RAIDCFG to RACADM Migration using command MAP for Dell EMC PowerEdge servers

Version 1.0

Authors	
Ramesha HE	Software Principal Engineer, DTK
Lokesh Thutaram	Firmware Senior Engineer, RACADM
Sasikumar Subramani	OpenManage Test Engineer

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1. Tools Overview

This whitepaper discusses the Deployment Tool Kit (DTK) deprecation plan and how an existing user can self-sustain their DTK environment and make a smooth transition from using RAIDCFG to RACADM. This document is intended to be used as a reference manual to map RAIDCFG operations into equivalent RACADM command syntax for PowerEdge Raid Controllers (PERC). These RAIDCFG operations are supported in the PowerEdge server platforms through the current 14th generation systems.

This document helps to understand RAIDCFG utilities, scripts and transition guidelines for RACADM deployment and configuration of Dell PowerEdge servers in Windows and Linux environments.

1.1 About RAIDCFG

The Redundant Array of Independent Disks Configuration (RAIDCFG) utility is used to configure and report RAID-related information for supported RAID controllers as part of Dell DTK. The utility abstracts any hardware differences in the RAID controllers and allows administrators to use standardized command-line interface (CLI) commands across all supported controllers on supported PowerEdge systems. The RAIDCFG utility supports various RAID levels (including RAID-0, RAID-1, RAID-5, RAID-10, and RAID-50), provides switches and parameters to configure the read/write policy, stripe size and failover.

RAIDCFG commands allows you to read configuration options from CLI parameters and it enumerates RAID controllers, physical disks, and virtual disks. You can create and delete virtual disks. All the activity and error message will be logged to a given file.

1.2 About RACADM

The Dell Remote Access Controller Admin (RACADM) utility is a command-line tool that allows for remote or local management of Dell Servers via the integrated Dell Remote Access Controller (iDRAC or DRAC). RACADM provides similar functionality to the iDRAC/DRAC Graphical User Interface (GUI). The Dell Chassis Management Controller (CMC) can also be managed remotely with RACADM. RACADM commands can be run remotely from a management station and/or locally on the managed system.

RACADM commands allows you to view managed system information, perform power operations on the managed system, perform firmware updates, and configure settings and many more. Because RACADM is run from a command line interface (CLI), system administrators can create scripts that control and update multiple Dell systems at once. Please review the links to the RACADM documentation at the end of this article for a complete listing of features for a specific product version.

2. Installing RAIDCFG and RACADM

2.1 Installing RAIDCFG

RAIDCFG is included on the Dell OpenManage DVD that is orderable with PowerEdge servers. It is also delivered as a self-extracting zip package for the Microsoft Windows Pre-installation Environment (WinPE) and as an ISO image for embedded Linux operating systems at dell.com/support.

The Tools directory (the bin directory in Linux) carries administrative utilities such as raidcfg and syscfg. These utilities can be used as stand-alone tools for configuring individual components or integrated into scripts for a complete one-to-many scripted mass deployment.

2.2 Installing RACADM

Local RACADM supports in performing RACADM commands from the managed systems operating system. It is available on the Dell OpenManage Systems Management Tools and Documentation DVD or at www.dell.com/support.

To download Local RACADM:

1. Go to http://**www.dell.com/support**
2. If prompted, select **Start Here** under Small Businesses or Enterprise IT.
3. Enter the **Service Tag** of the managed system and **Submit**, or use one of the **Choose** options to locate your managed system model.
4. Select **Drivers and Downloads** > select the **Operating System of your Managed System** > expand **Systems Management.**
5. Locate the **OpenManage Server Administrator Managed Node** application and click **Download File.**

Local RACADM Download

2.2.1 Local RACADM Installation - Windows

If using the DVD,

1. Run <path>\SYSMGMT\srvadmin\windows\setup.exe
2. After the prerequisite checker runs, click **Server Administrator**.
3. Click **Next** > Accept the license agreement > **Next >** select **Custom > Next.**
4. For the **Remote Access Controller** to be installed click > **Next** > **Install > Finish.**

Open an administrative command prompt, type **racadm** and press **Enter**. If you get the RACADM help instructions it is installed correctly.

2.2.2 Local RACADM Installation - Linux

If using the DVD,

1. Run <path>/SYSMGMT/srvadmin/linux/supportscripts/srvadmin-install.sh
2. Accept the license agreement and select option **5 - Remote Access Core Component** from the menu.

Open a shell prompt with root privileges, type **racadm** and press **Enter**. If you get the RACADM help instructions it is installed correctly.

NOTE: The racadm executable is located under **/opt/dell/srvadmin/sbin**. You may need to log back to reset the PATH environment variable to include this location.

3. Mapping of RAIDCFG to equivalent RACADM command

Following is the mapping of RAIDCFG to equivalent RACADM command syntax based on the storage features implemented for Dell PERC controllers.

Storage features	RAIDCFG command syntax	RACADM command syntax
Assign Hotspare (Global/Persistent)	raidcfg <controller> <action=setglobalhotspare> <controllerid=ID> , <adisk|pdisk=channel:target[:enclosure]> [-force] raidcfg <-ctrl> <-ac=sghs> <-c=ID> <-ad|-pd=ch:targ[:encl]> [-force] **Example**: raidcfg -ctrl -ac=sghs -c=0 -ad=0:0:1 -force	racadm storage hotspare:<Physical Disk FQDD> -assign yes -type ghs **Example**: racadm storage hotspare:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1 -assign yes -type ghs
Remove Hotspare (Global/Persistent)	raidcfg <controller> <action=removeglobalhotspare> <controllerid=ID> <adisk|pdisk=channel:target[:enclosure]> raidcfg <-ctrl> <-ac=rghs> <-c=ID> <-ad|-pd=ch:targ[:encl]> **Example**: raidcfg -ctrl -ac=rghs -c=0 -ad=0:0:1	racadm storage hotspare:<Physical Disk FQDD> -assign no **Example**: racadm storage hotspare:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1 -assign no
Display Hotspare (Global/Persistent)	raidcfg <adisk|pdisk> <-action=listglobalhotspare><controllerid=ID> raidcfg <-ad|-pd> <-ac=lghs> <-c=ID> **Example**: raidcfg -ad -ac=lghs -c=0	racadm storage get pdisks –o –p hotspare

Imports the Foreign configuration	raidcfg <controller> <controllerid=ID> <action=foreignimport> raidcfg <-ctrl> <-c=ID> <-ac=fgnimp> **Example**: raidcfg -ctrl -c=0 -ac=fgnimp	racadm storage importconfig: <Controller FQDD> **Example**: racadm storage importconfig:RAID.Integrated.1-1
Recovers the Foreign configuration	raidcfg <controller> <controllerid=ID> <action=foreignrecover> raidcfg <-ctrl> <-c=ID> <-ac=fgnrvr> **Example**: raidcfg -ctrl -c=0 -ac=fgnrvr	Not Available.
Clears the Foreign configuration	raidcfg <controller> <controllerid=ID> <action=foreignclear> raidcfg <-ctrl> <-c=ID> <-ac=fgnclr> **Example:** raidcfg -ctrl -c=0 -ac=fgnclr	racadm storage clearconfig: <Controller FQDD> **Example:** racadm storage clearconfig:RAID.Integrated.1-1
Enables the Controller Persistent Hot Spare	raidcfg <controller> <controllerid=ID> <action=enablepersistenthotspare> raidcfg <-ctrl> <-c=ID> <-ac=ephs> **Example:** raidcfg -ctrl -c=0 -ac=ephs	racadm storage hotspare:<Physical Disk FQDD> -assign yes -type dhs -vdkey:<VDFQDD> **Example:** racadm storage hotspare:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1 -assign yes -type dhs -vdkey:Disk.Virtual.0:RAID.Integrated.1-1
Disables the Controller Persistent Hot Spare	raidcfg <controller> <controllerid=ID> <action=disablepersistenthotspare> raidcfg <-ctrl> <-c=ID> <-ac=dphs> **Example:** raidcfg -ctrl -c=0 -ac=dphs	racadm storage hotspare:<PD FQDD> -assign no **Example:** racadm storage hotspare:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1 -assign no

Sets the PCIe Link Speed of the controller (i.e PCIe Generation 2 or 3)	raidcfg <controller> <controllerid=ID> <action=setPCIeLinkSpeed> <speed=2or3> raidcfg <-ctrl> <-c=ID> <-ac=spciels> <-spd=2or3> **Example:** raidcfg -ctrl -c=0 -ac=spciels -spd=3	Not Available.
PCIe Link Speed of the controller	raidcfg <controller> <controllerid=ID> <action=getPCIeLinkSpeed> raidcfg <-ctrl> <-c=ID> <-ac=gpciels> **Example:** raidcfg -ctrl -c=0 -ac=gpciels	Racadm storage get controllers:<CNTR FQDD> -p Maxcapablespeed
Reset configuration	raidcfg <controller> <controllerid=ID> <action=reset> raidcfg <-ctrl> <-c=ID> <-ac=rst> **Example:** raidcfg -ctrl -c=0 -ac=rst	racadm storage resetconfig:<Controller FQDD> **Example:** racadm storage resetconfig:RAID.Integrated.1-1

Create virtual disk	raidcfg <controller> <action=createvdisk> <controllerid=ID> <adisk|pdisk=channel:target[:enclosure],channel:target[:enclosure],...> [raid=n] [size=n] [stripesize=n] [cachepolicy=d | e] [readpolicy=ra | ara | nra | rc | nrc] [writepolicy=wb | wt | fwb | wc | nwc] [failoverdrive=channel:target[:enclosure],channel:target[:encl],...] [strict=number] [spanlength=number] [vdiskprotectioninfo=0 | 1] [secureflag=0 | 1] raidcfg <-ctrl> <-ac=cvd> <-c=ID> <-ad|-pd=ch:targ[:encl],ch:targ[:encl], ...> [-r=n] [-sz=n] [-ssz=n] [-cp=d | e] [-rp=ra | ara | nra | rc | nrc] [-wp=wb | wt | fwb | wc | nwc] [-fd=ch:targ,ch:targ,...] [-str=number] [-sp=number] [-vdpi=0 | 1] [-sf=0 | 1] **Example:** raidcfg -ctrl -ac=cvd -c=0 -ad=0:0:1,0:1:1 -r=n -sz=n -ssz=n -cp=d -rp=ra -wp=wb -fd=0:1:5 -str=5 -sp=5 -vdpi=0 -sf=1	racadm storage createvd:<Controller FQDD> -rl <raidLevel> -pdkey:<comma separated PD FQDD> racadm storage createvd:<Controller FQDD> -rl <raidLevel> -wp <writePolicy> -rp <readpolicy> -ss <stripeSize> -pdkey:<comma separated PD FQDD> -dcp <diskCachePolicy> -name <VD name> -size <VD size> -T10PIEnable **Example:** racadm storage createvd:RAID.Integrated.1-1 -rl r0 -pdkey:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
Delete virtual disk	raidcfg <vdisk> <action=deletevdisk> <controllerid=ID> [vdisk=ID] raidcfg <-vd> <-ac=dvd> <-c=ID> [-vd=ID] **Example:** raidcfg -vd -ac=dvd -c=0 -vd=1	racadm storage deletevd:<VD FQDD> **Example:** racadm storage deletevd:Disk.Virtual.0:RAID.Integrated.1-1

Slow Initialization of Virtual Disks	raidcfg <vdisk> <controllerid=ID> <vdisk=ID> <action=slowinit> raidcfg <-vd <-c=ID> <-vd=ID> <-ac=sli> **Example:** raidcfg -vd -c=0 -vd=0 -ac=sli	racadm storage init:<VD FQDD> -speed full **Example:** racadm storage init:Disk.Virtual.0:RAID.Integrated.1-1 -speed full
Fast Initialization Virtual Disks	raidcfg <vdisk> <controllerid=ID> <vdisk=ID> <action=fastinit> raidcfg <-vd> <-c=ID> <-vd=ID> <-ac=fi> **Example:** raidcfg -vd -c=0 -vd=0 -ac=fi	racadm storage init:<VD FQDD> -speed fast **Example:** racadm storage init:Disk.Virtual.0:RAID.Integrated.1-1 -speed fast
Cancel Initialization of Virtual Disks	raidcfg <vdisk> <controllerid=ID> <vdisk=ID> <action=cancelinit> **Example:** raidcfg vdisk controllerid=0 vdisk=0 action=cancelinit	racadm storage cancelbgi:<VD FQDD> **Example:** racadm storage cancelbgi:Disk.Virtual.0:RAID.Integrated.1-1
Clear the preserved cache on the controller	raidcfg <controller> <action=discardPreservedCache> <controllerid=ID> <-force> raidcfg <-ctrl> <-ac=dpc> <-c=ID> <-force> **Example:** raidcfg -ctrl -ac=dpc -c=0 –force	racadm storage discardcache:<Controller FQDD> **Example:** racadm storage discardcache:RAID.Integrated.1-1
Ignores the foreign configuration and Clear preserved cache on the controller	raidcfg <controller> <action=discardPreservedCache> <controllerid=ID> <-force> <-ignoreconfig> raidcfg <-ctrl> <-ac=dpc> <-c=ID> <-force> <-igncfg> **Example:** raidcfg -ctrl -ac=dpc -c=0 -force -igncfg	Not available

Encryption Key Management (Create, Modify, Delete, LKM)	raidcfg <controller> <action=createsecuritykey> <passphrase=PassPhrase> <controllerid=ID> <keyid=Key> raidcfg <controller> <action=deletesecuritykey> <controllerid=ID> raidcfg <controller> <action=changesecuritykey> <passphrase=PassPhrase> <controllerid=ID> <keyid=Key> <oldpassphrase=Passphrase> **Example:** raidcfg controller action=createsecuritykey passphrase= password controllerid=0 keyid=123 raidcfg controller action=deletesecuritykey controllerid=0 raidcfg controller action=changesecuritykey passphrase=dell567 controllerid=0 keyid=123 oldpassphrase=password	racadm storage createsecuritykey:<Controller FQDD> -key <Key id> -passwd <passphrase> racadm storage deletesecuritykey:<Controller FQDD> racadm storage modifysecuritykey:<Controller FQDD> -key <Key id> -oldpasswd <old passphrase> -newpasswd <new passphrase> **Example:** racadm storage createsecuritykey:RAID.Integrated.1-1 -key <1234> -passwd <password> racadm storage modifysecuritykey:RAID.Integrated.1-1 -key <4321> -oldpasswd < password > -newpasswd < password > racadm storage deletesecuritykey:RAID.Integrated.1-1
Sets the boot mode of the controller **0 -> BIOS stop on error** **1 -> BIOS continue on error** **2 -> Headless continue on error**	raidcfg <controller> <controllerid=ID> <action=setbootmode> <bootmode=0or1or2> raidcfg <-ctrl> <-c=ID> <-ac=sbm> <-bm=0or1or2> **Example:** raidcfg -ctrl -c=0 -ac=sbm -bm=1	racadm set storage.controller.<Controller Index>.controllerBootMode "value"
Sets enable auto import	raidcfg <controller> <controllerid=ID> <action=enableautoimport> <autoimport=0or1> raidcfg <-ctrl> <-c=ID> <-ac=eai> <-ai=0or1> **Example:** raidcfg -ctrl -c=0 -ac=eai -ai=1	racadm get storage.controller.<Controller Index>.enhancedAutoImportForeignConfig

Imports the secure foreign configuration	raidcfg <controller> <action=importsecureforeignconfig> <controllerid=ID> <passphrase=PassPhrase> raidcfg <-ctrl> <-ac=isfc> <-c=ID> <-pp=PassPhrase> **Example:** raidcfg -ctrl -ac=isfc -c=0 -pp=dell_123	Not Available.
Set/Get the PCIe Link Speed of the controller	raidcfg <controller> <controllerid=ID> <action=setPCIeLinkSpeed> <speed=2or3> **Example:** raidcfg controller controllerid=0 action=setPCIeLinkSpeed speed=3	racadm storage get controllers:RAID.Slot.3-1 -p MaxCapableSpeed (This is currently read-only attribute)
Erase secure disk content	raidcfg <adisk|pdisk> <action=instantsecureerase> <adisk|pdisk=channel:target[:enclosure],channel:target[:enclosure],...> <controllerid=ID> raidcfg <-ad|-pd> <-ac=insecerase> <-ad|-pd=ch:targ[:encl],ch:targ[:encl], ...> <-c=ID> **Example:** raidcfg -ad -ac=insecerase -ad=0:0:1,0:1:1 -c=0	racadm storage cryptographicerase: <PCIeSSD FQDD/SED Drive> or racadm systemerase secureerasepd **Example:** racadm storage cryptographicerase:Disk.Bay.6:Enclosure.Internal.0-1:PCIeExtender.Slot.1 racadm storage cryptographicerase:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
Sets the physical disk state to online or offline	raidcfg <adisk|pdisk> <action=online|offline> <adisk|pdisk=ch:targ[:encl]> <controllerid=ID> raidcfg <-ad|-pd> <-ac=online|offline> <-ad|pd=ch:targ[:encl]> <-c=ID> **Example:** raidcfg -ad -ac=online -ad =0:0:1 -c=0	Not Available.

Rebuilding a disk	raidcfg <vdisk> <action=rebuild > <adisk|pdisk=channel:target[:enclosure]> <controllerid=ID raidcfg <-vd> <-ac=rbd > <-ad|pd=ch:targ[:encl]> <-c=ID> **Example:** raidcfg -vd -ac=rbd –ad=0:0:1 -c=0	racadm storage rebuild:<PD FQDD> **Example:** racadm storage rebuild:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
Cancel rebuild operation	raidcfg <vdisk> <action= cancelrebuild> <adisk|pdisk=channel:target[:enclosure]> <controllerid=ID raidcfg <-vd> <-ac= crbd> <-ad|pd=ch:targ[:encl]> <-c=ID> **Example:** raidcfg -vd -ac= crbd -ad=0:1:0 -c=0	racadm storage cancelrebuild:<PD FQDD> **Example:** racadm storage cancelrebuild:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
Making a disk RAID/Non-RAID	raidcfg <adisk> <action=converttoraid|converttononraid> <adisk|pdisk=channel:target[:enclosure]> <controllerid=ID raidcfg <-ad|-pd> <-ac=ctr|ctnr> <-ad|pd=ch:targ[:encl]> <-c=ID> **Example:** raidcfg -ad -ac=ctr -ad=0:0:1 -c=0	racadm storage converttoraid:<PD FQDD> **Example:** racadm storage converttoraid:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
Rename virtual disk	raidcfg <vdisk> <vdisk=ID> <action=setvdname> <vdname=name> <controllerid=ID> raidcfg <-vd> <-vd=ID> <-ac=svdn> <-vdn=name> <-c=ID> **Example:** raidcfg -vd -vd=0 -ac=svdn -vdn=bootvd1 -c=0	racadm storage renamevd:<VirtualDisk FQDD > -name <new_vd_name> **Example:** racadm storage renamevd:Disk.Virtual.0:RAID.Integrated.1-1 -name virtual1
Initiates consistency check operation on virtual disk	raidcfg <vdisk> <action=consistencycheck > <vdisk=ID> <controllerid=ID **Example:** raidcfg vdisk action=consistencycheck vdisk=0 controllerid=0	racadm storage ccheck:<VD FQDD> **Example:** racadm storage ccheck:Disk.Virtual.0:RAID.Integrated.1-1

Cancel consistency check operation on virtual disk	raidcfg <vdisk> <action= cancelconsistencycheck> <vdisk=ID> <controllerid=ID raidcfg <-vd> <-ac=cc|ccc> <-vd=ID> <-c=ID> **Example:** raidcfg -vd -ac=cc -vd=0 -c=0	racadm storage cancelcheck:<VD FQDD> **Example:** racadm storage cancelcheck:Disk.Virtual.0:RAID.Integrated.1-1
Configure cache policy	Along with VD create command available	racadm set storage.virtualDisk.<VD index>.diskCachePolicy "value"
Configure read policy	Along with VD create command available	racadm set storage.virtualDisk.<VD index>.readPolicy "value"
Configure write policy	Along with VD create command available	racadm set storage.virtualDisk.<VD index>.writePolicy "value"
Blink/unblink associated physical disk	raidcfg <pdisk|adisk> <pdisk|adisk= channel:target[:enclosure],channel:target[:enclosure],...] <action=blink|unblink> <controllerid=ID> raidcfg <-pd|-ad> <-ad=ch:targ[:encl],ch:targ[:encl],...] <-ac=blink|unblink> <controllerid=ID> **Example:** raidcfg -pd -ad=0:0:1,0:1:1 -ac=blink controllerid=0	racadm storage blink:<PD FQDD> racadm storage blink:<VD FQDD> **Example:** racadm storage blink:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1 racadm storage blink:Disk.Virtual.0:RAID.Integrated.1-1
Sets virtual disk as boot VD	raidcfg <vdisk> <action=setbootflag> <controllerid=ID> [vdisk=ID] raidcfg <-vd> <-ac=sbf> <-c=ID> [-vd=ID] **Example:** raidcfg -vd -ac=sbf -c=0 -vd=0	Not Available

Increases the size of the virtual disk	raidcfg <vdisk> <action=expandvdsize> <controllerid=ID> <sizeinpercent=%> <vdisk=vdid> raidcfg <-vd> <-ac=evs> <-c=ID> <-szinper=%> <-vd=vdid> **Example:** raidcfg -vd -ac=evs -c=0 -szinper=20% -vd=0	racadm storage capacityexpansion:<VirtualDisk FQDD > -size <new size VD> -pdkey <PhysicalDisk FQDDs> **Example:** racadm storage capacityexpansion:Disk.Virtual.0:RAID.Integrated.1-1 -size <new size> racadm storage capacityexpansion:Disk.Virtual.0:RAID.Integrated.1-1 -pdkey:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
Replace physical disk of a VD	raidcfg <vdisk> <action=replacepdisk> <vdisk=ID> <controllerid=ID> <source=ch:targ[:encl]> <destination=ch:targ[:encl]> raidcfg <-vd> <-ac=replacepd> <-vd=ID> <-c=ID> <-src=ch:targ[:encl]> <-dest=ch:targ[:encl]> <source=ch:targ[:encl]> <destination=ch:targ[:encl]> **Example:** raidcfg -vd -ac=replacepd -vd=0 -c=0 -src=0:0:1 -dest=0:1:1 source=0:1:2 destination=0:1:3>	Not Available
Display physical disk attached to controller	raidcfg <adisk|pdisk> <controllerid=ID> raidcfg <-ad|-pd> <-c=ID> **Example:** raidcfg –ad –c=0	racadm storage get pdisks --refkey <Controller FQDD>
Displays the virtual disks	raidcfg <vdisk> raidcfg <-vd> **Example:** raidcfg –vd	racadm storage get vdisks **Example:** racadm storage get vdisks
Display controller	raidcfg [controllerid=ID] **Example:** raidcfg controllerid=0	**Example:** racadm storage get controllers

Display physical disk from virtual disk based controller	raidcfg <adisk|pdisk> <controllerid=ID> [vdisk=ID] raidcfg <-ad|-pd> <-c=ID> [-vd=ID] **Example:** raidcfg -pd -c=0 -vd=0	racadm storage get pdisks -vdkey:<VD FQDD> **Example:** racadm storage get pdisks -vdkey:Disk.Virtual.0:RAID.Slot.3-1
Set environment	raidcfg <setenvironment> <envname=string> <envcommand=function> [file=filename] **Example:** raidcfg setenvironment envname=envPE envcommand= function file=temp.txt	Not Available
Read RAID configurations	raidcfg <-o=filename> **Example:** raidcfg -o=test.ini	Racadm storage get controllers:<CNTR FQDD> -o >filename.
Sets enable auto import	raidcfg <controller> <controllerid=ID> <action=enableautoimport> <autoimport=0or1> **Example:** raidcfg controller controllerid=0 action=enableautoimport autoimport=1	**Example:** racadm storage get controllers:RAID.Slot.3-1 -p SupportEnhancedAutoForeignImport
Displays information about the array disk(s) specified	raidcfg <adisk|pdisk> <controllerid=ID> [adisk=channel:target[:enclosure],channel:target[:enclosure],...] raidcfg <-ad|-pd> <-c=ID> [-ad=ch:targ[:encl],ch:targ[:encl],...] **Example:** raidcfg -ad -c=0 -ad=0:0:1,0:1:1	racadm storage get pdisks --refkey <Enclosure FQDD>

4. Support Matrix

The following is a list of controller supported policy and functionality:

Controller type	Policy Type	Functionality
PERC 5/i Integrated **PERC 5/i Adapter** **PERC 5/E**	cachepolicy	**Disable, Enable**
	readpolicy	**Normal Read Ahead, No Read Ahead, Adaptive Read Ahead**
	writepolicy	**Write Back, Write Through, Force Write Back**
PERC 6/i Integrated **PERC 6/i Adapter** **PERC 6/E**	cachepolicy	**Disable, Enable**
	readpolicy	**Normal Read Ahead, No Read Ahead, Adaptive Read Ahead**
	writepolicy	**Write Back, Write Through, Force Write Back**
CERC 6/i	cachepolicy	**not supported**
	readpolicy	**Normal Read Ahead, No Read Ahead, Adaptive Read Ahead**
	writepolicy	**Write Back, Write Through, Force Write Back**
SAS5ir Integrated **SAS5ir Adapter**	cachepolicy	**Disable, Enable**
	readpolicy	**No Read Ahead**
	writepolicy	**Write Through**
S100 **S110** **S300** **S130 and S140**	stripesize	**not supported**
	cachepolicy	**not supported**
	readpolicy	**Normal Read Ahead, No Read Ahead**
	writepolicy	**Write Back, Write Through**
H700 Integrated **H700 Adapter** **H700 CERC, H800 External**	cachepolicy	**Disable, Enable**
	readpolicy	**Normal Read Ahead, No Read Ahead, Adaptive Read Ahead**
	writepolicy	**Write Back, Write Through, Force Write Back**
H200 Integrated **H200 Adapter** **H200 Modular** **H200 Embedded** **H200 HBA** **SAS6ir Integrated** **SAS6ir Adapter**	stripesize	**not supported**
	cachepolicy	**Disable, Enable**
	readpolicy	**not supported**
	writepolicy	**not supported**
H310 Adapter/Mini Monolithic / Mini Blades	stripesize	**64**
	cachepolicy	**Disable, Enable**
	readpolicy	**No Read Ahead**
	writepolicy	**Write Through**
H710 Adapter/Mini Monolithic /Mini Blades, **H710P Adapter / Mini Monolithic/Mini BladesH810 Adapter**	cachepolicy	**Disable, Enable**
	readpolicy	**Normal Read Ahead, No Read Ahead, Adaptive Read Ahead**
	writepolicy	**Write Back, Write Through, Force Write Back**

H330 Adapter/Mini Monolithic /Mini Blades	stripesize	**64**
	cachepolicy	**Disable, Enable, unchanged**
	readpolicy	**No Read Ahead**
	writepolicy	**Write Through**
H730 Adapter/Mini Monolithic /Mini Blades **H730P Adapter/Mini Monolithic/Mini Blades** **FD33xD** **FD33xS Mini Monolithic** **H830 Adapter**	cachepolicy	**Disable, Enable, unchanged**
	readpolicy	**Normal Read Ahead, No Read Ahead**
	writepolicy	**Write Back, Write Through, Force Write Back**
H740P Adapter/Mini Monolithic **H840 Adapter**	cachepolicy	**Disable, Enable, unchanged**
	readpolicy	**Normal Read Ahead, No Read Ahead**
	writepolicy	**Write Back, Write Through, Force Write Back**

5. RACADM in OMSA

5.1 Local RACADM

Local RACADM supports executing RACADM commands from the managed system's operating system. It is available on the *Dell OpenManage Systems Management Tools and Documentation DVD* or at **support.dell.com**.

To download Local RACADM:

1. Go to **http://support.dell.com**
2. If prompted, select **Start Here** under Small Businesses or Enterprise IT.
3. Enter the **Service Tag** of the managed system and **Submit**, or use one of the **Choose** options to locate your managed system model.
4. Select **Drivers and Downloads** > select the **Operating System of your Managed System** > expand **Systems Management.**
5. Locate the **OpenManage Server Administrator Managed Node** application and click **Download File.**

Local RACADM Download

6. Limitations

The RAIDCFG utility is used to configure and report RAID-related information on Dell Power Edge Server RAID controllers (PERC). No separate installation package available for RAIDCFG to install on Windows Operating System.

RACADM needs to be installed as part of the OMSA package, standalone installation is not available

7. RAIDCFG equivalent RACADM Sample Scripts

The RAIDCFG sample script (RAIDCFG.BAT in WinPE and raidcfg.sh in Linux) configures RAID controllers detected on the system. No administrator input is required to run this script. The RAIDCFG script uses the RAIDCFG utility to automatically configure the detected controllers on the target system.

For example, for the first controller discovered, the raidcfg utility discovers only one attached hard drive, the script creates a RAID-0 configuration; if two hard drives are discovered, the script creates a RAID-1 configuration; if three or more hard drives are discovered, the script creates a RAID-5 configuration. By default, the code to create RAID-10 and RAID-50 configurations is commented out in the script, but this code can be uncommented to create these configurations for available controllers in the system.

Windows example for RAIDCFG scripts to creating VD based on the available disk type.

```
:: for %%i in ( 10 5 1 0 ) do (
for %%i in ( 5 1 0 ) do (
    echo Checking if RAID %%i can be created on controller %CONT_ID% ...
    %DT_TOOLS%\raidcfg.exe controller action=createvdisk controllerid=%CONT_ID%
        adisk=%ARRAY_DISKS% raid=%%i > nul
    if NOT ERRORLEVEL 1 (
        echo RAIDCFG created RAID %%i on controller %CONT_ID%
        goto success
    )
```

Windows example for RADADM scripts to creating VD based on the available disk type.

```
:: for %%i in ( 10 5 1 0 ) do (
for %%i in ( 5 1 0 ) do (
    echo Checking if RAID %%i can be created on controller %CONT_ID% ...
    %DT_TOOL%\racadm.exe storage createvd:RAID.Integrated.1-1 -rl r%CONT_ID%
    -pdkey:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1 > nul
    if NOT ERRORLEVER 1 (
        echo RACADM create RAID %%i on controller %CONT_ID%
        goto success
        )
```

8. Dell TechCenter Links

8.1 DTK Wiki

http://en.community.dell.com/techcenter/systems-management/w/wiki/1772.dell-openmanage-deployment-toolkit

8.2 RAIDCFG Wiki

http://en.community.dell.com/techcenter/systems-management/w/wiki/5090.configure-raid-using-raidcfg-from-dtk

8.3 RACADM Wiki

http://en.community.dell.com/techcenter/systems-management/w/wiki/3205.racadm-command-line-interface-for-drac

9. References

9.1 DTK Manuals

9.1.1 DTK User Guide

http://topics-cdn.dell.com/pdf/openmanage-deployment-toolkit-v6.1_user%27s%20guide_en-us.pdf

9.1.2 DTK Installation Guide

http://topics-cdn.dell.com/pdf/openmanage-deployment-toolkit-v6.1_install%20guide_en-us.pdf

9.1.3 DTK Command Line Interface Reference Guide

http://topics-cdn.dell.com/pdf/openmanage-deployment-toolkit-v6.1_cli%20guide_en-us.pdf

9.2 RACADM Manuals

9.2.1 RACADM User Guide

http://topics-cdn.dell.com/pdf/idrac9-lifecycle-controller-v3.00.00.00_user's%20guide_en-us.pdf

9.2.2 RACADM CLI Guide

http://topics-cdn.dell.com/pdf/idrac9-lifecycle-controller-v3.00.00.00%20_reference%20guide_en-us.pdf