Dell CS Smoke Testing Win10 SCCM Task Sequence
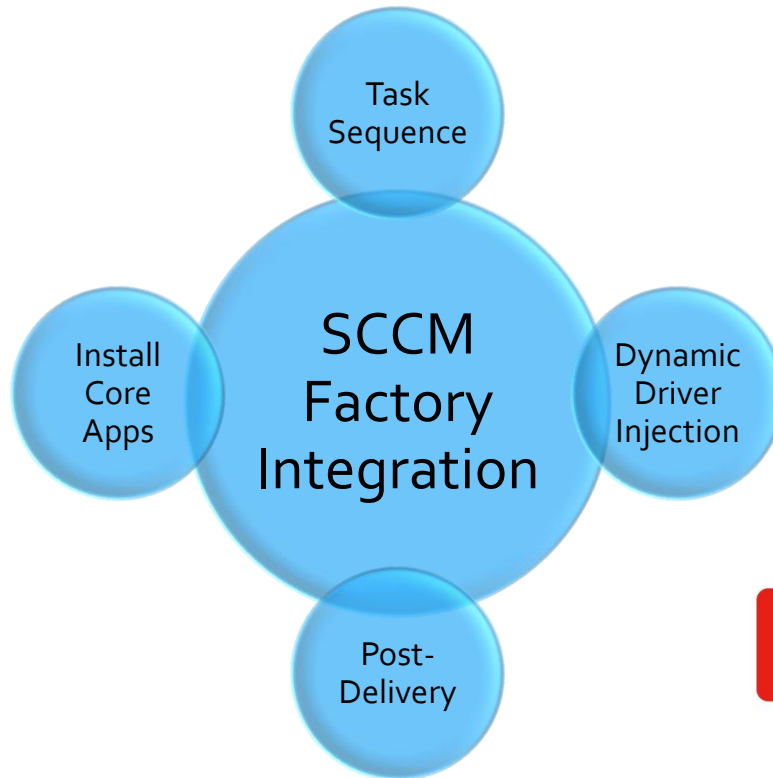
Task Sequence

Install Core Apps

SCCM Factory Integration

Dynamic Driver Injection

Post-Delivery

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July 2019

- 22 years experience in IT – Deployment Engineer @ DellTech
- SCCM, Azure/Intune, Workspace One Expert
- Windows 10 / Server Security & OS Deployment

Agenda

- **What is Dell Configuration Services – Overview**
  - **SCCM Boot in Factory**
  - **SCCM Dell™ Connected Configuration (aka Connected Config)**

- **Dell SCCM Boot In Factory Requirements (Formally known as CFI)**

- **Demo CS Integration in Win10 SCCM Task Sequence (SCCM Boot in Factory)**

- **Demo CS Smoke Test (SCCM Boot in Factory)**

- **Recap / Next Steps**

- **Smoke Testing Troubleshooting / Gotchas**

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What's the big deal with Dell CS?
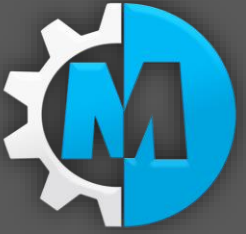
- Image Dell hardware as part of the factory ordering process (Post-Delivery task run On-prem after unboxing shipped device – Bitlocker, Domain Join, other on-prem network based tasks)

- Leveraging the Dell factory to execute an <u>offline</u> SCCM Standalone media Windows 10 OSD, the Admin will save time and network resources (No SCCM MP client communication)

- Leverage Configuration Manager to reduce the number of OS images your company must create and manage

- Perform core software installs & Business Unit app Personas based on business rules

Dell CS Process Overview (SCCM Boot in Factory)

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
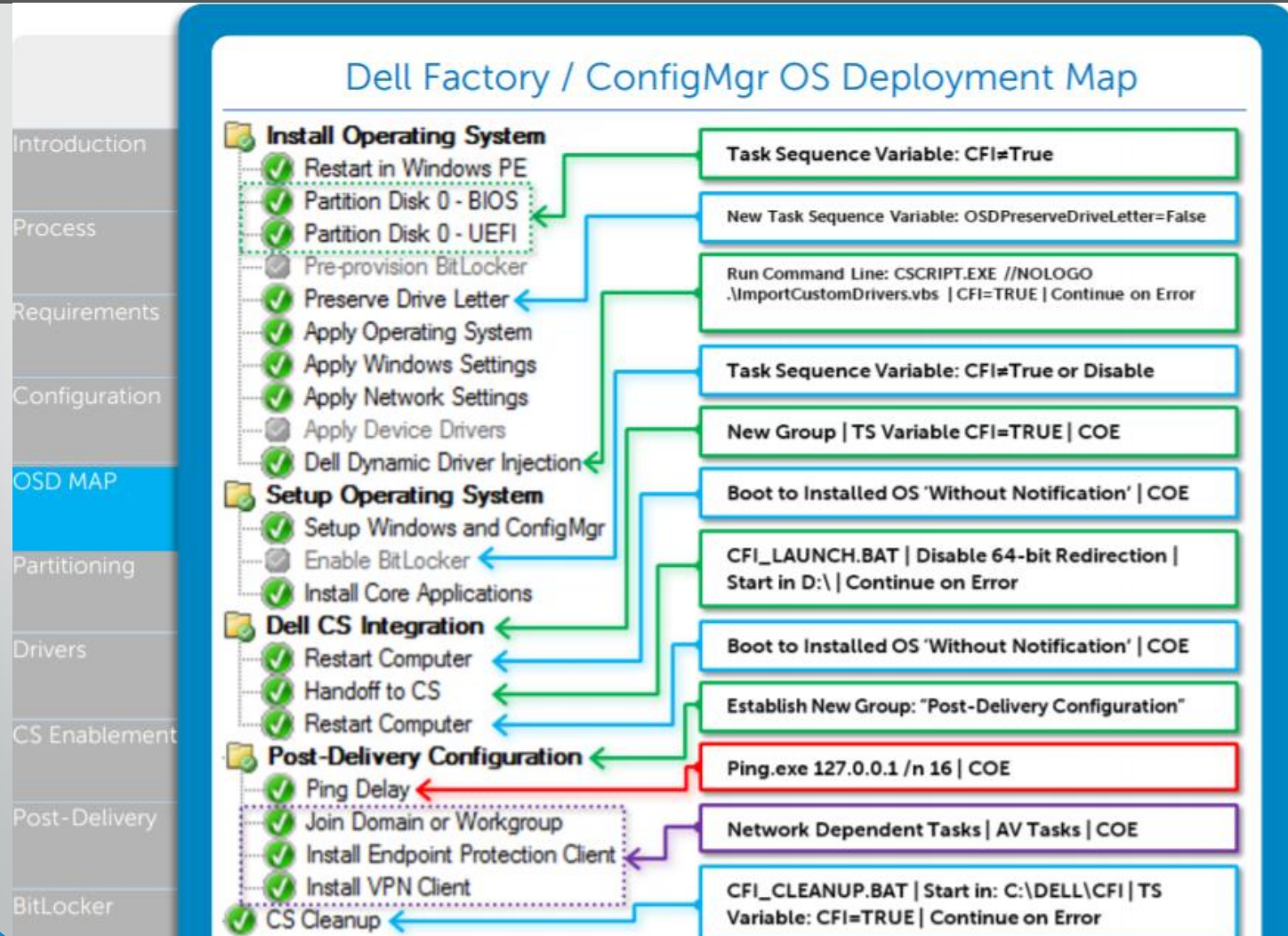
Step 7:
The end user receives their system, connects it to your network and powers it on

Step 8:
The build process continues with any steps that require network connectivity (e.g. joining domain) before allowing the user to logon

Note: Order a Dell CS "1st Article" laptop/desktop when you're ready to submit a SCCM Win10 task sequence ISO after smoke test on premise.

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Dell CS Process Overview (SCCM Boot in Factory)

Dell Factory / ConfigMgr OS Deployment Map

Install Operating System
- ✅ Restart in Windows PE
- ✅ Partition Disk 0 - BIOS
- ✅ Partition Disk 0 - UEFI
- ⚪ Pre-provision BitLocker
- ✅ Preserve Drive Letter
- ✅ Apply Operating System
- ✅ Apply Windows Settings
- ✅ Apply Network Settings
- ⚪ Apply Device Drivers
- ✅ Dell Dynamic Driver Injection

Setup Operating System
- ✅ Setup Windows and ConfigMgr
- ⚪ Enable BitLocker
- ✅ Install Core Applications

Dell CS Integration
- ✅ Restart Computer
- ✅ Handoff to CS
- ✅ Restart Computer

Post-Delivery Configuration
- ✅ Ping Delay
- ✅ Join Domain or Workgroup
- ✅ Install Endpoint Protection Client
- ✅ Install VPN Client
- ✅ CS Cleanup

Task Sequence Variable: CFI≠True

New Task Sequence Variable: OSDPreserveDriveLetter=False

Run Command Line: CSCRIPT.EXE //NOLOGO .\ImportCustomDrivers.vbs | CFI=TRUE | Continue on Error

Task Sequence Variable: CFI≠True or Disable

New Group | TS Variable CFI=TRUE | COE

Boot to Installed OS 'Without Notification' | COE

CFI_LAUNCH.BAT | Disable 64-bit Redirection | Start in D:\ | Continue on Error

Boot to Installed OS 'Without Notification' | COE

Establish New Group: "Post-Delivery Configuration"

Ping.exe 127.0.0.1 /n 16 | COE

Network Dependent Tasks | AV Tasks | COE

CFI_CLEANUP.BAT | Start in: C:\DELL\CFI | TS Variable: CFI=TRUE | Continue on Error

Introduction

Process

Requirements

Configuration

OSD MAP

Partitioning

Drivers

CS Enablement

Post-Delivery

BitLocker

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Dell Connected Configuration Service

Perform real-time configuration updates directly inside our configuration center.

Offer Highlights:

- Secure VPN connection to Dell's facilities
- Customer extends their network infrastructure to Dell
- Customer data remains on their servers

- Real-time configuration updates
- Ship completely configured system to end users
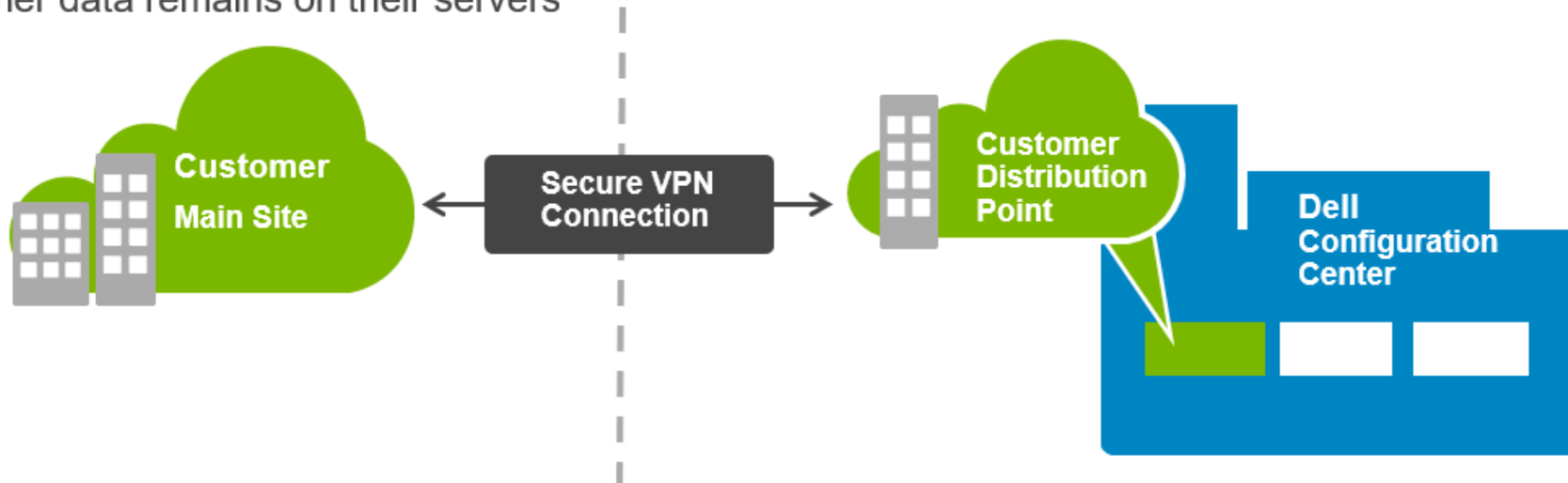
Customer Main Site ← Secure VPN Connection → Customer Distribution Point   Dell Configuration Center

Dell Connected Configuration Service

Assumptions & Boundaries

- Customer ready to support setup & technology
- Approx. up to 5 min operator setup time
- Approx. up to 4 hour processing time
- Shared leased line connection to Dell Configuration Center
- 5mbit/sec connection per solution
- Single IPSEC VPN connection per Dell Configuration Center
- Burn capacity allocation is evaluated based on customers volume requirements
- Subject to assumed change request management and service availability levels

ProDeploy Plus

Connected Configuration Standalone

Shared Virtualized Hosting

- Customer configured, provided & managed VM
- Hyper-V VM hosted on Dell Managed Infrastructure
- SCCM support (incl MDT integrated with SCCM)
- VPN: Dell and Customer shared responsibility

Dedicated Hardware Hosting

- Customer configured, provided & managed hardware
- Rack mountable (or have rails)
- 4U of rack space
- 3-4 devices: Firewall(1U), Server(1U or 2U), 1 or 2 network switches(1U)

Dell CS Process Smoke Test Requirements (SCCM Boot in Factory)

- Create MDT SCCM Integrated task sequence for Windows 10 (Newer SCCM 1806+, ADK 1809, Dell WINPE A13 Drivers in boot image) – 1902 + Hotfixes ✔

- Create 2x separate SCCM-MDT custom boot image with command prompt "F8" DISABLED/ENABLED

- Copy existing SCCM Win10 task sequence – rename to "CFI Test" at end of name

- Run SCCM "Create Task Sequence Media Wizard – Confirm "CFI=True" variable used

- Use Rufus to burn ISO to USB media

- Copy "Cr_Format_Disk_Partitions-UEFI.cmd" & "CreatePartitions-UEFI.txt" to root of USB drive.

- Copy / Extract Dell laptop or desktop enterprise CAB driver to USB root folder "DellDrivers".

- https://www.dell.com/support/article/us/en/04/sln312414/dell-command-deploy-driver-packs-for-enterprise-client-os-deployment?lang=en

- Disconnect ethernet cable before running TS Wizard!!!

SCCM Task Sequence:

Dell CFI Conditions ("Hooks")
==CFI=True== or
==CFI≠True== on
applicable TS steps/Groups

Dell CS Process DEMO/Step-By-Step (SCCM Boot in Factory)
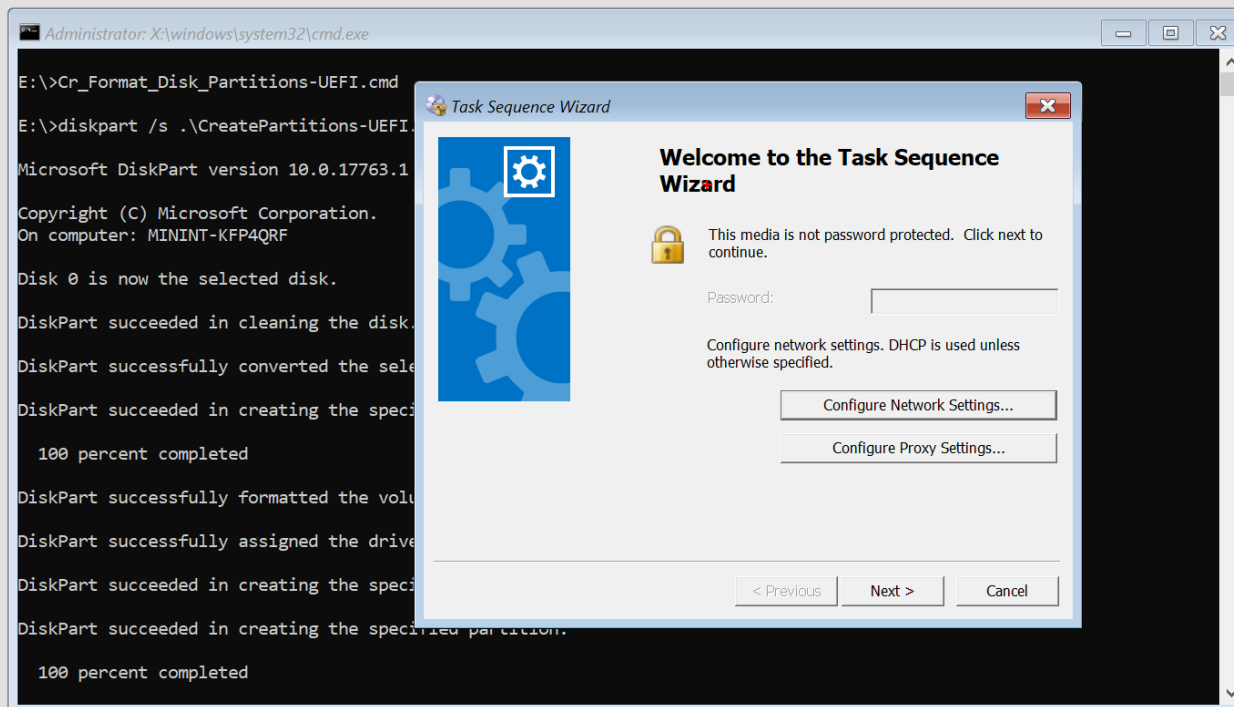
Run Script from F8 command:
Cr_Format_Disk_Partitions-UEFI.cmd

Note: Disconnect Ethernet Cable now...

Dell CS Process DEMO/Step-By-Step (SCCM Boot in Factory)

CMD script running:
Cr_Format_Disk_Partitions-UEFI.cmd

GPT partitioning / Copy Dell hardware Drivers to "**Scratch**" partition.

NOTE: **T:** Drive will be created as part of the Dell Smoke test ONLY. Dell factory handles GPT partitioning via secret sauce. Safe to ignore this when testing after logging into Windows 10 the first time after smoke test completes.

Dell CS Process DEMO/Step-By-Step (SCCM Boot in Factory)

Note: Close command line after partitioning script and Dell drivers copy/staging are done. Click "Next", "Next" to begin.
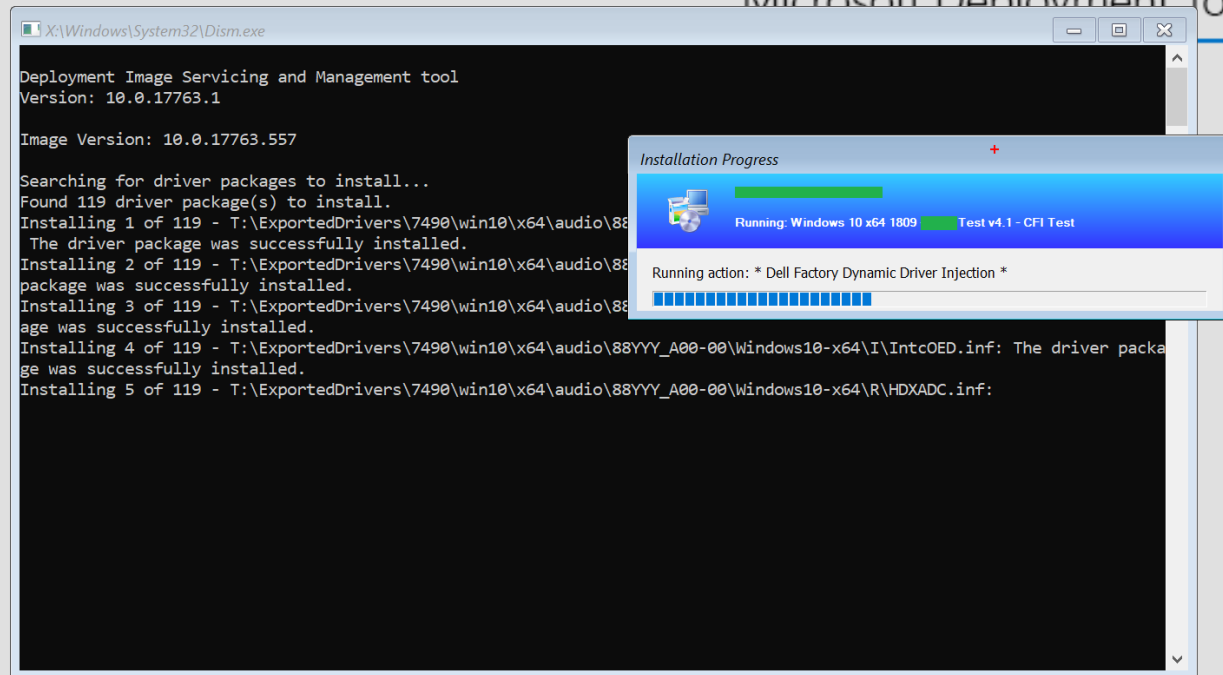
Note: Disconnect ethernet cable before running TS Wizard!!!
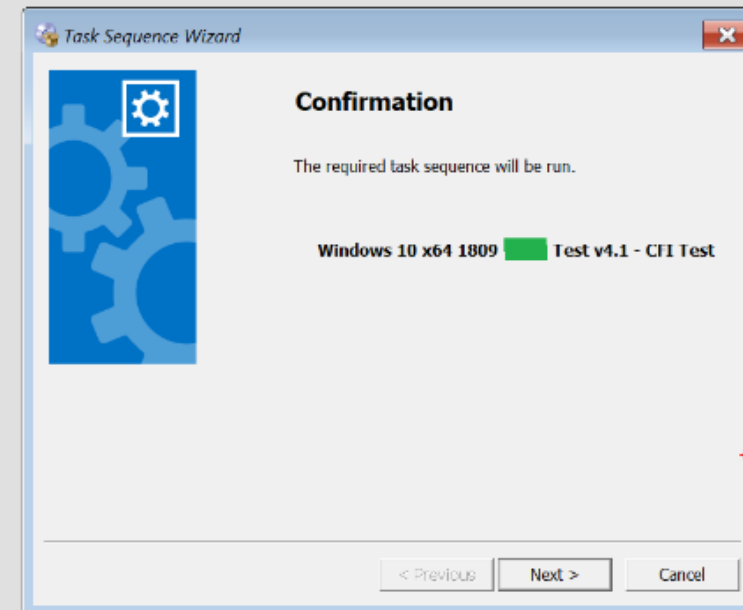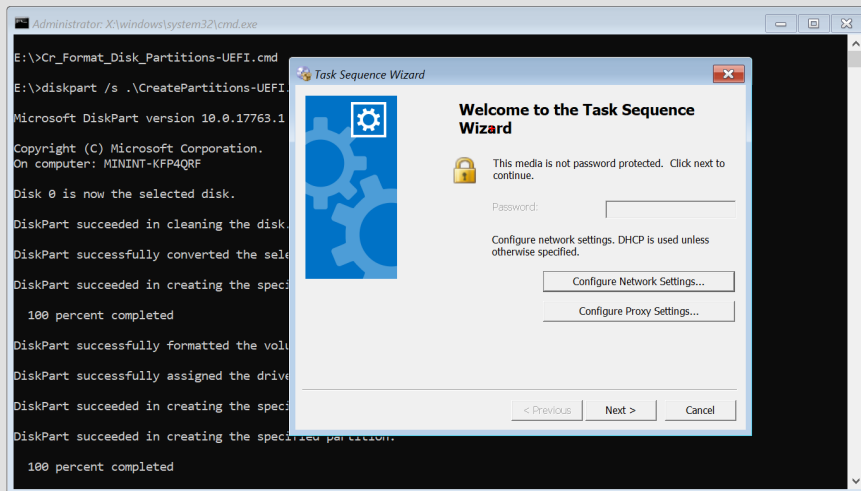
Dell CS Process DEMO/Step-By-Step (SCCM Boot in Factory)

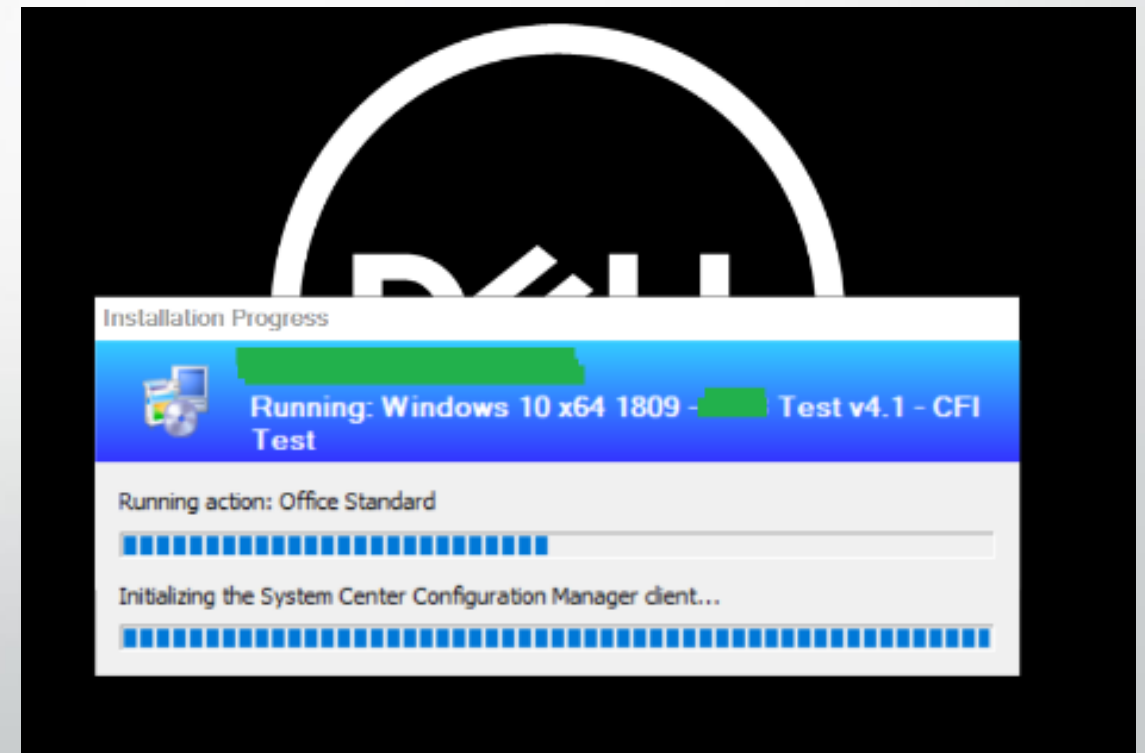**Note:** Dell Dynamic Drivers injection step of the WINPE phase...

NOTE: Assumes you ran the command line script that copies extracted Dell Enterprise CABs to root of USB drive.

Dell CS Process DEMO/Step-By-Step (SCCM Boot in Factory)

Note: Win10 custom WIM installs, Core apps, Windows 10 customizations, etc run after WINPE phase, first boot to Windows.

Installation Progress

Running: Windows 10 x64 1809 — Test v4.1 – CFI Test

Running action: Apply Operating System Image

Applying image 1 from Win10 x64 1809 17763.557.wim

Installation Progress

Running: Windows 10 x64 1809 – Test v4.1 – CFI Test

Running action: Office Standard

Initializing the System Center Configuration Manager client...
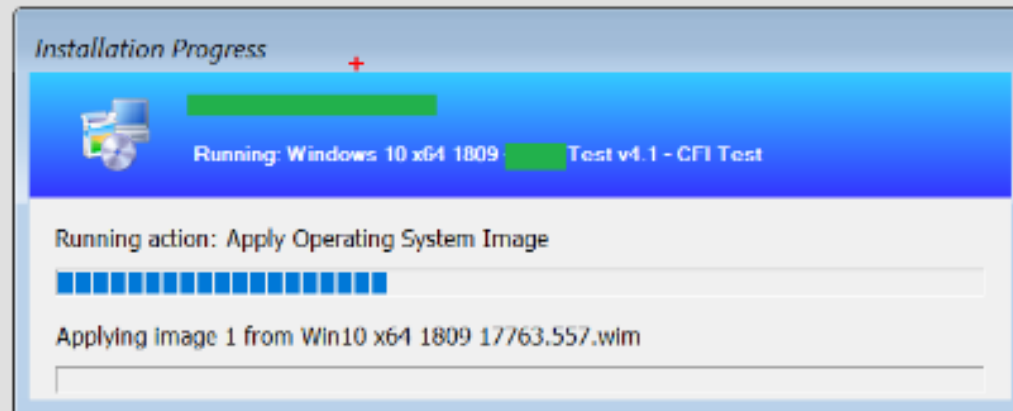
Dell CS Process DEMO/Step-By-Step (SCCM Boot in Factory)

Step 7:
The end user receives their system, connects it to your network and powers it on

Step 8:
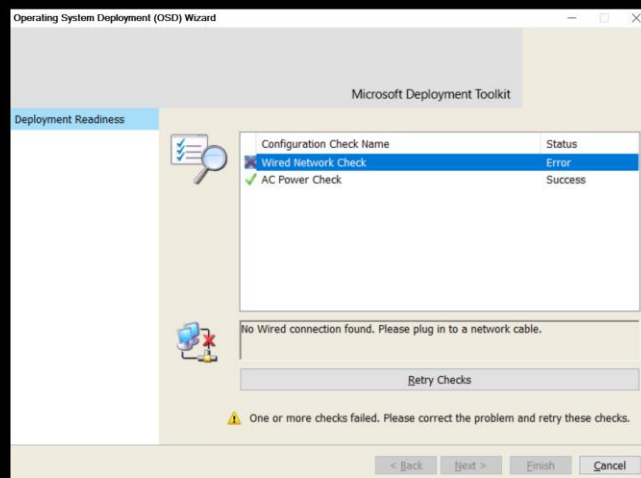The build process continues with any steps that require network connectivity (e.g. joining domain) before allowing the user to logon

"POST-Delivery" TS step to check AC Power and Network Connection

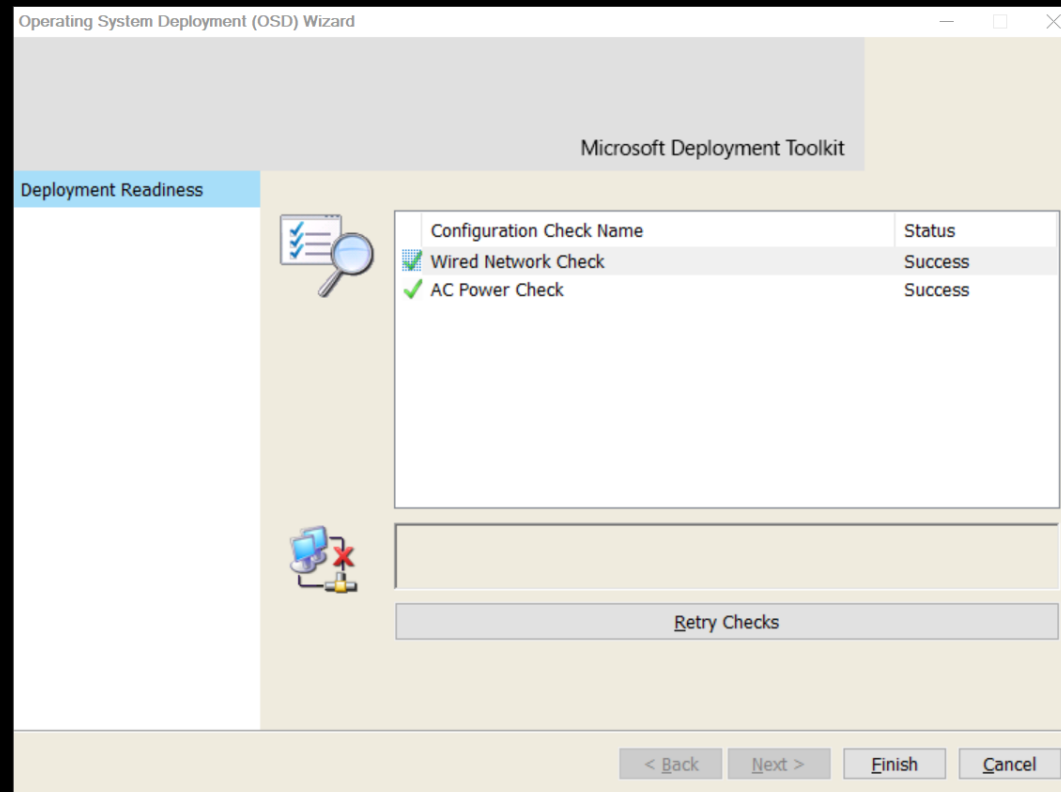**NOTE:** Check cannot validate IP address is assigned so confirm no NAC/NAP policy is blocking the MAC address on device.

Add ping delay after cable/AC check step – "Continue on Error":

ping 127.0.0.1 /n 60

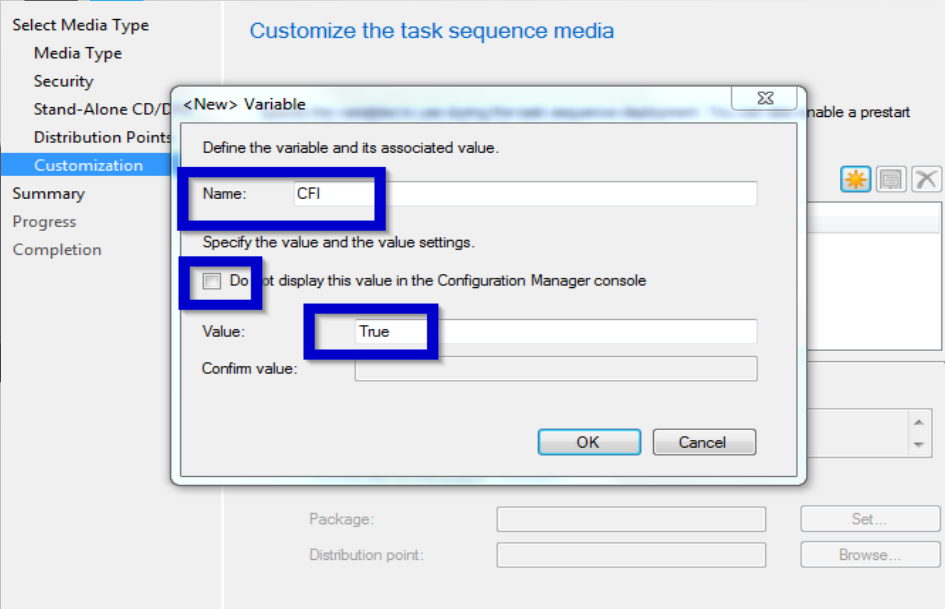# Dell CS Process DEMO/Step-By-Step (SCCM Boot in Factory)

NOTE: Deployment Readiness check of AC Power & Network Connection Success.

SCCM task sequence continues after this check.

Dell CS Process Recap / Next Steps (SCCM Boot in Factory)

- Add "CFI=True" or "CFI NOT True" logic to WINPE and other applicable phases of your SCCM Windows 10 task sequence.
- Validate your SCCM packages / Apps are 100% silent install with no UNC install share paths.
- Work with Dell Sales POC for SCCM Boot in Factory project creation

Customize the task sequence media

<New> Variable

Define the variable and its associated value.

Name: CFI

Specify the value and the value settings.

Do not display this value in the Configuration Manager console

Value: True

Confirm value:

OK   Cancel

Package: Set...

Distribution point: Browse...

Pre-requisite Requirements CFI Submission (High-Level)

1. Create Task Sequence Media Wizard for _Standalone_ CFI media using the proper values below per Dell CFI whitepaper document page 17 linked above. See exact screenshot steps below.
   - Select Stand-alone media
   - **DON'T Select "Allow unattended operating system deployment" (For Smoke test leave this UNCHECKED, but for the project factory submission, CHECK this option as instructed.**
   - Select CD/DVD Set
     » **Media Size = Unlimited**
   - Deselect Protect Media with a Password checkbox
   - Select a Dell CFI CS enabled Task Sequence to be used for factory deployment
   - At Customizations box, click New Variable button
     » **Name = CFI**
     » **Value = True**

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- Confirm your AD Domain Join Service Account has proper permissions

- Add "CFI=True" or "CFI NOT True" logic to WINPE and other applicable phases of your SCCM Windows 10 task sequence steps / Groups.

- Validate your SCCM packages / Apps are 100% silent install with <u>no</u> UNC install share paths.

- Add ping 127.0.0.1 -n 120 command for ping delay if you have slow DHCP IP assignment or to troubleshoot NAC/NAP network layer device enforcement

- Add a AC Power / NIC Connection Deployment Check LTI / GUI via UI++ , PowerShell script or UDI custom page.

- Use known good USB flash drive media with fast read / write (Example: <u>SanDisk EXTREME</u>).

- Confirm Rufus is not blocked by AV/Security policy or Host Intrusion apps.

Dell CS / Configuration Services (URL Web References)

- **Configuration Services Factory Imaging Solutions**
  - https://www.dell.com/support/article/us/en/04/sln310742/configuration-services-factory-imaging-solutions?lang=en

- **Dell Factory Imaging and Microsoft SCCM OSD (White Paper Detailed steps)**
  - https://www.dell.com/support/article/us/en/04/sln310856/dell-factory-imaging-and-microsoft-sccm-osd?lang=en

- **Dell Factory Imaging and Microsoft Deployment Toolkit (MDT)**
  - https://www.dell.com/support/article/us/en/04/sln311103/dell-factory-imaging-and-microsoft-deployment-toolkit?lang=en

- **Dell Command | Deploy Driver Packs for Enterprise Client OS Deployment**
  - https://www.dell.com/support/article/us/en/04/sln312414/dell-command-deploy-driver-packs-for-enterprise-client-os-deployment?lang=en

- **Modern Deployment GitHub repositories for Dell CFI Smoke Test scripts**
  - https://github.com/supportmodern/Dell_CFI

- **Correct Domain Join Account Permissions**
  - https://www.moderndeployment.com/correct-domain-join-account-permissions/

Thanks!!!

Click Here

July 2019

- 22 years experience in IT – Deployment Engineer @ DellTech
- SCCM, Azure/Intune, Workspace One Expert
- Windows 10 / Server Security & OS Deployment

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