

**Dell OpenManage Deployment Toolkit
Version 5.0.1
Command Line Interface Reference Guide**



Notes, Cautions, and Warnings

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

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

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

Copyright © 2014 Dell Inc. All rights reserved. This product is protected by U.S. and international copyright and intellectual property laws. Dell™ and the Dell logo are trademarks of Dell Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.

2014 - 09

Rev. A00

Contents

1 Introduction.....	8
What's New In This Release.....	8
Supported Systems.....	9
Supported Operating Systems.....	9
Toolkit Utilities.....	9
System Configuration Utility.....	10
RAID Configuration Utility.....	10
RAC Configuration Utility.....	10
Disk Partitioning Utility.....	10
Replication Of DTK Utilities.....	10
File Format.....	10
SYSCFG Replication Rules.....	10
RAID Replication.....	11
RACADM Replication.....	11
Other Documents You May Need.....	11
Accessing documents from Dell support site.....	12
Contacting Dell.....	12
2 Command Syntax Overview.....	14
DTK Utilities General Usage.....	14
Command Line Syntax.....	15
Command Line Option Delimiters.....	15
Other Delimiters.....	16
Read And Write Commands.....	17
File Input And Output Commands.....	17
Log Files.....	17
Help Option.....	18
Error Checking And Error Messages.....	18
3 SYSCFG.....	19
Features.....	19
SYSCFG General Options.....	19
No Option.....	20
--envar.....	20
-h or --help.....	20
-i or --infile.....	21
--ix or --inxmlfile.....	21
-l or --logfile.....	22

-o or --outfile.....	22
--ox or --outxmlfile.....	22
--ovrwt*.....	23
--px or --pendingxmlfile.....	23
-s.....	23
--version*.....	23
SYSCFG For BIOS Configuration.....	24
BIOS Option Settings.....	32
Boot Settings.....	34
Integrated Devices.....	36
Network Settings.....	40
Memory Settings.....	42
Miscellaneous Settings.....	45
Processor Settings.....	47
SATA Settings.....	53
Serial Communication.....	62
Slot Disablement.....	63
System Information.....	64
System Profile Settings.....	65
System Security.....	69
UEFI Boot Settings.....	74
SYSCFG For BMC And Remote Access Controller Configuration.....	74
bmcversion.....	75
chassistype*.....	75
clearsel*.....	75
controlpanelaccess.....	76
deviceguid*.....	76
encryptkey.....	76
--formfactor.....	76
identify.....	77
idracversion.....	77
lancfgparams.....	78
lanchannelaccess.....	80
lanchannelinfo.....	81
lanuseraccess.....	81
lcd1.....	82
lcd2.....	82
loaddefaults*.....	82
nextboot.....	83
nmibutton.....	83
passwordaction.....	84
pefcfgparams.....	84

powerbutton.....	86
powerctl.....	86
racreset*.....	87
serialcfgparams.....	87
serialchannelaccess.....	88
serialchannelinfo.....	89
serialuseraccess.....	89
solaction.....	91
solcfgparams.....	91
useraction.....	92
username.....	93
version*.....	93
virtualmedia.....	94
SYSCFG For State Configuration.....	94
SYSCFG Options For State Configuration.....	94
SYSCFG for System Configuration.....	95
Options For System Configuration.....	95
SYSCFG For IPv6 Configuration.....	100
PCI Reporting.....	101
Environment Variable File.....	101

4 RAIDCFG..... 103

Features.....	103
Supported RAID Controllers.....	103
RAIDCFG Options And Arguments.....	104
RAID Configuration Utility Options And Arguments.....	112
General Help.....	113
Enumerating RAID Controllers.....	113
Setting Environment Variables.....	114
Importing And Clearing Foreign Configurations.....	117
Importing Secured Foreign Configuration.....	118
Displaying Foreign Key Ids.....	119
Creating Encryption Key.....	119
Changing Encryption Key.....	120
Deleting Encryption Key.....	120
Resetting The Controller.....	121
Enabling And Disabling Persistent Dedicated Hot Spares.....	121
Assigning, Unassigning, And Listing Global Hot Spares.....	122
Setting And Displaying The PCIe Link Speed.....	123
Setting Boot Mode	124
Configuring Auto Import	124
Creating Virtual Disks.....	125

Initializing Virtual Disks.....	132
Enumerating Virtual Disks.....	133
Increasing Virtual Disk Size.....	134
Deleting Virtual Disks.....	135
Setting A Virtual Disk As Bootable Virtual Disk.....	136
Blinking And Unblinking Virtual Disks.....	136
Setting Virtual Disk Name.....	136
Replacing Physical Disk Of A Virtual Disk.....	137
Consistency Check For Virtual Disk.....	137
Enumerating Array Disks.....	138
Blinking And Unblinking Array Disks.....	141
Configuring Array Disk As RAID	141
Configuring Physical Disk State.....	142
Configuring Physical Disk Rebuild.....	143
Erasing Encrypted Physical Disk.....	144
Discarding Preserved Cache.....	145
RAID Replication Options.....	145
Miscellaneous Options.....	146
Quick Reference To RAIDCFG Commands.....	147
5 UPINIT.....	150
Features.....	150
Creating A Partition Using UPINIT.....	150
UPINIT Dependencies.....	150
UPINIT Options And Arguments.....	151
6 Messages And Codes.....	155
SYSCFG Error Codes And Messages.....	155
Failure Messages.....	155
Failures And Solutions.....	163
UPINIT Common Error Codes And Messages.....	164
Failure Messages.....	164
UPINIT Linux-Specific Error Codes And Messages.....	165
UPINIT Windows PE-Specific Error Codes And Messages.....	165
RAIDCFG Error Codes And Messages.....	165
Failure Messages.....	165
RACADM Firmware Error Codes And Messages.....	177
RACADM Utility Error Codes And Messages.....	179
7 BMC Platform Events Filter Alert Messages.....	181
8 Sample File Formats.....	183

Sample SYSCFG Utility .ini File Format.....	183
Sample RAIDCFG Utility .ini File Format.....	191
Sample RACADM Utility .ini File Format.....	192

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

**NOTE:**

DTK 5.0.1 is supported only on Dell Precision R7910 and the following Dell PowerEdge systems:

- R730
- R730 XD
- R630
- T630

The new features for this release include:


- Support for the installation and deployment of Red Hat Enterprise Linux 7.0 (64-bit) in BIOS and UEFI mode on Dell's 13th generation of PowerEdge servers using DTK ELI.
- Support for the installation of the following operating systems on Dell Precision R7910:
 - Windows 8.1 (64-bit) using Windows PE 5.0 (64-bit) in BIOS and UEFI mode
 - Windows 7 (64-bit) using Windows PE 4.0 (64-bit) in BIOS and UEFI mode
 - Windows 7 (32-bit) using Windows PE 3.0 (32-bit) in BIOS mode
- Added support for additional attributes and values in BIOS setup groups. For more details, see [SYSCEG For BIOS Configuration](#).
- RAIDCFG configuration supports additional support for the configuration of the following through RAID controller BIOS:
 - Managing preserved cache
 - Expanding and securing virtual disk size
 - Managing Security Key



NOTE: For more details, see [RAID Configuration Utility Options And Arguments](#).

- PERC 9 extended support for the following controllers running PERC 9.1 firmware:
 - PERC H830 Adapter, PERC H330 Adapter, PERC H330 Embedded PERC H730 Adapter, and PERC H730P Adapter
 - PERC H330 Mini Monolithic, PERC H730 Mini Monolithic, and PERC H730P Mini Monolithic

- Support for S130 controller.

 **NOTE:** For the list of supported operating systems and Dell servers, see the *Dell Systems Software Support Matrix* at dell.com/openmanagemanuals.

Supported Systems

For a complete list of supported Dell PowerEdge systems, see the *Dell Systems Software Support Matrix* in the required version of OpenManage Software at dell.com/openmanagemanuals

Supported Operating Systems

DTK utilities support Windows PE 5.0 (64-bit), Windows PE 4.0 (64-bit), and Windows PE 3.0 (64-bit) to deploy the following operating systems:


- On 13th generation of PowerEdge servers:
 - Microsoft Windows Server 2012 R2 Datacenter and Standard editions using Windows PE 5.0 (64-bit) in BIOS and UEFI mode
 - Windows Server 2012 Datacenter and Standard editions using Windows PE 4.0 (64-bit) in BIOS and UEFI mode
 - Windows Server 2008 R2 SP1 (64-bit) using Windows PE 3.0 (64-bit) in BIOS and UEFI mode
- On Dell Precision R7910:
 - Windows 8.1 (64-bit) using Windows PE 5.0 (64-bit) in BIOS and UEFI mode
 - Windows 7 (64-bit) using Windows PE 3.0 (64-bit) in BIOS and UEFI mode
 - Windows 7 (32-bit) using Windows PE 3.0 (32-bit) in BIOS mode

For Linux, the DTK utilities support deploying the following operating systems:

- Red Hat Enterprise Linux 7.0 (64-bit) in BIOS and UEFI mode
- Red Hat Enterprise Linux 6.5 (64-bit) in BIOS and UEFI mode
- SUSE Linux Enterprise Server 11 SP3 (64-bit) in BIOS and UEFI mode

You can install the DTK Linux RPM utilities on the following operating systems:

- Red Hat Enterprise Linux 7.0 (64-bit) in BIOS and UEFI mode
- Red Hat Enterprise Linux 6.5 (64-bit) in BIOS and UEFI mode
- SUSE Linux Enterprise Server 11 SP3 (64-bit) in BIOS and UEFI mode

 **NOTE:** The RPMs are available in the RPMs folder of *DTK ELI ISO* at linux.dell.com/repo/hardware, and also in the *Dell Systems Management Tools and Documentation* DVD.

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.

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 iDRAC8.

Disk Partitioning Utility

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

Replication Of DTK Utilities

This section explains the 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](#).

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 the 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.
- 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 dell.com/openmanage/manuals. See [Accessing Documents From The Dell Support Site](#).

- *The Dell OpenManage Deployment Toolkit Installation Guide* provides information about installing, deploying, and upgrading the DTK on supported Dell systems. The guide is also available as part of the DTK download.
- *The Dell OpenManage Deployment Toolkit Command Line Interface Reference Guide* provides information about configuring the BIOS, Baseboard Management Controller (BMC), Remote Access Controller (RAC), RAID controllers, and hard-drive partitions on supported Dell systems.
- *The Dell OpenManage Installation Guides* provides additional information about performing an unattended installation of Server Administrator on systems running supported Windows, Red Hat Enterprise Linux Server, SUSE Linux Enterprise Server, and Citrix Xen Server operating systems.
- *The Dell Systems Software Support Matrix* provides information about the various Dell systems and the operating systems supported by these systems.
- *The Dell Update Packages User's Guide* provides information about obtaining and using Dell Update Packages as part of your system update strategy.
- *The Integrated Dell Remote Access Controller 8 (iDRAC8) Command Line Interface Reference Guide* provides information about the RACADM subcommands, supported interfaces, property database groups and object definitions for iDRAC8 and CMC.

- The *Integrated Dell Remote Access Controller 8 (iDRAC8) User's Guide* provides information about configuring and using iDRAC8 for 13th generation rack, tower, and blade servers to remotely manage and monitor your system and its shared resources through a network.
- The *Dell Baseboard Management Controller Utilities User's Guide* provides information about configuring a managed system to use the BMC Management Utility to manage your system through its BMC. The *Dell Update Packages User's Guide* provides information about obtaining and using Dell Update Packages as part of your system update strategy.
- The *Glossary* provides information about the terms used in this document.
- The Deployment Toolkit release notes (for Windows PE and embedded Linux) which is also available as part of the DTK download, 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.

Accessing documents from Dell support site

You can access the required documents in one of the following ways:

- Using the following links:
 - For all Enterprise Systems Management documents — dell.com/softwaresecuritymanuals
 - For Enterprise Systems Management documents — dell.com/openmanagemanuals
 - For Remote Enterprise Systems Management documents — dell.com/esmmanuals
 - For OpenManage Connections Enterprise Systems Management documents — dell.com/OMConnectionsEnterpriseSystemsManagement
 - For Serviceability Tools documents — dell.com/serviceabilitytools
 - For Client Systems Management documents — dell.com/clientsystemsmanagement
 - For OpenManage Connections Client Systems Management documents — dell.com/connectionscclientsystemsmanagement
- From the Dell Support site:
 - Go to dell.com/support/home.
 - Under **General support** section, click **Software & Security**.
 - In the **Software & Security** group box, click the required link from the following:
 - **Enterprise Systems Management**
 - **Remote Enterprise Systems Management**
 - **Serviceability Tools**
 - **Client Systems Management**
 - **Connections Client Systems Management**
 - To view a document, click the required product version.
- Using search engines:
 - Type the name and version of the document in the search box.

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.


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.

DTK Utilities General Usage

The following table lists the general usage models of the DTK utilities:

Table 1. DTK Utilities

Utilities	Usage
SYSCFG	<pre>syscfg --option1=[arg1] ... --optionX=[argX]</pre> <p>or</p> <pre>syscfg bmcoption1 --bmcsuboption1=[arg1]...--bmcsuboptionX=argX]</pre>
RAIDCFG	<pre>raidcfg [mandatory options] <optional arguments></pre>
RACADM	<pre>racadm <options> <subcommand> <subcommand_options></pre> <p> NOTE: The Command Line Reference Guide for iDRAC6 and CMC available on dell.com/support/manuals provides information about the RACADM subcommands, supported interfaces, property database groups and object definitions for iDRAC6 and CMC.</p>
UPINIT	<p>For WinPE:</p> <pre>upinit --disk=0 --size=32 --file=t:\upimage.bin</pre> <p>For Linux:</p> <pre>upinit --disk=/dev/sda --size=32 --file=/tmp/upimage.bin</pre>


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.

Command Line Syntax

The following table lists the generic command line characters and arguments present in the command line options with a short description of these characters.

Table 2. Command Line Options


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.
...	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.

Command Line Option Delimiters

The following table lists some examples of valid and invalid DTK command lines.

Table 3. Command Line Option Delimiters

Valid / Invalid	DTK Command Line	Example
valid	<code>syscfg --option1 --option2</code>	<code>syscfg --asset --floppy</code>
invalid	<code>syscfg --option1=argument --option2 --option3</code>	<code>syscfg --asset=R910 --floppy --bootseq</code>
valid	<code>syscfg -o=filename --option1 --option2</code>	<code>syscfg -o=/tmp/myfile.txt --floppy --bootseq</code>
valid	<code>syscfg -l=filename --option1 --option2</code>	<code>syscfg -l=/tmp/myfile.txt --floppy --bootseq</code>
invalid	<code>syscfg -i=filename --option1 --option2</code>	<code>syscfg -i=/tmp/myfile.txt --floppy --bootseq</code>
valid	<code>syscfg --option=argument bmcoption --option1= argument</code>	<code>syscfg --embnic=on pcp --hostname=webserver</code>

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

Other Delimiters

The following table lists the other delimiters:

Table 4. Other delimiters

Delimiter	Example	Description
White space (space or tab)	<code>syscfg --option=argument1 argument2</code>	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.	<code>syscfg --option="argument1 argument2"</code>	considers argument1 and argument2 a single argument.
A double quotation mark preceded by a backslash (\) is interpreted as a literal double quotation mark (").	<code>syscfg --option="\ "argument"</code>	considers "argument as the argument.
Backslashes are interpreted literally, unless they immediately precede a double quotation mark. If an even number of	<code>syscfg --option="\ \"argument"</code>	considers \ and argument as two arguments.

Delimiter	Example	Description
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.		
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.	<code>syscfg --option="\\ \"argument"</code>	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 5. Read and Write Command Examples

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

File Input And Output Commands

- Specify the file input using the `-i <filename>` command, where `<filename>` is the name of the input file.
- Specify the file output using the `-o <filename>` command, where `<filename>` is the name of the output file.


Log Files

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](#).

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:

- 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 using ini file, DTK xml file, and ws-man xml file.

 **NOTE:** In Microsoft Windows Preinstallation Environment (Windows PE), the SYSCFG utility is located at `\dell\toolkit\tools` or `\dell\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. The asterisk is not part of the command syntax. Such options are used for reporting purposes only. 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.

No Option

Valid Arguments	NA
Description	The SYSCFG utility displays the usage information.

--envar

Valid Arguments	<valid filename> <valid path>
Description	<p>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.</p> <p>Example:</p> <pre>syscfg --mem -s=temp --envar= Z:\scripts\file.bat</pre> <p>When used without the -s option, --envar takes the default variable.</p> <p>Linux Example:</p> <pre>syscfg --svctag --envar= /tmp/myvars.txt svctag = 2G8LC1S syscfg_var = '2G8LC1S' source /tmp/myvars.txt</pre> <p>Windows PE Example:</p> <pre>syscfg --svctag --envar=i:\myvars.bat svctag = 2G8LC1S syscfg_var = '2G8LC1S' call i:\myvars.bat</pre>

-h or --help

Valid Arguments	none or <valid option name>
Description	<p>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.</p>


	<p>Example:</p> <pre>A:>syscfg -h lanchannelaccess lanchannelaccess: Reports LAN channel access information. Sub-options: pefalerting: Enable or disable PEF (Platform Event Filter)alerting. Arguments: enable disable ipmioverlan: Enable or disable IPMI over LAN access. Arguments: disable alwaysavail channelprivlmt: Sets the maximum privilege level that can be accepted on the LAN channel. Arguments: user operator administrator</pre>
--	--

-i or --infile

Valid Arguments	<i><filename></i>
Description	<p>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.</p> <p>Example:</p> <pre>A:>syscfg -i <filename>.ini</pre>

--ix or --inxmlfile

Valid Arguments	<i><filename></i>
Description	<p>Directs the SYSCFG utility to receive input from the xml file. The utility searches the BIOS option in the file. An error is returned if the file is not found. The provided option 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 dependent on any other option, they are applied in the order in which they appear in the xml file.</p>

	<p>Example:</p> <pre>A:>syscfg --ix filename.xml</pre> <p> NOTE: You can modify or use the BIOS configuration captured in xml format from a PowerEdge server for large scale deployment configurations using RACADM or WS-MAN. For more information on using RACADM and WS-MAN refer <i>Integrated Dell Remote Access Controller 8 (iDRAC8) RACADM Command Line Interface Reference Guide</i> and <i>Dell Lifecycle Controller-Remote Services Quick Start Guide</i> respectively available at dell.com/support/manuals.</p>
--	---


-l or --logfile

Valid Arguments	<filename>
Description	<p>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. For more information, see Log Files.</p> <p>Example:</p> <pre>A:>syscfg -l logfile --option=<filename></pre>

-o or --outfile

Valid Arguments	<filename>
Description	<p>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, it overwrites the existing file. If this option is used with other function commands, the commands are applied in the order in which they appear. This option captures replicable BMC and BIOS options.</p> <p>Example:</p> <pre>A:>syscfg -o <filename>.ini</pre>

--ox or --outxmlfile

Valid Arguments	<filename>
Description	<p>Prints all BIOS options to the specified xml file.</p> <p> NOTE: It is applicable only on 12G and later systems.</p> <p>Example:</p> <pre>A:>syscfg --ox filename.ini</pre>

--ovrwr*

Valid Arguments	NA
Description	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 --ovrwr The file filename has been overwritten.

--px or --pendingxmlfile

Valid Arguments	<filename>
Description	Prints all the pending BIOS options to a specified xml file. Example: A:>syscfg --px filename.xml

-s

Valid Arguments	<string>
Description	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. For more information, see --envar . Example: A:>syscfg -s ENVNAME --svctag svctag=SERVICE ENVNAME=SERVICE

--version*

Valid Arguments	NA
Description	Displays the version information, current time, and date for the utility. This option cannot be replicated. Example: A:>syscfg --version syscfg Version 4.4 P01 (Windows - Jan 29 2014,16:48:48) Copyright (c) 2002-2014 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. Consider the following while using the SYSCF options:

- Running SYSCFG without arguments on any system only displays the valid options.
- Reboot the system for the BIOS options to take effect.
- To list the options which are set on the system, but not applied due to pending reboot, type:
`syscfg --pendingvalues`
- If a setup password is set, provide the password while configuring the SYSCFG options as:
`syscfg --<bios-option>=<value> -- valsetuppwd=<password>`
- 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 dell.com/support/manuals.
- Some of the options are followed by an asterisk. The asterisk is not part of the command syntax. Such options are used for reporting purposes only. 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.
- For more information on RACADM commands, see the *RACADM Command Line Reference Guide* available at dell.com/openmanagemanuals.com.

The following are the updates to the BIOS setup settings with respect to this release:

- Support for the following in the **System Information** group:
 - Displaying System Management Engine version and UEFI compliance version
- Support for the following in the **Memory Settings** group:
 - Configuring cluster on die and snoop mode
- Support for the following in the **Processor Settings** group:
 - Configuring the QpiSpeed to 9.6 GT/s
 - Configuring Address Translation Services (ATS)
 - Configuring the number of cores per processor to 16 or 18
 - Configuring the Dell Controlled Turbo as Custom
 - Configuring Processor Controlled Turbo, Configurable TDP, and X2Apic mode feature
- Support for the following in the **SATA Settings** group:
 - Configuring security freeze lock
- Support for the following in the **Boot Settings** group:
 - Configuring the hard-disk drive failover

- Displaying the FQDDs in the legacy HDD list and boot order list
- Addition of the **Network Settings**, for configuring the PXE devices.
- Support for the following in Integrated Devices group:
 - Configuring the USB 3.0 port
 - Configuring internal SD primary card
 - Configuring embedded video controller
 - Configuring the current state of the embedded video controller
- Support for the following in the **Serial Communication** group:
 - Configuring the serial communication as Auto
- Support for the following in the **System Profile** group:
 - Configuring the system memory frequency to 1866MHz or 2133MHz
 - Configuring energy efficient turbo
 - Configuring the number of turbo boost enabled cores for a processor
 - Configuring the processor uncore frequency
- Support for the following in the **System Security** group:
 - Configuring TPM information and TPM command
 - Configuring secure boot and secure boot policy
- Support for the following in the **Miscellaneous** group:
 - Configuring Legacy Video Option ROM

Group	Option	Equivalent RACADM Option
BIOS Option Settings	--BootSeq	BIOS.BiosBootSettings.BootSeq
	--HddSeq	BIOS.BiosBootSettings.HddSeq
Boot Settings	--BootMode	BIOS.BiosBootSettings.BootMode
	--BootSeqRetry	BIOS.BiosBootSettings.BootSeqRetry
	--HddFailover	BIOS.BiosBootSettings.HddFailover
	--SetBootOrderFqddn	BIOS.BiosBootSettings.Fqddn
	--SetLegacyHddOrderFqddn	BIOS.BiosBootSettings.SetLegacyHddOrderFqdd
Integrated Devices	--EmbNicPortnBootProto	BIOS.ProxyAttributes.EmbNicPortnBootproto
	--EmbVideo	BIOS.IntegratedDevices.EmbVideo
	--IntegratedNetwork1	BIOS.IntegratedDevices.IntegratedNetwork1

Group	Option	Equivalent RACADM Option
	--IntegratedNetwork2	BIOS.IntegratedDevices.IntegratedNetwork2
	--IntegratedRaid	BIOS.IntegratedDevices.IntegratedRaid
	--IntegratedSas	BIOS.IntegratedDevices.IntegratedSas
	--InternalSdCard	BIOS.IntegratedDevices.InternalSdCard
	--InternalSdCardRedundancy	BIOS.IntegratedDevices.InternalSdCardRedundancy
	--InternalUsb	BIOS.IntegratedDevices.InternalUsb
	--InternalUsb1	BIOS.IntegratedDevices.InternalUsb1
	--InternalUsb2	BIOS.IntegratedDevices.InternalUsb2
	--IoatEngine	BIOS.IntegratedDevices.ioatEngine
	--OsWatchdogTimer	BIOS.IntegratedDevices.OsWatchdogTimer
	--SriovGlobalEnable	BIOS.IntegratedDevices.SriovGlobalEnable
	--UsbPorts	BIOS.IntegratedDevices.UsbPorts
	--Usb3Setting	N/A
	--InternalSdCardPrimaryCard	N/A
	--CurrentEmbVideoState	N/A
Memory Settings	--CorrEccSmi	N/A
	--DynamicCoreAllocation	BIOS.ProcSettings.DynamicCoreAllocation
	--MemOpMode	BIOS.MemSettings.MemOpMode
	--MemOpVoltage	BIOS.MemSettings.MemOpVoltage
	--MemTest	BIOS.MemSettings.MemTest
	--NodeInterleave	BIOS.MemSettings.NodeInterleave
	--RedundantMem	BIOS.MemSettings.RedundantMem
	--SerialDbgOut	BIOS.MemSettings.Serialdbgout
	--SysMemSize*	BIOS.MemSettings.SysMemSize
	--SnoopFilter	BIOS.MemSettings.SnoopFilter
	--SysMemSpeed*	BIOS.MemSettings.SysMemSpeed

Group	Option	Equivalent RACADM Option
	--SysMemType*	BIOS.MemSettings.SysMemType
	--SysMemVolt*	BIOS.MemSettings.SysMemVolt
	--VideoMem*	BIOS.MemSettings.VideoMem
	--ClusterOnDie	N/A
Miscellaneous Settings	--AssetTag*	BIOS.MiscSettings.AssetTag
	--ErrPrompt	BIOS.MiscSettings.ErrPrompt
	--InSystemCharacterization	BIOS.MiscSettings.InSystemCharacterization
	--NumLock	BIOS.MiscSettings.NumLock
	--Forcelnt10	BIOS.MiscSettings.Forcelnt10
	--InSystemCharacterization	BIOS.MiscSettings.InSystemCharacterization
Network Settings	--PxeDevnInterface	BIOS.PxeDevice1Settings.PxeDevnProtocol
	--PxeDevnProtocol	BIOS.PxeDevice1Settings.PxeDevnProtocol
	--PxeDevnVlanEnDis	BIOS.PxeDevice1Settings.PxeDevnVlanEnDis
	--PxeDevnVlanId	BIOS.PxeDevice1Settings.PxeDevnVlanId
	--PxeDevnVlanPriority	BIOS.PxeDevice1Settings.PxeDevnVlanPriority
Processor Settings	--DataReuse	BIOS.ProcSettings.DataReuse
	--DculpPrefetcher	BIOS.ProcSettings.DculpPrefetcher
	--DcuStreamerPrefetcher	BIOS.ProcSettings.DcuStreamerPrefetcher
	--LogicalProc	BIOS.ProcSettings.LogicalProc
	--Proc1Brand*	BIOS.ProcSettings.Proc1Brand
	--Proc1Id*	BIOS.ProcSettings.Proc1Id
	--Proc1L2Cache*	BIOS.ProcSettings.Proc1L2Cache
	--Proc1L3Cache*	BIOS.ProcSettings.Proc1L3Cache
	--Proc1NumCores*	BIOS.ProcSettings.Proc1NumCores
	--Proc2Brand*	BIOS.ProcSettings.Proc2Brand

Group	Option	Equivalent RACADM Option
	--Proc2Id*	BIOS.ProcSettings.Proc2Id
	--Proc2L2Cache*	BIOS.ProcSettings.Proc2L2Cache
	--Proc2L3Cache*	BIOS.ProcSettings.Proc2L3Cache
	--Proc2NumCores*	BIOS.ProcSettings.Proc2NumCores
	--Proc64bit*	BIOS.ProcSettings.Proc64bit
	--ProcAdjCacheLine	BIOS.ProcSettings.ProcAdjCacheLine
	--ProcBusSpeed*	BIOS.ProcSettings.ProcBusSpeed
	--ProcCores	BIOS.ProcSettings.ProcCores
	--ProcCoreSpeed*	BIOS.ProcSettings.ProcCoreSpeed
	--ProcExecuteDisable	BIOS.ProcSettings.ProcExecuteDisable
	--ProcHwPrefetcher	BIOS.ProcSettings.ProcHwPrefetcher
	--ProcVirtualization	BIOS.ProcSettings.ProcVirtualization
	--QpiBandwidthPriority	BIOS.ProcSettings.QpiBandwidthPriority
	--QpiSpeed	BIOS.ProcSettings.QpiSpeed
	--RtidSetting	BIOS.ProcSettings.RtidSetting
	--ProcnControlledTurbo	BIOS.ProcSettings.ProcnControlledTurbo
	--ProcConfigTdp	BIOS.ProcSettings.ProcConfigTdp
	--ProcX2Apic	BIOS.ProcSettings.ProcX2Apic
SATA Settings	--EmbSata	N/A
	--eSataPort1	BIOS.SataSettings.eSataPort1
	--eSataPort1Capacity*	BIOS.SataSettings.eSataPort1Capacity
	--eSataPort1DriveType*	BIOS.SataSettings.eSataPort1DriveType
	--eSataPort1Model*	BIOS.SataSettings.eSataPort1Model
	--SataPortA	BIOS.SataSettings.SataPortA
	--SataPortACapacity*	BIOS.SataSettings.SataPortACapacity
	--SataPortADriveType*	BIOS.SataSettings.SataPortADriveType
	--SataPortAModel*	BIOS.SataSettings.SataPortAModel

Group	Option	Equivalent RACADM Option
	--SataPortB	BIOS.SataSettings.SataPortB
	--SataPortBCapacity*	BIOS.SataSettings.SataPortBCapacity
	--SataPortBDriveType*	BIOS.SataSettings.SataPortBDriveType
	--SataPortBModel*	BIOS.SataSettings.SataPortBModel
	--SataPortC	BIOS.SataSettings.SataPortC
	--SataPortCCapacity*	BIOS.SataSettings.SataPortCCapacity
	--SataPortCDriveType*	BIOS.SataSettings.SataPortCDriveType
	--SataPortCModel*	BIOS.SataSettings.SataPortCModel
	--SataPortD	BIOS.SataSettings.SataPortD
	--SataPortDCapacity*	BIOS.SataSettings.SataPortDCapacity
	--SataPortDDriveType*	BIOS.SataSettings.SataPortDDriveType
	--SataPortDModel*	BIOS.SataSettings.SataPortDModel
	--SataPortE	BIOS.SataSettings.SataPortE
	--SataPortECapacity*	BIOS.SataSettings.SataPortECapacity
	--SataPortEDriveType*	BIOS.SataSettings.SataPortEDriveType
	--SataPortEModel*	BIOS.SataSettings.SataPortEModel
	--SataPortF	BIOS.SataSettings.SataPortF
	--SataPortFCapacity*	BIOS.SataSettings.SataPortFCapacity
	--SataPortFDriveType*	BIOS.SataSettings.SataPortFDriveType
	--SataPortFModel*	BIOS.SataSettings.SataPortFModel
	--SataPortG	BIOS.SataSettings.SataPortG
	--SataPortGCapacity*	BIOS.SataSettings.SataPortGCapacity
	--SataPortGDriveType*	BIOS.SataSettings.SataPortGDriveType
	--SataPortGModel*	BIOS.SataSettings.SataPortGModel
	--SataPortH	BIOS.SataSettings.SataPortH
	--SataPortHCapacity*	BIOS.SataSettings.SataPortHCapacity
	--SataPortHDriveType*	BIOS.SataSettings.SataPortHDriveType

Group	Option	Equivalent RACADM Option
	--SataPortHModel*	BIOS.SataSettings.SataPortHModel
	--SecurityFreezeLock	BIOS.SataSettings.SecurityFreezeLock
	--SataPortI	BIOS.SataSettings.SataPortI
	--SataPortICapacity	BIOS.SataSettings.SataPortICapacity
	--SataPortIDriveType	BIOS.SataSettings.SataPortIDriveType
	--SataPortIModel	BIOS.SataSettings.SataPortIModel
	--SataPortJ	BIOS.SataSettings.SataPortJ
	--SataPortJCapacity	BIOS.SataSettings.SataPortJCapacity
	--SataPortJDriveType	BIOS.SataSettings.SataPortJDriveType
	--SataPortJModel	BIOS.SataSettings.SataPortJModel
Serial Communication	--ConTermType	BIOS.SerialCommSettings.ConTermType
	--ExtSerialConnector	BIOS.SerialCommSettings.ExtSerialConnector
	--FailSafeBaud	BIOS.SerialCommSettings.FailSafeBaud
	--RedirAfterBoot	BIOS.SerialCommSettings.RedirAfterBoot
	--SerialComm	BIOS.SerialCommSettings.SerialComm
	--SerialPortAddress	BIOS.SerialCommSettings.SerialPortAddress
Slot Disablement	--Slotn	BIOS.SlotDisablement.Slotn
System Information	--SysMfrContactInfo*	BIOS.SysInformation.SysMfrContactInfo
	--SystemBiosVersion*	BIOS.SysInformation.SystemBiosVersion
	--SystemManufacturer*	BIOS.SysInformation.SystemManufacturer
	--SystemModelName*	BIOS.SysInformation.SystemModelName
	--SystemServiceTag*	BIOS.SysInformation.SystemServiceTag
	--SystemMeVersion*	N/A


Group	Option	Equivalent RACADM Option
	--UefiComplianceVersion	BIOS.SysInformation.UefiComplianceVersion
System Profile Settings	--CollaborativeCpuPerfCtrl	BIOS.SysProfileSettings.CollaborativeCpuPerfCtrl
	--MemFrequency	BIOS.SysProfileSettings.MemFrequency
	--MemPatrolScrub	BIOS.SysProfileSettings.MemPatrolScrub
	--MemRefreshRate	BIOS.SysProfileSettings.MemRefreshRate
	--MemVolt	BIOS.SysProfileSettings.MemVolt
	--MonitorMwait	BIOS.SysProfileSettings.MonitorMwait
	--ProcC1E	BIOS.SysProfileSettings.ProcC1E
	--ProcCStates	BIOS.SysProfileSettings.ProcCStates
	--ProcPwrPerf	BIOS.SysProfileSettings.ProcPwrPerf
	--ProcTurboMode	BIOS.SysProfileSettings.ProcTurboMode
	--SysProfile	BIOS.SysProfileSettings.SysProfile
	--EnergyEfficientTurbo	BIOS.SysProfileSettings.EnergyEfficientTurbo
	--ProcnTurboCoreNum	N/A
	--EnergyPerformanceBias	BIOS.SysProfileSettings.EnergyPerformanceBias
	--UncoreFrequency	BIOS.SysProfileSettings.UncoreFrequency
System Security	--AcPwrRcvry	BIOS.SysSecurity.AcPwrRcvry
	--AcPwrRcvryDelay	BIOS.SysSecurity.AcPwrRcvryDelay
	--AcPwrRcvryUserDelay	BIOS.SysSecurity.AcPwrRcvryUserDelay
	--AesNi	BIOS.SysSecurity.Aesni
	--BiosUpdateControl	BIOS.SysSecurity.BiosUpdateControl
	--IntelTxt	BIOS.SysSecurity.IntelTxt
	--NmiButton	BIOS.SysSecurity.NmiButton
	--PasswordStatus	BIOS.SysSecurity.PasswordStatus

Group	Option	Equivalent RACADM Option
	--PwrButton	BIOS.SysSecurity.PwrButton
	--SetupPassword	BIOS.SysSecurity.SetupPassword
	--SysPassword	BIOS.SysSecurity.SysPassword
	--SystemCpldVersion*	BIOS.SysInformation.SystemCpldVersion
	--TpmSecurity	BIOS.SysSecurity.TpmSecurity
	--TpmStatus	BIOS.SysSecurity.TPMStatus
	--TpmInfo	N/A
	--TpmCommand	BIOS.SysProfileSettings.TpmCommand
	--SecureBoot	BIOS.SysSecurity.SecureBoot
	--SecureBootPolicy	N/A
UEFI Boot Settings	--UefiBootSeq	BIOS.BiosBootSettings.UefiBootSeq

BIOS Option Settings

You can manage the BIOS start settings using the options in this group.

--BootSeq

Valid Arguments	list of device names separated by commas
Description	<p>Enables, disables, and orders the devices in a boot order list. Only the devices present on the system are listed in the boot sequence.</p> <p> NOTE: Only the devices listed in the BootSeq are enabled.</p> <p>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.</p> <p>Some systems also allow the boot order to be expressed as a list of device names. Device names are formatted as a <i>name.location.instance</i> string, where <i>name</i> is the name of the device, <i>location</i> is either slot or embedded (emb), and <i>instance</i> is the numerical position of the device. Some device name examples are shown below. Systems that support a list of device names for boot order can be replicated.</p>

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.

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
```

```
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.


--HddSeq

Valid Arguments	list of device names separated by commas
Description	<p>Sets the hard-drive sequence for a system. The first hard drive in the system will be the bootable C: drive in DOS/DOS-like operating systems. Without an argument, this option displays the device list. The argument must be formatted as a comma-separated numerical list of device index values. The list must be within the bounds of the current boot list. For example, the low and high numbers must match. Systems that use a numerical list for boot order cannot be replicated. This option is applicable when <code>bootmode</code> is set to <code>Bios</code> and has no effect when <code>bootmode</code> is set to <code>Uefi</code>.</p> <p>Some systems allow the boot order to be expressed as a list of device names. Systems that support device names also support replication of the boot order through the output file option. Device names are formatted as a <i>name.location.instance</i> string, where <i>name</i> is the <i>name</i> of the device, <i>location</i> is either slot or embedded (emb), and <i>instance</i> is the numerical position of the device. Some device name examples are shown below. Systems that support a list of device names for boot order can be replicated.</p> <p>Example 1:</p> <pre>A:>syscfg --devseq</pre> <p>The following devices are set in the disk device sequence:</p> <pre>Device 1:* hdd.emb.0 - System BIOS boot devices Device 2:* scsiraid.slot.3 - PERC 5/E Adapter(bus 02 dev 02) Device 3:* usbkey.slot.0 - Hard-disk-emulated USB flash drive</pre> <p>Example 2:</p> <pre>A:>syscfg --devseq= hdd.emb.1,scsiraid.emb.1</pre> <p>The following devices are set in the disk device sequence:</p> <pre>Device 1:* hdd.emb.0 - System BIOS boot devices Device 2:* scsiraid.emb.1 - AIC-7899, A:00 Seagate</pre> <p> NOTE: The asterisk indicates that the device is enabled in the BIOS.</p>

Boot Settings

You can manage the boot settings using the options in this group.


--BootMode

Valid Arguments	Uefi, Bios
Description	<p>Determines the boot mode of the system. Allows booting to Unified Extensible Firmware Interface (UEFI) -capable operating systems or ensures compatibility with operating systems that do not support UEFI.</p> <p> NOTE: If boot mode is modified, restart the system before executing the OS installation scripts.</p> <p>Example:</p> <pre>A:>syscfg --BootMode=Uefi</pre>


--BootSeqRetry

Valid Arguments	Enabled, Disabled
Description	<p>Enables or disables the boot sequence retry feature. When set to Enabled, the system re-attempts to set the boot order after a 30-second time-out if the last boot attempt has failed. This option can be replicated.</p> <pre>A:>syscfg --BootSeqRetry=Enabled</pre>


--HddFailover

Valid Arguments	Enabled, Disabled
Description	<p>Specifies the devices in the Hard Disk Drive Sequence menu that are attempted in the boot sequence. When set to Enabled, all the hard-disks are attempted in the order listed in the hard disk drive sequence. If set to Disabled, only the first device in the hard disk sequence is attempted.</p> <p> NOTE: The field is enabled only if <code>BootMode</code> is set BIOS.</p> <p>Example:</p> <pre>A:>syscfg --HddFailover=Enabled</pre>

--SetBootOrderFqddn

Valid Arguments	<string>
Description	<p>Displays the list of FQDDs representing the boot list to be applied on the next boot.</p> <p> NOTE: The value of <i>n</i> in <code>SetBootOrderFqddn</code> can be 1–16.</p> <p>Example:</p> <pre>A:>syscfg --SetBootOrderFqdd1=xxxx,yyy,zzz</pre>

--SetLegacyHddOrderFqddn

Valid Arguments	<string>
Description	<p>Displays the list of FQDDs representing the legacy hard-disk drive list to be applied on the next boot.</p> <p> NOTE: The value of <i>n</i> in SetLegacyHddOrderFqddn can be 1–16.</p> <p>Example:</p> <pre>A:>syscfg --SetLegacyHddOrderFqdd1=xxxx,yyy,zzzz</pre>

Integrated Devices

You can use the options in this group to manage the integrated devices such as internal NIC and integrated USB.

--EmbNicPortnBootProto


Valid Arguments	Unknown, None, Pxe, Iscsi
Description	<p>Controls the legacy boot protocol of the LOM port specified by the embedded NIC port number. This is a write-only attribute. This attribute is for systems management software use, and does not appear in system BIOS setup. This attribute always returns Unknown, when read. There is no change to the LOM port legacy boot protocol setting when Unknown is returned. An error is returned if written with a setting (None, PXE, or iSCSI) that is not supported by the LOM Port.</p> <p>Example:</p> <pre>A:>syscfg --EmbNicPortnBootProto=Unknown</pre>

--EmbVideo


Valid Arguments	Enabled, Disabled
Description	<p>Enables or disables the BIOS support for the Embedded Video Controller</p> <p>Example:</p> <pre>A:>syscfg --EmbVideo=Enabled</pre>

--IntegratedNetwork1

Valid Arguments	Enabled, DisabledOs
Description	Enables or disables Integrated Network 1.

	 NOTE: If set to <code>DisabledOs</code> , 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. Example: <pre>A:>syscfg --IntegratedNetwork1=Enabled</pre>
--	---

--IntegratedNetwork2

Valid Arguments	Enabled, DisabledOs
Description	Enables or disables Integrated Network 2.  NOTE: If set to <code>DisabledOs</code> , 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. Example: <pre>A:>syscfg --IntegratedNetwork2=Enabled</pre>

--IntegratedRaid

Valid Arguments	Enabled, Disabled
Description	Enables or disables the integrated RAID controller. This option can be replicated. Example: <pre>A:>syscfg --IntegratedRaid=Disabled</pre>

--IntegratedSas

Valid Arguments	Enabled, Disabled
Description	Enables or disables the integrated SAS controller. This option can be replicated. Example: <pre>A:>syscfg --IntegratedSas=Enabled</pre>

--InternalSdCard

Valid Arguments	On, Off
Description	Enables or disables the embedded SD card port.

	<p>Example:</p> <pre>A:>syscfg --InternalSdCard=Off</pre>
--	--

--InternalSdCardRedundancy

Valid Arguments	Mirror, Disabled
Description	<p>Sets the internal SD card port redundancy to <code>Mirror</code> mode or <code>Disabled</code>.</p> <p>When set to <code>Mirror</code> 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.</p> <p>When set to <code>Disabled</code>, read-write operation occurs only on SD card 1.</p> <p>Example:</p> <pre>A:>syscfg --InternalSdCardRedundancy=Mirror</pre>

--InternalUsb

Valid Arguments	On, Off
Description	<p>Turns the internal USB port on or off.</p> <p>Example:</p> <pre>A:>syscfg --InternalUsb=On</pre>

--InternalUsb1

Valid Arguments	On, Off
Description	<p>Turns the internal USB port 1 on or off.</p> <p>Example:</p> <pre>A:>syscfg --InternalUsb1=On</pre>

--InternalUsb2

Valid Arguments	On, Off
Description	<p>Turns the internal USB port 2 on or off.</p> <p>Example:</p> <pre>A:>syscfg --InternalUsb2=On</pre>

--IoatEngine

Valid Arguments	Enabled, Disabled
Description	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: <code>A:>syscfg --IoatEngine=Enabled</code>

--OsWatchdogTimer

Valid Arguments	Enabled, Disabled
Description	Aids in the recovery of the operating system when the system stops responding. When this option is 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. Example: <code>A:>syscfg --OsWatchdogTimer=Enabled</code>

--SriovGlobalEnable

Valid Arguments	Enabled, Disabled
Description	Enables or disables support for Single Root I/O Virtualization (SR-IOV) devices. Example: <code>A:>syscfg --SriovGlobalEnable=Enabled</code>

--MmioAbove4Gb

Valid Arguments	Enabled, Disabled
Description	This field helps in enabling support for PCIe devices that require large amount of memory. Enable this option only for 64-bit operating systems. Example: <code>A:>syscfg --MmioAbove4Gb=Enabled</code>

--UsbPorts

Valid Arguments	AllOn, OnlyBackPortsOn, AllOff
Description	Configures the USB ports. The option <code>Only Back Ports On</code> disables the front USB ports and option <code>All Ports Off</code> disables

	<p>both front and back USB ports. The USB keyboard and mouse devices functions in certain USB ports during the boot process, depending on the selection. After an operating system driver is loaded, the USB ports are enabled or disabled as per the field setting.</p> <p>Example:</p> <pre>A:>syscfg --UsbPorts=AllOn</pre>
--	---

--Usb3Setting

Valid Arguments	Auto, Enabled, Disabled
Description	<p>Enables or disables the USB 3.0 port.</p> <ul style="list-style-type: none"> • Auto –USB ports operate at USB 2.0 speed. • Enabled— USB ports operates at USB 3.0 speed. • Disabled— USB 3.0 host controller is disabled and the speed is set to USB 2.0. <p>Example:</p> <pre>A:>syscfg --Usb3Setting=Auto</pre>

--CurrentEmbVideoState

Valid Arguments	read-only
Description	<p>Displays the current state of the Embedded Video Controller.</p> <p>Example:</p> <pre>A:>syscfg --CurrentEmbVideoState</pre>

--InternalSdCardPrimaryCard


Valid Arguments	SdCard1, SdCard2
Description	<p>Sets an internal SD card as the primary SD card.</p> <pre>A:>syscfg --InternalSdCardPrimaryCard=SdCard1</pre>

Network Settings


You can manage the system network settings using the options in this group.

--PxeDevnInterface


Valid Arguments	read-only
Description	Displays the NIC interface used for the PXE device.

	 NOTE: The value of <i>n</i> in <code>PxeDevnInterface</code> can be 1–4. Example: A:>syscfg --PxeDev1Interface
--	---


--PxeDevnProtocol

Valid Arguments	read-only
Description	Displays the IP version used for the PXE device.  NOTE: The value of <i>n</i> in <code>PxeDevnVlanId</code> can be 1–4. Example: A:>syscfg --PxeDev1Protocol


--PxeDevnVlanEnDis

Valid Arguments	Enabled, Disabled
Description	Enables or disables the virtual LAN (VLAN) of the PXE device.  NOTE: The value of <i>n</i> in <code>PxeDevnVlanEnDis</code> can be 1–4. Example: A:>syscfg --PxeDev1VlanEnDis=Enabled

--PxeDevnVlanId

Valid Arguments	<integer>
Description	Sets the virtual LAN (VLAN) of the PXE device.  NOTE: The value of <i>n</i> in <code>PxeDevnVlanId</code> can be 1–4. Example: A:>syscfg --PxeDev1VlanId=XXXX

--PxeDevnVlanPriority

Valid Arguments	<integer>
Description	Sets the virtual LAN (VLAN) priority of the PXE device.  NOTE: The value of <i>n</i> in <code>PxeDevnVlanPriority</code> can be 1–4. Example: A:>syscfg --PxeDev1VlanPriority=X

Memory Settings

You can manage the memory-related configuration settings using the objects in this group.

--CorrEccSmi

Valid Arguments	Enabled, Disabled
Description	Enables or disables the Correctable ECC SMIs. When enabled, the SMIs report the Correctable ECC errors. This option can be replicated. Example: <code>A:>syscfg --CorrEccSmi=Enabled</code>

--DynamicCoreAllocation


Valid Arguments	Enabled, Disabled
Description	Enables or disables the operating system capability to maintain the logical processors in the idle state to reduce power consumption. Example: <code>A:>syscfg --DynamicCoreAllocation=Enabled</code>

--MemOpMode

Valid Arguments	OptimizerMode, SpareMode, MirrorMode, AdvEccMode, SpareWithAdvEccMode
Description	Selects the memory operating mode. This feature is active only if a valid memory configuration is detected. When <code>OptimizerMode</code> is enabled, the DRAM controllers operate independently in 64-bit mode and provide optimized memory performance. When <code>MirrorMode</code> is enabled, only half of the installed memory is reported as available to the operating system. When <code>AdvECCMode</code> 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 <code>SpareMode</code> is enabled, the memory size reported to the operating system does not include the spare portion. Example: <code>A:>syscfg --MemOpMode=OptimizerMode</code>

--MemOpVoltage

Valid Arguments	AutoVolt, Volt15V
Description	Sets the DIMM voltage selection. When set to <code>AutoVolt</code> (default value), the system automatically sets the voltage to the optimal setting based upon the DIMM capability and the installed DIMM

	<p>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.</p> <p> NOTE: Volt15V represents 1.5 Volt.</p> <p>Example:</p> <pre>A:>syscfg --MemOpVoltage=AutoVolt</pre>
--	--

--MemTest

Valid Arguments	Enabled, Disabled
Description	<p>Enables or disables the POST extended memory test.</p> <p>Example:</p> <pre>A:>syscfg --MemTest=Enabled</pre>

--NodeInterleave

Valid Arguments	Enabled, Disabled
Description	<p>Enables node interleaving, if the system is configured with matching memory. If set to <code>Disabled</code> (default), the system supports Non-Uniform Memory (NUMA) architecture memory configurations. This field is active only if the memory configuration can support node interleaving.</p> <p>Example:</p> <pre>A:>syscfg --NodeInterleave=Enabled</pre>

--RedundantMem/--redmem

Valid Arguments	<ul style="list-style-type: none"> On systems prior to 12G: off, spare, mirror, DDDC On 12G and later systems: Disabled, Spare Mode, Mirror Mode, Intra-Node Mirror Mode, DIMM Spare Mode, Double DRAM ECC
Description	<p>Allows selection of the required redundant memory mode, or disables redundant memory. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --redmem=off redmem=off</pre>
Applicable Systems	PowerEdge M910, R910, and R810 systems and 12G systems with Intel Xeon 7500 series processor

--SerialDbgOut

Valid Arguments	Enabled, Disabled
Description	Enables or disables the RC/MRC Serial debug output. Example: A:>syscfg --SerialDbgOut=Enabled

--SysMemSize*

Valid Arguments	read-only
Description	Displays the amount of main memory in the system. Example: A:>syscfg --SysMemSize

--SnoopFilter

Valid Arguments	Enabled, Disabled
Description	Enables or disables the snoop filter option from the system BIOS. Example: A:>syscfg --SnoopFilter=Enabled

--SysMemSpeed*

Valid Arguments	read-only
Description	Displays the clock frequency of the main memory. Example: A:>syscfg --SysMemSpeed

--SysMemType*

Valid Arguments	read-only
Description	Displays the type of main memory installed in the system. Example: A:>syscfg --SysMemType

--SysMemVolt*

Valid Arguments	read-only
Description	Displays the voltage of the main memory. Example: A:>syscfg --SysMemVolt

--VideoMem*

Valid Arguments	read-only
Description	Displays the total amount of video memory available to the embedded video controller. Example: A:>syscfg --VideoMem


--ClusterOnDie

Valid Arguments	Enabled, Disabled
Description	Enables or disables the Cluster On Die option. When enabled, the feature enhances the performance of the system with two caching agents. A:>syscfg --ClusterOnDie=Enabled

Miscellaneous Settings

You can manage the miscellaneous settings using the options in this group.

--AssetTag*

Valid Arguments	read-only
Description	Reports or sets the customer-programmable asset tag number for a system. This value can be replicated.  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. For more information on delimiters, see Command Line Option Delimiters . Example: A:>syscfg --AssetTag=<ASSETTAG>

--ErrPrompt

Valid Arguments	Enabled, Disabled
Description	Enables or disables the BIOS to prompt F1 or F2 error codes. Example: A:>syscfg --ErrPrompt=Enabled


-- InSystemCharacterization

Valid Arguments	FastBoot, OptimizedBoot, Disabled
Description	In-System Characterization (ISC) runs during power-on self-test (POST) on detecting relevant changes in the system configuration to optimize power and performance. ISC takes about 20 seconds to run, and a system restart is required to apply the system configuration changes. The <code>FastBoot</code> option runs ISC and continues without applying ISC results until the next system restart. The <code>OptimizedBoot</code> option runs ISC and forces an immediate system restart to apply the results. If set to <code>Disabled</code> , ISC does not run. Example: A:>syscfg --InSystemCharacterization=FastBoot

--NumLock

Valid Arguments	On, Off
Description	Turns the keyboard number lock on or off. This option is not replicated. Example: A:>syscfg --NumLock=On

--ForceInt10

Valid Arguments	Enabled, Disabled
Description	Determines whether the system BIOS loads the legacy video (INT 10h) option ROM from the video controller or not. Set to <code>Enabled</code> if the operating system does not support UEFI video output standards.  NOTE: This field is supported only in UEFI boot mode. This field cannot be set to <code>Enabled</code> if UEFI SecureBoot is enabled. Example: A:>syscfg --ForceInt10=Enabled

-- InSystemCharacterization

Valid Arguments	FastBoot, OptimizedBoot, Disabled
Description	<p>In-System Characterization (ISC) runs during power-on self-test (POST) on detecting relevant changes in the system configuration to optimize power and performance. ISC takes about 20 seconds to run, and a system restart is required to apply the system configuration changes. The <code>FastBoot</code> option runs ISC and continues without applying ISC results until the next system restart. The <code>OptimizedBoot</code> option runs ISC and forces an immediate system restart to apply the results. If set to <code>Disabled</code>, ISC does not run.</p> <p>Example:</p> <pre>A:>syscfg --InSystemCharacterization=FastBoot</pre>

Processor Settings

You can manage the processor settings using the options in this group.

--DataReuse

Valid Arguments	Enabled, Disabled
Description	<p>Enables (default value) or disables data reuse in cache. Set to enable for High Performance Computing (HPC) applications. Set to disable for energy efficiency. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --DataReuse=Enabled</pre>

--DcuIpPrefetcher

Valid Arguments	Enabled, Disabled
Description	<p>Enables (default value) or disables DCU IP Prefetcher.</p> <p>Example:</p> <pre>A:>syscfg --DcuIpPrefetcher=Enabled</pre>

--DcuStreamerPrefetcher

Valid Arguments	Enabled, Disabled
Description	<p>Enables or disables DCU Streamer Prefetcher. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --DcuStreamerPrefetcher=Enabled</pre>

--LogicalProc

Valid Arguments	Enabled, Disabled
Description	<p>Enables or disables the logical processors of a system. When this option is set to <code>Enabled</code> (default value), the BIOS reports all logical processors. When set to <code>Disabled</code>, the BIOS only reports one logical processor per core. Each processor core supports maximum two logical processors. This option is available on all systems that support logical processing (Hyperthreading).</p> <p>This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --LogicalProc=Enabled</pre>

--Proc1Brand*

Valid Arguments	read-only
Description	<p>Displays the brand text provided by the processor manufacturer.</p> <p>Example:</p> <pre>A:>syscfg --Proc1Brand</pre>

--Proc1Id*

Valid Arguments	read-only
Description	<p>Displays the family, model, and stepping values of the processor.</p> <p>Example:</p> <pre>A:>syscfg --Proc1Id</pre>

--Proc1L2Cache*

Valid Arguments	read-only
Description	<p>Displays the amount of memory in the corresponding processor cache.</p> <p>Example:</p> <pre>A:>syscfg --Proc1L2Cache</pre>

--Proc1L3Cache*

Valid Arguments	read-only
Description	<p>Displays the amount of memory in the corresponding processor cache.</p>

	<p>Example:</p> <pre>A:>syscfg --Proc1L3Cache</pre>
--	--

--Proc1NumCores*

Valid Arguments	read-only
Description	<p>Displays the number of cores in the processor package..</p> <p>Example:</p> <pre>A:>syscfg --Proc1NumCores</pre>

--Proc2Brand*

Valid Arguments	read-only
Description	<p>Displays the brand text provided by the processor manufacturer.</p> <p>Example:</p> <pre>A:>syscfg --Proc2Brand</pre>

--Proc2Id*

Valid Arguments	read-only
Description	<p>Displays the family, model, and stepping values of the processor.</p> <p>Example:</p> <pre>A:>syscfg --Proc2Id</pre>

--Proc2L2Cache*

Valid Arguments	read-only
Description	<p>Displays the amount of memory in the corresponding processor cache.</p> <p>Example:</p> <pre>A:>syscfg --Proc2L2Cache</pre>

--Proc2L3Cache*

Valid Arguments	read-only
Description	<p>Displays the amount of memory in the corresponding processor cache.</p> <p>Example:</p> <pre>A:>syscfg --Proc2L3Cache</pre>

--Proc2NumCores*

Valid Arguments	read-only
Description	Displays the number of cores in the processor package.. Example: A:>syscfg --Proc2NumCores

--Proc64bit*

Valid Arguments	read-only
Description	Specifies if the installed processor supports 64-bit extensions or not.. Example: A:>syscfg --Proc64bit

--ProcAdjCacheLine

Valid Arguments	Enabled, Disabled
Description	When set to <code>Enabled</code> (default), the system is optimized for applications that require high utilization of sequential memory access. When set to <code>Disabled</code> , the system is optimized for applications that require high utilization of random memory access. Example: A:>syscfg --ProcAdjCacheLine=Enabled

--ProcBusSpeed*

Valid Arguments	read-only
Description	Displays the bus speed of the processor. Example: A:>syscfg --ProcBusSpeed

--ProcCores

Valid Arguments	1, 2, 4, 6, 8, 10, 12, 14, 16, 18
Description	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. Example: A:>syscfg --ProcCores=1

--ProcCoreSpeed*

Valid Arguments	read-only
Description	Displays the clock speed of the processors. Example: A:>syscfg --ProcCoreSpeed

--ProcExecuteDisable

Valid Arguments	Enabled, Disabled
Description	Enables or disables the Execute Disable Memory Protection Technology feature of the CPU. Example: A:>syscfg --ProcExecuteDisable=Enabled

--ProcHwPrefetcher

Valid Arguments	Enabled, Disabled
Description	Enables or disables the hardware prefetcher. Processor preempts what data might be needed next, when set to Enabled . When some data is found, it loads several steps in advance. Processor does not preempt, when set to Disabled . This option can be replicated. Example: A:>syscfg --ProcHwPrefetcher=Enabled

--ProcVirtualization

Valid Arguments	Enabled, Disabled
Description	Enables or disables virtualization in the CPU. When set to Enabled , it enables the additional hardware capabilities provided by Virtualization Technology in applicable CPUs . When set to Disabled , it disables the additional hardware capabilities provided by Virtualization Technology. This option can be replicated. Example: A:>syscfg --ProcVirtualization=Enabled

--QpiBandwidthPriority

Valid Arguments	InputOutput, Compute
Description	Sets the bandwidth priority to Compute or InputOutput . Set to compute for computation-intensive applications. Set to InputOutput for I/O intensive applications. This option can be replicated. Example: A:>syscfg --QpiBandwidthPriority=Compute


--QpiSpeed

Valid Arguments	MaxDataRate, 9GTps, 8GTps, 7GTps, 6GTps
Description	Sets the speed of the processor. Example: A:>syscfg --QpiSpeed=8GTps

--RtidSetting

Valid Arguments	Enabled, Disabled
Description	When set to Enabled , it allocates more (Requestor Transaction IDs) RTIDs to the remote socket thereby increasing cache performance between the sockets. Example: A:>syscfg --RtidSetting=Enabled

--ProcnControlledTurbo

Valid Arguments	Disabled, ControlledTurboLimit, ControlledTurboLimitMinus1, ControlledTurboLimitMinus2, ControlledTurboLimitMinus3
Description	Controls the turbo engagement. Enable this option only if SysProfile is set to PerfOptimized .  NOTE: The value of <i>n</i> in ProcnControlledTurbo can be 1–4. Example: A:>syscfg --ProcnControlledTurbo=Disabled

--ProcConfigTdp

Valid Arguments	Nominal, Level1, Level2
Description	Configures the Thermal Design Power (TDP).

	<p>Example:</p> <pre>A:>syscfg --ProcConfigTdp=Nominal</pre>
--	---

--ProcX2Apic

Valid Arguments	Enabled, Disabled
Description	<p>Enables or disables the x2APIC mode.</p> <p>Example:</p> <pre>A:>syscfg --ProcX2Apic=Enabled</pre>

SATA Settings

You can manage the BIOS SATA settings using the options in this group.

--EmbSata

Valid Arguments	Off, AtaMode, RaidMode, AhciMode
Description	<p>Configures an embedded SATA RAID controller. This option can be replicated.</p> <ul style="list-style-type: none"> • off /Off – disables the embedded SATA RAID controller. • combined – sets the SATA RAID controller to combined mode. • ata/ AtaMode – sets SATA RAID controller to ATA mode. • ahci/ AhciMode – sets ATA RAID controller to ahci mode. • raid/RaidMode – 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. <p>Example:</p> <pre>A:>syscfg --EmbSata=Off</pre>

--eSataPort1

Valid Arguments	Off, Auto
Description	<p>Sets the embedded SATA port1 to Auto or Off.</p> <p>Example:</p> <pre>A:>syscfg --eSataPort1=Off</pre>

--eSataPort1Capacity*

Valid Arguments	read-only
Description	<p>Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives.</p>

	Example: A:>syscfg --eSataPort1Capacity
--	--

--eSataPort1DriveType*

Valid Arguments	read-only
Description	Indicates the type of device attached to the embedded SATA port. Example: A:>syscfg --eSataPort1DriveType

--eSataPort1Model*

Valid Arguments	read-only
Description	Displays the drive model of the selected device. Example: A:>syscfg --eSataPort1Model

--SataPortA

Valid Arguments	Off, Auto
Description	Turns the SATA port A to Off or Auto. This option can be replicated. Example: A:>syscfg --SataPortA=Auto

--SataPortACapacity*

Valid Arguments	read-only
Description	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives. Example: A:>syscfg --SataPortACapacity

--SataPortADriveType*

Valid Arguments	read-only
Description	Displays the type of device attached to the SATA port. Example: A:>syscfg --SataPortADriveType

--SataPortAModel*

Valid Arguments	read-only
Description	Displays the drive model of the selected device. Example: A:>syscfg --SataPortAModel

--SataPortB

Valid Arguments	Off, Auto
Description	Turns the SATA port B to Auto or Off . This option can be replicated. Example: A:>syscfg --SataPortB=Auto

--SataPortBCapacity*

Valid Arguments	read-only
Description	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives. Example: A:>syscfg --SataPortBCapacity

--SataPortBDriveType*

Valid Arguments	read-only
Description	Indicates the type of device attached to the SATA port. Example: A:>syscfg --SataPortBDriveType

--SataPortBModel*

Valid Arguments	read-only
Description	Displays the drive model of the selected device. Example: A:>syscfg --SataPortBModel

--SataPortC

Valid Arguments	Off, Auto
Description	Turns the Sata Port C to Auto or Off . This option can be replicated. Example: A:>syscfg --SataPortC=Auto

--SataPortCCapacity*

Valid Arguments	read-only
Description	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives. Example: A:>syscfg --SataPortCCapacity

--SataPortCDriveType*

Valid Arguments	read-only
Description	Indicates the type of device attached to the SATA port. Example: A:>syscfg --SataPortCDriveType

--SataPortCModel*

Valid Arguments	read-only
Description	Displays the drive model of the selected device. Example: A:>syscfg --SataPortCModel

--SataPortD

Valid Arguments	Auto, Off
Description	Turns the Sata Port D to Auto or Off . This option can be replicated. Example: A:>syscfg --SataPortD=Auto

--SataPortDCapacity*

Valid Arguments	read-only
Description	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives. Example: A:>syscfg --SataPortDCapacity

--SataPortDDriveType*

Valid Arguments	read-only
Description	This option indicates type of device attached to this SATA port. Example: A:>syscfg --SataPortDDriveType

--SataPortDModel*

Valid Arguments	read-only
Description	Displays the drive model of the selected device. Example: A:>syscfg --SataPortDModel

--SataPortE

Valid Arguments	Off, Auto
Description	Turns the Sata Port E to Auto or Off . This option can be replicated. Example: A:>syscfg --SataPortE=Auto

--SataPortECapacity*

Valid Arguments	read-only
Description	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives. Example: A:>syscfg --SataPortECapacity

--SataPortEDriveType*

Valid Arguments	read-only
Description	This option indicates type of device attached to this SATA port. Example: A:>syscfg --SataPortEDriveType

--SataPortEModel*

Valid Arguments	read-only
Description	Displays the drive model of the selected device. Example: A:>syscfg --SataPortEModel

--SataPortF

Valid Arguments	Off, Auto
Description	Turns the Sata Port F to Auto or Off . This option can be replicated. Example: A:>syscfg --SataPortF=Auto

--SataPortFCapacity*

Valid Arguments	read-only
Description	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives. Example: A:>syscfg --SataPortFCapacity

--SataPortFDriveType*

Valid Arguments	read-only
Description	This option indicates type of device attached to this SATA port. Example: A:>syscfg --SataPortFDriveType

--SataPortFModel*

Valid Arguments	read-only
Description	Displays the drive model of the selected device. Example: A:>syscfg --SataPortFModel

--SataPortG

Valid Arguments	Off, Auto
Description	Turns the SATA port G to Auto or Off . This option can be replicated. Example: A:>syscfg --SataPortG=Auto

--SataPortGCapacity*

Valid Arguments	read-only
Description	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives. Example: A:>syscfg --SataPortGCapacity

--SataPortGDriveType*

Valid Arguments	read-only
Description	This option indicates type of device attached to this SATA port. Example: A:>syscfg --SataPortGDriveType

--SataPortGModel*

Valid Arguments	read-only
Description	Displays the drive model of the selected device. Example: A:>syscfg --SataPortGModel

--SataPortH

Valid Arguments	Off, Auto
Description	Turns the SATA port H to Auto or Off . This option can be replicated. Example: A:>syscfg --SataPortH=Auto

--SataPortHCapacity*

Valid Arguments	read-only
Description	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives. Example: A:>syscfg --SataPortHCapacity

--SataPortHDriveType*

Valid Arguments	read-only
Description	This option indicates type of device attached to this SATA port. Example: A:>syscfg --SataPortHDriveType

--SataPortHModel*

Valid Arguments	read-only
Description	Displays the drive model of the selected device. Example: A:>syscfg --SataPortHModel

--SataPortI

Valid Arguments	Off, Auto
Description	Turns the SATA port I to Auto or Off . This option can be replicated. Example: A:>syscfg --SataPortI=Auto

--SataPortCapacity*

Valid Arguments	read-only
Description	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives. Example: A:>syscfg --SataPortCapacity

--SataPortDriveType*

Valid Arguments	read-only
Description	This option indicates type of device attached to this SATA port. Example: A:>syscfg --SataPortDriveType

--SataPortModel*

Valid Arguments	read-only
Description	Displays the drive model of the selected device. Example: A:>syscfg --SataPortModel

--SataPortJ

Valid Arguments	Off, Auto
Description	Turns the SATA port Jto Auto or Off . This option can be replicated. Example: A:>syscfg --SataPortJ=Auto

--SataPortJCapacity*

Valid Arguments	read-only
Description	Displays the total capacity of a hard-disk drive. This option is undefined for removable-media devices such as optical drives. Example: A:>syscfg --SataPortJCapacity

--SataPortJDriveType*

Valid Arguments	read-only
Description	This option indicates type of device attached to this SATA port. Example: A:>syscfg --SataPortJDriveType

--SataPortJModel*

Valid Arguments	read-only
Description	Displays the drive model of the selected device. Example: A:>syscfg --SataPortJModel

--SecurityFreezeLock

Valid Arguments	Enabled, Disabled
Description	Sends the Security Freeze Lock command to the embedded SATA drives during power-on self-test (POST). The option is applicable only to ATA and AHCI, and not to RAID. Example: A:>syscfg --SecurityFreezeLock=Enabled

Serial Communication

You can manage the serial port settings using the options in this group.

--ConTermType

Valid Arguments	Vt100Vt220, Ansi
Description	Sets the remote console terminal type. This option is available on all supported systems that support console redirection. This option can be replicated. Example: A:>syscfg --ConTermType=Vt100Vt220

--ExtSerialConnector

Valid Arguments	Serial1, Serial2, RemoteAccDevice
Description	Associates the External Serial Connector to Serial Device 1, Serial Device 2, or the Remote Access Device.

	<p>Example:</p> <pre>A:>syscfg --ExtSerialConnector=Serial1</pre>
--	--

--FailSafeBaud

Valid Arguments	115200, 57600, 19200, 9600
Description	<p>Sets the console redirection fail safe baud rate in bps. The BIOS attempts to determine the baud rate automatically. This failsafe baud rate is used only if the attempt fails.</p> <p>Example:</p> <pre>A:>syscfg --FailSafeBaud=9600</pre>

--RedirAfterBoot

Valid Arguments	Enabled, Disabled
Description	<p>Sets the BIOS console redirection to enable or disable when the operating system is loaded.</p> <p>Example:</p> <pre>A:>syscfg --RedirAfterBoot=Enabled</pre>

--SerialComm

Valid Arguments	OnNoConRedir, OnConRedirCom1, OnConRedirCom2, Off
Description	<p>Enables or disables the serial communication devices (Serial Device 1 and Serial Device 2) in BIOS.</p> <p>Example:</p> <pre>A:>syscfg --SerialComm=OnNoConRedir</pre>


--SerialPortAddress

Valid Arguments	Serial1Com1Serial2Com2, Serial1Com2Serial2Com1, Com1, Com2
Description	<p>Sets the port address of the serial devices. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --SerialPortAddress=Serial1Com1Serial2Com2</pre>

Slot Disablement

You can manage the slot disablement settings using the options in this group.

--Slotn

Valid Arguments	Enabled, Disabled, BootDriverDisabled
Description	Controls the configuration of the installed card in the specified slot.  NOTE: The value of <i>n</i> in Slot <i>n</i> can be 1–10. Example: A:>syscfg --Slot1=Enabled

System Information

You can view the system configuration details using the options in this group.

--SysMfrContactInfo*

Valid Arguments	read-only
Description	Displays the information for contacting the Original Equipment Manufacturer (OEM) of this system. Example: A:>syscfg --SysMfrContactInfo

--SystemBiosVersion*

Valid Arguments	read-only
Description	Displays the current revision of the system BIOS firmware. Example: A:>syscfg --SystemBiosVersion

--SystemManufacturer*

Valid Arguments	read-only
Description	Displays the name of the Original Equipment Manufacturer (OEM) of this system. Example: A:>syscfg --SystemManufacturer

--SystemModelName*

Valid Arguments	read-only
Description	Displays the product name of the system.

	<p>Example:</p> <pre>A:>syscfg --SystemModelName</pre>
--	---

--SystemServiceTag*

Valid Arguments	read-only
Description	<p>Displays the system service tag (a unique identifier assigned by the Original Equipment Manufacturer (OEM) of this system).</p> <p>Example:</p> <pre>A:>syscfg --SystemServiceTag</pre>

--SystemMeVersion*

Valid Arguments	read-only
Description	<p>Displays the version of the Management Engine firmware.</p> <p>Example:</p> <pre>A:>syscfg --SystemMeVersion</pre>

--UefiComplianceVersion*

Valid Arguments	read-only
Description	<p>Displays the UEFI compliance level of the system firmware.</p> <p>Example:</p> <pre>A:>syscfg --UefiComplianceVersion</pre>

System Profile Settings

You can manage the system profile settings using the options in this group.

--CollaborativeCpuPerfCtrl

Valid Arguments	Enabled, Disabled
Description	<p>When set to <code>Enabled</code>, the operating system demand based power management (OS DBPM) and system demand based power management (System DBPM) controls the CPU power management. This feature can be enabled only when CPU power management (<code>ProcPwrPerf</code>) is set to system DBPM in <code>Custom</code> mode.</p> <p>Example:</p> <pre>A:>syscfg --CollaborativeCpuPerfCtrl=Enabled</pre>

--MemFrequency

Valid Arguments	MaxPerf, 2133MHz, 1866MHz, 1600MHz, 1333MHz, 1067MHz, 800MHz, MaxReliability
Description	Sets the speed of system memory. Example: A:>syscfg --MemFrequency=MaxPerf


--MemPatrolScrub

Valid Arguments	Standard, Extended, Disabled
Description	Sets the Memory Patrol Scrub frequency as Standard, Extended, or Disabled mode. Example: A:>syscfg --MemPatrolScrub=Standard

--MemRefreshRate

Valid Arguments	1x, 2x
Description	Sets the Memory Refresh Rate as 1x or 2x Example: A:>syscfg --MemRefreshRate=1x

--MemVolt

Valid Arguments	AutoVolt, Volt15V, Volt135V  NOTE: Volt15V represents 1.5 Volt and Volt135V represents 1.35 Volt.
Description	Sets the DIMM voltage selection. Example: A:>syscfg --MemVolt=AutoVolt

--MonitorMwait

Valid Arguments	Enabled, Disabled
Description	Enables or disables Monitor/Mwait instructions. You can disable Monitor/Mwait only when C state is disabled in Custom mode. Example: A:>syscfg --MonitorMwait=Enabled

--ProcC1E

Valid Arguments	Enabled, Disabled
Description	Enables or disables C1-E. By default, it is enabled. This option can be replicated. Example: A:>syscfg --ProcC1E=Enabled

--ProcCStates

Valid Arguments	Enabled, Disabled
Description	Enables or disables the power c states of the processor. When enabled, the processor can operate in all available power states. A:>syscfg --ProcCStates=Enabled

--ProcPwrPerf

Valid Arguments	MaxPerf, SysDbpm, OsDbpm
Description	Sets CPU Power Management to maximum performance, operating system DBPM, or System DBPM (DAPC). Example: A:>syscfg --ProcPwrPerf=OsDbpm

--ProcTurboMode

Valid Arguments	Enabled, Disabled
Description	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. When enabled, the processor can operate in Turbo Boost Mode. Example: A:>syscfg --ProcTurboMode=Enabled

--SysProfile


Valid Arguments	PerfPerWatt OptimizedOs, PerfPerWatt OptimizedDapc, PerfOptimized, Custom, DenseCfg Optimized
Description	Configures the system power profile. 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.

	<p>Example:</p> <pre>A:>syscfg --SysProfile=PerfPerWatt OptimizedOs</pre>
--	--

--EnergyEfficientTurbo

Valid Arguments	Enabled, Disabled
Description	<p>Enables or disables the Energy Efficient Turbo (EET). EET is a mode of operation where the core frequency of a processor is adjusted within the turbo range based on workload.</p> <p>Example:</p> <pre>A:>syscfg --EnergyEfficientTurbo=Enabled</pre>

--ProcnTurboCoreNum

Valid Arguments	All, 1, 2, 4, 6, 8, 10, 12, 14, 16, 18
Description	<p>Sets the number of Turbo Boost-enabled cores for a processor. By default, the maximum number of cores per processor is enabled.</p> <p> NOTE: The value of <i>n</i> in ProcnTurboCoreNum can be 0–3.</p> <p>Example:</p> <pre>A:>syscfg --ProcnTurboCoreNum=6</pre>

--EnergyPerformanceBias

Valid Arguments	MaxPower, BalancedPerformance, BalancedEfficiency, LowPower
Description	<p>Sets the Energy Efficient Policy. The CPU uses this setting to control the internal behavior of the processor and to determine whether to target higher performance or better power savings.</p> <p>Example:</p> <pre>A:>syscfg --EnergyPerformanceBias=MaxPower</pre>

--UncoreFrequency

Valid Arguments	DynamicUFS, MaxUFS, MinUFS
Description	<p>Sets the processor uncore frequency. Dynamic mode allows the processor to optimize power resources across the cores and uncore during runtime. The optimization of the uncore frequency to either save power or to optimize the performance is dependent on the EnergyPerformanceBias option setting.</p> <p>Example:</p> <pre>A:>syscfg --UncoreFrequency=DynamicUFS</pre>

System Security

You can manage the system security properties of the BIOS using the options in this group.

--AcPwrRcvry

Valid Arguments	On, Off, Last
Description	<p>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 option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --AcPwrRcvry=On</pre>

--AcPwrRcvryDelay

Valid Arguments	Immediate, User, Random
Description	<p>Specifies how the system supports the staggering of power-up after AC power has been restored to the system.</p> <p>Example:</p> <pre>A:>syscfg --AcPwrRcvryDelay=Immediate</pre>

--AcPwrRcvryUserDelay

Valid Arguments	<integer>
Description	<p>Controls the user defined AC Recovery Delay. The delay must be in the range of 60 seconds to 240 seconds.</p> <p>Example:</p> <pre>A:>syscfg --AcPwrRcvryUserDelay=120</pre>


--AesNi

Valid Arguments	Enabled, Disabled
Description	<p>Displays the current status of Intel Processor AES-NI feature.</p> <p>Example:</p> <pre>A:>syscfg --AesNi=Enabled</pre>


--BiosUpdateControl

Valid Arguments	Unlocked, Limited, Locked
Description	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 <code>Locked</code> . Example: <code>A:>syscfg --BiosUpdateControl=Unlocked</code>
Applicable Systems	PowerEdge 12G and later systems

--IntelTxt

Valid Arguments	On, Off
Description	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.  NOTE: To enable the Intel TXT option in a supported processor, make sure that the: <ul style="list-style-type: none">• Virtualization technology in Processor setting is enabled.• TPM module is installed and initialed as OK by BIOS.• TPM security in System security is set to on with pre-boot measurements.• User password is not set. Example: <code>A:>syscfg --IntelTxt=On</code>

--NmiButton

Valid Arguments	Enabled, Disabled
Description	Enables or disables the Non-Maskable Interrupt (NMI) button on the front panel. The NMI button can be used to alert the operating system in certain cases.  NOTE: This option configures Baseboard Management Controller (BMC) and Remote Access Controller (RAC) settings. Example: <code>A:>syscfg --NmiButton=Enabled</code>

--PasswordStatus

Valid Arguments	Locked, Unlocked
Description	Locks the system password. To prevent the system password from being modified, set this option to <code>Locked</code> and enable setup password.

	<p>This field also prevents the system password from being disabled by the user while the system boots.</p> <p>Example:</p> <pre>A:>syscfg --PasswordStatus=Locked</pre>
--	---

--PwrButton

Valid Arguments	Enabled, Disabled
Description	<p>Enables or disables the power button on the front panel.</p> <p>Example:</p> <pre>A:>syscfg --PwrButton=Enabled</pre>

--SetupPassword*

Valid Arguments	read-only
Description	<p>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 OldSetupPassword option. This option is not replicated. For more information on delimiters, see Command Line Option Delimiters.</p> <p>Example:</p> <pre>A:>syscfg --SetupPassword=asetuppassword</pre> <p>The password has been set. Please use a warm reboot to apply the password to the system.</p> <p>Example 2:</p> <pre>A:>syscfg --SetupPassword=asetuppassword -- OldSetupPassword=currentpassword</pre> <p>The password has been set. Please use a warm reboot to apply the password to the system.</p> <p>Example 3:</p> <pre>A:>syscfg --SetupPassword=asetuppassword -- OldSetupPassword=currentpassword</pre> <p>The old password entered is incorrect. The new password will not be set. Please try again.</p>

--SysPassword*

Valid Arguments	read-only
Description	<p>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</p>

OldSysPassword option. This option is not replicated. For more information on delimiters, see [Command Line Option Delimiters](#).

Example 1:

```
A:>syscfg --SysPassword=password
The password has been set. Please use a warm reboot
to apply the password to the system.
```

Example 2:

```
A:>syscfg --SysPassword=password --
OldSysPassword=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.

--SystemCpldVersion*

Valid Arguments	read-only
Description	Displays the current revision of the Complex Programmable Logic Device (CPLD) of the system. Example: A:>syscfg --SystemCpldVersion

--TpmSecurity

Valid Arguments	Off, OnPbm, OnNoPbm
Description	Controls the reporting of the Trusted Platform Module (TPM) in the system. Example: A:>syscfg --TpmSecurity=Off



--TpmStatus

Valid Arguments	read-only
Description	Displays the current status of TPM. Example: A:>syscfg --TpmStatus

--TpmInfo*

Valid Arguments	read-only
Description	Displays the TPM type and firmware version. Example: A:>syscfg --TpmInfo

--TpmCommand

Valid Arguments	None, Activate, Deactivate, Clear
Description	Configures the Trusted Platform Module (TPM). <ul style="list-style-type: none">• None<ul style="list-style-type: none">– Commands are not sent to the TPM.• Activate – TPM is enabled.• Deactivate – TPM is disabled.• Clear – All the contents of TPM are cleared. <p> NOTE: This field is read-only when <code>TpmSecurity</code> is set to <code>Off</code>.</p> <p> CAUTION: Clearing TPM results in loss of all keys in the TPM. This could affect booting to operating system.</p> <p>Example: A:>syscfg --TpmCommand=Activate</p>

--SecureBoot

Valid Arguments	Enabled, Disabled
Description	Enables or disables the <code>BootSeqRetry</code> feature. When set to <code>Enabled</code> , the system reattempts the boot sequence after a 30-second timeout, if the last boot attempt has failed. Example: A:>syscfg --SecureBoot=Enabled

--SecureBootPolicy


Valid Arguments	Standard, Custom
Description	Sets the process to authenticate pre-boot images. When set to <code>Standard</code> , the BIOS uses the system manufacturer keys and certificates to authenticate pre-boot images. When set to <code>Custom</code> , the BIOS uses user-defined keys and certificates. The default value is <code>Standard</code> .

	<p>Example:</p> <pre>A:>syscfg --SecureBootPolicy=Standard</pre>
--	---

UEFI Boot Settings



You can manage the UEFI settings using the options in this group.

--UefiBootSeq

Valid Arguments	list of device names separated by commas
Description	<p>Enables, disables, and orders the devices in a UEFI boot order list. Only the devices present on the system are listed in the UefiBootSeq. The first option in the list is attempted first. If the first option is not successful, the second option is attempted, and so on. The system attempts to launch only the enabled boot options and does not launch disabled boot options. This option is applicable when BootMode is set to UEFI and has no effect when BootMode is set to BIOS.</p> <p> NOTE: Only the devices listed in the BootSeq are enabled.</p>

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.

The following tables document valid options, sub-options, and arguments along with a description of the expected behavior of each option and suboption. 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 suboptions 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 suboptions such as **commstring** and **hostname** can take an empty string as input.

bmcversion

Table 6. bmcversion options

Option	Sub-option	Valid Arguments	Description
bmcversion			Displays the version information for the BMC and the BMC firmware. This option cannot be replicated.
	--devid	NA	Reports the BMC device ID.
	--devrevision	NA	Reports the BMC device revision.
	--majorfwversion	NA	Reports the BMC device major firmware revision.
	--minorfwversion	NA	Reports the BMC device minor firmware revision. Example: A:>syscfg bmcversion devid=32 devrevision=0 majorfwversion=0 minorfwversion=40

chassistype*

Option	Sub-option	Valid Arguments	Description
--chassistype*	NA	NA	Identifies the Chassis Management Controller (CMC). The possible values are 9 (M1000e), 10 (VRTX), and 0 (others). Example: A:>syscfg -- chassistype chassistype=10 (VRTX)

clearsel*

Option	Sub-option	Valid Arguments	Description
--clearsel*	NA	NA	Clears the System Event Log (SEL). This option cannot be replicated. Example: A:>syscfg -- clearsel Clearing SEL...

controlpanelaccess

Option	Sub-option	Valid Arguments	Description
--controlpanelaccess	NA	viewandmodify , viewonly, disabled	Sets or gets the access level for the Liquid Crystal Display (LCD). Example: A:>syscfg -- controlpanelaccess= viewandmodify controlpanelaccess= viewandmodify

deviceguid*

Option	Sub-option	Valid Arguments	Description
--deviceguid*	NA	NA	Displays the GUID for the BMC. This option cannot be replicated. Example: A:>syscfg--deviceguid deviceguid=XXXXXXXXXX

encryptkey


Option	Sub-option	Valid Arguments	Description
--encryptkey	NA	<hexadecimal number>	Encrypts the IPMI sessions. The hexadecimal number entered as an argument is case insensitive although the value returned by the <code>encryptkey</code> option is always in uppercase. The value returned is appended with zeroes so that it is always 40 characters long. Example: A:>syscfg -- encryptkey=abcd encryptkey= ABCD000000000000 0000000000000000 0000000000

--formfactor

Option	Sub-option	Valid Arguments	Description
--lcd1	NA	read-only	Displays the geometry of PowerEdge Blade systems. The option can have the following values: halfheight (the Blade

Option	Sub-option	Valid Arguments	Description
			<p>systems occupies 1 slot of the chassis), halfheight, dualwide (the Blade system occupies 2 horizontal slots of the chassis), fullheight (the Blade system occupies 2 vertical slots of the chassis), fullheight, dualwide (the Blade system occupies 4 slots of the chassis), and quarterheight (the Blade systems occupies half slot of the chassis).</p> <p>Example:</p> <pre>A:>syscfg -- formfactor=fullheight, dualwide formfactor=fullheight, dualwide</pre>

identify


Option	Sub-option	Valid Arguments	Description
--identify	NA	0-254  NOTE: Use 0 to stop the blinking of the LED.	Flashes the identification LED for a specified number of seconds on PowerEdge systems with a BMC.

idracversion

Option	Sub-option	Valid Arguments	Description
--idracversion			Displays the version information for the iDRAC and the iDRAC firmware. This option cannot be replicated.
	--devid	NA	Reports the iDRAC device ID.
	--devrevision	NA	Reports the iDRAC device revision.
	--majorfwversion	NA	Reports the major firmware revision of iDRAC.
	--minorfwversion	NA	Reports the minor firmware revision of iDRAC. <pre>A:>syscfg --idracversion devid=32 devrevision=0 majorfwversion=0 minorfwversion=40</pre>

lancfgparams

Option	Sub-option	Valid Arguments	Description
lancfgparams or lcp			Configures and displays LAN configuration parameters. This option can be replicated.
	--ipaddrsrc	static, dhcp	Sets the IP address source for the LAN channel. This sub-option can be replicated.
	--ipaddress	<ipaddress>	Sets the IP address for the LAN channel. This sub-option cannot be replicated.
	--subnetmask	<subnetmask >	Sets the subnet mask for the LAN channel. This sub-option can be replicated.
	--gateway	<gateway>	Sets the gateway for the LAN channel. This sub-option can be replicated.
	--commstring	<string>	Sets the community string (maximum of 16 printable ASCII characters) used in a platform event trap (PET). This sub-option can be replicated.
	--destipaddr	<ipaddress>	<p>Sets the destination IP address or Fully Qualified Domain Name (FQDN) for the alert destination specified with the alertdest sub-option.</p> <p>The destipaddr sub-option is dependent on the alertdest suboption. If the alertdest sub-option is not specified on the command line, the first alert destination (alertdest=1) is set with this IP address or FQDN. This sub-option can be replicated.</p> <p>Example 1 (to set the destination IP address):</p> <pre>A:>syscfg lcp --alertdest=1 --destipaddr=192.168.100.15</pre> <p>Example 2 (to set the destination IP address as FQDN):</p> <pre>A:>syscfg lcp --alertdest=1 --destipaddr=xxx.yyy.com</pre>
	--alertdest	1, 2, 3, 4	Sets the destination for the LAN alert. This sub-option can be replicated.

Option	Sub-option	Valid Arguments	Description
	--vlantag	enable, disable	Enables or disables VLAN tagging. This sub-option can be replicated.
	--vlanid	<string>	Sets the 12-bit VLAN ID. This sub-option can be replicated.
	--vlanpriority	0-7	Sets the VLAN priority value. This sub-option can be replicated.
	--macaddress	NA	Displays the BMC MAC address. This sub-option cannot be replicated.
	--nicselectionfailover  NOTE: This option is available only with the appropriate installed license.	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.
	--fullduplex	enable, disable	Enables or disables full duplex on the RAC network interface.
	--autoneg	enable, disable	Enables or disables autonegotiation.
	--speed	10,100	Sets the network interface speed to 10 or 100 Mbps.
	--dnshcp	enable, disable	Enables or disables obtaining the DNS server IP address through DHCP.
	--dnserver1	<ipaddress>	Sets the IP address of the primary DNS server for domain name resolution.
	--dnserver2	<ipaddress>	Sets the IP address of the secondary DNS server for domain name resolution.
	--dnsregisterrac	enable, disable	Enables or disables binding of the RAC name to the IP address.
	--dnsracname	<string>	Sets the name of the RAC.
	--domainnamefromdhcp	enable, disable	Enables or disables getting the RAC domain name through DHCP.
	--domainname	<string>	Sets the domain name of the RAC.

Option	Sub-option	Valid Arguments	Description
			<p>Example 1 (to display the current LAN configuration settings):</p> <pre>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</pre> <p>Example 2 (to set the LAN configuration parameters):</p> <pre>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</pre>

lanchannelaccess

Option	Sub-option	Valid Arguments	Description
lanchannelaccess or lca			Sets or displays the LAN channel access settings such as alerting, IPMI over LAN, and user privilege. This option can be replicated.
	--pefalerting	enable, disable	Enables or disables PEF alerts. This sub-option can be replicated.

Option	Sub-option	Valid Arguments	Description
	--ipmioverlan	disable, alwaysavail	Sets the LAN channel access mode. This sub-option can be replicated.
	--channelprivlmt	user, operator, administrator	Sets the maximum privilege level accepted for the LAN channel. This sub-option can be replicated. Example (to configure the LAN channel with alerts and IPMI over LAN enabled): A:>syscfg lanchannelaccess-- pefalerting=enable -- ipmioverlan=alwaysavail

lanchannelinfo


Option	Sub-option	Valid Arguments	Description
lanchannelinfo or lci	NA	NA	Displays media and protocol information about the LAN channel. This option cannot be replicated.

lanuseraccess

Option	Sub-option	Valid Arguments	Description
lanuseraccess or lua			Configures the privilege level and channel accessibility associated with a specified User ID for the LAN channel.
	--userid	2-16, 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 useridsub-option. This sub-option can be replicated. This sub-option is dependent on the userid sub-option.
	--currentenabledusers	NA	Reports the number of currently enabled User IDs on the LAN channel.
	--useridswithfixednames	NA	Reports the number of User IDs with fixed names on the LAN channel.

Option	Sub-option	Valid Arguments	Description
			<p>Example 1 (to enable User ID 2 on the LAN channel with administrator privileges):</p> <pre>A:>syscfg lanuseraccess --userid=2 --usrprivlmt=administrator</pre> <p>Example 2 (to enable User ID 4 on the LAN channel with user privileges):</p> <pre>A:>syscfg lanuseraccess --userid=4 --usrprivlmt=user</pre>


lcd1

Option	Sub-option	Valid Arguments	Description
--lcd1	NA	<string>	<p>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.</p> <p> NOTE: Before setting user strings for --lcd1, ensure that --lcd is set to user.</p>

lcd2

Option	Sub-option	Valid Arguments	Description
--lcd1	NA	<string>	<p>Sets the second line of user-defined text on the system LCD. This option can be replicated. For more information on delimiters, see Command Line Option Delimiters.</p>

loaddefaults*

Option	Sub-option	Valid Arguments	Description
--loaddefaults*	NA	NA	<p>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.</p> <p> NOTE: The NMI, power button, and SOL defaults are not reset by using this option.</p>

Option	Sub-option	Valid Arguments	Description
			Example: <pre>A:>syscfg --loaddefaults</pre> Loading defaults...


nextboot

Option	Sub-option	Valid Arguments	Description
<pre>--nextboot or --OneTimeBootSeqDev</pre>	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. For more information, see --bootseq . This option is not replicated. Example 1: <pre>A:>syscfg --bootseq</pre> 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: <pre>A:>syscfg --nextboot=nic.emb.1</pre> <pre>nextboot=nic.emb.1</pre>

nmibutton

Option	Sub-option	Valid Arguments	Description
<pre>--nmibutton</pre>	NA	enable, disable	Enables or disables the NMI button. This option can be replicated. Example: <pre>A:>syscfg --nmibutton=enable</pre> <pre>nmibutton=enable</pre>

passwordaction

Option	Sub-option	Valid Arguments	Description
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.
	--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): <pre>A:>syscfg passwordaction --userid=3 --action=setpassword --password=bmcmaster passwordaction userid=3 action=setpassword password=*****</pre> <pre>A:>syscfg passwordaction --userid=3 --action=testpassword --password=bmcmastor</pre> Password test failed.

pefcfgparams

Option	Sub-option	Valid Arguments	Description
pefcfgparams or pcp			Configures and displays PEF configuration parameters. This option can be replicated.
	--filter	fanfail, voltfail, discretevoltfail, tempwarn, tempfail, intrusion,	Specifies a PEF value. This sub-option can be replicated. For a complete list of all possible PEF messages along a description of each event, see BMC Platform Events Filter Alert Messages


Option	Sub-option	Valid Arguments	Description
		redundegraded, redunlost, procwarn, procfail, powerwarn, powerfail, hardwarelogfail, autorecovery, batterywarn, batteryfail, powerabsent, procabsent, systempowerwarn, systempowerfail	
	--filteraction	powercycle, reset, powerdown, powerreduction, none	Sets the event filter action for the filter specified using the <code>filter</code> sub-option. This sub-option depends on the <code>filter</code> sub-option. This sub-option can be replicated.
	--hostname	<string>	Sets the host name (maximum of 62 printable ASCII characters) for the BMC. This sub-option can be replicated. The <code>hostname</code> string must comprise only the following characters: hyphen (-), underscore (_), and period (.).
	--filteralert	enable, disable	Enables or disables alerts for the filter specified using the <code>filter</code> sub-option. This sub-option is dependent on the <code>filter</code> 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.
	--alertpolstatus	enable, disable	Enables or disables the alert policy specified using the <code>alertpolnum</code> sub-option. This sub-option can be replicated. This sub-option is dependent on the <code>alertpolnum</code> sub-option. Example: (to set the PEF configuration parameters):



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

powerbutton

Option	Sub-option	Valid Arguments	Description
--powerbutton	NA	enable, disable	<p>Enables or disables the power button. This option can be replicated.</p> <p>Example:</p> <pre>A:>syscfg --powerbutton=enable powerbutton=enable</pre>

powerctl

Option	Sub-option	Valid Arguments	Description
--powerctl	NA	powerdown	<p>Performs a chassis powerdown and controls the reset of the system.</p> <p>Powerdown turns off the system.</p>
		powercycle	<p>Turns off the system and automatically turns on your system after a few seconds.</p>
		reset	<p>Resets the system.</p>
		softshutdown	<p>In Linux, the system turns off immediately.</p> <p> NOTE: In Windows PE, this option does not work.</p>

Option	Sub-option	Valid Arguments	Description
			 NOTE: This option applies only to PowerEdge systems that are configured with a BMC.  NOTE: This argument requires ACPI support to function properly.

racreset*

Option	Sub-option	Valid Arguments	Description
--racreset*	NA	NA	Resets the RAC. It cannot be accompanied with any other option. This option cannot be replicated.

serialcfgparams

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

Option	Sub-option	Valid Arguments	Description
	<code>--tmcfnewlineseq</code>	<code>noterm, crlf, null, cr, lfcr, lf</code>	Sets the new line sequence value for terminal mode configuration. This sub-option can be replicated.
	<code>--tmcfinputnewline seq</code>	<code>cr, null</code>	<p>Sets the input new line sequence value for terminal mode configuration. This sub-option can be replicated.</p> <p>Example (to display the current serial configuration settings):</p> <pre>A:>syscfg serialcfgparams serialcfgparams tmcfgedelctrl=del tmcfgechoctrl=echo tmcfghandshakectrl=enable connectionmode=terminal tmcfnewlineseq=crlf msgcommflowctrl=rtscts tmcfinputnewlineseq=cr msgcommdtrhangup=disable msgcommbitrate=19200 tmcflineediting=enable</pre>

serialchannelaccess

Option	Sub-option	Valid Arguments	Description
<code>--serialchannelaccess</code> or <code>sca</code>			Sets or displays the channel access settings for the serial channel. This option can be replicated.
	<code>--ipmioverserial</code>	<code>disable, alwaysavail</code>	Sets the serial channel access mode. This sub-option can be replicated.
	<code>--channelprivlmt</code>	<code>user, operator, administrator</code>	<p>Sets the maximum privilege level accepted for the serial channel. This sub-option can be replicated.</p> <p>Example (to configure the serial channel with IPMI over serial disabled and the maximum</p>

Option	Sub-option	Valid Arguments	Description
			privilege level set to administrator): <pre>A:>syscfg serialchannel access -- ipmioverserial=disable -- channelprivlmt=administra tor serialchannelaccess ipmioverserial=disable channelprivlmt=administra tor</pre>

serialchannelinfo

Option	Sub-option	Valid Arguments	Description
--serialchannelinfo or sci			Displays media and protocol information about the serial channel. This option cannot be replicated.
	--mediatype	NA	Displays the medium type for the serial channel. This sub-option cannot be replicated.
	--proctype	NA	Displays the protocol type for the serial channel. This sub-option cannot be replicated.
	--ssnsupport	NA	Displays the session support information for the serial channel. This sub-option cannot be replicated.
	--activessncount	NA	Displays the number of sessions that are activated on the serial channel. This sub-option cannot be replicated. Example: <pre>A:>syscfg serialchannelinfo -- mediatype mediatype= asynch</pre>

serialuseraccess

Option	Sub-option	Valid Arguments	Description
serialuseraccess or sua			Configures the privilege level and channel accessibility associated with a specified User


Option	Sub-option	Valid Arguments	Description
			ID for the serial channel. This option can be replicated.
	--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 <code>userid</code> sub-option. This sub-option can be replicated. This sub-option is dependent on the <code>userid</code> sub-option.
	--currentenableduserids	NA	Reports the number of currently enabled User IDs on the serial channel. This sub-option can be replicated.
	--useridswithfixednames	NA	<p>Reports the number of User IDs with fixed names on the serial channel. This sub-option can be replicated.</p> <p>Example 1 (to enable User ID 2 on the serial channel with administrator privileges) :</p> <pre>A:>syscfg serialuseraccess -- userid=2 -- usrprivlmt=administrator userid=2 usrprivlmt=administrator status=enable</pre> <p>Example 2 (to enable User ID 4 on the serial channel with user privileges):</p> <pre>A:>syscfg serialuseraccess -- userid=4 -- usrprivlmt=user userid=4 usrprivlmt=user status=enable</pre>

solaction

Option	Sub-option	Valid Arguments	Description
solaction			This option enables or disables Serial-Over-LAN (SOL) access for a particular user. This option can be replicated. Example: A:>syscfg solaction --userid=2 --action=disable solaction userid=2 action=disable
	--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 <code>userid</code> sub-option. This sub-option can be replicated and is dependent on the <code>userid</code> sub-option.

solcfgparams

Option	Sub-option	Valid Arguments	Description
solcfgparams			Configures and displays SOL configuration parameters. This option can be replicated.
	--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.
	--solcharaccuminterval	1-255	Sets the Character Accumulate Interval in 5-ms increments (1-255). This sets the typical amount of time that the BMC waits before transmitting a partial SOL character data packet. This option can be replicated.
	--solcharsendthreshold	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.

Option	Sub-option	Valid Arguments	Description
	--solbitrate	9600, 19200	<p>Sets the serial channel communication bit rate (in bps) with the BMC when SOL is activated. This option can be replicated.</p> <p> NOTE: The arguments for <code>solbitrate</code> vary with various Dell systems. If an argument valid for a particular Dell system is entered for another system, the Parameter out of range error is displayed.</p> <p>Example 1 (to display the current SOL configuration):</p> <pre>A:>syscfg solcfgparams solcfgparams solenable=enable solprivlevel=administrator solcharaccum interval=25 solcharsend threshold=25 solbitrate=9600</pre> <p>Example 2 (to set the SOL configuration parameters):</p> <pre>A:>syscfg solcfgparams --solenable=disable --solprivlevel=administrator --solcharaccum interval=25 --solcharsend threshold=100 --solbitrate=9600 solcfgparams solenable=disable solprivlevel=administrator solcharaccum interval=25 solcharsend threshold=100 solbitrate=9600</pre>

useraction

Option	Sub-option	Valid Arguments	Description
useraction			Enables and disables BMC, sua , and lua user IDs. This option can be replicated.
	--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 <code>userid</code> sub-option. This sub-option can be replicated. This sub-option is dependent on the <code>userid</code> sub-option.

Option	Sub-option	Valid Arguments	Description
			<p>Example to disable User ID 3:</p> <pre>A:>syscfg useraction -- userid=3 -- action=disable useraction userid=3 action=disable</pre>


username

Option	Sub-option	Valid Arguments	Description
username			Sets the BMC User ID and username. This option can be replicated.
	--userid	2-16 if your system has a DRAC 5 controller	Specifies the User ID. This sub-option can be replicated.
	--name	<string>	<p>Sets the username (maximum of 16 printable ASCII characters) for the User ID specified using the <code>userid</code> sub-option. This sub-option can be replicated. This sub-option is dependent on the <code>userid</code> sub-option.</p> <p>Example 1(to configure User ID 3 with a user name):</p> <pre>A:>syscfg username --userid=3 --name=bcmaster username userid=3 name=bcmaster</pre> <p>Example 2 (to display the username for User ID 3):</p> <pre>A:>syscfg username --userid=3 --name username userid=3 name=bcmaster</pre>

version*

Option	Sub-option	Valid Arguments	Description
--version*	NA	NA	Displays the version information for the SYSCFG utility.

virtualmedia


Option	Sub-option	Valid Arguments	Description
-- virtualmedia  NOTE: This option is available only with the appropriate installed license.	NA	enable, disable, auto	Enables or disables the virtual media. This option cannot be replicated.


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

The following table lists all valid options and arguments along with a description of the expected behavior of each option.

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

Option	Valid Arguments	Description
-b or --byte	<i><string></i>	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: <pre>A:>syscfg -b 1</pre> The state byte has been set to 1. <pre>A:>syscfg -b 2 -x</pre> 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).

Option	Valid Arguments	Description
		<p>Example:</p> <pre>A:>sysfg -r -x</pre> <p>The state byte has been set to 0x02.</p> <pre>A:>syscfg -r</pre> <p>The state byte has been set to 2.</p>
-x or --hex	None	<p>Specifies that a value should be in hexadecimal format.</p> <p>Example:</p> <pre>A:>sysfg -r -x</pre> <p>The state byte has been set to 0x01.</p> <pre>A:>sysfg -x -b 0x02</pre> <p>The state byte has been set to 0x02.</p>

SYSCFG for System Configuration

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

Options For System Configuration

Table below 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. Some of the command line options are followed by an asterisk. Such options are used for reporting purposes only.


Table 7. SYSCFG Options and Arguments for System Configuration

Option	Valid Arguments	Description
--asset	None	<p>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.</p> <p>Example:</p> <pre>A:>syscfg --asset</pre> <pre>asset=ASSET</pre>
--biosver*	None	<p>Reports the BIOS version for a system. If used with the -s option, the environment variable is set to the BIOS version.</p>

Option	Valid Arguments	Description
		Example: A:>syscfg --biosver biosver=A08
--chassvctag*	None	Reports the chassis service tag on blade systems. Example: A:>syscfg --chassvctag chassvctag=SVCTAG1
--cpucount*	None	Reports the number of processors found on the system. Example 1: A:>syscfg --cpucount cpucount=1 Example 2: A:>syscfg --cpucount cpucount=2
--cpuspeed*	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 . Example: A:>syscfg --envfile sys.ini DELLNIC1=INTEL PRO100 DELLNIC2=INTEL PRO100 DVIDEO1=RAGEXL DIDE1=PEQUR/ROSS IDE DSCSI1=AIC-7899
--mem*	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).

Option	Valid Arguments	Description
		<p>Example:</p> <pre>A:>syscfg --mem mem=256MB</pre>
-n	<filename>	<p>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 . This option must be used with the <code>pci</code> option.</p> <p>Example:</p> <pre>A:>syscfg -n pci.txt --pci PCI Bus: 2, Device: 4, Function: 0 Vendor: 8086 - Intel Corp. Device: 1229 - 82557/8/9 [Ethernet Pro 100] Sub Vendor:8086 - Intel Corp. Sub Device:1017 - EtherExpress PRO/100+ Dual Port Server Adapter Slot: 01 Class: 02 - Network SubClass: 00 - Ethernet</pre>
--pci*	None	<p>Performs a scan of all PCI buses and displays the results. The utility uses an open source <code>pci.ids</code> file for vendor/device name resolution. The utility looks for a file called <code>pci.ids</code> in the current working directory. If the file is not found in the current working directory, the directory containing the <code>SYSCFG</code> executable is searched. If the <code>-n</code> option is used to specify a filename, this filename is used for resolution. If a specific filename is not given and the <code>pci.ids</code> file cannot be found, Unknown is printed for all vendor and device codes.</p> <p>For more information, see PCI Reporting.</p> <p>Example 1 (the <code>pci.ids</code> filename is specified in the command line instance):</p> <pre>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</pre>


Option	Valid Arguments	Description
		<pre>Class: 06 - Bridge SubClass: 00 - CPU/PCI PCI Bus: 0, Device: 0, Function: 2 Vendor: 1166 - ServerWorks Device: 0000 - Unknown Slot: 00 Class: 06 - Bridge SubClass: 00 - CPU/PCI</pre>
	None	<p>Example 2 (the pci.ids file is located in the same directory as the utility so that names resolve):</p> <pre>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</pre>
	None	<p>Example 3 (a pci.ids file does not exist) :</p> <pre>A:>syscfg --pci PCI Bus: 0, Device: 0, Function: 0 Vendor: 1166 - Unknown Device: 0012 - Unknown Slot: 00 Class: 06 - Bridge SubClass: 00 - CPU/PCI PCI Bus: 0, Device: 0, Function: 1 Vendor: 1166 - Unknown Device: 0012 - Unknown Slot: 00 Class: 06 - Bridge SubClass: 00 - CPU/PCI PCI Bus: 0, Device: 0, Function: 2 Vendor: 1166 - Unknown Device: 0000 - Unknown Slot: 00 Class: 06 - Bridge SubClass: 00 - CPU/PCI</pre>

Option	Valid Arguments	Description
-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 must be in upper case. This option must be used with at least one function command. Example: A:>syscfg -s ENVNAME --svctag ENVNAME=SERVICE
--slot*	None	Reports the slot on a Blade system. If it is not a Blade system, the slot is reported as 0. If used with the -s option, the environment variable is set to the slot. Example 1 (Blade systems) : A:>syscfg --slot slot=1 Example 2 (Rack and Tower systems) : A:>syscfg --slot slot=0  NOTE: This option is valid only on PowerEdge blade systems.
--svctag*	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 on Blade systems. Example: A:>syscfg --sysasset sysasset=ASSET01
--sysid*	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

Option	Valid Arguments	Description
<code>--sysname*</code>	None	Reports the system identification string for a server, which is the string displayed under the Dell logo during POST. If used with the <code>-s</code> option, the environment variable is set to the system name. Example: <pre>A:>syscfg --sysname sysname=PowerEdge 1550/1000</pre>
<code>--syssvctag*</code>	None	Reports the system service tag on a Blade system. Example: <pre>A:>syscfg --syssvctag syssvctag=BLADE01</pre>
<code>--uuid*</code>	None	Reports the Unique User Identifier (UUID) for a system. The UUID is a unique system identifier used in PXE requests. Example: <pre>A:>syscfg --uuid uuid=44454C4C-5300-104C-8044- B1C04F423131</pre>

SYSCFG For IPv6 Configuration

The following table 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.

 **NOTE:** This option is available only if appropriate license is installed.

Option	Sub-option	Valid Arguments	Description
<code>lancfgparam sv6 or lcpv6</code>	<code>--ipv6</code>	enable, disable	Enables or disables the IPv6 stack. <pre>A:> syscfg lcpv6 -- ipv6=enable</pre>
	<code>--ipsrcv6=static</code> <code>--ipaddrv6= <ipv6address></code> <code>-- prefixlengthv6=<prefix lengthv6></code> <code>-- gatewayv6=<ipv6gateway address></code>	NA	Allows you to manually configure IPv6 addresses. <pre>A:>syscfg lcpv6 --ipsrcv6=static -- ipaddrv6=1234:1234:1234::1 234 --prefixlengthv6=32 -- gatewayv6=1234:1234:1234:: 1</pre>

Option	Sub-option	Valid Arguments	Description
	<code>--ipsrcv6=auto</code>	NA	Automatically configures the IPv6 addresses. A:>syscfg lcpv6 -- ipsrcv6=auto
	<code>--dnssrcv6=auto</code>	NA	Automatically configures the DNS address. A:>syscfg lcpv6 -- dnssrcv6=auto
	<code>--dnssrcv6=static</code> <code>--</code> <code>dnsserverlv6=<ip6dnsse</code> <code>rver1address></code>	NA	Allows you to manually set the DNS address.
	<code>--</code> <code>linklocaladdripv6=<link</code> <code>localaddripv6></code>		Allows you to view IPv6 addresses. A:>syscfg lcpv6 -- linklocaladdripv6=134.56.4 5.233
	<code>--gatewayv6=<gatewayv6></code>		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 [Options For System Configuration](#).

Environment Variable File

The environment variable file can be used for discovering and recording system information to environment variables. The file consists of several sections with `.ini` format that map PCI vendor/device numbers to environment variable values. The environment variable file is `sys.ini` in `\DELL\TOOLKIT`

`\TOOLS` on Windows systems and on Linux systems, you can find it in `/opt/dell/toolkit/bin`. For example, the `[DELLNIC]` section header designates that an environment variable named `dellnic1` should be set to the value of the name or value pair whose name matches the NIC's vendor or device number. If multiple NICs are present on a system, the environment variables are numbered sequentially: `dellnic1`, `dellnic2`, and so on

Environmental Variable File Excerpt (sys.ini)

```
[DELLNIC]

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

8086,1001=INTELPRO1000F

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

8086,1004=INTELPRO1000T

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

8086,1008=INTELPRO1000XT
```

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

Also available in the `.ini` file is a section that maps the system ID number to a string. This string can be used to identify the system during the discovery phase of deployment. The section name is the environment variable that is set to the value of the name/value pair whose name matches the system ID. To change the name of the environment variable, change the value of the `MACHINE` name in the `Variable Names` section, and change the corresponding section name.

RAIDCFG

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

Features

The RAID configuration utility:

- 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 H830 Adapter, PERC H330 Adapter, PERC H330 Embedded, PERC H730 Adapter, and PERC H730P Adapter
- PERC H330 Mini Monolithic, PERC H730 Mini Monolithic, and PERC H730P Mini Monolithic
- PERC H310 Adapter, PERC H310 Mini Blade, PERC H310 Mini Monolithic, PERC H310 Embedded, PERC H710 Mini Blade, PERC H710P Mini Blade, PERC H710 Adapter, and PERC H710 Adapter
- PERC H200 Integrated, PERC H200 Adapter, PERC H200 Embedded, PERC H700 Integrated, PERC H700 Adapter, and PERC H800 Adapter
- PERC 6/E Adapter, PERC 6/I Integrated, and PERC 6/I Adapter
- PERC 6/I Integrated for blade systems
- PERC 5/E Adapter, PERC 5/I Integrated, and PERC 5/I Adapter
- PERC S110, PERC S100, and PERC S300 software controller
- SAS 6iR Integrated and SAS 6iR Adapter
- SAS 5iR Integrated and SAS 5iR Adapter

RAIDCFG Options And Arguments

Table below lists all of the valid options, parameters, and arguments for the RAIDCFG utility. For more information on valid RAIDCFG options and their specific uses, see [RAID Configuration Utility Options and Arguments](#).

Mandatory command line options must be present in the command. Optional command line options can be typed in any order after the 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 below shows some examples of valid and invalid short and long format command line instances. For an explanation of the specific order for each option, see [RAID Configuration Utility Options And Arguments](#). For a list of frequently used RAID commands, see [Quick Reference To RAIDCFG Commands](#).



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


Table 8. 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 General Help for specific usage information.
-ac or action	blink	Blinks the specified physical disks on the specified controller.	See Blinking And Unblinking Array Disks for specific usage information.
	ci or cancelinit	Cancels the slow or full initialization on the selected virtual disk.	See Initializing Virtual Disks for specific usage information.
	cc or consistencycheck	Checks the consistency for a specified virtual disk.	See Consistency Check For Virtual Disk for specific information.
	ccc or cancelconsistencycheck	Cancels the consistency check for a specified virtual disk.	See Consistency Check For Virtual Disk for specific information.
	chsk or changesecuritykey	Changes the encryption key of the encryption-capable controller.	See Changing Encryption Key for specific information.

Option	Valid Arguments	Short Description	Mandatory or Optional
	crbd or cancelrebuild	Cancels the rebuild of the physical disk associated with a specified virtual disk.	See Configuring Physical Disk Rebuild for specific information.
	ctr or converttoraid	Configures the array disk as RAID.	See Configuring Array Disk as RAID for specific information.
	csk or createsecuritykey	Creates encryption key for the encryption-capable controller.	See Creating Encryption Key for specific information.
	ctnr or converttononraid	Configures the array disk as JBOD.	See Configuring Array Disk as RAID for specific information.
	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 Creating Virtual Disks for specific usage information.
	dvd or deletevdisk	Deletes a virtual disk.	See Deleting Virtual Disks for specific usage information.
	dpc or discardPreservedCache	Discards the preserved cache on the controller.	See Discarding Preserved Cache for specific usage information.
	dphs or disablepersistenthot spare	Disables the controller Persistent Hot Spare feature for the selected controller.	See Enabling and Disabling Persistent Dedicated Hot Spares for specific usage information.



Option	Valid Arguments	Short Description	Mandatory or Optional
	dsk or deletesecuritykey	Deletes the encryption key of the encryption-capable controller.	See Deleting Encryption Key for specific usage information.
	eai or enableautoimport	Configures the auto import property of the controller.	See Configuring Auto Import for specific usage information.
	ephs or enablepersistenthots pare	Enables the controller Persistent Hot Spare feature for the selected controller.	See Enabling and Disabling Persistent Dedicated Hot Spares for specific usage information.
	evs or expandvdsize	Increases the size of the virtual disk by the specified percentage.	See Increasing Virtual Disk Size for specific usage information.
	fgnimp or foreignimport	Imports the foreign configuration for the indicated controller.	See Importing and Clearing Foreign Configurations for specific usage information.
	fgnclr or foreignclear	Clears the foreign configuration for the specified controller.	See Importing and Clearing Foreign Configurations for specific usage information.
	fgnrvr or foreignrecover	Recovers the foreign configuration for the specified controller.	See Importing and Clearing Foreign Configurations for specific usage information.
	fi or fastinit	Initializes the virtual disk for the specified controller.	See Initializing Virtual Disks for specific usage information.
	gfki or getforeignkeyids	Displays the foreign key ids present on the specified controller.	See Displaying Foreign Key Ids for specific usage information.
	gpccils	Displays the Peripheral Component Interconnect	See Setting and Displaying the PCIe

Option	Valid Arguments	Short Description	Mandatory or Optional
	or getPCIeLinkSpeed	Express (PCIe) link speed of the controller.	Link Speed for specific usage information.
	insecerase or instantsecureerase	Erases the encrypted physical disk that is in ready or foreign disk state.	See Erasing Encrypted Physical Disk for specific usage information.
	isfc or importsecureforeignc onfig	Imports the foreign configuration of the virtual disks secured with the specified passphrase.	See Importing Secured Foreign Configurations for specific usage information.
	lghs or listglobalhotspare	Displays the array (physical) disks used for global hot spare for the specified controller.	See Assigning, Unassigning, And Listing Global Hot Spares for specific usage information.
	offline	Sets the physical disk state to offline.	See Configuring Physical Disk State for specific usage information.
	online	Sets the physical disk state to online.	See Configuring Physical Disk State for specific usage information.
	rghs or removeglobalhotspare	Unassigns all global hot spares to disks on the specified controller.	See Assigning, Unassigning, And Listing Global Hot Spares for specific usage information.
	replacepd or replacedisk	Replaces the physical disk of a virtual disk by a ready state disk.	See Replacing Physical Disk Of A Virtual Disk for specific usage information.
	rbd or rebuild	Rebuilds the physical disk associated with a specified virtual disk.	See Configuring Physical Disk Rebuild for specific information.
	rst or reset	Resets the selected controller.	See Resetting The Controller for specific usage information.

Option	Valid Arguments	Short Description	Mandatory or Optional
	sbf or setbootflag	Sets the indicated virtual disk as boot VD on the indicated controller.	See Setting A Virtual Disk As Bootable Virtual Disk for specific usage information.
	sbm or setbootmode	Sets the bootmode of the controller to 0 (BIOS stop on error), 1 (BIOS continue on error), or 2 (Headless continue on error) during system startup or reboot.	See Setting Boot Mode for specific usage information.
	sghs or setglobalhotspare	Assigns the specified disks as global hot spares on the specified controller.	Optional. See Assigning, Unassigning, And Listing Global Hot Spares for specific usage information.
	sli or slowinit	Initializes the virtual disk for the specified controller using the <code>slowinit</code> command.	See Initializing Virtual Disks for specific usage information.
	spciels or setPCIELinkSpeed	Sets the PCIe link speed of the controller to 2 or 3.	See Setting And Displaying The PCIe Link Speed for specific usage information.
	svdn or setvdname	Sets the name of the specified virtual disk on the specified controller.	See Setting Virtual Disk Name for specific usage information.
-ad or adisk	NA	Specifies an array disk command.	See Enumerating Array Disks for specific usage information.
	ch:targ, ch:targ, ... or ch:targ:lun,... or ch:targ:enc channel:target, or channel:target:lun, or channel:target:enclosure	Specifies an array disk. For SCSI controllers, the value of LUN should always be 0. For SAS controllers, the value of enclosure can be non-zero, in which case you must specify values for channel, target, and enclosure.  NOTE: You can also use <code>pdisk</code> or <code>-pd</code> instead of <code>adisk</code> or <code>-ad</code> to specify an array disk.	Optional. See Enumerating Array Disks for specific usage information.

Option	Valid Arguments	Short Description	Mandatory or Optional
-c or controllerid	<valid controller ID number>	Specifies a RAID controller.	See Enumerating RAID Controllers for specific usage information.
-cp or cachepolicy	d or e	Specifies the cache policy for reads on a specified virtual disk or disk cache policy.	Optional. See Creating Virtual Disks 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 Enumerating RAID Controllers for specific usage information.
-envc or envcommand	<string>	Sets a user-defined environmental variable (<string>) to the value returned from a function call.	See Setting Environment Variables for specific usage information.
-envn or envname	<string>	Sets the environment variable (<string>) that equates to the value returned from a function call.	See Setting Environment Variables 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 Assigning, Unassigning, And Listing Global Hot Spares .	Optional. See Creating Virtual Disks for specific usage information.
-i	<filename>	Reads the RAID configuration information from the given .ini filename and creates the RAID	Mandatory.

Option	Valid Arguments	Short Description	Mandatory or Optional
		configurations on the specified controllers.	See Miscellaneous Options for specific usage information.
-l or logfile	<filename>	Logs command line output to a file.	Optional. See Miscellaneous Options for specific usage information.
-o	<filename>	Reads the RAID configurations from all available controllers and write these configurations in the given .ini filename.	Mandatory. See RAID Replication Options 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 Creating Virtual Disks for specific usage information.
-rp or readpolicy	ra, ara, nra, rc, nrc	Sets the read policy for the virtual disk.	Optional. See Creating Virtual Disks 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, and gethotspares.	Mandatory. See Setting Environment Variables for specific usage information.
-si or silent	NA	Does not display any information on the terminal console.	Optional. See Miscellaneous Options for specific usage information.
-sp or spanlength	<number>	The span size of RAID 5, which is a mandatory parameter for RAID 50.	Mandatory.

Option	Valid Arguments	Short Description	Mandatory or Optional
		 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.	See Creating Virtual Disks 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 Creating Virtual Disks 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 Creating Virtual Disks 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 Enumerating Virtual Disks for specific usage information.
	<valid virtual disk ID number>	Displays the specified virtual disk.	Optional. See Enumerating Virtual Disks for specific usage information.
-ver or version	NA	Displays the version number of the utility.	Optional. See Miscellaneous Options 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 (writeback caching), wt (write-	Optional.

Option	Valid Arguments	Short Description	Mandatory or Optional
		through caching), <code>wc</code> (write-caching), <code>nwc</code> (no-write-caching), and <code>fwb</code> (force-write-back).	See Miscellaneous Options 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](#)
- [Setting Environment Variables](#)
- [Importing and Clearing Foreign Configurations](#)
- [Resetting The Controller](#)
- [Enabling And Disabling Persistent Dedicated Hot Spares](#)
- [Assigning, Unassigning, And Listing Global Hot Spares](#)
- [Setting And Displaying The PCIe Link Speed](#)
- [Setting Boot Mode](#)
- [Configuring Auto Import](#)
- [Creating Virtual Disks](#)
- [Initializing Virtual Disks](#)
- [Enumerating Virtual Disks](#)
- [Deleting Virtual Disks](#)
- [Setting A Virtual Disk As Bootable Virtual Disk](#)
- [Blinking And Unblinking Virtual Disks](#)
- [Setting Virtual Disk Name](#)
- [Replacing Physical Disk Of A Virtual Disk](#)
- [Consistency Check For Virtual Disk](#)
- [Enumerating Array Disks](#)
- [Blinking And Unblinking Array Disks](#)
- [Configuring Array Disk as RAID](#)
- [Configuring Physical Disk State](#)
- [Configuring Physical Disk Rebuild](#)
- [Erasing Encrypted Physical Disk](#)
- [RAID Replication Options](#)
- [Miscellaneous Options](#)

The following are the new RAIDCFG options supported in this release:

- [Increasing Virtual Disk Size](#)

- [Discarding Preserved Cache](#)
- [Displaying Foreign Key Ids](#)
- [Creating Encryption Key](#)
- [Changing Encryption Key](#)
- [Deleting Encryption Key](#)
- [Importing Secured Foreign Configurations](#)
- Creating a secure virtual disk. For more information, see the **secureflag** option of [Creating Virtual Disks](#).

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

General Help

The following table lists the RAIDCFG general help options.

Table 9. General Help

Option	Parameters	Valid Arguments	Description
No option-h -? or /?	NA	NA	<p>Displays general usage information for the utility. The usage information consists of a comprehensive list of valid options, parameters, and arguments. This option is optional and can be added to the command line in any order.</p> <p>Example:</p> <pre>A:>raidcfg -h RAIDCFG v5 Copyright (c) 2002-2014 Dell Inc. [raidcfg] Help: options in <> are mandatory and options in [] are optional and can be in any order after mandatory ones. raidcfg -h</pre> <p>Provides users with general help options that may be used with this utility.</p>

Enumerating RAID Controllers

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for enumerating RAID controllers.

Table 10. Enumerating RAID Controllers

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
-ctrl or controller	NA	NA	<p>Lists all the RAID controllers on the host system, along with select property information. This option is mandatory</p> <p>Example:</p> <pre>raidcfg -ctrl Controller_ID/Slot_ID: 4 Controller_PCI_ID: 9:0:0 Controller_Name: PERC H710P Adapter Channels: 2 No.of Virtual_Disks: 17 Array_Disks: 0:0:1,0:1:1,0:2:1,0:3:1,0:4:1,0:5:1, 0:6:1, 0:7:1 Persistent Hot Spare: Disabled Firmware Version: 21.2.0-007 Controller_Boot_Mode: 2 (Headless continue on error) Enable_Auto_Import: No T10 Protection Info Capable: No RAIDCFG Command successful!</pre>
	-c or controllerid	<valid controller ID number>	<p>Displays the properties for the RAID controller with the specified controller ID. This option combination is mandatory.</p> <p>Example:</p> <pre>raidcfg -ctrl -c=4 Controller_ID/Slot_ID: 4 Controller_PCI_ID: 9:0:0 Controller_Name: PERC H710P Adapter Channels: 2 No.of Virtual_Disks: 17 Array_Disks: 0:0:1,0:1:1,0:2:1,0:3:1,0:4:1,0:5:1, 0:6:1, 0:7:1 Persistent Hot Spare: Disabled Firmware Version: 21.2.0-007 Controller_Boot_Mode: 2 (Headless continue on error) Enable_Auto_Import: No T10 Protection Info Capable: No RAIDCFG Command successful!</pre>

Setting Environment Variables

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for setting the CLI environment.

Table 11. Setting Environment

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-se - envn=<string> -envc=<function> or setenvironment envname=<string> envcommand=<function></pre>	NA	NA	<p>Sets a user-defined environment variable to the value returned from the <code>getcontrollerslots</code> function call. This option combination is mandatory.</p> <p>Example:</p> <pre>A:>raidcfg -se -envn=CNTRL - envc=getcontrollerslots CNTRL=0 1 2 RAIDCFG Command successful!</pre>
<pre>-se - envn=<string> -envc=<function> or setenvironment envname=<string> envcommand=<function></pre>	-f or filename	<filename>	<p>Captures the environment output to the given filename. This option either appends the information to an existing file or creates a new file.</p>
<pre>-se - envn=<string> - envc=<function> -c=id or setenvironment envname=<string> envcommand=<function> controllerid=id</pre>	NA	NA	<p>Sets a user-defined environment variable to the value returned from the <code>getfirmware</code>, <code>getcontrollertype</code>, <code>getadisks</code>, <code>getadiskcount</code>, <code>getfreeadisks</code>, <code>getfreeadiskcount</code>, <code>getfreeadisksize</code>, or <code>gethotspares</code> function call. This option combination is mandatory.</p> <p>Example:</p> <pre>A:>raidcfg -se -envn=FIRMWARE -envc=getfirmware -c=2 FIRMWARE=531T RAIDCFG Command successful!</pre>

Function Calls of Setenvironment Option

The following table lists the function calls of the `setenvironment` option.

Table 12. Function Calls of the setenvironment Option

Function Call	Description
<code>getfirmware</code>	Returns the firmware version of the specified controllers.


Function Call	Description
	<p>Example:</p> <pre>A:>raidcfg -se -envn=FIRMWARE -envc= getfirmware -c=2 FIRMWARE=531T RAIDCFG Command successful!</pre>
getcontrollertype	<p>Returns LSI for LSI controllers and ADAP for Adaptec controllers.</p> <p>Example:</p> <pre>A:>raidcfg -se -envn=CONTROLLERTYPE -envc= getcontrollertype -c=2 CONTROLLERTYPE=LSI RAIDCFG Command successful!</pre>
getadisks	<p>Returns the array disks attached to the controller.</p> <p>Example:</p> <pre>A:>raidcfg -se -envn=ADISKS -envc=getadisks -c=2 ADISKS=0:0:1,0:1:1,0:2:1 RAIDCFG Command successful!</pre>
getfreeadiskcount	<p>Returns the number of free array disks found in the specified controller.</p> <p>Example:</p> <pre>A:>raidcfg -se -envn=FREEADISKCOUNT -envc= getfreeadiskcount -c=2 FREEADISKCOUNT=2 RAIDCFG Command successful!</pre>
getfreeadisksize	<p>Returns the total size of the free array disks in megabytes.</p> <p>Example:</p> <pre>A:>raidcfg -se -envn=FREEADISKSIZE -envc= getfreeadisksize -c=2 FREEADISKSIZE=15346 RAIDCFG Command successful!</pre>
gethotspares	<p>Returns the global hot spares (global failover disks) found on the specified controller.</p>


Function Call	Description
	<p>Example:</p> <pre>A:>raidcfg -se -envn=HOTSPARES -envc= gethotspares -c=2 HOTSPARES=1:8:1,1:9:1 RAIDCFG Command successful!</pre>
getfreeadisks	<p>Returns the free array disks.</p> <pre>A:>raidcfg -se -envn=GETFREEADISKS -envc= getfreeadisks -c=2 GETFREEADISKS=0:3:1,0:4:1 RAIDCFG Command successful!</pre>
getadiskcount	<p>Returns the total number of array disks.</p> <pre>A:>raidcfg -se -envn=GETADISKCOUNT -envc= getadiskcount -c=2 GETADISKCOUNT=1 RAIDCFG Command successful!</pre>

Importing And Clearing Foreign Configurations

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for foreign configurations.

Table 13. RAIDCFG Options for Foreign Configurations

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-ctrl -c=id - ac=fgnimp or controller controllerid=i daction=foreig nimport</pre>	NA	NA	<p>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.</p> <p>If you use this argument on a controller that does not have a foreign configuration, the <code>No Foreign configuration present in the controller</code> message is displayed.</p> <p> NOTE: For importing secured foreign configuration, use <code>importsecureforeignconfig</code> or <code>isfc</code>. For more details, see Importing Secured Foreign Configurations.</p>

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
			<p>Example:</p> <pre>A:>raidcfg -ctrl -c=2 -ac=fgnimp</pre>
<pre>-ctrl -c=id -ac= fgnclr</pre> <p>or</p> <pre>controllercontrollerid=idforeignclear</pre>	NA	NA	<p>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..</p> <p>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.</p> <p> NOTE: For clearing secured foreign configuration, use <code>instantsecureerase</code> or <code>insecerase</code>. For more details, see Erasing Encrypted Physical Disk.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -c=2 -ac=fgnclr</pre>
<pre>-ctrl -c=id</pre> <pre>-ac=fgnrvr</pre> <p>or</p> <pre>controllercontrollerid=id</pre> <pre>action=foreignrecover</pre>	NA	NA	<p>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.</p> <p>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.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -c=2 -ac=fgnrvr</pre>

Importing Secured Foreign Configuration

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for importing secured foreign configuration of the virtual disks.

Table 14. RAIDCFG Options for Importing Secured Foreign Configuration

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-ctrl -c=id - ac=isfc - pp=passphrase or controller controllerid=i d action=imports ecureforeignco nfig passphrase=pas sphrase</pre>	NA	NA	<p>Imports the foreign configuration of the virtual disks secured with the specified passphrase.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -c=2 -ac=isfc -pp=Dell_123</pre>

Displaying Foreign Key Ids

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for displaying the foreign key ids of the controller.

Table 15. Displaying Foreign Key Ids

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>--ctrl -c=id - ac=gfki or controller controllerid=i d action=getfore ignkeyids</pre>	NA	NA	<p>Displays the foreign key ids present on the specified controller.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -c=2 -ac=gfki Controller: PERC H710P Mini ***** Foreign Key IDs ***** Disk Location: 0:7:1 Foreign Key ID: secure RAIDCFG Command successful!</pre>

Creating Encryption Key

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for creating encryption key for the controller.

Table 16. Creating Encryption Key

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-ctrl -c=id - ac=csk - pp=passphrase -kid=key or controller controllerid=i d action=creates ecuritykey passphrase=pas sphrase keyid=key</pre>	NA	NA	<p>Creates encryption key for the encryption-capable controller.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -c=2 -ac=csk - pp=Dell_123 kid=Dell_321</pre>

Changing Encryption Key

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for changing the encryption key of the controller.

Table 17. Changing Encryption Key

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-ctrl -c=id - ac=chsk - pp=passphrase -kid=key - opp=passphrase or controller controllerid=i d action=changes ecuritykey passphrase=pas sphrase keyid=key oldpassphrase= passphrase</pre>	NA	NA	<p>Changes the encryption key of the encryption-capable controller.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -c=2 -ac=chsk -pp=Dell_123 kid=Dell_321 - opp=Dell_abc</pre>

Deleting Encryption Key

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for deleting the encryption key of a controller.

Table 18. Deleting Encryption Key

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-ctrl -c=id -ac=dsk</pre> <p>or</p> <pre>controller controllerid=id action=deletesecuritykey</pre>	NA	NA	<p>Deletes the encryption key of the encryption-capable controller.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -c=2 -ac=dsk</pre>

Resetting The Controller

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for resetting the controller.


Table 19. Resetting The Controller

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-ctrl -c=id -ac=rst or controller controllerid=id action=reset</pre>	NA	NA	<p>Resets the specified controller.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -c=2 -ac=rst</pre>

Enabling And Disabling Persistent Dedicated Hot Spares

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for enabling and disabling dedicated hot spares.

Table 20. Enabling And Disabling Persistent Dedicated Hot Spares



Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>--ctrl -c=id -ac=ephs</pre> <p>or</p> <pre>controller controllerid=id action=enablepersistenthotspare</pre>	NA	NA	<p>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.</p> <p> NOTE: Assign hot spare for a bootable virtual disk only from the disk drives of slot 0-3 of the system.</p>

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
			Example: A:>raidcfg -ctrl -ac=ephs -c=2 RAIDCFG Command successful!
--ctrl -c=id -ac=dphs or controller controllerid=id action=disable persistenthotspare	NA	NA	Disables the persistent slot corresponding to the hot spare drive. 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 RAIDCFG Command successful!

Assigning, Unassigning, And Listing Global Hot Spares

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for assigning and unassigning global hot spares.

Table 21. Assigning, Unassigning, and Listing Global Hot Spares


Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
-ctrl -ac=sghs -c=id -ad -pd= ch:targ:encl or controller action=setglob alhotspare controllerid=id disk pdisk=channel: target:enclosure	NA	NA	Assigns the specified disk as a global hot spare on the controller. You can assign only one disk at a time.  NOTE: The parameter, <i>force</i> , is optional and is used to avoid the warning messages while assigning the disk as global hot spare. This parameter is supported only on PERC 9 controllers.  NOTE: Assign hot spare for a bootable virtual disk only from the disk drives of slot 0-3 of the system. Example: A:>raidcfg -ctrl -ac=sghs -c=2 -ad=0:1 -force RAIDCFG Command successful!
-ad -pd - ac=lghs -c=id or disk pdisk	NA	NA	Displays the array (physical) disks used for global hot spare for the specified controller.

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
- action=listglobalhotspare controllerid=id			Example: A:>raidcfg -ad -ac=lghs -c=2 RAIDCFG Command successful!
-ctrl -ac=rghs -c=id -ad -pd= ch:targ:encl or controller action=removeglobalhotspare controllerid=id disk pdisk=channel: target:enclosure	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!

Setting And Displaying The PCIe Link Speed

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for setting and displaying the Peripheral Component Interconnect Express (PCIe) link speed of the controller.

Table 22. Setting and Displaying the PCIe Link Speed

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
--ctrl -c=id - ac=spciels - spd=<2 3> or controller controllerid=id action=setpcie linkspeed speed=<2 3>	NA	NA	Sets the PCIe link speed of the controller to PCIe Generation 2 or 3.  NOTE: Reboot the system to apply the setting. Example: A:>raidcfg -ctrl -c=2 - ac=spciels -spd=2 RAIDCFG Command successful!
--ctrl -c=id - ac=gpciels or controller controllerid=id action=getpcie linkspeed	NA	NA	Displays the PCIe link speed of the controller. Example: A:>raidcfg -ctrl -c=2 - ac=gpciels RAIDCFG Command successful!

Supported Controllers And Firmware Versions For PCIe Link Speed

The following table lists the controllers and minimum supported firmware versions for PCIe link speed.

Table 23. Supported Controllers And Firmware Versions For PCIe Link Speed

Controllers	Component	Minimum Supported Versions
PERC H710	H710 Adapter	21.2.0-0007
	H710 Mini Monolithic	21.2.0-0007
PERC H710P	H710P Adapter	21.2.0-0007
	H710P Mini Monolithic	21.2.0-0007
PERC H810	H810 Adapter	21.2.0-0007

Setting Boot Mode

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for setting the boot mode of the controller.

Table 24. Setting Boot mode

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<code>-ctrl -c=id -ac=sbm -bm=<0 1 2> or controller controllerid=id action=setbootmode bootmode=<0 1 2></code>	NA	NA	<p>Sets the boot mode of the controller to any of the following during the system start or reboot:</p> <ul style="list-style-type: none"> Stop on error (0) Continue on error (1) Continue headless on error (2) <p>Example:</p> <pre>A:>raidcfg -ctrl -c=2 -ac=sbm -bm=0</pre>

Configuring Auto Import

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for configuring the auto import property of the controller.

Table 25. Configuring Auto Import

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<code>-ctrl -c=id -ac=eai -ai=<0 1> or controller controllerid=i</code>	NA	NA	<p>Sets the auto import property of the controller to 1 (enables the auto import property to automatically import the foreign configuration) or 0 (disables the auto import property).</p>


Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
d action=enable autoimport autoimport=<0 1>			Example: A:>raidcfg -ctrl -c=2 -ac=eai -ai=0



Creating Virtual Disks


The following table lists the RAIDCFG options, parameters, and predefined arguments for creating virtual disks.




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

Table 26. Creating Virtual Disks



Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
-ctrl -ac=cvd -c=id -ad=ch:targ, ch:targ, ... [or ch:targ:encl, ..] or controller action= createvdisk controllerid= idadisk= 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.  NOTE: Create a bootable virtual disk only from the disk drives of slot 0-3 of the system. 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!
	-cp or cachepolicy	d or e	Valid arguments for disk cache policy are: <ul style="list-style-type: none"> d – Disable e – Enable <p>The -cp option is optional and can be added to the command line in any order</p>



Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
			after the mandatory option combination.
	-fd or failoverdrive	ch:targ, ch:targ, ... or ch:targ:lun,... or ch:targ:enc channel:target, or channel:target:lun, or channel:target:enclosure	<p>Sets the failover drive for the virtual disk. The -fd option is optional and can be added to the command line in any order after the mandatory option combination.</p> <p> NOTE: From DTK 2.4 onwards, the -fd option creates dedicated hot spares instead of global hot spares. For information about setting global hot spares, see Assigning, Unassigning, And Listing Global Hot Spares.</p> <p>For SCSI controllers, the value of LUN should always be 0.</p> <p>For SAS controllers, the value of enclosure can be non-zero, in which case you must specify values for channel, target, and enclosure.</p>
	-r or -raid	0, 1, 5, 6, 10, 50, 60	<p>Sets the RAID type or level for the virtual disk.</p> <p> NOTE: If this option is not specified for any RAID controller, RAID 0 is taken as the default.</p> <p>The valid arguments are:</p> <ul style="list-style-type: none"> • 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 extra 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

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
			<p>failures while a single disk is rebuilding. If there is only one array, RAID 6 may be a better option than a hot spare disk.</p> <ul style="list-style-type: none"> • 10 — RAID 10 is a stripe of mirrors. Multiple RAID 1 mirrors are created, and a RAID 0 stripe is created over RAID 1 mirrors. • 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.
<pre>-ctrl -ac=cvd - c=id -ad= ch:targ,ch:tar g, ... [or ch:targ:encl,. ..] or controller action= createvdisk controllerid= idadisk= channel:target : lun, channel:target : lun,... [or channel:target : enclosure,...]</pre>	<pre>-rp or readpolicy</pre>	<pre>ra, ara, nra, rc, nrc</pre>	<p> CAUTION: If the controller is changed from SCSI to RAID mode, expect data loss to occur. Back up any data you want to save before changing the modes.</p> <p>Sets the SCSI read policy for the virtual disk. Specify the SCSI read policy for the logical drive. The valid arguments are:</p> <ul style="list-style-type: none"> • ra — (read-ahead) The controller reads sequential sectors of the disk when seeking data. • ara — (Adaptive Read-Ahead) The controller initiates read-ahead only if the two most recent read requests accessed sequential sectors of the disk. If subsequent read requests access random sectors of the disk, the controller reverts to No-Read-Ahead policy. The controller continues to evaluate whether 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.

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
			<p> NOTE: The ra, ara, and nra options are supported on the following RAID controllers only:</p> <ul style="list-style-type: none"> • PERC 5/E Adapter, PERC 5/I Integrated, PERC 5/i Adapter • PERC 6/i Integrated, PERC 6/i Adapter, PERC 6/E Adapter • rc — (Read-Caching) Enables read caching. • nrc — (No-Read-Caching) Disables read caching.
<pre>-ctrl -ac=cvd -c=id -ad=ch:targ, ch:targ, ... [or ch:targ:encl, ..] or controller action= createvdisk controllerid= id adisk= channel:target : lun,... channel:target : lun,... [or channel:target : enclosure,...]</pre>	<pre>-sp or spanlength</pre>	<pre><number></pre>	<p>Creates a virtual disk comprised of the properties supplied. The -sp option is optional and can be added to the command line in any order after the mandatory option combination.</p> <p> NOTE: Spanlength is applicable only for RAID 50 and RAID 60. The minimum permissible spanlength value for RAID 50 is 3 and for RAID 60 is 4. The number of array disks for creating a virtual disk should not be a prime number and should be divisible by the specified spanlength.</p> <p> NOTE: For creating RAID 10, the PERC 9 firmware suggests the layout (number of array disks) with uneven span (spans with unequal number of array disks), though in a span the number of disks remain even. For example, for 32 disks, RAID 10 is created with all the disks in one span and for 34 disks, RAID 10 is created with 16 disks in one span and 18 disks in the other span.</p> <p>For SCSI controllers, the value of LUN should always be 0.</p> <p>For SAS controllers, the value of enclosure can be non-zero, in which case you must specify values for channel, target, and enclosure.</p>
<pre>-ctrl -ac=cvd -c=id -ad=</pre>	<pre>-ssz or stripesize</pre>	<pre><number></pre>	<p>Sets the stripe size for the virtual disk. The stripe size is the amount of array</p>

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>ch:targ,ch:targ, ... [or ch:targ:encl,..] or controller action= createvdisk controllerid= id adisk= channel:target : lun, channel:target : lun,... [or channel:target : enclosure,..]</pre>			<p>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 <code>-ssz</code> 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.</p> <p>For SCSI controllers, the value of LUN should always be 0.</p> <p>For SAS controllers, the value of enclosure can be non-zero, in which case you must specify values for channel, target, and enclosure.</p>
<pre>-ctrl -ac=cvd -c=id -ad= ch:targ,ch:targ, ... [or ch:targ:encl,..] or controller action= createvdisk controllerid= id adisk= channel:target : lun, channel:target : lun,... [or channel:target : enclosure,..]</pre>	<pre>-str or strict</pre>	<pre><number></pre>	<p>Strict (<code>-str</code> parameter) is the percentage of expected array disk utilization.</p> <p>Example:</p> <pre>A:> raidcfg -ctrl -ac= cvd -c=0 -ad=0:0,0:1 - r=1 -str=20</pre> <p>If the unused portion of an array disk is greater than the mentioned percentage, <code>raidcfg</code> aborts.</p> <p>For SCSI controllers, the value of LUN should always be 0.</p> <p>For SAS controllers, the value of enclosure can be non-zero, in which case you must specify values for channel, target, and enclosure.</p>
<pre>-ctrl -ac=cvd -c=id -ad= ch:targ,ch:targ, ... [or ch:targ:encl,..] or controller action=</pre>	<pre>-sz or -size</pre>	<pre><number></pre>	<p>Sets the maximum size of the virtual disk in MB or GB. A valid argument is a number representing the maximum size for the virtual disk. The <code>-sz</code> option is optional and can be added to the command line in any order after the mandatory option combination.</p> <p>The minimum virtual disk size that you can create for various controllers is as follows:</p> <ul style="list-style-type: none"> For PERC 5 controllers:

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>createvdisk controllerid= id adisk= channel:target : lun,... channel:target : lun,... [or channel:target : enclosure,...]</pre>			<ul style="list-style-type: none"> - RAID 0: 100 MB - RAID 1: 100 MB - RAID 5: 100 MB • For PERC 6 controllers: <ul style="list-style-type: none"> - RAID 0: 100 MB - RAID 1: 100 MB - RAID 5: 100 MB - RAID 6: 100 MB - RAID 60: 100 MB • For PERC 7, PERC 8, and PERC 9 controllers: <ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> - RAID 0: 100 MB - RAID 1: 100 MB - RAID 5: 100 MB - RAID 10: 100 MB <p> NOTE: If this option is not provided, RAIDCFG determines the maximum virtual disk size and creates it.</p>
<pre>-ctrl -ac=cvd -c=id -ad= ch:targ,ch:tar g, ... [or ch:targ:encl,.. ..]</pre> <p>or</p> <pre>controller action= createvdisk controllerid= id adisk= channel:target : lun,... channel:target : lun,... [or channel:target</pre>	<pre>-vdpi or vdiskprotectio ninfo</pre>	<pre>0,1</pre>	<p>Creates a virtual disk with the T10 Protection Information (PI) feature enabled.</p> <p> NOTE: This option is supported only on PERC 9 controllers.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -ac=cvd -c=2 -ad=1:4,1:8 -vdpi=1</pre> <p>RAIDCFG Command successful!</p>

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
: enclosure, ...]			
	-wp or writepolicy	wb, wt, wc, nwc, fwb	<p>Sets the write policy for the virtual disk. The valid arguments are:</p> <ul style="list-style-type: none"> • wb – Write-Back caching sets the controller to send a write-request completion signal as soon as the data is in the controller cache but has not yet been written to disk. • wt – Write-Through caching sets the controller to send a write-request completion signal only after the data is written to the disk. <p> NOTE: The wb and wt options are supported on the following RAID controllers only:</p> <ul style="list-style-type: none"> • PERC 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, PERC 8, and PERC 9 <ul style="list-style-type: none"> • wc – Write-Caching sets the controller to send a write-request completion signal only after the data is written to the disk. • nwc – No-Write-Caching specifies that the controller does not send a write-request completion signal after the data is written to the disk. • fwb – Force write-back caching, enables the write cache regardless of whether the controller has a battery. If the controller does not have a battery and force write-back caching is used, data loss may occur in the event of a power failure <p> NOTE: The -wp option is optional and can be added to the command line in any order after the mandatory option combination.</p> <p>For SCSI controllers, the value of LUN should always be 0.</p> <p>For SAS controllers, the value of enclosure can be non-zero, in which case you must specify values for channel, target, and enclosure.</p>

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
	-sf or secureflag	0, 1	Creates a secured virtual disk on controllers with encryption capability and encryption key. Example: A:>raidcfg -ctrl -ac=cvd -c=2 -ad=1:4,1:8 -sf=1 RAIDCFG Command successful!

Initializing Virtual Disks

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for initializing selected virtual disks.

Table 27. Initializing Virtual Disks

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
-vd -c=id -vd=id -ac=fi or vdisk controllerid=id vdisk=id action=fastinit	NA	NA	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	NA	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=ci or vdisk controllerid=i	NA	NA	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

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
d vdisk=id action=cancelinit			controllers. Using the cancelinit command on unsupported controllers returns an error.. Example: A:>raidcfg -vd -c=2 -vd=2 -ac=ci

Enumerating Virtual Disks

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for enumerating virtual disks.

Table 28. Enumerating Virtual Disks

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
-vd or vdisk	NA	NA	Lists all 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 H710P Adapter VDisk ID: 0 Virtual Disk Name: Virtual Disk 0 Size: 857344 MB (837 GB) Type: RAID 0 Read Policy: Adaptive Read Ahead Write Policy: Write Back Cache Policy: Disabled Stripe Size: 64 Drives: 0:0:1,0:1:1 BootVD: No T10 Protection Info: Disabled RAIDCFG Command successful!
-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=4 Controller: PERC H710P Adapter VDisk ID: 0

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
			<pre>Virtual Disk Name: Virtual Disk 0 Size: 857344 MB (837 GB) Type: RAID 0 Read Policy: Adaptive Read Ahead Write Policy: Write Back Cache Policy: Disabled Stripe Size: 64 Drives: 0:0:1,0:1:1 BootVD: No T10 Protection Info: Disabled RAIDCFG Command successful!</pre>
<pre>-vd -c=id or vdisk controllerid= id</pre>	<pre>-vd or vdisk</pre>	<pre><valid virtual disk ID number></pre>	<p>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.</p> <p>Example:</p> <pre>A:>raidcfg -vd -c=2 -vd=0 Controller: PERC H710P Adapter VDisk ID: 0 virtual Disk Name: Virtual Disk 0 Size: 857344 MB (837 GB) Type: RAID 0 Read Policy: Adaptive Read Ahead Write Policy: Write Back Cache Policy: Disabled Stripe Size: 64 Drives: 0:0:1,0:1:1 BootVD: No T10 Protection Info: Disabled RAIDCFG Command successful!</pre>

Increasing Virtual Disk Size

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for increasing the virtual disk size of the controller.

Table 29. Increasing Virtual Disk Size

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-vd -c=id - vd=vdid - ac=evs -</pre>	<pre>NA</pre>	<pre>NA</pre>	<p>Increases the size of the virtual disk by the specified percentage.</p>


Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>szinper=% or vdisk controllerid=i d vdisk=vdid action=expandv dsize sizeinpercent= %</pre>			<p>Example:</p> <pre>A:>raidcfg -vd -c=2 -vd=2 - ac=evs -szinper=25</pre>


Deleting Virtual Disks

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for deleting virtual disks.

Table 30. Deleting Virtual Disks

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-vd -ac=dvd - c=id or vdisk action=deletev disk controllerid=i d</pre>	NA	NA	<p>Deletes all virtual disks on the indicated controller. This option combination is mandatory.</p> <p>Example:</p> <pre>A:>raidcfg -vd -ac=dvd -c=2 RAIDCFG Command successful!</pre>
<pre>-vd -ac=dvd - c=id or vdisk action=deletev disk controllerid=i d</pre>	-vd or vdisk	<valid virtual disk ID number>	<p>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.</p> <p>Example:</p> <pre>A:>raidcfg -vd -ac=dvd -c=2 - vd=0 RAIDCFG Command successful!</pre>

 **NOTE:** When virtual disks are created, the RAID controller starts the background initialization operation. Virtual disks cannot be deleted until this operation completes.

 **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.

Setting A Virtual Disk As Bootable Virtual Disk

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for setting a virtual disk as a bootable virtual disk.

Table 31. Setting A Virtual Disk As Bootable Virtual Disk

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
-vd -ac=sbf -c=id or vdisk action=setbootflag controllerid=id	-vd or vdisk	<valid virtual disk ID number>	Sets the specified virtual disk as bootable virtual disk on the specified controller. Example: A:>raidcfg -vd -ac=sbf -c=2 -vd=0 RAIDCFG Command successful!

Blinking And Unblinking Virtual Disks

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for blinking or unblinking a physical disk associated with a virtual disk.

Table 32. Blinking And Unblinking Virtual Disks

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
-vd -vd=id ac=blink -c=id or vdisk vdisk=id action=blink controllerid=id	NA	NA	Blinks the physical disks associated with the specified virtual disk on the specified controller. Example: A:>raidcfg -vd -vd=2 -ac=blink -c=2 RAIDCFG Command successful!
-vd -vd=id ac=unblink -c=id or vdisk vdisk=id action=blink controllerid=id	NA	NA	Unlinks the physical disks associated with the specified virtual disk on the specified controller. Example: A:>raidcfg -vd -vd=2 -ac=blink -c=2 RAIDCFG Command successful!

Setting Virtual Disk Name

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for setting the name of a virtual disk on a controller.

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-vd -vd=id - ac=svdn - vdn= <string> - c=id or vdisk vdisk= id action= setvdname vdname=<string > controllerid= id</pre>	NA	NA	<p>Sets the name of the specified virtual disk on the specified controller.</p> <p>Example:</p> <pre>A:>raidcfg -vd -vd=2 -ac=svdn - vdn=xxx -c=2 RAIDCFG Command successful!</pre>

Replacing Physical Disk Of A Virtual Disk

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for replacing the physical disk of a virtual disk with a ready state disk.

Table 33. Replacing Physical Disk Of A Virtual Disk

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-vd - ac=replacepd - vd=id ch:targ:encl - c=id or vdisk action=replace pdisk adisk pdisk=channel: target:enclosu re controllerid=i d</pre>	NA	NA	<p>Replaces the physical disk of a virtual disk by a ready state disk, whose size is greater than or equal to the size of the physical disk.</p> <p>Example:</p> <pre>A:>raidcfg -vd -ac=replacepd - vd=2 -c=2 -src=0:1 -dest=0:1</pre>

Consistency Check For Virtual Disk

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for a consistency check for a virtual disk.

Table 34. Consistency Check For Virtual Disk

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-vd -c=id - vd=id -ac=cc or vdisk</pre>	NA	NA	<p>Check consistency for a specified virtual disk.</p>

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
controllerid=id vdisk=id action=consistencycheck			Example: A:>raidcfg -vd -c=2 -vd=2 -ac=cc
-vd -c=id -vd=id -ac=ccc or vdisk controllerid=id vdisk=id action=cancelconsistencycheck	NA	NA	<p>Cancels the consistency check for the specified virtual disk.</p> <p>Example: A:>raidcfg -vd -c=2 -vd=2 -ac=ccc</p>

Enumerating Array Disks

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for enumerating array disks (hard-drives).




 **NOTE:** You can also use `pdisk` or `-pd` instead of `adisk` or `-ad` to specify an array disk.

Table 35. Enumerating Array Disks (Hard Drives)

Mandatory Options and Arguments	Optional Parameters	Valid Parameters/ Arguments	Description
-ad -c=id or adisk controllerid=id	NA	NA	<p>Lists all the array disks attached to the specified RAID controller. This option combination is mandatory.</p> <p> NOTE: The following example displays the output of a Series 7 controller.</p> <p> NOTE: The software controller does not display the <code>NegSpeed</code>, <code>CapSpeed</code>, <code>Certified</code> and <code>Supported</code> parameters.</p> <p>Example: A:>raidcfg -ad -c=2</p> <pre> Controller: PERC H710P Adapter ***** Physical Drive ***** Vendor: DELL(tm) Model: ST3300657SS Protocol: SAS Media: HDD NegSpeed: 6144 Mbps CapSpeed: 6144 Mbps Certified: YES </pre>

Mandatory Options and Arguments	Optional Parameters	Valid Parameters/ Arguments	Description
			<pre> Supported: YES Location: 0:7:1 Size: 285568 MB (278 GB) Avail: 285568 MB (278 GB) PowerState: Spun Up SMARTState: No Error DiskState: Ready Encryption Capable: No Secured: Not Applicable Sector Size: 512B T10 Protection Info Capable: No ***** Physical Drive ***** Vendor: DELL Model: ST500NM0011 Protocol: SATA Media: HDD NegSpeed: 3072 Mbps CapSpeed: 3072 Mbps Certified: YES Supported: YES Location: 0:4:1 Size: 476416 MB (465 GB) Avail: 0 MB PowerState: Spun Up SMARTState: No Error DiskState: Online Encryption Capable: No Secured: Not Applicable Sector Size: 512B T10 Protection Info Capable: No ***** Physical Drive ***** Vendor: DELL Model: SAMSUNG HE253GJ Protocol: SATA Media: HDD NegSpeed: 3072 Mbps CapSpeed: 3072 Mbps Certified: YES Supported: YES Location: 0:7:1 Size: 237824 MB (232 GB) Avail: 0 MB PowerState: Spun Up SMARTState: No Error DiskState: Online Encryption Capable: No Secured: Not Applicable Sector Size: 512B T10 Protection Info Capable: No RAIDCFG Command successful! </pre>
	-vd=id or vdisk=id		Lists the array disks that make up the virtual disk on the specified RAID

Mandatory Options and Arguments	Optional Parameters	Valid Parameters/ Arguments	Description
			<p>controller. This option combination is mandatory.</p> <p>Example:</p> <pre>A:>raidcfg -ad -c=4 -vd=0 Controller: PERC H710P Adapter ***** Physical Drive *****Drive Vendor: DELL (tm) Model: ST3450757SS Protocol: SAS Media: HDD MedSpeed: 6144 Mbps CapSpeed: 6144 Mbps Certified: YES Supported: YES Location: 0:0:1 Size: 428672 MB (418 GB) Avail: 0 MB PowerState: Spun Up SMARTState: No Error DiskState: Online Encryption Capable: Yes Secured: No Sector Size: 512B T10 Protection Info Capable: No RAIDCFG Command successful!</pre>
<pre>-ad -c=id or adisk controllerid=i d</pre>	<pre>-ad= ch:targ,ch:t arg,... adisk= channel:tar get, channel:tar get,...</pre>		<p>Displays information about the specified array disk. This option combination is mandatory.</p> <p>Example:</p> <pre>A:>raidcfg -ad -c=4 -ad= 0:0:1 ***** Physical Drive ***** Vendor: DELL(tm) Model: ST3450757SS Protocol: SAS Media: HDD MegSpeed: 6144 Mbps CapSpeed: 6144 Mbps Certified: YES Supported: YES Location: 0:0:1 Size: 428672 MB (418 GB) Avail: 0 MB PowerState: Spun Up SMARTState: No Error DiskState: Online Encryption Capable: Yes Secured: No</pre>

Mandatory Options and Arguments	Optional Parameters	Valid Parameters/ Arguments	Description
			Sector Size: 512 MB T10 Protection Info Capable: No RAIDCFG Command successful!

Blinking And Unblinking Array Disks

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for blinking and unblinking array disks (hard drives).

 **NOTE:** You can also use `pdisk` or `-pd` instead of `adisk` or `-ad` to specify an array disk.

Table 36. Blinking And Unblinking Array Disks

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<code>-ad -ad=ch:targ,ch:targ ,... -ac=blink -c=id or adisk adisk=channel:target , channel:target ,... -ac=blink controllerid=id vdisk=id</code>	NA	NA	Blinks the specified physical disks on the specified controller. Example: A:>raidcfg -ad -ad=0:0:1 -ac=blink -c=4 RAIDCFG Command successful!
<code>-ad -ad=ch:targ,ch:targ ,... -ac=unblink -c=id or adisk adisk=channel:target , channel:target ,... -ac=unblink controllerid=id vdisk=id</code>	NA	NA	Unlinks the specified physical disks on the specified controller. Example: A:>raidcfg -ad -ad=0:0:1 -ac=unblink -c=4 RAIDCFG Command successful!

Configuring Array Disk As RAID

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for configuring the array disk as RAID.

Table 37. Configuring Array Disk as RAID

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-ad -ac=ctr -ad -pd=ch:targ:encl -c=id</pre> <p>or</p> <pre>vdisk action=convert toraid adisk pdisk=channel: target:enclosure controllerid=id</pre>	NA	NA	<p>Configures the array disk as RAID.</p> <p>Example:</p> <pre>A:>raidcfg -ad -ac=ctr -ad=0:1 -c=2</pre>
<pre>-ad -ac=ctnr -ad -pd=ch:targ:encl -c=id</pre> <p>or</p> <pre>vdisk action=convert tononraid adisk pdisk=channel: target:enclosure controllerid=id</pre>	NA	NA	<p>Configures the array disk as JBOD.</p> <p>Example:</p> <pre>A:>raidcfg -ad -ac=ctnr -ad=0:1 -c=2</pre>

Configuring Physical Disk State

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for configuring the physical disk state to online or offline.

⚠ CAUTION: Setting a physical disk online or offline may result in data loss. Either complete an automatic rebuild of the physical disk or initiate a consistency check of the virtual disk after an online task completes.

Table 38. Configuring Physical Disk State

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-ad -ac=online -ad -pd=ch:targ:encl -c=id</pre> <p>or</p>	NA	NA	<p>Sets the array disk state to online.</p> <p>Example:</p> <pre>A:>raidcfg -ad -ac=online -ad=0:1 -c=2</pre>

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>adisk action=online adisk pdisk=channel: target:enclosure controllerid=id</pre>			
<pre>-ad - ac=offline - ad -pd= ch:targ:encl - c=id or adisk action=offline adisk pdisk=channel: target:enclosure controllerid=id</pre>	NA	NA	<p>Cancels the rebuild of the physical disk associated with a specified virtual disk.</p> <p>Example:</p> <pre>A:>raidcfg -ad -ac=offline - ad=0:1 -c=2</pre>

Configuring Physical Disk Rebuild

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for configuring the rebuild of the physical disks associated with a virtual disk.

Table 39. Configuring the Disk Rebuild

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-vd -ac=rbd - ad -pd= ch:targ:encl - c=id or vdisk action=rebuild adisk pdisk=channel: target:enclosure</pre>	NA	NA	<p>Rebuilds the physical disk associated with a specified virtual disk.</p> <p>Example:</p> <pre>A:>raidcfg -vd -ac=rbd -ad=0:1 -c=2</pre>

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
controllerid=id			
<pre>-vd -ac=crbd -ad -pd=ch:targ:encl -c=id</pre> <p>or</p> <pre>vdisk action=cancelr ebuild adisk pdisk=channel: target:enclosure controllerid=id</pre>	NA	NA	<p>Cancels the rebuild of the physical disk associated with a specified virtual disk.</p> <p>Example:</p> <pre>A:>raidcfg -vd -ac=crbd -ad=0:1 -c=2</pre>

Erasing Encrypted Physical Disk

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for erasing encrypted physical disks.

Table 40. Erasing Encrypted Physical Disk

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>-ad -ad -pd= ch:targ:encl,ch:targ:encl ,... -ac=insecerase -c=id</pre> <p>or</p> <pre>adisk adisk pdisk= channel:target:enclosure , channel:target:enclosure ,.. . action=instant secureerase controllerid=id</pre>	NA	NA	<p>Erases the encrypted physical disk that is in ready or foreign disk state.</p> <p>Example:</p> <pre>A:>raidcfg -ad -ad=0:1,0:2 -ac=insecerase -c=2</pre>

Discarding Preserved Cache

The following table lists the RAIDCFG options, parameters, and pre-defined arguments for discarding the preserved cache on the controller.

Table 41. Discarding Preserved Cache


Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
<pre>--ctrl -c=id -ac=dpc -force</pre> <p>or</p> <pre>controller controllerid=id action=discard PreservedCache -force</pre>	NA	NA	<p>Discards the preserved cache on the controller.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -c=2 -ac=dpc -force</pre> <p>RAIDCFG Command successful!</p>
<pre>--ctrl -c=id -ac=dpc -force -igncfg</pre> <p>or</p> <pre>controller controllerid=id action=discard PreservedCache -force -ignoreconfig</pre>	NA	NA	<p>Discards the preserved cache on the controller ignoring the foreign configuration.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -c=2 -ac=dpc -force -igncfg</pre> <p>RAIDCFG Command successful!</p>

RAID Replication Options

The following table lists the RAID replication options.

Table 42. RAID Replication Options

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
-i	NA	<filename>	<p>Reads the RAID configuration information from the given .ini filename and creates the RAID configurations on the specified controllers. This option is mandatory.</p>

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
			Example: <pre>A:> raidcfg -i=\tmp\raid.ini</pre>
-o	NA	<filename>	<p>Reads the RAID configurations from all available controllers and writes these configurations in the raid.ini file under the /tmp directory (in Linux systems). This option is mandatory.</p> <p>Example:</p> <pre>A:> raidcfg -o=\tmp\raid.ini</pre> <p>The contents of the raid.ini file are:</p> <pre>[vdisk0] controllerid=0 size=123456 raid=5 readpolicy=ra writepolicy=wt stripesize=32 cachepolicy=d adisk=0:0:1,0:1:1,0:2:1 [vdisk1] controllerid=0 size=65345 raid=1 readpolicy=ra writepolicy=wt stripesize=64 cachepolicy=d adisk=0:3:1,0:4:1</pre> <p> NOTE: If the controller uses global hot spares, the raid.ini file contains the following section:</p> <pre>[GlobalHotspare0] controllerid=0 failoverdrive=0:8:0</pre>

Miscellaneous Options

The following table lists all other RAIDCFG options, parameters, and pre-defined arguments.



Table 43. Miscellaneous Optional Parameters

Mandatory Options and Arguments	Optional Parameters	Valid Parameters Arguments	Description
any option	-l or logfile	<filename>	<p>Logs command line output to a file. The utility either appends the information to an existing log file or creates a new file. The log file contains the same information as standard output. This option is optional and can be added to the command line in any order after the mandatory options have been added.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -l=log.txt Controller_ID/Slot_ID: 0 Controller_PCI_ID: 4:2:1 Controller_Name: Dell PERC 6/E Channels: 2 Virtual_Disks: 0 Firmware Version: V2.8-0[6064] RAIDCFG Command successful!</pre>
	-si or silent	NA	<p>Does not display any information on the terminal console. This option is optional and can be added to the command line in any order after any mandatory options have been added.</p> <p>Example:</p> <pre>A:>raidcfg -ctrl -si</pre>
	-ver or version	NA	<p>Displays the version number of the RAIDCFG utility. This option is optional and can be added to the command line in any order after any mandatory options have been added.</p> <p>Example:</p> <pre>A:>raidcfg -ver RAIDCFG V4.4 Copyright (c) 2002-2014 Dell Inc. RAIDCFG Command successful!</pre>

Quick Reference To RAIDCFG Commands

The following table lists the basic RAIDCFG commands.

Purpose	Command	Description
To list all the RAID controllers in a system	<code>raidcfg -ctrl</code>	Lists all the RAID controllers in the system. Record the slot ID of the controllers for later reference. Example: <code>A:>raidcfg -ctrl -ac=sghs -c=2 -ad=0:1</code> RAIDCFG Command successful!
To list all the disks attached to a particular controller	<code>raidcfg adisk -c=slotid</code>	Lists all the disks attached to the controller. The slot ID is obtained from the first command. Record the drive location of the disks for later reference.
To create a virtual disk with all the default settings	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad= x:y,x:y,...</code>	Creates a virtual disk of maximum available size for type RAID 0. RAID 0 is the default. The slot ID in <code><-c=slotid></code> and the array disks in <code><-ad=...></code> are obtained from the first two commands.
To create a virtual disk of a certain size with all the default settings	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad= x:y,x:y, ... -sz=5GB</code>	Creates a virtual disk of 5 GB size for type RAID 0. RAID 0 is the default. The slot ID in <code><-c=slotid></code> and the array disks in <code><-ad=...></code> are obtained from the first two commands.
To create a virtual disk of a certain size and make it RAID 1	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad= x:y,x:y -sz=5GB -r=1</code>	Creates a virtual disk of 5 GB size for type RAID 1. The slot ID in <code><-c=slotid></code> and the array disks in <code><-ad=...></code> are obtained from the first two commands.
To create a virtual disk of a certain size and make it RAID 5	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad= x:y,x:y,x:y, ... -sz=5GB -r=5</code>	Creates a virtual disk of 5 GB size for type RAID 5. The slot ID in <code><-c=slotid></code> and the array disks in <code><-ad=...></code> are obtained from the first two commands.
To create a virtual disk of a certain size and make it RAID 1 with a hot spare	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad= x:y,x:y -sz=5GB -r=1 -fd=x:y</code>	Creates a virtual disk of 5 GB size for type RAID 1. The slot ID in <code><-c=slotid></code> and the array disks in <code><-ad=...></code> are obtained from the first two commands. The option <code><-fd></code> stands for failover drive and requires the drive location of the drive you want the dedicated hot spare to be in. The drive location is obtained from the second command.

Purpose	Command	Description
To create a virtual disk of RAID 10	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad=x:y,x:y,x:y,x:y -r=10</code>	Creates a virtual disk of max size for type RAID 10. The slot ID in <-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	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad=x:y,x:y,x:y,x:y ,x:y,x:y -r=50 -sp=x</code>	Creates a virtual disk of maximum size for type RAID 50. The slot ID in <-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 6	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad=x:y,x:y,x:y,x:y ,x:y,x:y -r=6 -sp=x</code>	Creates a virtual disk of maximum size for type RAID 6. The slot ID in <-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	<code>raidcfg -ctrl -ac=cvd -c=slotid -ad=x:y,x:y,x:y,x:y ,x:y,x:y -r=60 -sp=x</code>	Creates a virtual disk of maximum size for type RAID 60. The slot ID in <-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	<code>raidcfg vdisk</code>	Lists the virtual disks on a system for all RAID controllers.
To view all the virtual disks for a specific controller	<code>raidcfg vdisk -c=slotid</code>	Lists all the virtual disks on a specific controller. The slot ID in <-c=slotid> is obtained from the first commands.
To delete a specific virtual disk on a controller	<code>raidcfg vdisk -ac=dvd -c=slotid -vd= vdiskid</code>	Deletes a specific virtual disk on a controller. The slot ID in <-c=slotid> is obtained from the first command and the vdiskid in <-vd=vdiskid> is obtained from command 10.

UPINIT

The UPINIT utility allows to create 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

On systems running Linux, UPINIT looks for the following files:

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


On systems running 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 below lists the valid options and arguments for the UPINIT utility.

Table 44. UPINIT Options and Arguments

Option	Valid Arguments	Description
none	none	<p>If no options are given, the tool outputs usage information. The usage information is printed in the format shown below.</p> <p>Example 1:</p> <pre>A:>upinit upinit version 1.0 © 2012 Dell Inc. All rights reserved upinit.sh --disk -d=disk --size -s= size --file -f=file [--overwrite -o] [--help -h] --help or -h prints help. --disk or -d disk device on which to create the Dell Utility Partition. --size or -s Size in MB for the Dell Utility Partition. --file or -f filename of Dell Utility Partition Image File. --overwrite or -o Installs the Dell Utility partition over an existing one.</pre> <p>Example 2:</p> <pre>upinit --disk=/dev/sda --size=32 -- file=upimg.bin</pre> <p>In the example, upinit creates a Dell Utility Partition of size 32 MB on /dev/sda using upimg.bin file.</p> <p> NOTE: The --overwrite option should be used for upgrading/downgrading purposes. The --size option is not required when using the --overwrite option because the --overwrite option does not resize an existing Dell Utility Partition. If any partitions exist, they are deleted.</p>
-h	none	<p>This function command requires an argument that matches a valid option. If the argument matches a valid option, that option's usage information is displayed. This option cannot be used with other options.</p> <p>Windows PE Example:</p> <pre>upinit version 1.0</pre>

Option	Valid Arguments	Description
		<p>Copyright (c) 2002-2012 Dell Inc.</p> <p>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.</p> <p>Usage:</p> <pre>upinit.bat [--overwrite] --disk=ID or -d=ID --size=size or -s=size --file=file or -f=file --help or -h prints usage. --disk or -d ID of the disk on which to create the Dell Utility Partition. --size or -s Size in MB for the Dell Utility Partition. --file or -f Filename of the Dell Utility Partition Image File. --overwrite or -o Overwrites an existing Dell Utility Partition.</pre> <p>Example:</p> <pre>upinit --disk=0 --size=32 --file= upimg.bin</pre> <p>In the example, upinit creates a Dell Utility Partition of size 32 MB using the upimg.bin image file.</p> <p>The --overwrite option should be used for upgrading/downgrading purposes. The --size option is not required when using the --overwrite option because the --overwrite option does not resize an existing Dell Utility Partition. If any partitions exist, they are not deleted.</p> <p>Linux Example:</p> <pre>upinit version 1.0</pre> <p>Copyright (c) 2002-2012 Dell Inc.</p> <p>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.</p> <p>Usage:</p> <pre>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.</pre>

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

Option	Valid Arguments	Description
		Example: A:>upinit --disk=0 --size=32 --file= c:\upimage.bin
--overwrite	string, optional	Overwrites an existing utility partition. It does not create a new partition or delete an existing partition.

Messages And Codes

This section documents the error messages and codes used in Dell OpenManage Deployment Toolkit (DTK).

SYSCFG Error Codes And Messages

The SYSCFG utility checks your commands for correct syntax and valid input. When you enter a command, a message is displayed stating the results of the command.

Failure Messages

The SYSCFG utility failure messages provide error codes to help diagnose why some commands do not succeed. The following table lists SYSCFG error codes and messages.

Table 45. 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.
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.

Error Code	Message
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.
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.

Error Code	Message
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.
48	Command response could not be provided. SDR Repository in update mode.
49	Cannot execute command, SEL erase in progress.
50	Attempt to set the 'set in progress' value when not in the 'set in complete' state.
51	The SOL character 'accumulate interval' is invalid.
52	The SOL character 'send threshold' is invalid.
53	The SOL 'retry interval' is invalid.
54	Command completed successfully.
55	Time-out while processing command. Response unavailable.
56	Unspecified error.
57	The password may only contain printable ASCII characters.
58	Username cannot exceed 16 characters.
59	Invalid VLANID value. Enter in 'dddd' format.
60	Attempt to write read-only parameter.
61	BMC is busy.
62	Response data did not return successfully.
63	BMC time out error.
64	Option requires an argument.
65	The asset tag for this system is not available.
66	The asset tag cannot be more than 10 characters long.
67	The required BIOS interfaces cannot be found on this system.
68	The BIOS version information is not available.
69	There is not enough free system memory to complete the BIOS update.

Error Code	Message
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.
83	The dependent option required for this subcommand is missing in the command line.
84	Duplicate sub command has been entered.
85	The script file does contain not a valid DTK environment script signature.
86	The format of the environment variable is incorrect.
87	The --envar option can only be used for a single option.
88	The --envar option can only be used for report operations.
89	The individual sub commands should be specified for the -s option.
90	Getting external serial connector settings failed.
91	Setting external serial connector settings failed.
92	There was an error opening the file.

Error Code	Message
93	File does not have write permission.
94	The file contains invalid options.
95	The replication information does not match for this system.
96	There can only be one section in the input file.
97	Bad ini file, the section cannot be found.
98	The format of the bios image file is incorrect.
99	Report operations and set operations must be separate.
100	Help is not available for the option.
101	The -x (--hex) option can only be used with -b or -r.
102	Input file not found.
103	Input file cannot be read.
104	Invalid argument for option.
105	Function table lookup error.
106	The machine ID was not found in the file.
107	The system memory information is not available.
108	Mode can only be used with the --pci option.
109	The device name or index must be present in the boot order.
110	The output file could not be opened. Please make sure the path exists and the media is not write protected.
111	Could not write to output file, disk may be full.
112	The current password must be supplied with a new password using --oldsyspwd.
113	The current password must be supplied with a new password using --oldsetupwd.
114	The current password can only be supplied when setting a new password.
115	Actions are not allowed for this filter. Only alerts are allowed.
116	There was an error getting the option.
117	The option is not available or cannot be configured through software.
118	There was an error setting the option.
119	The -n (--namefile) option can only be used with - -pci.

Error Code	Message
120	The password may only contain alphanumeric characters.
121	The BIOS passwords have been disabled via jumper.
122	The password length must be between 1 and 32.
123	This password is locked and can only be unlocked by the admin user.
124	There was an error setting the password.
125	The LCD string length must be between 1 and %s.
126	The LCD string may only contain alphanumeric characters.
127	There was an error setting the LCD string.
128	The second channel can only be set if the RAID controller is set to RAID.
129	The set operation requires sub commands.
130	The service tag for this system is not available.
131	The system ID value is not available.
132	The system information string is not available.
133	A system error has occurred.
134	Usage error.
135	The uuid information is not present on this system
136	Version cannot be accompanied with any other option.
137	The self-identify blinker timer should be set to 0..255 second(s).
138	Encrypt key is too long.
139	Encrypt key is invalid, accepted characters are 0 to 9 or A to F.
140	Parameter has been temporarily disabled due to a dependency on other settings.
141	The old password supplied is incorrect. The new password will not be set. Please try again.
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.

Error Code	Message
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.
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.

Error Code	Message
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.
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	The set operation failed due to dependency.
190	The set operation failed because attribute is forced to a value.
191	Cannot disable this OrderedList's entries.

Error Code	Message
192	The set operation failed because system is busy now . Try again later.
193	New value for the token not valid.
194	Token not found.
195	The set operation failed because System Services and/or CSIOR disabled.
196	The set operation failed due to pending System Password changes.
197	The set operation failed due to Password verification failure.
198	The set operation failed due to previously scheduled job.
199	The set operation failed because attribute is suppressed.
200	The set operation failed due to Generic failure.
201	XML path context creation failed.
202	Unable to parse XML.
203	Unable to connect data manager.
204	'root' privileges required to execute this application.
205	Invalid alert destination.
206	The set operation failed due to unspecified error.
207	Incorrect syntax for help. For more information about a particular command, use the option '-h or --help' followed by the command name. Example: %s -h --asset
208	System is busy now.Try again later.
209	The dependent option '%s' required for this subcommand should be 'enable'.

Failures And Solutions

The following table lists the common SYSCFG failures and their solution.

Table 46. SYSCFG Failures and Solutions

Failure Messages	Solutions
Generic failure.	Indicates iDRAC is in bad state. Reboot iDRAC.
New value not valid.	Make sure the changed value is valid.
Cannot disable this orderedList's entries.	BIOS does not support enabling or disabling of a particular boot order object.
System busy, try again later.	Retry as iDRAC is busy with internal processing.

Failure Messages	Solutions
Unable to connect IDRAC data manager.	Start data manager service using <code>srvadmin_services</code> (specific to Linux).
System Services and/or CSIOR disabled.	Enable CSIOR from <F2> screen.

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 below lists error codes and messages common to Linux and Microsoft Windows PE environments.

Table 47. UPINIT Common Error Codes and Messages

Error Code	Message
0	Dell Utility Partition created successfully.
1	Error: Disk ID not specified.
2	Error: SIZE not specified.
3	Error: Utility Partition Image file not specified.
4	Error: DRMK Path not specified.
5	Error: Dell Utility Partition already exists. Please use <code>--overwrite</code> option to upgrade or overwrite.
6	Error: Partitions exists. Please clear all the partitions before running <code>upinit.sh</code> .
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: <code>sysdrmk</code> failed.
12	System Error.
13	Error: Invalid Argument: <argument>
14	Error: Unzip failed.

UPINIT Linux-Specific Error Codes And Messages

The list of error codes and messages are specific to the Linux environment.

Table 48. 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

The list of error codes and messages below are specific to the Windows PE environment.

Table 49. 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 below for a list of the error codes and the associated messages.

Table 50. 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

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.
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.

Error Code	Message
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.
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	Select the array disks that are part of a similar type of virtual disk (T10 protection and encryption capability) or the array disks that are not part of any virtual disks.
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.

Error Code	Message
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.
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.
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.

Error Code	Message
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.
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.

Error Code	Message
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.
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.

Error Code	Message
142	The controller was not able to set the requested failover space.
143	The controller cannot get the failover space information.
144	Controller cannot unmirror the specified virtual disk.
145	The controller could not split the specified virtual disk.
146	The controller could not lock the specified virtual disk.
147	Controller IO paused.
148	No controller parameter support.
149	Controller does not recognize parameter symbol.
150	Controller Battery Recondition failed.
151	Controller Get disk signature failed.
152	Controller Read Flags failed.
153	Controller Set Flags failed.
154	Controller Remove Snap Shot failed.
155	Controller not supported.
156	Controller device initialization failure.
157	Partner controller already opened readwrite.
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.
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.

Error Code	Message
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.
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.
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.

Error Code	Message
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!
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.

Error Code	Message
216	Invalid virtual disk size!
217	The strict option provided failed! Virtual disk is not created.
218	Unable to determine optimum size for Virtual disk. Ensure that the array disks are of the same protocol (i.e. SAS, SATA, SCSI). If there is a mismatch of the array disks then the RAIDCFG will not be able to determine the optimum size. In addition, also ensure that there is drive size available for the specified virtual disk.
219	One or more array disks selected to create virtual disk or hotspare doesn't have enough disk space. Please make sure that all the array disks and failover drives selected have enough free space.
220	The number of array disks provided is incorrect for the requested RAID Type! RAID 1 requires exactly 2 array disks, RAID 5 requires at least 3 array disks, RAID 10 requires at least 4 array disks and RAID 50 requires at least 6 array disks.
221	No free array disks found!
222	No global failover disks found!
223	One or more array disks selected for the virtual disk has foreign configuration.
224	Error in opening the file.
225	SAS 5/IR, SAS 6/IR, H200 and SW RAID requires atleast two physical disks to create RAID 0 or RAID 1.
226	No Foreign configuration present in the controller.
227	The virtual disk cannot be created on the physical disks you selected. Possible reasons include: unsupported mix of SAS and SATA protocol type disks, unsupported mix of SSD and HDD media disks.
228	Unsupported array disks selected for VD creation.
229	Setting stripe size is not supported in this controller.
230	Invalid VirtualDisk(VD) name specified. VD name can have alphanumeric characters [A-Z,a-z,0-9,_, -] only. Also, VD name size must be less than or equal to 15 characters
231	Error occurred while setting virtual disk as boot disk.
232	Error occurred while setting name for virtual disk.
233	Couldn't get boot virtual disk.

Error Code	Message
234	PCIe Link Speed could not be set for the RAID controller. Please check if the controller has the capability to set/change its PCIe link speed.
235	PCIe Link Speed can be set to either 2 or 3 i.e. PCIe Generation 2.0 or 3.0.
236	PCIe Link Speed could not be retrieved for this RAID controller. Please check if the controller has the PCIe link speed capability.
237	Please reset the controller before doing any further operation.
238	Boot Mode can be set to 0 (BIOS stop on error), 1 (BIOS continue on error), 2 (Headless continue on error)
239	Boot Mode could not be set for the RAID controller.
240	Enable Auto Import can be set to 0 (No) or 1 (Yes).
1000	Cannot discard the preserved cache because a foreign configuration is present on the controller. Use '-ignoreconfig' or '-igncfg' to discard the cache.
1001	Invalid array disk list.
1002	Source or destination disk is in invalid state. Make sure that the source disk is in online state, destination disk is in ready state, and the size of the destination disk is greater than or equal to the size of the source disk.
1003	Operation not allowed. Cannot set the array disk state to online.
1004	Operation not allowed. Cannot set the array disk state to offline.
1005	Invalid encrypted array disk list for the instant secure erase operation.
1006	Sector drives 512B and 4KB must not be combined while creating a virtual disk.
1007	Hot spare sector size for the virtual disk is not matching.
1008	sectorsize parameter is not found.
1009	Warning! Cannot assign global hotspare. Input array disk can act as a hotspare only for virtual disks with matching sector size (4KB or 512B) and supported T10 PI capability. Use "-force" option to discard the warning.
1010	Force option is invalid for this operation on the specified controller.

Error Code	Message
1011	Input values for vdiskprotectioninfo and vdpi are 1 and 0.
1012	vdiskprotectioninfo or vdpi option is not available on the controller.
1013	Input array disks or hotspares are not PI-capable.
1014	Creation of RAID 10 virtual disk with Uneven Span failed.
1015	Spanlength is not required for creating a RAID10 virtual disk on this controller.
1016	Unsupported operation. RAID 6 and RAID 60 virtual disks which are T10 PI enabled do not support Slow Initialize.
1017	Operation is not supported. The specified controller does not have encryption capability.
1018	Operation is not supported. Encryption key is not present on the specified controller.
1019	The specified array disks or hotspares do not have encryption capability.
1020	The specified controller does not have a locked foreign configuration.
1021	Invalid passphrase.
1022	Input values for secureflag and sf are 1 and 0.
1023	Unsupported operation. Preserved cache is not present on the controller.
1024	Invalide Key Id
1025	Encryption key is already set for the controller.
1026	Cannot delete the encryption key because secure virtual disk is present.
1027	The passphrase is invalid or old.
1028	Cannot increase the virtual disk size due to lack of free space or due to the presence of partial virtual disks on the same set of array disks.
1029	The percentage value of virtual disk size must be in the range 1-100.
1030	Error! Cannot discard the preserved cache. Use '-force' option to discard the cache.
1031	Cannot create a new virtual disk because preserved cache is present on the controller. To clear the cache, either import the related virtual disks or discard the cache.

Error Code	Message
1032	Unsupported RAID value. The expand virtual disk size operation is allowed only on RAID-0, RAID-1, RAID-5, and RAID-6.

RACADM Firmware Error Codes And Messages

Table below lists RACADM firmware error codes and messages.

Table 51. RACADM Firmware Error Codes and Messages

Error Code	Message
1	UNKNOWN COMMAND.
2	OUTPUT ERROR
3	TOO FEW ARGUMENTS
4	UNKNOWN PARAMETER
5	CAN'T LOCK RESOURCE
6	RESOURCE LOCKED
7	USER NOT IN DATABASE
8	WRONG PASSWORD
9	LOGIN INCORRECT
10	NOT ACCESSIBLE VIA TELNET CONNECTION
11	ACCESS DENIED
12	INVALID ARGUMENT
13	INVALID GROUP NAME
14	USER DATABASE FULL
15	CAN'T CHANGE FACTORY DEFAULT
16	USER ALREADY IN DATABASE
17	CLOSING TELNET CONNECTION
18	USER DATABASE NOT INITIALIZED
19	INVALID COMMAND SHELL CALL
20	INVALID INPUT FILE
21	TFTP ERROR
22	PCI ERROR
23	SERVER IS IN GRAPHICS MODE
24	SYSTEM DATE AND TIME NOT SET

Error Code	Message
25	OUT OF MEMORY
26	ACCESS LOCKED
27	PAGING ERROR
28	PAGING ALREADY IN PROGRESS
29	ERROR ACCESSING DEVICE
30	WRONG NUMBER OF ARGUMENTS
31	NO SCREEN FOR ASR STORED
32	CAN'T ADD HISTORY MONITOR
33	INVALID IDENTIFIER
34	CANNOT WRITE TO FLASH
35	FIRMWARE FILE INVALID
36	CANNOT READ REGISTER
37	CANNOT UNLOCK RESOURCE
38	TIME OUT
39	SERVER IN TEXT MODE
40	WRONG GRAPHICS MODE
41	CONFIG SPACE LOCKED
42	MASTER LOCKED
43	ASB BUS LOCKED
44	HISTORY MONITORS NOT YET AVAILABLE
45	NO VALID VALUE FOR THIS FIELD
46	DIAGNOSTIC TASK ERROR
47	DIAGNOSTIC TASK IS ALREADY RUNNING
48	NO DIAGNOSTIC TASK RUNNING
49	READ ONLY
50	SNARFING IS NOT AVAILABLE
51	TEXT RESOLUTION OF SERVER CHANGED
52	MODULE NOT LOADED
53	IPMI ERROR
54	ERROR IN DIAGNOSTIC FUNCTION

RACADM Utility Error Codes And Messages

Table below lists RACADM utility error codes and messages.

Table 52. 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.
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.

Error Code	Message
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.
555	Failed to initialize FTP interface.
556	Failed to load SSL library.
557	Failed to initialize librac library.
558	Invalid session ID.
559	SpcmpObjectName failed.
560	SpcmpObjectIdGet failed.
561	SpcmpObjectIdSet failed.
562	Failed to send SPCMP message to RAC.
563	Invalid transport session info.
564	LAN Proxy error - please make sure your proxy settings are configured correctly.
565	RAC service not currently installed.
566	RAC service is not started.
567	RAC service is starting.
568	RAC controller not present.
569	RAC controller is currently resetting.

BMC Platform Events Filter Alert Messages

All possible Platform Event Filter (PEF) Alert Messages along with a description of each event are listed in the table below

Table 53. 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.

Event	Description
Hardware log is full or emptied	Either an empty or a full hardware log requires administrator attention.
Automatic System Recovery	The system is hung or is not responding and is taking an action configured by Automatic System Recovery.
System Power Probe Warning	The system is setting actions when a power consumption probe detects a warning value.
System Power Probe Failure	The system is setting actions when a power consumption probe detects a failure value.

Sample File Formats

This appendix lists the sample SYSCFG utility .ini, RAIDCFG utility .ini, and the RACADM utility .ini files.

Sample SYSCFG Utility .ini File Format

```
[syscfg]
;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=perfperwattoptimizeddapp
;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
dnisdhcp=disable
dnsrcname=idrac
dnsregisterrac=disable
domainname=
domainnamednisdhcp=disable
fullduplex=enable
speed=100Mbps
;subnetmask=255.255.255.0
vlanid=1
vlanpriority=0
vlantag=disable
lanconfparamsv6
;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
cfgRhostsSmtpeServerIpAddr=127.0.0.1
cfgRhostsFwUpdateIpAddr=192.168.0.4
cfgRhostsFwUpdatePath=
[cfgUserAdmin]
#cfgUserAdminIndex=1
cfgUserAdminUserName=root
#cfgUserAdminPassword=
cfgUserAdminPrivilege=0
cfgUserAdminAlertFilterRacEventMask=0x300000
cfgUserAdminAlertFilterSysEventMask=0x77777
cfgUserAdminEmailEnable=0
cfgUserAdminEmailAddress=
cfgUserAdminEmailCustomMsg=
```

```

[cfgSessionManagement]
cfgSsnMgtMaxSessions=0x4
cfgSsnMgtMaxSessionsPerUser=0x4
[cfgSerial]
cfgSerialBaudRate=115200
cfgSerialConsoleEnable=0
cfgSerialConsoleQuitKey=<CR>~.
cfgSerialConsoleIdleTimeout=0x12c
cfgSerialConsoleShellType=0x2
cfgSerialConsoleNoAuth=0
cfgSerialConsoleCommand=
cfgSerialTelnetEnable=0
cfgSerialCom2RedirEnable=1
cfgSerialTelnet7fIsBackspace=0
[cfgNetTuning]
cfgNetTuningNicMtu=0x5dc
cfgNetTuningIpTtl=0x40
cfgNetTuningTcpSrttBase=0x0
cfgNetTuningTcpSrttDflt=0x6
cfgNetTuningTcpReXmtMin=0x2
cfgNetTuningTcpReXmtMax=0x80
cfgNetTuningIpSubnetsAreLocal=0x1
cfgNetTuningIpReasTtl=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=
```