

**Dell Openmanage
Deployment Toolkit
5.1 for Microsoft
Windows
Preinstallation
Environment**
Release Notes

Release Type and Definition

Deployment ToolKit

The Dell OpenManage Deployment Toolkit (DTK) includes a set of utilities, scripts, and sample configuration files that to deploy and your Dell system. You can use DTK to build script-based and RPM-based installation for deploying large number of systems on a preoperating system environment in a reliable way, without changing their current deployment processes.

In addition to the command line utilities used to configure various system features, DTK also provides sample scripts and configuration files to perform common deployment tasks and documentation.

Version

5.1.0

Release Date

April 2015

Previous Version

5.0.2

Importance

RECOMMENDED: Dell recommends applying this update during your next scheduled update cycle. The update contains feature enhancements or changes that will help keep your system software current and compatible with other system modules (firmware, BIOS, drivers and software).

Platforms Affected

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

What Is Supported

Hardware and Software Requirements

Before beginning the deployment process, ensure that you have:

- Advanced knowledge of Windows.
- Windows Automated Installation Kit (AIK) or Windows Assessment and Deployment Kit (ADK) to build Windows PE.
- An unzip utility.
- Working knowledge of Microsoft Remote Installation Services (RIS) and Automated Deployment Services (ADS) (including setting up of RIS and ADS environments), or any other third-party deployment system or tool.

- Working knowledge of Windows Deployment Services (WDS) or any other third-party deployment system or tool for Windows PE.
- A workstation with the following capabilities:
 - A writable CD/DVD drive and CD/DVD writing software
 - Network access
- A target system with a CD/DVD drive if you are performing a local deployment or network access if you are performing a network deployment.
- All Deployment Toolkit utilities, sample scripts, and sample configuration files.
- All required Windows PE drivers, operating system drivers, and the Dell utility partition image file.
- A minimum BIOS version is recommended on some of the platforms for all the DTK options to work correctly. In general, it is good practice to use the latest ("n") version of BIOS firmware or the "n-1" version that is available on "dell.com/support." For more information see the Dell Systems Software Support Matrix available in the required version of OpenManage Software at **dell.com/openmanagemanuals**.

Operating System Requirements

DTK Utilities (SYSCFG and RAIDCFG) and scripts (sample) supports Windows PE 3.0, Windows PE 4.0 and Windows PE 5.1.

For Microsoft WinPE and OS deployment support limitations refer to <http://technet.microsoft.com/en-us/library/hh824993.aspx>

DTK helps deploy the following Microsoft Windows Server Operating Systems:

- Microsoft Windows Server 2008 SP2 (32-bit and 64-bit)
- Note: On Dell's PowerEdge 13th generation and later servers, Microsoft Windows Server 2008 SP2 (32-bit and 64-bit) deployment is not supported. Microsoft Windows Server 2008 R2 SP1(64-bit)
- Microsoft Windows Server 2012 Foundation, Essentials, Standard, and Datacenter editions
- Microsoft Windows Server 2012 R2 Foundation, Essentials, Standard, and Datacenter editions

What's New

The new features for this release include:

- Availability of DTK boot critical drivers as cabinet file.
- Added support for the following Dell PERC 9 controllers:
 - FD33xD controller
 - FD33xS controller
- Support for the following systems:
 - Dell PowerEdge FC830
 - Dell PowerEdge M830
 - Dell PowerEdge FC430
 - Dell PowerEdge C4130
 - Dell PowerEdge FD332
- Support for the following network cards:
 - Emulex OCm14104-N1-D QP 4x10Gb rNDC Ethernet Network Adapter

- Emulex OCm14102-N6-D DP 10Gb bNDC Ethernet Network Adapter
- Emulex OCm14102-N1-D Dual-port 10Gb PCIe Ethernet Network Adapter
- Emulex OCm14102-N5-D DP 10Gb bMezz Ethernet Network Adapter
- Intel X710 QP 10Gb KR 4x10Gb Network Daughter Card
- Intel I350/X710 2x10Gb BT 2x10Gb SFP+ Network Daughter Card
- Intel X710 4x10GE SFP+/DA FH PCIe Ethernet Network Adapter
- Intel X710 2x10GE SFP+/DA FH PCIe Ethernet Network Adapter
- NOTE: For the list of supported operating systems and Dell servers, see the Dell Systems Software Support Matrix at dell.com/openmanagemanuals.

Important Notes

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>).

From DTK 4.4.1 onwards, the product carries GNU Bash update packages to fix the Shellshock vulnerability (CVE-2014-7169 and CVE-2014-6271).

DTK operating system deployment limitation:

DTK does not support operating system deployment, when multiple boot VDs exist on a single controller or when the server has multiple boot controllers. If multiple boot controllers exist on the server, the boot VD must be created on any one of the controllers, and the boot VD must be set as first boot device in system BIOS.

SYSCFG

- Some options may not be present on all systems, which may be due to the BIOS version or hardware feature set. The usage information generated by running SYSCFG without arguments shows only those options that are valid for your system.
- The "--devseq" option is present only if you have an available, bootable hard-disk partition. If this option is present in the configuration file, but not present on your system, you will receive a usage error.
- It is required to perform a warm reboot after applying the syscfg settings changes on Dell PowerEdge 12G systems.
- If you perform operations that change the "--redmem" option, reboot your system immediately. It is applicable to both command line and "--infile" usage.

NOTE: Additionally, the "--redmem" option should not be issued with any other command and should be immediately followed by a system reboot. This is important when you develop scripts that can alter the "--redmem" setting.

- For options that use text strings such as username, password, hostname, and community string, using characters such as <space>, "<," ">," "|," "=" on the command line can be misinterpreted by the command line parser and may cause errors. To avoid such errors, use only alphanumeric characters.
- If you set the username using syscfg username option, Serial over LAN (SOL) access for the corresponding user will be enabled by default. You can disable SOL access for a user using "syscfg solaction --userid=<userid> --action=disable" command.
- The legacy attribute values enable and disable are also supported for 12G systems for backward compatibility. In future releases these arguments might be deprecated. Try to use the values displayed in help message for BIOS options for 12G server.

RAIDCFG

- When creating virtual disks, the chunk (stripe) size is always in KBs. Do not specify any units of measure for the chunk size.
- When providing multiple physical disks for the "create virtual disk" command, do not separate the disks with spaces.

- For example, "-ad=1:4, 1:5" causes an error. The correct way to input multiple physical disks is "-ad=1:4,1:5,1:6" or "-ad=1:4:0,1:5:0,1:6:0".
- If you change the controller mode from SCSI to RAID mode, data loss may occur. Back up any data you require before changing the modes.
- Use the slots 0-3 of the system to create a boot VD or assigning hot spare (dedicated or global) on Dell PERC S130 controller. If you use any other slots, the system encounters issues during wake up from hibernation.

Known Issues

SYSCFG Issues

- In DRAC 5, the --virtualmedia and --vflash options do not work if there is an active virtual media session. Disconnect the virtual media using the DRAC GUI. Log in to DRAC. Click Media > Virtual Media > Disconnect.
- The syscfg --bootseq command detects CD-ROM with SAS/SATA controllers as unk.emb.1.
- On R815, syscfg power --profile option sets apc. Though apc is not supported on R815, syscfg does not throw an error message.
- The option for "powerctl," which is "softshutdown," does not work on Windows PE.
- On Windows PE 3.0, when you run the syscfg command to list all available options, if you press CTR + C before the command fully executes, an error message is displayed. Click OK. You can ignore the message.
- The option for "powerctl," which is "softshutdown," does not work on Windows PE.
- On Windows PE 3.0, when you run the syscfg command to list all available options, if you press CTR + C before the command fully executes, an error message is displayed. Click OK. You can ignore the message.
- The "--solbitrate" option in "solcfgparams" and the "--mgscommbitrate" option in "serialcfgparams" accept a baud rate of 57600, but tools such as "ipmish" and "solproxy" do not function at that baud rate for PowerEdge systems.
- The legacy attribute values enable and disable are also supported for 12G systems for backward compatibility. In future releases, these arguments might be deprecated. Try to use the values shown in help message for BIOS options for 12G server.
- DTK 5.1.0 does not boot on Dell PowerEdge T100. PowerEdge T100 has a BIOS version that is incompatible with the current HAPI drivers.

RAIDCFG Issues

- You can assign up to 10 Global hot spares using Raidcfg. Use the Dell OpenManage Server Administrator Storage Management for assigning more than 10 Global hot spares.
- Raidcfg does not support Non RAID (Volume) mode on s100/s300/S110 controller.
- S300 controller CachePolicy setting is "Not Applicable". Hence VD created with different cachepolicy settings from OROM utility will be displayed as "Not Applicable".
- On Dell PERC H310 controllers, conversion of a RAID Capable Disk to Non-RAID disk and vice versa is not supported using raidcfg.

RACADM Issues

- If you use virtual media to boot into Windows PE, executing certain RACADM commands may cause Windows PE to crash.
- After generating the rac configuration file using the "racadm getconfig -f <file_name>" command, comment out the following properties in the configuration file before you update a configuration using the "racadm config -f <file_name>" command:


```
#cfgRacTuneCtrlEConfigDisable=0
#cfgRacTuneLocalConfigDisable=0
```
- VLAN objects (cfgNicVlanEnable, cfgNicVlanId, and cfgNicVlanPriority) displayed using the local RACADM command "racadm getconfig -g cfgLanNetworking" or VLAN objects generated

in the configuration file using the local RACADM command "racadm getconfig -f <file name>" do not contain the leading "#" symbol, which indicates that they are read-only.

Windows PE Issues

- Running partcfg.bat may fail when virtual media is enabled. For the hard disk, partcfg.bat uses the driver letter "c:". When virtual media is enabled, sometimes, the virtual device gets assigned with the drive letter "c:" And, partcfg.bat execution fails. To run partcfg.bat successfully, either disable the virtual media or use the diskpart command to assign a free driver letter for partcfg.bat.
- Windows PE 3.0 and 4.0 for 64-bit do not support racadm.exe for DRAC 4.
- When you install Windows 2008 R2 SP1 using WinPE 3.0, the interfaces of Mellanox ConnectX-3 Dual Port 10 GbE DA/SFP+ network adapter do not display on WinPE 3.0 due to firmware limitation. To resolve the issue on post OS, install the Out of Box drivers downloaded from dell.com/support.
- To boot to winPE3.x (32-bit and 64-bit) in BIOS boot mode on R730, R730 XD, R630, T630, and Dell Precision 7910, disable USB3.0 and Memory Mapped IO.
- To boot to WinPE3.x (64-bit) in UEFI mode on R730, R730 XD, R630, T630 and Dell Precision 7910, enable Load Legacy Video Option ROM.

Installation Prerequisites

Before extracting Deployment Toolkit components, ensure that you have:

- A workstation that has
 - 512 MB RAM
 - A writable CD drive and CD-writing software (optional)
 - Network access

A minimum BIOS version is recommended on some of the platforms for all the DTK options to work properly. In general, it is a good practice to use the latest ("n") version of BIOS firmware or the "n-1" version that is available on "support.dell.com."

Installation Procedure

For complete installation and deployment instructions, see the "Dell OpenManage Deployment Toolkit User's Guide and the Dell OpenManage Deployment Toolkit Installation Guide available at dell.com/openmanagemanuals."

Installation and Configuration Notes

The sample scripts are provided as examples for customers who want to develop their own deployment process. Some customers may find that the scripts work well in their environment, while some customers may need to develop their own scripts entirely from scratch. Customers deploying multiple systems need to provide unique information for each server when appropriate. For example, system host names, IP addresses, and BIOS asset tags need to be unique for each system. Modify the batch scripts and configuration files to reflect the unique information for each system being deployed. Many options are available to optimize this process.

Upgrading From Previous Versions

When upgrading from a previous release of the DTK, ensure that you create environment for the new DTK version separately from the previous version of DTK. This step is necessary because the environments and requirements for the new DTK versions are completely different.

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:

Go to **dell.com/contactdell**.

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