option. These options are applicable only if the DRAC in your system supports IPv6.

Table 3-9. SYSCFG Options and Arguments for IPv6 Configuration

Option	Sub-option	Valid Argument	Description
lancfgparamsv6 or lcpv6	--ipv6	enable, disable	Loads or unloads the IPv6 stack. A:> syscfg lcpv6 --ipv6= enable
	--ipsrcv6=static --ipaddrv6= <ipv6address> -- prefixlengthv6= < prefixlengthv6> --gatewayv6=< ipv6gatewayaddress>	NA	Allows you to manually configure IPv6 addresses. A:>syscfg lcpv6 -- ipsrcv6=static -- ipaddrv6= 1234:1234:1234::1234 -- prefixlengthv6=32 -- gatewayv6= 1234:1234:1234::1
	--ipsrcv6=auto	NA	Automatically configures the IPv6 addresses. A:> syscfg lcpv6 -- ipsrcv6=auto
	--dnssrcv6 =auto	NA	Automatically configures the DNS address. A:> syscfg lcpv6 -- dnssrcv6=auto
	--dnssrcv6=static --dnsserverlv6= <ipv6dnsserverladdress>	NA	Allows you to manually set the DNS address.

Table 3-9. SYSCFG Options and Arguments for IPv6 Configuration

Option	Sub-option	Valid Argument	Description
	-- linklocaladdripv6 = <linklocaladdripv6>		Allows you to view IPv6 addresses. A:> syscfg lcpv6 -- linklocaladdripv6= 134.56.45.233
	--gatewayv6= <gatewayv6>		Allows you to view IP gatewayv6 address.

PCI Reporting

The scan of the PCI bus uses 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 prints Unknown next to a vendor name. If the file for environment variable names is not present, the utility fails 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 3-8.

Environment Variable File

The environment variable file can be used for discovering and recording system information to environment variables. The file consists of several sections with .ini format 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 or value pair whose name matches the NIC's vendor or 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 is 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\x32\TOOLKIT\TOOLS` or in `\DELL\x64\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 7 controllers
- PERC S100 and PERC S300 software controllers (Not supported on 64-bit systems)
- PERC 4/SC, PERC 4/DC, PERC 4/Di, PERC 4/IM (Supported only on Windows PE 2.0)
- PERC 4e/DC, PERC 4e/Di, PERC 4e/Si (Supported only on Windows PE 2.0)
- PERC 5/E Adapter, PERC 5/I Integrated, PERC 5/i Adapter

- CERC SATA 1.5/6-Channel (CH) and CERC SATA 1.5/2S (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
- PERC 6/i Integrated for modular systems

RAIDCFG Dependencies

For the RAIDCFG utility to run successfully in Windows PE, the **mr2kserv**, **lsivil.dll** (for Windows) or **lsivil.so** (for Linux) and **sasvil.dll** (for Windows) or **sasvil.dll** (for Linux) must 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 and 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" on page 155.

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" on page 155 for an explanation of the specific order for each option. See Table 4-16 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

Option	Valid Arguments	Short Description	Mandatory or Optional
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. NOTE: 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 4-9 for specific usage information.
-ac or action	rghs or removeglobalhotspare	Unassigns all global hot spares to disks on the specified controller.	Optional. See Table 4-10 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 4-10 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:en closure	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 must specify values for channel, target, and enclosure. NOTE: 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 or d, e	Specifies the cache policy for reads on a specified virtual disk or 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 4-12 for specific usage information.

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

Option	Valid Arguments	Short Description	Mandatory or Optional
-envn or envname	<string>	Sets the environment variable (<string>) that equates to the value returned from a function call.	See Table 4-12 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:en closure	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 must specify values for channel, target, and enclosure. NOTE: From DTK 2.4 onwards, the -fd option creates dedicated hot spares instead of global hot spares. To set global hot spares, see Table 4-10.	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 4-14 for specific usage information.
-l or logfile	<filename>	Logs command line output to a file.	Optional. See Table 4-15 for specific usage information.

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

Option	Valid Arguments	Short Description	Mandatory or Optional
-o	<filename>	Reads the RAID configurations from all available controllers and write these configurations in the given .ini filename.	Mandatory. See Table 4-14 for specific usage information.
-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 setenvironment	NA	Sets a user-defined environment variable to the value returned from the function call. The function calls are: getcontrollerslot s, getfirmware, getcontrollertype, getadisks, getdiskcount, getfreeadisks, getfreeadiskcount, getfreeadisksize, gethotspares.	Mandatory. See Table 4-12 for specific usage information.
-si or silent	NA	Does not display any information on the terminal console.	Optional. See Table 4-15 for specific usage information.

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

Option	Valid Arguments	Short Description	Mandatory or Optional
-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.
-sp or spanlength	<number>	The span size of RAID 5, which is a mandatory parameter for RAID 50. NOTE: Spanlength is applicable for RAID 10, RAID 50 and RAID 60. The minimum permissible spanlength value is 2 for RAID 10, 3 for RAID 50, and 4 for RAID 60. 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. NOTE: 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.

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

Option	Valid Arguments	Short Description	Mandatory or Optional
-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 4-15 for specific usage information.
-wp or writepolicy	wb, wt, wc, nwc, fwb	Sets the write policy for a virtual disk. The valid arguments are: wb (write-back caching), wt (write-through caching), wc (write-caching), nwc (no-write-caching), and fwb (force-write-back).	Optional. See Table 4-15 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 pre-defined 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
- Initializing Virtual Disks
- Importing and Clearing Foreign Configurations
- Deleting Virtual Disks
- Assigning and Unassigning Global Hot Spares
- Assigning and Unassigning Persistent Dedicated Hot Spares
- Setting Environment Variables
- RAID Replication Options
- 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

Options	Parameters	Valid Arguments	Description
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:>raidcfg -h RAIDCFG v3.3 Copyright (c) 2002-2011 Dell Inc. [raidcfg] Help: options in <> are mandatory and options in [] are optional and can be in any order after mandatory ones. raidcfg -h</pre> <p>Provides users with general help options that may be used with this utility.</p> <pre>raidcfg <controller> raidcfg <-ctrl></pre> <p>Lists all controllers on the host and selects property information.</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 pre-defined arguments for enumerating RAID controllers.

Table 4-3. Enumerating RAID Controllers

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
-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)

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
-c or controlle rid	<valid controller ID number>	<p>Displays the properties for the RAID controller with the specified controller ID. This option combination is mandatory.</p> <p>Example:</p> <pre>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!</pre>	

Creating Virtual Disks

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



NOTE: If you create a virtual disk on Windows PE, you must 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

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
<pre>-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,...]</pre>	NA	NA	<p>Creates a virtual disk comprising the properties supplied. This option combination is mandatory.</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 must specify values for channel, target, and enclosure.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -ac=cvd - c=2 -ad=1:4,1:8 -r=1 -ssz=32 - cp=d -rp=nra -wp=wt -fd=1:1 RAIDCFG command successful!</pre>

Table 4-4. Creating Virtual Disks (continued)

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
-cp or cachepolicy	d, c or d, e		<p>Sets the cache policy or disk cache policy. The valid arguments for cache policy are:</p> <ul style="list-style-type: none"> • d — (Direct I/O) Reads are not buffered in cache memory. • c — (Cache I/O) All reads are buffered in cache memory. <p>NOTE: Cache policy is not supported on controllers that do not have a battery.</p> <p>Valid arguments for disk cache policy are:</p> <ul style="list-style-type: none"> • d - Disable • e - Enable <p>The -cp option is optional and can be added to the command line in any order after the mandatory option combination.</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 -fd option is optional and can be added to the command line in any order after the mandatory option combination.</p> <p>NOTE: From DTK 2.4 onwards, the -fd option creates dedicated hot spares instead of global hot spares. For information about setting global hot spares, see Table 4-10.</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 must 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
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-r		0, 1, 5, 6, 10, 50,	Sets the RAID type or level for the virtual disk.
or		60	
-raid			

NOTE: If this option is not specified for any RAID controller, RAID 0 is taken as the default.

The valid arguments are:

- 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.
- 1 — RAID 1 is the simplest form of maintaining redundant data. In RAID 1, data is mirrored or duplicated on one or more drives.
- 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.
- 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.
- 10 — RAID 10 is a stripe of mirrors. Multiple RAID 1 mirrors are created, and a RAID 0 stripe is created over these.

Table 4-4. Creating Virtual Disks (continued)

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
			<ul style="list-style-type: none">• 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.• 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.

Table 4-4. Creating Virtual Disks (continued)

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
<pre>-ctrl -ac=cvd -c=id -ad= ch:targ,ch:targ , ... [or ch:targ:encl,...] or controller action= createdisk controllerid= id adisk= channel:target :lun, channel:target :lun,... [or channel:target : enclosure,...]</pre>	<pre>-rp or readpolicy</pre>	<pre>ra, ara, nra, rc, nrc</pre>	<p>Sets the SCSI read policy for the virtual disk. Specify the SCSI read policy for the logical drive. The valid arguments are:</p> <ul style="list-style-type: none"> • ra — (read-ahead) The controller reads sequential sectors of the disk when seeking data. • ara — (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. • nra — (No-Read-Ahead) The controller does not read sequential sectors of the disk when seeking data.

NOTE: The **ra**, **ara**, and **nra** options are supported on the following RAID controllers only:

- PERC4/SC, PERC 4/DC, PERC 4/Di, PERC 4/IM, PERC4e/DC, PERC 4e/Di, PERC 4e/Si
- PERC 5/E Adapter, PERC 5/I Integrated, PERC 5/i Adapter
- PERC 6/i Integrated, PERC 6/i Adapter, PERC 6/E Adapter

Table 4-4. Creating Virtual Disks (continued)

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
			<p>NOTE: 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 are ignored.</p> <ul style="list-style-type: none"> • rc — (Read-Caching) Enables read caching. • nrc — (No-Read-Caching) Disables read caching. <p>NOTE: The rc and nrc options are supported on CERC SATA 1.5/CH controller only.</p> <p>The -rp option is optional and can be added to the command line in any order after the mandatory option combination.</p> <p>⚠ CAUTION: 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)

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>]	-sp or spanlength	<i><number></i>	<p>Creates a virtual disk comprised of the properties supplied. The -sp option is optional and can be added to the command line in any order after the mandatory option combination.</p> <p>NOTE: 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 must 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 must 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= <i>id</i> adisk= channel:target :lun, channel:target :lun,... [or channel:target : enclosure,...]</p>	<p>-str or strict</p>	<p><number></p>	<p>Strict (-str parameter) is the percentage of expected array disk utilization.</p> <p>Example: A:> raidcfg -ctrl -ac=cvd -c=0 -ad=0:0,0:1 -r=1 -str=20</p> <p>If the unused portion of an array disk is greater than the above percent, raidcfg aborts.</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 must 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,...]	-sz or -size	<number>	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 -sz option is optional and can be added to the command line in any order after the mandatory option combination. The minimum virtual disk size that you can create for various controllers is given below: <ul style="list-style-type: none"> • For CERC-SATA 1.5/6ch controllers: <ul style="list-style-type: none"> – RAID 0: 10MB – RAID 1: 9MB – RAID 5: 9MB • For PERC 4 (except PERC 4/IM) controllers: <ul style="list-style-type: none"> – RAID 0: 10MB – RAID 1: 10MB – RAID 5: 10MB

Table 4-4. Creating Virtual Disks (continued)

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
			<ul style="list-style-type: none"> • For PERC 5 controllers: <ul style="list-style-type: none"> – RAID 0: 100MB – RAID 1: 100MB – RAID 5: 100MB • For PERC 6 controllers: <ul style="list-style-type: none"> – RAID 0: 100MB – RAID 1: 100MB – RAID 5: 100MB – RAID 6: 100MB – RAID 60: 100MB • PERC 7 controllers: <ul style="list-style-type: none"> – RAID 0: 100MB – RAID 1: 100MB – RAID 5: 100MB – RAID 6: 100MB – RAID 10: 100MB – RAID 50: 100MB – RAID 60: 100MB • Software RAID controllers: <ul style="list-style-type: none"> – RAID 0: 100MB – RAID 1: 100MB – RAID 5: 100MB – RAID 10: 100MB

NOTE: If this option is not provided, RAIDCFG determines the maximum possible virtual disk size and creates it.

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> <ul style="list-style-type: none"> • wb — 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. • wt — Write-Through Caching sets the controller to send a write-request completion signal only after the data is written to the disk. <p>NOTE: The wb and wt options are supported on the following RAID controllers only:</p> <ul style="list-style-type: none"> • PERC 4/IM, PERC 4/SC, PERC 4/Di, PERC 4/DC, PERC 4e/DC, and PERC 4e/Di • PERC 5/E Adapter, PERC 5/I Integrated, PERC 5/i Adapter • PERC 6/i Integrated, PERC 6/i Adapter, PERC 6/E Adapter <p>NOTE: 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 are ignored.</p> <ul style="list-style-type: none"> • wc — Write-Caching sets the controller to send a write-request completion signal only after the data is written to the disk.

Table 4-4. Creating Virtual Disks (continued)

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
			<ul style="list-style-type: none">• <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>NOTE: The <code>wc</code> and <code>nwc</code> options are supported on the CERC SATA 1.5/CH controller only.</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 LUN should always be 0.</p> <p>For SAS controllers, the value of enclosure can be non-zero, in which case you must specify values for channel, target, and enclosure.</p>

Enumerating Array Disks

Table 4-5 lists the RAIDCFG options, parameters, and pre-defined 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
-ad -c= <i>id</i> or adisk controllerid= <i>id</i>	NA	NA	<p>Lists all the array disks attached to the specified RAID controller. This option combination is mandatory.</p> <p>NOTE: 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>NOTE: The following example displays output of a Series 7 controller.</p> <p>NOTE: Software controller does not display the NegSpeed, CapSpeed, Certified and Supported parameters.</p> <p>Example:</p> <pre>A:>raidcfg -ad -c=2 Controller: PERC H700 Adapter ***** Physical Drive ***** Vendor: DELL(tm) Model: ST9146703SS Protocol: SAS Media: HDD NegSpeed: 6144 Mbps CapSpeed: 6144 Mbps Certified: YES Supported: YES Location: 0:0:1 Size: 139392 MB (136 GB) 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 ***** Vendor: DELL(tm) Model: ST9146703SS Protocol: SAS Media: HDD NegSpeed: 6144 Mbps CapSpeed: 6144 Mbps Certified: YES Supported: YES Location: 0:1:1 Size: 139392 MB (136 GB) Avail: 0 MB ***** Physical Drive ***** Vendor: DELL(tm) Model: ST9146703SS Protocol: SAS Media: HDD NegSpeed: 6144 Mbps CapSpeed: 6144 Mbps Certified: YES Supported: YES Location: 0:2:1 Size: 139392 MB (136 GB) Avail: 139392 MB (136 GB) </pre>

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

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
			RAIDCFG Command successful!
			***** Physical Drive *****
			Vendor: DELL(tm)
			Model: ST9146703SS
			Protocol: SAS
			Media: HDD
			NegSpeed: 6144 Mbps
			CapSpeed: 6144 Mbps
			Certified: YES
			Supported: YES
			Location: 0:3:1
			Size: 139392 MB (136 GB)
			Avail: 139392 MB (136 GB)
			***** Physical Drive *****
			Vendor: DELL
			Model: ST9146802SS
			Protocol: SAS
			Media: HDD
			NegSpeed: 3072 Mbps
			CapSpeed: 3072 Mbps
			Certified: YES
			Supported: YES
			Location: 0:4:1
			Size: 139392 MB (136 GB)
			Avail: 139392 MB (136 GB)
			RAIDCFG command successful!

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

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>	<p>-vd=<i>id</i></p> <p>vdisk=<i>id</i></p>	<p><<i>valid virtual disk</i>></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:>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)

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
-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:targ</i> <i>get,</i> <i>channel:targ</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 pre-defined arguments for enumerating virtual disks.

Table 4-6. Enumerating Virtual Disks

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
-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:>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	<valid controllerID number>	<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:>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)

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
<code>-vd -c=id</code> or <code>vdisk controllerid=id</code>	<code>-vd</code> or <code>vdisk</code>	<i><valid virtual disk ID number></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:>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>

Initializing Virtual Disks

Table 4-7 lists the RAIDCFG options, parameters, and pre-defined arguments for initializing selected virtual disks.

Table 4-7. Initializing Virtual Disks

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
-vd -c= <i>id</i> -vd= <i>id</i> -ac=fi or vdisk controllerid= <i>id</i> vdisk= <i>id</i> action= fastinit	NA	<i><valid virtual disk ID number></i>	This option initializes the selected virtual disk in the selected controller with the fastinit command. This feature is supported on PERC 5 and later controllers and is not supported on SAS controllers. Using the fastinit command on unsupported controllers returns an error. Example: A:>raidcfg -vd -c=2 -vd=2 -ac=fi
-vd -c= <i>id</i> -vd= <i>id</i> -ac=sli or vdisk controllerid= <i>id</i> vdisk= <i>id</i> action= slowinit	NA	<i><valid virtual disk ID number></i>	This option initializes the selected virtual disk in the selected controller with the slowinit command. This feature is supported on PERC 5 and later controllers and is not supported on SAS controllers. Using the slowinit command on unsupported controllers returns an error. Example: A:>raidcfg -vd -c=2 -vd=2 -ac=sli
-vd -c= <i>id</i> -vd= <i>id</i> -ac=sli or vdisk controllerid= <i>id</i> vdisk= <i>id</i> action= cancelinit	NA	<i><valid virtual disk ID number></i>	This option cancels the initialization of the virtual disk with the cancelinit command. This feature is supported on PERC 5 and later controllers and is not supported on SAS controllers. Using the cancelinit command on unsupported controllers returns an error. Example: A:>raidcfg -vd -c=2 -vd=2 -ac=ci

Importing and Clearing Foreign Configurations

Table 4-8 lists the RAIDCFG options, parameters, and pre-defined arguments for foreign configurations.

Table 4-8. RAIDCFG Options for Foreign Configurations

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
-ctrl -c= <i>id</i> -ac= fgnimp or controller controllerid= <i>id</i> action= foreignimport	NA	<valid virtual disk ID number>	Imports the foreign configuration detected in the selected controller. This feature is supported on PERC 5 and later controllers and is not supported on SAS controllers. If you use this argument on a controller that does not have a foreign configuration, the No Foreign configuration present in the controller message is displayed. Example: A:>raidcfg -ctrl -c=2 - ac=fgnimp

Table 4-8. RAIDCFG Options for Foreign Configurations (*continued*)

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
-ctrl -c= <i>id</i> -ac= fgnclr or controller controllerid= <i>id</i> action= foreignclear	NA	<i><valid virtual disk ID number></i>	Clears the foreign configuration detected in the selected controller. This feature is supported on PERC 5 and later controllers and is not supported on SAS controllers. If you use this argument on a controller that does not have a foreign configuration, the No Foreign configuration present in the controller message is displayed. Example: A:>raidcfg -ctrl -c=2 -ac=fgnclr
-ctrl -c= <i>id</i> -ac= fgnrvr or controller controllerid= <i>id</i> action= foreignrecover	NA	<i><valid virtual disk ID number></i>	Recovers the foreign configuration detected in the selected controller. This feature is supported from the PERC 5 and later controllers and is not supported on SAS controllers. If you use this argument on a controller that has no foreign configuration, the No Foreign configuration present in the controller message is displayed. Example: A:>raidcfg -ctrl -c=2 -ac=fgnrvr

Deleting Virtual Disks

Table 4-9 lists the RAIDCFG options, parameters, and pre-defined arguments for deleting virtual disks.



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

Table 4-9. Deleting Virtual Disks

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
-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 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 4-10 lists the RAIDCFG options, parameters, and pre-defined arguments for assigning and unassigning global hot spares.

Table 4-10. Assigning and Unassigning Global Hot Spares

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
-ctrl -ac=sghs -c=id -ad -pd= <i>ch:targ:encl,c</i> <i>h:targ:encl</i>	NA	NA	<p>Assigns the specified disk as a global hot spare on the controller. You can assign only one disk at a time.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -ac=sghs -c=2 -ad=0:1</pre> <p>RAIDCFG command successful!</p>
-ctrl ac=rghs -c=id -ad -pd= <i>ch:targ:encl,c</i> <i>h:targ:encl</i>	NA	NA	<p>Unassigns all the specified global hot spares to a disk on the specified controller.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -ac=rghs -c=2 -ad=0:1,0:2</pre> <p>RAIDCFG command successful!</p>

Assigning and Unassigning Persistent Dedicated Hot Spares

Table 4-11 lists the RAIDCFG options, parameters, and pre-defined arguments for assigning and unassigning dedicated hot spares.

Table 4-11. Assigning and Unassigning Persistent Dedicated Hot Spares

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
<code>-ctrl -c=id -ac=ephs</code> or controller controllerid= <i>id</i> action= <i>enablepersiste</i> <i>nthotspare</i>	NA	NA	Assigns the slot corresponding to the hot spare drive as persistent. Any drive in the slot functions as a hot spare if the drive is qualified to be a hot spare. Example: <pre>A:>raidcfg -ctrl -ac=ephs -c=2 -ad=0:1</pre> RAIDCFG command successful!
<code>-ctrl -c=id -ac=dphs</code> or controller controllerid= <i>id</i> action= <i>disablepersist</i> <i>enthotspare</i>	NA	NA	Unassigns the slot corresponding to the hot spare drive as persistent. If the drive is removed from the slot and any drive is inserted, the slot stops functioning as a hot spare. You must manually assign the drive as a hot spare again. Example: <pre>A:>raidcfg -ctrl -ac=dphs -c=2 -ad=0:1,0:2</pre> RAIDCFG command successful!

Setting Environment Variables

Table 4-12 lists the RAIDCFG options, parameters, and pre-defined arguments for setting the CLI environment.

Table 4-12. Setting Environment

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
-se -envn= <i><string></i> - envc= <i><function></i> or setenvironment envname= <i><string></i> envcommand= <i><function></i>	NA	NA	Sets a user-defined environment variable to the value returned from the <code>getcontrollerslots</code> function call. This option combination is mandatory. Example: <pre>A:>raidcfg -se -envn=CNTRL - envc=getcontrollerslots CNTRL=0 1 2</pre> RAIDCFG command successful!
-se -envn= <i><string></i> - envc= <i><function></i> or setenvironment envname= <i><string></i> envcommand= <i><function></i>	-f or filename	<i><filename></i> >	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.

Table 4-12. Setting Environment (*continued*)

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
<pre>-se -envn= <string> - envc= <function> - c=id or setenvironment envname= <string> envcommand= <function> controllerid=id</pre>	NA	NA	<p>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.</p> <p>Example:</p> <pre>A:>raidcfg -se -envn=FIRMWARE -envc=getfirmware -c=2 FIRMWARE=531T</pre> <p>RAIDCFG command successful!</p>

Function Calls of Setenvironment Option

Table 4-13 lists the function calls of the `setenvironment` option.

Table 4-13. Function Calls of the setenvironment Option

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

Table 4-13. 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=FREEADISKSIZE -envc=getfreeadisksize -c=2 FREEADISKSIZE=15346 RAIDCFG command successful!

Table 4-13. Function Calls of the setenvironment Option (continued)

Function Call	Description
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 4-14 lists the RAID replication options.

Table 4-14. 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:> raidcfg -i=tmp\raid.ini</pre>
-o	NA	<filename>	<p>Reads the RAID configurations from all available controllers and writes these configurations in the raid.ini file under the /tmp directory (in Linux systems). This option is mandatory.</p> <p>Example:</p> <pre>A:> raidcfg -o=tmp\raid.ini</pre> <p>The contents of the raid.ini 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 4-14. RAID Replication Options (*continued*)

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
			<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>
			NOTE: If the controller uses global hot spares, the raid.ini file contains the following section: [GlobalHotspare0] <code>controllerid=0</code> <code>failoverdrive=0:8:0</code>

Miscellaneous Options

Table 4-15 lists all other RAIDCFG options, parameters, and pre-defined arguments.

Table 4-15. 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:>raidcfg -ctrl -l=log.txt Controller_ID/Slot_ID: 0 Controller_PCI_ID: 4:2:1 Controller_Name: Dell PERC PERC 4e/Di Channels: 2 Virtual_Disks: 0 Firmware Version: V2.8- 0[6064] RAIDCFG command successful!</pre>

Table 4-15. Miscellaneous Optional Parameters *(continued)*

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
any	-si or silent	NA	<p>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.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -si</pre> <p>RAIDCFG command successful!</p>
any	-ver or version	NA	<p>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.</p> <p>Example:</p> <pre>A:>raidcfg -ver</pre> <pre>RAIDCFG V2.4</pre> <pre>Copyright (c) 2005-2011 Dell Inc.</pre> <p>RAIDCFG Command successful!</p>

Quick Reference to RAIDCFG Commands

Table 4-16 lists the basic RAIDCFG commands.

Table 4-16. Basic RAIDCFG Commands

Purpose	Command	Description
To list all the RAID controllers in a system	<code>raidcfg -ctrl</code>	Lists all the RAID controllers in the system. Record the slot ID of the controllers for later reference.
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. Record the drive location of the disks for later reference.
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><-c=slotid></code> and the array disks in <code><-ad=...></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><-c=slotid></code> and the array disks in <code><-ad=...></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><-c=slotid></code> and the array disks in <code><-ad=...></code> are obtained from the first two commands.

Table 4-16. Basic RAIDCFG Commands (continued)

Purpose	Command	Description
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><-c=slotid></code> and the array disks in <code><-ad=...></code> are obtained from the first two commands.
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>	Creates a virtual disk of 5GB size for type RAID 1. The slot ID in <code><-c=slotid></code> and the array disks in <code><-ad=...></code> are obtained from the first two commands. The option <code><-fd></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.
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>	Creates a virtual disk of max size for type RAID 10. The slot ID in <code><-c=slotid></code> and the array disks in <code><-ad=...></code> are obtained from the first two commands. The drive location is obtained from the second command.
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>	Creates a virtual disk of maximum size for type RAID 50. The slot ID in <code><-c=slotid></code> and the array disks in <code><-ad=...></code> are obtained from the first two commands. The drive location is obtained from the second command.

Table 4-16. 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>	<p>Creates a virtual disk of maximum size for type RAID 6.</p> <p>The slot ID in <code><-c=slotid></code> and the array disks in <code><-ad=...></code> are obtained from the first two commands. The drive location is obtained from the second command.</p> <p>NOTE: The minimum number of drives required to create a virtual disk of RAID 6 is 4.</p>
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>	<p>Creates a virtual disk of maximum size for type RAID 60.</p> <p>The slot ID in <code><-c=slotid></code> and the array disks in <code><-ad=...></code> are obtained from the first two commands. The drive location is obtained from the second command.</p> <p>NOTE: The minimum number of drives required to create a virtual disk of RAID 60 is 8.</p>
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>	<p>Lists all the virtual disks on a specific controller.</p> <p>The slot ID in <code><-c=slotid></code> is obtained from the first command.</p>
To delete a specific virtual disk on a controller	<code>raidcfg vdisk -ac=dvd -c=slotid -vd=vdiskid</code>	<p>Deletes a specific virtual disk on a controller.</p> <p>The slot ID in <code><-c=slotid></code> is obtained from the first command and the <code>vdiskid</code> in <code><-vd=vdiskid></code> is obtained from command 10.</p>

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 runs as a shell script that uses standard Linux commands to accomplish the same tasks as done by the Windows PE UPINIT utility. Both command lines are identical and the output of the two utilities are identical when the same image is used.

UPINIT Dependencies

In Linux, UPINIT looks for the following files:

- `mbr` file in the `dell/drmk` directory
- `sysdrmk` in the `dell/toolkit/bin` directory

In Windows, UPINIT looks for the following files:

- `createup.cfg`, `mountup.cfg`, `umountup.cfg`, and `listup.cfg` in the `DELL\TOOLKIT\TEMPLATE\SCRIPTS` directory
- `sysdrmk.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

Option	Valid Arguments	Description
none	none	<p>If no options are given, the tool outputs usage information. The usage information is printed in the format shown below.</p> <p>Example 1:</p> <pre>A:>upinit upinit version 1.0 © 2011 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>NOTE: The --overwrite option should be used for upgrading/downgrading purposes. The --size option is not required when using the --overwrite option because the --overwrite option does not resize an existing Dell Utility Partition. If any partitions exist, they are 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</pre> <p>Copyright (c) 2002-2011 Dell Inc.</p> <p>This utility creates a utility partition for your system.</p> <p>This utility requires a Utility Partition image file (upimg.bin) which can be found under /opt/dell/toolkit/systems folder in the Deployment Toolkit ISO. 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>In the example, upinit creates a Dell Utility Partition of size 32 MB using the upimg.bin image file.</p> <p>The --overwrite option should be used for upgrading/downgrading purposes. The --size option is not required when using the --overwrite option because the --overwrite option does not resize an existing Dell Utility Partition. If any partitions exist, they are not deleted.</p> <p>Linux Example:</p> <pre>upinit version 1.0</pre> <p>Copyright (c) 2002-2011 Dell Inc.</p> <p>This utility creates a utility partition for your system.</p> <p>This utility requires a Utility Partition image file (upimg.bin) which can be found under /opt/dell/toolkit/systems folder in the Deployment Toolkit ISO. For more information, please consult the Deployment Toolkit Documentation.</p> <p>Usage:</p> <pre>upinit.sh --disk -d=disk --size -s=size --file -f=file</pre> <p style="text-align: right;">[--overwrite -o] [--help -h]</p> <p>--help or -h prints help.</p> <p>--disk or -d disk device on which to create the Dell Utility Partition.</p> <p>--size or -s Size in MB for the Dell Utility Partition.</p> <p>--file or -f filename of Dell Utility Partition Image File.</p>

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

Option	Valid Arguments	Description
		<p><code>--overwrite</code> or <code>-o</code> Installs the Dell Utility partition over an existing one.</p> <p>Example:</p> <pre>upinit --disk=/dev/sda --size=32 --file=upimg.bin</pre> <p>In the example, <code>upinit</code> 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 are not deleted.</p>
disk	integer, required (Windows) string, required (Linux)	<p>Specifies the disk on which to create a utility partition. This disk is checked to ensure that there are no existing partitions. Utility exits 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:> 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 is at least the size specified by <code>size</code> and be as close to actual size as drive geometry allows.</p> <p>Example:</p> <pre>A:> upinit --disk=0 --size=32 --file=c:\upimage.bin</pre>

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

Option	Valid Arguments	Description
file	string, required	Specifies a file that is decompressed onto the utility partition. This file is checked for existence and availability before any partitions are created on the disk. If the file is not specified, the utility simply create the utility partition, format it, and exits. The user has to mount and populate the utility partition. It is very unlikely that the user do 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.

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 A-1 lists SYSCFG error codes and messages.

Table A-1. SYSCFG Error Codes and Messages

Error Code	Message
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 A-1. SYSCFG Error Codes and Messages (continued)

Error Code	Message
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 A-1. SYSCFG Error Codes and Messages (continued)

Error Code	Message
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 A-1. SYSCFG Error Codes and Messages (continued)

Error Code	Message
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 '%s' 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 A-1. SYSCFG Error Codes and Messages (continued)

Error Code	Message
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 A-1. SYSCFG Error Codes and Messages (continued)

Error Code	Message
83	The dependent option '%s' required for this subcommand is missing in the command line.
84	Duplicate sub command '%s' 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 '%s' not found.

Table A-1. SYSCFG Error Codes and Messages (continued)

Error Code	Message
103	Input file '%s' cannot be read.
104	Invalid argument for option '%s'.
105	Function table lookup error.
106	The machine ID was not found in the file '%s'.
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 '%s' 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 --oldsetuppwd.
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 '%s'.
117	The option '%s' is not available or cannot be configured through software.
118	There was an error setting the option '%s'.
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 A-1. SYSCFG Error Codes and Messages (continued)

Error Code	Message
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 '%s' 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 A-1. SYSCFG Error Codes and Messages (continued)

Error Code	Message
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/TCM Clear settings requires setup password.
147	There is currently no TPM/TCM Clear request pending.
148	Password is not required for retrieving the '%s' options.
149	Setup password is required for setting the '%s' options.
150	Invalid Password override.
151	Invalid TPM/TCM set option.
152	There was an error setting the TPM/TCM option.
153	There is no setup password installed on this system.
154	The setup password supplied is incorrect. Please try again.
155	Profile should be custom for setting cpupowermode, memorypowermode and fanmode.
156	There was an error setting the Power Option.
157	The power cap value entered is out of range. Please try again.
158	The power cap value entered must be between 0 to 100 if unit is percent.

Table A-1. SYSCFG Error Codes and Messages (continued)

Error Code	Message
159	Invalid IPv6 address. The IPv6 address cannot be link-local or multicast.
160	Invalid IPv6 address. The IPv6 address specified has incorrect address format.
161	Invalid IPv6 address. The gateway address specified has incorrect address format.
162	Invalid IPv6 address. The Primary DNS server address specified has incorrect address format.
163	Invalid IPv6 address. The Secondary DNS server address specified has incorrect address format.
164	Invalid IPv6 address. The gateway address specified is invalid.
165	Invalid configuration. Attempting to apply IPv6 configuration on a non supported platform.
166	Invalid IPv6 configuration. Attempt to set DNS server address manually while DNS address source is set to auto.
167	Invalid IPv6 configuration. Attempt to set IPv6 address manually while IPv6 address source is set to auto.
168	Invalid IPv6 configuration. Attempting to apply IPv6 configuration without loading IPv6 stack.
169	Invalid IPv4 configuration. Attempting to apply IPv4 configuration with IPv4 disabled.
170	Invalid IPv6 configuration. Ipv6 address cannot be specified without specifying prefix-length.
171	Invalid IPv6 configuration. dnssrcv6 cannot be set to auto when ipsrcv6 is set to manual.
172	Error while executing IPMI Set command.
173	Error while executing IPMI Get command.
174	Error during Trap Alert.

Table A-1. SYSCFG Error Codes and Messages (continued)

Error Code	Message
175	Unspecified error.
176	Getting LCD settings failed.
177	Invalid configuration. Attempting to set cap when capenable is set to disable.
178	Invalid configuration. Attempting to set cap when hardware does not support setting.
179	Invalid Configuration Option.
180	Cannot execute command. Parameter is illegal because command sub-function has been disabled or is unavailable.
180	Cannot execute command. Parameter is illegal because command sub-function has been disabled or is unavailable.
181	Failed to report the removable flash media redundancy status.
182	Failed to report the Internal SD Module status.
183	Error locating the Virtual Media Key on the Modular system.
184	Error in setting the redundancy option for the Internal SD Modules.
185	Error in retrieving the redundancy option for the Internal SD Modules.
186	Error in setting the redundancy option on Modular systems for the Internal SD Modules.

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 A-2 lists error codes and messages common to Linux and Microsoft Windows PE environments.

Table A-2. UPINIT Common Error Codes and Messages

Error Code	Message
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: sysdmk failed.
12	System Error.
13	Error: Invalid Argument: <argument>.
14	Error: Unzip failed.

UPINIT Linux-Specific Error Codes and Messages

Table A-3 lists error codes and messages specific to the Linux environment.

Table A-3. UPINIT Linux-Specific Error Codes and Messages

Error Code	Message
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 A-4 lists error codes and messages specific to the Windows PE environment.

Table A-4. UPINIT Windows PE-Specific Error Codes and Messages

Error Code	Message
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 A-5 for a list of the error codes and the associated messages.

Table A-5 lists RAIDCFG error codes and messages.

Table A-5. RAIDCFG Error Codes and Messages

Error Code	Message
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 A-5. RAIDCFG Error Codes and Messages (continued)

Error Code	Message
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- 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 A-5. RAIDCFG Error Codes and Messages (continued)

Error Code	Message
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 A-5. RAIDCFG Error Codes and Messages (continued)

Error Code	Message
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 A-5. RAIDCFG Error Codes and Messages (continued)

Error Code	Message
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 A-5. RAIDCFG Error Codes and Messages (continued)

Error Code	Message
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 A-5. RAIDCFG Error Codes and Messages (continued)

Error Code	Message
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 A-5. RAIDCFG Error Codes and Messages (continued)

Error Code	Message
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 A-5. RAIDCFG Error Codes and Messages (continued)

Error Code	Message
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 A-5. RAIDCFG Error Codes and Messages (continued)

Error Code	Message
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 http://support.dell.com .
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 A-5. RAIDCFG Error Codes and Messages (continued)

Error Code	Message
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 A-5. RAIDCFG Error Codes and Messages (continued)

Error Code	Message
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 A-5. RAIDCFG Error Codes and Messages (continued)

Error Code	Message
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 A-6 lists RACADM firmware error codes and messages.

Table A-6. RACADM Firmware Error Codes and Messages

Error Code	Message
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
23	SERVER IS IN GRAPHICS MODE
24	SYSTEM DATE AND TIME NOT SET

Table A-6. RACADM Firmware Error Codes and Messages (continued)

Error Code	Message
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
48	NO DIAGNOSTIC TASK RUNNING
49	READ ONLY
50	SNARFING IS NOT AVAILABLE
51	TEXT RESOLUTION OF SERVER CHANGED

Table A-6. RACADM Firmware Error Codes and Messages (continued)

Error Code	Message
52	MODULE NOT LOADED
53	IPMI ERROR
54	ERROR IN DIAGNOSTIC FUNCTION

RACADM Utility Error Codes and Messages

Table A-7 lists RACADM utility error codes and messages.

Table A-7. RACADM Error Codes and Messages

Error Code	Message
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.
522	Failed to perform write operation with RAC controller.
523	Invalid message ID.
524	Invalid message type.
525	Invalid response message.

Table A-7. RACADM Error Codes and Messages (continued)

Error Code	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.
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.

Table A-7. RACADM Error Codes and Messages (continued)

Error Code	Message
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.
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 B-1.

Table B-1. BMC PEF Alert Events

Event	Description
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.

Table B-1. BMC PEF Alert Events (continued)

Event	Description
Hardware log is full or emptied	Either an empty or a full hardware log requires administrator attention.
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
integratedsdas=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
vflash=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
cfgUserAdminAlertFilterRacEventMask=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=
```


D

Summary of SYSCFG and RAIDCFG Options

This appendix contains a summary of all the SYSCFG and RAIDCFG options.

SYSCFG Options

Table D-1 lists all the SYSCFG options and gives a brief description of these options. For details on these options, see the section, "SYSCFG" on page 19.

Table D-1. SYSCFG Options

Options	Sub-options	Valid Arguments	Description	Replicated
--envar	NA	<filename> <pathname> > 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 or --help	NA	none or <valid option name>	Without an argument, this option displays general usage information for the utility.	No
-i or --infile	NA	<filename>	Directs the SYSCFG utility to take input from the .ini file.	Yes
-l or --logfile	NA	<filename>	Logs the command line output to a time-stamped file.	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
-o or --outfile	NA	<filename>	Outputs all replicable options to the specified filename. The format of the output is in the.ini format, with the utility name as the section header.	
-s	NA	<string>	Prints the variable name and the value assigned to it to the console.	
--version*	NA		Displays the version information, current time, and date for the utility.	No
--acpower	NA	on, off, last	Specifies the behavior of the system after AC power is lost.	Yes
--adjcacheprefetch	NA	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	NA	standard, distributed	Controls the interrupt assignment of PCI devices in the system.	
--asset	NA	<string>	Sets the asset tag value.	Yes
--bezelir	NA	enable, disable	Enables or disables the ESM to monitor and log front bezel intrusion conditions.	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--bootseq	NA	numerical list, separated by commas or list of device names, separated by commas	Sets the boot order.	Yes (for systems that support a list of device names only)
--bootseqretry	NA	enable, disable	Enables or disables the boot sequence retry feature.	Yes
--cmosdefaults	NA	enable, disable	Enables or disables the CMOS defaults to be on or off in the next boot.	Yes
--conboot	NA	enable, disable	Enables or disables console redirection after boot.	Yes
--conred	NA	off, serial1, serial2, bmcsol, mmb	Sets console redirection to a particular port.	Yes
--conterm	NA	vt100, ansi	Sets console redirection terminal type.	Yes
--coreperformanc eboost	NA	enable, disable	Enables or disables the AMD Core Performance Boost feature.	Yes
--cpucore	NA	1, 2, 4	Allows the user to control the number of enabled cores in each processor. The maximum number of cores per processor is enabled by default.	Yes
--cpuxdsupport	NA	enable, disable	Enables or disables the execute disable (XD) feature of the CPU.	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--cstates	NA	enable, disable	Enables or disables the power c states of the processor. Available only on Dell PowerEdge <i>xx1x</i> systems.	Yes
--dbpm	NA	enable, disable	Enables or disables demand-based power management.	Yes
--devseq	NA	numerical list, separated by commas or list of device names, separated by commas	Sets the boot order for hard drives. NOTE: 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)
--embhypervisor	NA	enable, disable	Enables or disables the embedded hypervisor port.	Yes
--embideraid	NA	on, off	Enables or disables the embedded IDE RAID controller.	Yes
--embnic1	NA	on, off, onnopxe, onwithiscsi	Enables or disables the first embedded network interface controller (NIC).	Yes
--embnic2	NA	on, off, onnopxe, onwithiscsi	Enables or disables the second embedded NIC.	Yes
--embnic3	NA	on, off, onnopxe, onwithiscsi	Enables or disables the third embedded NIC.	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--embnic4	NA	on, off, onnopxe, onwithiscsi	Enables or disables the fourth embedded NIC.	Yes
--embnic1nic2	NA	enable, disable	Enables or disables the operating system interface of the first and second embedded NIC controllers. Available only on PowerEdge 1855, PowerEdge 6850, and xx1x systems.	Yes
--embnic3nic4	NA	enable, disable	Enables or disables the operating system interface of the third and fourth embedded NIC controllers. Available only on PowerEdge xx1x systems.	Yes
--embnics	NA	on, off	Enables or disables the embedded NICs.	Yes
--embnic1pxe	NA	enable, disable	Enables or disables Pre-boot eXecution Environment (PXE) on the first embedded NIC.	Yes
--embnic2pxe	NA	enable, disable	Enables or disables PXE on the second embedded NIC.	Yes
--embsataraid	NA	off, combined, ata, ahci, raid, qdma	Configures the embedded SATA (Serial Advanced Technology Attachment) RAID controller.	Yes
--embscsi1	NA	on, off	Enables or disables the first SCSI controller.	Yes
--embscsi2	NA	on, off	Enables or disables the second SCSI controller.	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--embscsiraid	NA	raid, off, scsi or raid, off	Enables or disables the embedded SCSI RAID controller.	Yes
--embscsiraidchb	NA	raid, scsi	Sets the second channel of the embedded SCSI RAID controller to operate in RAID or SCSI mode.	Yes
--embvideoctrl	NA	enable, disable	Enables or disables the embedded video controller.	Yes
--extserial	NA	com1, com2, rad	Sets the behavior of the external serial connector.	Yes
--fiberchannel	NA	enable, disable	Enables or disables embedded fiber channel.	Yes
--floppy	NA	auto, off, readonly	Enables or disables the diskette drive controller.	Yes
--formfactor	NA	NA	Displays the geometry of modular PowerEdge systems. Read-only option and can have the following values: halfheight (the modular system occupies 1 slot of the chassis), halfheight-dualwidth (the modular system occupies 2 horizontal slots of the chassis), fullheight (the modular system occupies 2 vertical slots of the chassis), and fullheight-dualwidth (the modular system occupies 4 slots of the chassis).	No
--fsbr	NA	115200, 57600, 19200, 9600	Sets the console redirection fail safe baud rate.	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--hwprefetcher	NA	enable, disable	Enables or disables hardware prefetching by the processor.	Yes
--hddfailover	NA	off, on	Specifies which device in the hard disk drive sequence menu is attempted in the boot sequence.	Yes
--htassist	NA	enable, disable	Enables or disables the probe filter chipset option. Some applications may have lower performance when the chipset feature is disabled.	Yes
-i or --infile	NA	<filename>	Reads BIOS configuration options from a file. A file can be generated with the -o option.	No
--idecdrom	NA	auto, off	Enables or disables the CD drive controller.	Yes
--idectrl	NA	auto, off	Enables or disables the IDE controller.	Yes
--idracgui	NA	enable, disable	Enables or disables iDRAC GUI.	Yes
--integratedraid	NA	enable, disable	Enables or disables the integrated RAID controller.	Yes
--integratedsas	NA	enable, disable	Sets the behavior for the integrated SAS controller.	Yes
--inteltxt	NA	enable, disable	Enables or disables Intel TXT.	Yes
--internalusb	NA	off, on	Enables or disables the internal USB.	Yes
--ioat	NA	enable, disable	Enables or disables the I/O Acceleration Technology (I/OAT)\nDMA Engine option.	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--lcd	NA	default, none, user, idracip4address, idracmacaddress, ossystemname, servicetag, ipv6address, ambienttemp, systemwatts	Selects whether to display the default string (model name and number) or a user-defined string in the front-panel LCD (Liquid Crystal Display). The idracip4address, idracmacaddress, ossystemname, servicetag, ipv6address, ambienttemp, and systemwatts arguments are available only on PowerEdge x1x systems.	Yes
--lcd1	NA	<string>	Configures the first line of user-defined LCD strings. NOTE: Before setting user strings for this option, ensure that <code>--1cd</code> is set to <code>user</code> . NOTE: If you have a PowerEdge x8xx system, you must reboot your system for the settings to take effect.	Yes
--lcd2	NA	<string>	Configures the second line of user-defined LCD strings. NOTE: Before setting user strings for this option, ensure that <code>--1cd</code> is set to <code>user</code> . NOTE: If you have a PowerEdge x8xx system, you must reboot your system for the settings to take effect.	Yes
--logicproc	NA	enable, disable	Enables or disables the logical processor (Hyperthreading).	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--lpt	NA	disable, lpt1, lpt2, lpt3	Disables or sets the parallel port address.	Yes
--lptmode	NA	at, ps2	Sets the parallel port mode.	Yes
--mem*	NA	none	Reports the size of system memory.	Yes
The asterisk is not part of the command syntax.				
--memdynamicpower	NA	enable, disable	Enables or disables the dynamic memory power states	Yes
--memintleave	NA	enable, disable	Enables or disables the memory interleave mode.	Yes
--memoperatingmode	NA	optimizer, mirror, advancedecc	Selects the memory operating mode. This feature is active only if a valid memory configuration is detected. This option is available only on xx1x systems.	Yes
--memprefailurenotify	NA	enable, disable	Enables or disables the Correctable ECC SMIs.	Yes
--memremap	NA	off, auto	Enables or disables memory remapping.	Yes
--memtest	NA	enable, disable	Enables or disables the power-on self-test (POST) extended memory test.	Yes
--mouse	NA	on, off	Turns the mouse controller on or off.	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--noraidprompt*	NA	none	Disables the POST prompt message when the SCSI controller type is changed.	No
The asterisk is not part of the command syntax.				
--numlock	NA	on, off	Enables or disables the keyboard number lock.	Yes
--oldsetuppwd	NA	<string>	Confirms the existing setup password when setting a new setup password.	No
--oldsyspwd	NA	<string>	Confirms the existing system password when setting a new system password.	No
--opticaldrivectrl	NA	enable, disable	Enables or disables the optical CD-ROM controller.	Yes
--osmode	NA	enable, disable	Enables or disables the operating system installation mode.	Yes
--oswatchdogtimer	NA	enable, disable	If your system stops responding, this option aids in the recovery of your operating system. When set to enabled , the operating system is allowed to initialize the timer. When set to disabled (the default), the timer has no effect on the system.	Yes
--ovrwt*	NA	none	Overwrites the file contents when used with the -o option.	No
The asterisk is not part of the command syntax.				

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
power	--profile	maxperformance, osctl, apc	Displays the settings similar to the BIOS setup screen for the respective profile.	Yes
		custom	Creates the custom profile.	
	--cpupowermode	min, max, osdbpm, systemdbpm	Allows you to set the CPU power and performance management to minimum power, maximum performance, operating system DBPM, or system DBPM mode.	
	--memorypowermode	min, 800, 1067, 1333, max	Allows you to set memory power and performance management to minimum power or maximum power mode, or 800Mhz, 1067Mhz, or 1333Mhz.	
	--fanpowermode	min, max	Allows you to set the fan algorithm to the minimum power optimized or maximum performance optimized mode.	
	--cap		Displays the values of budgetcap, and the maximum and minimum power thresholds in Watts.	

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
	--cap --unit	<budgetcap> watt, or btuphr, or percent where <budgetcap> is the limit for power consumption in Watts, or btuphr, or percent.	The value of <budgetcap> must be between the maximum and minimum threshold values, else an error is displayed.	
	--maxpowercap		Displays the value of the maximum power threshold.	
	--minpowercap		Displays the value of the minimum power threshold.	
	--valsetuppwd	<string>	Validates the setup password for power authentication. If you try to change DTK settings, you are prompted to enter this password to access the settings.	
	--setuppwdoverride		Does not prompt you for a password to access DTK settings on systems that do not have a setup password configured.	
--powerbutton	NA	enable, disable	Enables or disables the front bezel power button.	Yes
--pwdlock	NA	lock, unlock	Enables or disables the ability to set the system password.	No

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--redmem	NA	off, spare, mirror, DDDC	Configures the redundant memory mode. If you perform operations that change the --redmem option, you must immediately reboot the system. This applies to command line usage as well as --infile usage. Additionally, the --redmem 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 --redmem setting.	Yes
--rptkeyerr	NA	enable, disable	Enables or disables the reporting of keyboard errors during POST.	Yes
--sata0	NA	auto, off	Enables or disables SATA port 0. NOTE: This option maps to --sata_a for PowerEdge x9xx systems.	Yes
--sata1	NA	auto, off	Enables or disables SATA port 1. NOTE: This option maps to --sata_b for PowerEdge x9xx systems.	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--sata2	NA	auto, off	Enables or disables SATA port 2. NOTE: This option maps to --sata_c for PowerEdge x9xx systems.	Yes
--sata3	NA	auto, off	Enables or disables SATA port 3. NOTE: This option maps to --sata_d for PowerEdge x9xx systems.	Yes
--sata4	NA	auto, off	Enables or disables SATA port 4. NOTE: This option maps to --sata_e for PowerEdge x9xx systems.	Yes
--sata5	NA	auto, off	Enables or disables SATA port 5. NOTE: This option maps to --sata_f for PowerEdge x9xx systems.	Yes
--sata6	NA	auto, off	Enables or disables SATA port 6. NOTE: This option maps to --sata_g for PowerEdge x9xx systems.	Yes
--sata7	NA	auto, off	Enables or disables SATA port 7. NOTE: This option maps to --sata_h for PowerEdge x9xx systems.	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--serial1	NA	disable, com1, com3, com1_bmc, bmcserial, bmclan, rac	Configures the behavior for serial port 1.	Yes
--serial2	NA	auto, disable, com2, com4	Configures the behavior for serial port 2.	Yes
--serialcomm	NA	on, com1cr, com2cr, off	Configures the behavior of serial port communication.	Yes
--serialportaddress1	NA	default, alternate	Configures the port address of the serial devices.	Yes
--setuppwd	NA	<string>	Configures the setup password for the system BIOS.	No
--sma	NA	enable, disable	Enables or disables processor sequential memory access.	Yes
--slot*	NA	none	Reports the slot number for a modular system. NOTE: This option is valid for PowerEdge 1855 systems only.	Yes
The asterisk is not part of the command syntax.				
--snoopfilter	NA	enable, disable	Enables or disables the snoop filter option from the system BIOS.	Yes
--sriov	NA	enable, disable	Enables or disables support for SRIOV devices.	Yes
--svctag*	NA	none	Reports the service tag for the system.	No
The asterisk is not part of the command syntax.				

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--sypwd	NA	<string>	Sets the system password for the system BIOS.	No
tcm	--tcmsecurity	off, on	Configures the TCM security feature.	Yes
	--tcmactivation	enabled, disabled, nochange	Enables or disables the TCM activation feature.	Yes
	--tcmclear	NA	Clears the contents of the TCM chip without erasing the tcmsecurity and tcmactivation settings.	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 tpmsecurity and tpmactivation settings.	No
	--undotpmclear	NA	Undoes the result of the tpmclear setting. If you specify this setting before specifying the tpmclear setting, the There is currently no pending TPM Clear request message is displayed.	No

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
	-- valsetuppwd	<string>	Validates the setup password for TPM authentication. If you try to change DTK settings, you are prompted to enter this password to access the settings.	No
	-- setuppwdoverride	NA	On systems that do not have a setup password configured, if you set this option, you are not prompted for a password to access DTK settings.	No
--turbomode	NA	enable, disable	Enables or disables core-based turbo mode.	Yes
--usb	NA	on, off, legacy	Enables or disables the USB port.	Yes
--usbflash	NA	auto, fdd, hdd	Sets the emulation of a USB flash device to auto , diskette (FDD), or hard drive (HDD).	Yes
--usbports	NA	enable, enablebacko nly, disable	Enables or disables USB ports.	Yes
--virtualization	NA	enable, disable	Enables or disables virtualization in the CPU.	Yes
--vflash	NA	enable, disable	Enables or disables vFlash in Dell Remote Access Controllers 5 (DRAC 5).	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
bmcversion	--devid --devrevision --majorfwrevision --minorfwrevision	NA	Displays revision information for the BMC and the firmware.	
--controlpanelaccess	NA	viewandmodify, viewonly, disabled	Sets or gets the access level for the Liquid Crystal Display (LCD).	Yes
--clearsel	NA	NA	Clears the SEL.	
--deviceguid	NA	NA	Displays the GUID for the BMC.	
--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 --ipmioverlan --channelprivlmt	enable, disable, disable, alwaysavail, user, operator, administrator	Sets or displays the LAN channel access settings such as alerting and user privilege limits.	

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
lanchannelinfo or lci	--	NA	Displays media and protocol information about the LAN channel.	
	mediumtype	NA		
	--proctype	NA		
	--ssnsupport	NA		
	-- activenesscount			
lancfgparams or lcp	--ipaddrsrc	static, dhcp	Configures and displays LAN configuration parameters.	
	--ipaddress	<ipaddress>		
	-- subnetmask	<subnetmask >		
	--gateway	<gateway>		
	-- commstring	<string>		
	--destipaddr	<destipaddress >		
	--alertdest	1, 2, 3, 4		
	--vlantag	enable, disable		
	--vlanid	0-4095		
	--vlanpriority	0-7		
	--macaddress	NA		
	-- nicselection	shared, sharedfailover, dedicated		

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
	--fullduplex	enable, disable		
	--autoneg	enable, disable		
	--speed	10,100		
	--dnshcp	enable, disable		
	--dnsserver1	<ipaddress>		
	--dnsserver2	<ipaddress>		
	--dnsregisterrc	enable, disable		
	--dnssracname	<string>		
	--domainnamefromdhcp	enable, disable		
lanuseraccess or lua	--usrprivlmt	user, operator, administrator, noaccess	Configures and displays user access parameters for the LAN channel.	
	--userid	2-10	Returns the number of User IDs with fixed names.	
	--currentenableuserid	NA		
	--useridswithfixednames	NA		

Table D-1. SYSCFG Options (*continued*)

Options	Sub-options	Valid Arguments	Description	Replicated
--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, disable	Enables or disables the NMI button.	
passwordaction	--action	setpassword, testpassword	Configures and displays passwords associated with User IDs.	
pefcfgparams or pcp	--filter	fanfail, voltfail, discretevoltfail, tempwarn, tempfail, intrusion, redundegraded, redunlost, procwarn, procfail, powerwarn, powerfail, hardwarelogfail, autorecovery, batterywarn, batteryfail, powerabsent, procabsent, systempowerwarn, systempowerfail	Configures and displays PEF configuration parameters. See "BMC Platform Events Filter Alert Messages" on page 239 for a complete list of all possible PEF messages along a description of each event. NOTE: The voltfail option is not supported on PowerEdge x9xx systems and onwards.	

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
	--filteraction	powercycle, reset, powerdown, powerreduction, none		
	--hostname	<string>		
	--filteralert	enable, disable		
	--alertpolnum	1, 2, 3, 4		
	--alertpolstatus	enable, disable		
--powerbutton	NA	enable, disable	Enables or disables the power button.	
--powerctl	NA	powerdown</argument> powercycle</argument> reset</argument> softshutdown</argument>	Performs a chassis powerdown and controls the reset of the system.	

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--racreset	NA	NA	Resets the RAC. It cannot be accompanied with any other option.	No
serialchannelaccess or serialchannelasca	-- ipmioverserial -- channelprivlmt	disable, alwaysavail user, operator, administrator	Sets or displays the channel access settings for the serial channel.	
serialchannelinfo or sci	-- mediumtype --proctype --ssnsupport -- activessncount	NA NA NA	Displays serial channel information.	

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
serialcfgparams or scp	-- connection mode	basic, terminal	Configures and displays serial configuration parameters. NOTE: The BMC firmware does not support serial port Point-to-Point Protocol (PPP) configurations.	
	-- msgcommflo wctrl	noflowctrl, rtscts		
	-- msgcommdt rhangup	NA		
	-- msgcommbi trate	9600, 19200, 57600, 115200		
	-- tmcfglineedi ting	enable, disable		
	-- tmcfgdelctrl	del, bksp		
	-- tmcfgechoct rl	echo, noecho		
	-- tmcfghands hakectrl	enable, disable		
	-- tmcfgnewlin eseq	noterm, crlf, null, cr, lfcr, lf		
	-- tmcfginputn ewlineseq	cr, null		

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
serialuseraccess or sua	--usrprivlmt	user, operator, administrator , noaccess	Configures and displays user access parameters for the serial channel.	
	--userid	2–10		
	--currentenableuserids	NA		
	--useridswithfixednames	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 2–16 if your system has a DRAC 5 controller		
	--action	enable, disable		

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
solcfgparams	--solenable	enable, disable	Configures and displays SOL configuration parameters.	
	--solprivlevel	user, operator, administrator		
	--solcharaccu minterval	1–255		
	--solcharsendt hreshold	1–255		
	--solbitrate	9600, 19200, 57600, 115200		
ssninfo	--maxactiveness	NA	Displays information about the number of possible active sessions and the number of currently active sessions on all channels on the controller.	
	--currentactiveness	NA		
useraction	--userid	2–10	Enables and disables User IDs for the serialchannelaccess and lanchannelaccess 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	NA	<string>	Specifies the value to write to state data.	

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
-r or --read	NA	NA	Reads the value of state data.	
-x	NA	NA	Specifies that the state data value should be in hexadecimal format.	
--asset	NA	NA	Reports the asset tag for a system.	
--biosver	NA	NA	Reports the BIOS version for a system.	
--chassvctag	NA	NA	Reports the chassis service tag for modular systems.	
--cpucount	NA	NA	Reports the number of processors in a system.	
--cpuspeed	NA	NA	Reports the speed of all processors in a system.	
--envfile	NA	<string>	Specifies the input file to use for resolving PCI vendor, device, and class codes to environment variables and names.	
--mem	NA	NA	Reports the amount of system memory in a system.	
--n	NA	<string>	Specifies an input file to use for resolving PCI vendor and device numbers to strings.	
--ovrwrt	NA	NA	Overwrites the specified file contents when used with the -o option.	
--pci	NA	NA	Scans all PCI buses and reports the results.	
--slot	NA	NA	Reports the slot of a modular system.	

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
--svctag	NA	NA	Reports the service tag for a system.	
--sysasset	NA	NA	Reports the asset tag for a server module in a modular system chassis.	
--sysid	NA	NA	Reports the unique system ID bytes for a system.	
--sysname	NA	NA	Reports the system identification string for a system.	
--sysvctag	NA	NA	Reports the service tag for a server module in a modular system chassis.	
--uuid	NA	NA	Reports the unique universal identifier (UUID) for a system.	
lanconfparamsv6	--ipv6 --ipsrcv6= static --ipaddrv6= <ipv6addresses> -- prefixlength v6= <prefixlength v6> -- gatewayv6= <ipv6gateway address> --ipsrcv6= auto	enable, disable	Loads or unloads the IPv6 stack. Allows you to manually configure IPv6 addresses. Automatically configures the IPv6 addresses.	Yes

Table D-1. SYSCFG Options (continued)

Options	Sub-options	Valid Arguments	Description	Replicated
	--dnssrv6 = auto		Automatically configures the DNS address.	
	--dnssrv6= static -- dnsserverlv6 = <ipv6dnsser ver1address >		Allows you to manually set the DNS address.	
	-- linklocaladdr ipv6= <linklocalad dripv6>		Allows you to view IPv6 addresses.	
	-- gatewayv6= <gatewayv6 >		Allows you to view IP gatewayv6 address.	

RAIDCFG Options

Table D-2 lists all the RAIDCFG options and gives a brief description of these options. For details on these options, see the section, "RAIDCFG" on page 147.

Table D-2. RAIDCFG Short and Long Format Options

Option	Valid Arguments	Short Description	Mandatory or Optional
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 4-1 for specific usage information.
-ac or action	cvd or createvdisk	Creates a virtual disk. NOTE: 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 4-9 for specific usage information.
-ad or adisk	NA	Specifies an array disk command.	See Table 4-5 for specific usage information.

Table D-2. 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 must specify values for channel, target, and enclosure. NOTE: 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 controlle rid	<valid controller ID number>	Specifies a RAID controller.	See Table 4-3 for specific usage information.
-cp or cachepol icy	d, c or d, e	Specifies the cache policy for reads on a specified virtual disk or 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 envcom mand	<string>	Sets a user-defined environmental variable (<string>) to the value returned from a function call.	See Table 4-12 for specific usage information.
-envn or envname	<string>	Sets the environment variable (<string>) that equates to the value returned from a function call.	See Table 4-12 for specific usage information.

Table D-2. RAIDCFG Short and Long Format Options (continued)

Option	Valid Arguments	Short Description	Mandatory or Optional
-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 must specify values for channel, target, and enclosure. NOTE: From DTK 2.4 onwards, the -fd option creates dedicated hot spares instead of global hot spares. To set global hot spares, see Table 4-10.	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 4-14 for specific usage information.
-l or logfile	<filename>	Logs command line output to a file.	Optional. See Table 4-15 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 4-14 for specific usage information.
-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.

Table D-2. RAIDCFG Short and Long Format Options (continued)

Option	Valid Arguments	Short Description	Mandatory or Optional
-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 setenvironment	NA	Sets a user-defined environment variable to the value returned from the function call. Function calls are: <code>getcontrollerslots,</code> <code>getfirmware,</code> <code>getcontrollertype,</code> <code>getadisks,</code> <code>getdiskcount,</code> <code>getfreeadisks,</code> <code>getfreeadiskcount,</code> <code>getfreeadisksize,</code> <code>gethotspares.</code>	Mandatory. See Table 4-12 for specific usage information.
-si or silent	NA	Does not display any information on the terminal console.	Optional. See Table 4-15 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.
-sp or spanlength	<number>	The span size of RAID 5, which is a mandatory parameter for RAID 50. NOTE: 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.

Table D-2. RAIDCFG Short and Long Format Options (continued)

Option	Valid Arguments	Short Description	Mandatory or Optional
-ssz or stripesize	<number>	Sets the stripe size on the virtual disk in KB. NOTE: 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 4-15 for specific usage information.
-wp or writepolicy	wb, wt, wc, nwc	Sets the write policy for a virtual disk. The valid arguments are: wb (write-back caching), wt (write-through caching), wc (write-caching), and nwc (no-write-caching).	Optional. See Table 4-15 for specific usage information.

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