

# Microsoft® Configuration Manager

## Dell Factory Integration



The power to do more

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# Chapter 1

## Boot and Factory Process Overview

## Introduction to Config Mgr. BIF at Dell Factories



### IMPORTANT NOTICE FOR PRESTAGE MEDIA USERS:

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

This document focuses on integrating your task sequence execution for Boot in the factory (known in this document as BIF) projects.

BIF= Boot in Factory

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 Config Mgr. 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.



## Dell Factory / Config Mgr. OSD Process Overview

### 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

# Dell Boot in the Factory Config Mgr. OS Deployment Standards

## Configuration Requirements



Creating a stand-alone media build should be a simple process. Review the Microsoft document for additional information.

[Create stand-alone media - Configuration Manager | Microsoft Learn](#)

Per Microsoft, the following Configuration Manager Task Sequence steps are not supported when using stand-alone media

- Auto Apply Drivers
- Dynamic Software installs via the install software task
- Install Software Updates
- Install software prior to an operating system deployment

## Building your Reference OS WIM

We do recommend you use the install.wim that is included with the Microsoft windows installation ISO file under the sources folder. If you choose to recapture the reference WIM please follow the following guide lines. When building the reference OS WIM intended for factory deployment, Dell recommends the use of Hyper-V as the best option as there are no drivers that are needed for it. You can use other virtual machine technology just make sure to remove all virtual driver packs or tool installs before re-capture. Do not install drivers into the reference OS WIM. Do not build the reference WIM on physical hardware. The reference OS WIM should be free of installed drivers and Antivirus Software.

## 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 ECM site server. 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 Config Mgr." 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 Config Mgr. 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 Config Mgr. site.

- Install all security updates into your base .WIM using Config Mgr. 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

## Applications VS Packages

It is best practice and Dells recommendation that you only use packages for deploying software in your offline task sequences. This is the most stable and accurate way of installing software. But we understand that you might have to use applications due to company policies below are some things to keep in mind when deploying applications in task sequences.

### Tips for deploying applications in offline media.

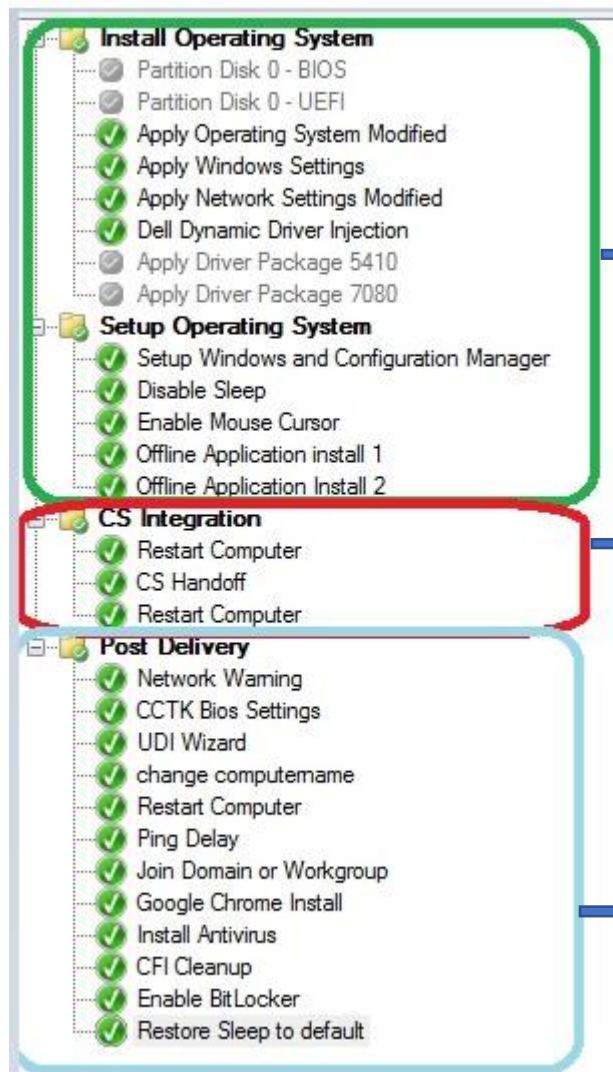
- Application Dependencies are not supported for offline media.  
<https://docs.microsoft.com/en-us/troubleshoot/mem/configmgr/troubleshoot-install-application-step>
- Make sure your ECM Client package is up to date with the version of ECM that is installed.
- Don't chain application installs in the same task but create a separate task for each install.
- Make sure you are executing MSI files from the application task. Applications that execute Power shell scripts, bat files or VB scripts will some time continue to the next task without waiting for the current task to complete.
- Make sure your client cache size is large enough to fit the application installs you are installing.
- Note Upgrading your ECM site to a newer version can cause application packages to fail in older versions of offline media.
- Config Manager Client needs to be Fully functional before running Application tasks during Post-delivery. Client install must be working flawlessly

**Note:** the IMS engineer will conduct task sequence testing to verify the task sequence will not fail in the factory and cause production issues. We are not able to test all functionalities of Application installations. We have seen Applications that run-in Post-Delivery work at the customer site when they run in their standard task sequence. Then work fine when the IMS engineer tests them to only fail when the task sequence runs on a new machine via the factory process at the customers site.

It is very important to test the Offline media at your location using the offline media testing procedures with the NIC'S off in the factory portion and on when testing the Post Delivery section to get a true feel of how the application will install during the complete factory process. It is best to use packages as they are the most stable option available.

## Task Sequence Break Down

Standard Config Manager Task Sequence Divided to run in the Dell Factory and on your Local network.



The Green Area is the part of the task sequence that runs in the factory and is known as the Factory Section. The task sequence will run with the network cards disabled. And the partitions are created ahead of time. There can't be any prompts or user input during this section as it needs to run completely automated. Encryption needs to be turned off and security or Antivirus should not be active during this stage.

This is the section that will pause the task sequence in the factory, it enables the network cards, and shuts down the computer to ship it to you. Known as the Handoff Section

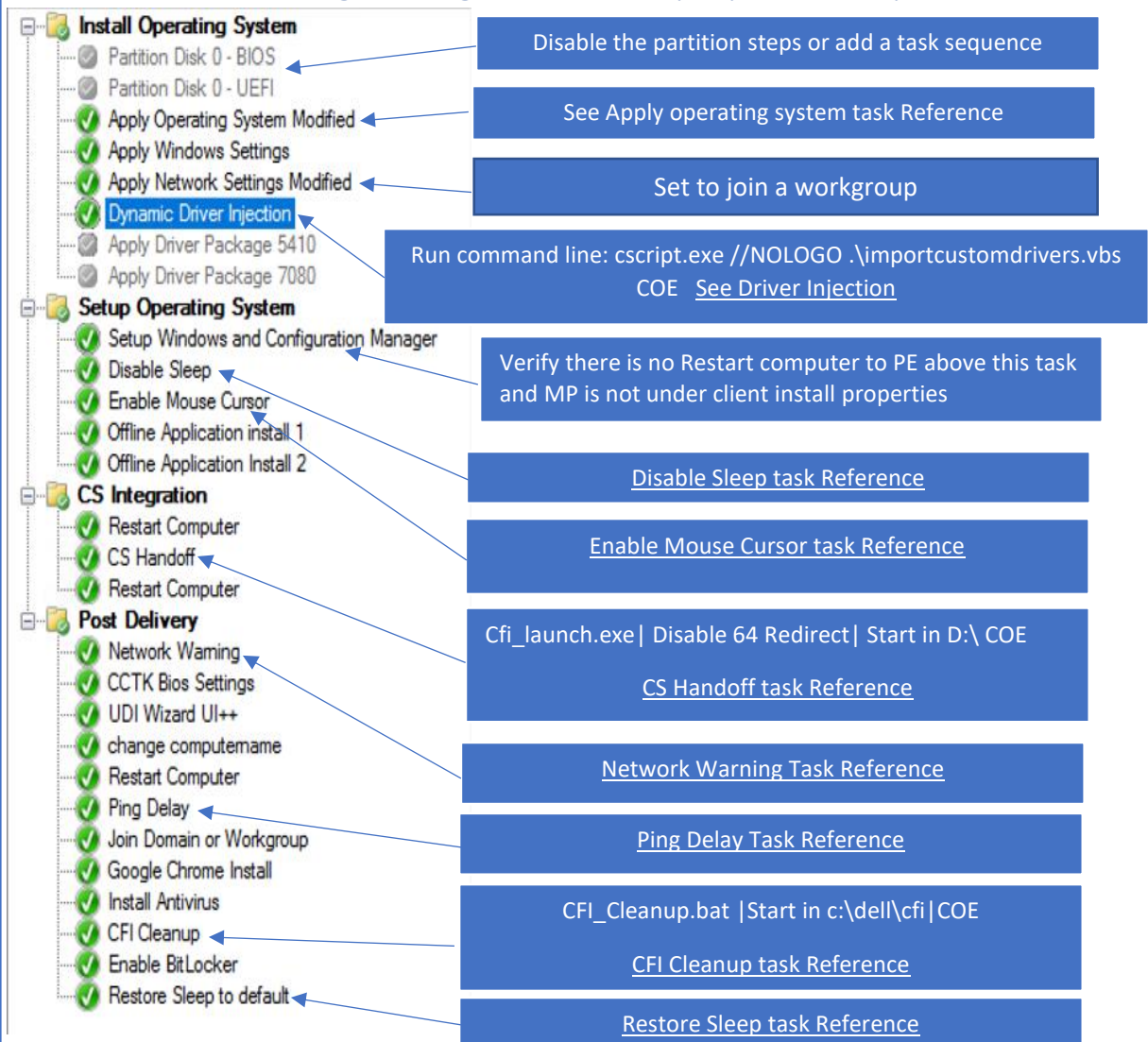
This section known as Post Delivery Section will run when you first turn on the system after receiving it from the Dell Factory. The Network cards will be enabled. You can install applications that require the network as well as Anti-Virus, Run BIOS Configuration scripts, Join the Domain, enable encryption like Bit locker, and prompts the users for Input if needed. The CFI Cleanup task will delete the offline media as well as factory files before the task sequence completes



# Chapter 2

## Boot and Factory Task Sequence Modifications.

## Config Manager BIF OS Deployment Map



**Note if you have MDT Integration then your task sequence will look different see the MDT/Config Manager MAP here [MDT/Config Manager MAP](#)**

### Dell Factory Enabled Config Mgr. OSD Map

This map illustrates what actions are required 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. Click the highlighted field to go to the detailed page for that task.

We recommend you copy your production task sequence and label the Copy Dell Factory. This way you can edit the factory task sequence without causing issues to the production task sequence. If rather use the production task sequence for both inhouse and factory imaging, you can use a Task sequence variable called CFI to control what tasks run in Factory or in house only. Example would be to set the Partition steps to CFI does not equal true and the Dell Driver injection step as an example to CFI=True. Then create the variable CFI=True on the Media that you upload to Dell this way the partition steps will only run in inhouse imaging but not from the media which is a dell factory requirement, and the Dell tasks will only run when executed from the dell media.

## Dell Toolkit Package

The Dell Tool Kit Package is a group of scripts needed for the Dell Boot in factory process zipped in a easy to download package. You can extract this zip file to your config manager source folder and create a package with no program of its contents. There are steps in this guide that will refer to this package.

### [Download Toolkit Here](#)

- Download and extract the cf toolkit.zip posted on Dell's Tech Center to your package source directory.
- Create a new package in your Config Manager Environment. Link it to this source directory.
- Don't create a program.
- Push the package to the distribution point you will use to build the Offline media.

*Note: We will refer to this package as Dell toolkit package in the document moving forward.*

### Dell Tool Kit Contents

*Required for factory process to work correctly.*

1. **importCustomDrivers.vbs** – File used for Factory Driver injection
2. **networkwarning.vbs**- script used to pause task sequence to remind operator to connect a network cable before proceeding.
3. **Power.bat**- Script used to disable modern sleep and set high performance power plans.
4. **Unattend.xml**- files used to pass disable wireless in OOB.

*Optional scripts to help automate your task sequence.*

1. **Recovery.txt**- Disk Part script used to shrink c drive and create a WinRe partition.
2. **Setname.vbs**- sets the OSDCOMPUTERNAME variable to the service tag of the system.
3. **Setnametoinput.vbs**- prompts user for computer name and then changes the machine to match input.
4. **Setnamevar.vbs**- script used in post-delivery to change the computer name on the system to what is in OSDCOMPUTERNAME variable.

## Factory Dynamic Driver Injection

Configuration services gives you the option to simplify both driver management and hardware transitions by dynamically injecting the latest factory approved [Dell Family driver packs](#) into your deployment while the task sequence is running in the factory. This script is included in the Dell CFI Tool Kit. You must disable all other driver installs if using this method.

### Create a new Dynamic Driver Injection Task

- 1) The task must be placed right after the Apply Network Settings task.
- 2) At **Name**: Dell Dynamic Driver Injection
- 3) At **Command Line**: cscript.exe //nologo .\importcustomdrivers.vbs
- 4) **Disable 64-bit file system redirection**: Checked
- 5) **Package**: check this box and select the Dell Tool Kit package
- 6) **On Options tab**: Check continue-on-error

The screenshot displays the Dell Configuration Manager task editor. On the left, a task sequence is shown with steps like 'Partition Disk 0 - BIOS', 'Apply Operating System Modified', and 'Dell Dynamic Driver Injection'. The 'Dell Dynamic Driver Injection' task is selected. The main pane shows the 'Properties' tab for this task. The 'Type' is 'Run Command Line', the 'Name' is 'Dell Dynamic Driver Injection', and the 'Command line' is 'cscript.exe //nologo .\importcustomdrivers.vbs'. The 'Output to task sequence variable' field is empty. The 'Disable 64-bit file system redirection' checkbox is checked. The 'Start in' field is empty with a 'Browse...' button. The 'Package' checkbox is checked, and the package 'Z000000F, Dell CFI ToolKit' is selected. The 'Time-out (minutes)' is set to 15. The 'Run this step as the following account' checkbox is unchecked. The 'Options' tab is also visible, showing 'Disable this step' unchecked, 'Success codes' set to '0 3010', and 'Continue on error' checked. The bottom of the 'Options' tab shows a message 'There are no items to show in this view.'

## Driver Packages (Non-Driver Injection Method)

The Apply device drivers step is not supported when using stand alone media. Dell recommends that the default apply device drivers set is disabled or skipped when the task sequence is running in the factory. Review the walk-thru on [TechNet](#) for an in-depth look at driver management in config manager.

**Adding drivers can be skipped if using Dynamic driver injection**

1. **Task:** Apply Driver Package
2. **Name:** Type a name (Example: **Apply Latitude E10 Drivers**)
3. **Driver Package:** Browse to the driver package you want to apply for this model
4. Options tab and a Variable condition Click **Add Condition**
  - » At WQL Query, select **Query WMI** to open WMI Query Properties
  - » Type: **Select \* FROM Win32\_ComputerSystem WHERE MODEL LIKE "Latitude %"**

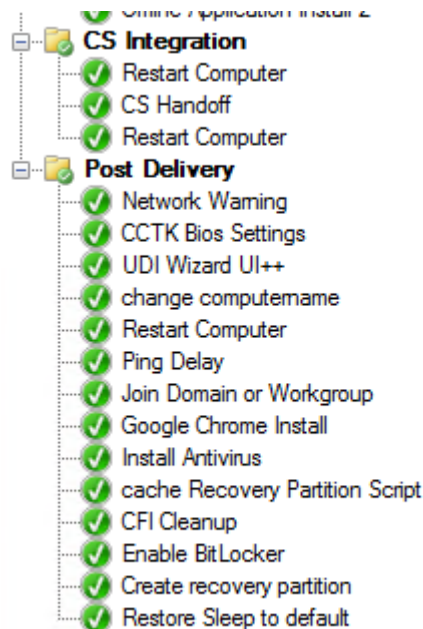
The screenshot displays the configuration for the 'Apply Driver Package' task in the Config Manager task editor. The task is named 'Apply Driver Package 5410'. The 'Driver Package' field is set to 'Z000004D\_Dell 5410-Windows10-A02-NV09F-X02-00-x64 A02'. The 'Options' tab is selected, showing options to 'Disable this step' and 'Continue on error'. A condition is added: 'WMI Query: Select \* from Win32\_ComputerSystem Where Model like "%Latitude%5410%"'. The 'WMI Query Properties' dialog box is open, showing the 'WMI Namespace' as 'root\cimv2' and the 'WQL Query' as 'Select \* from Win32\_ComputerSystem Where Model like "%Latitude%5410%"'. The 'Test query' button is highlighted.

**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](#)**

## Post-Delivery Configuration

Include in this group any tasks that are network dependent, user interactive, anti-virus, or security related. Make sure all tasks in this group are configured with continue on error on the task not the group.

- **Network Warning:** This will pause the task sequence to verify you Network connected.
- **Ping Delay:** This is a required step before the Join Domain Task to allow for network connectivity
- **Join Domain:** Runs while the system is connected to your network
- **CFI Cleanup:** Removes Task Sequence Force Files and extra imaging partition. Expands C to cover free space.
- Use the Post-Delivery group to install Anti-Virus/Endpoint client software
- Use the post-delivery group to run network required tasks.
- Use the post-delivery group to run tasks requiring user interaction.
- Use the Post-Delivery group to install VPN software
- Use the Post-Delivery group to run CCTK tasks to Modify the BIOS.



## Creating the offline Media (ISO) to Upload.

The Dell Factory uses the ISO file you Generate using the Create Stand-Alone Media Task available for your task sequence. This will place all the needed files for your task sequence to run in a single ISO. This is the single file you will upload to Dell via the FTA link the CS Project Manager will email to you.

### Media Creation Tips

1. Make sure you have enough free space on the machine you are running the console from to create the media. You will need at least twice the size of the media. Example average Media uploaded is around 10-15 Gig in size so you will need at least 30 Gig of Free space on the drive you are creating the ISO on.
2. Make sure you dont have drivers included in the media if you are using Driver injection. They are not needed and could make the media size larger then it has to be.
3. Make sure you name the file all lower case no spaces or special charcters this will help our systems process your file quickly. Example dellcfi.iso or shortcompanynamedate.iso like dell321.iso or dell321rev1.iso

**Very important to make sure you Set the CFI = True Variable on the ISO you create.**

For Detailed ISO Creation steps See page 32. [Create Stand Alone ISO for upload to Dell](#)

## Testing the Stand-alone Media

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 like our example, which includes a network dependent post-delivery configuration group, the admin should test CFI enabled media with a VM with NIC disabled for factory part and enabled on the customers network to test domain join. Note you will need to manually create partitions before running the task sequence.

### Create and Prepare a Virtual Machine

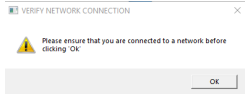
Use the following specifications when creating the Virtual Machine

- 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:
- 4) Diskpart.exe
- 5) select disk 0
- 6) clean
- 7) convert gpt
- 8) create partition efi size=1000
- 9) format quick fs=fat32 label="System"
- 10) assign letter="S"
- 11) create partition msr size=128
- 12) create partition primary
- 13) format quick fs=ntfs label="Windows"
- 14) assign letter="c"
- 15) exit

Test the CFI Enabled ISO

- 1) Attach the CFI Enabled ISO to the Virtual Machine
  - 2) Disable the Network Card
  - 3) Boot the Virtual Machine from the ISO file
  - 4) When you get to the Verify Network Connection box Enable the Nic and then click ok
- 
- 5) Confirm that the Task Sequence runs as expected.
  - 6) View the smsts.log for errors. As well as verify machine is setup successfully and joined to the domain if required and computer name is as expected.



# 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, this checklist to ensure your task sequence meets the criteria detailed below.

## Endpoint Config Manger Boot in the Factory requirements

- ☐ You established the variable **CFI=TRUE** on the stand-alone media ISO.
- ☐ If using Asset tag in computer name make sure you confirm with PM that Asset is being burned in the BIOS.
- ☐ You do not have a restart that goes back to PE or boot media. This will require the boot media that you upload with your iso to include all needed drivers for the models the task sequence is running on and will require a Task Sequence update for all model changes those drivers are not included with.
- ☐ You created the stand-alone media from a Primary Site Server and not a CAS.
- ☐ All Partitioning Steps are Disabled or set to CFI not equals true.
- ☐ You created "Dell CS Integration" Group and the cfi\_launch.exe command with reboots.
- ☐ 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 and set to "continue on error". Note - The 'Apply Network Settings' task will not join the domain and should not be used in post delivery
- ☐ You have added the Ping Delay task right before the domain join task.
- ☐ 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.
- ☐ There are no tasks after the CFI Cleanup task that require task sequence source files.
- ☐ You have placed AV installation tasks in the "Post Delivery Configuration" group.
- ☐ You have tested the ISO file on at least a virtual Machine with NIC Disabled till Cfi\_launch.exe task and have run the task sequence on hardware your ordering.
- ☐ All tasks prior to the "Dell CS Integration" group successfully completes with NIC disabled.
- ☐ You have selected 'Next available formatted partition' as the Destination for the Operating System during the "Apply Operating System Image" task
- ☐ Your unattend.xml includes skips the Wireless Setup configuration screen when in the OOBE 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 using a Custom User interface in Post-delivery that is setting variables you also are running a Script to make those changes since Sys Prep has already ran.
- ☐ You have contacted your Configuration services Engineer and scheduled a Task sequence review meeting with them.

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

- ☐ Disable or delete all driver pack install tasks.
- ☐ You have setup the Dell Driver Injection Task See page 12
- ☐ You are not using cloud-based utilities to update system drivers during the task sequence
- ☐ Your task sequence is deploying a reference WIM. (Not a setup.exe install)
- ☐ Your Dell Dynamic Driver injection task is running after Apply Network Settings task.
- ☐ Your reference WIM is free of drivers.

# Chapter 3

## Detailed Task reference

# Apply Operating System Task

## Disable Wireless in OOB

This modification is required for boot in the factory deployments to stop the task sequence from prompting for a wireless network to join. You can use your own Unattend.xml if the code is included. MDT integrated task sequences already include it. If you are not using a unattend.xml we have included a sample one that can be used that only includes this setting

```
< HideWirelessSetupInOOBE>true</HideWirelessSetupInOOBE>
```

- 1) **Type:** Modify the Apply Operating System Task
- 2) **Apply Operating System from Captured image:** This is a requirement for Dell Driver Injection.
- 3) **Use an unattended or Sysprep answer file for a custom installation**  
**Package:** Browse to Dell Tool Kit Package  
**FileName:** unattend.xml
- 4) **Destination:** Next Available Formatted Partition.

Properties Options

Type: Apply Operating System Image

Name: Apply Operating System Modified

Description: Actions to apply operating system

☒ Apply operating system from a captured image

Image package: Z000003C, Windows 10 Enterprise 2004 en-US Browse...

Image index: 1 - Windows 10 Enterprise

☐ Apply operating system from an original installation source

Package: Browse...

Edition:

☒ Use an unattended or Sysprep answer file for a custom installation

Package: Z000000F, Dell CFI ToolKit Browse...

File name: unattend.xml

Select the location where you want to apply this operating system.

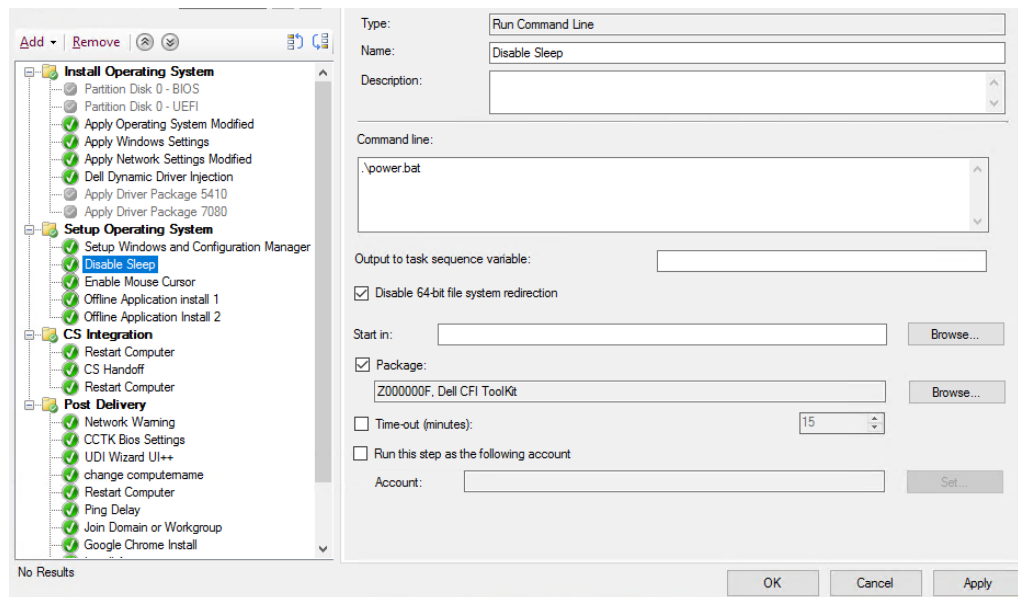
Destination: Next available formatted partition

[Return to Map](#)

## Disable Sleep Tasks

This is a Mandatory task that is required to run in the task sequence to keep the system from going to sleep during the factory process and causing the task sequence to fail. You can use your own Disable sleep settings as long as they include the settings in this script.

- 1) **Task Type:** Run Command line
- 2) **Command line:** should say `.\power.bat`
- 3) **Disable in 64 Bit Redirection:** Check
- 4) **Package:** check this box and select the Dell Tool Kit package



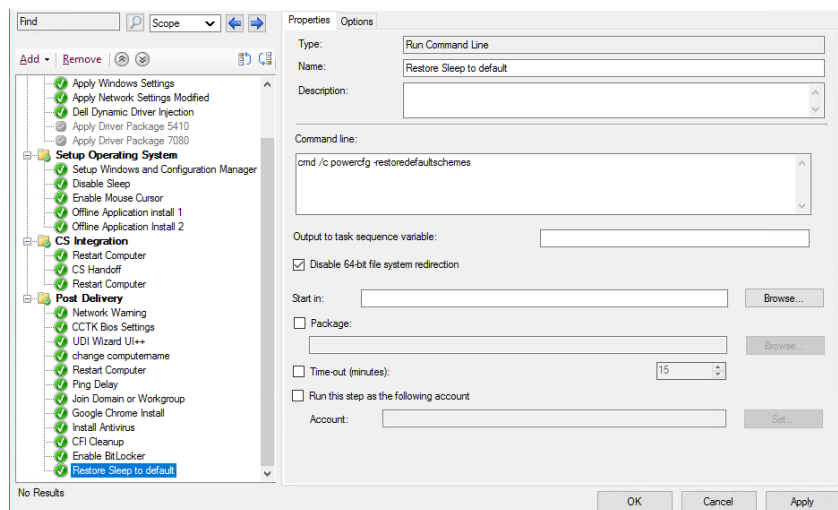
[Return to Map](#)

## Restore Sleep to Default Settings Tasks

This task will reset the power settings applied in the disable sleep step to default windows settings. It is recommend that you run your own customer company sleep settings after you run this script.

Create a Run Command line task and name it Restore Sleep to default. Add the task right after Setup Windows and Configuration Manager task.

- 1) Command line should say `cmd /c powercfg -restoredefaultschemes`
- 2) Check Disable in 64-bit file system redirection



[Return to Map](#)

## Enable Mouse Cursor

Create a Run Command line task and name it Enable Mouse Cursor. Add the task right after Setup Windows and Configuration Manager task

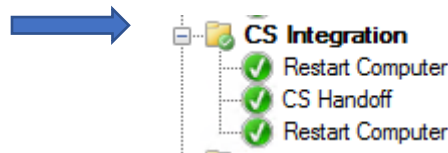
1. **Type:** Run Command Line
2. **Command line:** `reg add HKLM\software\Microsoft\Windows\CurrentVersion\Policies\System /v EnableCursorSuppression /t Reg_DWORD /d 0 /f`
3. **Disable in 64 Bit Redirection:** Check this box.

The screenshot shows the 'Properties' tab of a task sequence step. The 'Type' is set to 'Run Command Line' and the 'Name' is 'Enable Mouse Cursor'. The 'Command line' field contains the command: `reg add HKLM\software\Microsoft\Windows\CurrentVersion\Policies\System /v EnableCursorSuppression /t Reg_DWORD /d 0 /f`. The 'Output to task sequence variable' field is empty. The 'Disable 64-bit file system redirection' checkbox is checked. The 'Start in' field is empty with a 'Browse...' button. The 'Package' checkbox is unchecked with an empty field and a 'Browse...' button. The 'Time-out (minutes)' is set to 15. The 'Run this step as the following account' checkbox is unchecked, with an empty 'Account' field and a 'Set...' button.

[Return to Map](#)

## Dell CS Integration Group

The Dell CS integration group is placed at the end of your existing Task sequence and consists of three primary tasks reboot, CS Handoff, Reboot. This group splits the task sequence in half the top half runs in the factory the bottom half runs when you first unbox the machine at your location.



### Create a New Group – Dell CS Integration

#### Add two restart computer task

- 1) Specify to boot to currently installed default OS and remove Notify user checkbox.

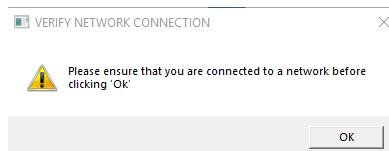
#### Create a Run Command line task in the middle of the reboots.

- 1) Command line should say cfi\_launch.exe.
- 2) Check Disable in 64 Bit Redirection
- 3) Type D:\ in the start in.
- 4) Click options and make sure task is set to Continue on Error

## Network Warning message

(Optional But recommend)

This task will put a message box on the screen reminding the person turning the machine on to plug a network cable into the machine so the task sequence will not fail and need reimaged. It will sit at this screen till ok button is clicked.



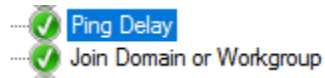
- 1) **Type:** Create a Run Command line task
- 2) **Command line:** `cscript.exe //nologo .\networkwarning.vbs`
- 3) **Disable in 64 Bit Redirection:** Check this box.
- 4) **Package:** Choose the Dell Tool Kit Package

[Return to Map](#)



## Ping Delay before Domain join

This task is required to run right before the join domain and workgroup task. This will allow the machine to establish network communication before trying to join the domain.



1. **Type:** Create a Run Command line task
2. **Command line:** ping.exe 127.0.0.1 -n 30
3. **Disable in 64 Bit Redirection:** Check this box.

The screenshot shows the configuration for a 'Run Command Line' task. The 'Type' is set to 'Run Command Line', the 'Name' is 'Ping Delay', and the 'Description' is empty. The 'Command line' field contains 'ping.exe 127.0.0.1 -n 30'. The 'Output to task sequence variable' field is empty. The 'Disable 64-bit file system redirection' checkbox is checked. The 'Start in' field is empty with a 'Browse...' button. The 'Package' checkbox is unchecked, with an empty field and a 'Browse...' button. The 'Time-out (minutes)' is set to 15. The 'Run this step as the following account' checkbox is unchecked, with an empty 'Account' field and a 'Set...' button.

[Return to Map](#)

## Dell Cleanup Process

This task needs to be created in the Post Delivery Group it should be the second to last task created in the task sequence as it removes the source files for the task sequence. The only task that should run after it is Bitlocker encryption or tasks that need to modify the partitions like recovery partition setup. If you need access to source files after running this task you need to cache them to the hard drive before running it.

1. **Type:** Run Command Line
2. **Name:** CFI Cleanup
3. **Command line:** cfi\_cleanup.bat
4. **Disable in 64 Bit Redirection:** Check this box.
5. **Start in:** C:\dell\cfi
6. **Options:** Continue On Error

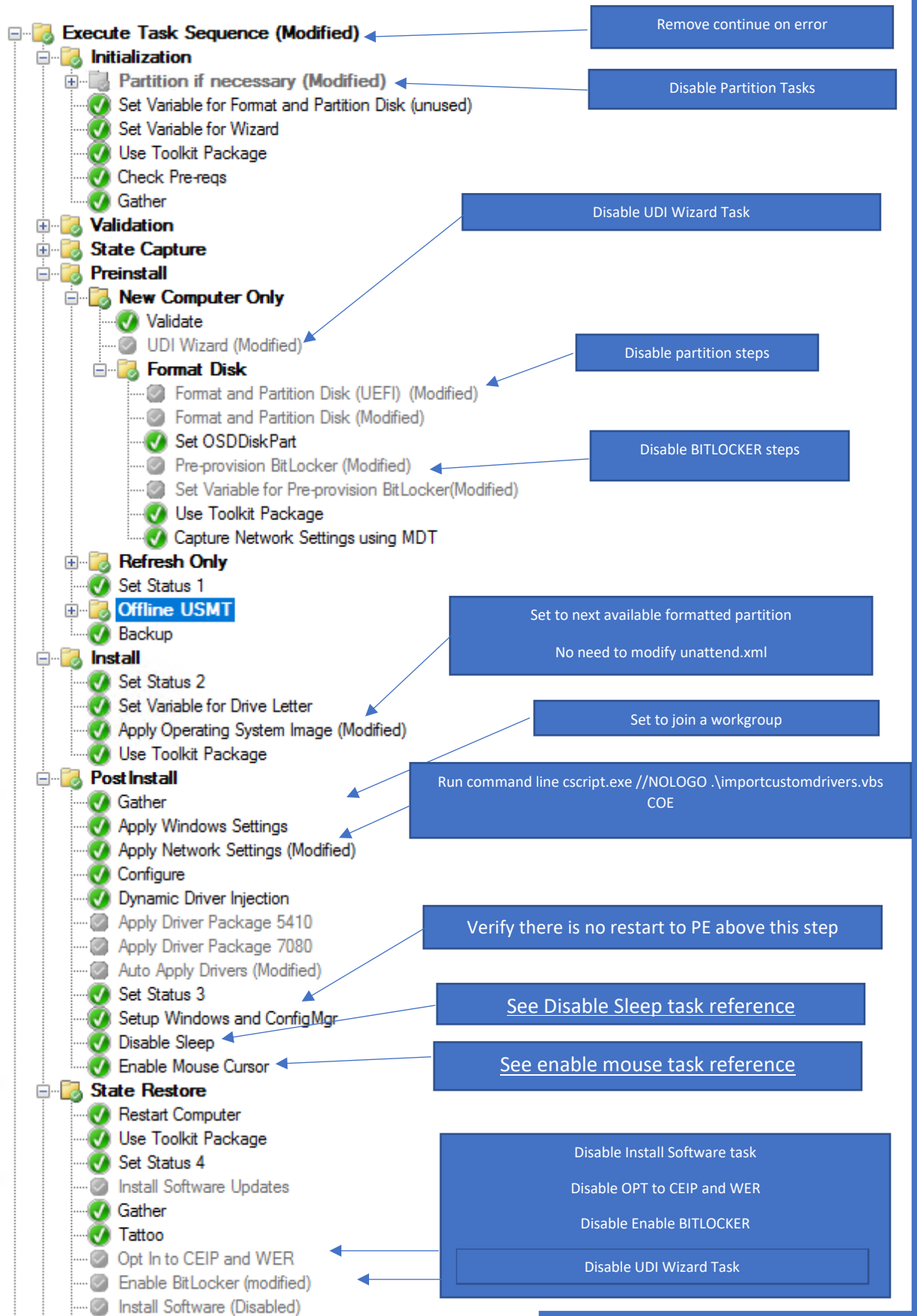
The screenshot shows the 'Task Sequence Editor' window with the 'Options' tab selected. The task is named 'CFI Cleanup' and its command line is 'cfi\_cleanup.bat'. The 'Start in' directory is 'c:\dell\cfi'. The 'Disable 64-bit file system redirection' checkbox is checked. The 'Time-out (minutes)' is set to 15. The 'Run this step as the following account' checkbox is unchecked. The 'Output to task sequence variable' field is empty. The 'OK', 'Cancel', and 'Apply' buttons are at the bottom.

The screenshot shows the 'Disable this step' dialog box. It has a 'Success codes' field with the value '0 3010'. The 'Continue on error' checkbox is checked. Below the checkbox is a list of actions: 'Add Condition', 'Remove', 'Remove All', 'Cut', 'Copy', 'Paste', and 'Set...'. The 'Add Condition' button is highlighted. The message 'There are no items to show in this view.' is displayed at the bottom.

[Return to Map](#)

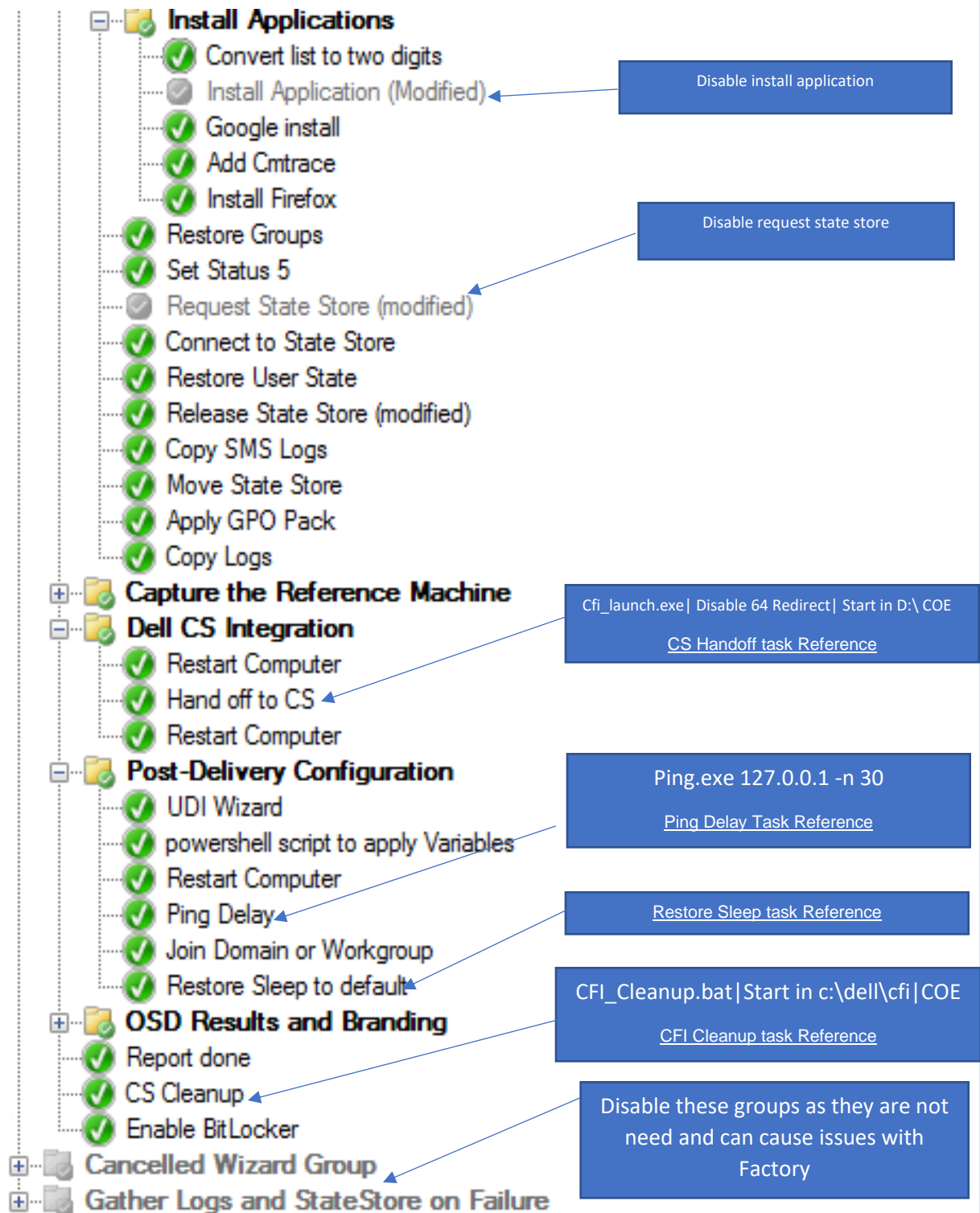
# Config Mgr. BIF MDT integrated Task Sequence Map

Part 1 of 2



# Config Mgr. BIF MDT integrated Task Sequence Map

Part 2 of 2



# Chapter 4

## Optional Task Sequence customizations

# Computer Naming Option 1

## Setting Computer name to Service Tag.

It is recommended you customize the computer name inside the task sequence. This document lists three of the most popular options for changing the computer name. All three scripts are included in the Dell Cfi Toolkit for convenience. Option one reads the service tag from the bios of the system and populates the OSDCOMPUTERNAME variable. Add to task sequence before the Apply windows settings task

### Type: Run Command Line

1. **Name:** Set Computer Name to Service Tag
2. **Command line:** `cscript //nologo .\setname.vbs`
3. **Disable in 64 Bit Redirection:** Check this box.
4. **Package:** Dell CFI Tool Kit

Properties Options

Type: Run Command Line

Name: Set Computer Name to ServiceTag

Description:

Command line:  
`cscript //nologo .\setname.vbs`

Output to task sequence variable:

☒ Disable 64-bit file system redirection

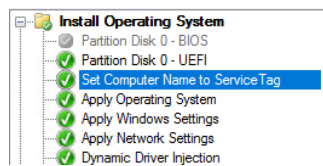
Start in: Browse...

☒ Package:  
Z000000F, Dell CFI ToolKit Browse...

☐ Time-out (minutes): 15

☐ Run this step as the following account  
Account: Set...

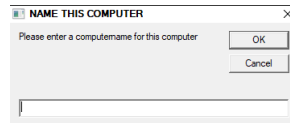
Place this task right after the disabled partition Steps. The Apply Windows Setting Step Applies the OSDCOMPUTERNAME Variable which is set by this script to the Unattend.xml so sysprep can change the computer name.



## Computer Naming Option 2

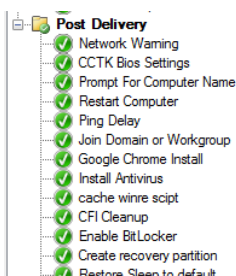
Setting Computer name to input box.

This script is handy for computer name standards that are too difficult to automate. It needs to run in post delivery and will pop up a box for you to type the computer name in. Once you click ok the task will change the name of the system to what you typed in. You must add a Restart computer task after this task



1. **Type:** Run Command Line
2. **Name:** Prompt for Computer Name
3. **Command line:** `cscript //nologo .\setcnametoinput.vbs`
4. **Disable in 64 Bit Redirection:** Check this box.
5. **Package:** Dell CFI Tool Kit

Place this task in Post Delivery. I would do it right after network warning or close to it but before domain join. Place a restart computer task after this task.



## Computer Naming Option 3

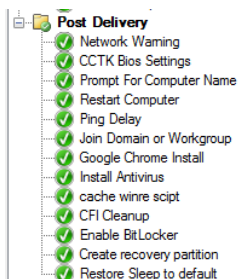
changes the computer name to OSDCOMPUTERNAME variable.

This script is used to change the computer name of the system running the task sequence to what is in the OSDCOMPUTERNAME Variable. Most user interfaces (UI) will run in the beginning of the task sequence and set the OSDCOMPUTERNAME variable and rely on sysprep process to make the change on the computer. Since we need to move the UI to post delivery after sysprep runs in boot in the factory task sequences we can run this script after the user interface task to make the changes for you. This script changes the computer name of the system to what is set in the OSDCOMPUTERNAME Variable. This task needs a restart computer task added after it.

1. **Type:** Run Command Line
2. **Name:** change computer name to variable
3. **Command line:** cscript //nologo .\setnamevar.vbs
4. **Disable in 64 Bit Redirection:** Check this box.
5. **Package:** Dell CFI Tool Kit

The screenshot shows the 'Properties' tab of a task sequence step. The 'Type' is 'Run Command Line'. The 'Name' is 'change|computename to Variable'. The 'Description' is empty. The 'Command line' is 'cscript //nologo .\setnamevar.vbs'. The 'Output to task sequence variable' is empty. The 'Disable 64-bit file system redirection' checkbox is checked. The 'Start in' field is empty with a 'Browse...' button. The 'Package' checkbox is checked, and the package name is 'Z000000F, Dell CFI ToolKit' with a 'Browse...' button. The 'Time-out (minutes)' is set to 15. The 'Run this step as the following account' checkbox is unchecked, and the 'Account' field is empty with a 'Set...' button.

Place this task in Post Delivery. I would do it right after network warning or close to it but before domain join. Place a restart computer task after this task.





## Adding a Recovery Partition

(Optional)

Dell Factory standard partitioning is locked in and can't be modified in the factory. You can add an additional partition if you run the task after the cfi\_cleanup.bat task which ends the factory process but note after this task the task sequence source files are gone so any task will need to reference files cached on the c drive or run with no source. This task will create the Recovery partition and activate it.

Partition ###	Type	Size	Offset
-----	-----	-----	-----
Partition 1	System	2048 MB	1024 KB
Partition 2	Reserved	128 MB	2049 MB
Partition 3	Primary	463 GB	2177 MB

You can run a partitioning script after the CFI\_Cleanup.bat task to add a Windows Recovery partition if desired.

1. First you need to cache the DISKPART script to the local machine as the package source will be gone after cfi\_cleanup.bat runs.

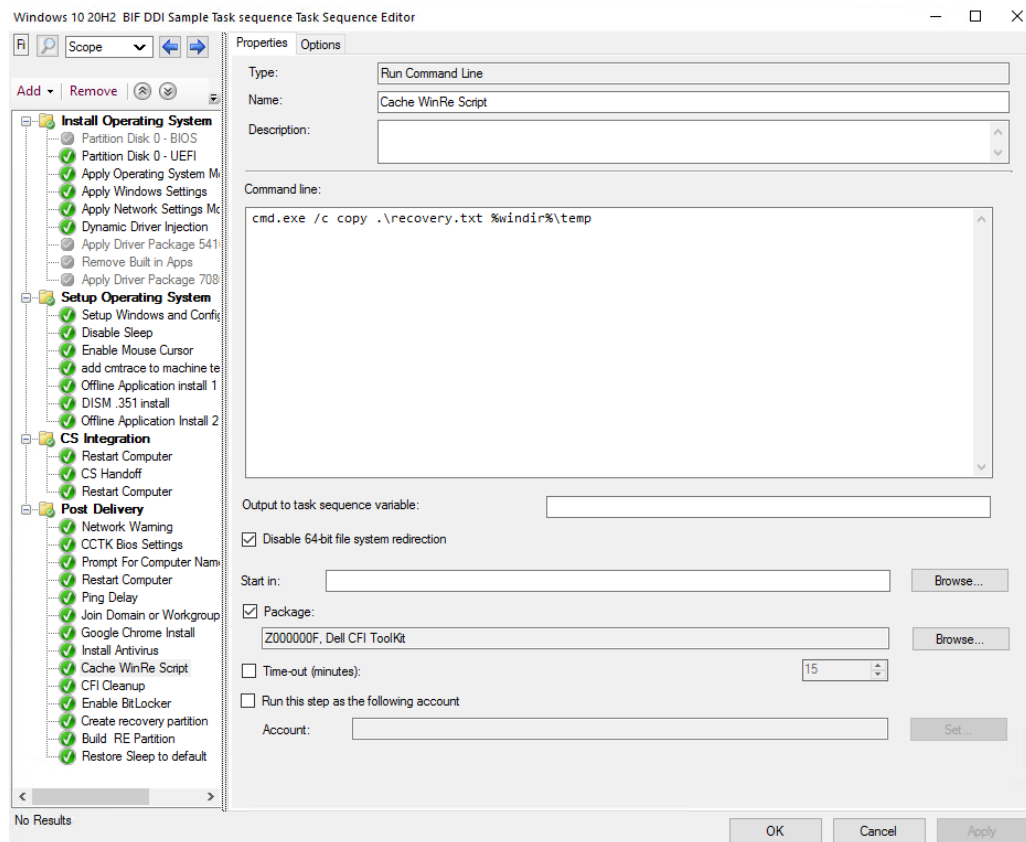
**Task Type:** Run Command Line

**Command Line:** cmd.exe /c copy .\recovery.txt %WINDIR%\temp

**Package:** CFI Toolkit Package

**Check Disable 64 bit Redirection**

**Placement:** Run before cfi\_cleanup.bat



## Adding a Recovery Partition (Continued)

(Optional)

Step you create the WinRE partition after CFI\_Cleanup.bat file runs.

**Type:** Run Command Line

**Command Line:** DISKPART /s %WINDIR%\temp\recovery.txt

**Check Disable 64-bit File Redirection**

The screenshot shows the 'Run Command Line' task configuration window. The 'Type' is 'Run Command Line'. The 'Name' is 'Create recovery partition'. The 'Description' is empty. The 'Command line' field contains the command: `diskpart /s %WINDIR%\temp\recovery.txt`. The 'Output to task sequence variable' field is empty. The 'Disable 64-bit file system redirection' checkbox is checked. The 'Start in' field is empty with a 'Browse...' button. The 'Package' field is empty with a 'Browse...' button. The 'Time-out (minutes)' is set to 15. The 'Run this step as the following account' checkbox is unchecked, and the 'Account' field is empty with a 'Set' button.

lastly you need to Disable and then Reactivate the WinRE partition

**Type:** Run PowerShell Script

**Powershell Execution policy:** Bypass

**Script Type:** Enter PowerShell script (click the Edit Script Button)

Note the Code can be copied/pasted from the buildwinre.txt file located in the Dell Toolkit package source directory See [Dell Tool Kit for Reference](#).

The screenshot shows the 'Run PowerShell Script' task configuration window. The 'Type' is 'Run PowerShell Script'. The 'Name' is 'Build RE Partition'. The 'Description' is empty. The 'Select a package with a PowerShell script' radio button is unselected. The 'Package' field is empty with a 'Browse...' button. The 'Script name' field is empty. The 'Enter a PowerShell script' radio button is selected. The 'Edit Script...' button is highlighted. The 'Script status' is 'Script is entered.'. The 'PowerShell execution policy' is set to 'Bypass'. The 'Parameters' field is empty. The 'Start in' field is empty. The 'Time-out (minutes)' checkbox is unchecked. The 'Run this step as the following account' checkbox is unchecked, and the 'Account' field is empty. The 'Script' field contains the following PowerShell code:

```
1 $REAgentClog = "$env:SystemDrive\windows\temp\reagentc.log"
2 Start-Process "reagentc.exe" -Argumentlist "/disable /logpath $reagentclog"
3 sleep -seconds 15
4 Start-Process "reagentc.exe" -Argumentlist "/enable /logpath $reagentclog"
5 Sleep -Seconds 15
```

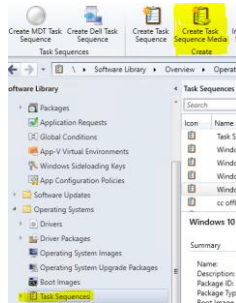
On the left side of the screenshot, a list of tasks is visible, including 'Install Operating System', 'Setup Operating System', 'CS Integration', and 'Post Delivery'. The 'Post Delivery' section is expanded, showing tasks like 'Network Warning', 'CCTK Bios Settings', 'Prompt For Computer Name', 'Restart Computer', 'Ping Delay', 'Join Domain or Workgroup', 'Google Chrome Install', 'Install Antivirus', 'Cache WinRe Script', 'CFI Cleanup', 'Enable BitLocker', 'Create recovery partition', 'Build RE Partition', and 'Restore Sleep to default'.

## ISO Creation steps for upload to Dell

Use the create task sequence media process to generate the ISO file need for upload to Dell.

Navigate to the Software Library pane in the Configuration Manager Console

Select Task Sequences click on Create Task Sequence Media button in the ribbon display



Select Stand-alone media and Check Allow unattended operating system deployment Click Next

A screenshot of the 'Specify the media type' dialog box. The 'Stand-alone media' radio button is selected. Below it, the text reads: 'Creates media used to deploy operating systems without network access.' Other options include 'Bootable media', 'Capture media', and 'Prestaged media'. At the bottom, there is a checkbox labeled 'Allow unattended operating system deployment' which is checked. A note above it states: 'Select this checkbox to enable unattended operating system deployment. An unattended operating system deployment does not prompt for network configuration or optional task sequences.'

Select unlimited on Media Size- Select a Download and staging path with enough space to hold the media. Use a file name that is lower case with no space. Click Next

A screenshot of the 'Specify the media type' dialog box. The 'CD/DVD set' radio button is selected. The 'Media size' dropdown is set to 'Unlimited'. The 'Media file' field contains 'c:\temp\dellcf.iso'. The 'Staging folder' field contains 'C:\Temp'. The 'Media label' field contains 'Configuration Manager'. The 'Include autorun.inf file on media' checkbox is unchecked.

## ISO Creation steps for upload to Dell (Continued)

Remove protect media with a password button and click next.

Select security settings for the media

Specify a password to protect task sequence media.

☐ Protect media with a password:

Password:

Confirm password:

☐ Select date range for this stand-alone media to be valid

Set start date:

Set expiration date:

Browse and select Task Sequence you want to Deploy with Media and click Next.

The selected task sequence will run from this media.

Task sequence:

This task sequence references the following content:

Filter...

Name	Type	Package ID	Version	Comment	Dependency
Configuration M...	Package	Z0000003		This packag...	No
Boot image (x64)	Boot Image	Z0000005	10.0.1904...	This boot im...	No
Google Chrome	Package	Z0000008			No
filezilla	Package	Z000000A			No
Dell CFI Toolkit	Package	Z000000F			No
Windows 10 Ent...	Operating ...	Z000003C			No
windows 10 200...	Package	Z0000050			No

☒ Detect associated application dependencies and add them to this media

Click next on Applications and Packages leaving them as Default

Select application content to add

Select additional application content that is not explicitly referenced by selected task sequence to be included on this stand-alone media.

Select application content:

Filter...

Name	Package ID	Version	Size (MB)	Dependency
There are no items to show in this view.				

Select package content to add

Select additional package content that is not explicitly referenced by selected task sequence to be included on this stand-alone media.

Select package content:

Filter...

Name	Package ID	Version	Size (MB)
There are no items to show in this view.			

Click next on Drivers

Note if using Driver injection make sure this screen is empty if not click cancel go back in task sequence and verify you don't have any driver packages enabled to deploy.

Select driver package content to add

Select additional driver package content that is not explicitly referenced by selected task sequence to be included on this stand-alone media.

Select driver package content:

Filter...

Name	Package ID	Version	Size (MB)
There are no items to show in this view.			

## ISO Creation steps for upload to Dell (Continued)

Select a Distribution point that has all of the packages and is close to the machine you are running this Build on. Click Add and then next.

Select the distribution points for the media

Available distribution points containing content required by the task sequence:

Filter...	Distribution Point	Site	Packages
	\\SCCMDP01.abc.com	Z00	5 of 7

Add Remove

Selected distribution points containing content required by the task sequence:

Filter...	Distribution Point	Site	Packages
	\\ABCSSCCM.abc.com	Z00	7 of 7

Click the Yellow button and add the Variable CFI = True click ok and Next

Customize the task sequence media

Specify the variables to use during the task sequence deployment. You can also enable a prestart command that will run prior to the task sequence.

Variables:

Name	Value
<New> Variable	
Define the variable and its associated value.	
Name:	CFI
<input type="checkbox"/> Specify the value and the value settings.	
<input type="checkbox"/> Do not display this value in the Configuration Manager console	
Value:	True
Confirm value:	
OK Cancel	

Click Next and build the iso file. Click close when Completed Successfully

Confirm the settings

Details:

Task sequence media information

- Media type: CD/DVD set
- Media size: Unlimited
- Output path: C:\temp\delldcf.iso
- Folder to stage temporary data: C:\Temp
- Media label: Configuration Manager
- Create autorun.inf file: False
- Allow unattended operating system deployment: Yes
- Protect media with password: No
- Task sequence: Z0000047-Windows 10 2004 BIF DDI Sample Task sequence
- Variable: CFI=True
- Prestart command: No
- Distribution point(s): ABCSSCCM.ABC.COM
- Total size of media content, MB: 4663
- Media creation log: C:\Program Files (x86)\Microsoft Configuration Manager\AdminConsole\AdminUILog\CreateTsMedia.log

To change these settings, click Previous. To apply the settings, click Next.

The Create Task Sequence Media Wizard completed successfully

Details:

Success: Task sequence media information

- Media type: CD/DVD set
- Media size: Unlimited
- Output path: E:\offlinemedia\install.iso
- Folder to stage temporary data: E:\temp
- Media label: Configuration Manager
- Create autorun.inf file: False
- Allow unattended operating system deployment: Yes
- Protect media with password: No
- Task sequence: Z0000047-Windows 10 2004 BIF DDI Sample Task sequence
- Variable: CFI=\*\*\*\*\*
- Prestart command: No
- Distribution point(s): ABCSSCCM.ABC.COM
- Total size of media content, MB: 4663
- Media creation log: C:\Program Files (x86)\Microsoft Configuration Manager\AdminConsole\AdminUILog\CreateTsMedia.log
- SHA256 checksums:  
E:\offlinemedia\install.iso  
02CF2DB837DA0D407FB1D73A4995E28E6BF93D33A8F4314D7020ABF6BA51CB50

To exit the wizard, click Close.