Dell™ Client Deployment Pack for Microsoft® System Center Configuration Manager

User's Guide

DELL™

Notes

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

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About This Document

This document describes the Dell™ Client Deployment Pack for Microsoft® System Center Configuration Manager (DCDP for ConfigMgr) features. This document does not cover all the scenarios or ways in which the DCDP ConfigMgr can be used.

This document does not cover information on Microsoft System Center Configuration Manager (ConfigMgr), its installation, or features and functionalities. See the Microsoft TechNet site at **technet.microsoft.com** for details on ConfigMgr 2007.

In addition to this guide, there are other product guides you should have for reference. You can find the following guides on the Dell Support website at **support.dell.com/manuals**.

- The *Dell Client Configuration Toolkit User's Guide* describes the installation and use of the client configuration toolkit (CCTK) to configure various BIOS features for Dell business client platforms.
- The *Hardware Owner's Manual* provides information about your system, installing the system components and troubleshooting your system.

Obtaining Technical Assistance

If at any time you do not understand a procedure in this guide, or if your product does not perform as expected, there are different types of help available. For more information, see "Getting Help" in your system's *Hardware Owner's Manual*.

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Setup and Use

This section contains information on prerequisites and requirements to use the Dell™ Client Deployment Pack for Microsoft® System Center Configuration Manager (DCDP for ConfigMgr). It also lists steps to install and uninstall the plug-in, and some typical console use cases.

Overview

The DCDP for ConfigMgr is an easy-to-use GUI-based tool to configure and deploy your Dell client systems. The DCDP for ConfigMgr integrates directly into the Microsoft System Center Configuration Manager 2007 (ConfigMgr) console. It eliminates the need for command-line tools and scripts normally used in the Client Configuration Toolkit.

Using the ConfigMgr **Task Sequence Editor**, you can perform the following tasks:

- Configure the client system's BIOS using **.ini** files.
- Create a client system specific boot image used for operating system deployment.
- Create and apply driver installation packages for specific operating systems.

To configure and deploy your Dell client systems, you need to select configuration options and commands.

Prerequisites And Requirements

This section lists the prerequisites and requirements to use DCDP for ConfigMgr:

- ConfigMgr 2007 SP1 should be installed on the client system. For details on how to download and install ConfigMgr, see the Microsoft TechNet site at **technet.microsoft.com**.
- The client system should have at least 1 GB of free disk space to install the Dell Server Deployment Pack.
- To run the ConfigMgr task sequences on your client system, you must configure your **Network Access Account**.

Configuring your Network Access Account

Use the following steps to configure your network access account:

1. Launch ConfigMgr. On the left-hand pane, click **System Center Configuration Manager→ Site Database→ Site Management→ Site Name→ Site Settings→ Client Agents**. The **Client Agents** screen displays.
2. Double click **Computer Client Agent**. The **Computer Client Agent Properties** screen displays.
3. Under **Network Access Account**, click **Set**. The **Windows User Account** screen displays.
4. Enter your user name and password. Click **OK**.
5. Your user name displays in the **Account** field. Click **OK**.

You have successfully configured your network access account.

Supported Operating Systems and Systems

For the list of operating systems and systems that the DCDP for ConfigMgr supports, see the **readme.txt** in the **Docs** folder under the **Installation** directory.

Installing and Uninstalling

This sub-section describes the procedure to install and uninstall the DCDP for ConfigMgr.

Installing the DCDP for ConfigMgr

Before you proceed, ensure that you are logged in as administrator on the client system where you want to install the DCDP for ConfigMgr. Use the following steps to install the DCDP for ConfigMgr:

1. Go to the Dell Support website at **support.dell.com→ Drivers & Downloads**.
2. Download the **Dell_Client_Deployment_Pack_for_ConfigMgr_1.0_X01.msi** (where **xx** is the DCDP revision number) to the local drive on your client system.
3. Double click the **.msi** package.
4. The **Welcome** screen for DCDP displays. Click **Next**.

5 The license agreement displays. Select **I accept the terms in the license agreement** and click **Next**.

6 The **Setup Type** screen displays. There are two types of installation options available:

- Custom
- Complete

7 Select the **Complete** option and click **Next**.

8 The **Ready to Install the Program** screen displays. Click **Install**.

9 The **Installing Dell Client Deployment pack for Configuration Manager 2007** progress screen displays.

10 The **Installation Completed Successfully** screen displays. Click **Finish**.

The DCDP for ConfigMgr is installed on your client system.

Ensure that you have distributed and/or updated the appropriate packages to ConfigMgr distribution points. The **Update Distribution Points** operation ensures that all the driver packages of the DCDP for ConfigMgr that you installed are updated on the distribution points so that the client systems can access them during an operating system installation. The **Manage Distribution Points** operation ensures that the packages are available on the distribution points for the client systems to access them during an operating system installation. For information on how to update and manage distribution points, see the "Managing and Updating Distribution Points" section.

For information on how to add a distribution point, see the ConfigMgr *Online Help*.

Uninstalling the DCDP for ConfigMgr

By design, the uninstall process does not remove the boot images created by the DCDP for ConfigMgr. The reason for this is that the boot images are tied to task sequence packages, and removing them may invalidate working task sequences. If you are no longer using the boot images created by the DCDP for ConfigMgr, delete them from the console.

Typical Use Cases

This section contains a typical use case for a Dell client system. It does not cover all possible scenarios nor does it cover all sequences possible to deploy your client system.

To deploy operating systems on Dell client systems, perform the following steps:

1. Create Dell Windows Preinstallation Environment (Windows PE) boot images. (For more information, see "Creating Dell Windows PE Boot Image".)
2. Create driver packages. (For more information, see "Creating Dell Client Driver Packages.")
3. Distribute and manage the distribution points. (For more information, see "Managing and Updating Distribution Points.")
4. Create a task sequence. (For more information, see "Creating a Task Sequence.")
5. Edit a task sequence. (For more information, see "Editing a Task Sequence.")
6. Configure your system BIOS. (For more information, see "Configuring your System BIOS.")
7. Advertise the task sequence. (For more information, see "Advertising a Task Sequence.")
8. Deploy the task sequence. (For more information, see "Deploying a Task Sequence.")

Creating Dell Windows PE Boot Image

Use the following steps to create a Dell Windows PE boot image:

1. Download the **Dell WinPE Driver CAB** file from the Dell Support site at **support.dell.com**.
2. On the DCDP for ConfigMgr console, go to **Operating System Deployment→ Boot Images→ Dell WinPE Import Package→ Import Dell WinPE CAB package**. The **Dell Client WinPE Boot Image Wizard** screen displays.

3 Select a boot image. For this use case, we will select **Dell Deployment Boot Image (x86)**. Click **Browse** and select the Dell Windows PE driver **CAB** file. If a Dell Windows PE boot image already exists, a message displays stating that the image exists and that it will be overwritten if you continue. Click **OK** to continue.

4 Click **Finish**. A progress bar displays the status.

5 A **Dell Client VistaPE(<CAB version) x86** boot image is created. Right-click on **Dell Client VistaPE(<CAB version) x86** and click **Manage Distribution Points**.

6 The **Manage Distribution Point Wizard** screen displays. Proceed through the wizard to manage the distribution points.

You have successfully created a Dell Windows PE boot image. Proceed to create Dell client driver packages.

Creating Dell Client Driver Packages

Use the following steps to create Dell client driver packages.

1 Download the operating system **CAB** file from **support.dell.com**.

2 On the DCDP for ConfigMgr console, go to **ConfigMgr→ Site Database→ Computer Management→ Operating System Deployment→ Driver Packages→ Dell Client CAB Package→ Import Dell Client CAB Package**.

3 The **Dell Client Driver Import Wizard** screen displays. **Browse** and select the system driver **CAB** and the operating system architecture for creating driver packages, and click **Finish**.

NOTE: On the **Dell Client Driver Package Import** wizard, if you select the **XP Driver CAB**, a checkbox **Create WinXP Storage Driver Packages** displays. Dell recommends that you select this checkbox. This will create **XP Storage Driver Package** under the **Dell XP Storage Driver Packages** folder under the **Driver Packages** in the DCDP for ConfigMgr console.

NOTE: For the **XP Driver CAB**, if there are no drivers within the **Storage** folder in the **Driver CAB** category, the **Import Drivers** step will import drivers within the **Chipset** folder. In this case, leave the checkbox **Select Mass Storage Driver** in the **Apply Storage Driver Package** step deselected. Select the **XP Driver Package** and apply this step in the task sequence.

NOTE: For Microsoft Windows XP operating systems, the **Storage Driver Package** option in the **Task Sequence Editor** is enabled. Select the appropriate storage driver during Microsoft Windows XP system deployment to avoid a continuous reboot with the following error: 0x0000007B (INACCESSIBLE_BOOT_DEVICE). For more information on the appropriate storage driver selection, see the Dell Tech Center site at **www.delltechcenter.com**.

4 The **Dell Client Driver Import Wizard** progress displays. Driver packages are created and stored under the **System CAB Driver Packages** folder according to the operating systems architecture selected. For example, Vista **CAB** driver packages will be stored under the **System CAB Driver Packages** folder with the relevant name specifying the operating system, architecture, and the version of the Vista driver **CAB** file selected. Click **Close** to exit the wizard.

NOTE: Importing of drivers may take a long time. During this period, the progress bar may not be updated.

5 To update and manage distribution points for the driver packages you imported, on the DCDP for ConfigMgr console, go to **Driver Packages→ Dell System CAB Driver Packages→ <***Dell driver pack name***>**. The driver packages window displays.

6 Right-click the newly imported driver packages, and update and manage the distribution points.

You have successfully created Dell client driver packages. Proceed to manage and update distribution points.

Managing and Updating Distribution Points

You should update the distribution points before creating a task sequence. Use the following steps to update and manage distribution points:

1 On the DCDP for ConfigMgr console, go to **ConfigMgr→ Site Database→ Computer Management→ Software Distribution→ Packages→ Dell Client Deployment**.

2 Under **Dell Client Deployment**, three packages are available — **Dell Client Custom Reboot Script 1.0**, **Dell Client Configuration Toolkit x86 1.0**, and **Dell Client Configuration Toolkit x86_64 1.0**. For this use case, we will select **Dell Client Custom Reboot Script 1.0**.

3 Right-click **Dell Client Custom Reboot Script 1.0** and click **Manage Distribution Points**. The **Manage Distribution Point Wizard** displays.

4. Click **Next** and proceed through the wizard to manage the distribution points. See the online help or the ConfigMgr documentation for details.
5. Right-click **Dell Client Custom Reboot Script 1.0** and click **Update Distribution Points**.
6. The **Confirm Update Distribution Points** screen displays. Click **Yes** to update the distribution points.
7. On the DCDP for ConfigMgr console, go to **ConfigMgr→ Site Database→ Computer Management→ Software Distribution→ Packages→ ConfigMgr Client Package 1.0**. Repeat step 1 through step 4 to ensure that the client system is able to access the driver packages during an operating system installation.

You have successfully updated and managed the distribution points for the Dell client packages. Proceed to create a task sequence.

Creating a Task Sequence

Task sequences are used to capture an operating system image, configure its settings, and deploy the image on a set of Dell client systems. You can create a task sequence in two ways:

- Create a Dell-specific task sequence, which has a set of pre-specified actions, using the **Dell Client Deployment** template.
- Create a custom task sequence where you can add custom actions to the task sequence.

Use the following steps to create a Dell-specific task sequence using the **Dell Client Deployment** template:

1. Launch ConfigMgr by clicking **Start→ Microsoft System Center→ Configuration Manager 2007→ Configuration Manager Console**. The Configuration Manager Console screen displays.
2. Under the **System Center Configuration Manager** tree on the left hand side, click **Operating System Deployment**.
3. Right-click **Task Sequences**, then **Bare Metal Client Deployment→ Create a Dell Client Deployment Template**. The **Create Dell Client Deployment Task Sequence** window displays.
4. Enter the name of the task sequence in **Task Sequence Name** field.

5 Under **Client Hardware Configuration**, select the hardware items that you want to configure in this task sequence.

6 Under **Network (Admin) Account**, enter your account name and password.

7 Under **Operating System Installation**, select the operating system installation type. The options are:

- Use an OS WIM image
- Scripted OS install

8 Select an operating system package from the **Operating system package to use** drop-down menu.

9 Click **Create**. A confirmation message displays.

You have successfully created a Dell-specific task sequence using the **Dell Client Deployment** template.

Use the following steps to create a custom task sequence:

1 Launch ConfigMgr by clicking **Start→ Microsoft System Center→ Configuration Manager 2007→ Configuration Manager Console**. The **Configuration Manager Console** screen displays.

2 Under the **System Center Configuration Manager** tree on the left hand side, click **Operating System Deployment**.

3 Right click **Task Sequences**, then **New→ Task Sequence**. The **New Task Sequence Wizard** displays.

4 Select **Create a new custom task sequence** and click **Next**.

5 Enter name, version number, and comments for the task sequence.

6 Browse for the boot image under **Dell Deployment**, select the appropriate boot image **<Dell Deployment Boot Image>**, and click **Finish**.

A confirmation message displays. You have created a new custom task sequence.

Editing a Task Sequence

Use the following steps to edit a task sequence:

1 Right-click the task sequence and click **Edit**. The **Task Sequence Editor** window displays.

2 Click **Add→ Dell Deployment→ Dell Client System Configuration**. This loads the custom action for your Dell client system deployment.

3 Click **OK** to continue or **Cancel** to quit.

4 If you click **OK**, the **Create Client Deployment Task Sequence** window displays.

You can now make changes to the task sequence accordingly.

Next, you can configure your system BIOS.

Configuring your System BIOS

The **Set BIOS Config** option is enabled on the task sequence after adding the Dell Client Configuration to the **Task Sequence Editor**:

Select **Set BIOS Config** for the following tabs to display:

- Action Settings
- Variable Replacement
- Logs/Return Files

This sub-section contains information on the **Action Settings** tab. For information on **Variable Replacement** and **Logs/Return Files** tabs, see the *Administrator Guide* in the **Docs** folder under the **Installation** Directory.

Use the following steps to configure your system BIOS:

1 Click on the **Set BIOS Config** option enabled on the task sequence. The **Task Sequence Editor** displays.

2 From the **Task Sequence Editor**, under the **Action Settings** tab, select **Configuration action type**: **BIOS Config (.ini file)**.

NOTE: You can also select BIOS Config (command line) if you want configure the system using the CLI. For details on CLI options, see the *Dell Client Configuration Toolkit User's Guide* on the Dell support site at **support.dell.com/manuals**.

3 Select **Action**: **Set**. The **Configuration file/ Command line parameters** field is enabled.

There are three options you can choose from:

- **<Create configuration file>**
- **<Import configuration file>**
- **Edit <.ini file>**

<Create configuration file>

1. Select **<Create configuration file>**. The **Create** button displays.
2. Click **Create**.
3. The **Configuration File Editor** displays with the following options:
   - **Import File**: Click this button if you want to import an existing **.ini** file from a directory.
   - You can also create an online **.ini** file in the **Configuration File Editor** field and click **OK**. This prompts you to save the **.ini** file you created to a local drive or network share.
4. If you select the **Save these changes to the existing file in the toolkit package when I click OK** option, your configuration is exported to a file when you click **OK**.

<Import configuration file>

1. **Select <Import configuration file>**. The **Import** button displays.
2. Click **Import** to import an existing **.ini** file.

Edit <.ini file>

There are three **.ini** files in the DCDP for ConfigMgr BIOS configuration:

- Latitude_BIOS.ini
- Optiplex_BIOS.ini
- Precision_BIOS.ini

1. For this use case, we will select **Latitude_BIOS.ini** file. The **View** button displays.
2. Click **View** to see the existing **Latitude_BIOS.ini** file.
3. In the **Configuration File Editor** window, you can edit the **Latitude_BIOS.ini** file, and then select **Save these changes to the existing file in the toolkit package when I click OK** and click **OK**.
4. Once you have edited the **.ini** file using any of the options listed above, click **Apply in the Task Sequence Editor** window. The task sequence for **Set BIOS Config (.ini file)** is created.

Apply Operating System Image and Driver Package

Use the options **Apply Operating System Image** and **Apply Driver Packages** to apply operating system images and driver packages to the task sequence.

Apply Operating System Image

NOTE: Before you begin this task, ensure that you have the required operating system image file (**.wim** file) under the **Operating System Images** tree in ConfigMgr.

1. From the left-hand side of the **Task Sequence Editor**, under **Deploy Operating System**, click **Apply Operating System Image.**
2. You can choose from the following options:
   - Apply operating system from a captured image
   - Apply operating system from an original installation source
3. For this use case, Select **Apply operating system from a captured image**, **Browse** for the operating system location and click **OK**.

You have successfully applied an operating system image.

Apply Driver Packages

1. From the left hand side of the **Task Sequence Editor**, under **Deploy Operating System** click **Apply Driver Package**.
2. **Browse** and select the **Dell Client Driver Packages**. The list of driver packages available in the **Dell Deployment Pack** displays.
3. Select a package for Dell client system and click **Apply**.

You have successfully added drivers.

Advertising a Task Sequence

After saving the task sequence, assign it to the collection of systems by advertising it. To advertise a task sequence:

1. Right-click on the task sequence and select **Advertise**. The **New Advertisement Wizard** window displays.
2. Follow the steps in the wizard to advertise the task sequence. For more information on advertising a task sequence, see the *ConfigMgr* Online Help.

NOTE: In the New Advertisement Wizard, ensure that you select the **Make this task sequence available to boot media and Preboot Execution Environment (PXE)** option.

Best Practices For Advertising a Task Sequence

- Always configure advertisements with the following settings when using PXE:
  - General: Make this task sequence available to boot media and PXE
  - General: Browse to select the collection of the target system
  - Schedule: **Mandatory assignment**: "As soon as possible"
  - Schedule: **Program rerun behavior**: "Always rerun program"
  - Distribution Points: Access content directly from a distribution point when needed by the running task sequence
  - Interaction: Show task sequence progress
- Always configure Windows PE boot images with the following settings:
  - Windows PE: Enable command support (testing only)

Deploying a Task Sequence

Now that the task sequence is ready, use any of the following methods to deploy the task sequence you have created:

- Deploy using a CD
- Deploy using a USB
- Deploy using PXE

For more information on how to deploy a task sequence using the above methods, see the ConfigMgr *Online Help*.

Importing System Information

Use the **Import Computer Information** option to import new client system information into the ConfigMgr database. This allows you to deploy an operating system to a new client system.

Computer Association

A computer association organizes the migration of user state and settings from a reference client system to a client destination system. The reference client system is an existing client system that is managed by ConfigMgr 2007 SP1. This system contains your system's state and settings that will be migrated to the specified destination client system.

The **Computer Association** node displays a list of the computer associations that have been created. It also displays specific actions that can be run for that computer association when you select a computer association from the **Computer Association** results pane.

To import computer information:

1. On the DCDP for ConfigMgr console, under **Operating System Deployment**, right-click **Computer Association→ Import Computer Information**. The **Import Computer Information Wizard** displays.
2. The **Select Source** window displays the following options:
   - Import computers using a file
   - Import single computer
3. For this use case, we will select **Import single computer**. Click **Next**.
4. Specify information relating to the computer you are importing in the following fields:
   - Computer name
   - MAC address (12 hex characters)
   - SMBIOS GUID (32 hex characters) - (optional)
5. Click **Next**.

NOTE: Ensure that the computer name you enter starts with a letter. Else, the deployment will fail.

6. The **Data Preview** window opens where you can verify the configuration information you have entered. Click **Next**.
7. The **Choose Target Collection** window opens. The following options are available:
   - Add new computers only to the All Systems collection
   - Add computers to the following location
8. For this use case, we will select the **Add computers to the following location** option. **Browse** the location of the computer collection.
9. Click **Next**. The **Summary** window with details of the imported system setting displays.
10. Click **Finish** to apply settings.

Reboot To PXE / USB Custom Action

Windows PE may have an issue when you add a system hardware configuration action to a task sequence. Windows PE will not correctly recognize any newly-created disk partitions or any significant change to the disk structure created after the initial Windows PE boot. This will cause the task sequence to fail during any task that writes data to the disk (including the standard ConfigMgr reboot task).

To resolve this issue, you must insert custom reboot actions after you create and partition a disk. If you are using Pre-boot eXecution Environment (PXE) instead of boot media, you must reset the PXE advertisement in order to reboot back into PXE.

You can insert the **Reboot to PXE/USB Custom Action** into a task sequence in one of the following ways:

- Create a task sequence using the **Dell Client Deployment** template for **Reboot to PXE/USB Custom Action** to be created automatically.
- Edit a task sequence for **Reboot to PXE/USB Custom Action** to be created automatically. For more information, see "Editing a Task Sequence."
- Click **Add→ Dell Deployment→ Reboot to PXE/USB** to create the **Reboot to PXE/USB Custom Action** manually.

For more information on **Reboot to PXE/USB Custom Action**, see the *Administrator Guide* in the **Docs** folder under the **Installation** Directory.

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Troubleshooting

This section contains troubleshooting information for the Dell™ Client Deployment Pack for Microsoft® System Center Configuration Manager (DCDP for ConfigMgr).

Troubleshooting Using CCTK

The following issues can be resolved using the Client Configuration Toolkit (CCTK).

Obtaining System BIOS .ini File

Use the following steps to obtain system BIOS **.ini** file from the target system on which you are deploying the operating system:

1. On the target system, install CCTK. For more information on installing CCTK, see the *Dell Client Configuration Toolkit User's Guide* on the Dell Support site at **support.dell.com/manuals**.
2. Open the command window and navigate to the install directory.
3. Type the command `cctk.exe -0 <filename>.ini` to obtain the current BIOS settings of the system.

The **.ini** file contains details of the current BIOS settings of the system.

Resolving Deployment Issues at the Set BIOS Step

Use the following steps to resolve issues during deployment at the **Set BIOS** step:

1. If the deployment fails at the **Set BIOS** step, press **F8** to enter the command window on the target system.
2. Navigate to `C:\Windows\Dell`.
3. Type the command `cctk.exe -1 <filename>.ini` to apply the **.ini** file to the system.
4. Type the command `echo%errorlevel%` to obtain the error code (hex).

5 You can also view the CCTK hex values at the console within the **SMTS.log**.

6 Convert to decimal and look for the error code within the **CCTK Error Code** file saved in the DCDP for ConfigMgr installation directory. For example, assuming SiteServer is installed at `C:\Program Files\Microsoft System Center Configuration Manager`, the error code file for CCTK can be found at `C:\Program Files\Microsoft System Center Configuration Manager\AdminUI\XmlStorage\Extensions\bin\Deployment\Dell\Client\CCTK\cctkerrorcodes.txt`. For information on how to map the hex value returned to the decimal value, see the *Dell Client Configuration Toolkit User's Guide* on the Dell Support site at **support.dell.com**.

7 Edit the **.ini** file to resolve the deployment issues.