

HTMD Conference 2021

20th Nov



Speaker



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Windows 11 - How to get there!

HTMD Conference 2021
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Agenda

- Readiness
- Microsoft Intune (WUfB)
- Task Sequence
- Windows Servicing
- Customizations

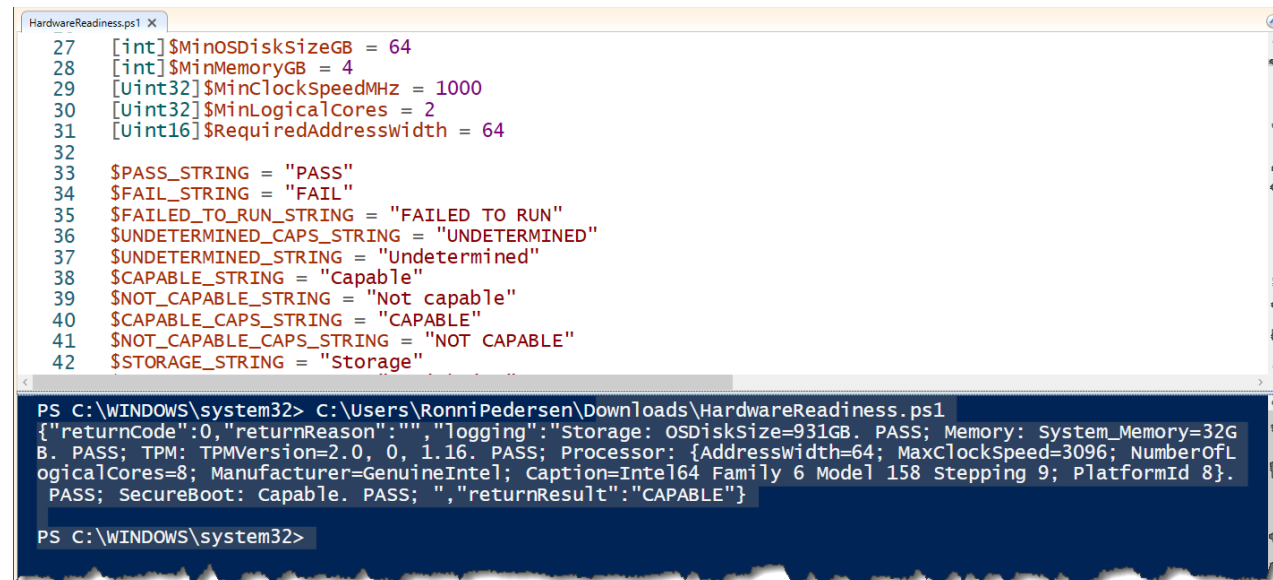
Windows 11 Readiness / Endpoint Analytics

- Easy to start using (Tenant attach, Intune, Co-Management)
 - Requires Windows Enterprise E3 (Microsoft 365 E3, EMS E3 or better).

			Filter: All Devices
			< Previous
			Page 1 of 1
			Next >
Managed by ↑↓	OS version ↑↓	Windows 11 readiness sta... ↑↓	Windows 11 readiness reason
Co-managed	10.0.19042.1348	Capable	--
Intune	10.0.18363.1916	Not capable	System firmware
Intune	10.0.19043.1348	Not capable	TPM, System firmware
ConfigMgr	10.0.19043.928	Unknown	--
ConfigMgr	10.0.19041.208	Unknown	--

Windows 11 Readiness / MEMCM

- Microsoft provides a PowerShell script



The screenshot shows a PowerShell script named 'HardwareReadiness.ps1' with the following content:

```
27 [int]$MinOSDiskSizeGB = 64
28 [int]$MinMemoryGB = 4
29 [uint32]$MinClockSpeedMHz = 1000
30 [uint32]$MinLogicalCores = 2
31 [uint16]$RequiredAddressWidth = 64
32
33 $PASS_STRING = "PASS"
34 $FAIL_STRING = "FAIL"
35 $FAILED_TO_RUN_STRING = "FAILED TO RUN"
36 $UNDETERMINED_CAPS_STRING = "UNDETERMINED"
37 $UNDETERMINED_STRING = "Undetermined"
38 $CAPABLE_STRING = "Capable"
39 $NOT_CAPABLE_STRING = "Not capable"
40 $CAPABLE_CAPS_STRING = "CAPABLE"
41 $NOT_CAPABLE_CAPS_STRING = "NOT CAPABLE"
42 $STORAGE_STRING = "Storage"
```

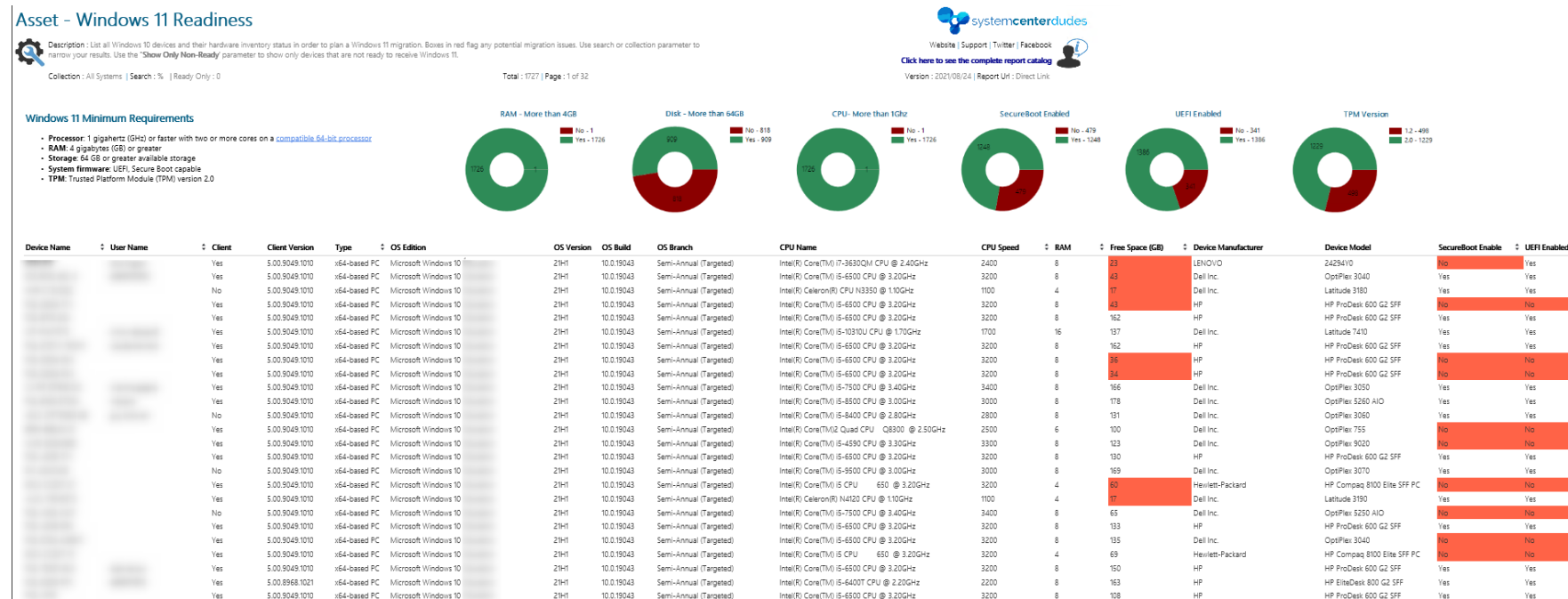
Below the script, the execution command and its output are shown:

```
PS C:\WINDOWS\system32> C:\Users\RonniPedersen\Downloads\HardwareReadiness.ps1
{"returnCode":0,"returnReason":"","logging":"Storage: OSDiskSize=931GB. PASS; Memory: System_Memory=32GB. PASS; TPM: TPMVersion=2.0, 0, 1.16. PASS; Processor: {AddressWidth=64; MaxClockSpeed=3096; NumberOfLogicalCores=8; Manufacturer=GenuineIntel; Caption=Intel64 Family 6 Model 158 Stepping 9; PlatformId 8}. PASS; SecureBoot: Capable. PASS; ","returnResult":"CAPABLE"}
PS C:\WINDOWS\system32>
```

<https://techcommunity.microsoft.com/t5/microsoft-endpoint-manager-blog/understanding-readiness-for-windows-11-with-microsoft-endpoint/ba-p/2770866>

Windows 11 Readiness / Endpoint Analytics

- A great community readiness report available:



<https://systemcenterdudes.com/free-readiness-memcm-sccm-windows-11-report/>




Challenges with Work from Home

- Network Considerations
 - VPN (Forced/Split Tunneling)
- Content Location
 - On-Prem Servers
 - Azure Shares
 - Cloud Management Gateway (DP)
 - Cloud Attached or not
- End User Support
 - What if upgrade fails?
 - Recovery/Re-provision/re-deploy?

Network Considerations

- Optimizing network traffic for remote workers

Optimizing Office 365 traffic for remote workers with the native Windows 10 VPN client

04/07/2020 • 14 minutes to read • 

This article describes how to configure the recommendations in the article [Optimize Office 365 connectivity for remote users using VPN split tunneling](#) for the *native Windows 10 VPN client*. This guidance enables VPN administrators to optimize Office 365 usage while still ensuring that all other traffic goes over the VPN connection and through existing security gateways and tooling.

This can be achieved for the native/built-in Windows 10 VPN client using a *Force Tunneling with Exclusions* approach. This allows you to define IP-based exclusions *even when using force tunneling* in order to "split" certain traffic to use the physical interface while still forcing all other traffic via the VPN interface. Traffic addressed to specifically defined destinations (like those listed in the Office 365 optimize categories) will therefore follow a much more direct and efficient path, without the need to traverse or "hairpin" via the VPN tunnel and back out of the corporate network. For cloud-services like Office 365, this makes a huge difference in performance and usability for remote users.

Note

The term *force tunneling with exclusions* is sometimes confusingly called "split tunnels" by other vendors and in some online documentation. For Windows 10 VPN, the term *split tunneling* is defined differently as described in the article [VPN routing decisions](#).

<https://docs.microsoft.com/en-us/windows/security/identity-protection/vpn/vpn-office-365-optimization>

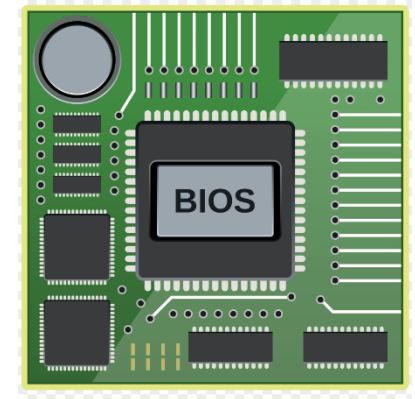
Challenges with Feature Updates

- BIOS and Drivers Updates
- Outdated/unsupported Applications
- Pending Reboots
- Missing updates (CU and Security)
- Language Packs



Driver/BIOS Management

- Community Tool: MSEndpointMgr Modern Driver Management
 - <https://msendpointmgr.com/modern-driver-management/>
 - Modern Driver Management should soon support Intune standard alone
- HP has started updating BIOS/Firmware using MU:
<http://h10032.www1.hp.com/ctg/Manual/c06696094>
- Updates Drivers from Microsoft Update
 - Most major vendors has now started to update drivers using MU



MSEndpointMgr Intune BIOS Control



Driver Automation Tool: Version 7.0.0

MSEndpointMgr

Driver Automation Tool
Automates the process of downloading, extracting and importing Driver and BIOS updates into Configuration Manager, Intune, MDT and other OS deployment solutions

Make & Model Selection | OEM Driver Catalogs
Custom Package Creation

Intune BIOS Control

BIOS Management | Onboarding

Selected	OEM	Model
<input checked="" type="checkbox"/>	HP	EliteBook 830 G8
<input type="checkbox"/>	HP	EliteBook 840 G7
<input type="checkbox"/>	HP	Elite Dragonfly G2 Notebook
<input type="checkbox"/>	HP	ZBook Firefly 14 G7 Mobile
<input type="checkbox"/>	HP	ZBook Firefly 14 G7 Mobile
<input type="checkbox"/>	HP	Elite Slice for Meeting Room
<input type="checkbox"/>	HP	Elite Slice for Meeting Room
<input type="checkbox"/>	HP	EliteBook 855 G8 Notebook
<input type="checkbox"/>	HP	EliteBook 735 G6 Notebook

Select All | Select None | Refresh Azure XML Values

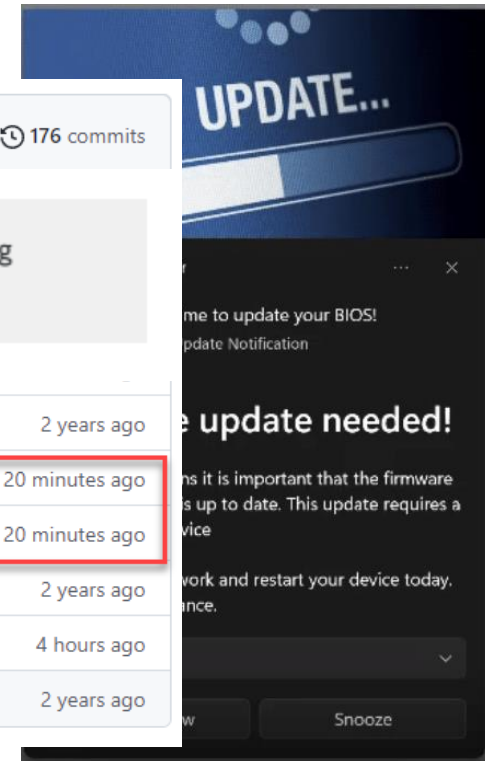
Reset Tool | Start Download | Extract | Import

maurice-daly MSI Updated 7.0.0

✓ 3822d90 20 minutes ago 176 commits

NB: At present we should now point out that this initial release supports HP only. We are adding additional OEM's and they will come on stream in the coming weeks.

Legacy Builds/6.4.6	Added Legacy Build & DAT Data Folders	2 years ago
Driver Automation Tool.msi	MSI Updated 7.0.0	20 minutes ago
Driver Automation Tool.msi.sha256	MSI Updated 7.0.0	20 minutes ago
LICENSE	Create LICENSE	2 years ago
README.md	Driver Automation Tool 7.0.0	4 hours ago
_config.yml	Set theme jekyll-theme-cayman	2 years ago



Updates Drivers from Microsoft Update

```
#search and list all missing Drivers
(New-Object -ComObject Microsoft.Update.ServiceManager).Services
$UpdateSvc = New-Object -ComObject Microsoft.Update.ServiceManager
$UpdateSvc.AddService2("7971f918-a847-4430-9279-4a52d1efe18d",7,"")

$Session = New-Object -ComObject Microsoft.Update.Session
$Searcher = $Session.CreateUpdateSearcher()

$Searcher.ServiceID = '7971f918-a847-4430-9279-4a52d1efe18d'
$Searcher.SearchScope = 1 # MachineOnly
$Searcher.ServerSelection = 3 # Third Party

$Criteria = "IsInstalled=0 and Type='Driver' and ISHidden=0"
Write-Host('Searching Driver-Updates...') -Fore Green
$SearchResult = $Searcher.Search($Criteria)
$Updates = $SearchResult.Updates

#Show available Drivers

$Updates | select Title, DriverModel, DriverVerDate, DriverClass, DriverManufacturer

#Download the Drivers from Microsoft

$UpdatesToDownload = New-Object -Com Microsoft.Update.UpdateColl
$Updates | % { $UpdatesToDownload.Add($_) | out-null }
Write-Host('Downloading Drivers...') -Fore Green
$UpdateSession = New-Object -Com Microsoft.Update.Session
$Downloader = $UpdateSession.CreateUpdateDownloader()
$Downloader.Updates = $UpdatesToDownload
$Downloader.Download()

#Check if the Drivers are all downloaded and trigger the Installation

$UpdatesToInstall = New-Object -Com Microsoft.Update.UpdateColl
$Updates | % { if($_.IsDownloaded) { $UpdatesToInstall.Add($_) | out-null } }

Write-Host('Installing Drivers...') -Fore Green
$Installer = $UpdateSession.CreateUpdateInstaller()
$Installer.Updates = $UpdatesToInstall
$InstallationResult = $Installer.Install()
if($InstallationResult.RebootRequired) {
Write-Host('Reboot required! please reboot now..') -Fore Red
} else { Write-Host('Done..') -Fore Green }
```

```
PS C:\WINDOWS\system32> $Updates | select Title, DriverModel, DriverVerDate, DriverClass, DriverManufacturer | fl

Title           : INTEL - System - 7/18/1968 12:00:00 AM - 10.1.14.4
DriverModel      : Intel(R) Host Bridge/DRAM Registers - 3ED0
DriverVerDate    : 18/07/1968 00.00.00
DriverClass      : OtherHardware
DriverManufacturer : INTEL

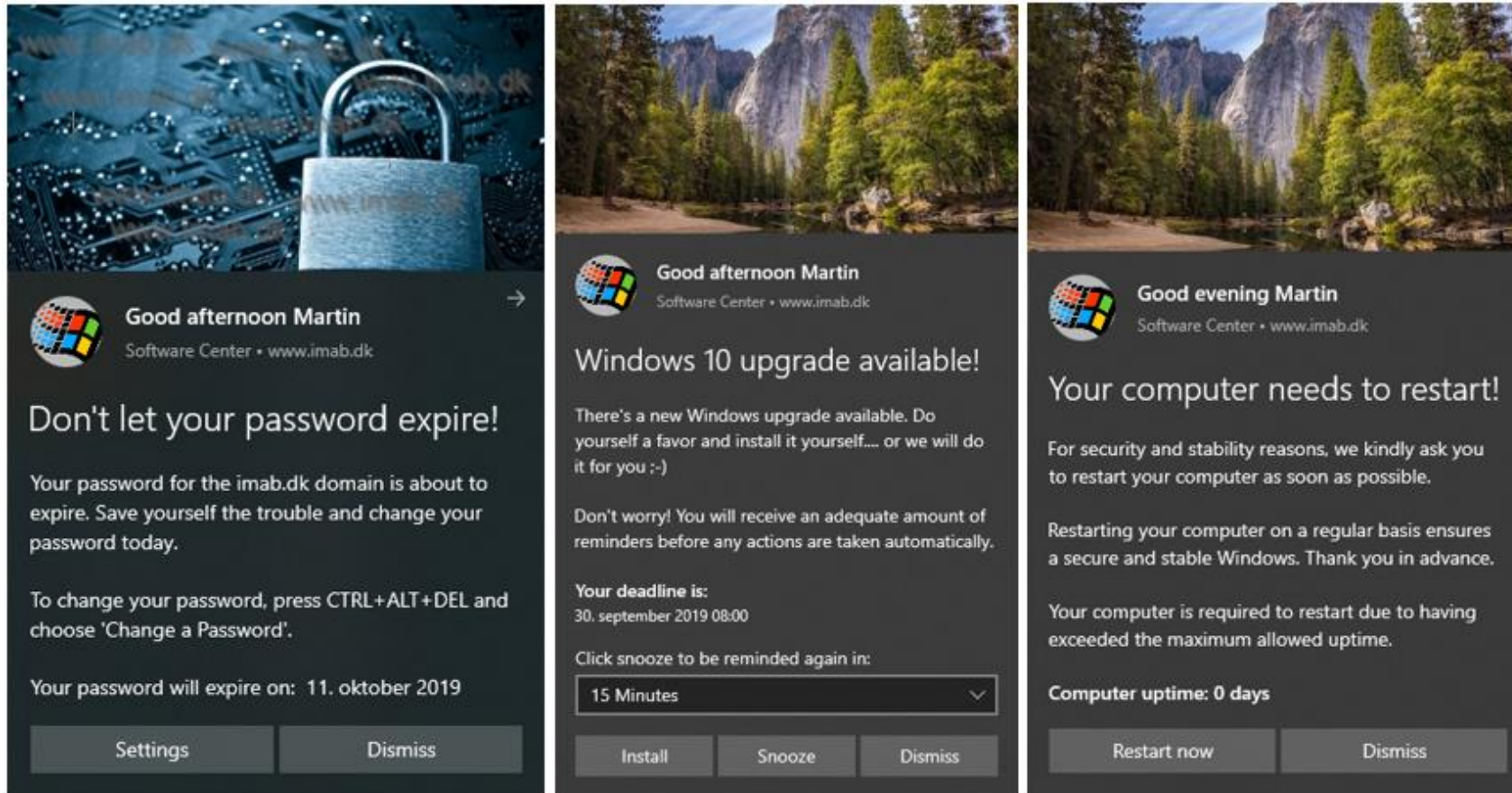
Title           : Intel - net - 22.20.0.6
DriverModel      : Intel(R) Wireless-AC 9560 160MHz
DriverVerDate    : 30/11/2020 00.00.00
DriverClass      : Networking
DriverManufacturer : Intel Corporation

Title           : Intel Corporation - Bluetooth - 22.20.0.3
DriverModel      : Intel(R) Wireless Bluetooth(R)
DriverVerDate    : 27/11/2020 00.00.00
DriverClass      : OtherHardware
DriverManufacturer : Intel Corporation
```

```
$UpdatesToDownload = New-Object -Com Microsoft.Update.UpdateColl
$Updates | % { $UpdatesToDownload.Add($_) | out-null }
Write-Host('Downloading Drivers...') -Fore Green
$UpdateSession = New-Object -Com Microsoft.Update.Session
$Downloader = $UpdateSession.CreateUpdateDownloader()
$Downloader.Updates = $UpdatesToDownload
$Downloader.Download()
Downloading Drivers...
```

```
HResult ResultCode
-----
0          2
```


Pending Reboots / Notifications



<https://www.imab.dk/windows-10-toast-notification-script/>

Windows 11 Feature Updates

Windows Update for Business in Microsoft Intune

Windows Update for Business

- Pros

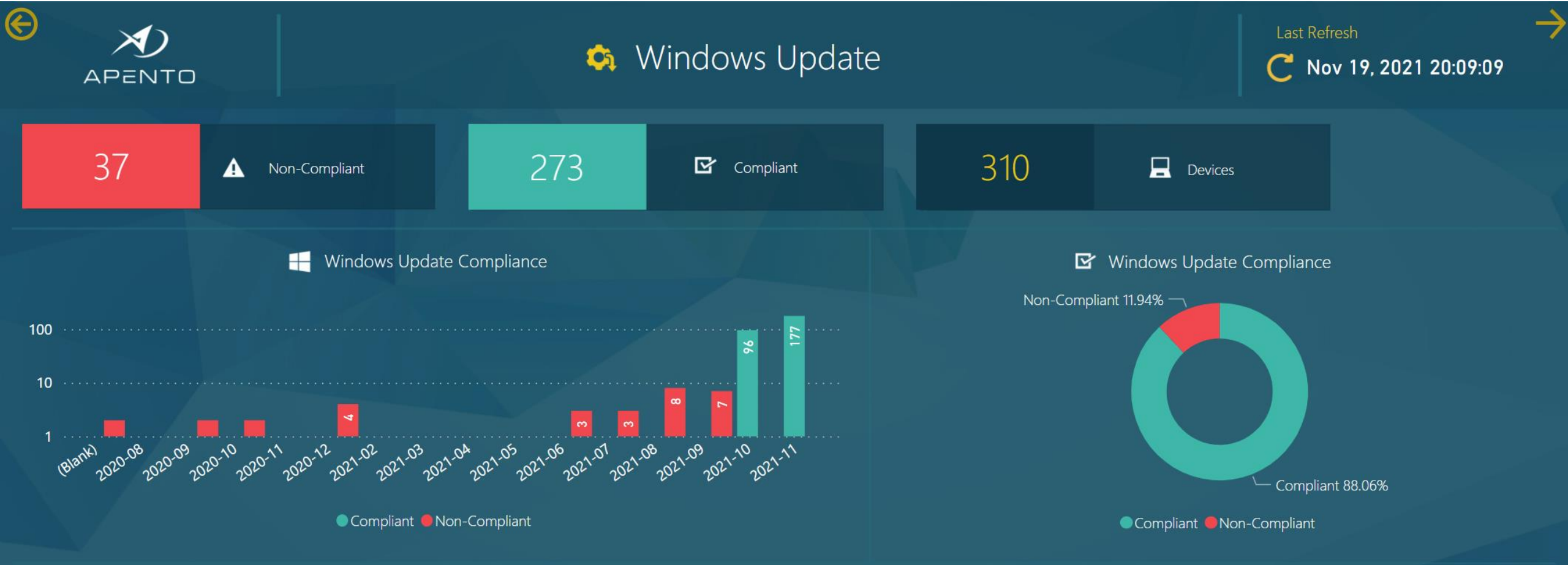
- Devices access Windows Update directly for the updates
 - Simple infrastructure and Less work
- Simple Management
- Microsoft hold back updates for “bad” devices
- Included driver updates

- Cons

- Limited Control
- Maximum 1 year postpone
- Limited Reporting



Optional: Custom Power BI Reports



Windows 11 Feature Updates (Intune)

This feature is still in public preview

- Telemetry must be turned on
 - Minimum setting of **Basic**.

Important

- The **Feature update deferral period (days)** must be set to **0**.
- **Windows Autopilot**: The feature updates policy cannot be applied during the out of box experience (OOBE). (Can take up to 1 day).

Safeguard Holds

- Diagnostic Data is used to determine whether a devices are ready for a feature update...
- Goal: To ensure a smooth experience!



Last updated on 03/22/2020 at 06:00 AM		
 Need Attention!	# of devices that need attention	3K >
Security Update Status	% of devices on latest security update	54.7% >
Feature Update Status	% of devices on latest feature update	67.3% >
Windows Defender AV Status	% of assessed devices with insufficient protection	70.3% >

LIST OF QUERIES

Feature Update deployment issues	WaaSDeploymentStatus where UpdateCategory == "Feature" ...
Deferral configurations for Feature Update	WaaSUpdateStatus summarize count(ComputerID) by Feature...
Pause configurations for Feature Update	WaaSUpdateStatus summarize count(ComputerID) by Feature...
Devices pending reboot to complete feature updates	WaaSDeploymentStatus where UpdateCategory == "Feature" ...
Devices with a safeguard hold	WaaSDeploymentStatus where DetailedStatus == "Safeg...
Target build distribution of devices with a safeguard hold	WaaSDeploymentStatus where DetailedStatus == "Safeg...
Security Update Deployment Issues	WaaSDeploymentStatus where UpdateCategory == "Quality" ...
Deferral configurations for Quality Update	WaaSUpdateStatus summarize count(ComputerID) by Quality...
Pause configurations for Quality Update	WaaSUpdateStatus summarize count(ComputerID) by Quality...
Devices pending reboot to complete security updates	WaaSDeploymentStatus where UpdateCategory == "Quality" ...
OS Edition distribution for the devices	WaaSUpdateStatus summarize DeviceCount = count() by OSE...

Requirements for Feature Updates in Intune

- License: Intune + Windows Enterprise E3, VDA or Business Premium
 - Windows 10/11 that remains in support
 - Hybrid AD joined or Azure AD joined (enrolled in Intune MDM)
 - Have Telemetry turned on
-
- *Windows 10/11 Enterprise LTSC is not supported*

<https://docs.microsoft.com/en-us/mem/intune/protect/windows-10-feature-updates>

Make updates available gradually

New Rollout Options

- First group availability
- Final group availability
- Days between groups

Example:

- Clients: 400
- First day: 1/1-2022
- Last day: 10/1-2022
- Days between: 3
- Result: **4 Rings** (1/1, 4/1, 7/1, 10/1)

The screenshot shows the 'Deployment settings' tab for a Windows Update deployment. The 'Name' field is 'Windows 11 (21H2)'. The 'Description' field is empty. The 'Feature deployment settings' section shows 'Feature update to deploy' set to 'Windows 11'. A red box highlights the 'Rollout options' section, which includes three radio buttons: 'Make update available as soon as possible', 'Make update available on a specific date', and 'Make update available gradually' (which is selected). Below the radio buttons, there are three date pickers: 'First group availability' set to '12/01/2021', 'Final group availability' set to '03/01/2022', and 'Days between groups' set to '10'.

1 Deployment settings 2 Review + save

1 Enable Windows health monitoring and select Windows Update scope to get detailed device states and errors. [Learn more](#)

Name * Windows 11 (21H2)

Description

Feature deployment settings

Feature update to deploy ① Windows 11

1 By selecting this Feature update to deploy you are agreeing that when applying this operating system to a device either (1) the applicable Windows license was purchased through volume licensing, or (2) that you are authorized to bind your organization and are accepting on its behalf the relevant Microsoft Software License Terms to be found here <https://go.microsoft.com/fwlink/?linkid=2171206>.

Rollout options *

☐ Make update available as soon as possible

☐ Make update available on a specific date

☒ Make update available gradually

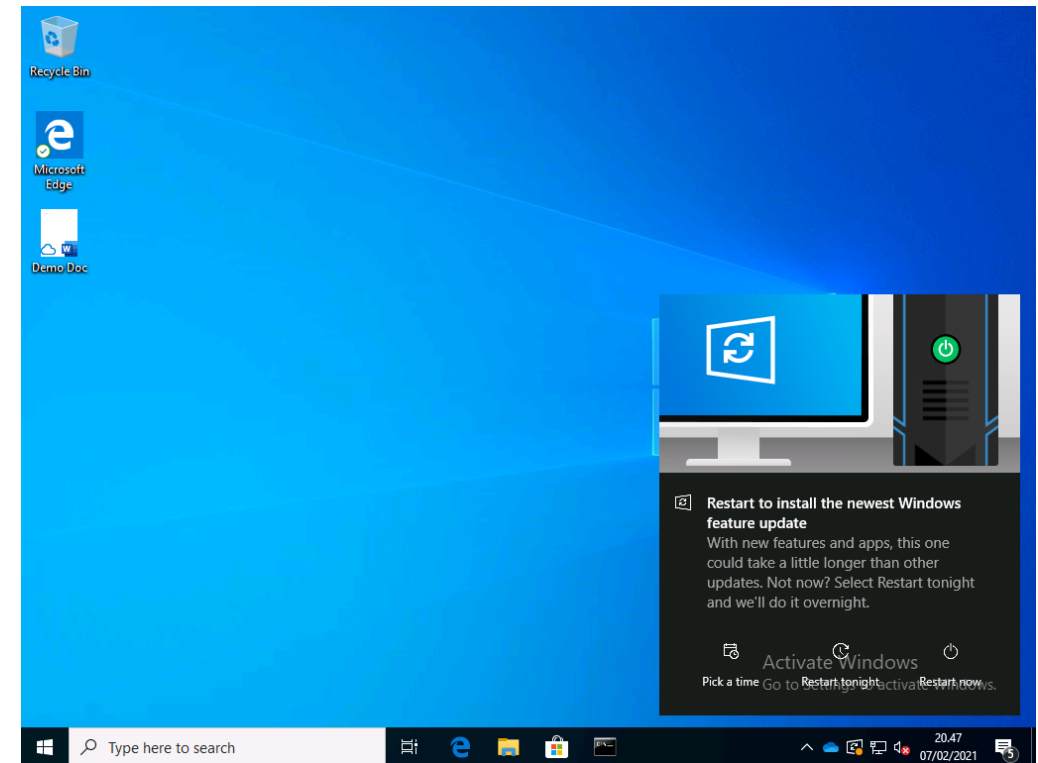
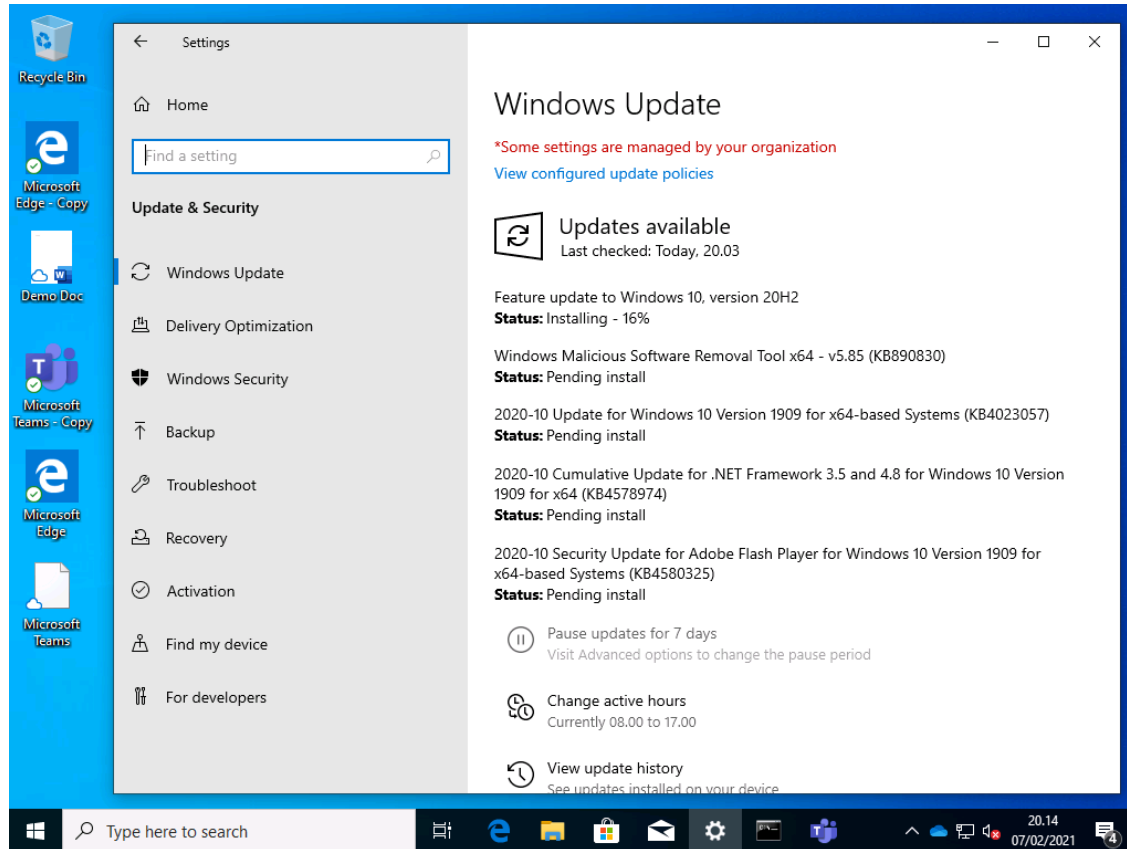
When would you like to make the update available in Windows Update?

First group availability * 12/01/2021

Final group availability * 03/01/2022

Days between groups 10

End User Experience (1909 → 20H2)



Reports: Windows updates (preview)

Home > Reports

Reports | Windows updates (preview)

Search (Ctrl+/) <<

Overview

Device management

Device compliance

Group policy analytics (preview)

Windows updates (preview)

Cloud attached devices (preview)

Endpoint security

Microsoft defender antivirus

Firewall

Analytics

Endpoint analytics

Intune data warehouse

Data warehouse

Summary Reports

Refresh

Last refreshed on: 2/8/2021, 2:08:18 PM

Windows update



Devices ↑↓	UPN ↑↓	Intune Device ID ↑↓	AAD Device ID ↑↓	Last Event Time ↑↓	Update State	Update Substate	Update Aggregated S...
MININT-RLCM8T8	rop@techpreview.dk	4e1d242a-de6a-4f95-b9...	233486f3-1ceb-4b5a-a2...	2/9/2021, 10:00:00 AM	Installed	Update installed	Success
TPPC-0901	rop@techpreview.dk	b80efc22-e7d9-420b-9f...	03fb09da-8960-4e24-90...	2/7/2021, 2:45:06 PM	Pending	Scheduled	In progress
TPPC-2315	rop@techpreview.dk	c3c91379-f4d0-4d44-89...	b668834e-3a0f-49a7-90...	2/9/2021, 4:00:00 AM	Installed	Update installed	Success
TPPC-3826	rop@techpreview.dk	a8f7da64-241c-4948-92...	7cc7944c-88b6-49d9-94...	2/7/2021, 2:45:06 PM	Pending	Scheduled	In progress
TPPC-4085	rop@techpreview.dk	bda1191d-2388-47cd-a...	692baff1-f6fb-4ff9-af5d-...	2/8/2021, 10:45:21 PM	Offering	Offer ready	In progress
TPPC-7412	rop@techpreview.dk	ffab687d-1795-4565-ac8...	68d0fa2b-39ef-44c3-9b...	2/7/2021, 2:45:06 PM	Pending	Scheduled	In progress



5

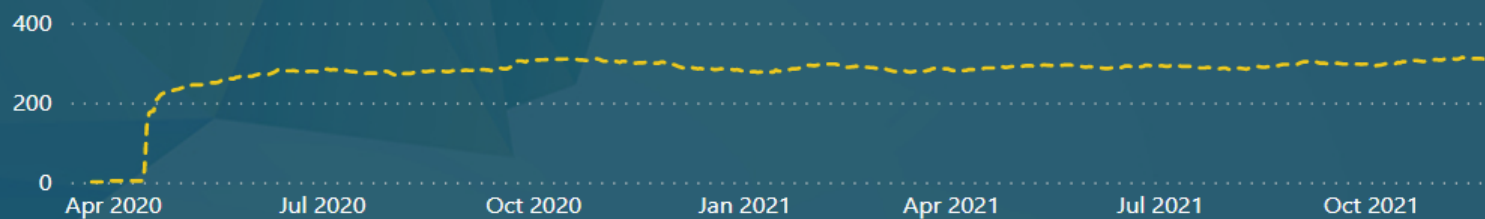
Windows Versions



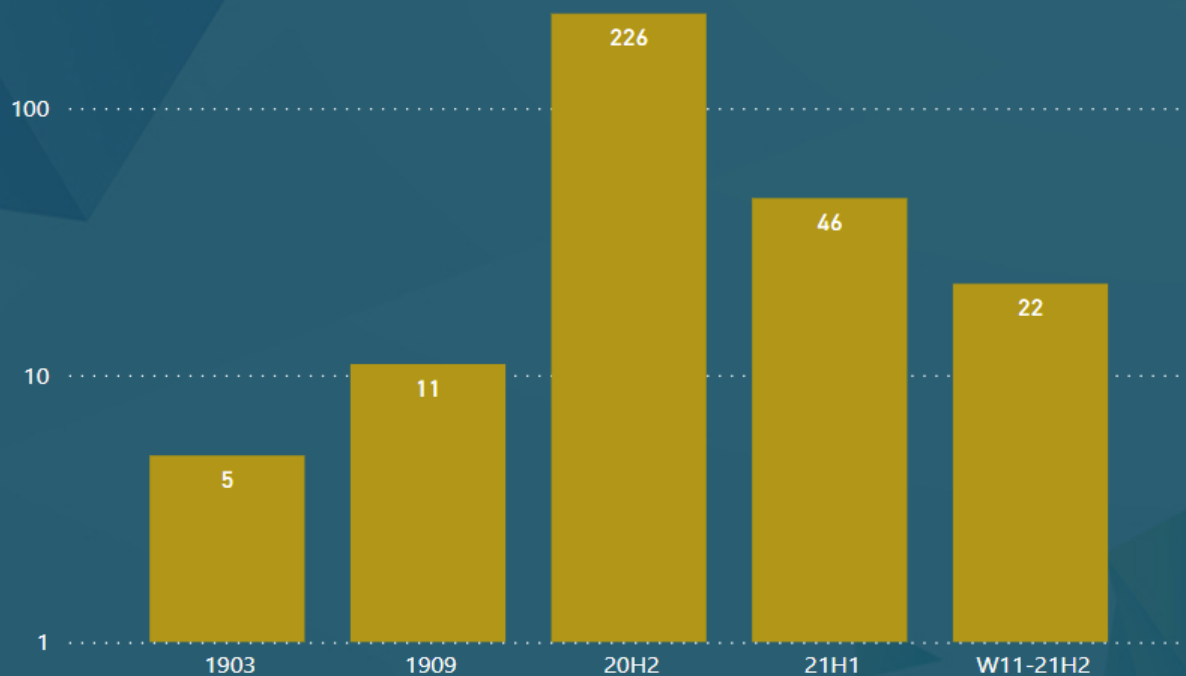
310

Devices

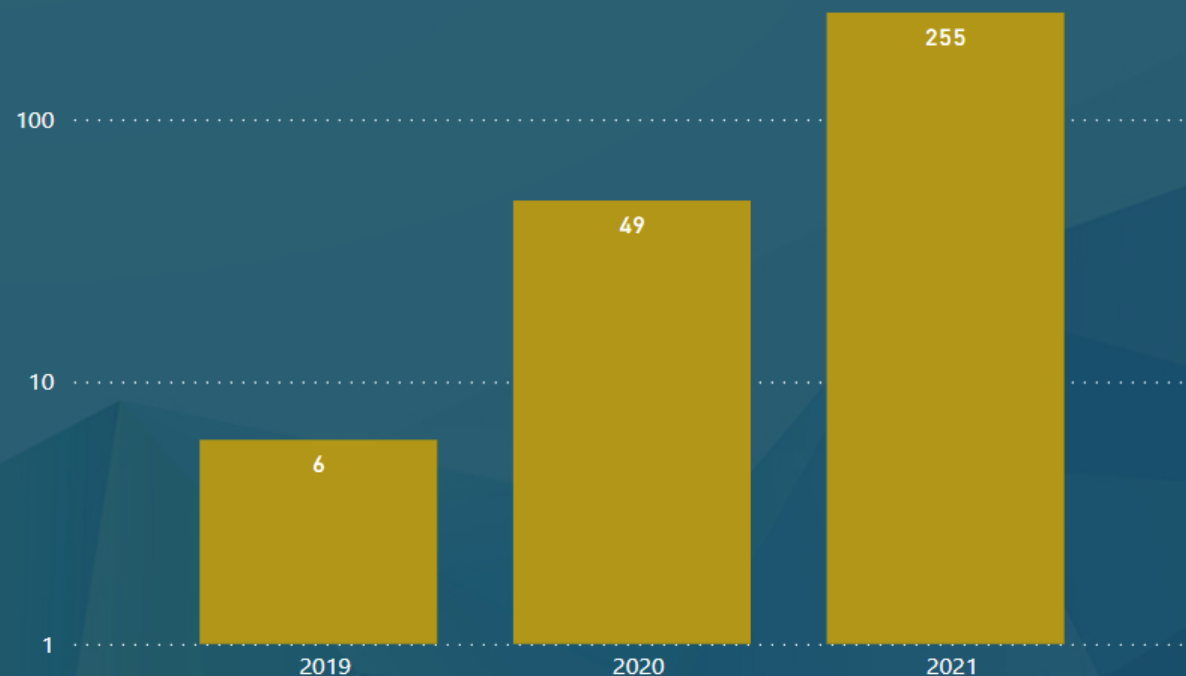
Active Devices (The Last 30 Days)



Windows Version



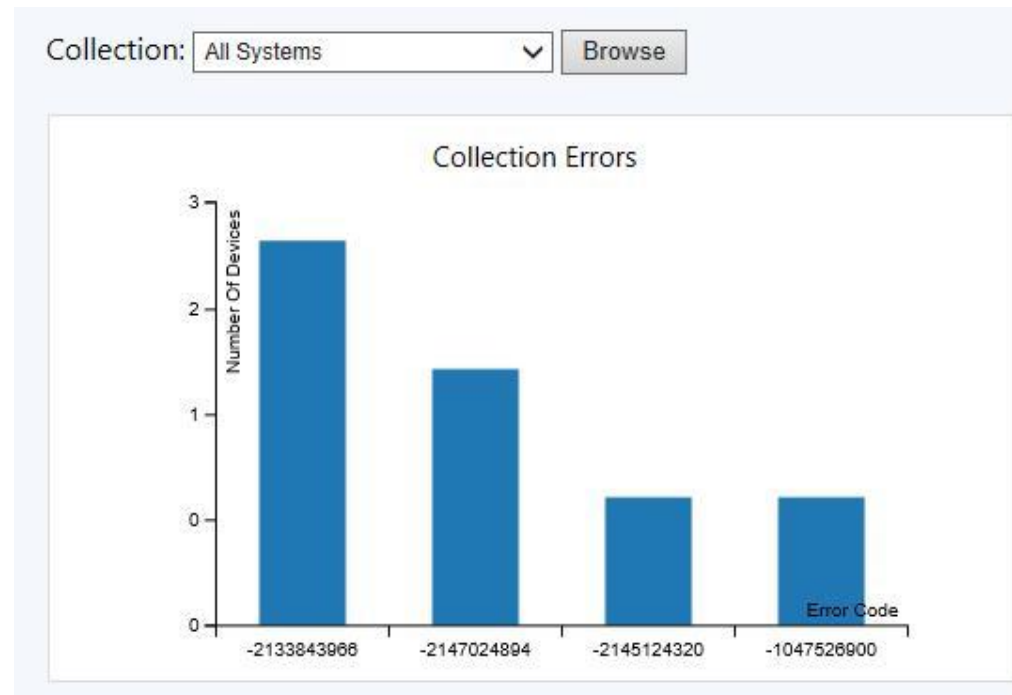
Windows Install Date



Windows Servicing (MEMCM)



Windows Servicing (MEMCM)

Improved in MEMCM 2010.



MEMCM Windows 11 servicing

- Windowsupdatebox.exe + .esd file
- Content can come from Microsoft Update
- Can be run from an application instead
 - WindowsUpdateBox /Update /PreDownload /quiet
 - WindowsUpdateBox /Update /Install /quiet
 - WindowsUpdateBox /Update /Finalize /quiet

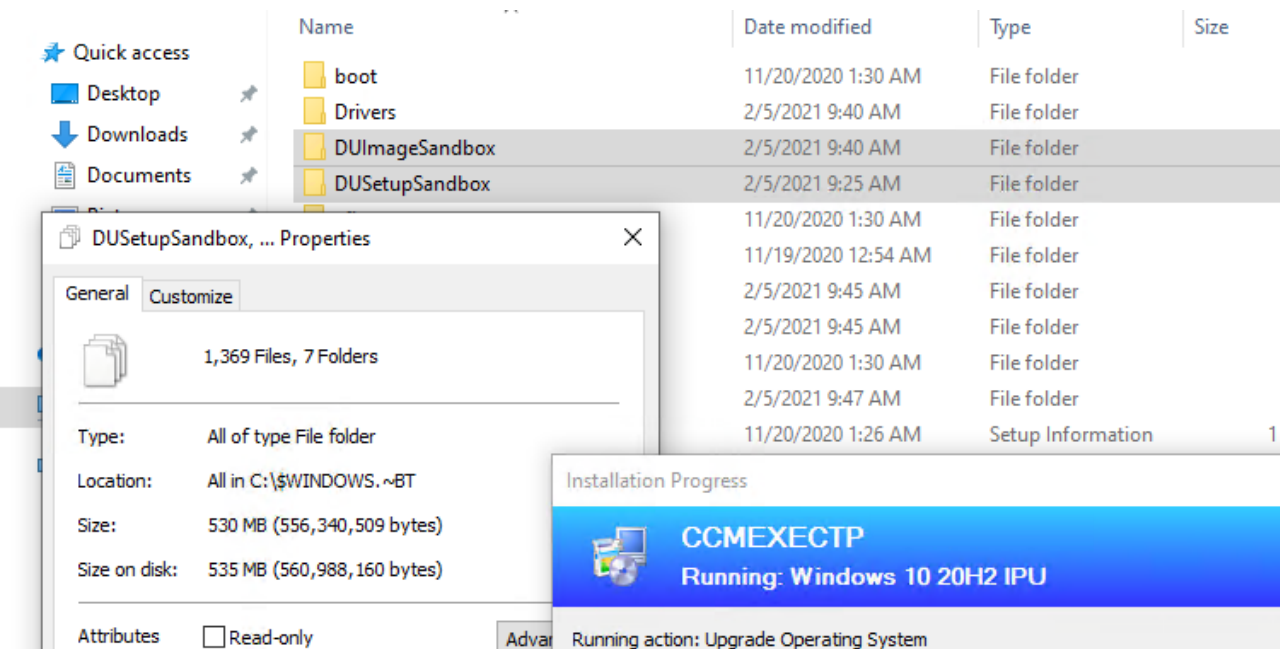
Name	Date modified	Type	Size
 22000.132.210809-2349.co_release_svc_refresh_CLIENTBUSIN...	2021-09-03 11:13	ESD File	3 558 713 KB
 WindowsUpdateBox.exe	2021-09-03 10:59	Application	22 968 KB

[SCCM/MEMCM: Windows 10 Feature Update Rollouts via Application Deployment - TechNet Articles - United States \(English\) - TechNet Wiki \(microsoft.com\)](#)

Dynamic Updates

- Servicing will always trigger Dynamic Updates

- **Setup DU:** Fixes to Setup binaries or any files that Setup uses for feature updates.
- **SafeOS DU:** Fixes for the 'safe OS' that we use to update Windows recovery environment (WinRE).
- **Servicing Stack Update (SSU)/Critical DU:** Fixes that are necessary to address the Windows 10 servicing stack issue and thus required to complete the feature update.
- **Latest Cumulative Update (LCU)/General Distribution Release (GDR) DU:** Installs the latest cumulative quality update.
- **Language Pack (LP) and Feature On Demand (FOD) DU:** Preserves users' installed language packs and optional features by reinstalling them.
- **Driver DU:** Latest version of applicable drivers that have been already published by manufacturers (OEMs and/or IHVs) into Windows Update and specifically targeted for Dynamic Update.



<https://techcommunity.microsoft.com/t5/windows-it-pro-blog/the-benefits-of-windows-10-dynamic-update/ba-p/467847>

How can we run commands pre/post Feature Update?

Option 1: Setupconfig.ini

Option 2:

- %windir%\System32\update\run\{GUID}\preinstall.cmd
- %windir%\System32\update\run\{GUID}\precommit.cmd
- %windir%\System32\update\run\{GUID}\failure.cmd
- %windir%\System32\update\run\{GUID}\success.cmd (2004)
- %windir%\System32\update\run\{GUID}\postuninstall.cmd (2004)

Use Runonce instead of Run for = runonce ;-)

<https://docs.microsoft.com/en-us/windows-hardware/manufacture/desktop/windows-setup-enable-custom-actions>

Setupconfig.ini = your new best friend

- Drivers, commands and more = total control!

<< Local Disk (C:) > Users > Default > AppData > Local > Microsoft > Windows > WSUS				
Name	Date modified	Type	Size	
Setupconfig.ini	2020-11-11 17:23	Configuration sett...	1 KB	

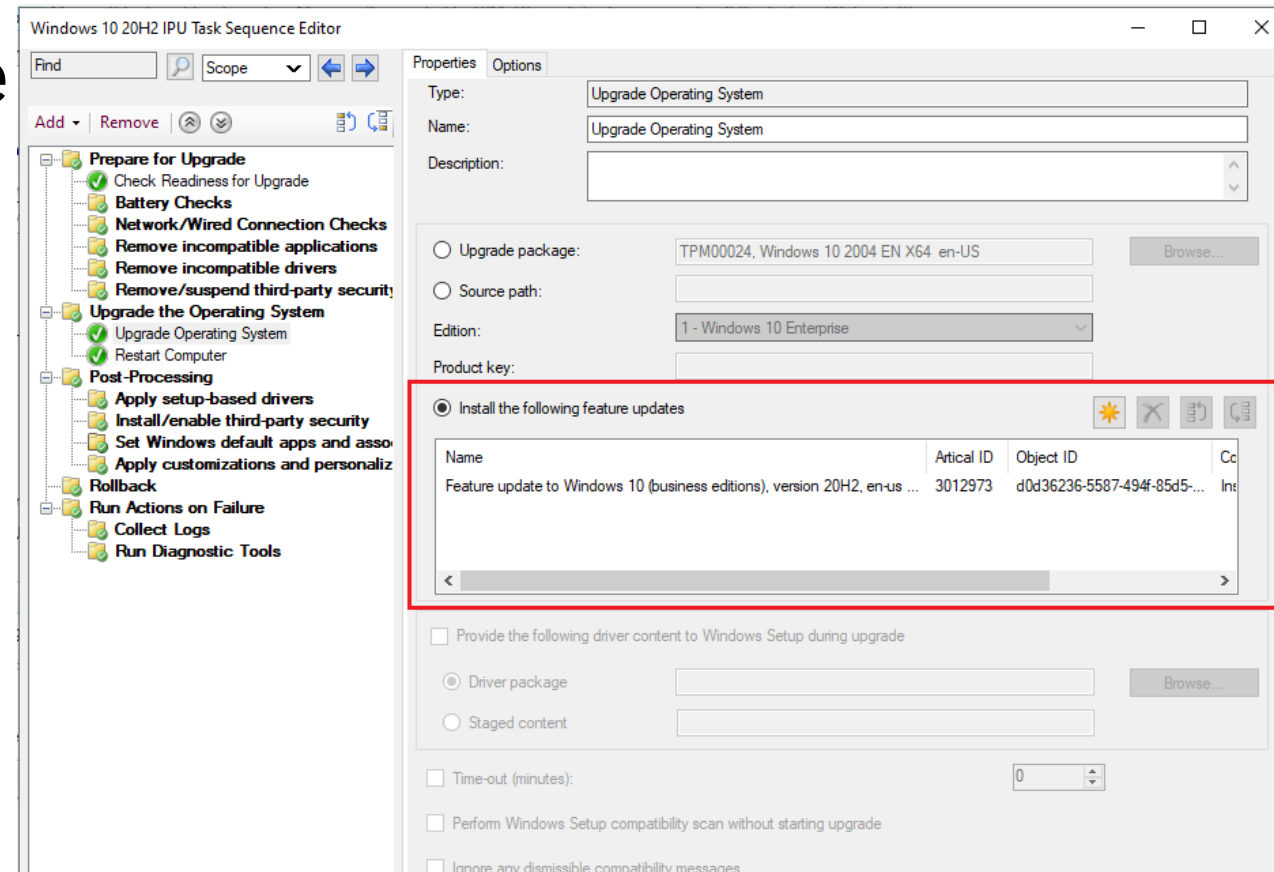
```
[Setupconfig]
BitLocker=AlwaysSuspend
Compat=IgnoreWarning
Priority=Normal
DynamicUpdate=Enable
ShowOOBE=None
Telemetry=Enable
PostOOBE=C:\Windows\AdvancedIPU\SetupComplete.cmd
PostRollBack=C:\Windows\AdvancedIPU\ErrorHandler.cmd
PostRollBackContext=System
```

Name	Date modified	Type	Size
Branding	2021-02-09 11:26	File folder	
RemoveApps	2021-02-08 15:09	File folder	
Brand_Win10.cmd	2020-02-10 23:29	Windows Comma...	4 KB
RemoveApps.ps1	2020-02-10 23:29	Windows PowerS...	13 KB
RunSilent.exe	2020-10-06 14:18	Application	14 KB
RunSilent.ini	2021-02-09 00:15	Configuration sett...	1 KB

<https://www.asquaredozen.com/2019/08/25/windows-10-feature-updates-using-setupconfig-ini-to-manage-feature-updates-in-the-enterprise/>

New in Configuration Manager 2103

- Feature update in Task Sequence
- Why you ask?
 - IPU Source = 5,1 GB
 - *.ESD = 3.8 GB
- Will always run Dynamic Updates
- Need to use setupconfig.ini



Advanced Windows Servicing (MEMCM)

- Community Tool
- DeploymentScheduler + IPUInstaller – by Johan Schrewelius
- Either patched Media or .Esd
- Post commands
- Driver updates

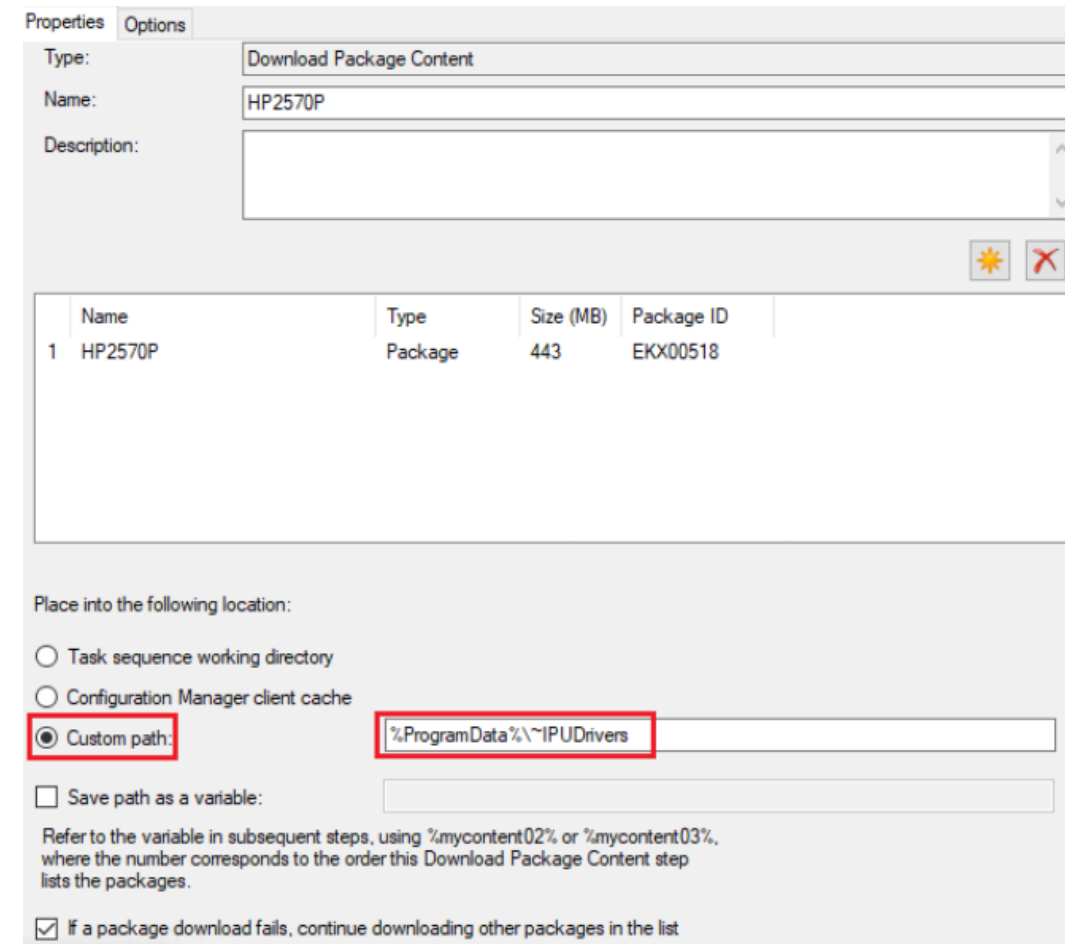
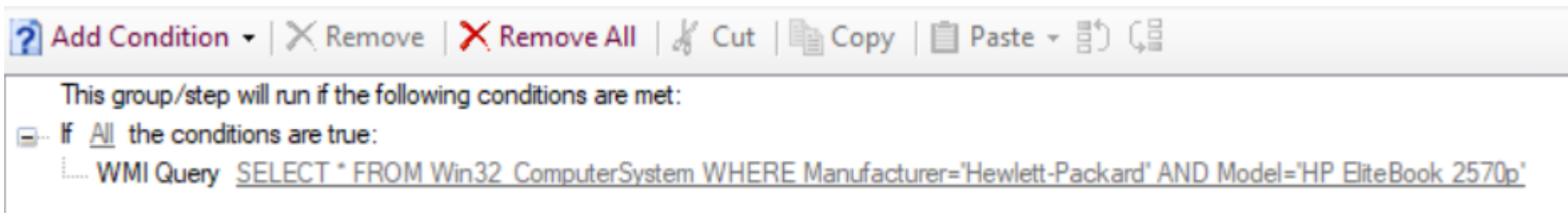
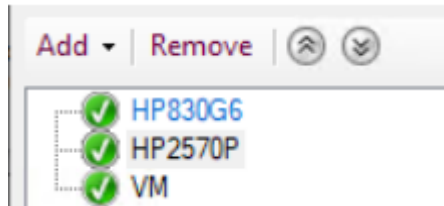
Name	Date modified	Type
ErrorHandler	2021-02-07 13:43	File folder
Media	2021-02-07 21:29	File folder
SetupComplete	2021-02-07 14:56	File folder
IpuInstaller.exe	2021-02-09 11:46	Application

<https://onevinn.schrewelius.it/>

his PC > New Volume (E:) > Sources > OS Upgrades > IPU-JN > IPUApplication > SetupComplete >				
Name	Date modified	Type	Size	
Branding	2021-02-07 13:43	File folder		
DefaultApps	2021-02-07 13:43	File folder		
Edge	2021-02-07 13:43	File folder		
RemoveApps	2021-02-07 13:44	File folder		
RemoveEdgeWelcome	2021-02-07 13:44	File folder		
StartMenu	2021-02-07 13:44	File folder		
StartMenuFiles	2021-02-07 13:44	File folder		
Brand_Win10.cmd	2020-02-10 23:29	Windows Comma...	4 KB	
ChangeSearchbarFor1903AndLater.ps1	2020-11-19 10:27	Windows PowerS...	2 KB	
CleanUp.ps1	2021-02-02 17:01	Windows PowerS...	1 KB	
DefaultApps.ps1	2020-02-10 23:29	Windows PowerS...	11 KB	
Importlayout.ps1	2020-02-10 23:29	Windows PowerS...	10 KB	
RemoveApps.ps1	2020-02-10 23:29	Windows PowerS...	13 KB	
RunSilent.exe	2020-10-06 14:18	Application	14 KB	
RunSilent.ini	2021-02-07 14:57	Configuration sett...	1 KB	

IPUInstaller - drivers

- Driver Package
- IPUDrivers.WIM anywhere in CCMCache





Recycle Bin



Google Chrome



Microsoft Edge



Microsoft Teams



Deployment scheduler



A Windows upgrade is available.
Please, schedule the upgrade.

Schedule

Postpone



Type here to search



13°C Molnigt



SWE

9:31 AM
11/19/2021



Why move to Servicing?

- User experience / productivity
- Content from Microsoft Update?
- Better WFH experience
- Windows 10 20h2 -> Windows 11 21h1 (Fujitsu Lifebook)

Technology	Installation	Reboot	User Downtime	Total tid
Task Sequence	14	9	25	23
Windows Servicing	38	4	4	42
IPUInstaller	12	3	3	15

Customizations Windows 11

Windows Display version has not changed!

- ProductName and ReleaseID is “**Deprecated**”
- Great for compatibility
- Bad for CM queries, scripts etc..

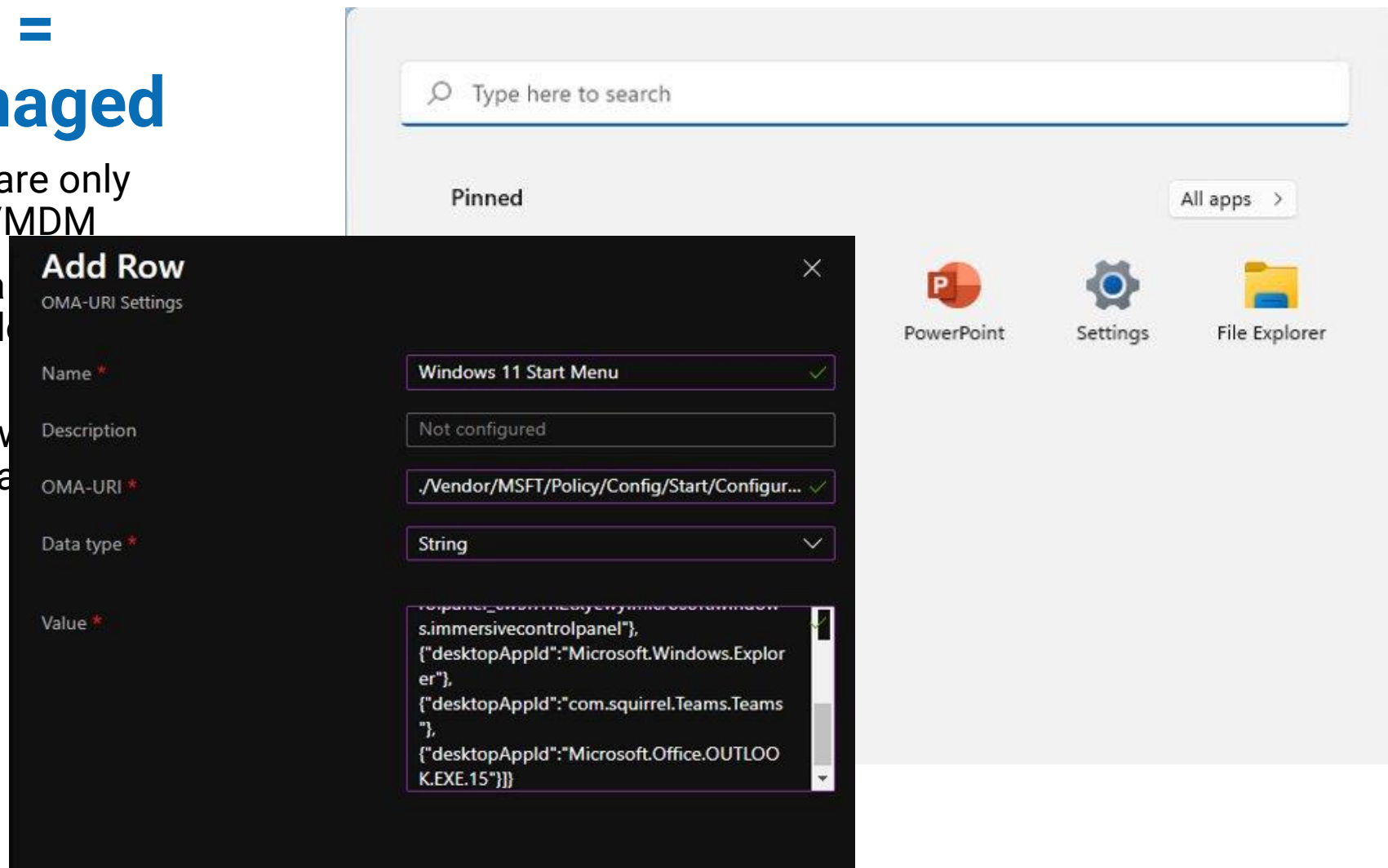
Name	Type	Data
(Default)	REG_SZ	(value not set)
BaseBuildRevisionNumber	REG_DWORD	0x00000001 (1)
BuildBranch	REG_SZ	co_release
BuildGUID	REG_SZ	ffffffff-ffff-ffff-ffff-ffffffffffff
BuildLab	REG_SZ	22000.co_release.210604-1628
BuildLabEx	REG_SZ	22000.1.amd64fre.co_release.210604-1628
CompositionEditionID	REG_SZ	Enterprise
CurrentBuild	REG_SZ	22000
CurrentBuildNumber	REG_SZ	22000
CurrentMajorVersionNumber	REG_DWORD	0x0000000a (10)
CurrentMinorVersionNumber	REG_DWORD	0x00000000 (0)
CurrentType	REG_SZ	Multiprocessor Free
CurrentVersion	REG_SZ	6.3
DigitalProductId	REG_BINARY	a4 00 00 00 03 00 00 00 30 33 33 30 2d 38 30 30 3...
DigitalProductId	REG_BINARY	f8 04 00 00 04 00 00 00 30 00 33 00 36 00 31 00 32 00...
DisplayVersion	REG_SZ	21H2
EditionID	REG_SZ	Enterprise
EditionSubManufacturer	REG_SZ	
EditionSubstring	REG_SZ	
EditionSubVersion	REG_SZ	
InstallationType	REG_SZ	Client
InstallDate	REG_DWORD	0x615c0f7e (1633423230)
InstallTime	REG_QWORD	0x1d7b9c4a780a85e (132778968305674334)
PathName	REG_SZ	C:\Windows
PendingInstall	REG_DWORD	0x00000000 (0)
ProductId	REG_SZ	00330-80000-00000-AA438
ProductName	REG_SZ	Windows 10 Enterprise
ReleaseId	REG_SZ	2009
SoftwareType	REG_SZ	System
SystemRoot	REG_SZ	C:\WINDOWS
UBR	REG_DWORD	0x000000c2 (194)

Windows 11 = modern managed

Most customizations are only possible using Intune/MDM

Example Start Menu, a menu can only be deployed via Intune/MDM

Export-StartLayout Powershell

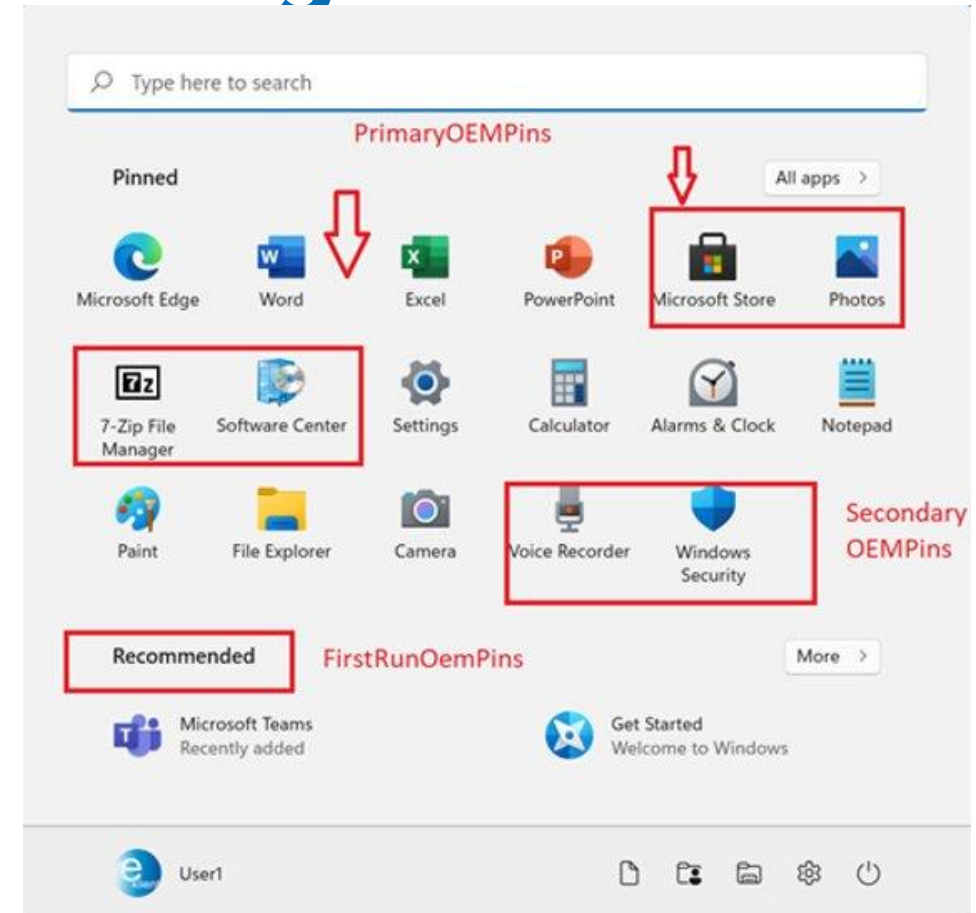


Customized Start Menu using "OEMPinned"

- An option created for OEMs which makes it possible to at modify some parts during OSD
- 4 st Primary OEMPins
- 4 st Secondary OEMPins
- 1st Recommended Managed with Layoutmodification.json

Copy the Layoutmodification.json during OSD:

```
Copy-Item -Path $PSScriptRoot'\LayoutModification.json'  
-Destination $env:SystemDrive\Users\Default\AppData\Local\Microsoft\Windows\Shell'
```



Sample LayoutModification.json

```
{
  "primaryOEMPins": [
    {
      "desktopAppLink": "%ALLUSERSPROFILE%\\Microsoft\\Windows\\Start Menu\\Programs\\7-Zip\\7-Zip File Manager.lnk"
    },
    {
      "desktopAppLink": "%ALLUSERSPROFILE%\\Microsoft\\Windows\\Start Menu\\Programs\\Microsoft Endpoint Manager\\Configuration Manager\\Software Center."
    },
    {
      "desktopAppLink": "%ALLUSERSPROFILE%\\Microsoft\\Windows\\Start Menu\\Programs\\Outlook.lnk"
    },
    {
      "packagedAppId": "Microsoft.WindowsTerminal_8wekyb3d8bbwe!App"
    }
  ],
  "secondaryOEMPins": [
    {
      "packagedAppId": "Microsoft.WindowsCamera_8wekyb3d8bbwe!App"
    },
    {
      "packagedAppId": "Microsoft.WindowsSoundRecorder_8wekyb3d8bbwe!App"
    },
    {
      "packagedAppId": "Microsoft.SecHealthUI_8wekyb3d8bbwe!SecHealthUI"
    }
  ],
  "firstRunOEMPins": [
    {
      "packagedAppId": "Microsoft.MicrosoftStickyNotes_8wekyb3d8bbwe!App"
    }
  ]
}
```

Customized taskbar

- Still possible using all the "old" options, Start-Layout; GPO, Import-startlayout, Intune.
- **Note:** Windows 10 Start Menu GPO hits a Windows 11 computer with a full Start-layout and Taskbar config, users can only unpin apps from start and NOT pin.
- Import-StartLayout -LayoutPath \$PSScriptRoot\Startmenustd.xml -MountPath \$env:SystemDrive\

```
Taskbar.xml - Notepad
File Edit Format View Help
<?xml version="1.0" encoding="utf-8"?>
<LayoutModificationTemplate
  xmlns="http://schemas.microsoft.com/Start/2014/LayoutModification"
  xmlns:defaultlayout="http://schemas.microsoft.com/Start/2014/FullDefaultLayout"
  xmlns:start="http://schemas.microsoft.com/Start/2014/StartLayout"
  xmlns:taskbar="http://schemas.microsoft.com/Start/2014/TaskbarLayout"
  Version="1">
  <CustomTaskbarLayoutCollection PinListPlacement="Replace">
    <defaultlayout:TaskbarLayout>
      <taskbar:TaskbarPinList>
        <taskbar:DesktopApp DesktopApplicationID="MSEdge"/>
        <taskbar:DesktopApp DesktopApplicationID="Microsoft.Windows.Explorer"/>
      </taskbar:TaskbarPinList>
    </defaultlayout:TaskbarLayout>
  </CustomTaskbarLayoutCollection>
</LayoutModificationTemplate>
```

Chat icon

- Points to personal Microsoft Teams

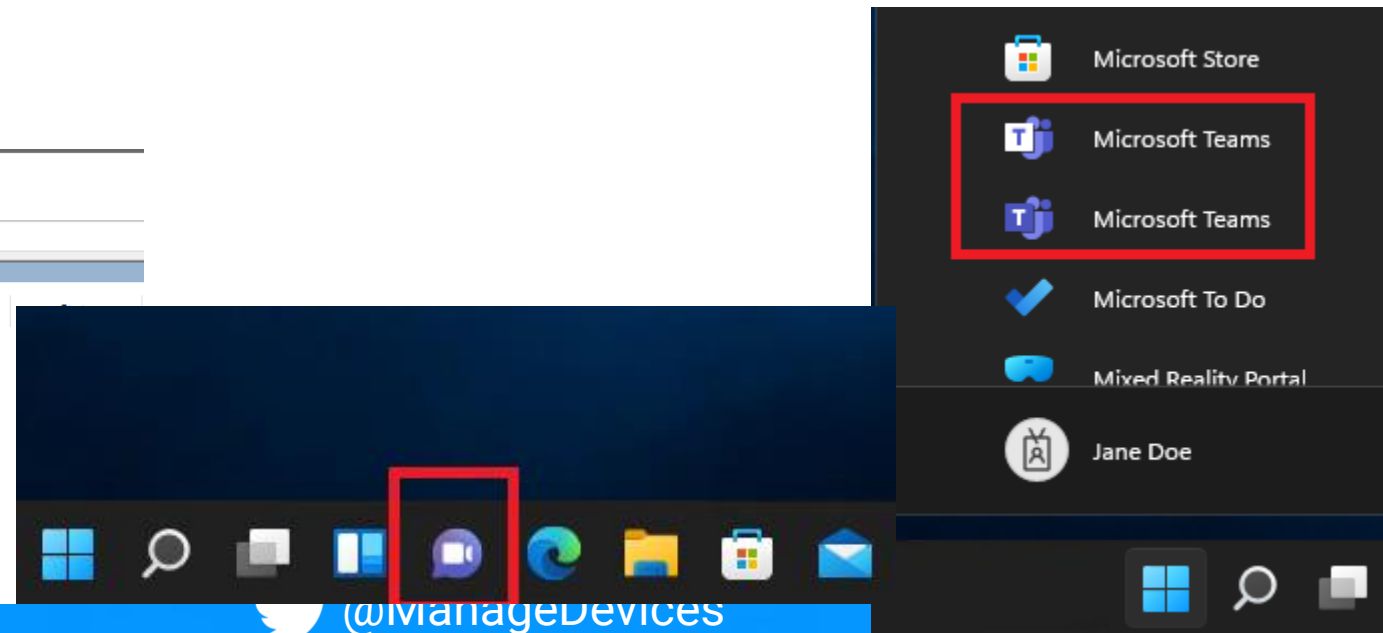
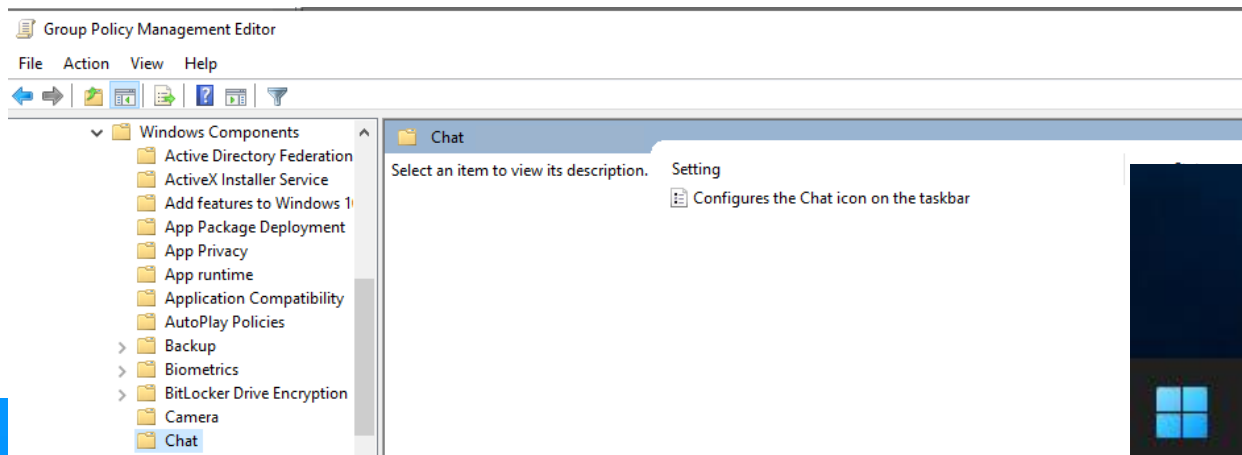
Can be disabled on modern managed clients using:

OMA-URI = **“./Device/Vendor/MSFT/Policy/Config/Experience/ConfigureChatIcon”**

Registry:[KEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Advanced]

“TaskbarMn”=dword:00000000

Group Policy



Start Location and more

- Start button alignment – 0 = Left
[HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Advanced]
"TaskbarAl"=dword:00000000

Remove Task View from the Taskbar
[KEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Advanced]
"ShowTaskViewButton"=dword:00000000

Remove Chat from the Taskbar
[KEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Advanced]
"TaskbarMn"=dword:00000000

Remove Widgets from the Taskbar
[KEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Explorer\Advanced]
"TaskbarDa"=dword:00000000

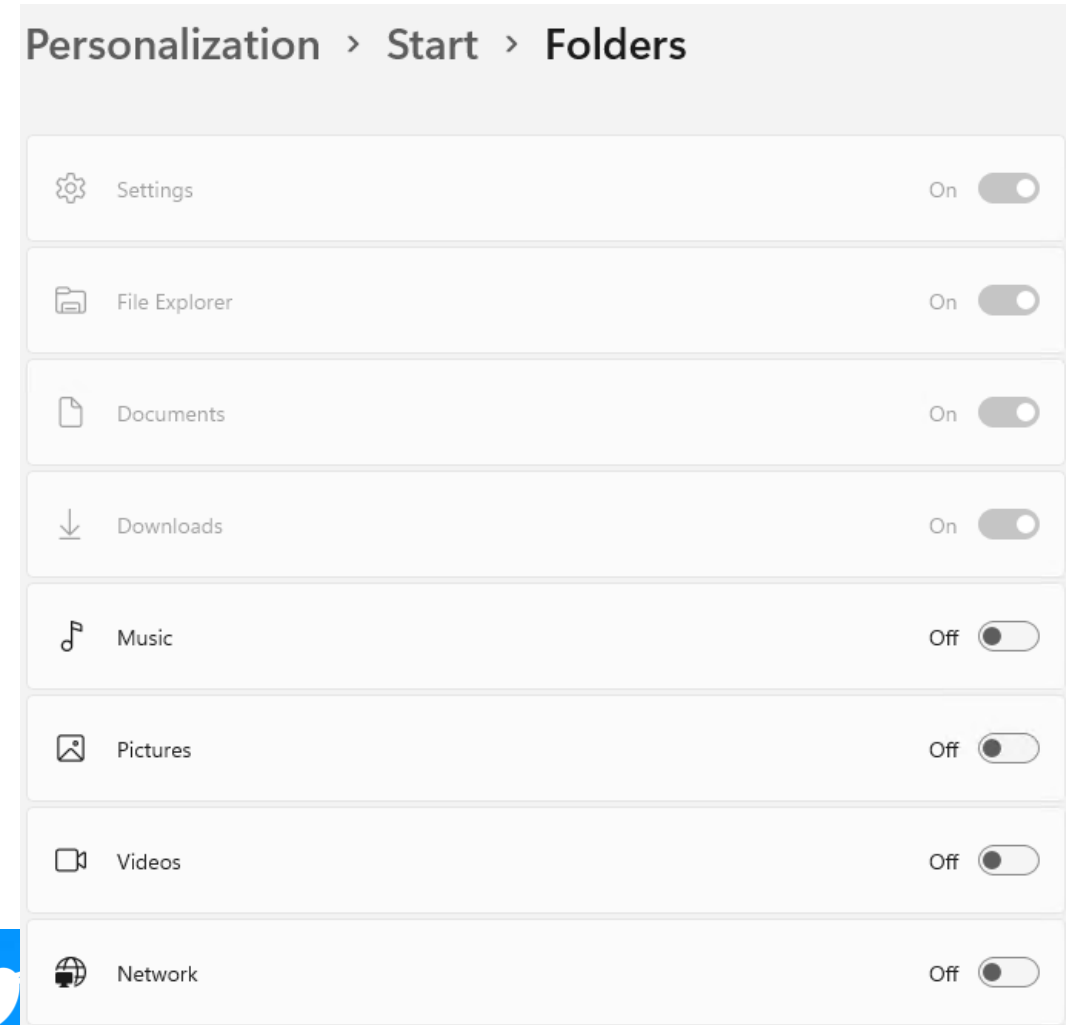
Remove Search from the Taskbar
[HKEY_CURRENT_USER\Software\Microsoft\Windows\CurrentVersion\Search]
"SearchboxTaskbarMode"=dword:00000000



Enable Start Menu folders

A great feature not enabled by default, can only be managed using Intune/MDM
PowerShell WMI/Bridge to the rescue
Downside, end users cannot change it

[Configure Windows 11 Start Menu folders using PowerShell - CCMEEXEC.COM - Enterprise Mobility](#)



Windows 11 Summary

- Best managed from the cloud
- Some features still missing, example Multi-App kiosk
- No Partial managed Start Menu

ⓘ Note

Currently, multi-app kiosk is only supported on Windows 10. It's not supported on Windows 11.