Windows Autopilot
Don't let the perfect be the enemy of the better

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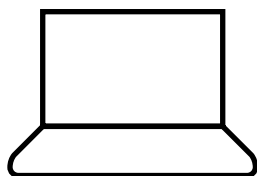- Mail: rop@apento.com
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Agenda

- Windows Autopilot Overview

- A successful Proof-Of-Concept

- Device Registration
  - Working OEM / Partner

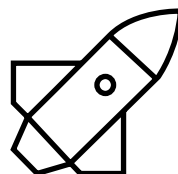- Existing devices

- Apps and Policies

- Tip & Tricks

Modern Windows deployment

Un-box and turn
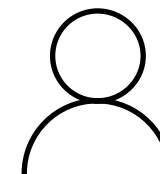on
off-the-shelf
Windows PC

+

Transform with
minimal
user interaction

=

Device is ready
for productive use

OEM-optimized Windows 10

\+ Software

\+ Settings

\+ Updates

\+ Features

\+ User data

_____

Ready for productive use

Windows Autopilot overview

Device IDs

Windows Autopilot

Autopilot profile sync

Device sync

Intune

Profile download

Configure Windows Autopilot profile

IT Admin

Hardware Vendor

Ship

Deliver direct to Employee

Employee unboxes device, self-deploys
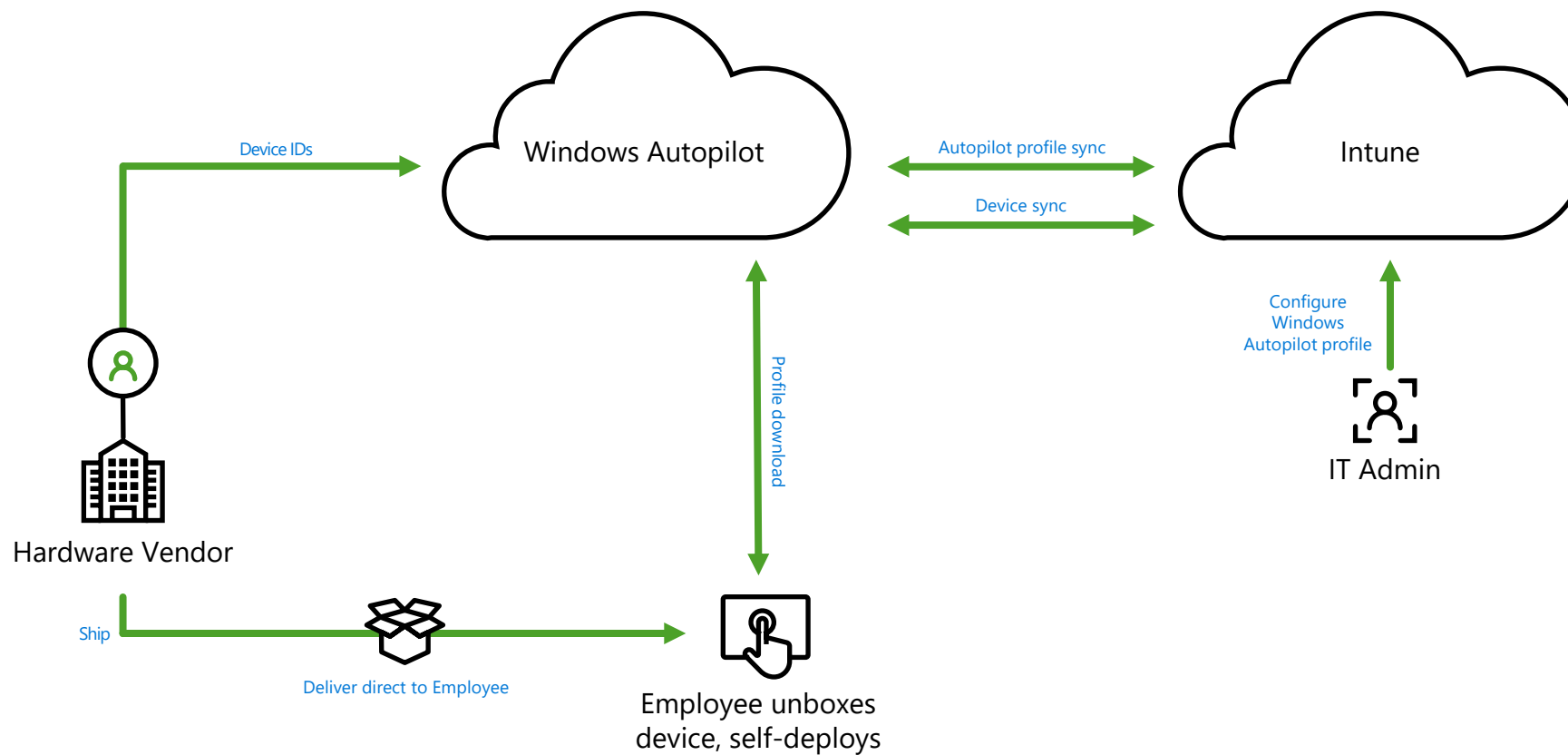
User-driven Deployment:
End User Experience

Project Overview

Pilot Users and Project Scope

Register devices (New and existing)

Assign profile, Applications and Policies

Deploy and Evaluate the PoC

Pilot Users and Project Scope

Keep it simple...

Start with a "simple" Pilot

Typical requirements for a Proof of Concept (Phase 1)

- User-driven Azure AD Domain Joined
  - Self-deploying can be more complex for some customers

- Deployment of Office 365 Apps and Software Updates

- Local administrative rights?

- Co-managed by both Intune and SCCM?

- Focus on new devices only (Focus on existing devices in the 2nd or 3rd phase).

- Just start with the basic apps:
  - Company Portal
  - Office 365 Apps
  - Microsoft Edge
  - Optional: The SCCM client

- Go live with Pilot users (Do it fast)

Document the process

The process of deploying/provisioning a new device should be:

- Import the new device in Autopilot
- The new device will automatically be added to a dynamic group in Azure AD
- The Windows Autopilot profile should be deployed to the dynamic group
- Device is shipped to the end user that will complete the setup of the device

During setup (first user login) of the autopilot process will run the following steps:

- Change the edition of Windows 10 being used (Pro to Enterprise) to support advanced features.
- Apply Configuration Policies and Security Baselines to the device
- Install Apps (Company Portal, Office 365 etc.)
- Optional: Install the SCCM Client
- Optional: The SCCM Client will launch the Provisioning Task Sequence

The ideal pilot user

- Users that only needs access to resources that can be accessed using cloud-based services (like Office 365 and SalesForce).

- Users will be created and maintained in the on-prem Active Directory, and then synced to Azure Active Directory.

Devices

- Use physical machines when required
  - Self-deploying mode
  - White glove (also requires Ethernet connection)

Need on-prem access?

- Avoid the Hybrid AAD path if possible

- Move services to the cloud
  - Office 365
  - OneDrive / SharePoint / Teams

- Publish your internal services, so they work from any device and location
  - Azure Application Proxy
  - Windows Virtual Desktop

Device Registration

Register Devices

Preconfigured Windows Devices

https://www.microsoft.com/en-us/microsoft-365/windows/windows-autopilot

Participant device manufacturers and resellers

These brands ship devices using Windows Autopilot. When you purchase from them, your employees will receive devices ready to go, just by signing in — requiring no help from IT.

acer

ACER

Learn more ›

CDW

CDW

Learn more ›

DELL

DELL

Learn more ›

dynabook

DYNABOOK

Learn more ›

hp

HP

Learn more ›

Lenovo

Lenovo

Learn more ›

Panasonic

Panasonic

Learn more ›

Microsoft Surface

Surface

Learn more ›

FUJITSU Getac

Fujitsu and Getac coming soon

Sensitivity: INTERNAL

OEM Windows Autopilot Offerings

Work close with your OEM, distributer or Microsoft Partner (Or you will fail)

- Device registration

- Clean images (Signature Edition, Autopilot Ready etc.)

- Choice of versions

- Options for customization (e.g. adding apps)

- White glove offerings

- Ask your OEM, distributor or reseller what capabilities they offer and what costs are involved.

Microsoft Partner Experience

Importing new devices for your customers

Add devices

Devices

Analytics

Users and licenses

Service management

Account

You can help your customers set up their devices faster by configuring a device's Out of Box Experience (OOBE).

Select or enter a name for this batch of devices. *

HoloLens

Add the list of devices for your customer. You should have received this file with your device purchase.

As a partner, you can register devices to Windows Autopilot using any one of these methods:

- Hardware Hash (available from OEM or on-device script)
- Combination of Manufacturer, Device Model, Device Serial Number
- Windows Product Key ID

You can see a sample .csv file here. Download.

Hololens Autopilot.csv | Browse

File validated. Select Save to upload file.

Save | Cancel

Microsoft CSP Partners

Devices

Customize a device's out-of-box experience with Windows AutoPilot profiles. Learn more

Windows AutoPilot profiles

Add new profile

Profile

There are no profiles.

Apply profiles to devices

Add devices

🗐 Apply profile ∨   🗑 Remove profile   🗑 Delete device

	Group name	Devices	Creation date	
☐	HoloLens	5	7/2/2020	∧

	Device name	Device serial number	Windows product ID	Profile	Date added
☐	Microsoft Corporation - HoloLens 2	00192		Hololens autopilot profile	8/25/2020
☐	Microsoft Corporation - HoloLens 2	00195		Hololens autopilot profile	8/24/2020
☐	Microsoft Corporation - HoloLens 2	00566		Hololens autopilot profile	8/24/2020
☐	Microsoft Corporation - HoloLens 2	00193		Hololens autopilot profile	8/24/2020
☐	Microsoft Corporation - HoloLens 2	00192		None	7/16/2020

LEGO - Hololens Autopilot.csv - Notepad

File   Edit   Format   View   Help

```
Device serial number,Windows product ID,Hardware hash,Manufacturer name,Device model
001      6,,,Microsoft Corporation,HoloLens 2
00       6,,,Microsoft Corporation,HoloLens 2
001      6,,,Microsoft Corporation,HoloLens 2
001      6,,,Microsoft Corporation,HoloLens 2
001      6,,,Microsoft Corporation,HoloLens 2
```

Ln 1, Col 1   100%   Windows (CRLF)   UTF-16 LE

Get-WindowsAutoPilotInfo.ps1

- Online (Add computers to Windows Autopilot via the Intune Grahp API)
- GroupTag (Optional tag value)
- AssignedUser (UPN of the user to be assigned to the device)
- AssignedComputerName (Azure AD Join only + "Online" only). Sorry legacy guys ☺
- Assign (Wait for the Autopilot profile assignment)

More info:

- https://oofhours.com/2020/07/14/more-improvements-to-the-get-windowsautopilotinfo-script/
- https://www.powershellgallery.com/packages/Get-WindowsAutoPilotInfo/3.3
- https://docs.microsoft.com/en-us/mem/autopilot/add-devices

DEMO

Get-WindowsAutoPilotInfo

Importing existing devices during setup

Get-WindowsAutoPilotInfo

```
Select Administrator: C:\Windows\system32\cmd.exe - powershell                    —    □    ✕

PS C:\Windows\system32> Get-WindowsAutoPilotInfo.ps1 -Online -Assign -AssignedUser rop@apento.com -AssignedComputerName
WPNinja0006
Installing module WindowsAutopilotIntune
Connected to Intune tenant ac3cfed8-c7d2-44d8-a151-4adad3a6e2b7
Waiting for 1 of 1 to be imported
Waiting for 1 of 1 to be imported
Waiting for 1 of 1 to be imported
Waiting for 1 of 1 to be imported
Waiting for 0 of 1 to be imported
All devices imported.  Elapsed time to complete import: 123 seconds
Waiting for 0 of 1 to be synced
All devices synced.  Elapsed time to complete sync: 1 seconds
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 1 of 1 to be assigned
Waiting for 0 of 1 to be assigned
Profiles assigned to all devices.  Elapsed time to complete assignment: 516 seconds
```

```
PS C:\Windows\system32> Get-WindowsAutoPilotInfo.ps1 -Online
Installing module WindowsAutopilotIntune
Connected to Intune tenant ac3cfed8-c7d2-44d8-a151-4adad3a6e2b7
Waiting for 1 of 1 to be imported
Waiting for 1 of 1 to be imported
Waiting for 1 of 1 to be imported
Waiting for 1 of 1 to be imported
Waiting for 1 of 1 to be imported
Waiting for 1 of 1 to be imported
Waiting for 1 of 1 to be imported
Waiting for 0 of 1 to be imported
All devices imported.  Elapsed time to complete import: 213 seconds
Waiting for 0 of 1 to be synced
All devices synced.  Elapsed time to complete sync: 1 seconds
PS C:\Windows\system32>
```

Get Serial Number

Windows Autopilot devices
Windows enrollment

Sync | Filter | Import | Export | Assign user | Refresh | Delete

☐		Microsoft Corporation	Surface Pro 4
☐		Microsoft Corporation	Surface Pro 7
☐	01-5119-26	Microsoft Corporation	Virtual Machine
☐	68-3057-23	Microsoft Corporation	Virtual Machine
☐	14-0088-07	Microsoft Corporation	Virtual Machine
☐	21-1005-19	Microsoft Corporation	Virtual Machine
☐	13-4625-86	Microsoft Corporation	Virtual Machine
☐	99-9735-66	Microsoft Corporation	Virtual Machine
☐	82-9961-97	Microsoft Corporation	Virtual Machine
☐	72-0897-74	Microsoft Corporation	Virtual Machine
☐		HP	HP Spectre x360 Co
☐		HP	HP Spectre x360 Co
☐	84-5520-67	Microsoft Corporation	Virtual Machine
☐	91-5220-27	Microsoft Corporation	Virtual Machine
☐	26-8393-30	Microsoft Corporation	Virtual Machine
☐	84-3637-46	Microsoft Corporation	Virtual Machine

Basics

```
Administrator: C:\Windows\system32\cmd.exe - powershell
PS C:\Windows\system32> get-ciminstance win32_bios | format-list serialnumber


serialnumber : 5153-5963-5115-0852-2282-9961-97


PS C:\Windows\system32> _
```

Using Internet Explorer during setup
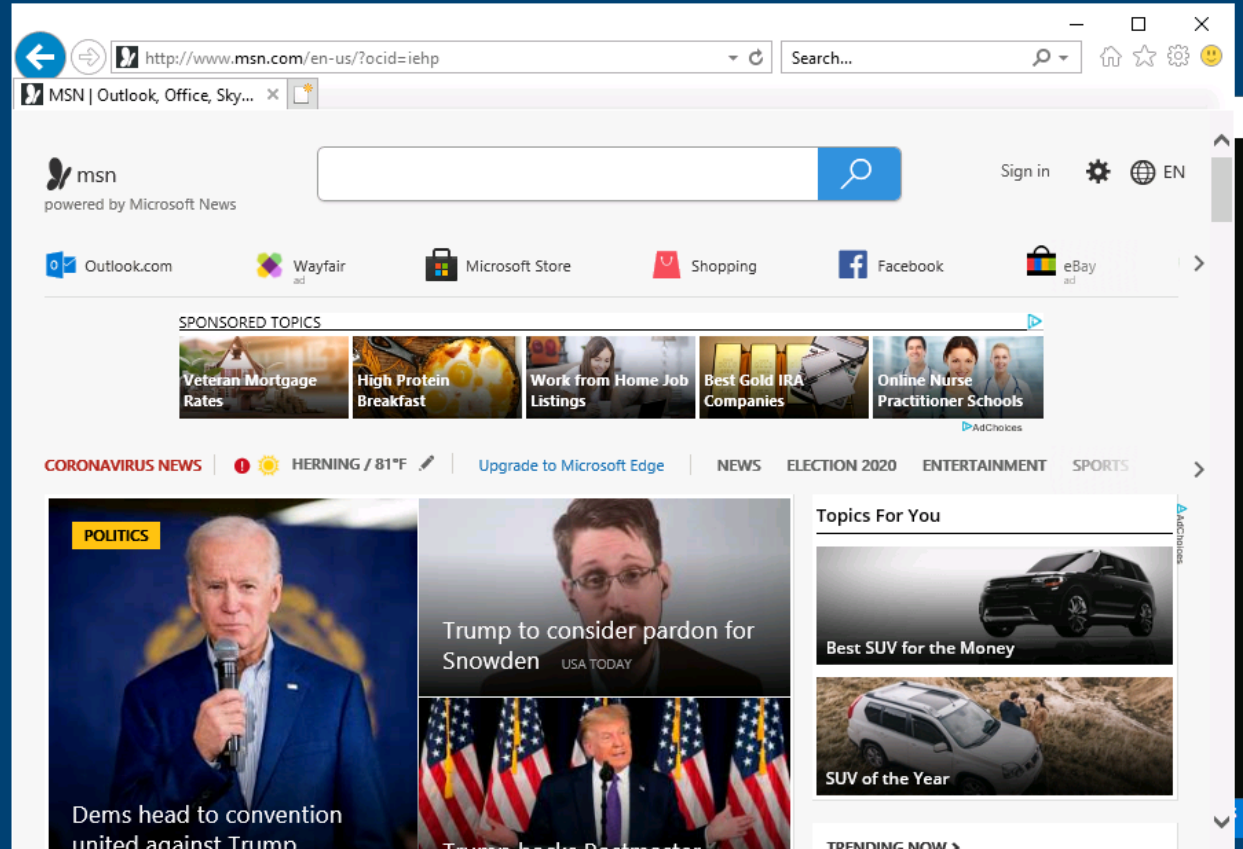
Device Registration

Re-image existing devices

The process is simple

- Connect to Intune

- Get the Autopilot Profile as a JSON file

- Inject the profile during OS deployment (Before first reboot)

```
DEMO - Get-WindowsAutopilotProfiles.ps1  ×

 1    # Set-ExecutionPolicy
 2    Set-ExecutionPolicy Unrestricted
 3
 4    # Trust PSRepository
 5    Set-PSRepository -Name "PSGallery" -InstallationPolicy Trusted
 6
 7    # Install the WindowsAutoPilotIntune Powershell Module
 8    Install-PackageProvider -Name NuGet -MinimumVersion 2.8.5.201
 9
10    Install-Module -Name AzureAD -AllowClobber
11    Install-Module -Name WindowsAutopilotIntune
12    Install-Module -Name Microsoft.Graph.Intune
13
14    # Connenct to MSGraph
15    Connect-MSGraph
16
17    # Get all Autopilot Profiles
18    Get-AutoPilotProfile
19
20
21    # Get all Autopilot Profiles in JSON format
22    Get-AutoPilotProfile | ConvertTo-AutopilotConfigurationJSON
23
24    # Create the AutopilotConfigurationFile.json file
25    # Important: The Autopilot profile must be saved as a JSON file in ASCII or ANSI format
26    Get-AutoPilotProfile | ConvertTo-AutopilotConfigurationJSON | Out-File c:\DEMO\AutopilotConfigurationFile.json -Encoding ASCII
27
28
```
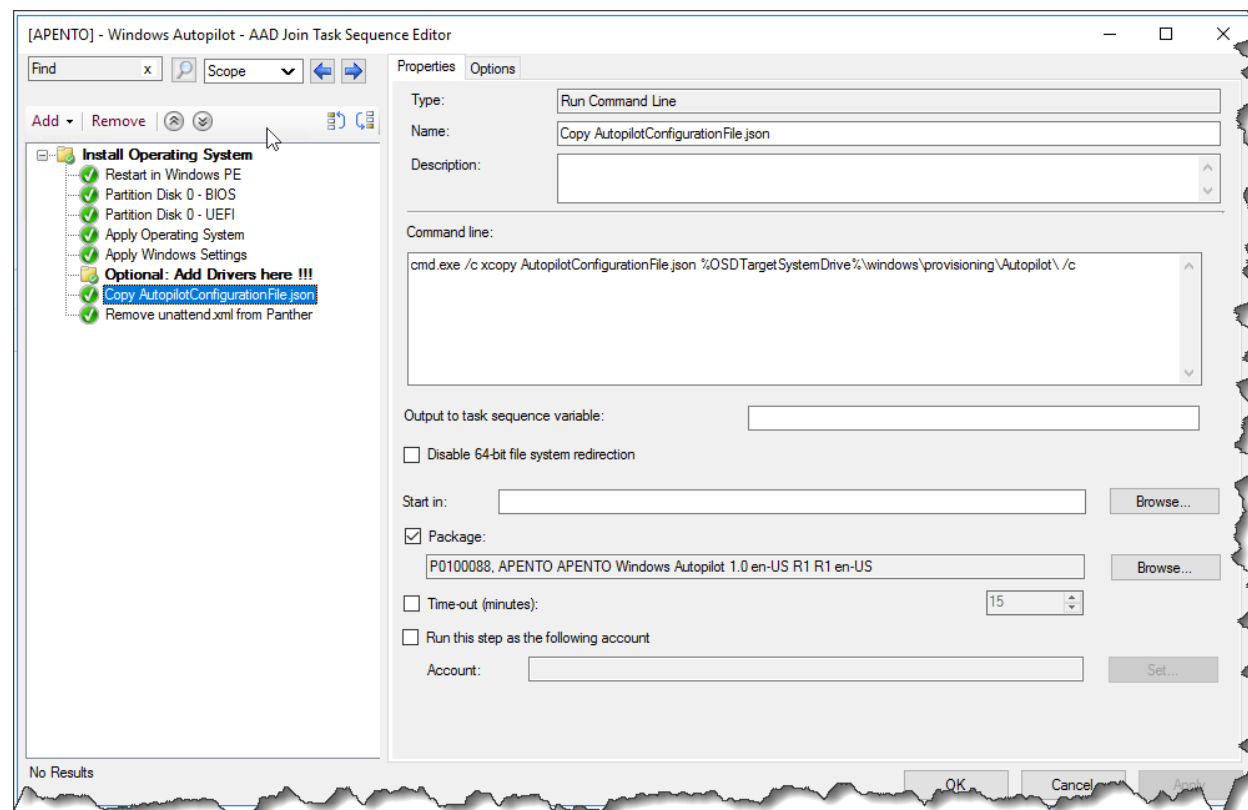
Windows Autopilot

- Existing Devices

- Workarround: Not recommended! (Dynamic Groups can be an issue)
  - Device policies can take extra time (or not be applied)

- Use whatever deployment solution you prefer…
  - SCCM
  - MDT
  - USB
  - Other…

Applications & Policies

Recommended order

- Install Office (and other intune apps) before installing the SCCM Client
- The workload will switch to SCCM
- Wont switch back until the sync is complete

- Scandalize on Win32Apps (use dependencies)

- Optional: Target all apps to device
  - Target the SCCM client to the user (still in system context)

SCCM Integration

Task sequence integration

Properties

Tenant onboarding | **Enablement** | Workloads | Staging | Reporting

To enable co-management for devices managed by Configuration Manager, configure automatic enrollment in Microsoft Intune.

Learn more

Automatic enrollment in Intune   [All ▾]

Intune Auto Enrollment
[   ] [Browse...]

To enable co-management for devices already enrolled in Intune, create an app in Intune to install the Configuration Client. Copy the following command line.

Learn more

```
CCMSETUPCMD="CCMHOSTNAME=COMANCMG.CONTOSO.CO
M/CCM_Proxy_MutualAuth/72057594037928035
SMSSiteCode=CIT" /ts:CIT20001
```
[Copy]

[OK] [Cancel] [Apply]

- Target a configuration task sequence to your provisioning computers collection

- Call /ts:<ID> from ccmsetup command line

- ConfigMgr client installs and immediately runs the specified task sequence

- Use with nested task sequence to have a consistent new device state across OSD and Autopilot

- Download on demand from CMG supported for task sequences starting 1910

Tips & tricks

Disable Shift-F10 in OOBE

- Create a file named **DisableCMDRequest.TAG** in the **C:\Windows\Setup\Scripts** folder.

- Then, **Shift-F10** will be **disabled**.

- Ask your OEM to include that file in the preinstalled Windows 10 image that ships on the device.

- Or add the file as part of OS Imaging…

- **Important**: The file is removed any time you reset the device, so if you want that file to be persisted, create a provisioning package that recreates it.

Local Admin

- Add **INTERACTICE** to local administrators group
- Can be usefull in shared device scenarios (schools, labs etc.)

- Can be done by using Custom CSP or PowerShell script!
- But Proactive Remediations is so much better (Reporting etc.)

- Can be a security concern in some scenarios

Block Personal Devices

Thank You