Dell OpenManage Deployment Toolkit Installation 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.

Contents

Introduction

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

Documents You May Need

For a complete list of supported operating systems, BIOS firmware, and hardware, see the *Dell Systems Software Support Matrix* available at **dell.com/support/manuals** → **Product Type** → **Software, Monitors, Electronics & Peripherals** → **Software** → **Enterprise System Management** . Click the appropriate product version to access the Support Matrix.

- *Dell OpenManage Deployment Toolkit Command Line Interface Reference Guide*
- *Dell OpenManage Deployment Toolkit User's Guide*
- Operating system documentation

Prerequisites

Before using DTK to deploy Microsoft Windows Pre-installation Environment (PE) or Linux environment (Red Hat Enterprise Linux or SUSE Linux Enterprise Server), ensure you have the following prerequisites:

Table 1. Prerequisites for Installation

Windows PE Environment	Linux Environment
The DTK self-extracting zip file (**DTKX.X-WINPE-XX.exe**) available at **support.dell.com**.	The DTK ISO image available at **support.dell.com**.
A Windows workstation that has at least 512 MB of RAM.	A workstation that has at least 512 MB of RAM.

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Deployment Overview

DTK offers a complete set of utilities, sample scripts, and RPM packages that can be used to automate the deployment of Dell systems.

Before running the deployment, ensure that you create specific deployment media to facilitate the deployment method you choose. For more information, see the *Dell OpenManage Deployment Toolkit User's Guide* available at **dell.com/support/manuals** → **Product Type** → **Software, Monitors, Electronics & Peripherals** → **Software** → **Enterprise System Management** .

Deployment Prerequisites For Windows PE

Before beginning the deployment process for Windows PE, ensure that you have all of the following tools, software, and information ready to use or consult:

- Windows AIK for Windows 2008 R2 to build Windows PE 3.0.
- Windows ADK for Windows Server 2012 to build Windows PE 4.0.
- An unzip utility.

- Working knowledge to build Windows PE 3.0 (See the Microsoft documentation to customize Windows PE).
- 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 for Windows PE.
- 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:
    - Writable media drive
    - Network access
- A target system with a media drive, if performing a local deployment.
- A target system with a media drive and network access, if performing a network deployment.
- All DTK utilities, sample scripts, and sample configuration files.
- *Dell Systems Management Tools and Documentation* DVD.
- Your operating system software and documentation.
- An optimally configured source system with network access.

NOTE:

You can also download the latest drivers from **support.dell.com**.

Deployment Prerequisites For Embedded Linux

For Linux, ensure that you have all of the following tools, software, and information ready to use or consult:

- Advanced knowledge of Linux and Linux scripting (bash), Linux networking, installing and working with RPM Package Managers (RPMs), and creating and modifying loop file systems.
- Any third party deployment system or tool, such as Yum.
- A workstation with the following capabilities:
    - A writable media drive
    - Network access
- A target system with a media drive, if performing a local deployment.
- A target system with a media drive and network access, if performing a network deployment.
- All DTK utilities, sample scripts, sample configuration files, and RPM packages.
- All operating system RPM packages that DTK RPMs require.

    NOTE: Tools such as Yellowdog Updater Modified (YUM), Yet Another Setup Tool (YAST), and Advanced Packaging Tool (APT) can be used to manage RPM dependency issues.

- All other utilities and files necessary to perform the deployment, including all required Linux drivers, operating system drivers, and the Dell utility partition file.
- *Dell Systems Management Tools and Documentation* DVD.
- Your operating system software and documentation.
- An optimally configured source system with network access.

NOTE: You can download the latest drivers from **support.dell.com** .

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Preparing Windows PE Environment for Deployment

If you are using the Windows PE environment:

1. Copy or extract DTK utilities, sample scripts, sample configuration files, and drivers provided (in the zip file) to the Windows PE image.
2. Organize DTK utilities, script files, configuration files, the operating system installation files, and the requisite system files and drivers on a network share or local media.
3. Set up a *Source System* by using the **Dell Systems Build and Update Utility** (to install your operating system) and the **Systems Service and Diagnostics Tools** (to load drivers). The *Source System* acts as a master server that is used to replicate settings to the *Target Servers*.

    📝 **NOTE:** You can also download the latest drivers from the Dell Support website at **support.dell.com**.

4. Generate a system BIOS, BMC, RAID, and/or RAC configuration profile from the *Source System*. Copy the generated configuration files to a read/write share on the workstation or server.

    📝 **NOTE:** You can obtain the system BIOS, BMC, RAID, and/or RAC configuration files by booting from DTK Windows PE image and running the **SYSCAP.BAT**, **RAIDCAP.BAT**, and **RACCAP.BAT** scripts.

5. Create an operating system answer file that contains unattended operating system software installation information.
6. Edit DTK sample script files that access the system configuration files to set up the system BIOS, BMC, RAID, and RAC and then, install an operating system on a *Target Server*.

Preparing Embedded Linux Environment for Deployment

If you are using the embedded Linux environment:

1. Obtain the DTK Linux ISO image, which is a self-contained bootable ISO image.
2. Use and customize the sample scripts as per your requirements.
3. Set up a *Source System* by using the **Systems Build and Update Utility** on the *Dell Systems Management Tools and Documentation* DVD (to install your operating system) and the **Systems Service and Diagnostics Tools** (to load drivers).

    📝 **NOTE:** You can also download the latest drivers from the Dell Support website at **support.dell.com**.

4. Generate a system BIOS, BMC, RAID, and/or RAC configuration profile from the optimally configured source system. Copy the generated configuration files to a read/write share onto the workstation or server.

    📝 **NOTE:** You can obtain the system BIOS, BMC, RAID, and/or RAC configuration files by booting from DTK Linux ISO image and running the **syscap.sh**, **raidcap.sh**, and **raccap.sh** scripts.

5. Create an operating system answer file that contains unattended operating system software installation information.
6. Install an operating system on a *Target Server*.

Deploying

To proceed with deployment, ensure that you have prepared all scripts, files, and utilities. You can deploy the Windows PE and embedded Linux using one of the following methods:

- Deploy using removable boot media with a network connection (media-based)
- Deploy using removable boot media without a network connection (media-based)

- Network-based deployment (remote)

For information on these methods, see the *Dell OpenManage Deployment Toolkit User's Guide* available at **dell.com/ support/manuals** → **Product Type** → **Software, Monitors, Electronics & Peripherals** → **Software** → **Enterprise System Management** .

Upgrading Your DTK Version

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