



Making Windows Autopilot Work for you

"making windows enrollment work for you"

Sponsors



Straight from the lakes



Sandy Zeng
Microsoft MVP Security
Intune | Windows



Role
Senior Cloud Architect



Focus
Intune · Identity · Security · Automation

Blog, Hobbies and more
Speaking:
Chinese (two languages),
Finnish, English



Connect with me



sandy-tsang

Straight from the fjords



Simon Skotheimsvik
Microsoft MVP



Role

Senior Cloud Consultant
CloudWay, Norway

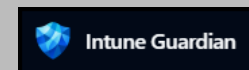
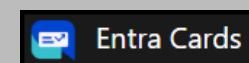


Focus

Intune · Entra ID · Security

Hobbies

Blogging, Speaking, Coding
Playing guitars
Three kids
One wife



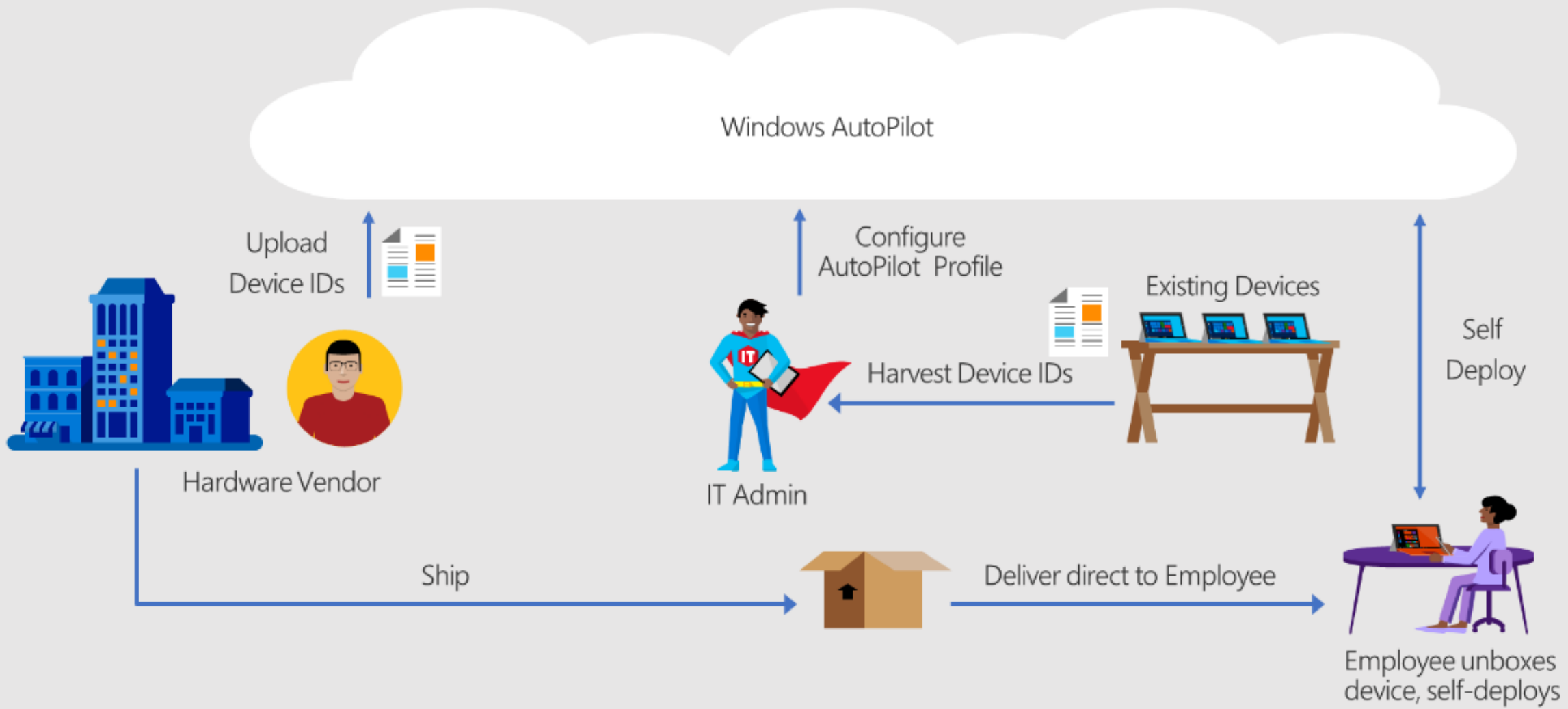
Connect with me

 /in/simonskotheimsvik

 skotheimsvik.no

 linktr.ee/simonskotheimsvik





Expectation vs Reality

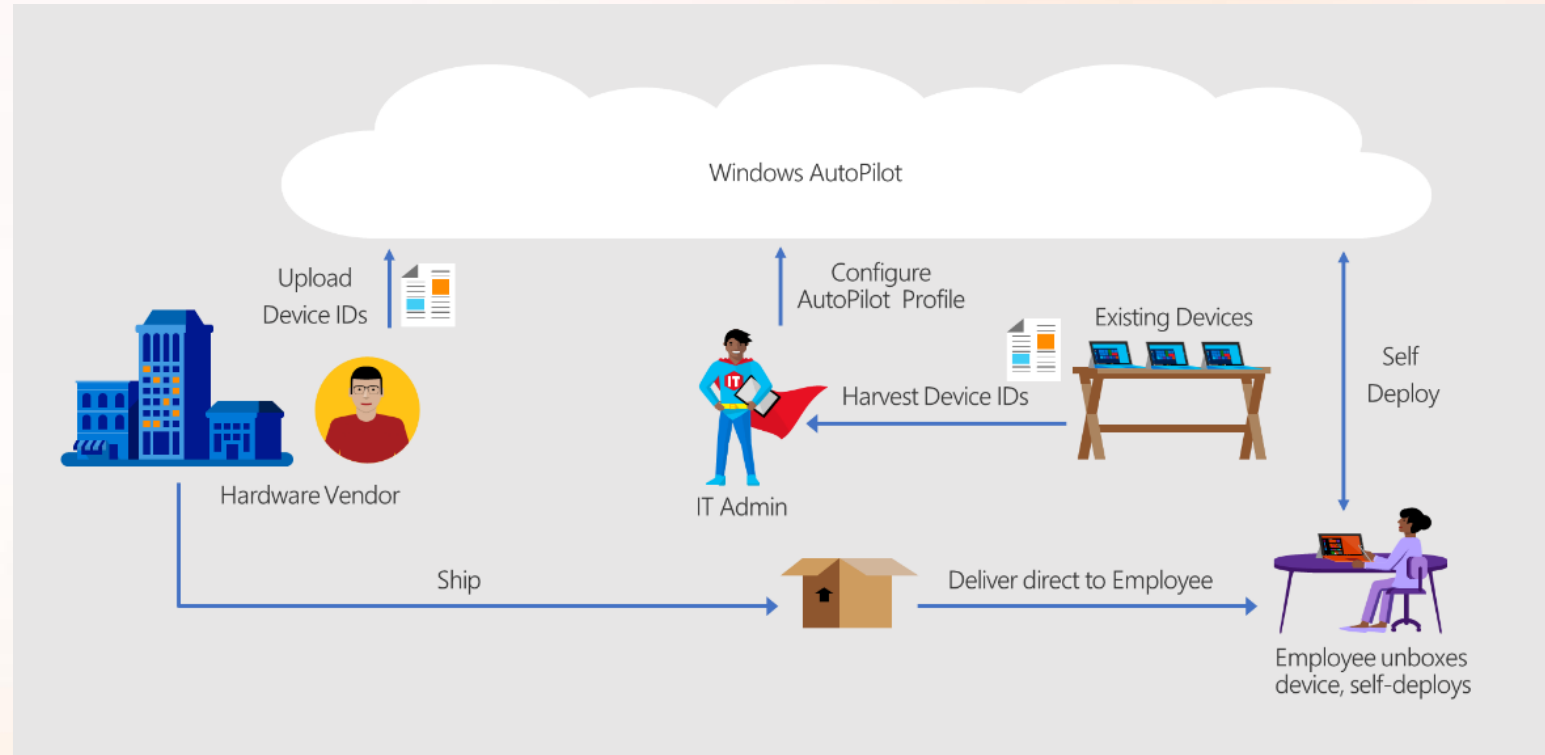


- **Autopilot should be simple... right?**

- User opens laptop
- Signs in
- **Everything is ready**

- **Reality:**

- ESP stuck
- Slow setup
- Inconsistent results
- Network blockers



Make Windows Autopilot Work for You



01



Planning

No one size fits all. What's best for you is up to you

02



Configurations

What breaks autopilot? Bad combinations of best practices
Targeting (users vs devices) can break the flow (pre-provisioning)
Autopilot v2 – disk already encrypted with 128, not 256
Conflicting configurations (expected/unexpected reboots, baselines)

03



Applications

Required vs Available
Control blocking apps
Control installations during OOBE

04



End User Experience

05



Troubleshooting?

06



Session Takeaways

01



Planning

No one size fits all. What's best for you is up to you



Start with the Right Questions

Before you touch Intune, answer these:

Entra ID Join or Hybrid Entra Join?

This alone determines which Autopilot options you have

User self-service, IT pre-staging, or kiosk/shared devices?

User-driven, pre-provisioning, self-deploy - each has trade-offs

How many apps must be installed before the user is productive?

Every required app is a potential failure point during enrollment

Your answers shape everything that follows.

Planning Checklist

- Identity: Entra Join vs Hybrid - decided
- Autopilot version: v1, v2
- Network: URLs allowlisted and tested
- Group Tags: naming convention defined
- Deployment profiles: configured and assigned
- Groups & Filters: designed
- ESP strategy: block / skip / which apps to track
- Required apps: minimized
- Compliance: grace period configured
- Windows Hello for Business: configured
- Testing: corporate + home + hotel network
- Logging: diagnostic collection enabled



Plan Provision/deployment method



Autopilot v1 (Classic)

- Hardware hash = device bound to tenant
Only known devices can enroll
Stronger device ownership model
- Deployment: User-driven, Pre-provision, Self-deploy
- Persona: User, Technician, Service provider
- Join Type: Entra ID Join, Hybrid Entra Join
- Enrollment Status Page
- Maturity: GA (Mature), Battle-tested

Most orgs are here today

Sept 2017
Announced at Ignite

2018
General availability

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Autopilot v2 – Device Preparation

- No hardware hash needed, just manufacture, model and serial number.
Not device ownership model, just an allow list

- Deployment: User-driven only
- Persona: User only
- Join: Entra ID Join only
- No Enrollment Status Page (ESP) headaches
- Maturity: GA (Windows 11 only)

Genuinely better experience, but not a drop-in replacement **(yet)**

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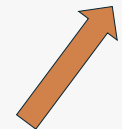
Genuinely better experience, but not a drop-in replacement **(yet)**

Autopilot v2 – Device Association

(Coming soon)

- Coming soon
- NDA
- NDA

COMING SOON





Limitation of Self-deploy

- Isn't supported for Microsoft Entra **hybrid join**
- Isn't supported for Token Protection Conditional Access:

<https://learn.microsoft.com/en-us/entra/identity/conditional-access/deployment-guide-token-protection-windows#known-limitations>

Token Protection is a Conditional Access session control that attempts to reduce token replay attacks by ensuring only device bound sign-in session tokens, like [Primary Refresh Tokens \(PRTs\)](#), are accepted by Microsoft Entra ID when applications request access to protected resources.



Why Most Orgs Are Still on v1

Process & automation investment

- Years of scripts, workflows, Group Tags, reporting built around v1
- Changing all of that is not trivial

Device ownership & security

- v1: Hardware hash binds the device to YOUR tenant
- v2: Corporate identifier is just an allow list (serial number)
- Not linked to the tenant - not the same level of device control
- Some organizations need to own the device, not just allow it

Required Scenarios

- Pre-provisioning, Self-deploy, Kiosk
- Hybrid Entra Join

v1 is not legacy - it is still the right choice for many scenarios

v2 - The Future Is Coming



What v2 does well today:

- Faster enrollment, more stable, simpler for users.
- No hardware hash management overhead
- No ESP timeouts or stuck screens

What is coming:

- Device Association - pre-associate users to devices
- Looks promising as a solution for IT pre-staging
- Still in development - stay tuned

The practical approach:

- Don't rip out v1 - it works
- Pilot v2 for new cloud-native, user-driven devices
- Plan your transition - don't rush it

Autopilot Monitoring



Microsoft Intune admin center

Home > Devices

Devices | Monitor

Search

Overview
All devices
Monitor

By platform

- Windows
- iOS/iPadOS
- macOS
- Android
- Linux

Device onboarding

- Enrollment

Manage devices

- Configuration
- Compliance
- Conditional access

This list includes all devices monitoring reports, including those in the overview.

Export Columns

auto Add filters

Report name	Category	Description
Windows Autopilot deployment status	Enrollment	Summary of deployment
Windows Autopilot device preparation deployment	Enrollment	Monitor the status of

Autopilot v1 Monitoring



Windows Autopilot deployments (preview) ...

Status of Autopilot deployments

Refresh Columns

Search Add filters

Data is retained for the last 30 days

Device name	Enrollment date ↓	Enrollment method	Serial number	User	Autopilot policy	Enrollment status ...	Deployment total time
MVP24-002	04/17/2026, 04:52 PM	User-driven Microsoft Entra ID	7063-6461-9540-2261-1923-5188-48	Test@smsboot.com	Entra Join Autopilot MVPOC	✓ Success	16 mins 26 secs
d7358048-df97-4b	04/17/2026, 12:04 AM	User-driven Microsoft Entra ID	7063-6461-9540-2261-1923-5188-48	Test@smsboot.com	Entra Join Autopilot MVPOC	✓ Success	15 mins 5 secs
6c17032a-a889-4a7	04/16/2026, 11:25 PM	User-driven Microsoft Entra ID	7063-6461-9540-2261-1923-5188-48	Test@smsboot.com	Entra Join Autopilot MVPOC	✓ Success	16 mins 56 secs
MVP24-003	04/16/2026, 10:53 PM	User-driven Microsoft Entra ID	5539-1761-7723-8313-0719-1673-55	Test@smsboot.com	Entra Join Autopilot MVPOC	✓ Success	22 mins 21 secs
4b79e8c2-3bc9-4d	04/16/2026, 10:29 PM	User-driven Microsoft Entra ID	7063-6461-9540-2261-1923-5188-48	Test@smsboot.com	Entra Join Autopilot MVPOC	? Unknown	0 secs

Autopilot v1 Monitoring

MVP24-002 - Properties

Windows Autopilot devices

Registered date ⓘ

02/03/2026, 02:21 PM

Enrollment date ⓘ

04/17/2026, 04:52 PM

Enrollment method ⓘ

User-driven Microsoft Entra ID

Serial number ⓘ

7063-6461-9540-2261-1923-5188-48

Operating system version ⓘ

10.0.26200.8038

Device name ⓘ

MVP24-002

User ⓘ

Test@smsboot.com

Autopilot profile ⓘ

Entra Join Autopilot MVP001

Enrollment status page profile ⓘ

Autopilot MVP001

Enrollment state ⓘ

Enrolled

Enrollment status page deployment state ⓘ

Success

Deployment start time ⓘ

04/17/2026, 04:52 PM

Deployment end time ⓘ

04/17/2026, 05:12 PM

Deployment total time ⓘ

16 mins 26 secs



Autopilot V2 Monitoring



Home > Devices | Monitor

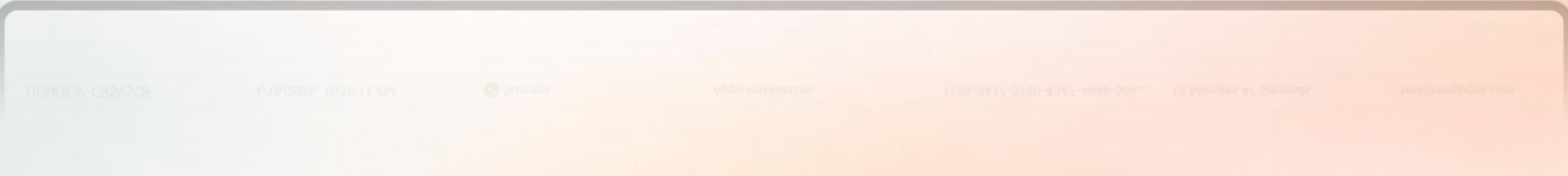
Windows Autopilot device preparation deployments ...

Refresh Export Columns

Search Add filters

Monitor the status of your Autopilot deployments for devices that have successfully enrolled to Intune.

Device name	Enrollment date	Deployment status	Phase	Serial number	Deployment time	UPN
DESKTOP-CR5V5QF	4/16/2026, 10:10:11 PM	Success	Apps installation	1128-9437-5780-4347-4846-566...	12 Minutes 47 Seconds	test@smsboot.com



Autopilot v2 Monitoring

Device deployment details

DESKTOP-CR5V5QF

Device Apps Scripts

Device name
[DESKTOP-CR5V5QF](#)

Deployment status
✔ Success

Intune device ID
12af0df6-3b55-4b4c-a653-c315a3c25503

Entra device ID
39e30e45-dd8d-4084-ac87-6b3bf35ea758

Serial number
1128-9437-5780-4347-4846-5666-27

Deployment policy
[Autopilot Preparation](#)

Policy version
3

OS version
10.0.26200.8037



Reporting

Autopilot v2



Device deployment details

DESKTOP-CR5V5QF

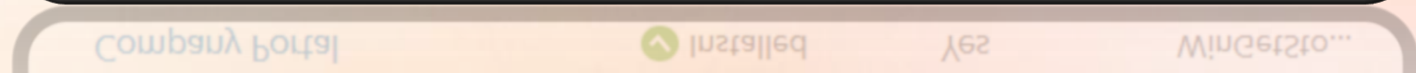
Device **Apps** Scripts

Refresh Columns

Search Add filters

Review the app install status during deployment for the apps selected in the device preparation profile and dependency apps. [Learn more about app status during Autopilot device preparation.](#)

App name	Status	Selected	App type
Microsoft 365 Apps for Enterprise	✓ Installed	Yes	WindowsCl...
Company Portal	✓ Installed	Yes	WinGetSto...



Autopilot v2 Monitoring



Device deployment details

DESKTOP-CR5V5QF

Device Apps **Scripts**

Refresh Columns

Search Add filters

Review the PowerShell scripts install status during deployment for the scripts selected in the device preparation profile. [Learn more about script status during Autopilot device preparation.](#)

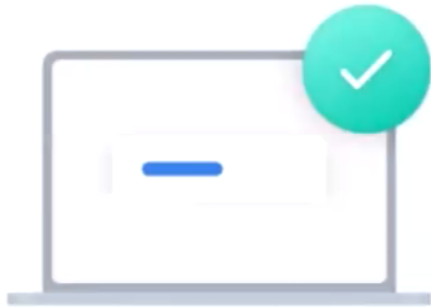
Script name	Status
WPS002 - Remove Built in apps	✓ Installed
WPS010 - Set Time Zone based on	✓ Installed
WPS001 - Update MpSignature	✓ Installed
WPS005 - Install OneDrive	✓ Installed



Name your device

Make this device yours with unique names. You can set your PC name so it's easy to recognize when connecting to it from other devices. If you don't name it now, we'll set it to a default name. You can change this name any time in Settings.

Your device will restart after you name it.



Name your device

Can't contain only numbers
No spaces or special characters other than hyphen (-),
dashes (— and –), and underscore (_)

Skip for now

Next

Autopilot v2



Plan Your Network

Microsoft's full URL list:

- <https://learn.microsoft.com/en-us/autopilot/requirements?tabs=networking>

The critical URLs:

- <https://ztd.dds.microsoft.com> - **Autopilot deployment service**
- <https://cs.dds.microsoft.com> - **Autopilot deployment service**
- <https://login.live.com> - **Authentication**

The trap: login.live.com works but ztd/cs do not?

- Device enrolls WITHOUT Autopilot profile!
- Looks enrolled, but skips all your customizations.

Plan Your Network



- **Network quality matters**

- Community tool

- <https://manima.de/2024/08/intune-network-requirements-everything-i-learned/>

- Corporate \neq home \neq hotel WiFi

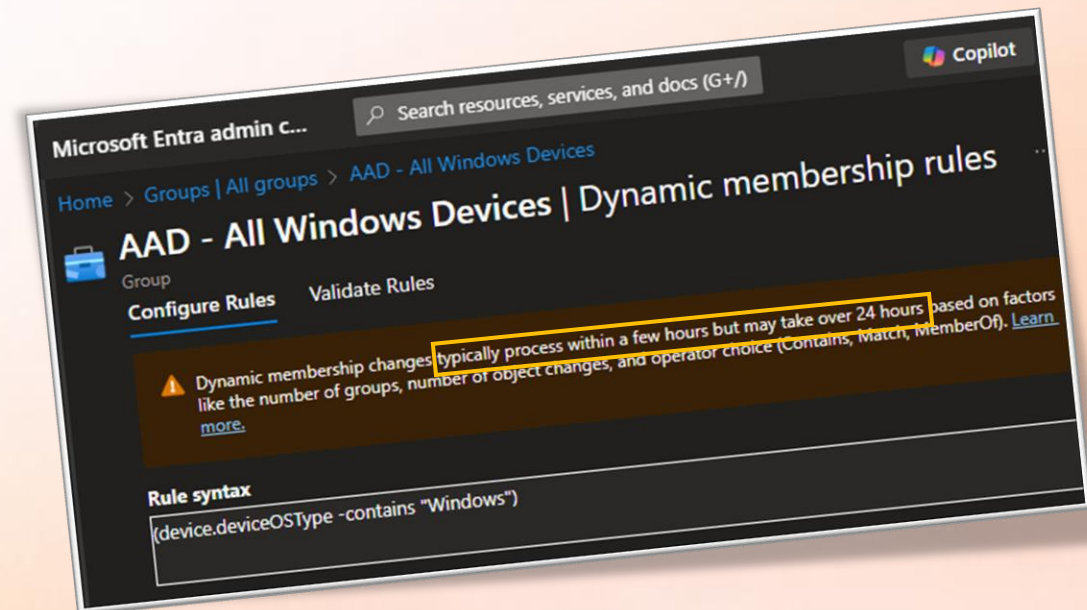
- Proxy/firewall SSL inspection can break things

- **What helps:**

- Test outside corporate network

Plan Intune naming and targeting

- Intune uses Entra groups (No SCCM collection)
- Naming standards for everything
- User group vs Device group
- Entra Dynamic groups
 - super slow
- Intune filters





Rename Enrollment profile

Problem

- Inconsistent naming conventions
 - Group tags
 - Enrollment profile names
- Tattooed to devices
- Intune filters, CA filters and dynamic device groups

Solution

- Plan, plan, plan!
- Scripts to change Group tags

The screenshot shows a PowerShell console window titled "Device count by EnrollmentProfileName". It contains a table with two columns: "Name" and "Count". The table lists four enrollment profiles and their corresponding device counts.

Name	Count
Autopilot Device Preparation Policy - Default	286
	122
AutoPilot Test Profile preprovisioned deployment	92
2023 AutoPilot Default Profile	62

Dynamic Groups vs Filters



- Dynamic Groups vs Filters
 - Filters – ESP filter only supports multiple supported properties, not all
 - Dynamic Groups – Remember the background update timing

Enrollment Status Page - Helpful or Painful?



What ESP does (v1):

- Tracks app/policy installation during OOB
- Blocks user until setup is complete
- Device Phase (system context) + User Phase (user context)

v2: No ESP at all

- v2 can choose what applications and PowerShell script want to install

The v1 reality:

- ESP often becomes THE bottleneck
- Timeout failures, stuck screens

Question: Do you actually need ESP for v1?



Let's set things up for your work or school

You'll use this info to sign in to your devices.



Sign in

@smsboot.com or @mvp24.onmicrosoft.com

Use your face, fingerprint, PIN, or security key instead ?

Choosing **Next** means that you agree to the [Microsoft Services Agreement](#) and [privacy and cookies statement](#).

Welcome to MVP24 !

Next



No ESP

ESP: Skip It? Or Keep it?



- **SKIP ESP**

You "can" SKIP ESP when:

- Cloud-native, all SaaS apps
- You want faster enrollment and accept background install
- You just want get to the desktop fast
- And don't care anything else

DON'T DO IT

Keep ESP

You NEED ESP when:

- Code-signed certificates (SCEP/PKCS)
- Must be present before user works
- Self-deploy Kiosk with Autologon
- Profile applies during ESP
- VPN config needed for first access
- Security apps (EDR, DLP) required
- Third party VPN

SkipUserESP? = user gets desktop faster

SkipUserESP?



OMA-URI:

./Vendor/MSFT/DMClient/Provider/MS DM Server/FirstSyncStatus/SkipUserStatusPage

Data type: Boolean

Value: True

Required *SkipUserESP (True)* for Autopilot Self-deploy Kiosk Autologon with KioskUser0, otherwise the application won't install after ESP is finished.

<https://learn.microsoft.com/en-us/autopilot/faq#why-don-t-applications-install-after-the-esp-is-finished-on-an-intune-managed-device-when-using-autologon-with-windows-autopilot-self-deploing-mode->

Recommend SkipUserESP (True) for Hybrid join.



Setting up for work or school

This will take a few minutes. Your device might need to restart as we complete the setup.

Registering your device for mobile management
(Completed)

Preparing your device for mobile management
(Completed)



Device setup

Working on it...

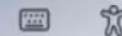
Security policies (5 of 5 applied)

Certificates (No setup needed)

Network connections (No setup needed)

Apps (1 of 2 installed)

Account setup



SkipUserESP
set to True

No User
setting applies



SkipUserESP set
to False or not
configured
(default)

User settings will
apply

Setting up for work or school

This will take a few minutes. Your device might need to restart as we complete the setup.

Security policies (0 of 0 applied)

Certificates (No setup needed)

Network connections (No setup needed)

Apps (1 of 2 installed)



Account setup

Waiting

Joining your organization's network (Waiting)

Security policies (Waiting)

Certificates (Waiting)

Network connections (Waiting)

Apps (Waiting)

02



Configurations

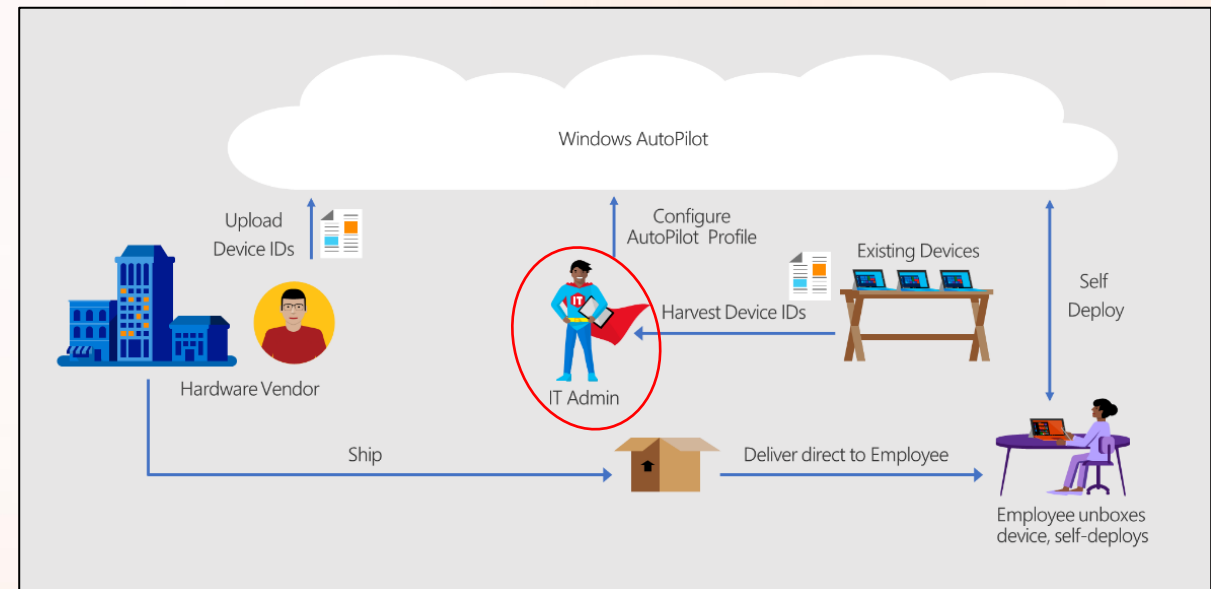
What breaks autopilot? Bad combinations of best practices
Targeting (users vs devices) can break the flow (pre-provisioning)
Autopilot v2 – disk already encrypted with 128, not 256
Conflicting configurations (expected/unexpected reboots, baselines)



Where problems actually start

- **Most issues start before the device is turned on**

- Too many required apps
- Poor targeting (user vs device)
- No real-world testing
- Failing apps
- Network challenges



- **Key point:**

Configurations are the root of most of these issues

Setting up for work or school

This will take a few minutes. Your device might need to restart as we complete the setup.

Completed



Device setup

Working on it...



Security policies (1 of 1 applied)

Certificates (No setup needed)

Network connections (No setup needed)

Apps (0 of 1 installed)

Account setup

Waiting



Policies That Break Autopilot (v1)



- Administrative Templates Remove category
MSS (Legacy) Remove subcategory

32 of 33 settings in this subcategory are not configured

MSS: (AutoAdminLogon) Enable Automatic Logon (not recommended) Disabled

- Registry keys that affect Windows Autopilot if a device setting requires a reboot during device ESP

Registry key:
If the `AutoAdminLogon` registry key is set to `0` (disabled) this breaks Windows Autopilot.

Registry path:
`HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon\Automatic logon`

Policies That “Break” Autopilot (v1)

- Policies that conflict with Autopilot
- Security baseline (Microsoft, CIS, STIG...)
- Unexpected reboot
- Pre-provisioning with Device lock, break password-less

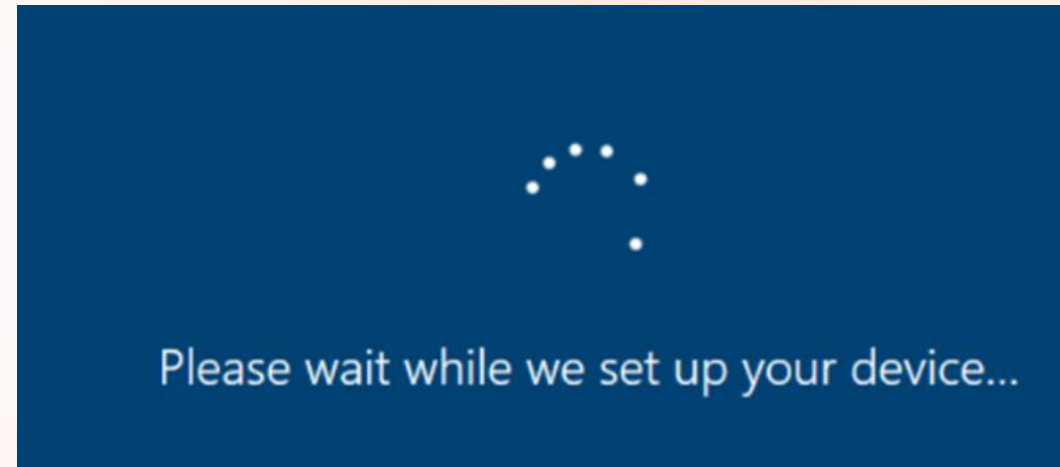


Policies breaking Autopilot



Some settings that usually work after the device is provisioned can cause conflict with Autopilot.

- Known policies conflict with Autopilot.
<https://learn.microsoft.com/en-us/autopilot/troubleshooting-faq#what-are-some-of-the-known-policies-that-conflict-with-windows-autopilot->
- Knowledge from the community
 - <https://patchmypc.com/autopilot-pre-provisioning-invalid-token-801c03ed-entra-join>
by Rudy Ooms



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Policy	More information
Disallow changing of language/region/keyboard	This group policy object (GPO) isn't supported during the out-of-box experience (OOBE) flow as it impacts the autologon experience. If this policy needs to be applied for users, select to hide these pages in the Windows Autopilot profile to prevent users from making changes.
AppLocker CSP	The AppLocker configuration service provider (CSP) isn't supported in the Enrollment Status Page as it triggers a reboot when a policy is applied and occurs.
Device restriction/Password Policy	The out-of-box experience (OOBE) or user desktop autologon can fail if a device reboots during the device Enrollment Status Page (ESP). This failure occurs when certain DeviceLock policies are applied to a device. Such policies include: <ul style="list-style-type: none">• Minimum password length and password complexity• Any similar group policy settings (including any that disable automatic password generation) This possible failure is especially true for kiosk scenarios where passwords are automatically generated.
Windows Security Baseline/Administrator elevation prompt behavior	These policies require a reboot, as a result more prompts might appear during the Enrollment Status Page (ESP) when modifying user account control (UAC) settings during the OOBE using the Enrollment Status Page (ESP). Increased prompts are more likely if the policies are applied to users instead of devices so that they apply later in the provisioning process.
Windows Security Baseline/Require admin approval mode for administrators	
Windows Security Baseline / Enable virtualization based security	
Device restrictions/Cloud and Storage/Microsoft Account sign-in assistant	Setting this policy to "disabled" turns off the Microsoft Sign-in Assistant (widsvc). Windows Autopilot requires this service to get the Windows user profile.
Registry keys that affect Windows Autopilot if a device setting requires a reboot during device ESP	Registry key: If the <code>AutoAdminLogon</code> registry key is set to 0 (disabled), this breaks Windows Autopilot. Registry path: <code>HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\WinLogon\Automatic Logon</code>
MDM wins over Group Policy	This policy allows control of which policy is used when both the MDM and its equivalent Group Policy (GP) are set on the device.
Group Policy Objects (GPOs) that affect Windows Autopilot for pre-provisioned deployment	Windows Autopilot pre-provisioning doesn't work when any of the four settings listed here are enabled.

Policies That Break Autopilot (v1)

Some settings that usually work after the device is provisioned can cause conflict with Autopilot.

- Known policies conflict with Autopilot.
<https://learn.microsoft.com/en-us/autopilot/troubleshooting-faq#what-are-some-of-the-known-policies-that-conflict-with-windows-autopilot->
- Knowledge from the community
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	<ul style="list-style-type: none">• Minimum password length and password complexity• Any similar group policy settings (including any that disable auto) <p>This possible failure is especially true for kiosk scenarios where passwords are automatically generated.</p>
Windows Security Baseline/Administrator elevation prompt behavior	These policies require a reboot, as a result more prompts might appear when modifying user account control (UAC) settings during the OOBЕ using the Enrollment Status Page (ESP). Increased prompts are more likely if the device reboots after policies are applied. To work around this issue, the policies should be targeted to users instead of devices so that they apply later in the process.
Windows Security Baseline/Require admin approval mode for administrators	
Windows Security Baseline / Enable virtualization based security	
Device restrictions/Cloud and Storage/Microsoft Account sign-in assistant	Setting this policy to "disabled" turns off the Microsoft Sign-in Assistant (widsvc). Windows Autopilot requires this service to get the Windows Hello profile.
Registry keys that affect Windows Autopilot if a device setting requires a reboot during device ESP	Registry key: If the AutoAdminLogon registry key is set to 0 (disabled), this breaks Windows Autopilot. Registry path: <code>HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Winlogon\Automatic logon</code>
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Group Policy Objects (GPOs) that affect Windows Autopilot for pre-provisioned deployment	Windows Autopilot pre-provisioning doesn't work when any of the four settings listed here are enabled. GPO path: Computer Configuration\Windows Settings\Security Settings\Local Policies\Security Options Policies: Interactive logon: Message title for users attempting to log on Interactive logon: Message text for users attempting to log on Interactive logon: Require Windows Hello for Business or smart card User Account Control: Behavior of the elevation prompt for administrators in Admin Approval Mode - Prompt for credentials on the secure desktop
PreferredAadTenantDomainName	When this policy is enabled, it adds the preferred domain to DefaultUserDomainNameSet, which causes autologon to fail.

Group Policy Objects (GPOs) that affect Windows Autopilot for pre-provisioned deployment

Windows Autopilot pre-provisioning doesn't work when any of the four GPO policy settings listed here are enabled.

GPO path:

Computer Configuration\Windows Settings\Security Settings\Local Policies\Security Options

Policies:

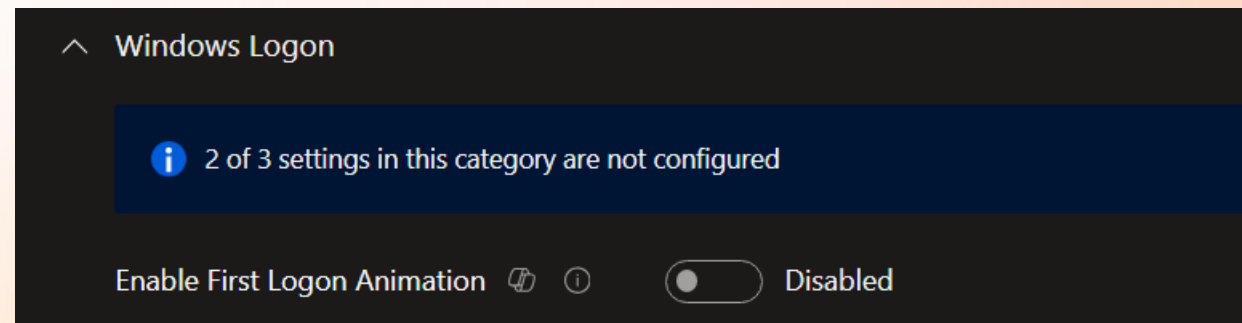
Interactive logon: Message title for users attempting to log on

Interactive logon: Message text for users attempting to log on

If you use the Interactive Logon message, the device will have a black screen during Autopilot.

Solution:

Disable First Logon Animation





⚠ Warning! ⚠

- Disabling Microsoft Account Sign-in Assistant will break Autopilot Pre-Provisioning.

ⓘ Note

If the Microsoft Account Sign-In Assistant (wlidsvc) is disabled during the Technician Flow, the Azure AD sign in option may not show. Instead, users are asked to accept the EULA, and create a local account, which may not be what you want.



Avoid ESP **Unexpected** Reboots

ESP Reboots (v1):

Expected: only during Device phase, triggered by Intune

- App reboot suppressed until end of device setup

Unexpected: never use 'shutdown.exe /r' in scripts!

- Use exit code 3010 (soft reboot) instead

BitLocker - Handle with Care



BitLocker & Autopilot v2:

- v2 uses default XTS-128 encryption
- REGARDLESS of your BitLocker policy (even if set to XTS-256)!
- This is a known v2 behavior - plan for it

BitLocker & Compliance:

- Device Health (BitLocker, Secure Boot) may need reboot
- CA checking compliance can block access too early
- Solution: compliance grace period

"Password-less" with Autopilot



FIDO Key & Web Sign-in for Autopilot

- Passwordless from the very first login
- But: Pre-provisioning + **Device Lock** setting targeted to device, FIDO and Web Sign-in options won't show!

Workaround: Target Device Lock policy to users

03



Applications

Required vs Available
Control blocking apps
Control installations during OOB

Applications in Autopilot ESP



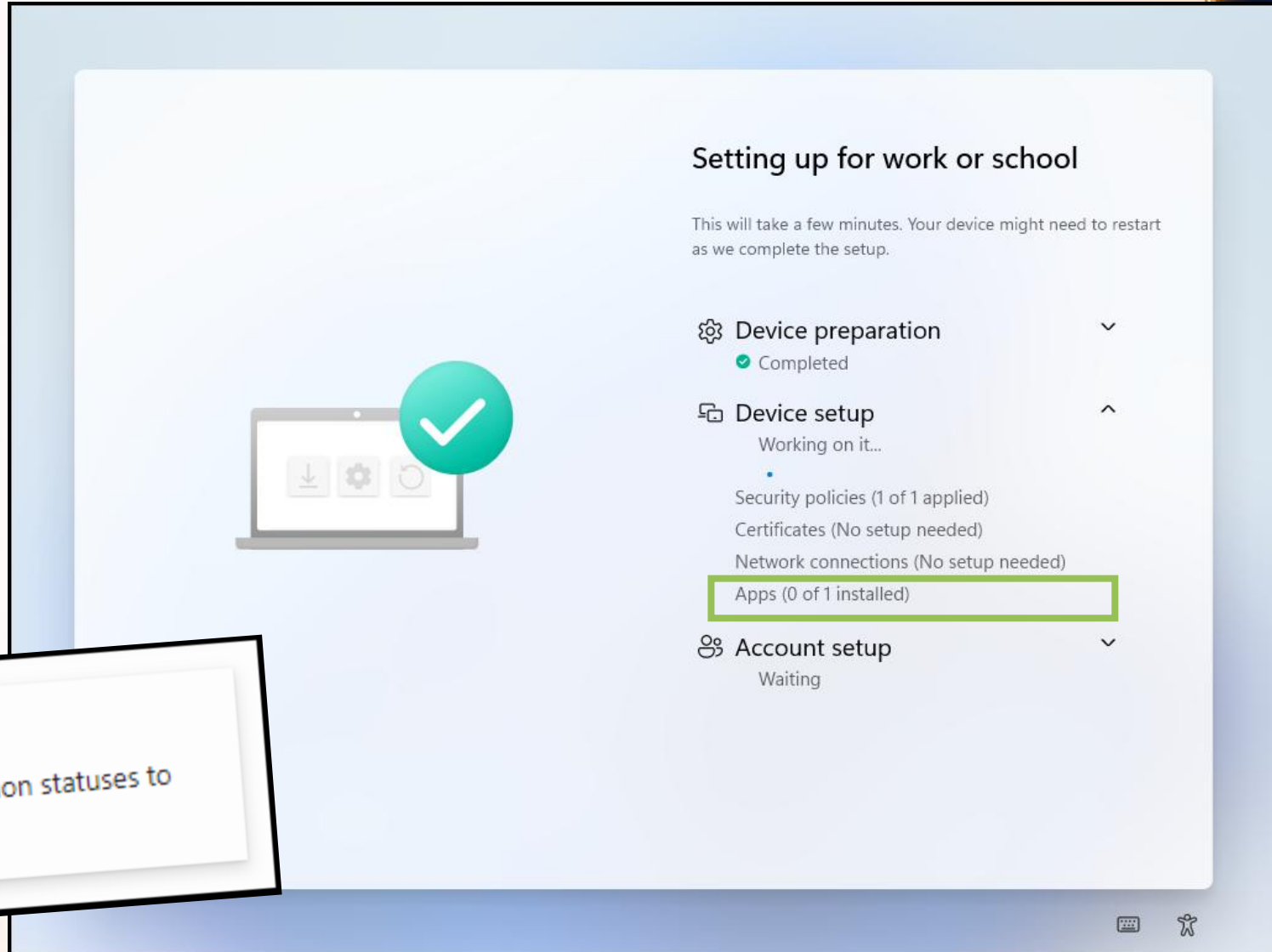
Applications in Autopilot ESP




Enrollment Status Page

Show app and profile installation statuses to users during device setup.

Applications in Autopilot ESP



 **Enrollment Status Page**
Show app and profile installation statuses to users during device setup.

Applications in Autopilot ESP



Setting up for work or school

This will take a few minutes. Your device might need to restart as we complete the setup.



Device preparation

Completed

Device setup

Working on it...

- Security policies (1 of 1 applied)
- Certificates (No setup needed)
- Network connections (No setup needed)
- Apps (0 of 1 installed)

Account setup

Waiting



Enrollment Status Page

Show app and profile installation statuses to users during device setup.

Home > Devices | Enroll devices > Enroll devices | Windows enrollment > Enrollment Status Page > All users and all devices

All users and all devices | Properties

Search

Overview

Manage

Properties

Basics

Name	All users and all devices
Description	This is the default enrollment status screen configuration applied with the lowest priority to all users and all devices regardless of group membership.

Settings Edit

Show app and profile configuration progress	Yes
Show an error when installation takes longer than specified number of minutes	60
Show custom message when time limit or error occurs	Yes
Error message	Setup could not be completed. Please try again or contact your support person for help.
Turn on log collection and diagnostics page for end users	Yes
Only show page to devices provisioned by out-of-box experience (OOBE)	Yes
Block device use until all apps and profiles are installed	Yes
Allow users to reset device if installation error occurs	Yes
Allow users to use device if installation error occurs	No
Only fail selected blocking apps in technician phase	No
Block device use until required apps are installed if they are assigned to the user/device	Company Portal

Assignments

Included groups	All devices
-----------------	-------------

Scope tags Edit

Applications in Autopilot ESP



Setting up for work or school

This will take a few minutes. Your device might need to restart as we complete the setup.



Device preparation

Completed

Device setup

Working on it...

- Security policies (1 of 1 applied)
- Certificates (No setup needed)
- Network connections (No setup needed)
- Apps (0 of 1 installed)

Account setup

Waiting



Enrollment Status Page

Show app and profile installation statuses to users during device setup.

Home > Devices | Enroll devices > Enroll devices | Windows enrollment > Enrollment Status Page > All users and all devices

All users and all devices | Properties

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Only show page to devices provisioned by out-of-box experience (OOBE)	Yes
Block device use until all apps and profiles are installed	Yes
Allow users to reset device if installation error occurs	Yes
Allow users to use device if installation error occurs	No
Only fail selected blocking apps in technician phase	No
Block device use until required apps are installed if they are assigned to the user/device	Company Portal

Assignments

Included groups	All devices
-----------------	-------------

Scope tags Edit



Applications in Autopilot ESP

YES (Default):

- Pre-provisioning takes a longer time
- Installs all required apps, but only failed tracked apps

NO:

- Pre-provisioning will be faster
- Install only apps that are in the blocking (tracking) list

Show custom message when time limit of error occurs	Yes
Error message	Setup could not be completed. Please contact your administrator for help.
Turn on log collection and diagnostics page for end users	Yes
Only show page to devices provisioned by out-of-box experience (OOBE)	Yes
Block device use until all apps and profiles are installed	Yes
Allow users to reset device if installation error occurs	Yes
Allow users to use device if installation error occurs	No
Only fail selected blocking apps in technician phase	No
Block device use until required apps are installed if they are assigned to the user/device	Company Portal

Applications in Autopilot ESP



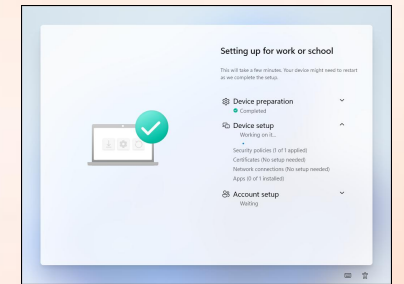
Company Portal **CloudWay** Search apps

Apps All Categories

Sort by: Name ascending

1Password 8.10.46 Installed	7-Zip 24.08 Igor Pavlov	Adobe Acrobat Reader DC... Adobe Systems, Inc.	Adobe Creative Cloud Installed	Apple Devices Installed	Audacity 3.6.4 Audacity Team
Camtasia 2023 23.4.8.53233 TechSmith Corporation	Citrix Workspace 24.5.11.31 Citrix Systems, Inc.	DisplayLink 11.5.5551 DisplayLink Corp.	Dropbox 209.4.3661 Dropbox, Inc.	EndNote X9 19.3.3.13966 Installed	Evernote 10.110.15 Evernote Corp. NEW
Gimp 2.10.38 Installed	GlobalProtect 5.2.5 Installed	Google Chrome 129.0.6668.101 Google, Inc. NEW	Gp4win 4.3.1 The Gpg4win Project	GraphPad Prism Latest 10.3.1509 GraphPad Software LLC	IBM SPSS Statistics 28.0.0.0 Installed
iCloud	Inkscape 1.3.2	K-Lite Standard	Logitech Options	MAXODA 2022	

Settings



Home > Devices | Enroll devices | Windows enrollment > Enrollment Status Page > All users and all devices

All users and all devices | Properties

Search

Overview

Manage

Properties

Settings	Value
Show app and profile configuration progress	Yes
Show an error when installation takes longer than specified number of minutes	60
Show custom message when time limit or error occurs	Yes
Error message	Status could not be completed. Please try again or contact your support person for help.
Turn on log collection and diagnostics page for end users	Yes
Only show page to devices provisioned by our out-of-box experience (OOBE)	Yes
Block device use until all apps and profiles are installed	Yes
Allow users to reset device if installation error occurs	Yes
Allow users to use device if installation error occurs	No
Only fail selected blocking apps in technician phase (preview)	No
Block device use until required apps are installed if they are assigned to the user/device	Company Portal

Assignments

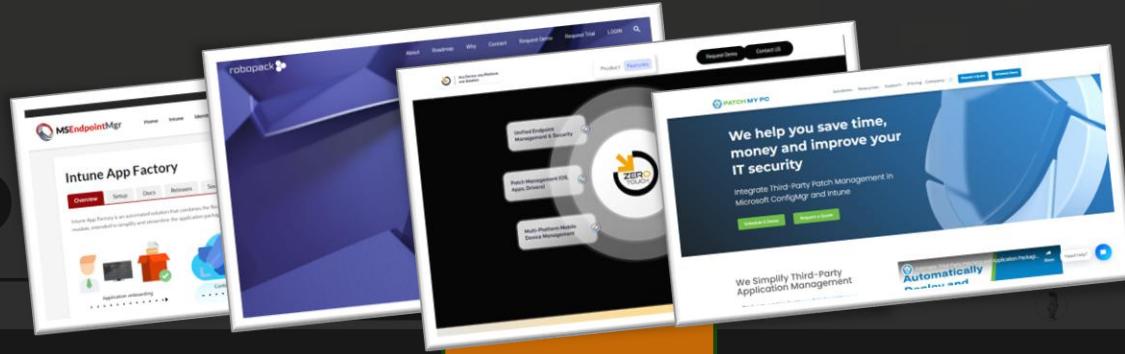
Included groups

Scope tags

Enrollment Status Page

Show app and profile installation statuses to users during device setup.

Application



Company Portal CloudWay

- Home
- Apps
- Downloads & updates
- Devices
- Help & support

Microsoft Intune admin center

- Home
- Dashboard
- All services
- Devices
- Apps
- Endpoint security
- Reports
- Users
- Groups
- Tenant administration
- Troubleshooting + support

Home > Apps | Windows > Windows | Windows apps > Adobe Acrobat Reader DC

Adobe Acrobat Reader DC | Properties

Client Apps

Search

- Overview
- Manage
- Properties
- Monitor
 - Device install status
 - User install status

Scope tags [Edit](#)

Default

Assignments [Edit](#)

Group mode	Group	Filter mode	Filter	End user notifications	Installation de
Required					
Available for enrolled devices					
Included	All devices	None	None	Show all toast notificat...	As soon as po
Uninstall					

Settings iCloud Inkscape 1.3.2 K-Lite Standard

Setting up for work finished

- Device properties
- Device status
- Account info

Endpoint Status Page
Show app and provide installation status to users during device setup.

Application Challenges



The Challenge:

Application is required, but will break ESP flow

The Solution:

Add a requirement script to detect if you are in OOB.

App information Program Requirements Detection rules Review + save

Specify the requirements that devices must meet before the app is installed:

Operating system architecture * ⓘ

Minimum operating system * ⓘ

Disk space required (MB) ⓘ

Physical memory required (MB) ⓘ

Minimum number of logical processors required ⓘ

Minimum CPU speed required (MHz) ⓘ

Configure additional requirement rules

Type	Path/Script	
Script	ESP-Condition.ps1	...

+ Add

04



End User Experience

End User Experience

When is the device ready?

When is the user productive?



Checking

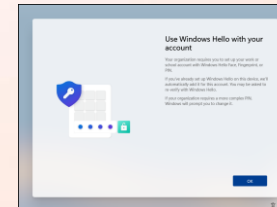
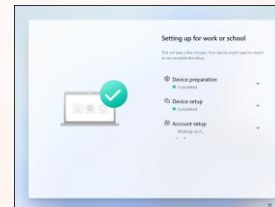
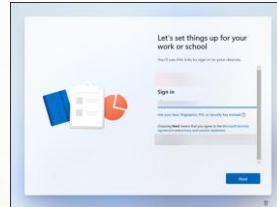
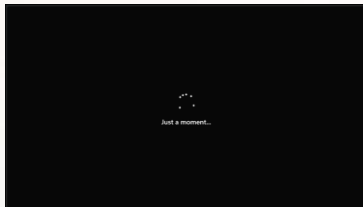
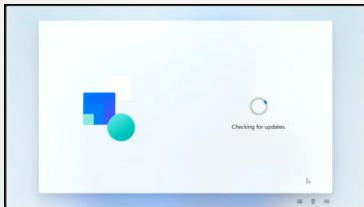
Reboot

Signing in

ESP

WHfB

Desktop

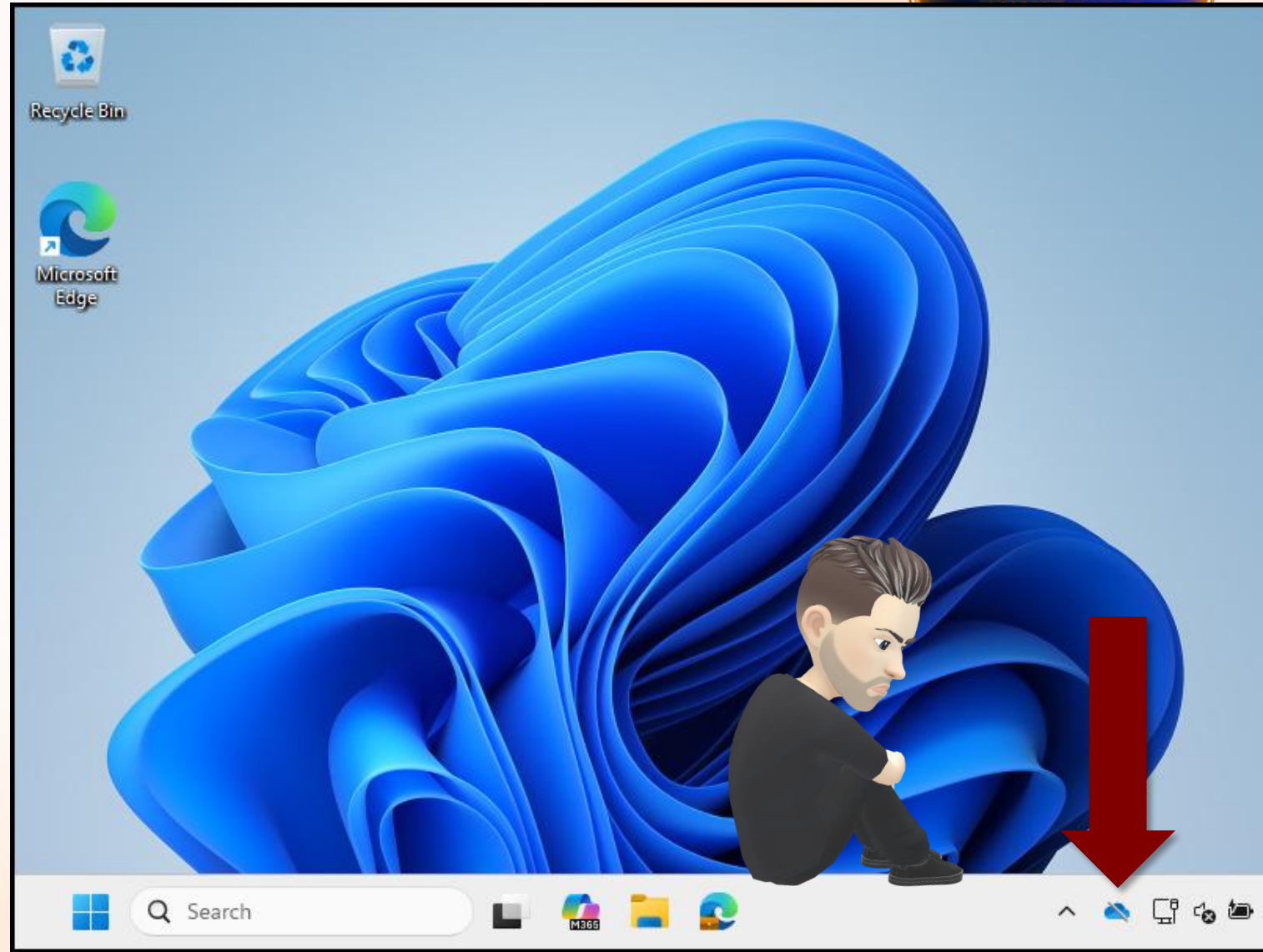


End User Experience



Challenge

- **OneDrive is not updated**
- Defender is not updated
- Time zone is wrong
- Windows Hello for Business is not onboarding
- Device not compliant, user blocked by CA
- App configurations
- Tune Windows Experience



End User Experience



Challenge

- **OneDrive is not updated**
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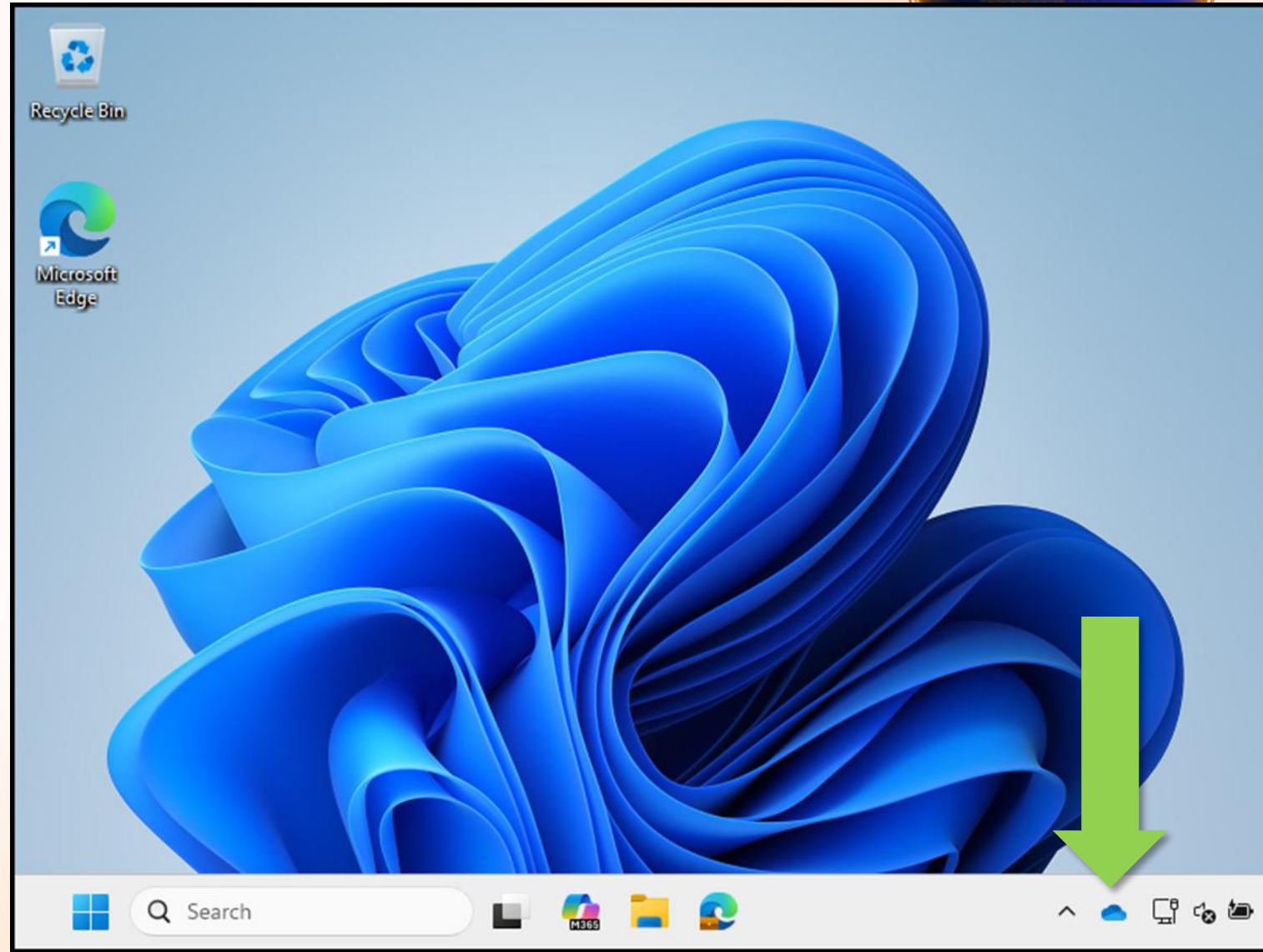
The screenshot displays the Microsoft Intune admin center interface. The top navigation bar shows the breadcrumb path: Home > Devices | Windows > Windows. The main content area is titled 'Windows | Scripts and remediations'. On the left, a sidebar menu lists various management options: Home, Dashboard, All services, Explorer, Devices, Apps, Endpoint security, Reports, Users, Groups, Tenant administration, and Troubleshooting + support. The 'Scripts and remediations' option is currently selected. The main panel features a search bar with the text 'oned' entered. Below the search bar, there are tabs for 'Remediations' and 'Platform scripts', with 'Platform scripts' being the active tab. Under this tab, there are controls for '+ Add', 'Refresh', and 'Export'. A list of scripts is shown, with one entry highlighted: 'WPS002 - Install And Update OneDrive'. At the bottom of the interface, a footer note reads: 'Add or remove favorites by pressing Ctrl+Shift+F'.

End User Experience



Challenge

- **OneDrive is not updated**
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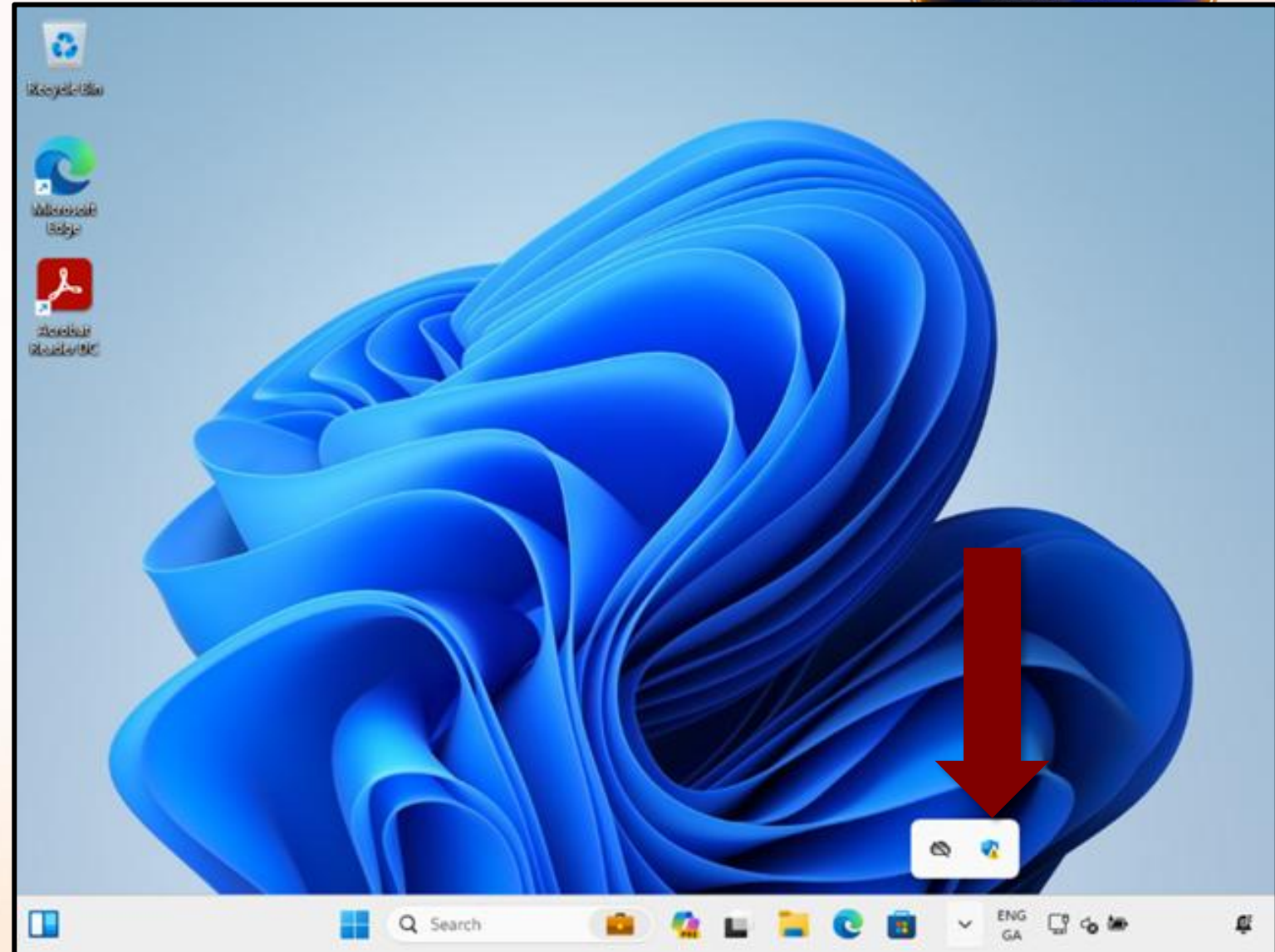


End User Experience



Challenge

- OneDrive is not updated
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End User Experience



Challenge

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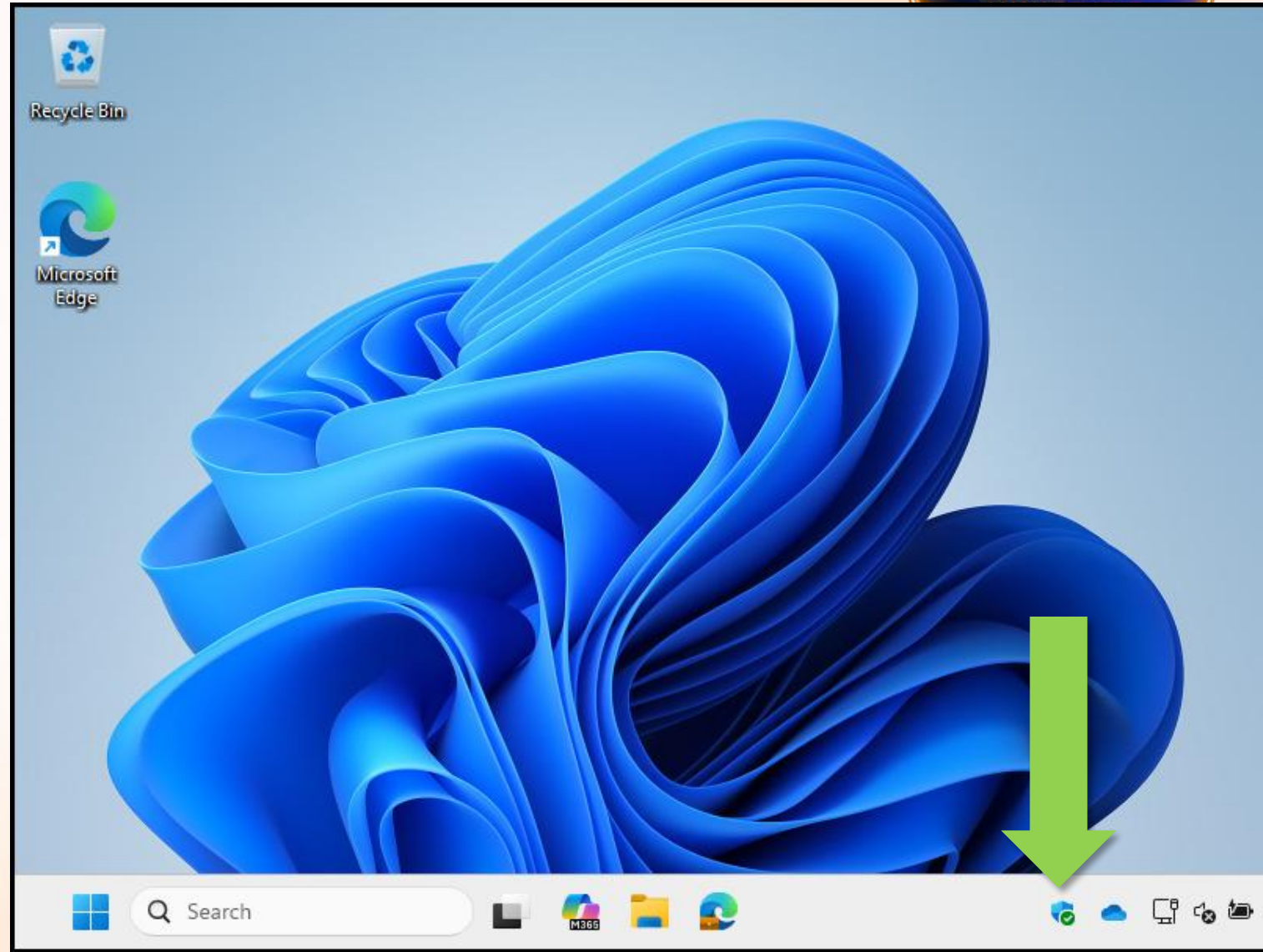
A screenshot of the Microsoft Intune admin center interface. The top navigation bar shows 'Microsoft Intune admin center' and a breadcrumb trail: 'Home > Devices | Overview > Windows'. The main content area is titled 'Windows | Scripts and remediations'. On the left, there is a search bar and a list of navigation options: 'Windows devices', 'Monitor', 'Device onboarding', 'Windows 365', 'Enrollment', 'Manage devices', 'Configuration', 'Compliance', 'Scripts and remediations' (highlighted), and 'Group Policy analytics'. On the right, there are tabs for 'Remediations' and 'Platform scripts', with 'Platform scripts' selected. Below the tabs, there are buttons for '+ Add', 'Refresh', and 'Export'. A search bar is also present. At the bottom, a script named 'WPS001 - Update Malware Protection S' is visible. The footer text reads 'Add or remove favorites by pressing Ctrl+Shift+F'.

End User Experience



Challenge

- OneDrive is not updated
- **Defender is not updated**
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- Device not compliant, user blocked by CA
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- Tune Windows Experience

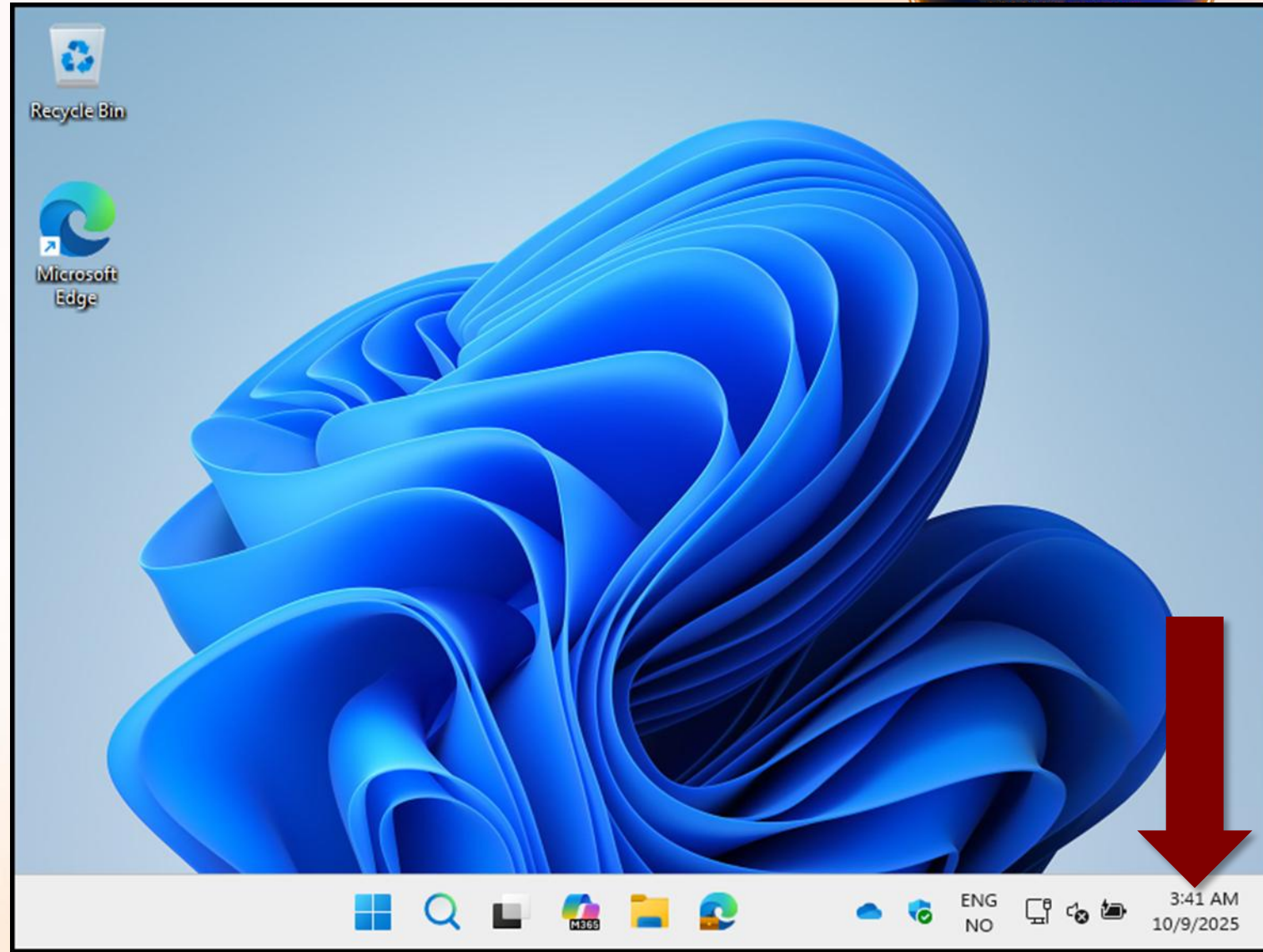


End User Experience



Challenge

- OneDrive is not updated
- Defender is not updated
- **Time zone is wrong**
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- App configurations
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End User Experience



Challenge

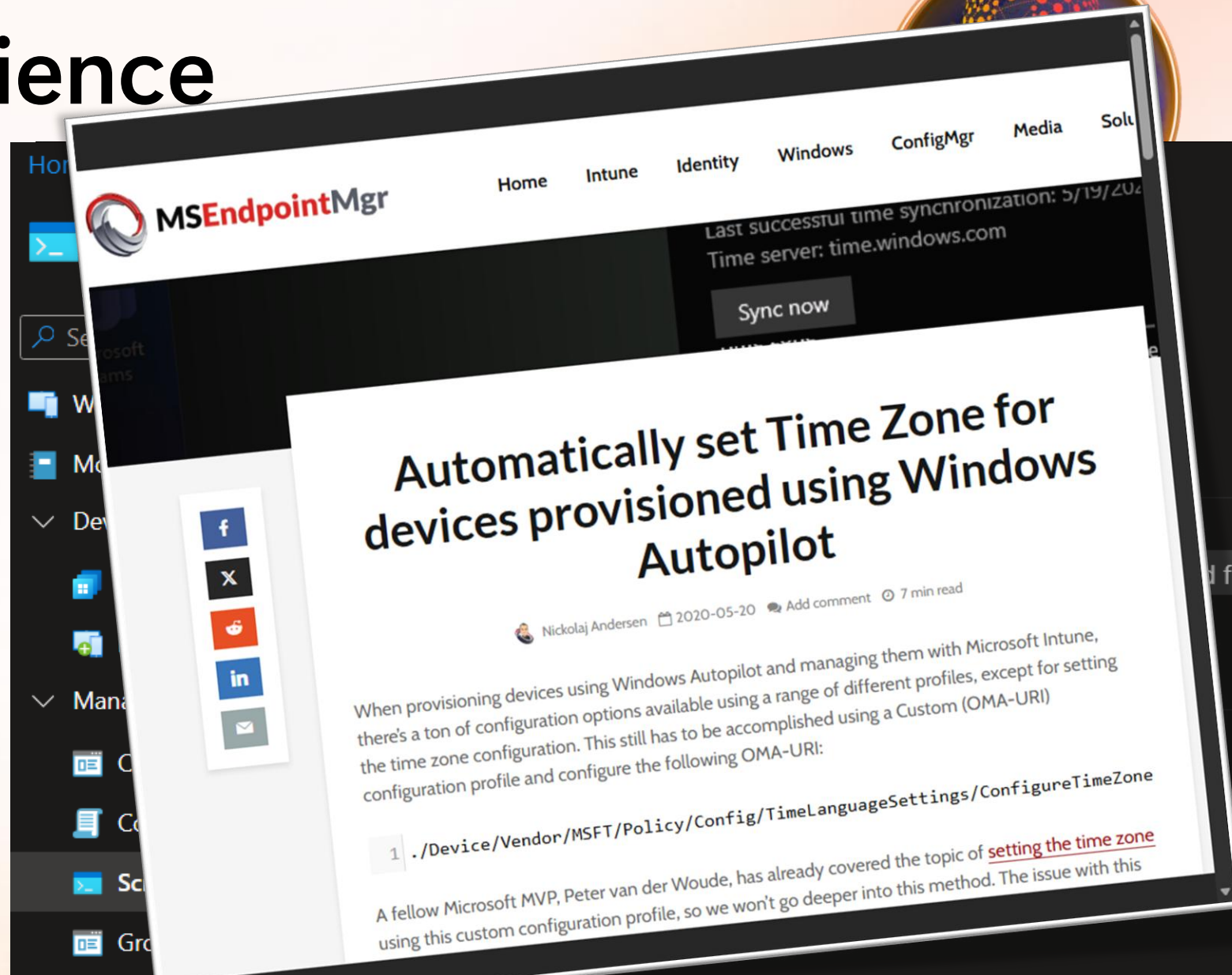
- OneDrive is not updated
- Defender is not updated
- **Time zone is wrong**
- Windows Hello for Business is not onboarding
- Device not compliant, user blocked by CA
- App configurations
- Tune Windows Experience

A screenshot of the Microsoft Intune console. The breadcrumb navigation at the top reads 'Home > Devices | Windows > Windows'. The main heading is 'Windows | Scripts and remediations'. Below this is a search bar containing 'set time'. To the right of the search bar are tabs for 'Remediations' and 'Platform scripts', with 'Platform scripts' being the active tab. Below the tabs are action buttons: '+ Add', 'Refresh', 'Export', and 'Columns'. A list of scripts is displayed, with the first one being 'WPS003 - Set Timezone Automatically'. The left-hand navigation pane is visible, showing various management options like 'Windows devices', 'Monitor', 'Device onboarding', 'Manage devices', and 'Scripts and remediations' (which is highlighted).

End User Experience

Challenge

- OneDrive is not updated
- Defender is not updated
- **Time zone is wrong**
- Windows Hello for Business is not onboarding
- Device not compliant, user blocked by CA
- App configurations
- Tune Windows Experience



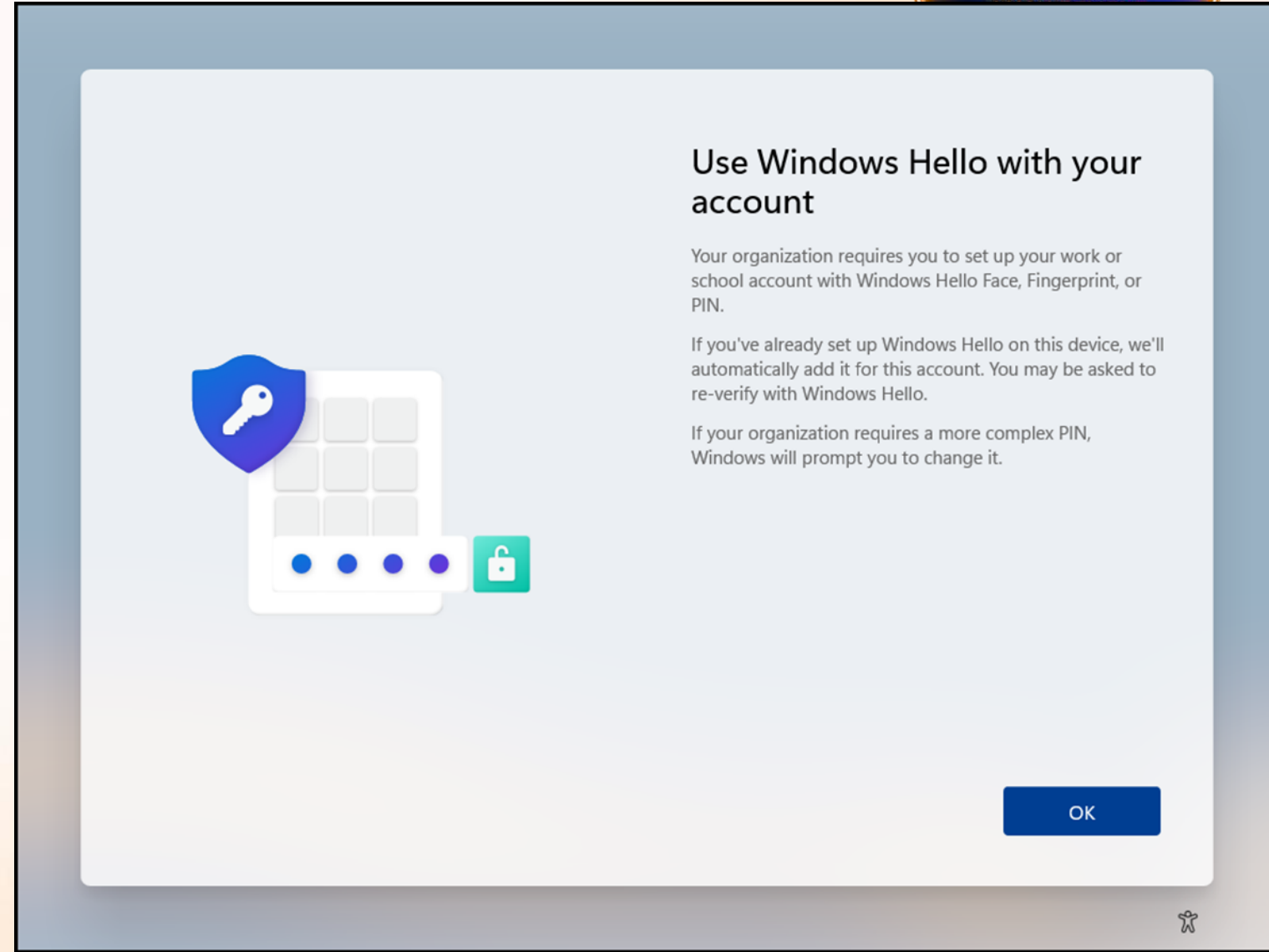
The screenshot displays the MS Endpoint Manager web interface. At the top, there is a navigation menu with links for Home, Intune, Identity, Windows, ConfigMgr, Media, and Solutions. The main content area features a blog post titled "Automatically set Time Zone for devices provisioned using Windows Autopilot" by Nickolaj Andersen, dated 2020-05-20. The post discusses configuration options for Windows Autopilot devices, specifically focusing on time zone settings. A code block shows the OMA-URI: `./Device/Vendor/MSFT/Policy/Config/TimeLanguageSettings/ConfigureTimeZone`. The interface also shows a "Sync now" button and a notification for the last successful time synchronization on 5/19/2020.

End User Experience



Challenge

- OneDrive is not updated
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End User Experience

Challenge

- OneDrive is not updated
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End User Experience



Challenge

- OneDrive is not updated
- Defender is not updated
- Time zone is wrong
- Windows Hello for Business is not onboarding
- **Device not compliant, user blocked by CA**
- App configurations
- Tune Windows Experience

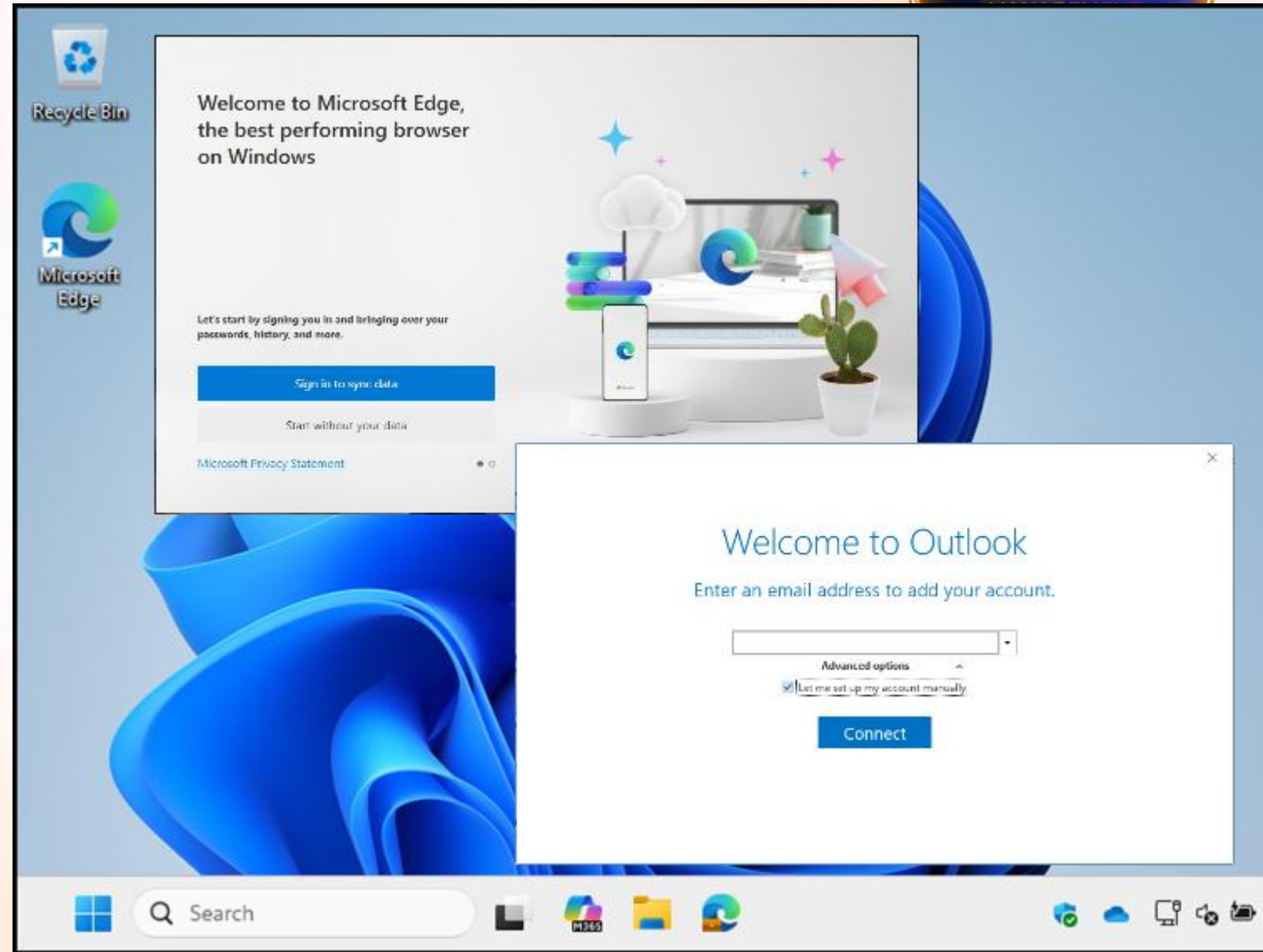
Action	Schedule	Message template
Mark device noncompliant	14Days	
Send email to end user	1Days	Selected
Send email to end user	2Days	Selected
Send email to end user	4Days	Selected
Send email to end user	6Days	Selected
Send email to end user	8Days	Selected
Send email to end user	10Days	Selected
Send email to end user	12Days	Selected
Send email to end user	14Days	Selected

End User Experience



Challenge

- OneDrive is not updated
- Defender is not updated
- Time zone is wrong
- Windows Hello for Business is not onboarding
- Device not compliant, user blocked by CA
- **App configurations**
- Tune Windows Experience



End User Experience



Challenge

- OneDrive is not updated
- Defender is not updated
- Time zone is wrong
- Windows Hello for Business is not onboarding
- Device not compliant, user blocked by CA
- App configurations
- **Tune Windows Experience**
 - **Remove Bloatware**

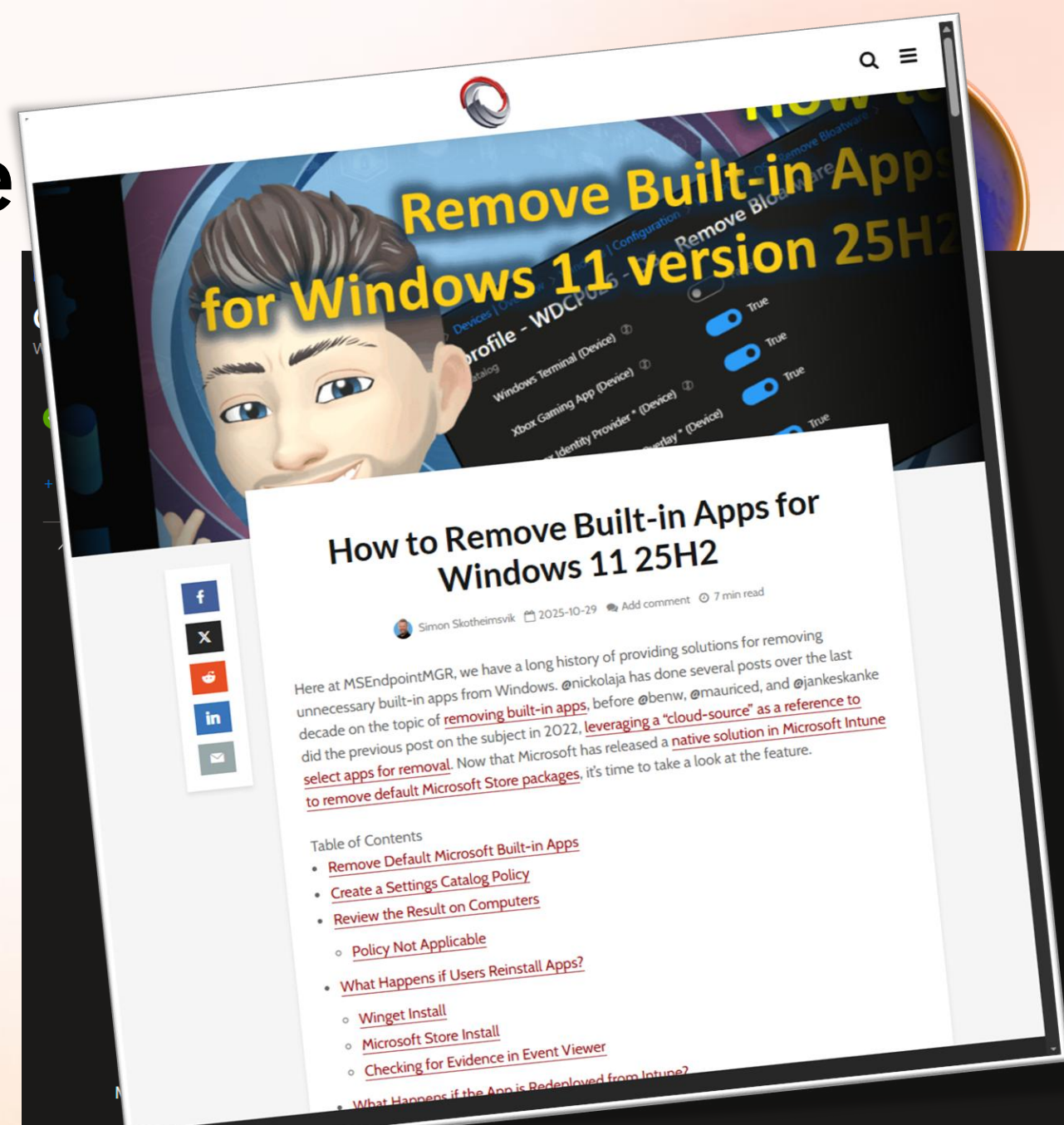
The screenshot shows the 'Create profile' page in the Microsoft Intune console. The breadcrumb trail is 'Home > Devices | Windows > Windows | Configuration >'. The page title is 'Create profile' with a three-dot menu icon. Below the title is the text 'Windows 10 and later - Settings catalog'. There are five numbered steps: 1. Basics (checked), 2. Configuration settings (active), 3. Scope tags, 4. Assignments, and 5. Review + create. A '+ Add settings' link is visible. The main content area shows 'Administrative Templates' with a 'Remove category' link. Below that is 'Windows Components > App Package Deployment' with a 'Remove subcategory' link. A blue banner indicates '1 of 27 settings in this subcategory are not configured'. A list of settings follows, each with a toggle switch and a 'True/False' status:

Feedback Hub (Device)	<input type="checkbox"/>	False
Microsoft 365 Copilot (Device)	<input type="checkbox"/>	False
Microsoft Clipchamp (Device)	<input type="checkbox"/>	False
Microsoft Copilot (Device)	<input checked="" type="checkbox"/>	True
Microsoft News (Device)	<input checked="" type="checkbox"/>	True
Microsoft Photos ** (Device)	<input type="checkbox"/>	False
Microsoft Solitaire Collection (Device)	<input checked="" type="checkbox"/>	True
Microsoft Sticky Notes (Device)	<input type="checkbox"/>	False

End User Experience

Challenge

- OneDrive is not updated
- Defender is not updated
- Time zone is wrong
- Windows Hello for Business is not onboarding
- Device not compliant, user blocked by CA
- App configurations
- **Tune Windows Experience**
 - **Remove Bloatware**





End User Experience

Challenge

- OneDrive is not updated
- Defender is not updated
- Time zone is wrong
- Windows Hello for Business is not onboarding
- Device not compliant, user blocked by CA
- App configurations
- **Tune Windows Experience**
 - **Tune the Start Menu**

Start layout example

Here you can find an example of Start layout that you can use as a reference:

JSON

```
{  
  "applyOnce": false,  
  "pinnedList": [  
    { "desktopAppLink": "%ALLUSERSPROFILE%\Microsoft\Windows\Start Menu\Programs",  
      "packagedAppId": "windows.immersivecontrolpanel_cw5n1h2txyewy!microsoft.window",  
      "desktopAppLink": "%APPDATA%\Microsoft\Windows\Start Menu\Programs\File E",  
      "desktopAppLink": "%APPDATA%\Microsoft\Windows\Start Menu\Programs\Window",  
      "packagedAppId": "Microsoft.WindowsTerminal_8wekyb3d8bbwe!App" },  
      { "packagedAppId": "Microsoft.Paint_8wekyb3d8bbwe!App" },  
      { "packagedAppId": "Microsoft.Windows.Photos_8wekyb3d8bbwe!App" },  
      { "packagedAppId": "MicrosoftCorporationII.QuickAssist_8wekyb3d8bbwe!App" },  
      { "packagedAppId": "Microsoft.MicrosoftStickyNotes_8wekyb3d8bbwe!App" },  
      { "packagedAppId": "Microsoft.SecHealthUI_8wekyb3d8bbwe!SecHealthUI" },  
      { "packagedAppId": "Microsoft.OutlookForWindows_8wekyb3d8bbwe!Microsoft.Outlook",  
      "secondaryTile": { "tileId": "MSEdge._pin_mjalfbhoimpkfjlpajnjpkpnoe", "argumen",  
    }  
  ]  
}
```

**Change this to true to apply once only
allow user modify**

New features for End User Experience



- **Windows Backup Restore**
- Windows Quality Updates during OOB
 - Might restart the device

A screenshot of the Microsoft Intune admin center interface. The top navigation bar shows 'Microsoft Intune admin center' and 'Copilot'. The left sidebar contains various navigation options like Home, Dashboard, All services, Explorer, Devices, Apps, Endpoint security, Agents, Reports, Users, Groups, Tenant administration, and Troubleshooting + support. The main content area is titled 'Home > Devices' and 'Devices | Enrollment'. It includes a search bar and a list of options: Overview, All devices, Device query, Monitor, By platform, Device onboarding, Windows 365, Enrollment (highlighted), Manage devices, Manage updates, Organize devices, Device clean-up rules, and Assignment filters. On the right, the 'Windows Backup and Restore' settings are displayed, including 'Essentials', 'Last modified', 'Assigned to', and a toggle for 'Show restore page' which is currently set to 'On'. There are 'Save' and 'Discard' buttons at the bottom right.

New features for End User Experience



- Windows Backup Restore
- **Windows Quality Updates during OOB**
 - Might restart the device

The screenshot shows the 'Edit profile' page in the Microsoft Intune admin center. The left sidebar contains navigation options: Home, Dashboard, All services, Explorer, Devices, Apps, Endpoint security, Agents, Reports, Users, Groups, Tenant administration, and Troubleshooting + support. The main content area is titled 'Edit profile' and features several toggle switches for user experience settings. The 'Yes' option is selected for all toggles. At the bottom, there are 'Review + save' and 'Cancel' buttons.

Microsoft Intune admin center

Home > Devices | Overview > Windows | Enrollment > Enrollment Status Page >

Edit profile

- Turn on log collection and diagnostics page for end users: Yes
- Only show page to devices provisioned by out-of-box experience (OOBE): Yes
- Install Windows updates (might restart the device): Yes
- Block device use until all apps and profiles are installed: Yes
- Allow users to reset device if installation error occurs: Yes
- Allow users to use device if installation error occurs: Yes
- Block device use until required apps are installed if they are assigned to the user/device: Selected

Review + save Cancel



New features for End User Experience



Checking

Reboot

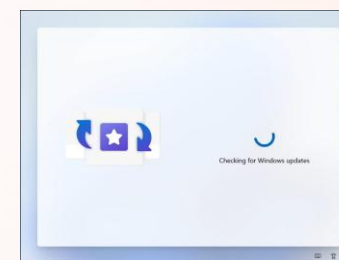
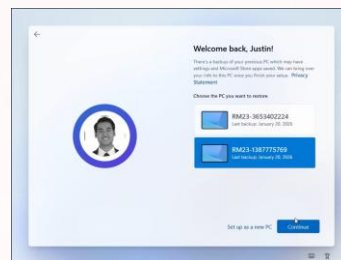
Signing in

ESP

WHfB

Desktop

New features for End User Experience



05



Troubleshooting?

Troubleshooting?

- Plan well, everyone follows the process:
 - No need to troubleshoot 🙅



Troubleshooting - Think First, Tool Second

- **When things go wrong**

- Ask yourself:
 - Is it licensing?
 - Is it network?
 - Is it app?
 - Is it targeting?

- **Approach:**

- Identify the phase first



! This device cannot access company resources

Regain access

You need to make some changes to this device so that it can access Equinor ASA resources.

Intune license required

Contact your support person to confirm that your account is assigned a license to use Intune.

[Show less](#)

Compliance policies haven't been assigned to this device

Your device must receive compliance policies before it can be used to access your organization's resources. Contact your support person.

[Show less](#)

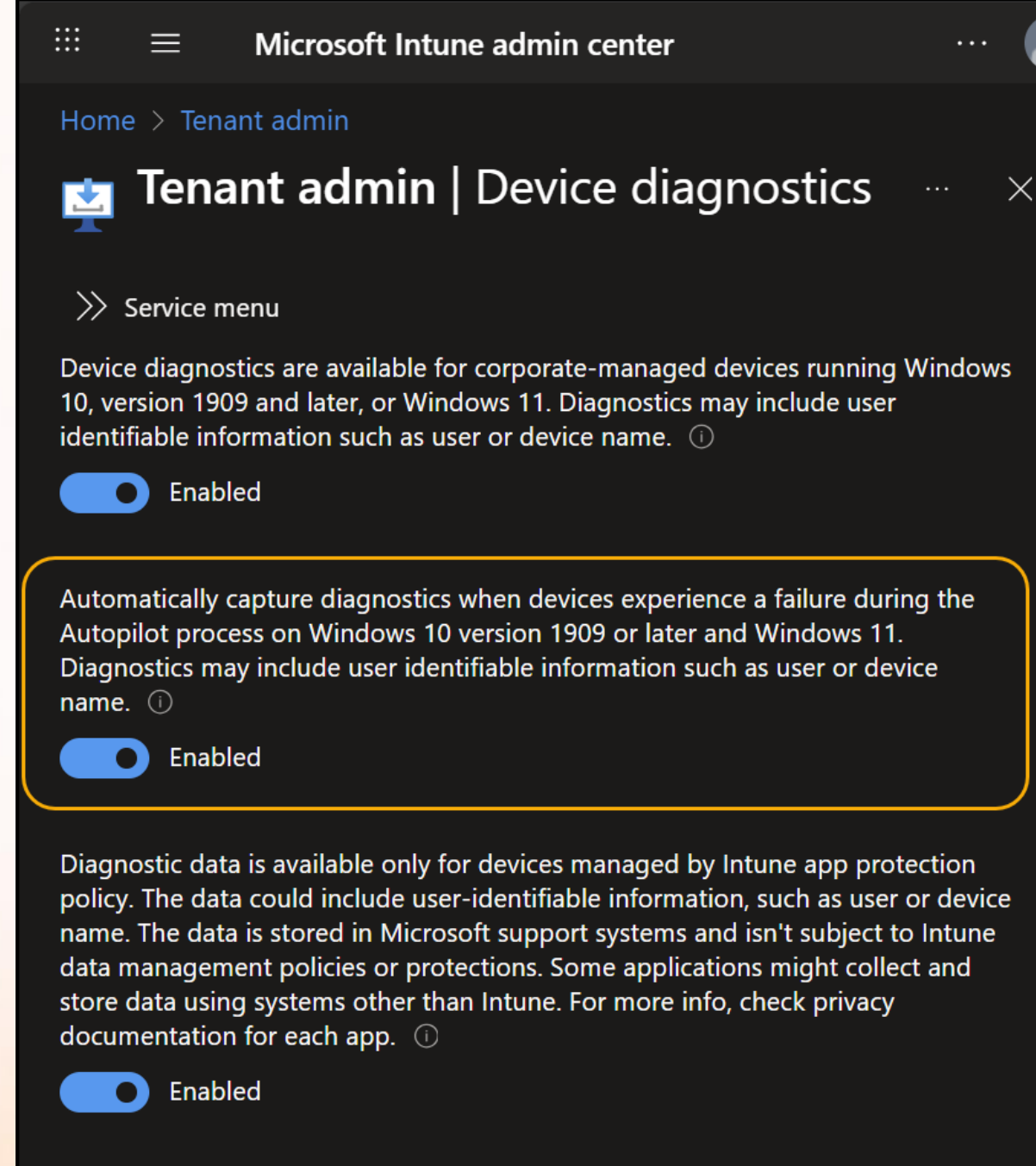
Check status

Status

! Cannot access company resources

Troubleshooting?

- Plan well, everyone follows the process:
 - No need to troubleshoot 🙅
- Configure Intune to upload logs
 - Give the device time to upload
- Reading logs
 - Community tool from Petri Paavola



The screenshot shows the Microsoft Intune admin center interface. At the top, it says "Microsoft Intune admin center". Below that, there's a breadcrumb trail: "Home > Tenant admin". The main heading is "Tenant admin | Device diagnostics". There are three toggle switches, all of which are turned on (labeled "Enabled").

Home > Tenant admin

Tenant admin | Device diagnostics

>> Service menu

Device diagnostics are available for corporate-managed devices running Windows 10, version 1909 and later, or Windows 11. Diagnostics may include user identifiable information such as user or device name. ⓘ

Enabled

Automatically capture diagnostics when devices experience a failure during the Autopilot process on Windows 10 version 1909 or later and Windows 11. Diagnostics may include user identifiable information such as user or device name. ⓘ

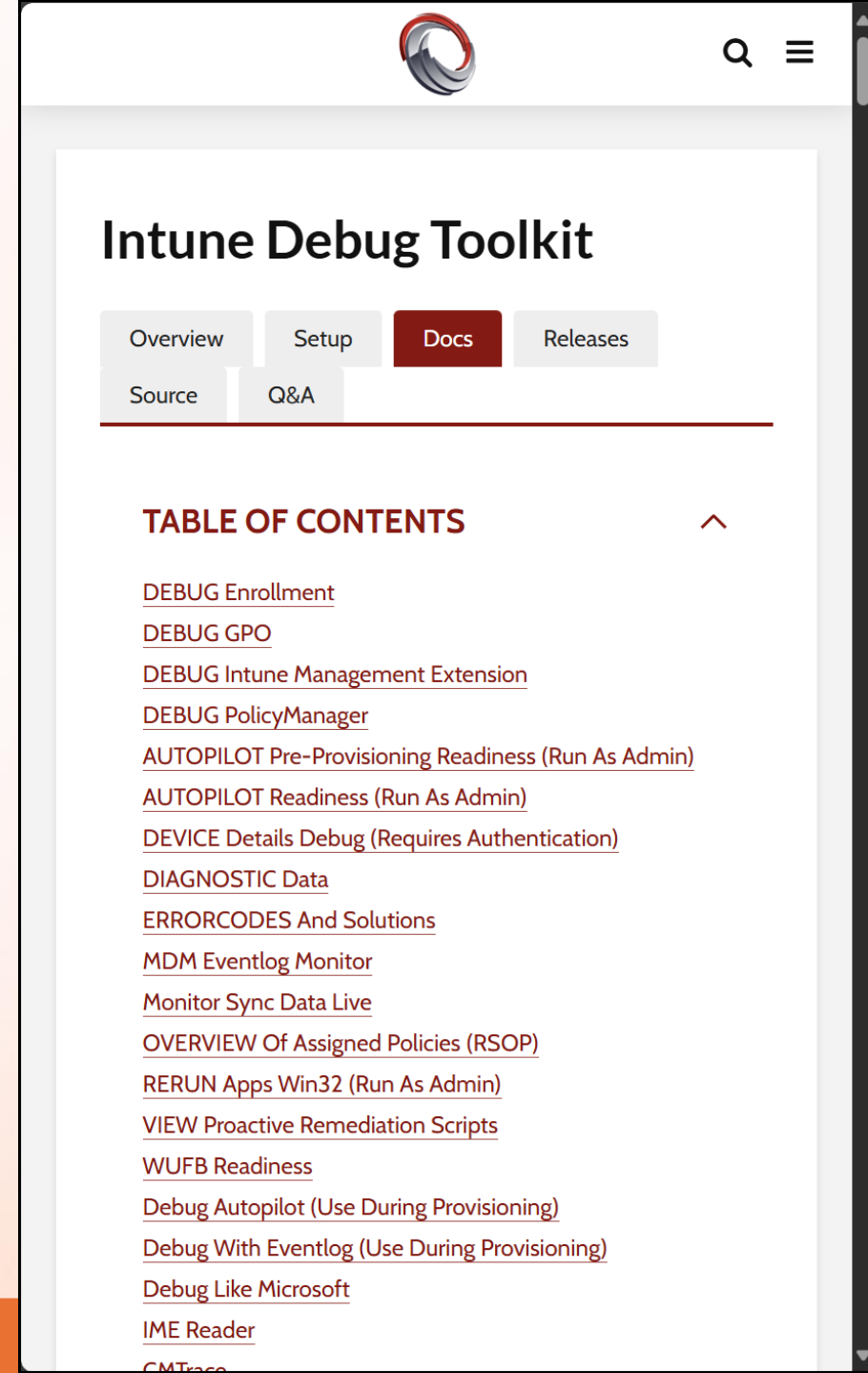
Enabled

Diagnostic data is available only for devices managed by Intune app protection policy. The data could include user-identifiable information, such as user or device name. The data is stored in Microsoft support systems and isn't subject to Intune data management policies or protections. Some applications might collect and store data using systems other than Intune. For more info, check privacy documentation for each app. ⓘ

Enabled

Troubleshooting?

- Plan well, everyone follows the process:
 - No need to troubleshoot 🙌
- Configure Intune to upload logs
 - Give the device time to upload
- Intune Debug Toolkit
 - Collection of great tools



Intune Debug Toolkit

Overview Setup **Docs** Releases

Source Q&A

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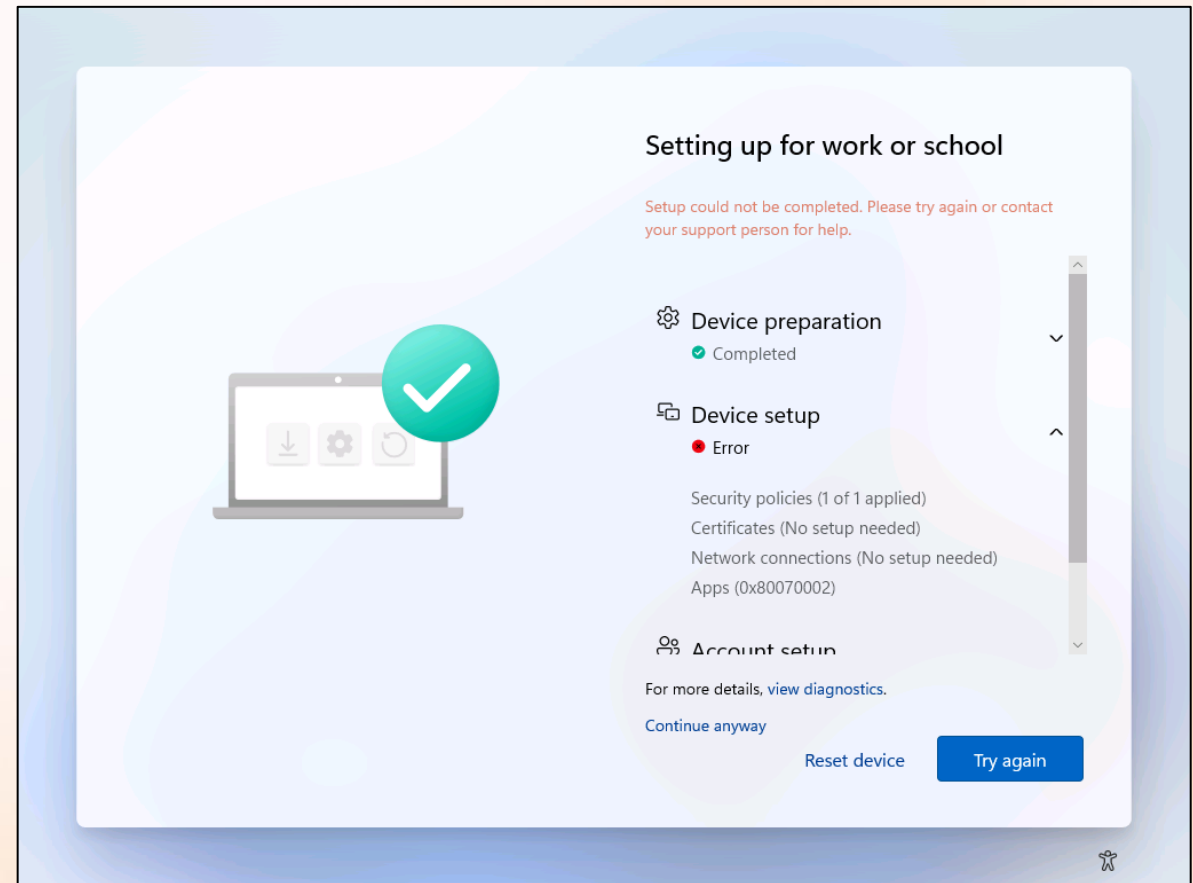
Common real-world issues



- **What we often see**

- ESP stuck
→ app issue
- Works in the office, fails at home
→ network
- Works at home, fails in the office
→ network
- Works for some users only
→ targeting

- **Microsoft has bugs**



PowerShell Scripts and Remediation Script



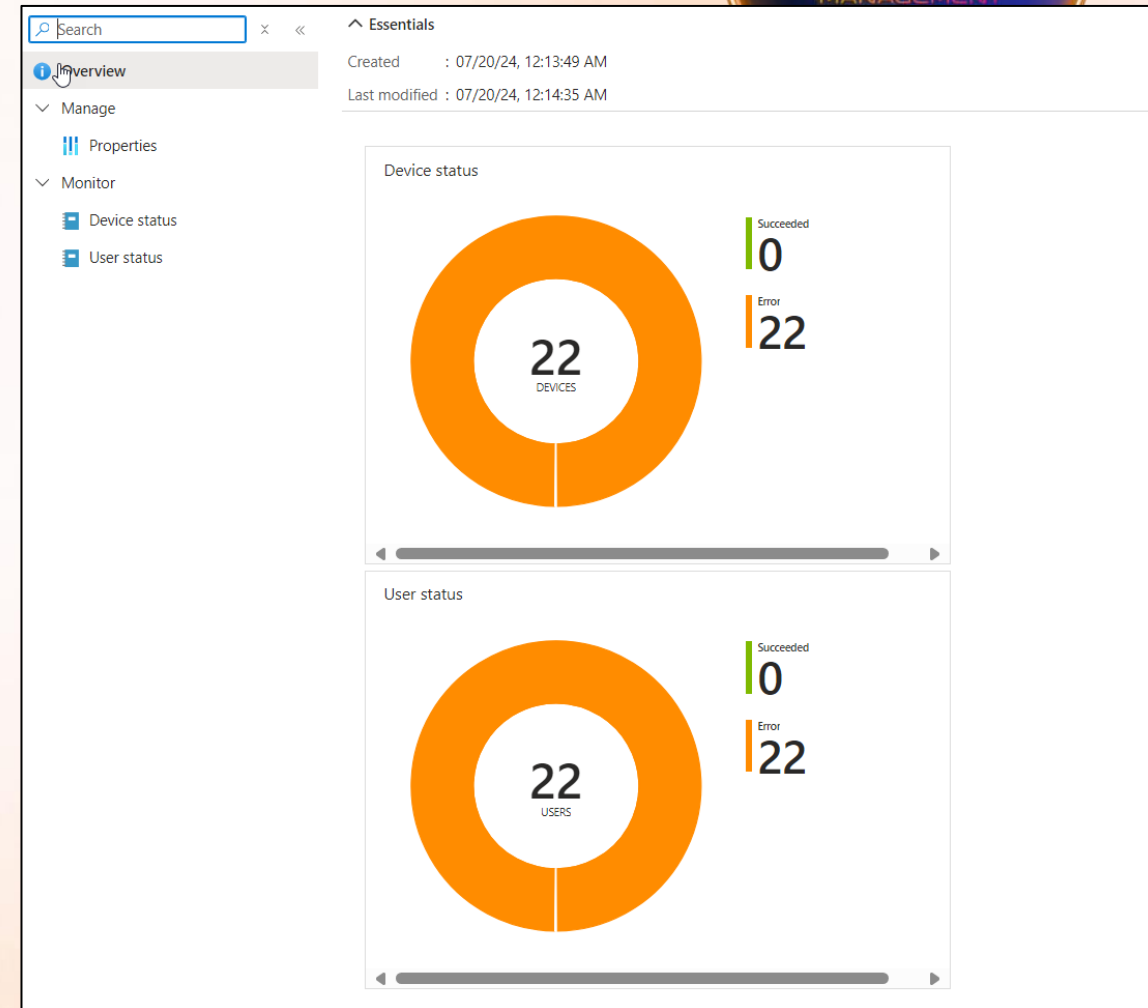
Simple, make sure all those scripts work

- Platform scripts run first, no tracking (v1)

If PowerShell.exe hangs, app installation may fail too!

Script best practices:

- Do error handling and proper exit codes
- Add logging to every script
- Test in SYSTEM context



06



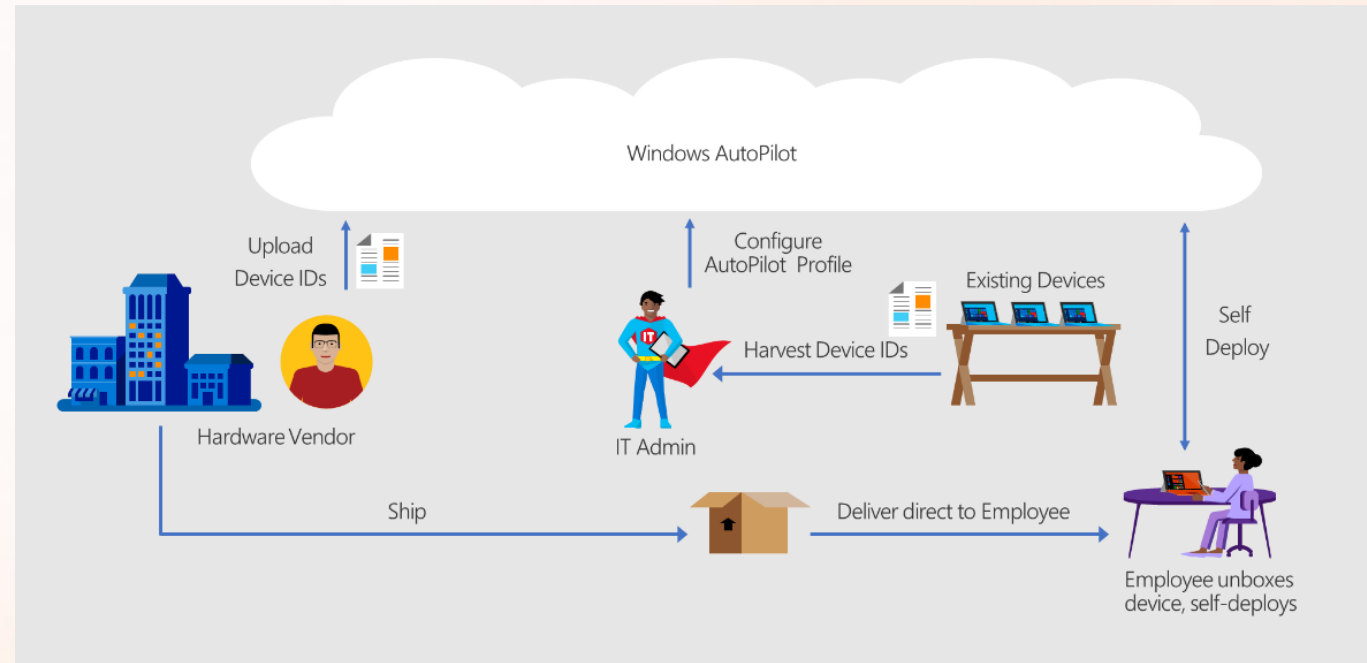
Session Takeaways

Session Takeaways



- **Make Autopilot Deliver Today**

- Make Autopilot work with testing
- Avoid complexity (Keep it simple)
- Design for users, not engineers
- Test in real conditions



THANK YOU!



Simon Skotheimsvik



Sandy Zeng

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We would love to hear what you liked
and how we could improve!