Dell OpenManage
Deployment Toolkit
Version 4.1

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.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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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:

- Added support for the following operating systems:
  - Red Hat Enterprise Linux 6.2 (64-bit)
  - Red Hat Enterprise Linux 5.8 (32-bit and 64-bit)
- Added support for **syscfg** option in enabling and disabling boot devices on Dell PowerEdge *x9xx* to *yx2x* systems.
- Deprecated support for the following operating systems:
  - Red Hat Enterprise Linux 6.1 (32-bit and 64-bit)
  - Red Hat Enterprise Linux 5.7 (32-bit and 64-bit)

Supported Systems

For a complete list of supported Dell PowerEdge systems, see the Dell Systems Software Support Matrix available at **support.dell.com/manuals**. On the Manuals page, click **Software→ Systems Management→ Dell OpenManage Releases**. Click the appropriate product version to access the Support Matrix.

Supported Operating Systems

For Windows, DTK utilities support Windows PE 2.0 (32-bit and 64-bit) and Windows PE 3.0 (32-bit and 64-bit). Using DTK utilities we can deploy the following Windows operating systems:

- Windows Server 2008 SP2 (32-bit and 64-bit)
- Windows Server 2008 R2 SP1

For Linux, DTK utilities support Red Hat Enterprise Linux Server version 5.5, update 4 (32-bit). Using DTK utilities we can deploy the following Linux operating systems:

- Red Hat Enterprise Linux 6.2 (64-bit)
- Red Hat Enterprise Linux 5.8 (32-bit and 64-bit)
- SUSE Enterprise Linux 10 SP4
- SUSE Enterprise Linux 11 SP2

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 5, iDRAC6, and iDRAC7.

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 257.

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.
- 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 Sever 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 7 (iDRAC7) User's Guide* provides information about configuring and using iDRAC7 for *yx2x* rack, tower, and blade servers to remotely manage and monitor your system and its shared resources through a network.
- The *Integrated Dell Remote Access Controller 6 (iDRAC6) Enterprise for Blade Servers User Guide* provides information about configuring and using an iDRAC6 for *yx1x* 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 *yx1x* tower and rack 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 files (for Windows PE and embedded Linux) 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.

Contacting Dell

NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Visit **support.dell.com**.
2. Select your support category.
3. If you are not a U.S customer, select your country code at the bottom of the page, or select **All** to see more choices.
4. Select the appropriate service or support link based on your need.

2

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 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] ... option`*`X`* `[arg`*`X`*`]`

  OR

  `syscfg bmcoption1 bmcsuboption1 [arg1]...bmcsuboption`*`X`* `[arg`*`X`*`]`

- 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. **NOTE:** This delimiter is not applicable to Baseboard Management Controller (BMC) sub-options.
--	Prefix multi-character options.
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.

|	Separates two mutually exclusive choices in a syntax line. For example:
	`usb: Turns the usb controller on or off.`
	`Argument: enable | disable | legacy`
	`Enter only one choice: --usb=enable, --usb=disable, or --usb=legacy.`

Case Sensitivity

- Command line options, pre-defined and user-defined arguments, and filenames given as arguments are all case-sensitive on PowerEdge systems prior to PowerEdge *yx2x*.
- 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	`syscfg --option1 --option2`	`syscfg --asset --floppy`
invalid	`syscfg --option1=argument --option2 --option3`	`syscfg --asset=R910 --floppy --bootseq`
valid	`syscfg -o=filename --option1 --option2`	`syscfg -o=/tmp/myfile.txt --floppy --bootseq`
valid	`syscfg -l=filename --option1 --option2`	`syscfg -l=/tmp/myfile.txt --floppy --bootseq`
valid	`syscfg -i=filename --option1 --option2`	`syscfg -i=/tmp/myfile.txt --floppy --bootseq`

Table 2-2. DTK Command Line Examples *(continued)*

Valid/ Invalid	DTK Command Line	Example
valid	`syscfg --option=argument bmcoption --option1= argument`	`syscfg --embnic=on pcp --hostname=webserver`

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

The other delimiters are:

- White space (space or tab).

  `syscfg --option=argument1 argument2` considers `argument1` and `argument2` as two arguments.

- A string surrounded by double quotation marks regardless of the white space contained within, is interpreted as a single SYSCFG argument.

  `syscfg --option="argument1 argument2"` considers `argument1 argument2` as a single argument.

- A double quotation mark preceded by a backslash (\") is interpreted as a literal double quotation mark (").

  `syscfg --option="\"argument"` considers `"argument` as the argument.

- Backslashes are interpreted literally, unless they immediately precede a double quotation mark. If an even number of backslashes are followed by a double quotation mark, then one backslash (\) is taken for every pair of backslashes (\\), and the double quotation mark (") is interpreted as a string delimiter.

  `syscfg --option="\\"argument"` considers `\` and `argument` as two arguments.

- If an odd number of backslashes are followed by a double quotation mark, then one backslash (\) is taken for every pair of backslashes (\\) and the double quotation mark is interpreted as an escape sequence by the remaining backslash, causing a literal double quotation mark (") to be placed in the SYSCFG argument.

  `syscfg --option="\\\"argument"` considers `\"argument` as the argument.

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	`syscfg --option1 --option2`
valid	`syscfg --option1=arg --option2=arg`
invalid	`syscfg --option1=arg --option2`

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 accesses 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 223.

3

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:

- 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 at **\dell\x32\toolkit\tools** or **\dell\x64\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	The SYSCFG utility outputs usage information. The usage information is displayed in the format shown below.
			Example:
			`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`

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

Options	Sub-Options	Valid Arguments	Description

--envar		valid filename
		valid path
		media should be writable
			Stores the environment variable data to a file when used with the **–s** option. This file can be called from other scripts to set the environment variable. The value of <*filename*> must not be specified if the DTKENVSCR environment variable is set to a valid filename. In this case, the filename pointed to by DTKENVSCR is used to store the environment variable data.
			Example:
			`syscfg --mem -s=temp --envar= z:\scripts\file.bat`
			When used without the **-s** option, **--envar** takes the default variable.
			Linux Example:
			`syscfg --svctag --envar= /tmp/myvars.txt`
			`svctag = 2G8LC1S`
			`syscfg_var =’2G8LC1S’`
			`source /tmp/myvars.txt`
			Windows PE Example:
			`syscfg --svctag --envar= i:\myvars.bat`
			`svctag = 2G8LC1S`
			`syscfg_var =’2G8LC1S’`
			`call i:\myvars.bat`

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

Options	Sub-Options	Valid Arguments	Description

-h
or
--help
	NA	none
		or
		<valid option name>
			Displays the general usage information for the utility, when no argument is provided. 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.
			Example:
			`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`

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

Options	Sub-Options	Valid Arguments	Description
-i or --infile	NA	<*filename*>	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. Example: `A:>syscfg -i filename.ini`
-l or --logfile	NA	<*filename*>	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 18 for more information. Example: `A:>syscfg -l logfile`

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

Options	Sub-Options	Valid Arguments	Description
-o or --outfile	NA	<*filename*>	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. Example: `A:>syscfg -o filename.ini`

-s	NA	<*string*>	Prints the variable name and the assigned value 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.
			Example:
			`A:>syscfg -s ENVNAME --svctag`
			`svctag=SERVICE`
			`ENVNAME=SERVICE`

--version*
The asterisk is not part of the command syntax.
			Displays the version information, current time, and date for the utility. This option cannot be replicated.
			Example:
			`A:>syscfg --version`
			`syscfg Version 3.5.0192 P01 (Windows - Jan 21 2011, 16:48:48)`
			`Copyright (c) 2002-2011 Dell Inc.`

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.

SYSCFG Options Supported on PowerEdge Systems Prior to PowerEdge yx2x Systems

Table 3-2 documents valid options and arguments supported on PowerEdge systems earlier than PowerEdge *yx2x* systems. Options and arguments are case-sensitive. All options and pre-defined arguments are lowercase unless stated otherwise. Running SYSCFG without arguments only displays the valid options. The system must be rebooted for BIOS options to take effect. Some of the following options or arguments may not be available on all systems due to the BIOS version or hardware feature set.

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems

Option	Valid Arguments	Description	Applicable Systems

--acpower	on, off, last	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. This value can be replicated.
		Example:
		`A:>syscfg --acpower=on`
		`acpower=on`
			All Dell PowerEdge systems prior to PowerEdge *yx2x* systems

--adjcache prefetch	enable, disable	When this option is set to **enabled**, the processor fetches the cache line containing the currently requested data, and the adjacent cache line.
		When this option is set to **disabled**, the processor fetches only the cache line containing the currently requested data.
		Example:
		`A:>syscfg --adjcacheprefetch=enable`
		`adjcacheprefetch=disable`
			All Dell PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--asset	<*string*>	Reports or sets the customer-programmable asset tag number for a system. The maximum length of an asset tag is 10 characters. Asset tag values cannot contain any spaces. For more information on delimiters, see "Command Line Option Delimiters" on page 15. This value can be replicated.
		Example:
		`A:>syscfg --asset=ASSETTAG`
		`asset=ASSETTAG`
			All Dell PowerEdge systems prior to PowerEdge *yx2x* systems

--assignintr	standard, distributed	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.
		Example:
		`A:>syscfg --assignintr=standard`
		`assignintr=standard`
			All Dell PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--bezelir	enable, disable	Enables or disables the ESM to monitor and log front bezel intrusion conditions.
		Example:
		`A:>syscfg --bezelir=enable`
		`bezelir=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--bootmode	uefi, bios	Allows booting to Unified Extensible Firmware Interface (UEFI) -capable operating systems or ensures compatibility with operating systems that do not support UEFI.
		Example:
		`A:>syscfg --bootmode=uefi`
		`bootmode=uefi`
			PowerEdge *yx1x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems
--bootseq	numerical list, separated by commas or list of device names, separated by commas	Enables, disables, and orders the devices in a boot order list. Only the devices present on the system are listed in the **bootseq.** 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, that is, the low and high numbers must match, and the same number of entries must be supplied. Systems that use a numerical list for boot order cannot be replicated. Some systems also allow the boot order to be expressed as a list of device names. Device names are formatted as a *name.location.instance* string, where *name* is the name of the device, *location* is either **slot** or **embedded** (**emb**), and *instance* 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.	All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

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

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

		Device Name Examples
		Example of device names:
		`nic.slot.1` (network adapter 1 in PCI slot)
		`nic.emb.1` (network adapter 1 on system board)
		`hdd.emb.0` (hard drive C:)
		`cdrom.emb.0` (CD drive)
		Device Name Lists Examples
		Example 1:
		`#syscfg --bootseq`
		`The following devices are set in the boot sequence:`
		`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:`
		`1226`	

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(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:
		`#syscfg --bootseq= nic.emb.1,virtual.slot.1`
		`The following devices are set in the boot sequence:`
		`Device 4:* nic.emb.1 - IBA GE Slot 0638 v`
		`Device 5:* virtual.slot.1 - VIRTUALCDROM DRIVE`
		`Device 2: cdrom.emb.0 - IDE CD-ROM device`
		`Device 3: hdd.emb.0 - Hard drive C:`
		`Device 1: floppy.emb.0 - Diskette drive A:`
		NOTE: The asterisk indicates that the device is enabled in the BIOS.	

--bootseq retry	enable, disable	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.
		`A:>syscfg --bootseqretry= enable`
		`bootseqretry=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--cmos defaults	enable, disable	Requests a default CMOS value during the next reboot.
		`A:>syscfg --cmosdefaults= enable`
		`cmosdefaults=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--conboot	enable, disable	Configures or reports if console redirection occurs after boot. This option is available on all supported systems that support console redirection. This option can be replicated.
		Example:
		`A:>syscfg --conboot=enable`
		`conboot=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--conred	serial1, serial2, off, bmcsol, mmb	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. If only one serial port is present on a system, the **serial2** argument is not available. This option can be replicated.
		Example:
		`A:>syscfg --conred=serial1`
		`conred=serial1`
			All PowerEdge systems prior to PowerEdge *x9xx* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--conterm	vt100, ansi	Configures or reports the terminal type for console redirection. This option is available on all supported systems that support console redirection. This option can be replicated.
		Example:
		`A:>syscfg --conterm=vt100`
		`conterm=vt100`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--core performance boost	enable, disable	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.
		Example:
		`A:>syscfg --coreperformanceboost=enable`
		`coreperformanceboost=enable`
			PowerEdge R715, R815, R515, R415, and M915 systems with AMD Opteron 6000 series processor

--cpuc1e	enable, disable	Enables or disables C1-E. By default, it is enabled. This option can be replicated.
		Example:
		`A:>syscfg --cpucle=enable`
		`cpucle=enable`
			PowerEdge *yx1x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--cpucore	1, 2, 4, 6, 8, 10, 12, 14, 16, all	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 `cpucore` that is set to the highest value of number of cores displays as *all*.
		For example, if 6-core CPU is installed, after setting to the highest value, 6, when you read the `cpucore`, it displays as *all*.
		Example:
		`A:>syscfg --cpucore=1`
		`cpucore=1`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--cpuxd support	enable, disable	Enables or disables the execute disable (XD) feature of the CPU.
		Example:
		`A:>syscfg --cpuxdsupport=enable`
		`cpuxdsupport=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems running on Intel processors

--cstates	enable, disable	Enables or disables the power c states of the processor.
		`A:>syscfg --cstates=enable`
		`cstates=enable`
			PowerEdge *yx1x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--datareuse	enable, disable	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 *yx1x* systems

--dbpm	enable, disable	Enables or disables demand-based power management. This option can be replicated.
		Example:
		`A:>syscfg --dbpm=enable`
		`dbpm=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--dcu streamer prefetcher	enable, disable	Enables or disables DCU Streamer Prefetcher. This option can be replicated.
		Example:
		`A:>syscfg --dcustreamerprefetcher=enable`
		`dcustreamerprefetcher=enable`
			PowerEdge *yx1x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems
--devseq	numerical list, separated by commas or list of device names, separated by commas	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. 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 *name.location.instance* string, where *name* is the name of the device, *location* is either **slot** or **embedded** (**emb**), and *instance* 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.	All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

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

--emb hypervisor	off, on	Turns on or off the embedded hypervisor port.
		Example:
		`A:>syscfg --embhypervisor= on`
		`embhypervisor=on`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--embideraid	on, off	Turns on or off 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 prior to PowerEdge *yx2x* systems

--embnic1	on, off, onnopxe, onwithiscsi	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 a 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.
		The **onwithiscsi** argument enables the embedded NIC to boot from the iSCSI server. The **embnic1** option can be replicated.
		Example:
		`A:>syscfg --embnic1=onnopxe`
		`embnic1=onnopxe`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--embnic2	on, off, onnopxe, onwithiscsi	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.
		
		The **onwithiscsi** argument enables the embedded NIC to boot from the iSCSI server. The **embnic2** option can be replicated.
		
		Example:
		
		`A:>syscfg --embnic2=onnopxe`
		
		`embnic2=onnopxe`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--embnic3	on, off, onnopxe, onwithiscsi	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.
		The **onwithiscsi** argument enables the embedded NIC to boot from the iSCSI server. The **embnic3** option can be replicated.
		Example:
		`A:>syscfg --embnic3=onnopxe`
		`embnic3=onnopxe`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--embnic4	on, off, onnopxe, onwithiscsi	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.
		The **onwithiscsi** argument enables the embedded NIC to boot from the iSCSI server. The **embnic4** option can be replicated.
		Example:
		`A:>syscfg --embnic4=onnopxe`
		`embnic4=onnopxe`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--embnic1nic2	enable, disable	Enables or disables the operating system interface of the first and second embedded NIC controllers.
		Example:
		`A:>syscfg --embnic1nic2=enable`
		`--embnic1nic2=enable`
			PowerEdge 1855, PowerEdge 6850, and PowerEdge *yx1x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--emb nic3nic4	enable, disable	Enables or disables the operating system interface of the third and fourth embedded NIC controllers.
		Example:
		`A:>syscfg --embnic3nic4= enable`
		`--embnic3nic4=enable`
			PowerEdge *yx1x* systems

--embnics	on, off	Turns both the embedded NICs on or off. This option is only present on systems that do not support the **embnic1** and **embnic2** options. This option can be replicated.
		Example:
		`A:>syscfg --embnics=on`
		`embnics=on`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--emb nic1pxe	enable, disable	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 **embnic1** option. This option can be replicated.
		Example:
		`A:>syscfg --embnic1pxe= enable`
		`embnic1pxe=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--emb nic2pxe	enable, disable	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 **embnic2** option. This option can be replicated.
		Example:
		`A:>syscfg --embnic2pxe= disable`
		`embnic2pxe=disable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--emb sataraid	off, combined, ata, ahci, raid, qdma	Configures an embedded SATA RAID controller. This option can be replicated.
		• **off** — disables the embedded SATA RAID controller.
		• **combined** — sets the SATA RAID controller to combined mode.
		• **ata** — sets SATA RAID controller to ATA mode.
		• **ahci** — sets ATA RAID controller to ahci mode.
		• **raid** — sets SATA RAID controller to RAID mode.
		• **qdma** — 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.
		Example:
		`A:>syscfg --embsataraid= off`
		`embsataraid=off`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--embscsi1	on, off	Turns the first embedded SCSI controller. This option is only valid for supported systems that have an embedded SCSI controller. This option can be replicated.
		Example:
		`A:>syscfg --embscsi1=on`
		`embscsi1=on`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--embscsi2	on, off	Turns the second embedded SCSI controller. This option is only valid for supported systems that have an embedded SCSI controller. This option can be replicated.
		Example:
		`A:>syscfg --embscsi2=on`
		`embscsi2=on`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--emb scsiraid	raid, off, scsi	Sets the specified value for the 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.
		CAUTION: If you change the controller from SCSI to RAID mode, data loss may occur. Backup any data you must save before changing modes.
		Example:
		`A:>syscfg --embscsiraid=raid`
		`embscsiraid=raid`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--emb scsiraidchb	raid, scsi	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.
		Example:
		`A:>syscfg --embscsiraidchb=raid`
		`embscsiraidchb=raid`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--emb sdcard redundancy	mirrormode, disable	Sets the redundancy to mirrormode or disabled.
		If set to mirrormode, read-write operation occurs 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.
		If set to disable, read-write operation occurs only on SD card 1.
		On modular systems, disable the vflash key to configure this option.
		Example:
		`A:>syscfg --embsdcardredundancy=mirrormode`
		`embsdcardredundancy=mirrormode`
			PowerEdge R810, R815, R910, and M910 systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--extserial	com1, com2, rad	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.
		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.
		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.
		This option can be replicated.
		Example:
		`A:>syscfg --extserial=com1`
		`extserial=com1`
		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.
			All PowerEdge systems prior to PowerEdge *yx2x* systems except Blade systems

--embsdcard	off, on	Enables or disables the embedded SD card port.
		Example:
		`A:>syscfg --embsdcard=off`
		`embsdcard=off`
			PowerEdge *yx1x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--emb videoctrl	enable, disable	Enables or disables the embedded video controller.
		Example:
		`A:>syscfg --embvideoctrl= enable`
		`embvideoctrl=enable`
			PowerEdge *yx1x* systems

--fiber channel	enable, disable	Enables or disables embedded fiber channel. This option can be replicated.
		Example:
		`A:>syscfg --fiberchannel= enable`
		`fiberchannel=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--f1f2 prompt onerror	enable, disable	Enables or disables the BIOS to prompt F1 or F2 error codes.
		Example:
		`A:>syscfg --f1f2promptonerror=enable`
		`f1f2promptonerror=enable`
			PowerEdge *yx0x* and later systems

--floppy	auto, off, readonly	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.
		Example:
		`A:>syscfg --floppy=auto`
		`floppy=auto`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--formfactor	half-height, half-height dual-width, full-height, full-height dual-width	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).
		Example:
		`A:>syscfg --formfactor= fullheight,dualwidth`
		`formfactor= fullheight,dualwidth`
			All PowerEdge Blade systems prior to PowerEdge *yx2x* systems

--fsbr	115200, 57600, 19200, 9600	Sets the console redirection fail safe baud rate in bps. Example: `A:>syscfg --fsbr=9600` fsbr=9600	All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--hddfailover	off, on	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.
		Example:
		`A:>syscfg --hddfailover=on`
		`hddfailover=on`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--hpcmode	enable, disable	Enables or disables the High Performance Computing (HPC) Mode. When set to **enable**, the HPC is enabled utilizing only the high frequency P-State settings. When set to **disable** (default value), all P-States inherent to the CPU are used.
		To fully enable HPC Mode, set the power management to custom, cpu power and performance management to OsDbpm, and fan power and performance management to maximum performance.
		Example:
		`A:>syscfg --hpcmode=enable`
		`hpcmode=enable`
			PowerEdge R715, R815, and M915 with AMD Opteron 6200 series processor

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--htassist	enable, disable	Enables or disables the probe filter chipset option. Some applications may have lower performance when the chipset feature is disabled.
		Example:
		`A:>syscfg --htassist=enable`
		`htassist=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems with AMD Opteron processors

--hw prefetcher	enable, disable	Processor preempts what data might be needed next, when set to **enable**. When some data is found, it loads several steps in advance.
		Processor does not preempt, when set to **disable**.
		This option can be replicated.
		Example:
		`A:>syscfg --hwprefetcher=enable`
		`hwprefetcher=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--idecdrom	auto, off	Turns the CD drive on or off. This option can be replicated.
		Example:
		`A:>syscfg --idecdrom=auto`
		`idecdrom=auto`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--idracgui	enable, disable	Enables and disables the iDRAC GUI. This option can be replicated.
		Example:
		`A:>syscfg --idracgui=disable`
		`idracgui=disable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--integrated raid	enable, disable	Enables or disables the integrated RAID controller. This option can be replicated.
		Example:
		`A:>syscfg --integratedraid=disable`
		`integratedraid=disable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--integrated sas	enable, disable	Enables or disables the integrated SAS controller. This option can be replicated.
		Example:
		`A:>syscfg --integratedsas=enable`
		`integratedsas=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--inteltxt	enable, disable	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, make sure that the:
		• 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 *yx1x* systems with Intel processors

--internalusb	off, on	Turns on or off all the user-accessible USB ports. This option can be replicated.
		Example:
		`A:>syscfg --internalusb=on`
		`internalusb=on`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--ioat	enable, disable	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.
		Example:
		`A:>syscfg --ioat=enable`
		`ioat=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--lcd	default, none, user, idracipv4address, idracmacaddress, ossystemname, servicetag, ipv6address, ambienttemp, systemwatts	Displays the default string (model name and number for PowerEdge systems earlier than Dell PowerEdge *yx1x*, and service tag for PowerEdge systems *yx1x* and later) or a user-defined string on the front-panel LCD based on the specified argument. This option can be replicated.
		Example:
		`A:>syscfg --lcd=default`
		`lcd=default`
			PowerEdge *yx1x* systems

--lcd1	<*string*>	Sets the first line of user-defined text on the system LCD. This option can be replicated. For more information on delimiters, see "Command Line Option Delimiters" on page 15. **NOTE:** Before setting user strings for `--lcd1`, ensure that `--lcd` is set to **user**.	All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems
--lcd2	<*string*>	Sets the second line of user-defined LCD strings. For more information on delimiters, see "Command Line Option Delimiters" on page 15.	All PowerEdge systems prior to PowerEdge *yx2x* systems

--logicproc	enable, disable	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 prior to PowerEdge *yx2x* systems

--lpt	lpt1, lpt2, lpt3, disable	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 prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--lptmode	ps2, at	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:
		`A:>syscfg --lptmode=ps2`
		`lptmode=ps2`
			PowerEdge 1855, PowerEdge 6850, and PowerEdge *yx1x* systems

--mem dynamic power	enable, disable	Enables or disables the dynamic memory power states. This option can be replicated.
		Example:
		`A:>syscfg --memdynamicpower=enable`
		`memdynamicpower=enable`
			PowerEdge R910 system with Intel Xeon 7500 series

--mem intleave	enable, disable	Enables or disables the memory interleave mode. This option can be replicated.
		Example:
		`A:>syscfg --memintleave=enable`
		`memintleave=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--mem operating mode	optimizer, mirror, advancedecc	Selects the memory operating mode. This feature is active only if a valid memory configuration is detected.
		Example:
		`A:>syscfg --memoperatingmode=optimizer`
		`memoperatingmode=optimizer`
			PowerEdge *yx1x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--mem prefailure notify	enable, disable	Enables or disables the Correctable ECC SMIs. When enabled, the SMIs report the Correctable ECC errors. This option can be replicated.
		Example:
		`A:>syscfg --memprefailurenotify=enable`
		`memprefailurenotify=enable`
			PowerEdge R710, R610, and T610 systems with Intel Xeon processor

--mem remap	off, auto	Sets the memory remapping to off or auto.
		`A:>syscfg --memremap=off`
		`memremap=off`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--memtest	enable, disable	Enables or disables the POST extended memory test.
		Example:
		`A:>syscfg --memtest=disable`
		`memtest=disable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--mouse	on, off	Turns the mouse controller on or off. This option can be replicated.
		Example:
		`A:>syscfg --mouse=off`
		`mouse=off`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--nextboot	valid device name (from the **--bootseq** option device list)	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 "--bootmode" on page 28 for more information. This option is not replicated.
		Example 1:
		`A:>syscfg --bootseq`
		`Device 1: floppy.emb.0 - Diskette Drive A:`
		`Device 2: cdrom.emb.0 - CD-ROM device`
		`Device 3: hdd.emb.0 - Hard Drive C:`
		`Device 4: nic.emb.1 - Intel Boot Agent Version 4.0.17`
		`Device 5: nic.emb.2 - Intel Boot Agent Version 4.0.17`
		Example 2:
		`A:>syscfg --nextboot= nic.emb.1`
		`nextboot=nic.emb.1`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--no raidprompt*
NOTE: The asterisk is not part of the command syntax.
	NA	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 **--embscsiraidchb** 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.
		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.
		Example:
		`A:>syscfg --embscsiraid=raid --noraidprompt`
		`embscsiraid=raid`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--numlock	on, off	Turns the keyboard number lock on or off during POST. This option is not replicated.
		Example:
		`A:>syscfg --numlock=on`
		`numlock=on`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems
--old setuppwd	<*string*>	Allows to set a new setup password if a setup password is already present on the system. 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. For more information on delimiters, see "Command Line Option Delimiters" on page 15. Example: `A:>syscfg --setuppwd=`*`asetuppassword`* `--oldsetuppwd=`*`currentpassword`* `The password has been set. Please use a warm reboot to apply the password to the system.`	All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--oldsyspwd	<*string*>	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. For more information on delimiters, see "Command Line Option Delimiters" on page 15.
		Example 1:
		`A:>syscfg --syspwd=anotherpassword --oldsyspwd=password`
		`The password has been set. Please use a warm reboot to apply the password to the system.`
		Example 2:
		`A:>syscfg --syspwd=asyspassword --oldsyspwd=currentpassword`
		`The old password entered is incorrect. The new password will not be set. Please try again.`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--optical drivectrl	enable, disable	Enables or disables the optical CD-ROM controller.
		Example:
		`A:>syscfg --opticaldrivectrl=enable`
		`opticaldrivectrl=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--osmode	enable, disable	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 prior to PowerEdge *yx2x* systems

--os watchdog timer	enable, disable	Aids in the recovery of the operating system when the system stops responding. 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 prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--ovrwrt*
NOTE: The asterisk is not part of the command syntax.
	NA	Used with the **-o** option to cause the output file to be overwritten if a file of the same name already exists. This option cannot be replicated.
		Example:
		`A:>syscfg -o=filename.ini --ovrwrt`
		`The file filename has been overwritten.`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

power		For details about the **power** suboptions and arguments, see Table 3-5.	PowerEdge *yx1x* systems

--power button	enable, disable	Enables or disables the power button for a system. This option is recorded to an output file for replication.
		Example:
		`A:>syscfg --powerbutton=enable`
		`powerbutton=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--qpi bandwidth priority	compute, io	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.
		Example:
		`A:>syscfg --qpibandwidthpriority=compute`
		`qpibandwidthpriority=compute`
			Dell PowerEdge *yx1x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--redmem	off, spare, mirror, DDDC	Allows selection of the required redundant memory mode, or disables redundant memory. This option can be replicated.
		Example:
		`A:>syscfg --redmem=off`
		`redmem=off`
			PowerEdge M910, R910, and R810 systems with Intel Xeon 7500 series processor.

--rem flashmedia	read-only	Displays the redundancy status of internal dual SD module. The status can be: • 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. The option also displays the status of the individual SD cards as follows: • 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.	PowerEdge R810, R815, R910, and M910 systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

		• 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.
		Example:
		`A:>syscfg --remflashmedia`
		`Internal Dual SD Module Redundancy=Lost`
		`SD1 status=Absent`
		`SD1 status=Active`	

--rptkeyerr	enable, disable	Enables or disables the BIOS to report keyboard errors during POST. This option can be replicated.
		Example:
		`A:>syscfg --rptkeyerr=disable`
		`rptkeyerr=disable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--sata0	auto, off	Turns the SATA port 0 to auto or off. This option can be replicated.
		Example:
		`A:>syscfg --sata0=auto`
		`sata0=auto`
		NOTE: This option maps to **--sata_a** for PowerEdge *x9xx* systems.
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--sata1	auto, off	Turns the SATA port 1 to auto or off. This option can be replicated.
		Example:
		`A:>syscfg --sata1=auto`
		`sata1=auto`
		NOTE: This option maps to **--sata_b** for PowerEdge *x9xx* systems.
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--sata2	auto, off	Turns the SATA port 2 to auto or off. This option can be replicated.
		Example:
		`A:>syscfg --sata2=auto`
		`sata2=auto`
		NOTE: This option maps to **--sata_c** for PowerEdge *x9xx* systems.
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--sata3	auto, off	Turns the SATA port 3 to auto or off. This option can be replicated.
		Example:
		`A:>syscfg --sata3=auto`
		`sata3=auto`
		NOTE: This option maps to **--sata_d** for PowerEdge *x9xx* systems.
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--sata4	auto, off	Turns the SATA port 4 to auto or off. This option can be replicated.
		Example:
		`A:>syscfg --sata4=auto`
		`sata4=auto`
		NOTE: This option maps to **--sata_e** for PowerEdge *x9xx* systems.
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--sata5	auto, off	Turns the SATA port 5 to auto or off. This option can be replicated.
		Example:
		`A:>syscfg --sata5=auto`
		`sata5=auto`
		NOTE: This option maps to **--sata_f** for PowerEdge *x9xx* systems.
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--sata6	auto, off	Turns the SATA port 6 to auto or off. This option can be replicated.
		Example:
		`A:>syscfg --sata6=auto`
		`sata6=auto`
		NOTE: This option maps to **--sata_g** for PowerEdge *x9xx* systems.
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--sata7	auto, off	Turns the SATA port 7 to auto or off. This option can be replicated.
		Example:
		`A:>syscfg --sata7=auto`
		`sata7=auto`
		NOTE: This option maps to **--sata_h** for PowerEdge *x9xx* systems.
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--snoopfilter	enable, disable	Enables or disables the snoop filter option from the system BIOS.
		Example:
		`A:>syscfg --snoopfilter=enable`
		`snoopfilter=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--serial1	disable, com1, com3, com1_bmc, bmcserial, bmclan, rac	Configures or reports the first serial port communication port.
		This option can be replicated.
		• 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.
		Example:
		`A:>syscfg --serial1=rac`
		`serial1=rac`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--serial2	auto, disable, com2, com4	Configures or reports the second serial port communication port. This option can be replicated.
		Example:
		`A:>syscfg --serial2=disable`
		`serial2=disable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--serial comm	on, com1cr, com2cr, off	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. When set to **com1cr**, 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 through COM port 1. When set to **com2cr**, 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 through COM port 2. When set to **off**, this option tells the BIOS to disable COM port 1 and COM port 2. This option can be replicated.	All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

		Example:
		`A:>syscfg --serialcomm=on`
		`serialcomm=on`
		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.	

--serialport addrsel	default, alternate	Sets the port address of the serial devices.
		When this option is **default**, Serial Device1 is set to COM port 1 and Serial Device 2 is set to COM port 2.
		When this option is **alternate**, Serial Device 1 is set to COM port 2 and Serial Device 2 is set to COM port 1.
		This option can be replicated.
		Example:
		`A:>syscfg --serialportaddrsel= default`
		`serialportaddrsel=default`
			PowerEdge *yx1x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--setuppwd	<*string*>	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 **--oldsetuppwd** option. This option is not replicated. For more information on delimiters, see "Command Line Option Delimiters" on page 15.
		Example 1:
		`A:>syscfg --setuppwd= asetuppassword`
		`The password has been set. Please use a warm reboot to apply the password to the system.`
		Example 2:
		`A:>syscfg --setuppwd= asetuppassword --oldsetuppwd= currentpassword`
		`The password has been set. Please use a warm reboot to apply the password to the system.`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

		Example 3:
		`A:>syscfg --setuppwd= asetuppassword --oldsetuppwd= currentpassword`
		`The old password entered is incorrect. The new password will not be set. Please try again.`
		NOTE: You cannot disable your password using DTK. To disable your password, you must use the system BIOS.	

--sma	enable, disable	Enables or disables processor sequential memory access.
		Example:
		`A:>syscfg --sma=disable`
		`sma=disable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--slotname*
NOTE: The asterisk is not part of the command syntax.
	NA	Reports the slot name of the blade.
		Example:
		`A:>syscfg --slotname`
		`slotname=Slot5`
			All PowerEdge Blade systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--sriov	enable, disable	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 prior to PowerEdge *yx2x* systems with Intel Xeon processor 7500/6500 series.

--svctag*
NOTE: The asterisk is not part of the command syntax.
	NA	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 prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems
--syspwd	<*string*>	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 **--oldsyspwd** option. This option is not replicated. For more information on delimiters, see "Command Line Option Delimiters" on page 15. Example 1: `A:>syscfg --syspwd=`*`password`* `The password has been set. Please use a warm reboot to apply the password to the system.` Example 2: `A:>syscfg --syspwd=`*`password`* `--oldsyspwd=`*`password`* `The password has been set. Please use a warm reboot to apply the password to the system.` **NOTE:** You cannot disable your password using DTK. To disable your password, you must use the system BIOS.	All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems
--sysrev	NA	Reports the system revision. This is a read-only option.	All PowerEdge systems prior to PowerEdge *yx2x* systems
tpm		For details about the **tpm** suboptions and arguments, see Table 3-3.	PowerEdge *yx0x* and *yx1x* systems

--turbomode	enable, disable	Enables or disables core-based turbo mode. Turbo mode is a feature on Intel processors that allows one processor core to increase the frequency by one bin whenever the other core has gone into an idle state.
		Example:
		`A:>syscfg --turbomode= enable`
		`--turbomode=enable`
			PowerEdge *yx1x* systems running on Intel processors

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--usb	on, legacy, off	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.
		Example:
		`A:>syscfg --usb=on`
		`usb=on`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--usbflash	auto, fdd, hdd	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.
		Example:
		`A:>syscfg --usbflash=auto`
		`usbflash=auto`
			All PowerEdge systems prior to PowerEdge *x9xx* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--usbports	enable, enablebackonly, disable	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.
		This option can be replicated.
		Example:
		`A:>syscfg --usbports= enable`
		`usbports=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

--virtualization	enable, disable	Enables or disables virtualization in the CPU. When set to **enable**, it enables the additional hardware capabilities provided by Virtualization Technology in applicable CPUs.
		When set to **disable**, it disables the additional hardware capabilities provided by Virtualization Technology.
		This option can be replicated.
		Example:
		`A:>syscfg -- virtualization=enable`
		`virtualization=enable`
			All PowerEdge systems prior to PowerEdge *yx2x* systems

Table 3-2. SYSCFG Options and Arguments for BIOS Configuration Prior to PowerEdge *yx2x* Systems *(continued)*

Option	Valid Arguments	Description	Applicable Systems

--vflash	enable, disable	Enables or disables vflash on iDRAC.
		Example:
		`A:>syscfg --vflash=enable`
		`vflash=enable`
			All PowerEdge *yx1x* systems or systems with iDRAC6

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
tpm	--tpm security	off	Does not report the presence of TPM to the operating system.
		onwithpbm	Directs the BIOS to store the TCG compliant measurements to the TPM during a POST operation.
		onwithoutpbm	Directs the BIOS to bypass the pre-boot measurements.
			Example: `A:>syscfg tpm --tpmsecurity =onwithoutpbm --setuppwdoverride`
	--tpm activation	enabled	Enables and activates the TPM feature.
		disabled	Disables and deactivates the TPM feature.
		nochange	Does not alter the operational state of the TPM feature.
			Example: `A:>syscfg tpm --tpmactivation=enabled --setuppwdoverride` **NOTE:** You cannot set **tpmactivation** when **tpmsecurity** is set to **off**.

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

Option	Sub-option	Arguments	Description
			NOTE: After setting **tpmactivation** to **enabled** or **disabled**, 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 **tpmactivation** to **enabled** or **disabled**, DTK displays the value of **tpmactivation** as **nochange**. However, the TPM feature is activated/deactivated when you reboot the system.
	--tpmclear	NA	Clears the contents of the TPM chip without erasing the **tpmsecurity** and **tpmactivation** settings. Example: `A:>syscfg tpm --tpmactivation=enabled --tpmclear --setuppwdoverride`
	--undo tpmclear	NA	Cancels 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. Example: `A:>syscfg tpm --tpmactivation=enabled --undotpmclear --setuppwdoverride`

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

Option	Sub-option	Arguments	Description
	--val setuppwd	<*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. For more information on delimiters, see "Command Line Option Delimiters" on page 15. Example: `A:>syscfg tpm --tpmactivation=enabled --tpmclear --valsetuppwd= <setup_password>`
	--setup pwdoverride	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. `A:>syscfg tpm --tpmactivation=enabled --tpmclear --setuppwdoverride`

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.

Table 3-4. Sub-options and Arguments for the tcm Option *(continued)*

Option	Sub-option	Arguments	Description
		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	Cancels 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	<*powerprofile*> where *powerprofile* 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 --setuppwdoverride`

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

Option	Sub-option	Arguments	Description
		custom	Creates the custom profile. Reboot the system for the settings to take effect. `A:>syscfg power --profile=custom --setuppwdoverride`
	--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. `A:>syscfg power --profile=custom --cpupowermode=min --setuppwdoverride`
	--memorypowermode	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 --setuppwdoverride`
	--fanpowermode	min, max	Allows you to set the fan algorithm to the minimum power optimized or maximum performance optimized mode. `A:>syscfg power --profile=custom --fanpowermode=min --setuppwdoverride`

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

Option	Sub-option	Arguments	Description
			NOTE: Set the value of **--profile** to **custom** to change the values of **cpupowermode**, **memorypowermode**, and **fanpowermode**.
	--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*>	<*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. If the value is less than the minimum threshold value, a warning message appears.
		<*unit*> is the unit of the <*budgetcap*> value and can be watt, or btuphr, or percent.	If the unit is btuphr, it is converted in 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)]**
			`A:>syscfg power --cap= <value> --unit=watt --setuppwdoverride`
	--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. For more information on delimiters, see "Command Line Option Delimiters" on page 15. `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 Options Supported on PowerEdge *yx2x* Systems

Table 3-6 lists the valid SYSCFG options and arguments supported on the Power Edge *yx2x* systems. On PowerEdge *yx2x* systems, the SYSCFG options are grouped. The options and arguments are case insensitive. Running SYSCFG without arguments only displays the valid options. Reboot the system for the BIOS options to take effect.

Some of the BIOS options or arguments may not be available on all systems due to:

- The BIOS version or hardware feature set.
- A missing or expired license. The system displays an error message if the required license is not found. For more information, see *Dell License Manager* on **support.dell.com/manuals**.

NOTE: PowerEdge *yx2x* systems are backward compatible and support legacy arguments **enable** and **disable**. However, it is recommended to use **enabled** and **disabled** on PowerEdge *yx2x* systems as the arguments **enable** and **disable** may be deprecated in future. For more information, see the BIOS options help.

To list the options which are are set on the system, but not applied due to pending reboot, type:

```
syscfg --pendingvalues
```

The following table lists the SYSCFG options and arguments supported on PowerEdge *yx2x* systems.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems

Group	Option	Valid Arguments	Description
BIOS Boot Settings	--BootSeq	numerical list, separated by commas or list of device names, separated by commas	Specifies the location of the operating system files needed for system startup. This option is applicable when **bootmode** is set to **Bios and** has no effect when **bootmode** is set to **Uefi**.
	--HddSeq	numerical list, separated by commas or list of device names, separated by commas	Specifies the order in which hard-disk drives are configured in the system. The first hard drive in the system will be the bootable C: drive in DOS/DOS-like operating systems. This option is applicable when **bootmode** is set to **Bios** and has no effect when **bootmode** is set to **Uefi**.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
Boot Settings	--BootMode	Bios, Uefi	Determines the boot mode of the system.
Boot Settings (*continued*)	--BootSeqRetry	Enabled, Disabled	Enables or disables the Boot Sequence Retry feature. When set to **Enabled**, the system attempts the boot sequence after a 30-second time-out if the last boot attempt has failed.
Embedded Server Management	--FrontLcd	None, UserDefined, ModelNum, Advanced	Allows you to set the model number or a user-defined string on the front-panel LCD display.
	--UserLcdStr	<*string*>	Allows you to set the default string (model name and number for PowerEdge systems earlier than Dell PowerEdge *yx1x*, and service tag for PowerEdge systems *yx1x* and later) or a user-defined string on the front-panel LCD. The maximum length of the string is 62 characters.
Integrated Devices	--EmbVideo	Enabled, Disabled	Enables or disables the BIOS support for the Embedded Video Controller.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
Integrated Devices (*continued*)	--Integrated Network1	Enabled, DisabledOs,	Enables or disables Integrated Network 1. **NOTE:** If set to DisabledOs, the Integrated NICs may still be available for shared network access by the embedded management controller. This function must be configured through the NIC management utilities provided with your system.
	--Integrated Network2	Enabled, DisabledOs	Enables or disables Integrated Network 2. **NOTE:** If set to DisabledOs, the Integrated NICs may still be available for shared network access by the embedded management controller. This function must be configured through the NIC management utilities provided with your system.
	--Integrated Raid	Enabled, Disabled	Enables or disables the integrated RAID controller.
	--IntegratedSas	Enabled, Disabled	Enables or disables the integrated SAS controller.
	--Internal SdCard	On, Off	Turns the internal SD card port on or off.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--InternalSd CardRedundancy	Mirror, Disabled	Sets the internal SD card port redundancy to **Mirror** mode or **Disabled**. When set to **Mirror** mode, read-write operation occurs on both the secure digital (SD) cards. When one of the SD cards fails and is replaced, on booting, the data of the active card is copied to the offline card. When set to **Disabled**, read-write operation occurs only on SD card 1. **NOTE:** On Blade systems, disable the vflash key to configure this option. This option is applicable only on PowerEdge R810, R815, R910, M910, and PowerEdge *yx2x* systems.
	--InternalUsb	On, Off	Turns the internal USB port on or off.
	--InternalUsb1	On, Off	Turns the internal USB port 1 on or off.
	--InternalUsb2	On, Off	Turns the internal USB port 2 on or off.
	--IoatEngine	Enabled, Disabled	Enables or disables the I/O Acceleration Technology (I/OAT) option.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--OsWatchdog Timer	Enabled, Disabled	Aids in the recovery of the operating system when the system does not respond. When set to **Enabled**, the operating system is allowed to initialize the timer. When it is set to **Disabled** (default value), the timer has no effect on the system.
	--SriovGlobal Enable	Enabled, Disabled	Enables or disables support for Single Root I/O Virtualization (SR-IOV) devices. **NOTE:** This option is supported on PowerEdge R410, R510, R610, R710, R910, T410, T610, T710, and PowerEdge *yx2x* systems with Intel Xeon processor 7500/6500 series.
	--UsbPorts	AllOn, OnlyBackPortsOn, AllOff	Sets the user accessible USB Ports. Selecting **OnlyBackPortsOn** disables front USB ports, and selecting **AllOff** disables both front and back USB ports.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
Memory Settings	--MemOp Mode	OptimizerMode, SpareMode, MirrorMode, AdvEccMode, SpareWithAdv EccMode	Sets the memory operating mode. This feature is active only if a valid memory configuration is detected. When **OptimizerMode** is enabled, the DRAM controllers operate independently in 64-bit mode and provide optimized memory performance. When **MirrorMode** is enabled, only half of the installed memory is reported as available to the operating system. When **AdvECCMode** is enabled, the two DRAM controllers are combined in 128-bit mode to provide optimized reliability. Memory that cannot be teamed by the controllers is not reported to the operating system. When **SpareMode** is enabled, the memory size reported to the operating system does not include the spare portion.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--MemOp Voltage	AutoVolt, Volt15V	Sets the DIMM voltage selection. When set to **AutoVolt** (default value), the system automatically sets the voltage to the optimal setting based upon the DIMM capability and the installed DIMM population. This option also enables setting the system DIMM voltage to a higher (1.5V) setting if the DIMMs support multiple voltages and have been set to a lower voltage. **NOTE:** Volt15V represents 1.5Volt.
	--MemTest	Enabled, Disabled	Enables or disables the POST extended memory test.
	--Node Interleave	Enabled, Disabled	Enables node interleaving, if the system is configured with matching memory. If set to **Disabled** (default), the system supports Non-Uniform Memory (NUMA) architecture memory configurations. This field is active only if the memory configuration can support node interleaving.
	--SerialDbgOut	Enabled, Disabled	Enables or disables the RC/MRC Serial debug output.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--SysMemSize	<*string*>	Displays the amount of main memory in the system.
	--SysMem Speed	<*string*>	Displays the clock frequency of the main memory.
	--SysMemType	<*string*>	Displays the type of main memory installed in the system.
	--SysMemVolt	<*string*>	Displays the voltage of the main memory.
	--VideoMem	<*string*>	Displays the total amount of video memory available to the embedded video controller.
Miscellaneous Settings	--AssetTag	<*string*>	Displays the Asset Tag and allows the Asset Tag to be modified. **NOTE:** The Asset Tag is a string assigned to a system, usually by an administrator, for security or tracking purposes. The Asset Tag can be up to 10 characters long and can contain only printable US-ASCII characters.
	--Characterization	Enabled, Disabled	Enables or disables In-System characterization.
	--ErrPrompt	Enabled, Disabled	Enables (default value) or disables the F1/F2 prompt on error.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--NumLock	On, Off	Determines whether the system boots with NumLock turned on or off. This does not apply to 84-key keyboards.
	--ReportKbdErr	Report, Noreport	Sets if keyboard-related error messages are reported at system startup or not.
One-Time Boot	--OneTime BootMode	Disabled, OneTimeBootSeq, OneTimeHddSeq, OneTimeUefiBootSeq, OneTimeCustomBootSeqStr, OneTimeCustomHddSeqStr, OneTimeCustomUefiBootSeqStr	Allows to set the one-time boot sequence.
	--OneTime BootSeqDev	numerical list, separated by commas or list of device names, separated by commas	Determines the one-time boot device when the One-Time Boot Device List is set to BIOS Boot Sequence Device. If Boot Mode is set to **UEFI**, the system temporarily switches the Boot Mode to **BIOS** when attempting a one-time boot to the device.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--OneTime HddSeqDev	numerical list, separated by commas or list of device names, separated by commas	Determines the one-time boot hard disk when the One-Time Boot Device List is set to BIOS Hard-Disk Drive Sequence Device. If Boot Mode is set to **UEFI**, the system temporarily switches the Boot Mode to **BIOS** when attempting a one-time boot to the device.
	--OneTime UefiBootSeqDev	numerical list, separated by commas or list of device names, separated by commas	Determines the one-time boot device when the One-Time Boot Device List is set to UEFI Boot Sequence Device. If Boot Mode is set to **BIOS**, the system temporarily switches the Boot Mode to **UEFI** when attempting a one-time boot to the device.
Processor Settings	--DataReuse	Enabled, Disabled	Enables (default value) or disables data reuse in cache.
	--DcuIpPrefetcher	Enabled, Disabled	Enables (default value) or disables DCU IP Prefetcher.
	--DcuStreamer Prefetcher	Enabled, Disabled	Enables (default value) or disables DCU Streamer Prefetcher.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--LogicalProc	Enabled, Disabled	When this option is set to **Enabled** (default value), the BIOS reports all logical processors. When set to **Disabled**, the BIOS only reports one logical processor per core. Each processor core supports maximum two logical processors.
	--Proc1Brand	<*string*>	Displays the brand text provided by the processor manufacturer.
	--Proc1Id	<*string*>	Displays the family, model, and stepping values of the processor.
	--Proc1L2Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc1L3Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc1NumCores	<*integer*>	Displays the number of cores in the processor package.
	--Proc2Brand	<*string*>	Displays the brand text provided by the processor manufacturer.
	--Proc2Id	<*string*>	Displays the family, model, and stepping values of the processor.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--Proc2L2Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc2L3Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc2NumCores	<*integer*>	Displays the number of cores in the processor package.
	--Proc3Brand	<*string*>	Displays the brand text provided by the processor manufacturer.
	--Proc3Id	<*string*>	Displays the family, model, and stepping values of the processor.
	--Proc3L2Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc3L3Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc3NumCores	<*integer*>	Displays the number of cores in the processor package.
	--Proc4Brand	<*string*>	Displays the brand text provided by the processor manufacturer.
	--Proc4Id	<*string*>	Displays the family, model, and stepping values of the processor.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--Proc4L2Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc4L3Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc4NumCores	<*integer*>	Displays the number of cores in the processor package.
	--Proc64bit	<*string*>	Specifies if the installed processor supports 64-bit extensions or not.
	--ProcAdjCache Line	Enabled, Disabled	When set to **Enabled** (default), the system is optimized for applications that require high utilization of sequential memory access. When set to **Disabled**, the system is optimized for applications that require high utilization of random memory access.
	--ProcBusSpeed	<*string*>	Displays the bus speed of the processor.
	--ProcCores	single,all,dual,quad, 1,2,4,6,8,10,12, 14,16	Controls the number of enabled cores in each processor. By default, the maximum number of cores per processor will be enabled.
	--ProcCoreSpeed	<*string*>	Displays the clock speed of the processor(s).

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--ProcExecute Disable	Enabled, Disabled	Enables or disables the Execute Disable Memory Protection Technology.
	--ProcHw Prefetcher	Enabled, Disabled	Enables or disables the hardware prefetcher.
	--Proc Virtualization	Enabled, Disabled	When set to **Enabled**, the additional hardware capabilities provided by Virtualization Technology are available for use.
	--QpiBandwidth Priority	InputOutput, Compute	Sets the bandwidth priority to **Compute** (default value) or I/O.
	--QpiSpeed	MaxDataRate, 8GTps, 7GTps, 6GTps	Sets the speed of the processor.
	--RtidSetting	Enabled, Disabled	When set to **Enabled**, it allocates more (Requestor Transaction IDs) RTIDs to the remote socket thereby increasing cache performance between the sockets.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
SATA Settings	--EmbSata	Off, AtaMode, RaidMode, AhciMode	Configures an embedded SATA RAID controller. • **Off** — disables the embedded SATA RAID controller. • **AtaMode** — sets SATA RAID controller to ATA mode. • **RaidMode** — sets SATA RAID controller to RAID mode. • **AhciMode** — sets SATA RAID controller to ahci mode.
	--eSataPort1	Off, Auto	Sets the embedded SATA port1 to auto or off.
	--eSataPort1 Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--eSataPort1 DriveType	<*string*>	Indicates the type of device attached to the embedded SATA port.
	--eSataPort1Model	<*string*>	Displays the drive model of the selected device.
	--SataPortA	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortA Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--SataPortA DriveType	<*string*>	This option indicates type of device attached to this SATA port.
	--SataPortAModel	<*string*>	Displays the drive model of the selected device.
	--SataPortB	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortB Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortB DriveType	<*string*>	Indicates type of device attached to this SATA port.
	--SataPortBModel	<*string*>	Displays the drive model of the selected device.
	--SataPortC	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortC Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortC DriveType	<*string*>	Indicates the type of device attached to this SATA port.
	--SataPortCModel	<*string*>	Displays the drive model of the selected device.
	--SataPortD	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--SataPortD Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortD DriveType	<*string*>	Indicates type of device attached to this SATA port.
	--SataPortDModel	<*string*>	Displays the drive model of the selected device.
	--SataPortE	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortECapacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortE DriveType	<*string*>	Indicates type of device attached to this SATA port.
	--SataPortEModel	<*string*>	Displays the drive model of the selected device.
	--SataPortF	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortF Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortF DriveType	<*string*>	Indicates the type of device attached to this SATA port.
	--SataPortFModel	<*string*>	Displays the drive model of the selected device.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--SataPortG	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortG Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortG DriveType	<*string*>	Indicates the type of device attached to this SATA port.
	--SataPortGModel	<*string*>	Displays the drive model of the selected device.
	--SataPortH	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortH Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortH DriveType	<*string*>	Indicates the type of device attached to this SATA port.
	--SataPortHModel	<*string*>	Displays the drive model of the selected device.
Serial Communication	--ConTermType	Vt100Vt220 | Ansi	Sets the terminal type of your remote console.
	--ExtSerial Connector	Serial1, Serial2, RemoteAccDevice	Associates the External Serial Connector to Serial Device 1, Serial Device 2, or the Remote Access Device.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--FailSafeBaud	115200, 57600, 19200, 9600	The BIOS attempts to determine the baud rate automatically. This failsafe baud rate is used only if the attempt fails.
	--RedirAfterBoot	Enabled, Disabled	Sets the BIOS console redirection to enable or disable when the operating system is loaded.
	--SerialComm	OnNoConRedir, OnConRedirCom1, OnConRedirCom2, Off	Enables or disables the serial communication devices (Serial Device 1 and Serial Device 2) in BIOS.
	--SerialPort Address	Serial1Com1Serial2 Com2, Serial1Com2Serial2 Com1, Com1, Com2	Sets the port address for the Serial Devices (COM1=0x3F8, COM2= 0x2F8).
Slot Disablement	--Slot1	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.
	--Slot2	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.
	--Slot3	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.
	--Slot4	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.
	--Slot5	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.
	--Slot6	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.
	--Slot7	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
System Information	--SysMfr ContactInfo	<*string*>	Displays the information for contacting the Original Equipment Manufacturer (OEM) of this system.
	--SystemBios Version	<*string*>	Displays the current revision of the system BIOS firmware.
	--System Manufacturer	<*string*>	Displays the name of the Original Equipment Manufacturer (OEM) of this system.
	--SystemModel Name	<*string*>	Displays the product name of the system.
	--SystemService Tag	<*string*>	Displays the system service tag (a unique identifier assigned by the Original Equipment Manufacturer (OEM) of this system).
System Profile Settings	--MemFrequency	MaxPerf, 1600MHz, 1333MHz, 1067MHz, 800MHz, MaxReliability	Sets the Memory Frequency as maximum performance, 1600Mhz, 1333MHz, 1067MHz, 800MHz, or maximum reliability.
	--MemPatrolScrub	Standard, Extended, Disabled	Sets the Memory Patrol Scrub frequency as Standard Mode, or Extended Mode.
	--MemRefresh Rate	1x, 2x	Sets the Memory Refresh Rate as 1x or 2x.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--MemVolt	AutoVolt, Volt15V, Volt135V **NOTE:** Volt15V represents 1.5 Volt and Volt135V represets 1.35 Volt.	Sets the DIMM voltage selection.
	--ProcC1E	Enabled, Disabled	When set to **Enabled**, the processor is allowed to switch to minimum performance state when idle.
	--ProcCStates	Enabled, Disabled	When set to **Enabled**, the processor can operate in all available power states.
	--ProcPwrPerf	MaxPerf, MinPwr, SysDbpm, OsDbpm,	Sets CPU Power Management to maximum performance, operating system DBPM, or System DBPM (DAPC).
	--ProcTurboMode	Enabled, Disabled	When set to Enabled, the processor can operate in Turbo Boost Mode.
	--SysProfile	PerfPerWatt OptimizedOs, PerfPerWatt OptimizedDapc, PerfOptimized, Custom, DenseCfg Optimized	Sets the System Profile to Performance Optimized, Power Optimized (DAPC), Power Optimized (OS), Dense Configuration Optimized, or Custom mode. When set to a mode other than **Custom**, BIOS will set each option accordingly. When set to **Custom**, you can change setting of each option.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
System Security	--AcPwrRcvry	On, Off, Last	Specifies how the system will react after AC power has been restored to the system. It is especially useful for people who turn their systems off with a power strip.
	--AcPwrRcvry Delay	Immediate, User, Random	Specifies how the system will support the staggering of power-up after AC power has been restored to the system.
	--AcPwrRcvryUser Delay	*<integer>*	Controls the user defined AC Recovery Delay. Enter a delay in the range of 60 seconds to 240 seconds.
	--AesNi	Enabled, Disabled	Displays the current status of Intel Processor AES-NI feature.
	--BiosUpdate Control	Unlocked, Limited, Locked	Locks, unlocks, or limits the BIOS update using DOS or UEFI shell based flash utilities. For environments not requiring local BIOS updates, it is recommended to set this field to **Locked**.
	--IntelTxt	On, Off	Turns the Trusted Execution Technology on or off. To enable Intel TXT, VT must be enabled, and the TPM must be enabled with pre-boot measurements and activated.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--NmiButton	Enabled, Disabled	Enables or disables the Non-Maskable Interrupt (NMI) button on the front panel.
	--PasswordStatus	Locked, Unlocked	Locks the system password. To prevent the system password from being modified, set this option to locked and enable setup password. This field also prevents the system password from being disabled by the user while the system boots.
	--PwrButton	Enabled, Disabled	Enables or disables the power button on the front panel.
	--SetupPassword	<*string*>	Displays the password and allows the password to be set or modified. The password can be up to 32 characters long and contain most of non-shifted letters, numbers, and punctuation.
	--SysPassword	<*string*>	Displays the password and allows the password to be set or modified. The password can be up to 32 characters long and contain most of non-shifted letters, numbers, and punctuation.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--TcmActivation	NoChange, Activate, Deactivate	Allows the user to change the operational state of the Trusted Cryptography Module (TCM). This field is Read-Only when TCM Security is set to Off.
	--TcmClear	Yes, No	**WARNING:** Clearing the TCM will cause loss of all keys in the TCM. This could affect booting of the operating system. When set to Yes, all the contents of the TCM will be cleared. This field is Read-Only when TCM Security is set to Off.
	--TcmSecurity	On, Off	Controls the reporting of the Trusted Cryptography Module (TCM) in the system.
	--TpmActivation	NoChange, Activate, Deactivate	Allows the user to change the operational state of the Trusted Platform Module (TPM). This field is Read-Only when TPM Security is set to **Off**.

Table 3-6. SYSCFG Options and Arguments for BIOS Configuration on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--TpmClear	Yes, No	**CAUTION: Clearing the TPM will cause loss of all keys in the TPM. This could affect booting of the operating system.** When set to **Yes**, all the contents of the TPM will be cleared. This field is Read-Only when TPM Security is set to Off.
	--TpmSecurity	Off, OnPbm, OnNoPbm	Controls the reporting of the Trusted Platform Module (TPM) in the system.
	--UefiBootSeq	numerical list, separated by commas or list of device names, separated by commas	Controls the UEFI boot order. The first option in the list is attempted first, and if unsuccessful, the second option will be attempted, and so on. The system attempts to launch enabled boot options only; it will not launch disabled boot options. This field applies only when **bootmode** is set to **Uefi**. It has no effect when **bootmode** is set to **bios**.

SYSCFG for BMC and Remote Access Controller Configuration

SYSCFG configures Baseboard Management Controller (BMC) and Remote Access Controller (RAC) 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. 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 3-7 lists the options, sub-options, and pre-defined arguments for configuring your system BMC and RAC.

Table 3-7. BMC and RAC 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
	--deviceguid	NA	Reports the BMC device ID.	
	--devrevision	NA	Reports the BMC device revision.	
	--majorfw revision	NA	Reports the BMC device major firmware revision.	
	--minorfw revision	NA	Reports the BMC device minor firmware revision.	

			Example:
			`A:>syscfg bmcversion`
			`devid=32`
			`devrevision=0`
			`majorfwrevision =0`
			`minorfwrevision =40`	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

--controlpanel access	NA	viewandmodify, viewonly, disabled	Sets or gets the access level for the Liquid Crystal Display (LCD).
			Example:
			`A:>syscfg --controlpanelaccess= viewandmodify`
			`controlpanelaccess= viewandmodify`
				PowerEdge *yx1x* and *yx2x* systems

--clearsel*
NOTE: The asterisk is not part of the command syntax.
	NA	NA	Clears the SEL. This option cannot be replicated.
			Example:
			`A:>syscfg --clearsel`
			`Clearing SEL...`
				All PowerEdge systems

--deviceguid*
NOTE: 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

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

--encryptkey	NA	<*hexadecimal number*>	Encrypts the IPMI sessions.
			The hexadecimal number entered as an argument is case insensitive 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=ABCD00000000000000000000000000000000000000`
				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.

--kvm statusonlcd		active, inactive	Configures the Dell Virtual KVM (vKVM) session status on the LCD.
			Example:
			`A:>syscfg --kvmstatusonlcd=active`
			`kvmstatusonlcd=active`
				PowerEdge *yx1x* systems

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
lanchannel access 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.	
	--channel privlmt	user, operator, administrator	Sets the maximum privilege level accepted for the LAN channel. This sub-option can be replicated.	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

			Example (to configure the LAN channel with alerts and IPMI over LAN enabled):
			`A:>syscfg lanchannelaccess --pefalerting=enable --ipmioverlan=alwaysavail`
			`lanchannelaccess pefalerting=enable ipmioverlan=alwaysavail`	

lanchannelinfo or lci			Displays media and protocol information about the LAN channel. This option cannot be replicated.	All PowerEdge systems
lancfgparams or lcp			Configures and displays LAN configuration parameters. This option can be replicated.	All PowerEdge systems
	--ipaddrsrc	static, dhcp	Sets the IP address source for the LAN channel. This sub-option can be replicated.	

Table 3-7. BMC and RAC 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.	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--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.	
	--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.	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--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**, or **sharedreceiveonall**. Some of these options are not applicable on certain systems.	**NOTE:** This option is applicable on systems prior to PowerEdge *yx2x* systems. The **sharedreceiveonall** argument is available only on yx1x systems.
	--nicselection	dedicated, lom1, lom2, lom3, lom4	Sets the operating mode of the iDRAC7 NIC to **dedicated**, **lom1**, **lom2**, **lom3**, or **lom4**. Some of these options are not applicable on certain systems due to underlying hardware.	**NOTE:** This option is applicable on PowerEdge *yx2x* systems.

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--nicselection failover	none, lom1, lom2, lom3, lom4, all	Sets the operating mode of the NIC selection failover to **none**, **lom1**, **lom2**, **lom3**, **lom4**,or **all**. Some of these options are not applicable on certain systems. due to underlying hardware.	**NOTE:** This option is applicable on PowerEdge *yx2x* 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.	
	--dnsdhcp	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.	
	--dns registerrac	enable, disable	Enables or disables binding of the RAC name to the IP address.	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--dnsracname	<string>	Sets the name of the RAC.	
	--domain namefromdhcp	enable, disable	Enables or disables getting the RAC domain name through DHCP.	

	--domainname	<string>	Sets the domain name of the RAC.
			Example 1 (to display the current LAN configuration settings):
			`A:>syscfg --lancfgparams`
			`destipaddr=192.168.100.15`
			`vlantag=enable`
			`vlanid=1000`
			`vlanpriority=7`
			`macaddress=0:6:5b:fb:c8:a7`
			`commstring=public`
			`ipaddrsrc=static`
			`ipaddress=192.168.100.10`
			`subnetmask=255.255.255.0`
			`gateway=192.168.100.1`	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			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	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			`subnetmask= 255.255.255.0 gateway= 192.168.100.1`	
lanuseraccess or lua			Configures the privilege level and channel accessibility associated with a specified User ID for the LAN channel.	All PowerEdge systems
	--userid	2–16, 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.	
	--current enableduserids	NA	Reports the number of currently enabled User IDs on the LAN channel.	
	--useridswith fixednames	NA	Reports the number of User IDs with fixed names on the LAN channel.	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

			Example 1 (to enable User ID 2 on the LAN channel with administrator privileges):
			`A:>syscfg lanuseraccess --userid=2 --usrprivlmt= administrator`
			`userid=2 usrprivlmt= administrator`
			Example 2 (to enable User ID 4 on the LAN channel with user privileges):
			`A:>syscfg lanuseraccess --userid=4 --usrprivlmt= user`
			`userid=4 usrprivlmt=user`	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

--loaddefaults*
NOTE: 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 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

--nextboot or --OneTime BootSeqDev	NA	valid device name (from the **--bootseq** option device list)	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 3-7. BMC and RAC 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	Enables or disables the NMI button.
			This option can be replicated.
			Example:
			`A:>syscfg --nmibutton= enable`
			`nmibutton= enable`
				All PowerEdge systems

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
passwordaction			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. **NOTE:** This option does not support 20 byte passwords.	All PowerEdge systems
	--userid	2–16 if your system has a DRAC 5 controller	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*>	Sets the password (maximum of 16 printable ASCII characters) for the specified BMC User ID. This sub-option cannot be replicated. Example (to set and test the password for User ID 3):	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			`A:>syscfg passwordaction --userid=3 --action= setpassword --password= bmcmaster passwordaction userid=3 action= setpassword password= ********* A:>syscfg passwordaction --userid=3 --action= testpassword --password= bmcmastor Password test failed.`	
pefcfgparams or pcp			Configures and displays PEF configuration parameters. This option can be replicated.	All PowerEdge systems

Table 3-7. BMC and RAC 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, systempower-warn, systempower-fail	Specifies a PEF value. This sub-option can be replicated. See "BMC Platform Events Filter Alert Messages" on page 255 for a complete list of all possible PEF messages along a description of each event. **NOTE:** The **fanfail** option is not supported on PowerEdge *yx0x* systems.	
	--filteraction	powercycle, reset, powerdown, power reduction, 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 3-7. BMC and RAC Options *(continued)*

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

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

	--alertpol status	enable, disable	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.
			
			Example (to set the PEF configuration parameters):
			
			Example 1 (To configure the PEF so that the system is powered down in response to a fan failure event):
			
			`A:>syscfg pefcfgparams --filter= fanfail --filteraction= powerdown`
			
			`pefcfgparams filter=fanfail filteraction= powerdown`	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

			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):
			`A:>syscfg pefcfgparams --filter= intrusion --filteralert= disable`
			`pefcfgparams filter= intrusion filteralert= disable`	

--powerbutton	NA	enable, disable	Enables or disables the power button. This option can be replicated.
			Example:
			`A:>syscfg --powerbutton= enable`
			`powerbutton= enable`
				All PowerEdge systems

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
--powerctl	NA	powerdown </argument>	Performs a chassis powerdown and controls the reset of the system. Powerdown turns off the system.	All PowerEdge systems
		powercycle </argument>	Turns off the system and automatically turns on your system after a few seconds.	
		reset </argument>	Resets the system.	
		softshutdown </argument>	In Linux, the system turns off 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* **NOTE:** The asterisk is not part of the command syntax.	NA	NA	Resets the RAC. It cannot be accompanied with any other option. This option cannot be replicated.	All PowerEdge systems

Table 3-7. BMC and RAC 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.	
	--channel privlmt	user, operator, administrator	Sets the maximum privilege level accepted for the serial channel. This sub-option can be replicated.	
			Example (to configure the serial channel with IPMI over serial disabled and the maximum privilege level set to administrator):	
			`A:>syscfg serialchannel access --ipmioverserial=disable`	
			`--channel privlmt=administrator`	
			`serialchannel access`	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			`ipmioverserial=disable` `channelprivlmt=administrator`	
--serialchannel info or sci			Displays media and protocol information about the serial channel. This option cannot be replicated.	All PowerEdge systems
	--mediumtype	NA	Displays the medium type for the serial channel. This sub-option cannot be replicated.	
	--prottype	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.	
	--active ssncount	NA	Displays the number of sessions that are activated on the serial channel. This sub-option cannot be replicated.	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

			Example:
			`A:>syscfg serialchannel info --mediumtype`
			`mediumtype= asynch`	

serialcfgparams or scp			Configures and displays serial configuration parameters. This option can be replicated.	All PowerEdge systems
	--connection mode	basic, terminal	Sets the connection mode used to perform IPMI messaging to the BMC. This sub-option can be replicated.	
	--msgcomm flowctrl	noflowctrl, rtscts	Sets the IPMI message communication flow control. This sub-option can be replicated.	
	--msgcomm dtrhangup	NA	Reports the IPMI message communication DTR hang-up. This sub-option cannot be replicated.	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--msgcomm bitrate	9600, 19200, 57600, 115200	Sets the IPMI message communication baud rate in bits per second (bps). This sub-option can be replicated.	
	--tmcfgline editing	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.	
	--tmcfgecho ctrl	echo, noecho	Sets the echo control value for terminal mode configuration. This sub-option can be replicated.	
	--tmcfg handshakectrl	enable, disable	Sets the handshake control value for terminal mode configuration. This sub-option can be replicated.	
	--tmcfg newlineseq	noterm, crlf, null, cr, lfcr,1f	Sets the new line sequence value for terminal mode configuration. This sub-option can be replicated.	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

	--tmcfg inputnewline seq	cr, null	Sets the input new line sequence value for terminal mode configuration. This sub-option can be replicated.
			Example (to display the current serial configuration settings):
			`A:>syscfg serialcfgparams`
			`serialcfgparams`
			`tmcfgdelctrl=del`
			`tmcfgechoctrl=echo`
			`tmcfghandshakectrl=enable`
			`connectionmode=terminal`
			`tmcfgnewlineseq=crlf`
			`msgcommflowctrl=rtscts`
			`tmcfginputnewlineseq=cr`
			`msgcommdtrhangup=disable`
			`msgcommbitrate=19200`
			`tmcfglineediting=enable`	

Table 3-7. BMC and RAC 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	2–16 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.	
	--current enableduserids	NA	Reports the number of currently enabled User IDs on the serial channel. This sub-option can be replicated.	
	--useridswith fixednames	NA	Reports the number of User IDs with fixed names on the serial channel. This sub-option can be replicated.	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

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

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

solaction			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`
				All PowerEdge systems

	--userid	2–16 if your system has a DRAC 5 controller	Specifies the BMC user ID. This sub-option can be replicated.	
	--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 3-7. BMC and RAC 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 if 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.	
	--solchar accuminterval	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 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--solchar sendthreshold	1–255	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. **NOTE:** On PowerEdge *x9xx* and SC1435 systems, the maximum limit is *255*.	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
	--solbitrate	9600, 19200, 57600, 115200	Sets the serial channel communication bit rate (in bps) with the BMC when SOL is activated. This option can be replicated. **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. Valid arguments are: • 57600 — for PowerEdge *x*9*xx* systems that do not have DRAC 5 installed. • 115200 — for PowerEdge *x*9*xx* systems that have DRAC 5 installed.	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

			Example 1 (to display the current SOL configuration):
			`A:>syscfg solcfgparams`
			`solcfgparams solenable= enable solprivlevel= administrator solcharaccum interval=25 solcharsend threshold=25 solbitrate=9600`
			Example 2 (to set the SOL configuration parameters):
			`A:>syscfg solcfgparams --solenable= disable --solprivlevel= administrator --solcharaccum interval=25 --solcharsend threshold=100 --solbitrate= 9600`	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems
			`solcfgparams solenable= disable solprivlevel= administrator solcharaccum interval=25 solcharsend threshold=100 solbitrate=9600`	All PowerEdge 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
	--maxactive ssns	NA	Displays the maximum possible active BMC sessions. This sub-option cannot be replicated.	
	--currentactive ssns	NA	Displays the number of currently active sessions on all channels of the BMC. This sub-option cannot be replicated.	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

			Example:
			`A:>syscfg ssninfo`
			`currentactivessns=1`
			`maxactivessns=4`	

useraction			Enables and disables BMC, *sua*, and *lua* user IDs. This option can be replicated.	All PowerEdge systems
	--userid	2–16 if your system has a DRAC 5 controller	Specifies the BMC user ID. This sub-option can be replicated.	

	--action	enable, disable	Enables or disables 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 (to disable User ID 3):
			`A:>syscfg useraction --userid=3 --action=disable`
			`useraction userid=3 action=disable`	

Table 3-7. BMC and RAC 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	2–16 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=`*`bmcmaster`* `username userid=3 name=`*`bmcmaster`*	

Table 3-7. BMC and RAC Options *(continued)*

Option	Sub-option	Valid Arguments	Description	Applicable Systems

			Example 2 (to display the username for User ID 3):
			`A:>syscfg username --userid=3 --name`
			`username`
			`userid=3`
			`name=bmcmaster`	

--version* **NOTE:** The asterisk is not part of the command syntax.	NA	NA	Displays the version information for the SYSCFG utility.	

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 3-8 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 3-8. SYSCFG Options and Arguments for State Configuration

Option	Valid Arguments	Description

-b or --byte	<*string*>	Specifies a value to write to state data. The format of the argument must be in decimal format unless the `-x` option is given. If the `-x` option is given, the value is interpreted as hexadecimal format. The value can optionally contain 0x. The decimal range is 0–255, and the hexadecimal range is 0x00–0xFF.
		Example:
		`A:>syscfg -b 1`
		`The state byte has been set to 1.`
		`A:>syscfg -b 2 -x`
		`The state byte has been set to 0x02.`

-r or --read*
NOTE: The asterisk is not part of the command syntax.
	NA	Reads the value of state data. When used with the **-x** option, the value is reported in hexadecimal format (0xNN).
		Example:
		`A:>sysfg -r -x`
		`The state byte has been set to 0x02.`
		`A:>syscfg -r`
		`The state byte has been set to 2.`

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

Option	Valid Arguments	Description

-x or --hex	None	Specifies that a value should be in hexadecimal format.
		Example:
		`A:>sysfg -r -x`
		`The state byte has been set to 0x01.`
		`A:>sysfg -x -b 0x02`
		`The state byte has been set to 0x02.`

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 3-9 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 3-9. SYSCFG Options and Arguments for System Configuration

Option	Valid Arguments	Description

--asset	None	Reports the customer-programmable asset tag number for a system. This option displays the asset tag for a system. For Blade systems, the **SYSCFG** utility reports the asset tag for both the server module and the asset tag for its chassis. For more information on delimiters, see "Command Line Option Delimiters" on page 15.
		Example:
		`A:>syscfg --asset`
		`asset=ASSET`

--biosver*
NOTE: The asterisk is not part of the command syntax.
	None	Reports the BIOS version for a system. If used with the **-s** option, the environment variable is set to the BIOS version.
		Example:
		`A:>syscfg --biosver`
		`biosver=A08`

--chassvctag*
NOTE: The asterisk is not part of the command syntax.
	None	Reports the chassis service tag for modular systems.
		Example:
		`A:>syscfg --chassvctag`
		`chassvctag=SVCTAG1`

--cpucount*
NOTE: The asterisk is not part of the command syntax.
	None	Reports the number of processors found on the system.
		Example 1:
		`A:>syscfg --cpucount`
		`cpucount=1`
		Example 2:
		`A:>syscfg --cpucount`
		`cpucount=2`

Table 3-9. SYSCFG Options and Arguments for System Configuration *(continued)*

Option	Valid Arguments	Description

--cpuspeed*
NOTE: The asterisk is not part of the command syntax.
	None	Reports the speed of all processors in a system.
		Example:
		`A:>syscfg --cpuspeed`
		`cpuspeed=1000MHz`

--envfile	<*filename*>	Reads the environment variable file (included in DTK as **sys.ini**) 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" on page 163 section.
		Example:
		`A:>syscfg --envfile sys.ini`
		`DELLNIC1=INTEL PRO100`
		`DELLNIC2=INTEL PRO100`
		`DVIDEO1=RAGEXL`
		`DIDE1=PEQUR/ROSS IDE`
		`DSCSI1=AIC-7899`

--mem*
NOTE: The asterisk is not part of the command syntax.
	None	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 **-s** 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).
		Example:
		`A:>syscfg --mem`
		`mem=256MB`

Table 3-9. SYSCFG Options and Arguments for System Configuration *(continued)*

Option	Valid Arguments	Description

-n	<*filename*>	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 163. This option must be used with the **--pci** option.
		Example:
		`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`

--ovrwrt* **NOTE:** The asterisk is not part of the command syntax.	None	When used with the **--outfile** option, this option specifies that the output file should be overwritten if it exists. Example: `A:>syscfg -outfile=out.ini --ovrwrt`

Table 3-9. SYSCFG Options and Arguments for System Configuration *(continued)*

Option	Valid Arguments	Description

--pci*
NOTE: The asterisk is not part of the command syntax.
	None	Performs a scan of all PCI buses and displays the results. The utility uses an open source **pci.ids** file for vendor/device name resolution. The utility looks for a file called **pci.ids** 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 **-n** option is used to specify a filename, this filename is used for resolution. If a specific filename is not given and the **pci.ids** file cannot be found, `Unknown` is printed for all vendor and device codes.
		For more information, see "PCI Reporting" on page 163.
		Example 1 (the **pci.ids** filename is specified in the command line instance):
		`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 3-9. 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 **pci.ids** 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 3-9. SYSCFG Options and Arguments for System Configuration *(continued)*

Option	Valid Arguments	Description

	None	Example 3 (a **pci.ids** file does not exist):
		`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`

-s	*<string>*	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. Example: `A:>syscfg -s ENVNAME --svctag` `ENVNAME=`*`SERVICE`*

Table 3-9. SYSCFG Options and Arguments for System Configuration *(continued)*

Option	Valid Arguments	Description

--slot*
NOTE: The asterisk is not part of the command syntax.
	None	Reports the slot of a modular system. If the system is not modular, the slot is reported as 0. If used with the **-s** option, the environment variable is set to the slot.
		Example 1 (for a modular system):
		`A:>syscfg --slot`
		`slot=1`
		Example 2 (for a non-modular system):
		`A:>syscfg --slot`
		`slot=0`
		NOTE: This option is valid only for PowerEdge 1855 systems.

--svctag*
NOTE: The asterisk is not part of the command syntax.
	None	Reports the service tag for a system. If used with the **-s** option, the environment variable is set to the BIOS version.
		Example:
		`A:>syscfg --svctag`
		`svctag=113CD1S`

--sysasset	None	Reports the system asset tag for modular systems.
		Example:
		`A:>syscfg --sysasset`
		`sysasset=ASSET01`

--sysid*
NOTE: The asterisk is not part of the command syntax.
	None	Reports the unique system id bytes for a server. Servers contain a unique ID value based on their model. The ID value is reported as a hexadecimal value with a leading 0x, lowercase hexadecimal letters, and zero-padded to 2 bytes. If used with the **-s** general option, the environment variable is set to the system ID.
		Example:
		`A:>syscfg --sysid`
		`sysid=0x00df`

Table 3-9. SYSCFG Options and Arguments for System Configuration *(continued)*

Option	Valid Arguments	Description

--sysname*
NOTE: The asterisk is not part of the command syntax.
	None	Reports the system identification string for a server, which is the string displayed under the Dell logo during POST. If used with the **-s** option, the environment variable is set to the system name.
		Example:
		`A:>syscfg --sysname`
		`sysname=PowerEdge 1550/1000`

--syssvctag*
NOTE: The asterisk is not part of the command syntax.
	None	Reports the system service tag for a modular system.
		Example:
		`A:>syscfg --syssvctag`
		`syssvctag=BLADE01`

--uuid*
NOTE: The asterisk is not part of the command syntax.
	None	Reports the Unique User Identifier (UUID) for a system. The UUID is a unique system identifier used in PXE requests.
		Example:
		`A:>syscfg --uuid`
		`uuid=44454C4C-5300-104C-8044-B1C04F423131`

SYSCFG for IPv6 Configuration

Table 3-10 lists all valid options and arguments for IPv6 configuration along with a description of each option. These options are applicable only if the DRAC on your system supports IPv6.

Table 3-10. SYSCFG Options and Arguments for IPv6 Configuration

Option	Sub-option	Valid Argument	Description
lancfgparamsv6 or lcpv6	--ipv6	enable, disable	Enables or disables the IPv6 stack. `A:> syscfg lcpv6 --ipv6= enable`
	--ipsrcv6=static --ipaddrv6= *<ipv6address>* --prefix lengthv6= *< prefix lengthv6>* --gatewayv6= *<ipv6gateway address>*	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 --dnsserver1v6= *<ipv6dnsserver1 address>*	NA	Allows you to manually set the DNS address.
	-- linklocaladdripv6 *=<linklocaladdr ipv6>*		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 3-9.

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.

4

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:

- 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 at **\DELL\x32\TOOLKIT\TOOLS** or at **\DELL\x64\TOOLKIT\TOOLS**. In Linux, you can find it at **/opt/dell/toolkit/bin**.

Supported RAID Controllers

The RAIDCFG utility supports the following RAID controllers:

- PERC 8 and PERC 7 controllers
- PERC 6/E adapter, PERC 6/I integrated, PERC 6/I adapter
- PERC 6/I integrated for Blade systems
- PERC 5/E adapter, PERC 5/I integrated, PERC 5/I adapter
- 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 S110, PERC S100, PERC 310, and PERC S300 software controllers (Not supported on 64-bit systems)
- CERC SATA 1.5/6-Channel (CH) and CERC SATA 1.5/2S (These controllers are supported on Linux only.)
- SAS 6iR integrated, SAS 6iR adapter
- SAS 5iR integrated, SAS 5iR adapter

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 RAIDCGFG utility. For more information on valid RAIDCFG options and their specific uses, see "RAID Configuration Utility Options and Arguments" on page 172.

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 172 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 removeglobal hotspare	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: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 pdisk or -pd instead of adisk or -ad 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: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.

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: `getcontrollerslots`, `getfirmware`, `getcontrollertype`, `getadisks`, `getadiskcount`, `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 may 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	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.
			Example:
			`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`
			`Provides users with general help options that may be used with`
			`this utility.`
			`raidcfg <controller>`
			`raidcfg <-ctrl>`
			`Lists all controllers on the host and selects property information.`
			—output continues, listing all possible option/parameter/argument combinations—

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	Lists all the RAID controllers on the host system, along with select property information. This option is mandatory.
			Example:
			`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: 513O`
			
			`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: 350O`
			
			`RAIDCFG Command successful!`

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

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description

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

Creating Virtual Disks

Table 4-4 lists the RAIDCFG options, parameters, and 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

-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,...]*	NA	NA	Creates a virtual disk comprising the properties supplied. This option combination is mandatory.
			For SCSI controllers, the value of LUN should always be 0.
			For SAS controllers, the value of enclosure can be non-zero, in which case you must specify values for channel, target, and enclosure.
			Example:
			`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!`

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	Sets the cache policy or disk cache policy. The valid arguments for cache policy are: • d — (Direct I/O) Reads are not buffered in cache memory. • c — (Cache I/O) All reads are buffered in cache memory. **NOTE:** Cache policy is not supported on controllers that do not have a battery. Valid arguments for disk cache policy are: • d - Disable • e - Enable The **-cp** option is optional and can be added to the command line in any order after the mandatory option combination.

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	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. **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. 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
	-r or -raid	0, 1, 5, 6, 10, 50, 60	Sets the RAID type or level for the virtual disk. **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
			• 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
-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,...]*	-rp or readpolicy	ra, ara, nra, rc, nrc	Sets the SCSI read policy for the virtual disk. Specify the SCSI read policy for the logical drive. The valid arguments are: • 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 • PERC 7 and PERC 8

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

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
			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. • rc — (Read-Caching) Enables read caching. • nrc — (No-Read-Caching) Disables read caching. **NOTE:** The **rc** and **nrc** options are supported on CERC SATA 1.5/CH controller only. The **-rp** option is optional and can be added to the command line in any order after the mandatory option combination. **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.**

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,...]*	-sp or spanlength	<*number*>	Creates a virtual disk comprised of the properties supplied. The **-sp** option is optional and can be the added to the command line in any order after the mandatory option combination. **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. 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
-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
-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,...]*	-str or strict	<number>	Strict (-str parameter) is the percentage of expected array disk utilization. Example: `A:> raidcfg -ctrl -ac= cvd -c=0 -ad=0:0,0:1 - r=1 -str=20` If the unused portion of an array disk is greater than the above percent, raidcfg aborts. 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
-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 the 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. • For CERC-SATA 1.5/6ch controllers: – RAID 0: 10 MB – RAID 1: 9 MB – RAID 5: 9 MB • For PERC 4 (except PERC 4/IM) controllers: – RAID 0: 10 MB – RAID 1: 10 MB – RAID 5: 10 MB

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

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
			• For PERC 5 controllers: – RAID 0: 100 MB – RAID 1: 100 MB – RAID 5: 100 MB • For PERC 6 controllers: – RAID 0: 100 MB – RAID 1: 100 MB – RAID 5: 100 MB – RAID 6: 100 MB – RAID 60: 100 MB • For PERC 7 and PERC 8 controllers: – RAID 0: 100 MB – RAID 1: 100 MB – RAID 5: 100 MB – RAID 6: 100 MB – RAID 10: 100 MB – RAID 50: 100 MB – RAID 60: 100 MB • Software RAID controllers: – RAID 0: 100 MB – RAID 1: 100 MB – RAID 5: 100 MB – RAID 10: 100 MB **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	Sets the write policy for the virtual disk. The valid arguments are: • 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. **NOTE:** The **wb** and **wt** options are supported on the following RAID controllers only: • 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 • PERC 7 and PERC 8 **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. • 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
			• nwc — No-Write-Caching specifies that the controller does not send a write-request completion signal after the data is written to the disk. **NOTE:** The **wc** and **nwc** options are supported on the CERC SATA 1.5/CH controller only. The **-wp** option is optional and can be added to the command line in any order after the mandatory option combination. 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.

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=*id*
or
adisk controllerid=*id*
	NA	NA	Lists all the array disks attached to the specified RAID controller. This option combination is mandatory.
			NOTE: You can also use pdisk or -pd instead of adisk or -ad to specify an array disk.
			NOTE: The following example displays output of a Series 7 controller.
			NOTE: Software controller does not display the **NegSpeed**, **CapSpeed**, **Certified** and **Supported** parameters.
			Example:
			`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`

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

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
			****** 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)

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

-ad -c=*id*
or
adisk controllerid=*id*
	-vd=*id*
	vdisk=*id*
		<*valid virtual disk*>	Lists the array disks that make up the virtual disk on the specified RAID controller. This option combination is mandatory.
			Example:
			`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!`

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

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description

-ad -c=*id*
or
adisk controllerid=*id* vdisk=*id*
	-ad=*ch*:*targ*,*ch*:*targ*,...
	adisk=*channel*:*target*,*channel*:*target*,...
		<*valid array disk*>
		<*valid array disk*>
			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	Lists the virtual disks for each controller along with the array disks that make up each virtual disk. This option is mandatory.
			Example:
			`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!`

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 controller ID number>	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.
			Example:
			`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!`

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

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description

-vd -c=*id*
or
vdisk controllerid=*id*
	-vd
	or
	vdisk
		<*valid virtual disk ID number*>	Displays details about a single virtual disk under the indicated controller. The **-vd -c=** *id* 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 combination.
			Example:
			`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!`

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=*id* -vd=*id* -ac=fi or vdisk controllerid=*id* vdisk=*id* action=fastinit	NA	<*valid virtual disk ID number*>	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=*id* -vd=*id* -ac=sli or vdisk controllerid=*id* vdisk=*id* action=slowinit	NA	<*valid virtual disk ID number*>	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=*id* -vd=*id* -ac=sli or vdisk controllerid=*id* vdisk=*id* action=cancelinit	NA	<*valid virtual disk ID number*>	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=*id* -ac= fgnimp or controller controllerid=*id* 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`
-ctrl -c=*id* -ac= fgnclr or controller controllerid=*id* action= foreignclear	NA	<*valid virtual disk ID number*>	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`

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

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description
-ctrl -c=*id* -ac=fgnrvr or controller controllerid=*id* action=foreignrecover	NA	*<valid virtual disk ID number>*	Recovers 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 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=*id*
or
vdisk action=deletevdisk controllerid=*id*
	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!`

Table 4-9. Deleting Virtual Disks *(continued)*

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description

-vd -ac=dvd -c=*id*
or
vdisk action= deletevdisk controllerid= *id*
	-vd
	or
	vdisk
		<*valid virtual disk ID number*>	Deletes the indicated virtual disk on the indicated controller. The **-vd -ac=dvd -c=***id* 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=*ch:targ:encl,ch:targ:encl*	NA	NA	Assigns the specified disk as a global hot spare on the controller. You can assign only one disk at a time.
			Example:
			`A:>raidcfg -ctrl -ac=sghs -c=2 -ad=0:1`
			`RAIDCFG Command successful!`

-ctrl ac=rghs -c=*id* -ad|-pd=*ch:targ:encl,ch:targ:encl*	NA	NA	Unassigns all the specified global hot spares to a disk on the specified controller.
			Example:
			`A:>raidcfg -ctrl -ac=rghs -c=2 -ad=0:1,0:2`
			`RAIDCFG Command successful!`

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

-ctrl -c=id -ac=ephs
or
controller controllerid=*id* action=*enableperistenthotspare*
	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:
			`A:>raidcfg -ctrl -ac=ephs -c=2 -ad=0:1`
			`RAIDCFG Command successful!`

Table 4-11. Assigning and Unassigning Persistent Dedicated Hot Spares *(continued)*

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description

-ctrl -c=id -ac=dphs
or
controller controllerid=*id* action=*disablepersist enthotspare*
	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:
			`A:>raidcfg -ctrl -ac=dphs -c=2 -ad=0:1,0:2`
			`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=<*string*> -envc=<*function*>
or
setenvironment envname=<*string*> envcommand=<*function*>
	NA	NA	Sets a user-defined environment variable to the value returned from the `getcontrollerslots` function call. This option combination is mandatory.
			Example:
			`A:>raidcfg -se -envn=CNTRL -envc=getcontrollerslots`
			`CNTRL=0 1 2`
			`RAIDCFG Command successful!`

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

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description
-se -envn=<*string*> -envc=<*function*> or setenvironment envname=<*string*> envcommand=<*function*>	-f or filename	<*filename*>	Captures the environment output to the given filename. This option either appends the information to an existing file or creates a new file.

-se -envn=<*string*> -envc=<*function*> -c=*id*
or
setenvironment envname=<*string*> envcommand=<*function*> controllerid=*id*
	NA	NA	Sets a user-defined environment variable to the value returned from the `getfirmware`, `getcontrollertype`, `getadisks`, `getadiskcount`, `getfreeadisks`, `getfreeadiskcount`, `getfreeadisksize`, or `gethotspares` function call. This option combination is mandatory.
			Example:
			`A:>raidcfg -se -envn=FIRMWARE -envc=getfirmware -c=2`
			`FIRMWARE=531T`
			`RAIDCFG Command successful!`

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

getfirmware	Returns the firmware version of the specified controllers.
	Example:
	`A:>raidcfg -se -envn=FIRMWARE -envc= getfirmware -c=2`
	`FIRMWARE=531T`
	`RAIDCFG Command successful!`

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!`

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

Function Call	Description

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!`

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*>	Reads the RAID configuration information from the given **.ini** filename and creates the RAID configurations on the specified controllers. This option is mandatory. Example: `A:> raidcfg -i=\tmp\raid.ini`

-o	NA	<*filename*>	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.
			Example:
			`A:> raidcfg -o=\tmp\raid.ini`
			`The contents of the raid.ini file are:`
			`[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]`

Table 4-14. RAID Replication Options *(continued)*

Mandatory Options and Arguments	Optional Parameters	Valid Parameter Arguments	Description

			`controllerid=0`
			`size=65345`
			`raid=1`
			`readpolicy=ra`
			`writepolicy=wt`
			`stripesize=64`
			`cachepolicy=d`
			`adisk=0:3:1,0:4:1`
			NOTE: If the controller uses global hot spares, the **raid.ini** file contains the following section:
			[GlobalHotspare0]
			controllerid=0
			failoverdrive=0:8:0

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*>	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.
			Example:
			`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!`

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

Mandatory Options and Arguments	Optional Parameter	Valid Parameter Arguments	Description

any	-si
	or
	silent
		NA	Does not display any information on the terminal console. This option is optional and can be added to the command line in any order after any mandatory options have been added.
			Example:
			`A:>raidcfg -ctrl -Si`
			`RAIDCFG Command successful!`

any	-ver
	or
	version
		NA	Displays the version number of the RAIDCFG utility. This option is optional and can be added to the command line in any order after any mandatory options have been added.
			Example:
			`A:>raidcfg -ver`
			`RAIDCFG V2.4`
			`Copyright (c) 2005-2011 Dell Inc.`
			`RAIDCFG Command successful!`

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	`raidcfg -ctrl`	Lists all the RAID controllers in the system. Record the slot ID of the controllers for later reference.

Table 4-16. Basic RAIDCFG Commands *(continued)*

Purpose	Command	Description
To list all the disks attached to a particular controller	`raidcfg adisk -c=slotid`	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	`raidcfg -ctrl -ac=cvd -c= slotid -ad= x:y,x:y,...`	Creates a virtual disk of maximum available size for type RAID 0. RAID 0 is the default. The slot ID in <-*c=slotid*> and the array disks in <-*ad=...*> are obtained from the first two commands.
To create a virtual disk of a certain size with all the default settings	`raidcfg -ctrl -ac=cvd -c= slotid -ad= x:y,x:y,... -sz=5GB`	Creates a virtual disk of 5 GB size for type RAID 0. RAID 0 is the default. The slot ID in <-*c=slotid*> and the array disks in <-*ad=...*> are obtained from the first two commands.
To create a virtual disk of a certain size and make it RAID 1	`raidcfg -ctrl -ac=cvd -c= slotid -ad= x:y,x:y -sz=5GB -r=1`	Creates a virtual disk of 5 GB size for type RAID 1. The slot ID in <-*c=slotid*> and the array disks in <-*ad=...*> are obtained from the first two commands.
To create a virtual disk of a certain size and make it RAID 5	`raidcfg -ctrl -ac=cvd -c= slotid -ad= x:y,x:y,x:y,... -sz=5GB -r=5`	Creates a virtual disk of 5 GB size for type RAID 5. The slot ID in <-*c=slotid*> and the array disks in <-*ad=...*> 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 1 with a hot spare	`raidcfg -ctrl -ac=cvd -c= slotid -ad= x:y,x:y -sz=5GB -r=1 -fd=x:y`	Creates a virtual disk of 5 GB size for type RAID 1. The slot ID in <-*c=slotid*> and the array disks in <-*ad=...*> are obtained from the first two commands. The option <-fd> 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	`raidcfg -ctrl -ac=cvd -c= slotid -ad= x:y,x:y,x:y,x:y -r=10`	Creates a virtual disk of max size for type RAID 10. The slot ID in<-*c=slotid*> and the array disks in <-*ad=...*> are obtained from the first two commands. The drive location is obtained from the second command.
To create a virtual disk of RAID 50	`raidcfg -ctrl -ac=cvd -c= slotid -ad= x:y,x:y,x:y,x:y ,x:y,x:y -r=50 -sp=x`	Creates a virtual disk of maximum size for type RAID 50. The slot ID in <-*c=slotid*> and the array disks in <-*ad=...*> 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	`raidcfg -ctrl -ac=cvd -c= slotid -ad= x:y,x:y,x:y,x:y ,x:y,x:y -r=6 -sp=x`	Creates a virtual disk of maximum size for type RAID 6. The slot ID in <-*c=slotid*> and the array disks in <-*ad=...*> are obtained from the first two commands. The drive location is obtained from the second command. **NOTE:** The minimum number of drives required to create a virtual disk of RAID 6 is 4.
To create a virtual disk of RAID 60	`raidcfg -ctrl -ac=cvd -c= slotid -ad= x:y,x:y,x:y,x:y ,x:y,x:y -r=60 -sp=x`	Creates a virtual disk of maximum size for type RAID 60. The slot ID in <-*c=slotid*> and the array disks in <-*ad=...*> are obtained from the first two commands. The drive location is obtained from the second command. **NOTE:** The minimum number of drives required to create a virtual disk of RAID 60 is 8.
To view all the virtual disks in a system	`raidcfg vdisk`	Lists the virtual disks on a system for all RAID controllers.
To view all the virtual disks for a specific controller	`raidcfg vdisk -c=slotid`	Lists all the virtual disks on a specific controller. The slot ID in <-*c=slotid*> is obtained from the first command.
To delete a specific virtual disk on a controller	`raidcfg vdisk -ac=dvd -c= slotid -vd= vdiskid`	Deletes a specific virtual disk on a controller. The slot ID in <-*c=slotid*> is obtained from the first command and the vdiskid in <-*vd=vdiskid*> is obtained from command 10.

5

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:

- 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	If no options are given, the tool outputs usage information. The usage information is printed in the format shown below.
		Example 1:
		`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.`
		Example 2:
		`upinit --disk=/dev/sda --size=32 --file=upimg.bin`
		`In the example, upinit creates a Dell Utility Partition of size 32 MB on /dev/sda using upimg.bin file.`
		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.

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

Option	Valid Arguments	Description

-h	none	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.
		Windows PE Example:
		`upinit version 1.0`
		`Copyright (c) 2002-2011 Dell Inc.`
		`This utility creates a utility partition for your system.`
		`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.`
		Usage:
		`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.`
		Example:
		`upinit --disk=0 --size=32 --file= upimg.bin`

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

Option	Valid Arguments	Description

		In the example, upinit creates a Dell Utility Partition of size 32 MB using the **upimg.bin** image file.
		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.
		Linux Example:
		`upinit version 1.0`
		`Copyright (c) 2002-2012 Dell Inc.`
		`This utility creates a utility partition for your system.`
		`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.`
		Usage:
		`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.`

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

Option	Valid Arguments	Description

		`--overwrite or -o Installs the Dell Utility partition over an existing one.`
		Example:
		`upinit --disk=/dev/sda --size=32 --file=upimg.bin`
		In the example, upinit creates a Dell Utility Partition of size 32 MB on **/dev/sda** using the **upimg.bin** file.
		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.

disk	integer, required (Windows) string, required (Linux)	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.
		Use option **--overwrite** to overwrite an existing utility partition.
		Example:
		`A:>upinit --disk=0 --size=32 --file=c:\upimage.bin (WinPE Example)`
		`# upinit --disk=/dev/hda --size=32 --file=/home/BIN/upimage.bin (Linux Example)`

size	integer, required	The size of the utility partition to create. The created utility is at least the size specified by size and be as close to actual size as drive geometry allows. Example: `A:>upinit --disk=0 --size=32 --file=c:\upimage.bin`

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.

A

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	Requested data length invalid.
42	Requested 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 ’%s’.
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 ’%s’does not have write permission.
94	The file contains invalid options ’%s’.
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 ’%s’.
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.
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.
187	Error in retrieving the vFlash option.
188	Error in setting the vFlash option.
189	Set failed due to dependency.
190	Set failed because attribute is forced to a value.
191	Cannot disable this OrderedList’s entries.
192	System busy, try again later.
193	New value not valid.
194	Not found.

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

Error Code	Message
195	System Services and/or CSIOR disabled.
196	Unable to set Password Status due to pending System Password changes.
197	Password verification fail.
198	Set failed due to previously scheduled job.
199	Set failed because attribute is suppressed.
200	Generic failure.
201	XML path context creation failed.
202	Unable to parse XML.
203	Unable to connect IDRAC data manager.

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.

Table A-2. UPINIT Common Error Codes and Messages *(continued)*

Error Code	Message
4	Error: DRMK Path not specified.
5	Error: Dell Utility Partition already exits. Please use --overwrite option to upgrade or overwrite.
6	Error: Partitions exists. Please clear all the partitions before running upinit.sh.
7	Error: DOS file(s) not found at the specified path.
8	Error: UP IMAGE not found at the specified location.
9	Error: format failed.
10	Error: Invalid size. Size should be a number between 32 and 2000.
11	Error: sysdrmk failed.
12	System Error.
13	Error: Invalid Argument: <argument>.
14	Error: Unzip failed.

UPINIT Linux-Specific Error Codes and Messages

Table 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

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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.
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.

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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.
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.

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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.
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.

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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.
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.

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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.
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.

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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.
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.

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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.
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.

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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.
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.

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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.
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.

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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.
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.

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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.
195	An error occurred while resetting a temperature probe.
200	No array disks found!
201	Invalid Virtual Disk ID!

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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.
216	Invalid virtual disk size!
217	The strict option provided failed! Virtual disk is not created.

Table A-5. RAIDCFG Error Codes and Messages *(continued)*

Error Code	Message
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

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

Error Code	Message
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
25	OUT OF MEMORY
26	ACCESS LOCKED
27	PAGING ERROR
28	PAGING ALREADY IN PROGRESS
29	ERROR ACCESSING DEVICE
30	WRONG NUMBER OF ARGUMENTS

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

Error Code	Message
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
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.
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.

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

Error Code	Message
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.
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.

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

Error Code	Message
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.

B

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.

C

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]
;SystemModelName=poweredge r620
;SystemBiosVersion=0.3.16
;SystemServiceTag=MDN2345
;SystemManufacturer=dell inc.
;SysMfrContactInfo=www.dell.com
;SysMemSize=4.0 gb
;SysMemType=ecc ddr3
;SysMemSpeed=1067 mhz
;SysMemVolt=1.35v
;VideoMem=16 mb
MemTest=enable
MemOpMode=adveccmode
;NodeInterleave=disable
SerialDbgOut=disable
LogicalProc=enable
QpiSpeed=maxdatarate
ProcVirtualization=enable
ProcAdjCacheLine=enable
ProcHwPrefetcher=enable
```

```
DcuStreamerPrefetcher=enable
DcuIpPrefetcher=enable
ProcExecuteDisable=enable
ProcCores=all
;Proc64bit=yes
;ProcCoreSpeed=2.30 ghz
;Proc1Id=06-2d-2
;Proc1Brand=[genuine intel(r) cpu  @ 2.30ghz
]
;Proc1L2Cache=8x256 kb
;Proc1L3Cache=20 mb
;Proc1NumCores=8
EmbSata=ahcimode
;SataPortE=auto
;SataPortEModel=unknown
;SataPortEDriveType=unknown device
;SataPortECapacity=n/a
;SataPortF=auto
;SataPortFModel=unknown
;SataPortFDriveType=unknown device
;SataPortFCapacity=n/a
BootMode=bios
BootSeqRetry=disable
IntegratedRaid=enable
UsbPorts=allon
InternalUsb=on
```

```
IntegratedNetwork1=enable
OsWatchdogTimer=disable
IoatEngine=disable
;EmbVideo=enable
SriovGlobalEnable=disable
SerialComm=onnoconredir
SerialPortAddress=serial1com1serial2com2
ExtSerialConnector=serial1
FailSafeBaud=115200
ConTermType=vt100vt220
RedirAfterBoot=enable
SysProfile=perfperwattoptimizeddapc
;ProcPwrPerf=sysdbpm
;MemFrequency=maxperf
;ProcTurboMode=enable
;ProcC1E=enable
;ProcCStates=enable
;MemPatrolScrub=standard
;MemRefreshRate=1x
;MemVolt=autovolt
;AesNi=enable
PasswordStatus=unlocked
TpmSecurity=off
;TpmActivation=nochange
;TpmClear=no
;IntelTxt=off
```

```
LocalBiosUpdateSupport=enable
PwrButton=enable
NmiButton=enable
AcPwrRcvry=last
AcPwrRcvryDelay=immediate
;AcPwrRcvryUserDelay=60
AssetTag=
NumLock=on
ReportKbdErr=report
ErrPrompt=enable
Characterization=enable
BootSeq=Floppy.iDRACVirtual.1-
1,Optical.iDRACVirtual.1-1
;UefiBootSeq=NIC.Integrated.1-1-1,NIC.Integrated.1-2-
1,NIC.Integrated.1-3-1,NIC.Integrated.1-4-
1,Optical.iDRACVirtual.1-1,Floppy.iDRACVirtual.1-1
OneTimeBootMode=disable
;OneTimeBootSeqDev=floppy.idracvirtual.1-1
;OneTimeUefiBootSeqDev=nic.integrated.1-1-1
Slot1=enable
Slot2=enable
Slot3=enable
extserial=com1
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=10.94.132.1
;ipaddress=10.94.132.131
ipaddrsrc=dhcp
nicselection=dedicated
autoneg=enable
dnsserver1=0.0.0.0
dnsserver2=0.0.0.0
dnsdhcp=disable
dnsracname=idrac
dnsregisterrac=disable
domainname=
domainnamednsdhcp=disable
fullduplex=enable
speed=100Mbps
;subnetmask=255.255.255.0
vlanid=1
vlanpriority=0
```

```
vlantag=disable
lancfgparamsv6
;dnssrcv6=static
;gatewayv6=::
;ipv6address1=::
ipv6=disable
;ipaddrv6=::
;ipsrcv6=auto
;linklocaladdrv6=::
;prefixlengthv6=0
;dnsserver1v6=::
;dnsserver2v6=::
;ipv6address2=::
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=servicetag
nmibutton=enable
pefcfgparams
alertpolnum=1
alertpolstatus=disable
pefcfgparams
alertpolnum=2
alertpolstatus=disable
pefcfgparams
alertpolnum=3
alertpolstatus=disable
pefcfgparams
alertpolnum=4
alertpolstatus=disable
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
pefcfgparams
filter=discretesdcardfail
filteralert=enable
filteraction=none
pefcfgparams
filter=discretesdcardpresent
```

```
filteralert=enable
filteraction=none
pefcfgparams
filter=discretesdcardwarn
filteralert=enable
filteraction=none
pefcfgparams
filter=ripsfail
filteralert=enable
filteraction=none
pefcfgparams
filter=ripsoffline
filteralert=enable
filteraction=none
pefcfgparams
filter=ripsredundancylost
filteralert=enable
filteraction=none
hostname=
powerbutton=enable
serialcfgparams
connectionmode=basic
msgcommbitrate=19200
msgcommflowctrl=noflowctrl
tmcfgdelctrl=del
tmcfgechoctrl=echo
```

```
tmcfghandshakectrl=enable
tmcfginputnewlineseq=cr
tmcfglineediting=enable
tmcfgnewlineseq=crlf
serialchannelaccess
ipmioverserial=alwaysavail
channelprivlmt=administrator
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=115200
solcharaccuminterval=10
solcharsendthreshold=255
solenable=enable
solprivlevel=administrator
sysid=04CE
```

```
sysname=PowerEdge R620
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=44454C4C4400104E8032CDC04F333435
virtualmedia=auto
```

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 5
#idRacDescriptionInfo=This system component provides
a complete set of #remote management functions for
Dell PowerEdge servers.
#idRacVersionInfo=1.20 (Build 01.17)
idRacName=DRAC 5
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
cfgRhostsSmtpServerIpAddr=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 on systems prior to Dell PowerEdge *yx2x* systems, and gives a brief description of these options. For details on these options, see the section, "SYSCFG Options Supported on PowerEdge Systems Prior to PowerEdge yx2x Systems" on page 25.

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--envar	NA	<*filename*> <*pathname*> media should be writable	When used with the **–s** 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 on Systems Prior to PowerEdge *yx2x* systems

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
--adjcache prefetch	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

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--bezelir	NA	enable, disable	Enables or disables the ESM to monitor and log front bezel intrusion conditions.	Yes
--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
--core performance boost	NA	enable, disable	Enables or disables the AMD Core Performance Boost feature.	Yes

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--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
--cstates	NA	enable, disable	Enables or disables the power c states of the processor. Available only on Dell PowerEdge *yx1x* 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)

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--emb hypervisor	NA	enable, disable	Enables or disables the embedded hypervisor port.	Yes
--embideraid	NA	on, off	Turns on or off 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
--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 *yx1x* systems.	Yes
--embnic3nic4	NA	enable, disable	Enables or disables the operating system interface of the third and fourth embedded NIC controllers.	Yes
--embnics	NA	on, off	Turns on or off the embedded NICs.	Yes

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--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	Turns on or off the first SCSI controller.	Yes
--embscsi2	NA	on, off	Turns on or off the second SCSI controller.	Yes
--embscsiraid	NA	raid, off, scsi or raid, off	Enables or disables the embedded SCSI RAID controller.	Yes
--emb scsiraidchb	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

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--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
--hwprefetcher	NA	enable, disable	Enables or disables hardware prefetching by the processor.	Yes

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--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

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--ioat	NA	enable, disable	Enables or disables the I/O Acceleration Technology (I/OAT)\nDMA Engine option.	Yes
--lcd	NA	default, none, user, idracipv4address, 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 idracipv4address, idracmacaddress, ossystemname, servicetag, ipv6address, ambienttemp, and systemwatts arguments are available only on PowerEdge *yx1x* systems.	Yes
--logicproc	NA	enable, disable	Enables or disables the logical processor (Hyperthreading).	Yes
--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* **NOTE:** The asterisk is not part of the command syntax.	NA	none	Reports the size of system memory.	Yes

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--mem dynamicpower	NA	enable, disable	Enables or disables the dynamic memory power states	Yes
--memintleave	NA	enable, disable	Enables or disables the memory interleave mode.	Yes
--mem operatingmode	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 *yx1x* systems.	Yes
--mem prefailurenotify	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
--noraidprompt* **NOTE:** The asterisk is not part of the command syntax.	NA	none	Disables the POST prompt message when the SCSI controller type is changed.	No
--numlock	NA	on, off	Enables or disables the keyboard number lock.	Yes

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--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
--optical drivectrl	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
--oswatchdog timer	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
--ovrwrt* **NOTE:** The asterisk is not part of the command syntax.	NA	none	Overwrites the file contents when used with the **-o** option.	No
power	--profile	maxperformance, osctl, apc	Displays the settings similar to the BIOS setup screen for the respective profile.	Yes

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
		custom	Creates the custom profile.	
	--cpupower mode	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.	
	--memory powermode	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.	
	--fanpower mode	min, max	Allows you to set the fan algorithm to the minimum power optimized or maximum performance optimized mode.	

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
	--cap		Displays the values of budgetcap, and the maximum and minimum power thresholds in Watts. If the value of <*budgetcap*> is greater than the maximum threshold value, an error is displayed. If the value is less than the minimum threshold value, a warning is displayed.	
	--cap --unit	<*budgetcap*> watt, or btuphr, or percent where <*budgetcap*> is the limit for power consumption in Watts, or btuphr, or percent.		
	--maxpower cap		Displays the value of the maximum power threshold.	
	--minpower cap		Displays the value of the minimum power threshold.	

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
	--valsetup pwd	<*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.	
	--setuppwd override		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 on Systems Prior to PowerEdge *yx2x* systems

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

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--sata1	NA	auto, off	Enables or disables SATA port 1. **NOTE:** This option maps to **--sata_b** for PowerEdge *x9xx* systems.	Yes
--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

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--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
--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
--serialport addrsel	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

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--slot* **NOTE:** The asterisk is not part of the command syntax.	NA	none	Reports the slot number for a modular system. **NOTE:** This option is valid for PowerEdge 1855 systems only.	Yes
--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* **NOTE:** The asterisk is not part of the command syntax.	NA	none	Reports the service tag for the system.	No
--syspwd	NA	<*string*>	Sets the system password for the system BIOS.	No
tcm	--tcmsecurity	off, on	Configures the TCM security feature.	Yes
	--tcm activation	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

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
	--tpm activation	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
	--undo tpmclear	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
	--valsetup pwd	<*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
	--setuppwd override	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

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--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, enableback only, 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
bmcversion	--devid --devrevision --majorfw revision --minorfw revision	NA	Displays revision information for the BMC and the firmware.	
--controlpanel access	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

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--identify	NA	0–254	Flashes the identification LED for a specified number of seconds.	
lanchannel access or lca	--pefalerting --ipmiover lan --channel privlmt	enable, disable disable, alwaysavail user, operator, administrator	Sets or displays the LAN channel access settings such as alerting and user privilege limits.	
lanchannelinfo or lci	--medium type --prottype --ssnsupport --active ssncount	NA NA NA NA	Displays media and protocol information about the LAN channel.	
lancfgparams or lcp	--ipaddrsrc --ipaddress --subnet mask --gateway --comm string --destipaddr --alertdest --vlantag --vlanid --vlanpriority --macaddress	static, dhcp <*ipaddress*> <*subnetmask*> <*gateway*> <*string*> <*destipaddress*> 1, 2, 3, 4 enable, disable 0–4095 0–7 NA	Configures and displays LAN configuration parameters.	

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
	--nic selection	shared, sharedfailover, dedicated		
	--fullduplex	enable, disable		
	--autoneg	enable, disable		
	--speed	10,100		
	--dnsdhcp	enable, disable		
	--dnsserver1	<*ipaddress*>		
	--dnsserver2	<*ipaddress*>		
	--dns registerrac	enable, disable		
	--dns racname	<*string*>		
	--domain namefrom dhcp	enable, disable		
lanuseraccess or lua	--usrprivlmt	user, operator, administrator, noaccess	Configures and displays user access parameters for the LAN channel. Returns the number of User IDs with fixed names.	
	--userid	2–10		
	--current enableduser ids	NA		
	--userids withfixed names	NA		

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

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, systempower warn, systempowerfail	Configures and displays PEF configuration parameters. See "BMC Platform Events Filter Alert Messages" on page 255 for a complete list of all possible PEF messages along a description of each event. **NOTE:** The **voltfail** option is not supported on PowerEdge *x*9*xx* systems and onwards.	

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
	--filteraction	powercycle, reset, powerdown, powerreduction, none		
	--hostname	<*string*>		
	--filteralert	enable, disable		
	--alertpolnum	1, 2, 3, 4		
	--alertpol status	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.	
--racreset	NA	NA	Resets the RAC. It cannot be accompanied with any other option.	No
serialchannelaccess or sca	--ipmiover serial --channel rivlmt	disable, alwaysavail user, operator, administrator	Sets or displays the channel access settings for the serial channel.	

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
serialchannelinfo or sci	--medium type	NA	Displays serial channel information.	
	--prottype	NA		
	--ssnsupport	NA		
	--active ssncount	NA		
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.	
	--msgcomm flowctrl	noflowctrl, rtscts		
	--msgcomm dtrhangup	NA		
	--msgcomm bitrate	9600, 19200, 57600, 115200		
	--tmcfgline editing	enable, disable		
	--tmcfg delctrl	del, bksp		
	--tmcfg echoctrl	echo, noecho		
	--tmcfg handshake ctrl	enable, disable		
	--tmcfgnew lineseq	noterm, crlf, null, cr, lfcr, lf		

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
	--tmcfg input newlineseq	cr, null		
serialuseraccessor sua	--usrprivlmt	user, operator, administrator, noaccess	Configures and displays user access parameters for the serial channel.	
	--userid	2–10		
	--current enabled userids	NA		
	--userids withfixednames	NA		
--solaction			Enables or disables Serial-Over-LAN (SOL) access for a particular user.	
	--userid	2–16 if your system has a DRAC 5 controller		
	--action	enable, disable		
solcfgparams	--solenable	enable, disable	Configures and displays SOL configuration parameters.	
	--solprivlevel	user, operator, administrator		
	--solcharaccuminterval	*1–255*		
	--solcharsendthreshold	*1–255*		
	--solbitrate	9600, 19200, 57600, 115200		

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
ssninfo	--maxactive ssns --current activessns	NA NA	Displays information about the number of possible active sessions and the number of currently active sessions on all channels on the controller.	
useraction	--userid --action	2–10 enable, disable	Enables and disables User IDs for the **serialchannelaccess** and **lanchannelaccess** options.	
username	--name --userid	<*string*> 2–10	Assigns user names to a given User ID and displays user names associated with a given User ID.	
--version	NA	NA	Displays the version information for the SYSCFG utility.	
-b	NA	<*string*>	Specifies the value to write to state data.	
-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.	

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--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.	
--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.	

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
--sysname	NA	NA	Reports the system identification string for a system.	
--syssvctag	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.	
lancfgparamsv6	--ipv6	enable, disable	Loads or unloads the IPv6 stack.	Yes
	--ipsrcv6= static --ipaddrv6= <*ipv6address*> --prefix lengthv6= <*prefixlength v6*> --gateway v6= <*ipv6gateway address*>		Allows you to manually configure IPv6 addresses.	
	--ipsrcv6= auto		Automatically configures the IPv6 addresses.	
	--dnssrcv6 = auto		Automatically configures the DNS address.	

Table D-1. SYSCFG Options on Systems Prior to PowerEdge *yx2x* systems

Options	Sub-options	Valid Arguments	Description	Replicated
	--dnssrcv6= static --dnsserver 1v6= <ipv6dnsserver1address>		Allows you to manually set the DNS address.	
	--linklocal addripv6= <linklocaladdripv6>		Allows you to view IPv6 addresses.	
	--gatewayv6= <gatewayv6>		Allows you to view IP gatewayv6 address.	

Table D-2 lists all the SYSCFG options on PowerEdge *yx2x* systems, and gives a brief description of these options. For details on these options, see the section, "SYSCFG Options Supported on PowerEdge yx2x Systems" on page 86.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems

Group	Option	Valid Arguments	Description
BIOS Boot Settings	--BootSeq	numerical list, separated by commas or list of device names, separated by commas	Specifies the location of the operating system files needed for system startup. This option is applicable when **bootmode** is set to **Bios and** has no effect when **bootmode** is set to **Uefi**.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--HddSeq	numerical list, separated by commas or list of device names, separated by commas	Specifies the order in which hard-disk drives are configured in the system. The first hard drive in the system will be the bootable C: drive in DOS/DOS-like operating systems. This option is applicable when **bootmode** is set to **Bios and** has no effect when **bootmode** is set to **Uefi**.
Boot Settings	--BootMode	Bios, Uefi	Determines the boot mode of the system.
	--BootSeqRetry	Enabled, Disabled	Enables or disables the Boot Sequence Retry feature. When set to **Enabled**, the system attempts the boot sequence after a 30-second timeout if the last boot attempt has failed.
Embedded Server Management	--FrontLcd	None, UserDefined, ModelNum, Advanced	Allows you to set the model number or a user-defined string on the front-panel LCD display.
	--UserLcdStr	<*string*>	Allows you to set the default string (model name and number for PowerEdge systems earlier than Dell PowerEdge *yx1x*, and service tag for PowerEdge systems *yx1x* and later) or a user-defined string on the front-panel LCD. The maximum length of the string is 62 characters.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
Integrated Devices	--EmbVideo	Enabled, Disabled	Enables or disables the BIOS support for the Embedded Video Controller.
	--Integrated Network1	Enabled, DisabledOs,	Enables or disables Integrated Network 1. **NOTE:** If set to DisabledOs, the Integrated NICs may still be available for shared network access by the embedded management controller. This function must be configured through the NIC management utilities provided with your system.
	--Integrated Network2	Enabled, DisabledOs	Enables or disables Integrated Network 2. **NOTE:** If set to DisabledOs, the Integrated NICs may still be available for shared network access by the embedded management controller. This function must be configured through the NIC management utilities provided with your system.
	--Integrated Raid	Enabled, Disabled	Enables or disables the integrated RAID controller.
	--IntegratedSas	Enabled, Disabled	Enables or disables the integrated SAS controller.
	--Internal SdCard	On, Off	Turns the internal SD card port on or off.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--InternalSdCard Redundancy	Mirror, Disabled	Sets the internal SD card port redundancy to **Mirror** mode or **Disabled**. When set to **Mirror** mode, read-write operation occurs on both the secure digital (SD) cards. When one of the SD cards fails and is replaced, on booting, the data of the active card is copied to the offline card. When set to **Disabled**, read-write operation occurs only on SD card 1. **NOTE:** On Blade systems, disable the vflash key to configure this option. This option is applicable only on PowerEdge R810, R815, R910, M910, and PowerEdge *yx2x* systems.
	--InternalUsb	On, Off	Turns the internal USB port on or off.
	--InternalUsb1	On, Off	Turns the internal USB port 1 on or off.
	--InternalUsb2	On, Off	Turns the internal USB port 2 on or off.
	--IoatEngine	Enabled, Disabled	Enables or disables the I/O Acceleration Technology (I/OAT) option.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--OsWatchdog Timer	Enabled, Disabled	Aids in the recovery of the operating system when the system does not respond. When set to **Enabled**, the operating system is allowed to initialize the timer. When it is set to **Disabled** (default value), the timer has no effect on the system.
	--SriovGlobal Enable	Enabled, Disabled	Enables or disables support for Single Root I/O Virtualization (SR-IOV) devices. **NOTE:** This option is supported on PowerEdge R410, R510, R610, R710, R910, T410, T610, T710, and PowerEdge *yx2x* systems with Intel Xeon processor 7500/6500 series.
	--UsbPorts	AllOn, OnlyBackPortsOn, AllOff	Sets the user accessible USB Ports. Selecting **OnlyBackPortsOn** disables front USB ports, and selecting **AllOff** disables both front and back USB ports.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
Memory Settings	--MemOp Mode	OptimizerMode, SpareMode, MirrorMode, AdvEccMode, SpareWithAdvEcc Mode	Sets the memory operating mode. This feature is active only if a valid memory configuration is detected. When **OptimizerMode** is enabled, the DRAM controllers operate independently in 64-bit mode and provide optimized memory performance. When **Mirror Mode** is enabled, only half of the installed memory is reported as available to the operating system. When **AdvECCMode** is enabled, the two DRAM controllers are combined in 128-bit mode to provide optimized reliability. Memory that cannot be teamed by the controllers is not reported to the operating system. When **Spare Mode** is enabled, the memory size reported to the operating system does not include the spare portion.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--MemOp Voltage	AutoVolt, Volt15V	Sets the DIMM voltage selection. When set to **AutoVolt** (default value), the system automatically sets the voltage to the optimal setting based upon the DIMM capability and the installed DIMM population. This option also enables setting the system DIMM voltage to a higher (1.5V) setting if the DIMMs support multiple voltages and have been set to a lower voltage. **NOTE:** Volt15V represents 1.5Volt.
	--MemTest	Enabled, Disabled	Enables or disables the POST extended memory test.
	--Node Interleave	Enabled, Disabled	Enables node interleaving, if the system is configured with matching memory. If set to **Disabled** (default), the system supports Non-Uniform Memory (NUMA) architecture memory configurations. This field is active only if the memory configuration can support node interleaving.
	--SerialDbgOut	Enabled, Disabled	Enables or disables the RC/MRC Serial debug output.
	--SysMemSize	<*string*>	Displays the amount of main memory in the system.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--SysMem Speed	<*string*>	Displays the clock frequency of the main memory.
	--SysMemType	<*string*>	Displays the type of main memory installed in the system.
	--SysMemVolt	<*string*>	Displays the voltage of the main memory.
	--VideoMem	<*string*>	Displays the total amount of video memory available to the embedded video controller.
Miscellaneous Settings	--AssetTag	<*string*>	Displays the Asset Tag and allows the Asset Tag to be modified. **NOTE:** The Asset Tag is a string assigned to a system, usually by an administrator, for security or tracking purposes. The Asset Tag can be up to 10 characters long and can contain only printable US-ASCII characters.
	--Characterization	Enabled, Disabled	Enables or disables In-System characterization.
	--ErrPrompt	Enabled, Disabled	Enables (default value) or disables the F1/F2 prompt on error.
	--NumLock	On, Off	Determines whether the system boots with NumLock turned on or off. This does not apply to 84-key keyboards.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--ReportKbdErr	Report, Noreport	Sets if keyboard-related error messages are reported at system startup or not.
One-Time Boot	--OneTime BootMode	Disabled, OneTimeBootSeq, OneTimeHddSeq, OneTimeUefiBootSeq, OneTimeCustomBootSeqStr, OneTimeCustomHddSeqStr, OneTimeCustomUefiBootSeqStr	Allows to set the one-time boot sequence.
	--OneTime BootSeqDev	numerical list, separated by commas or list of device names, separated by commas	Determines the one-time boot device when the One-Time Boot Device List is set to BIOS Boot Sequence Device. If Boot Mode is set to **UEFI**, the system temporarily switches the Boot Mode to **BIOS** when attempting a one-time boot to the device.
	--OneTime HddSeqDev	numerical list, separated by commas or list of device names, separated by commas	Determines the one-time boot hard disk when the One-Time Boot Device List is set to BIOS Hard-Disk Drive Sequence Device. If Boot Mode is set to **UEFI**, the system temporarily switches the Boot Mode to **BIOS** when attempting a one-time boot to the device.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--OneTime UefiBootSeqDev	numerical list, separated by commas or list of device names, separated by commas	Determines the one-time boot device when the One-Time Boot Device List is set to UEFI Boot Sequence Device. If Boot Mode is set to **BIOS**, the system temporarily switches the Boot Mode to **UEFI** when attempting a one-time boot to the device.
Processor Settings	--DataReuse	Enabled, Disabled	Enables (default value) or disables data reuse in cache.
	--DcuIpPrefetcher	Enabled, Disabled	Enables (default value) or disables DCU IP Prefetcher.
	--DcuStreamer Prefetcher	Enabled, Disabled	Enables (default value) or disables DCU Streamer Prefetcher.
	--LogicalProc	Enabled, Disabled	When this option is set to **Enabled** (default value), the BIOS reports all logical processors. When set to **Disabled**, the BIOS only reports one logical processor per core. Each processor core supports maximum two logical processors.
	--Proc1Brand	<*string*>	Displays the brand text provided by the processor manufacturer.
	--Proc1Id	<*string*>	Displays the family, model, and stepping values of the processor.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--Proc1L2Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc1L3Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc1NumCores	<*integer*>	Displays the number of cores in the processor package.
	--Proc2Brand	<*string*>	Displays the brand text provided by the processor manufacturer.
	--Proc2Id	<*string*>	Displays the family, model, and stepping values of the processor.
	--Proc2L2Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc2L3Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc2NumCores	<*integer*>	Displays the number of cores in the processor package.
	--Proc3Brand	<*string*>	Displays the brand text provided by the processor manufacturer.
	--Proc3Id	<*string*>	Displays the family, model, and stepping values of the processor.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--Proc3L2Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc3L3Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc3NumCores	<*integer*>	Displays the number of cores in the processor package.
	--Proc4Brand	<*string*>	Displays the brand text provided by the processor manufacturer.
	--Proc4Id	<*string*>	Displays the family, model, and stepping values of the processor.
	--Proc4L2Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc4L3Cache	<*string*>	Displays the amount of memory in the corresponding processor cache.
	--Proc4NumCores	<*integer*>	Displays the number of cores in the processor package.
	--Proc64bit	<*string*>	Specifies if the installed processor supports 64-bit extensions or not.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--ProcAdjCache Line	Enabled, Disabled	When set to **Enabled** (default), the system is optimized for applications that require high utilization of sequential memory access. When set to **Disabled**, the system is optimized for applications that require high utilization of random memory access.
	--ProcBusSpeed	<*string*>	Displays the bus speed of the processor.
	--ProcCores	single, all, dual, quad, 1, 2, 4, 6, 8, 10, 12, 14, 16	Controls the number of enabled cores in each processor. By default, the maximum number of cores per processor will be enabled.
	--ProcCoreSpeed	<*string*>	Displays the clock speed of the processor(s).
	--ProcExecute Disable	Enabled, Disabled	Enables or disables the Execute Disable Memory Protection Technology.
	--ProcHw Prefetcher	Enabled, Disabled	Enables or disables the hardware prefetcher.
	--Proc Virtualization	Enabled, Disabled	When set to **Enabled**, the additional hardware capabilities provided by Virtualization Technology are available for use.
	--QpiBandwidth Priority	InputOutput, Compute	Sets the bandwidth priority to **Compute** (default value) or I/O.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--QpiSpeed	MaxDataRate, 8GTps, 7GTps, 6GTps	Sets the speed of the processor.
	--RtidSetting	Enabled, Disabled	When set to **Enabled**, it allocates more (Requestor Transaction IDs) RTIDs to the remote socket thereby increasing cache performance between the sockets.
SATA Settings	--EmbSata	Off, AtaMode, RaidMode, AhciMode	Configures an embedded SATA RAID controller. • **Off** — disables the embedded SATA RAID controller. • **AtaMode** — sets SATA RAID controller to ATA mode. • **RaidMode** — sets SATA RAID controller to RAID mode. • **AhciMode** — sets SATA RAID controller to ahci mode.
	--eSataPort1	Off, Auto	Sets the embedded SATA port1 to on or off.
	--eSataPort1 Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--eSataPort1 DriveType	<*string*>	Indicates the type of device attached to the embedded SATA port.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--eSataPort1Model	<*string*>	Displays the drive model of the selected device.
	--SataPortA	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortA Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortA DriveType	<*string*>	This option indicates type of device attached to this SATA port.
	--SataPortAModel	<*string*>	Displays the drive model of the selected device.
	--SataPortB	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortB Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortB DriveType	<*string*>	Indicates type of device attached to this SATA port.
	--SataPortBModel	<*string*>	Displays the drive model of the selected device.
	--SataPortC	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--SataPortC Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortC DriveType	<*string*>	Indicates the type of device attached to this SATA port.
	--SataPortCModel	<*string*>	Displays the drive model of the selected device.
	--SataPortD	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortD Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortD DriveType	<*string*>	Indicates type of device attached to this SATA port.
	--SataPortDModel	<*string*>	Displays the drive model of the selected device.
	--SataPortE	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortECapacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortE DriveType	<*string*>	Indicates type of device attached to this SATA port.
	--SataPortEModel	<*string*>	Displays the drive model of the selected device.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--SataPortF	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortF Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortF DriveType	<*string*>	Indicates the type of device attached to this SATA port.
	--SataPortFModel	<*string*>	Displays the drive model of the selected device.
	--SataPortG	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortG Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortG DriveType	<*string*>	Indicates the type of device attached to this SATA port.
	--SataPortGModel	<*string*>	Displays the drive model of the selected device.
	--SataPortH	Off, Auto	Sets the drive type of the selected device to **off** or **auto**.
	--SataPortH Capacity	<*string*>	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.
	--SataPortH DriveType	<*string*>	Indicates the type of device attached to this SATA port.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--SataPortHModel	<*string*>	Displays the drive model of the selected device.
Serial Communication	--ConTermType	Vt100Vt220 | Ansi	Sets the terminal type of your remote console.
	--ExtSerial Connector	Serial1, Serial2, RemoteAccDevice	Associates the External Serial Connector to Serial Device 1, Serial Device 2, or the Remote Access Device.
	--FailSafeBaud	115200, 57600, 19200, 9600	The BIOS attempts to determine the baud rate automatically. This failsafe baud rate is used only if the attempt fails.
	--RedirAfterBoot	Enabled, Disabled	Sets the BIOS console redirection to enable or disable when the operating system is loaded.
	--SerialComm	OnNoConRedir, OnConRedirCom1, OnConRedirCom2, Off	Enables or disables the serial communication devices (Serial Device 1 and Serial Device 2) in BIOS.
	--SerialPort Address	Serial1Com1Serial2 Com2, Serial1Com2Serial2 Com1, Com1, Com2	Sets the port address for the Serial Devices (COM1=0x3F8, COM2= 0x2F8).
Slot Disablement	--Slot1	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.
	--Slot2	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.
	--Slot3	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--Slot4	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.
	--Slot5	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.
	--Slot6	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.
	--Slot7	Enabled, Disabled, BootDriverDisabled	Enables or disables the specified slot.
System Information	--SysMfr ContactInfo	<*string*>	Displays the information for contacting the Original Equipment Manufacturer (OEM) of this system.
	--SystemBios Version	<*string*>	Displays the current revision of the system BIOS firmware.
	--System Manufacturer	<*string*>	Displays the name of the Original Equipment Manufacturer (OEM) of this system.
	--SystemModel Name	<*string*>	Displays the product name of the system.
	--SystemService Tag	<*string*>	Displays the system service tag (a unique identifier assigned by the Original Equipment Manufacturer (OEM) of this system).
System Profile Settings	--MemFrequency	MaxPerf, 1600MHz, 1333MHz, 1067MHz, 800MHz, MaxReliability	Sets the Memory Frequency as maximum performance, 1600 Mhz, 1333 MHz, 1067 MHz, 800 MHz, or maximum reliability.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--MemPatrolScrub	Standard, Extended, Disabled	Sets the Memory Patrol Scrub frequency as Standard Mode, or Extended Mode.
	--MemRefresh Rate	1x, 2x	Sets the Memory Refresh Rate as 1x or 2x.
	--MemVolt	AutoVolt, Volt15V, Volt135V **NOTE:** Volt15V represents 1.5 Volt and Volt135V represents 1.35 Volt.	Sets the DIMM voltage selection.
	--ProcC1E	Enabled, Disabled	When set to **Enabled**, the processor is allowed to switch to minimum performance state when idle.
	--ProcCStates	Enabled, Disabled	When set to **Enabled**, the processor can operate in all available power states.
	--ProcPwrPerf	MaxPerf, MinPwr, SysDbpm, OsDbpm,	Sets CPU Power Management to maximum performance, operating system DBPM, or System DBPM (DAPC).
	--ProcTurboMode	Enabled, Disabled	When set to **Enabled**, the processor can operate in Turbo Boost Mode.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--SysProfile	PerfPerWattOptimizedOs, PerfPerWattOptimizedDapc, PerfOptimized, Custom, DenseCfgOptimized	Sets the System Profile to Performance Optimized, Power Optimized (DAPC), Power Optimized (OS), Dense Configuration Optimized, or Custom mode. When set to a mode other than **Custom**, BIOS will set each option accordingly. When set to **Custom**, you can change setting of each option.
System Security	--AcPwrRcvry	On, Off, Last	Specifies how the system will react after AC power has been restored to the system. It is especially useful for people who turn their systems off with a power strip.
	--AcPwrRcvryDelay	Immediate, User, Random	Specifies how the system will support the staggering of power-up after AC power has been restored to the system.
	--AcPwrRcvryUserDelay	*<integer>*	Controls the user defined AC Recovery Delay. Enter a delay in the range of 60 seconds to 240 seconds.
	--AesNi	Enabled, Disabled	Displays the current status of Intel Processor AES-NI feature.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--BiosUpdate Control	Unlocked, Limited, Locked	Locks, unlocks, or limits the BIOS update using DOS or UEFI shell based flash utilities. For environments not requiring local BIOS updates, it is recommended to set this field to **Locked**.
	--IntelTxt	On, Off	Turns the Trusted Execution Technology on or off. To enable Intel TXT, VT must be enabled, and the TPM must be enabled with pre-boot measurements and activated.
	--NmiButton	Enabled, Disabled	Enables or disables the Non-Maskable Interrupt (NMI) button on the front panel.
	--PasswordStatus	Locked, Unlocked	Locks the system password. To prevent the system password from being modified, set this option to locked and enable setup password. This field also prevents the system password from being disabled by the user while the system boots.
	--PwrButton	Enabled, Disabled	Enables or disables the power button on the front panel.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--SetupPassword	<*string*>	Displays the password and allows the password to be set or modified. The password can be up to 32 characters long and contain most of non-shifted letters, numbers, and punctuation.
	--SysPassword	<*string*>	Displays the password and allows the password to be set or modified. The password can be up to 32 characters long and contain most of non-shifted letters, numbers, and punctuation.
	--TcmActivation	NoChange, Activate, Deactivate	Allows the user to change the operational state of the Trusted Cryptography Module (TCM). This field is Read-Only when TCM Security is set to Off.
	--TcmClear	Yes, No	**CAUTION: Clearing the TCM will cause loss of all keys in the TCM. This could affect booting of the operating system.** When set to **Yes**, all the contents of the TCM will be cleared. This field is Read-Only when TCM Security is set to Off.
	--TcmSecurity	On, Off	Controls the reporting of the Trusted Cryptography Module (TCM) in the system.

Table D-2. SYSCFG Options on PowerEdge *yx2x* Systems *(continued)*

Group	Option	Valid Arguments	Description
	--TpmActivation	NoChange, Activate, Deactivate	Allows the user to change the operational state of the Trusted Platform Module (TPM). This field is Read-Only when TPM Security is set to **Off**.
	--TpmClear	Yes, No	**CAUTION: Clearing the TPM will cause loss of all keys in the TPM. This could affect booting of the operating system.** When set to **Yes**, all the contents of the TPM will be cleared. This field is Read-Only when TPM Security is set to Off.
	--TpmSecurity	Off, OnPbm, OnNoPbm	Controls the reporting of the Trusted Platform Module (TPM) in the system.
	--UefiBootSeq	numerical list, separated by commas or list of device names, separated by commas	Controls the UEFI boot order. The first option in the list is attempted first, and if unsuccessful, the second option will be attempted, and so on. The system attempts to launch enabled boot options only; it will not launch disabled boot options. This field applies only when **bootmode** is set to **Uefi**. It has no effect when **bootmode** is set to **bios**.

RAIDCFG Options

Table D-3 lists all the RAIDCFG options and gives a brief description of these options. For details on these options, see the section, "RAIDCFG" on page 165.

Table D-3. 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-3. 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 pdisk or -pd instead of adisk or -ad 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.

Table D-3. RAIDCFG Short and Long Format Options *(continued)*

Option	Valid Arguments	Short Description	Mandatory or Optional
-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.
-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 failover drive	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.

Table D-3. 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 set environment	NA	Sets a user-defined environment variable to the value returned from the function call. Function calls are: `getcontrollerslots, getfirmware, getcontrollertype, getadisks, getadiskcount, getfreeadisks, getfreeadiskcount, getfreeadisksize, gethotspares.`	Mandatory. See Table 4-12 for specific usage information.

Table D-3. RAIDCFG Short and Long Format Options *(continued)*

Option	Valid Arguments	Short Description	Mandatory or Optional
-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.
-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 D-3. 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	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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