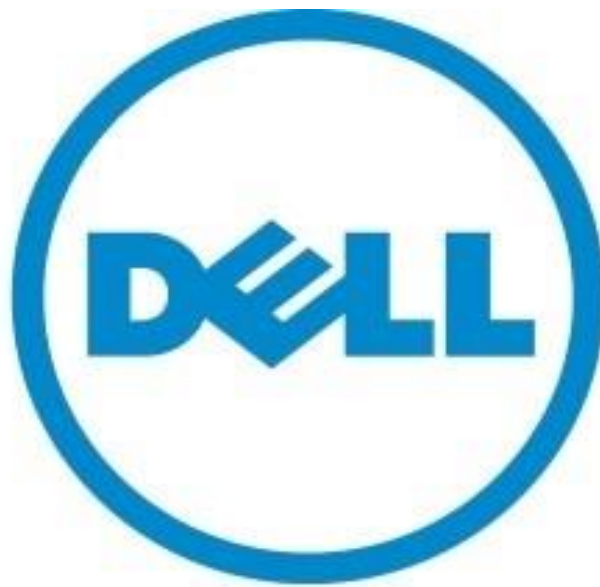


Microsoft® System Center Configuration Manager Dell Factory Integration



The power to do more

User Guide September 2018

Introduction to ConfigMgr OSD in Dell Factories

Introduction

Process

Requirements

Configuration

OSD MAP

Partitioning

Drivers

CS Enablement

Post-Delivery

BitLocker

Create Media

Validate Media

Advanced

Administrators of Microsoft® System Center Configuration Manager (referenced as "Configuration Manager" or "ConfigMgr" in this document) can perform Operating System Deployments (OSD) in various methods, including Stand-alone media, Prestaged media, and Network based deployments.



IMPORTANT NOTICE FOR PRESTAGE MEDIA USERS:

This document does not apply to Prestaged media deployments. Dell Configuration Services can pre-load your Prestaged or Stand-alone media on new system orders. Please contact your Configuration Services Project Manager for instructions on sending your Prestaged media to Dell to begin your project setup.

Dell Configuration Services simplifies IT for Configuration Manager Administrators by enabling a single source provisioning solution for all deployment scenarios. By leveraging the Dell factory to execute an OSD, the Admin will save time and network resources previously allocated for image deployment tasks.

Admins can also leverage Configuration Manager to reduce the number of OS images your company must create and manage. Admins can detect the system's model type and distribute the appropriate hardware driver package, and software installs can be configured based on business rules. As a result, your IT department has fewer OS images to manage and more flexibility to deliver operating system, applications, updates, patches and security fixes to devices in a single distribution.

Configuration Manager's support for offline or removable media, in-place migrations, OEM and PXE gives your company the ability to retain high levels of automation across any deployment scenario.

The use of conditional statements allows you to manage a single task sequence for use across various deployment scenarios.

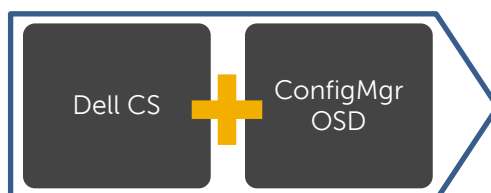
Intended users of this guide are Dell customers:

IT network administrators or managers who are responsible for Configuration Manager and OSD activities

Requirement

Administrators must have experience creating and validating production stand-alone media builds from Configuration Manager OSD Task Sequences

This guide explains how to leverage Dell Configuration Services with ConfigMgr to deploy a customized operating system image to new Dell client systems while in the factory – saving you run-time on each new client deployment.



Better Experience for
Admins and End Users



Dell Factory / ConfigMgr OSD Process Overview

The following process outlines the basic steps required to integrate a Configuration Manager OSD Task Sequence with the Dell Factory

Configuration Services Process Overview

**Step 1:**

Modify your current task sequence to include Configuration Services requirements detailed in this document

**Step 2:**

Create stand-alone media of your task sequence and send it to the Dell Configuration Services team

**Step 3:**

Dell Image Services engineers will work with you to validate your Task Sequence modifications

**Step 4:**

Dell Configuration Services team imports your stand-alone media for use in the factory on systems you order

**Step 5:**

Your build is placed on systems you have ordered and they are booted while in the factory to launch the build process

**Step 6:**

When the factory portion of the build is complete, the systems are shipped directly to your end users

**Step 7:**

The end user receives their system, connects it to your network and powers it on

**Step 8:**

The build process continues with any steps that require network connectivity (e.g. joining domain) before allowing the user to logon

Introduction

Process

Requirements

Configuration

OSD MAP

Partitioning

Drivers

CS Enablement

Post-Delivery

BitLocker

Create Media

Validate Media

Advanced

Integrating
SCCM
In the Dell Factory
Page 3



Availability varies by
country.

© 2018 Dell Inc.
All rights reserved

Configuration Requirements

Creating a stand-alone media build should be a simple process. Review the Microsoft document ["How to Create Stand-alone Media"](#) for additional information.



Per Microsoft, the following Configuration Manager Task Sequence steps are not supported when using stand-alone media
<http://technet.microsoft.com/en-us/library/bb632784.aspx>

- Auto Apply Drivers
- Install Software Updates

Currently supported build versions of SCCM OSD in Dell factories can be found on [Microsoft's Lifecycle Policy page](#)

Building your Reference OS WIM

When building the reference OS wim intended for factory deployment, Dell recommends the use of either Hyper-V or VMWare. Do not install drivers into the reference OS wim. Do not build the reference OS wim on physical hardware. The reference OS wim should be free of installed drivers.

Apply Driver Package

Use the Task Sequence Step **Apply Driver Package** instead of **Auto Apply Drivers**. The Auto Apply drivers task is **not** supported in a stand-alone media scenario, as the system does not have access to your ConfigMgr site. A Dell OSD best practice is to use the [Dell OSD Driver Packs](#) with WMI queries (based on model) for task sequence steps which apply driver packages.

- The **Apply Driver Package** task sequence step downloads all the drivers in the driver package and installs them on the Windows operating system. This step is necessary to install boot-critical drivers on pre-Vista operating systems.
- The **Apply Driver Package** task sequence step makes all device drivers in a driver package available for use by Windows. This step can be added to a task sequence between the "Apply Operating System" and the "Setup Windows and ConfigMgr" task sequence steps in order to make the device drivers in the driver package available to Windows after the OS bits have been distributed to the client's hard drive.
- You should put similar device drivers into a driver package and distribute them to the appropriate distribution points so that ConfigMgr client computers can install them.

Install Software Updates

Install Software Updates Task Sequence step is **not** supported in a stand-alone media scenario, as the system does not have access to your ConfigMgr site.

- Install all security updates into your base .WIM using ConfigMgr Build and Capture Process.
- Apply the stand-alone Media Build to an offline PC and validate the build process
- **Important:** Validate your task sequence before adding the steps for Dell Configuration Services Process. After successfully completing the stand-alone media build, validate that the steps you modified are working properly, and such as **Apply Driver Package** and other custom steps.
- For more detail on this process, refer to the *Configure Stand-alone Media Build*, step. Test the Stand-alone Media Build to Simulate Dell Configuration Services



Configure Stand-alone Media Build

For successful factory integration, you need to modify a standard task sequence so that it performs properly in the Dell factories. This section walks you through the basic process of making the necessary modifications to the Task Sequence.

Important

Be sure to spell/type variables and group names correctly.
Be sure to add the space and dashes as indicated.

Standard Task Sequence Example

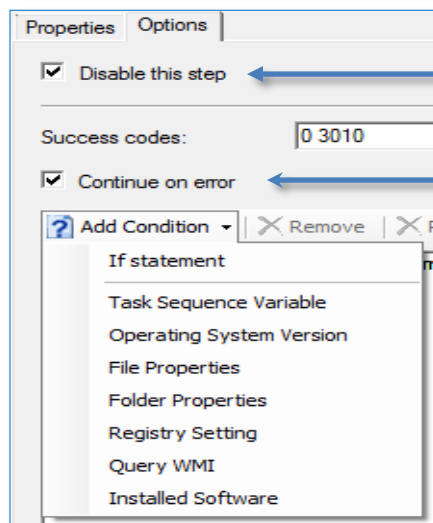


These sections run based on **conditional statements**.

Microsoft TechNet coverage of the Task Sequence Options Tab has more information relating to Conditional Statements.

Options Tab Configurations

Use the Options tab to configure specific settings for task sequence steps and groups, and to configure conditions that ConfigMgr must evaluate before running the task sequence step or group. You can enter options individually, or group them using the 'If statement.'



When checked, the task will not run. Use this to disable a task or group.

A user-defined option that determines how the task sequence will process a task sequence step or group that does not successfully execute.

Introduction

Process

Requirements

Configuration

OSD MAP

Partitioning

Drivers

CS Enablement

Post-Delivery

BitLocker

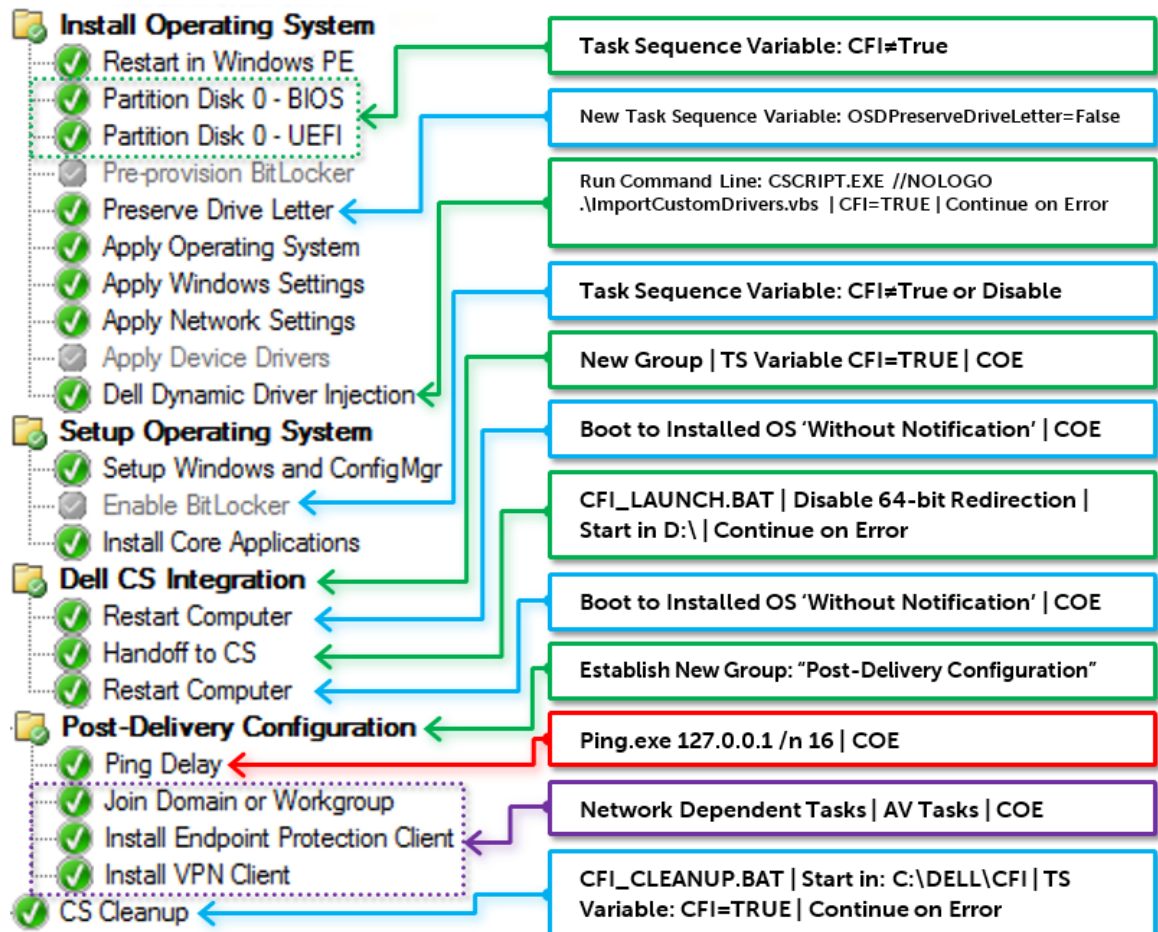
Create Media

Validate Media

Advanced



Dell Factory / ConfigMgr OS Deployment Map



Dell Factory Enabled ConfigMgr OSD Map

This map illustrates what actions are required in order to enable your current OSD task sequence for Dell factory integration. You should be able to use this map as a quick reference when configuring your task sequence with the Dell factory process. The **Apply Device Drivers** and **Enable BitLocker** steps have been disabled in the illustration. *You are not required to disable these steps as you may require the execution of these tasks in your production environment. Dell recommends that you establish a task sequence variable to control when these tasks will run, and when they will be skipped (e.g, skip these when CFI ≠ True).

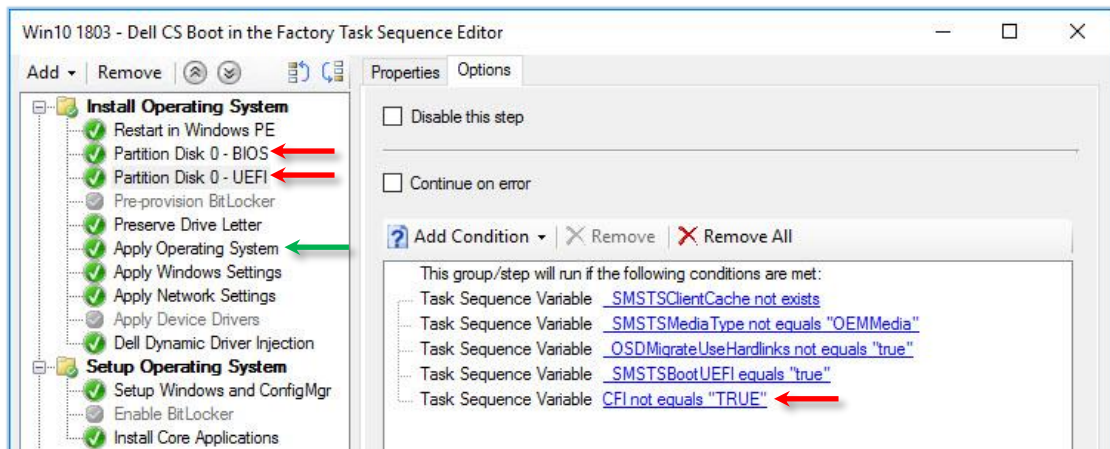
All software packages must be enabled for offline deployment during the factory process. If you have a package that requires connectivity to your infrastructure then the task must be moved to the "Post-Delivery Configuration" group. This task group will execute when you connect your system to your network and boot to the OS for the first time. In most cases, network connectivity is essential for your deployment to complete. When testing the media created through the steps detailed in this white paper, you will be required to disable the NIC in the BIOS prior to initiating a test deployment. You will be required to reenable the NIC from the BIOS when the 'Handoff to CS' task has completed. Removing the network cable from the system is not the same as disabling the NIC.

Note: There are several references to the task sequence variable "CFI" in this document. The CFI task sequence variable will be setup during the "Create Media" section (page 17). When creating media for factory integration this variable must be set to TRUE.



Modify the Partition Disk Step so that it does not run in the Dell factory

Ensure that the partition disk step does not run during the Dell factory process. Add to or modify the Task Sequence Variables for the Partition Disk 0 step to display as shown in the example below.



*Partitioning Instructions:

From the Configuration Manager Operating Systems navigational pane, locate the task sequence to integrate with Dell's factory process.

- 1) Locate all "Partition Disk 0" tasks (including UEFI)
- 2) Click on the **Options** tab
- 3) Click **Add Condition**, select **Task Sequence Variables**
 - » Variable = **CFI**
 - » Condition = **not equals**
 - » Value = **True**
- 4) Click **OK**

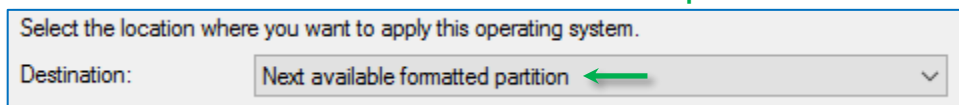
Setting OSDPreserveDriveLetter Variable

Set a variable to ensure that the OS partition's drive letter will be set to C: after the deployment completes

- 1) Set the variable immediately after the Partition Disk task
- 2) Click **Add > General > Set Task Sequence Variable**
 - » Name: **Preserve Drive Letter**
 - » Task Sequence Variable: **OSDPreserveDriveLetter**
 - » Value = **False**
- 3) Click **OK**

Configure the 'Apply Operating System' destination

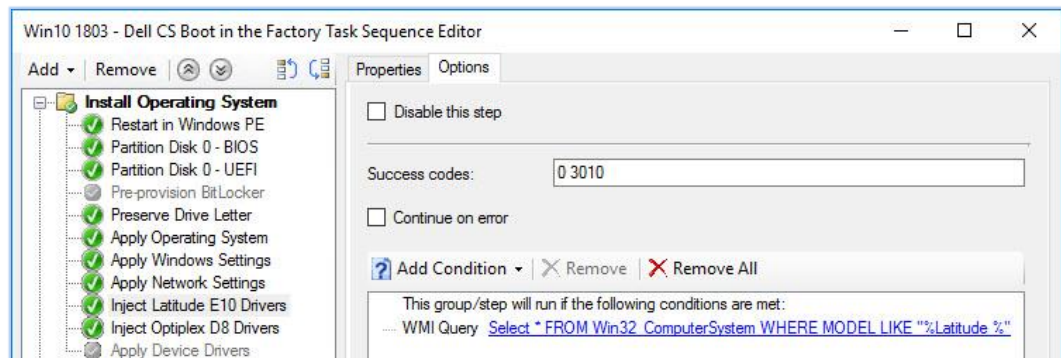
- 1) Set the OS Destination to **"Next available formatted partition"**



Add 'Apply Driver Package' Steps to support modern systems

The **Apply Device Drivers** step is **not** supported when using a stand-alone media build. Dell recommends that the default Apply Device Drivers step is either disabled or skipped when in Dell Factories. Review the walk-through on [TechNet](#) for an in-depth look at driver management in SCCM.

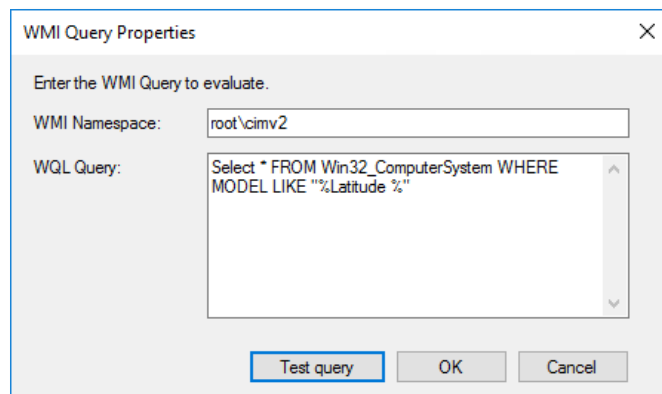
Skip this step if you intend to use Dell's Dynamic Driver Injection feature



Add Required Driver Package Steps

From the Configuration Manager Operating Systems navigational pane, locate the task sequence to integrate with Dell's factory process.

- 1) Task Sequence Editor, Click Add > Drivers > Apply Driver Package
- 2) From **Properties** tab:
 - » Name: Type a name (Example: **Apply Latitude E10 Drivers**)
- 3) Select **Browse**
- 4) Select your **Driver Package** > Click OK
- 5) Click **Options** tab
- 6) Click **Add Condition**
 - » At WQL Query, select **Query WMI** to open WMI Query Properties
 - » Type: **Select * FROM Win32_ComputerSystem WHERE MODEL LIKE "Latitude %"**
- 7) Click **OK** > **Apply**



Repeat these steps for the additional models that will be targeted for deployment. Dell recommends the use of the Dell [Family Driver Packs](#) or [System Cabs](#)



Factory Dynamic Driver Injection

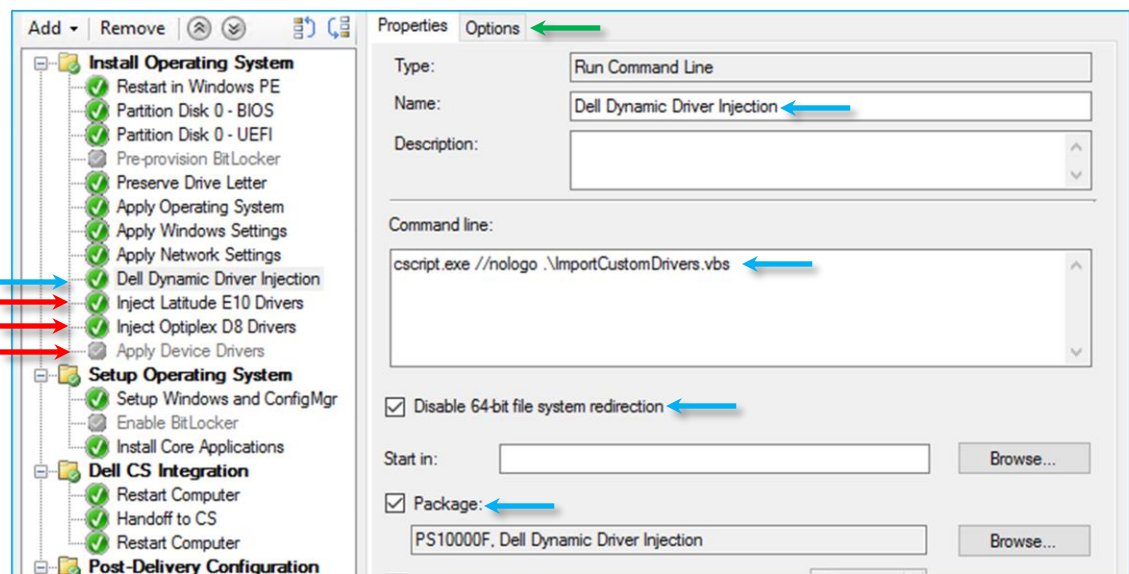
Configuration Services gives you the option to simplify both driver management and hardware transitions by dynamically injecting the latest [Dell Family Driver Packs](#) into your deployment while the Task Sequence is running in the factory. A packaged [VBScript](#) executed from a "Run Command line" task will be required. The admin must prevent previously established driver injections from running when opting for the dynamic driver injection capability.

Create a new Dynamic Driver Injection package

To dynamically apply drivers in the Dell factory, extract and add the ["ImportCustomDrivers.vbs"](#) script posted on Dell's TechCenter to a new package in your SCCM Environment. Don't create a program for the package. Add the package to your Distribution Points.

Create a Run Command Line task to leverage the VBScript

- 1) The task must be placed prior to any previously established Driver Injection Tasks,
- 2) At **Name**, type **Dell Dynamic Driver Injection**
- 3) At **Command Line**, enter: **Cscript.exe //nologo .\ImportCustomDrivers.vbs**
- 4) Check the **"Disable 64-bit file system redirection"** box
- 5) Check the **Package** box and Browse for the **Dynamic Driver Injection package**
- 6) Click **Options** Tab > Select **Continue on Error**
- 7) Click **Task Sequence Variable**
 - » Variable = **CFI**
 - » Condition = **Equals**
 - » Value = **True**
- 8) Click **OK**
- 9) Place a Task Sequence Variable on all pre-established driver injection tasks to prevent its execution in the factory
 - » Variable = **CFI**
 - » Condition = **Not Equals**
 - » Value = **True**



Configure Dell Configuration Services Integration

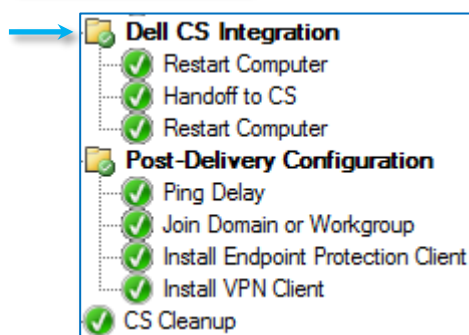
The Dell CS Integration group is placed at the end of your existing task sequence and consists of four primary sections

Restart System

Handoff to CS

Restart System

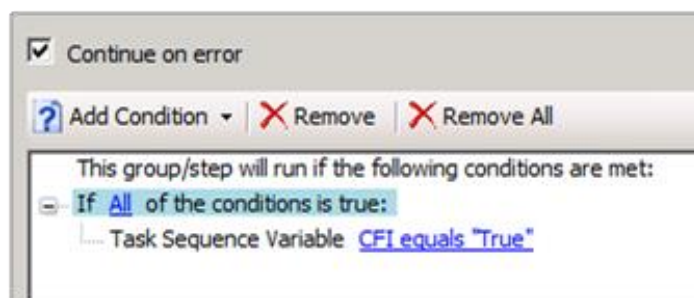
Post-Delivery



Create New Group – Dell CS Integration

From the Configuration Manager Operating Systems navigational pane, locate the task sequence to integrate with Dell's factory process.

- 1) Task Sequence Editor, **Click Add > New Group**
 - » Name: **Dell CS Integration**
- 2) Move the New Group to the end of your Task Sequence
- 3) Click **Options** tab
- 4) Check the "**Continue on error box**"
- 5) Click **Add Conditions > If Statement > All Conditions**
- 6) Click OK, and then select the created **If Statement** for proper nesting
- 7) Click **Add Conditions**
 - » Variable = **CFI**
 - » Condition = **Equals**
 - » Value = **True**
- 8) Click **OK > Apply**



Introduction

Process

Requirements

Configuration

OSD MAP

Partitioning

Drivers

CS Enablement

Post-Delivery

BitLocker

Create Media

Validate Media

Advanced



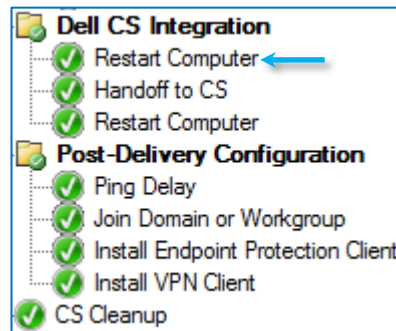
Configure Dell Configuration Services Integration

Restart System

Handoff to CS

Restart System

Post-Delivery



Create First Restart Computer Step

Restart Computer is the first step required for Configuration Services to make sure the process is running from within the Operating System. From the Configuration Manager Operating Systems navigational pane, locate the task sequence to integrate with Dell's factory process

- 1) Task Sequence Editor, Click Add > General > Restart Computer
- 2) At Properties tab, click Currently Installed Default Operating System
- 3) **Uncheck** the "Notify the user before restarting" box
- 4) Click the Options tab
- 5) Check the "Continue on error" box

The screenshot shows the Task Sequence Editor interface. The **Properties** tab is selected, displaying the following fields:

- Type:** Restart Computer
- Name:** Restart Computer
- Description:** (empty text box)

Below these fields is the **Specify what to run after restart:** section with two radio button options:

- ☐ The boot image assigned to this task sequence
- ☒ The currently installed default operating system (indicated by a blue arrow)

Below the radio buttons is a checkbox labeled **Notify the user before restarting**, which is unchecked (indicated by a green arrow).

The **Options** tab is also visible, showing a checkbox labeled **Disable this step** (unchecked) and a checkbox labeled **Continue on error**, which is checked (indicated by a blue arrow).

Introduction

Process

Requirements

Configuration

OSD MAP

Partitioning

Drivers

CS Enablement

Post-Delivery

BitLocker

Create Media

Validate Media

Advanced



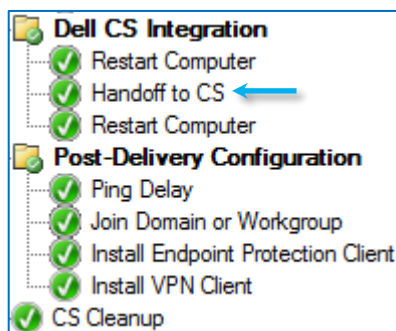
Configure Dell Configuration Services Integration

Restart System

Handoff to CS

Restart System

Post-Delivery



Create Handoff to CS Step

Create and configure a Run Command Line task sequence Step

- 1) Task Sequence Editor, Click **Add > General > Run Command Line**
- 2) At **Name**, type **Handoff to CS**
- 3) At **Command Line Field**, enter **CFI_LAUNCH.BAT**
- 4) At **Start In**, type **D:**
- 5) **Check** the "Disable 64-bit file system redirection" box
- 6) Click **Options** Tab > Select **Continue on Error**
- 7) Click **Apply**

The screenshot shows the Task Sequence Editor with the **Properties** tab selected. The **Type** is set to **Run Command Line**. The **Name** is **Handoff to CS**. The **Command line** is **CFI_LAUNCH.BAT**. The **Start in** is **D:**. The **Disable 64-bit file system redirection** checkbox is checked. The **Options** tab is also shown, with the **Continue on error** checkbox checked.



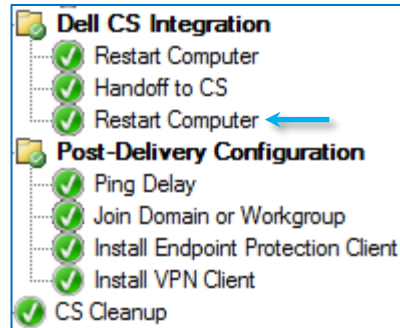
Configure Dell Configuration Services Integration

Restart System

Handoff to CS

Restart System

Post-Delivery



Create a Second Restart Computer Step

The second Restart Computer step is the third step required for Configuration Services to make sure the process is running in the operating system phase. From the Configuration Manager Operating Systems navigational pane, locate the task sequence to integrate with Dell's factory process

- 1) Task Sequence Editor, Click **Add > General > Restart Computer**
- 2) At **Properties** tab, click **Currently Installed Default Operating System**
- 3) **Uncheck** the "Deselect Notify user before restarting" box
- 4) Click the **Options** tab
- 5) Check the "Continue on error" box

The screenshot shows the **Properties** tab of the Task Sequence Editor for a **Restart Computer** step. The **Type** is set to **Restart Computer**, and the **Name** is also **Restart Computer**. The **Description** field is empty. Under **Specify what to run after restart:**, the radio button for **The currently installed default operating system** is selected (indicated by a blue arrow). The checkbox for **Notify the user before restarting** is unchecked (indicated by a green arrow).

The screenshot shows the **Options** tab of the Task Sequence Editor. The checkbox for **Disable this step** is unchecked. The checkbox for **Continue on error** is checked (indicated by a blue arrow).

Introduction

Process

Requirements

Configuration

OSD MAP

Partitioning

Drivers

CS Enablement

Post-Delivery

BitLocker

Create Media

Validate Media

Advanced



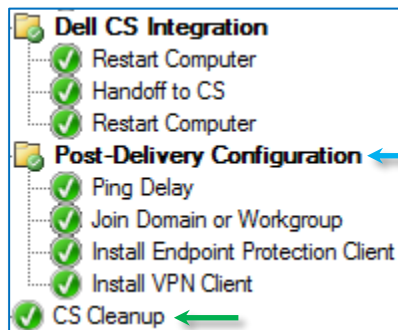
Post-Delivery Configuration

Restart System

Handoff to CS

Restart System

Post-Delivery



Post-Delivery Configuration

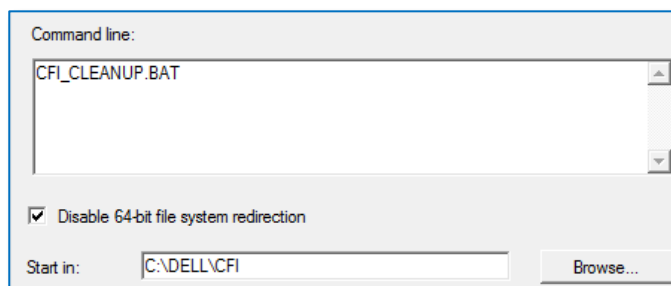
Include in this group any **Network Dependent** or **Anti-Virus installation** tasks needed to complete your build process. Include a "continue on error" for all individual tasks to be run in this group.

- » Join Domain: Runs while the system is connected to your network
- » Use the Post-Delivery group to install Anti-Virus/Endpoint client software
- » Use the Post-Delivery group to install VPN software
- » CFI Cleanup: Removes unneeded files from the disk.

- 1) Task Sequence Editor, click **Add > New Group**
- 2) At **Name** type, **Post-Delivery Configuration**
- 3) Click **Apply**

CFI Cleanup

- 1) To be placed as the last task in the sequence outside of the Post-Delivery Configuration group
- 2) Task Sequence Editor, click **Add > General > Run Command Line**
- 3) At Name, **CS Cleanup**
- 4) At Command Line field, enter **CFI_CLEANUP.BAT**
- 5) At Start in field, enter **C:\DELL\CFI**
- 6) Check the "Disable 64-bit file system redirection" box
- 7) Click **Options > Continue on Error**
- 8) Click **Add Conditions > Task Sequence Variable**
- 9) Click **Add Conditions**
 - » Variable = **CFI**
 - » Condition = **Equals**
 - » Value = **True**
- 10) Click **OK**



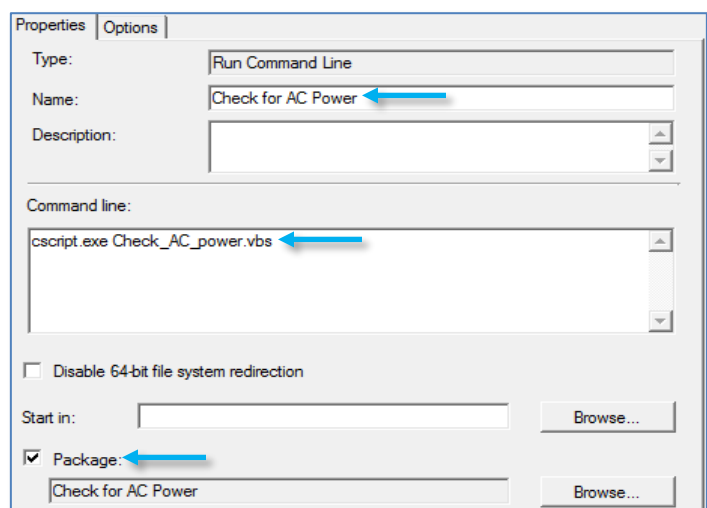
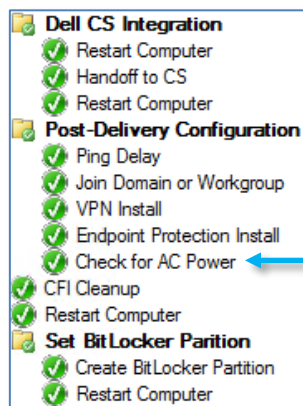
AC Power Check Prerequisite for BitLocker

AC Power is required for the BitLocker partition to be created. An AC Power Check script is recommended if the Admin wants to create a BitLocker partition on battery powered systems. If AC power is not detected then a warning will instruct the end-user to plug in the system to a power source.

Integrate a Check AC Power package into the Post-Delivery Configuration Group

- 1) Create a SCCM package to host the "Check_AC_Power.vbs" script
 - a. Copy the below script into notepad and save as "Check_AC_Power.vbs"
 - b. Create the package and include the script in the source path
 - c. Update your Distribution Points with the new package
- 2) Within the Post-Delivery Configuration Group, Click Add > General > Run Command Line
 - » Name: "Check for AC Power"
 - » Command line: Cscript.exe Check_AC_Power.vbs
 - » Check the "Package" box and select "Check_AC_Power"
 - » Check "Continue on Error" from the Options tab
- 3) Ensure that the Check for AC Power script runs prior to the "CFI Cleanup" task

```
strComputer="."
Set objWMIService = GetObject("winmgmts:\\." & strComputer & "\root\cimv2")
Set collItems = objWMIService.ExecQuery("Select * from Win32_Battery")
if collItems.count = 1 Then
For Each objItem in collItems
If objItem.BatteryStatus = 1 then
MsgBox vbCrLf & vbCrLf & vbCrLf & vbCrLf & _
"System is running from battery. Please connect this system to a power source before pressing OK." ,vbcritical, "Bitlocker Requirement - Power check for notebook."
End If
Next
End If
```



Introduction

Process

Requirements

Configuration

OSD MAP

Partitioning

Drivers

CS Enablement

Post-Delivery

BitLocker

Create Media

Validate Media

Advanced



BitLocker Partition Creation for MBR disks

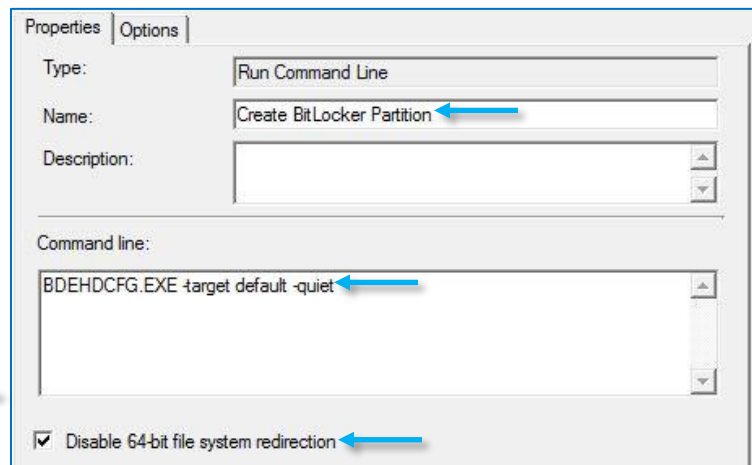
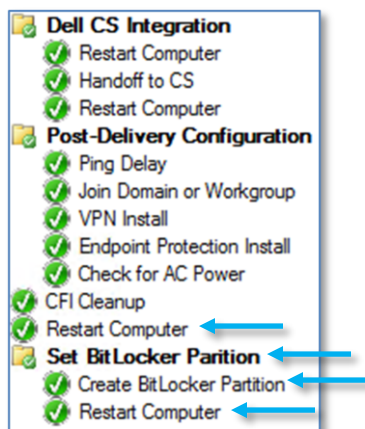
The Admin has the ability to leverage the Factory to prepare the system's hard drive for BitLocker Encryption. This process will ensure that the BitLocker partition is established after the system has arrived onsite. The BitLocker partition can be created at the end of the execution of the task sequence by using the built-in Windows tool "BdeHdCfg.exe". This process will only create the partition necessary for BitLocker. This process will not initiate the encryption process.

Note: These steps do not apply if deploying GPT/UEFI.

Adding a BitLocker Partition to **MBR disks** with SCCM in the Factory

The BdeHdCfg.exe tool is used to prepare a hard drive with the partition configuration necessary for BitLocker Drive Encryption. The tool will shrink the System partition, if present, and create the partition needed for BitLocker at the end of the disk.

- 1) After CFI Cleanup, **Click Add > General > Restart Computer**
 - » Select **"The current installed default operating system"** to run after restart
 - » Uncheck **"Notify the user before restarting"**
- 2) **Click Add > New Group**
 - » Name: **Set BitLocker Partition**
- 3) Move the New Group to the end of your Task Sequence, after the CFI Cleanup task
- 4) **Click Add > General > Run Command Line**
 - » Name: **Create BitLocker Partition**
 - » Command line: **BdeHdCfg.exe -target default -quiet**
 - » Check **"Disable 64-bit file system redirection"**
- 5) **Click Add > General > Restart Computer**
 - » Select **"The current installed default operating system"** to run after restart
 - » Uncheck **"Notify the user before restarting"**



After the "CFI Cleanup" task, all task sequence package data will have been wiped from the system. Only "Restart Computer" and local "Run Command Line" tasks can be run at this time. BitLocker partition creation through the BDEHDCFG utility is not required for GPT formatted disks

Introduction

Process

Requirements

Configuration

OSD MAP

Partitioning

Drivers

CS Enablement

Post-Delivery

BitLocker

Create Media

Validate Media

Advanced



Create Stand-alone Media

Stand-alone Media created with the intention of using the Dell factory instruction set **must** include a **CFI=True** variable for the process to work. (see **step 13** below)

Create the Stand-alone Media ISO

Use the Create Task Sequence Media process to generate the stand-alone media

- 1) Navigate to the Software Library pane in the Configuration Manager Console
- 2) Expand Overview
- 3) Expand Operating Systems
- 4) Select Task Sequences
- 5) Click on Create Task Sequence Media button in the ribbon display
- 6) Select **Stand-alone media**
- 7) Select **Allow unattended operating system deployment**

☒ **Stand-alone media**
Creates stand-alone media that can deploy an operating system without network access.

☐ **Bootable media**
Creates bootable media that accesses the Configuration Manager infrastructure to deploy an operating system across the network.

☐ **Capture media**
Creates capture media that will capture an operating system deployment image from a reference computer.

☐ **Prestaged media**
Creates a file for operating system deployment that contains an operating system image and bootable media that can be prestaged on a hard drive.

Select this checkbox to enable unattended operating system deployment. An unattended operating system deployment does not prompt for network configuration or optional task sequences. If a media password is specified, the task sequence prompts for a password and waits until the password is entered.

☒ **Allow unattended operating system deployment.**

- 8) Select CD/DVD Set
 - » Media Size = Unlimited
- 9) At Media File Name, enter the file name for the media > Next
- 10) Deselect Protect Media with a Password checkbox > Next
- 11) Select a CS enabled Task Sequence to be used for factory deployment
 - » Click Browse
 - » Select the **"Factory Enabled Task Sequence"** > OK > Next
- 12) At Distribution Points, select your distribution points
 - » Click **Add > Next**
- 13) **At Customizations box, click New Variable button**
 - » **Name = CFI**
 - » **Value = True**
 - » **OK > Next**
- 14) At **Summary > Next**
- 15) At **Progress > Next**
- 16) At Confirmation, click **Finish**

Introduction

Process

Requirements

Configuration

OSD MAP

Partitioning

Drivers

CS Enablement

Post-Delivery

BitLocker

Create Media

Validate Media

Advanced

Integrating
SCCM
In the Dell Factory
Page 17



Availability varies by
country.

© 2018 Dell Inc.
All rights reserved

Testing the Stand-alone Media

In order to validate the CFI enabled media, you will be required to format and partition the target system's Hard Drive in accordance with the set of instructions detailed below. You will be required to test media on a virtual platform prior to submitting the media to Dell.

Create and Prepare a Virtual Machine

Use the following specifications when creating the Virtual Machine

- 1) Hyper-V Generation 2 or VMWare Workstation 12+ with UEFI firmware type
- 2) CPU: 2 Cores
- 3) RAM: 4 GB
- 4) Network card enabled and accessible to infrastructure

Prepare the VM's Hard Drive prior to testing the ISO.

- 1) Boot VM to an instance of WinPE
- 2) Open a command prompt (F8)
- 3) Run the following commands:
Diskpart.exe
select disk 0
clean
convert gpt
create partition efi size=512
format quick fs=fat32 label="System"
assign letter="S"
create partition msr size=128
create partition primary
format quick fs=ntfs label="Windows"
assign letter="C"
exit
WPEUTIL Shutdown

Test the CFI Enabled ISO

- 1) Attach the CFI Enabled ISO to the Virtual Machine
- 2) Boot the Virtual Machine from the ISO file
- 3) Confirm that the Task Sequence runs as expected



Virtual Factory Simulation

Introduction

Process

Requirements

Configuration

OSD MAP

Partitioning

Drivers

CS Enablement

Post-Delivery

BitLocker

Create Media

Validate Media

Advanced

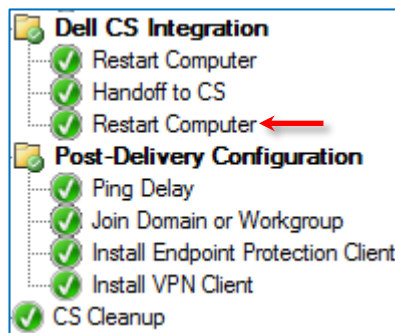
The Admin cannot replicate the entire Dell factory process, but is able to perform a simulation of the process that will identify potential failures. If the Task Sequence is similar to our example, which includes a network dependent post-delivery configuration group, the Admin should test CFI enabled media with the VM on the network and off the network.

Note: The system's NIC will be disabled while the task sequence is running in the factory. The NIC will be enabled in the BIOS prior to shipping the system. The NIC adapter will be enumerated and installed on first boot when the task sequence resumes onsite.

Test the Stand-Alone Media Build to Simulate Dell's Factory Imaging Process.

These steps represent a brief test simulation walk-through

- 1) Create, configure and format the Virtual Machine as described on page 18.
- 2) Disable the Virtual Machine's NIC
- 3) Boot the Virtual Machine from the CFI enabled ISO.
- 4) **Watch the Installation Progress** display for the Second **Restart Computer** step to occur at the end of the **Dell CS Integration group**. When the VM reboots, reenabling the VM's NIC. This represents the point where the system will be delivered to your facility
- 5) Allow the task sequence process to complete
Log in to the system and verify that the Task Sequence has successfully deployed all applications, customizations and configurations.



Advanced Configurations

You may require a custom computer name for your system. If your custom computer name depends on hardware information, you can customize it during the task sequence. Please consult with an Image Services engineer if using other computer naming conventions.

How to set the computer name to be the Service Tag

Create a VBscript named SETCOMPUTERNAME.VBS, and insert the following information into the script:

```
SET env = CreateObject("Microsoft.SMS.TSEnvironment")
strComputer="."
' Connect to WMI
Set objWMIService=GetObject("winmgmts:" & "{impersonationLevel=impersonate}!\" & strComputer & "\root\cimv2")
' Find the Service Tag, which will make up the last part of the computer name
Set colservicetag=objWMIService.ExecQuery("Select * from Win32_Bios")
For Each objservicetag in colservicetag
strName = objservicetag.serialnumber
Next
' Set the variable
env("OSDCOMPUTERNAME") = strName
```

- » Save the Script
- » Create a new Configuration Manager Package and distribute to the appropriate Distribution Point
- » Edit your task sequence
- » Immediately following the Partition Disk step, insert a new task for Run Command Line
- » Select the package that contains the vbscript
- » Command line, enter:
 - Cscript //nologo SetComputerName.vbs
- » Click OK to save the task sequence
- » Re-create the stand-alone media and test

For more information about solutions for your organization, contact your Dell account representative or visit [Dell.com/imaging](https://www.dell.com/imaging)



Introduction

Process

Requirements

Configuration

OSD MAP

Partitioning

Drivers

CS Enablement

Post-Delivery

BitLocker

Create Media

Validate Media

Advanced



Dell's Factory Readiness Checklist

The Factory Readiness Checklist is a set of tasks that will assist you in preparing your task sequence for a factory deployment. After you have implemented the instructions detailed in the white paper, use this checklist to ensure that your task sequence meets the criteria detailed below.

SCCM Boot in the Factory requirements

- ☐ You established the variable CFI=TRUE on the stand-alone media ISO.
- ☐ You created the stand-alone media from a Primary Site Server and not a CAS.
- ☐ You established the CFI≠TRUE variable condition on all "Partition Disk" tasks.
- ☐ You created a "Handoff to CS" task and set the run command from within the "Dell CS Integration" group.
- ☐ Your "Apply Network Settings" task is set to join a WORKGROUP.
- ☐ If your task sequence is joining a domain, then the "Join Domain or Workgroup" task is present in the "Post-Delivery Configuration" group. The 'Apply Network Settings' task will not join the domain.
- ☐ You have added the Ping Delay as the first task within Post-Delivery Configuration
- ☐ There is a "Continue on Error" established on each individual task within the "Post-Deployment Configuration" group.
- ☐ The Application installation tasks staged before the "Dell CS Integration" group do not require network connectivity.
- ☐ The "CFI Cleanup" task has both the COE enabled and CFI=TRUE task sequence variable set as a condition
- ☐ You have placed AV installation tasks in the "Post Delivery Configuration" group.
- ☐ You have tested your deployment on the hardware that the task sequence supports.
- ☐ All tasks prior to the "Dell CS Integration" group successfully completes when the NIC is disabled in the BIOS.
- ☐ You have selected 'Next available formatted partition' as the Destination for the Operating System during the "Apply Operating System Image" task
- ☐ Your unattend.xml skips the Wireless Setup configuration screen when in the OOB phase. (HideWirelessSetupInOOBE=TRUE)
- ☐ You are not leveraging utilities to modify the BIOS prior to the 'Post Delivery Configuration' group of the Task Sequence

If you are deploying Windows 10 with a manual input requirement in Post Delivery...

- ☐ You have enabled mouse cursor support by modifying the registry:
 - » Use a 'Run Command Line' placed after 'Setup Windows and Configuration Manager'
reg add HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System /v EnableCursorSuppression /t REG_DWORD /d 0 /f

If you are leveraging Dell's Dynamic Driver Injection process...

- ☐ You established the CFI≠TRUE Task Sequence variable condition on all driver injection tasks.
- ☐ You created a package that contains the "ImportCustomDrivers.VBS" script.
- ☐ You established a Continue On Error for the task.
- ☐ You established the CFI=TRUE Task Sequence variable condition on the "Dynamic Driver Injection" task.
- ☐ You are not using cloud based utilities to update system drivers during the task sequence

