



Six Methods to Protect Your Business from the Threat of Unmanaged Devices

Myron Helgering

Level: Intermediate

Visual Studio **LIVE!**
EXPERT SOLUTIONS FOR ENTERPRISE DEVELOPERS

Data Platform **LIVE!**
INSIGHTS FOR MANAGING YOUR DATA ECOSYSTEM

TECHMENTOR
IN-DEPTH TRAINING FOR IT PROS

Artificial
Intelligence **LIVE!**
AI FOR DEVELOPERS AND DATA SCIENTISTS

Cloud &
Containers **LIVE!**
CLOUD-NATIVE, PaaS & SERVERLESS COMPUTING

Cybersecurity
& Ransomware **LIVE!**
DEFENDING AGAINST RANSOMWARE AND OTHER ATTACKS

Session Survey

- Your feedback is very important to us
- Please take a moment to complete the session survey found in the mobile app
- Use the QR code or search for “Converge360 Events” in your app store
- Find this session on the Agenda tab
- Click “Session Evaluation”
- Thank you!



About me

- Solution Lead @ Pink Elephant
- Microsoft Security MVP
- Blogger and Speaker
- Fantasy geek



Myron Helgering

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I Orlando

2007



2016



2018

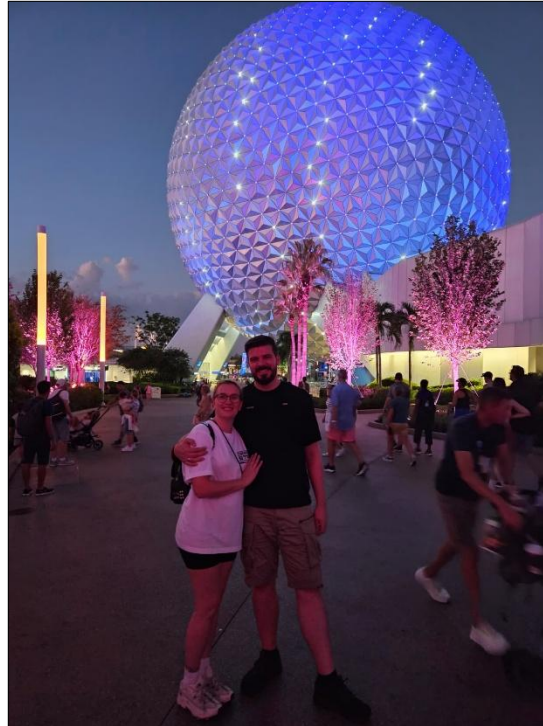


I Orlando

2019



2024



2025



Agenda

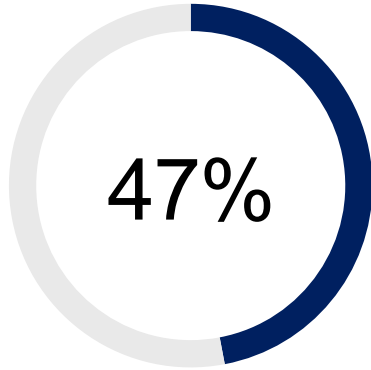
- | | | | |
|----|---------------------------|----|-------------------------|
| 01 | Unmanaged Devices | 04 | Session Policies |
| 02 | Method 1, 2 & 3 | 05 | App Protection Policies |
| 03 | App Enforced Restrictions | 06 | Takeaways & Q&A |

What is an unmanaged device?

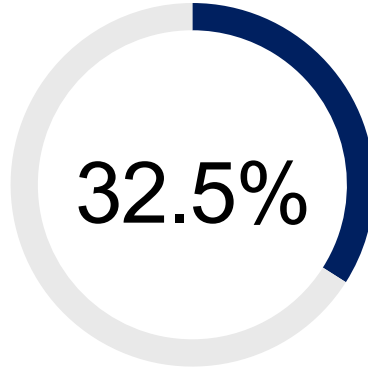
“A device that accesses company apps and data while not being (MDM) managed by the company.”

- Personal device
- Bring-your-own-device
- Managed by another company
- Unmanaged company device

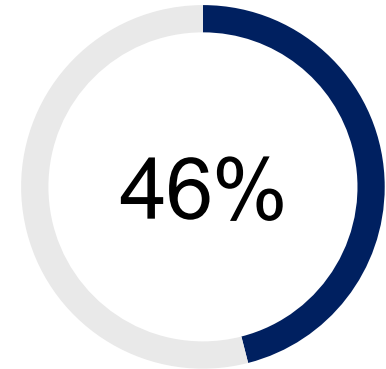
Numbers on unmanaged devices



of companies allow access
to company resources
from unmanaged devices ¹



of corporate devices in
enterprise organizations
are unmanaged ²



of compromised systems
via stolen credentials were
unmanaged devices ³

¹ Kolide Shadow IT Report 2023

² Palo Alto Device Security Threat Report 2025

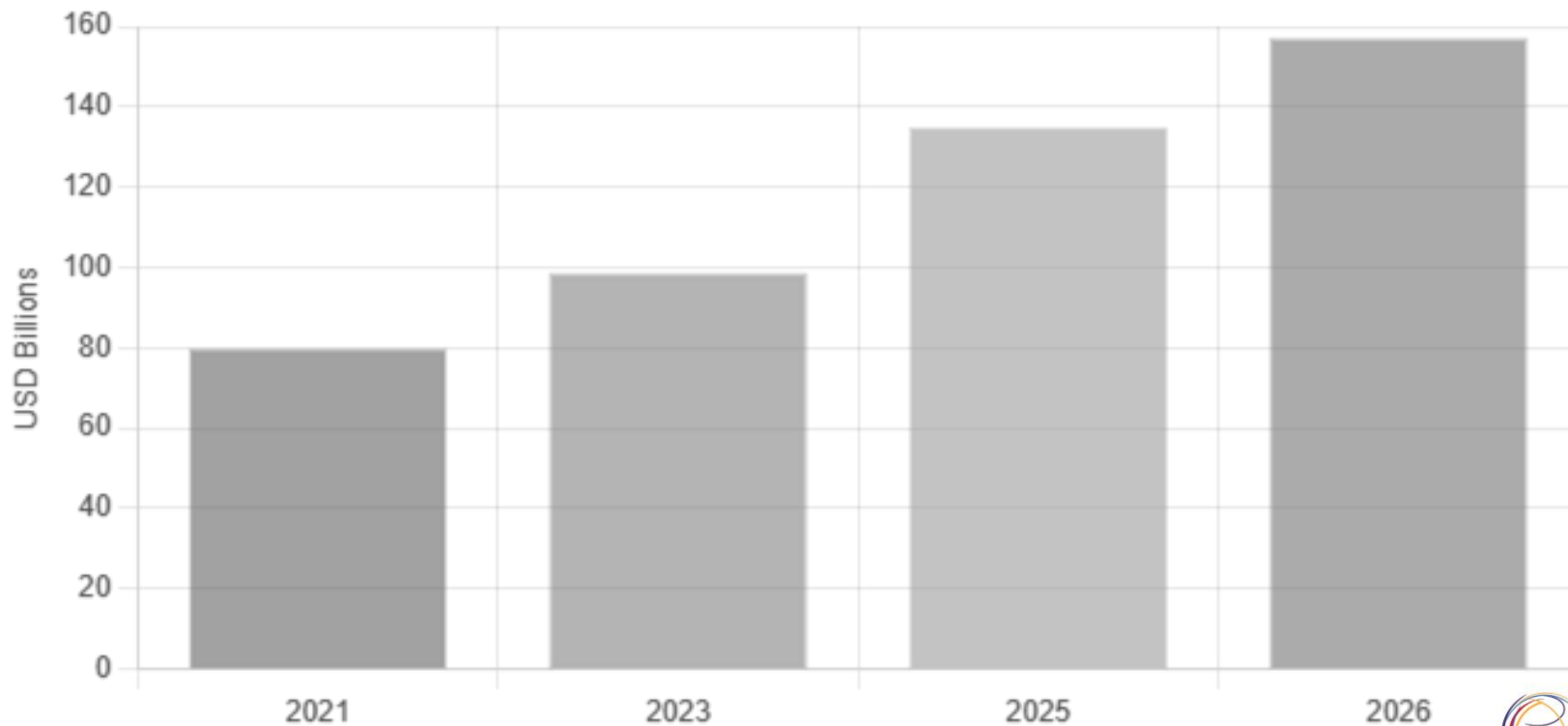
³ Verizon DBIR Data Breach Investigations Report 2025

Numbers on unmanaged devices

3.5x

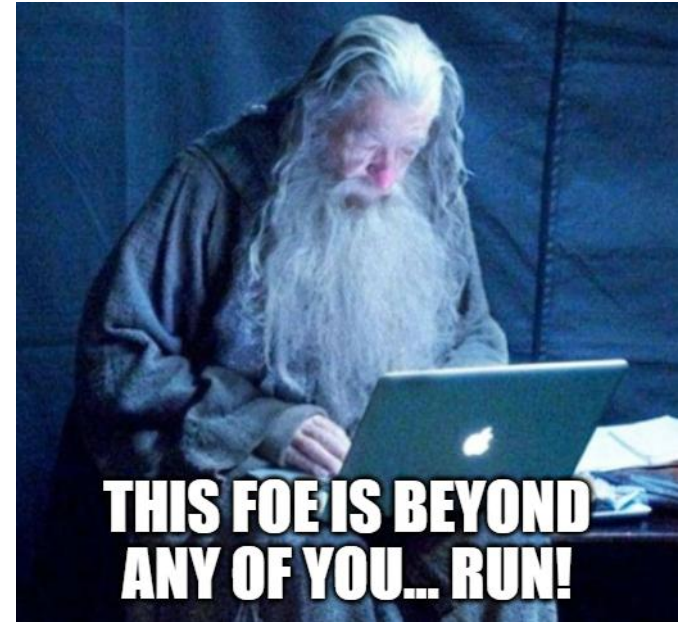
more likely to be infected on
an unmanaged device ¹

BYOD market size and growth



Challenges with unmanaged devices

- No insight in vulnerabilities or device compliance
- Users are local administrator on their device
- Can't update or patch OS and software
- Can't enforce security configurations and policies
- Can't encrypt hard drive
- Can't remotely wipe device
- Can't prevent data leakage



Method 1: Do nothing...

- Let employees be productive on any device
- Easy to implement
- Accept the security risks



I would not recommend this method as the risks are just too high.



Example of doing nothing



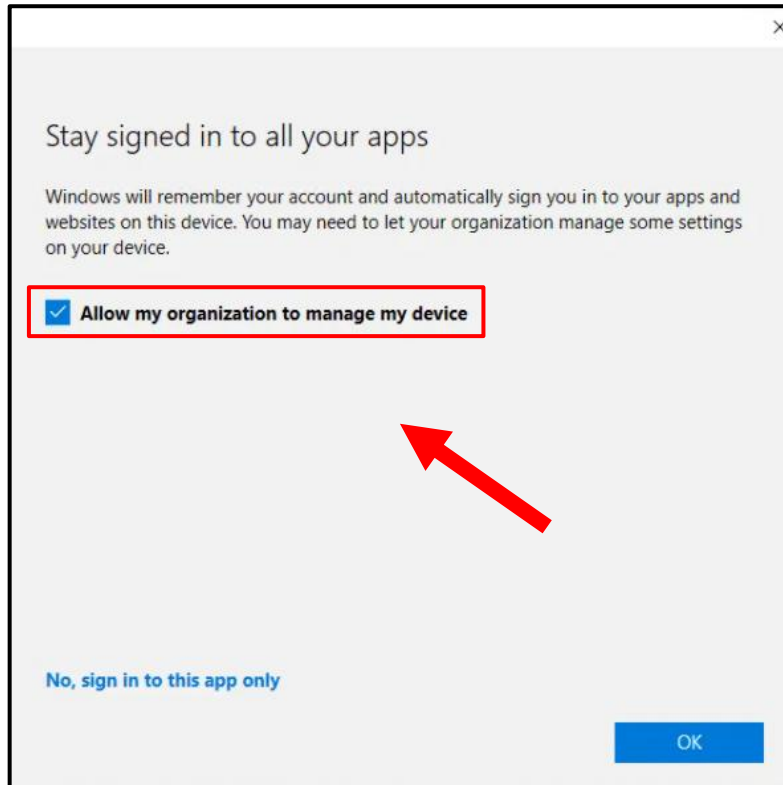
Method 2: Manage personal devices



- Require device enrollment
- Reduces security risks
- Complete control over devices

! I would **not** recommend this method unless there is no other way.

Enrollment during Office sign-in



Personal devices managed by Intune

Microsoft Intune admin center

Home > Devices | Windows >

Windows | Windows devices

Search

Windows devices

Windows enrollment

Windows policies

- Compliance policies
- Configuration profiles
- Scripts and remediations
- Update rings for Windows 10 and later

Refresh Export Columns Bulk device actions

draco-pc OS: Windows Add filters

Device name	Managed by	Ownership	Compliance	OS
Draco-PC	Intune	Personal	Noncompliant	Windows

Enrollment Restrictions

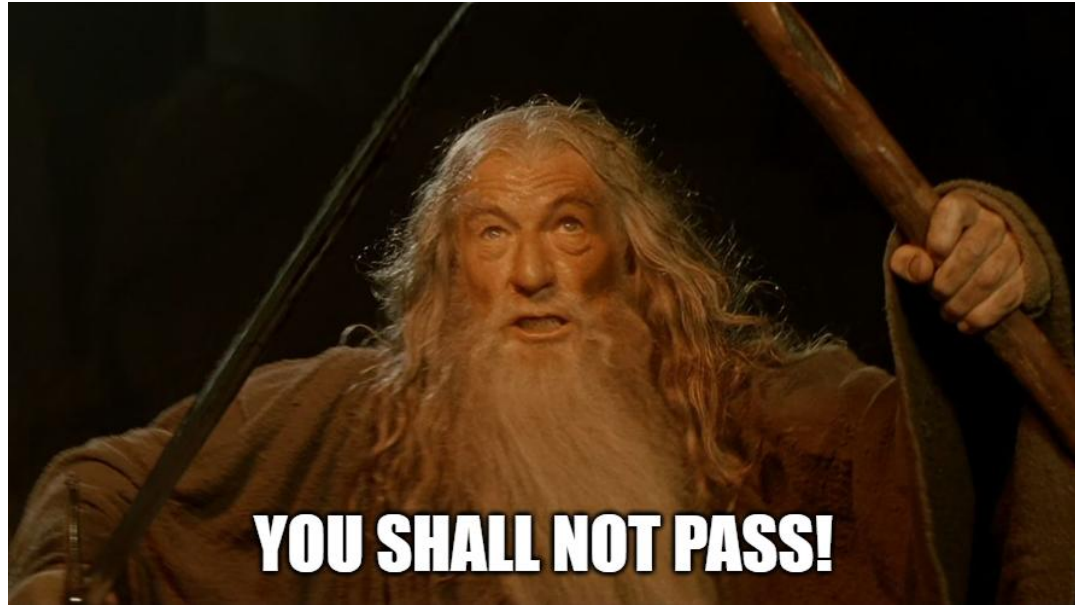
Type	Platform	versions	Personally owned
Android Enterprise (work profile)	<input checked="" type="radio"/> Allow <input type="radio"/> Block	Allow min/max range: <input type="text"/> Min <input type="text"/> Max	<input type="radio"/> Allow <input checked="" type="radio"/> Block
Android device administrator	<input checked="" type="radio"/> Allow <input type="radio"/> Block	Allow min/max range: <input type="text"/> Min <input type="text"/> Max	<input type="radio"/> Allow <input checked="" type="radio"/> Block
iOS/iPadOS	<input checked="" type="radio"/> Allow <input type="radio"/> Block	Allow min/max range: <input type="text"/> Min <input type="text"/> Max	<input type="radio"/> Allow <input checked="" type="radio"/> Block
macOS	<input checked="" type="radio"/> Allow <input type="radio"/> Block	Restriction not supported	<input type="radio"/> Allow <input checked="" type="radio"/> Block
Windows (MDM) ⓘ	<input checked="" type="radio"/> Allow <input type="radio"/> Block	Allow min/max range: <input type="text"/> Min <input type="text"/> Max	<input type="radio"/> Allow <input checked="" type="radio"/> Block

Example of managing personal devices



Method 3: Block access

- Block access
- Reduces security risks
- Reduces user productivity



- ! High-security method but only suitable for some situations and organizations.

Block Access with Conditional Access policy

Name *

Block access for unmanaged devices

Assignments

Users ⓘ

All users included and specific users excluded

Target resources ⓘ

All cloud apps

Conditions ⓘ

0 conditions selected


Access controls

Grant ⓘ

2 controls selected

- ☒ Require device to be marked as compliant
- ☒ Require Microsoft Entra hybrid joined device



 Microsoft

albus.dumbledore@myronhelgering.com

You can't get there from here

This application contains sensitive information and can only be accessed from:

- Helgering domain joined devices. Access from personal devices is not allowed.

[More details](#)

Some recommendations

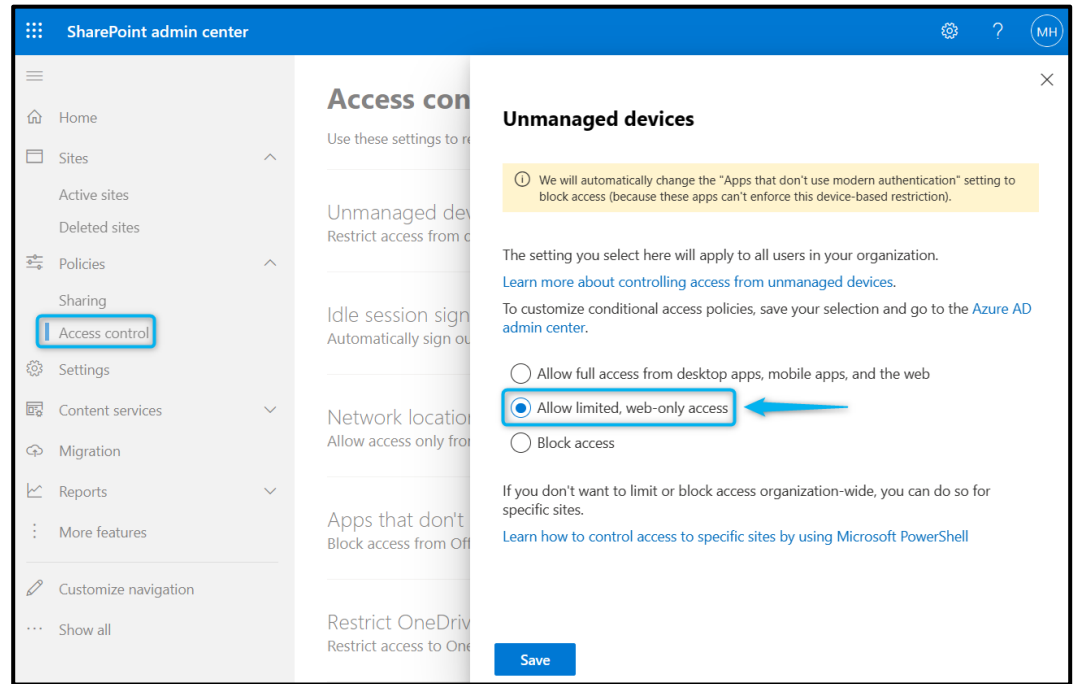
- Identify user groups working from unmanaged devices or locations such as VDI/RDS
- Exclude service and guest accounts?
- Decide which apps you want to target
- Enable Single Sign On (SSO) for third party browsers
- Always deploy your policies in pilot and/or report-only first

Method 4: App Enforced Restrictions

- Enforces web-only access
 - Restricts download, print & sync
 - Supports SharePoint & Exchange Online
 - Can target specific locations
 - Troublesome configuration
- ✓ Balanced method with minimal features, but suitable for any company.



Enable in SharePoint Admin Center (or PowerShell)

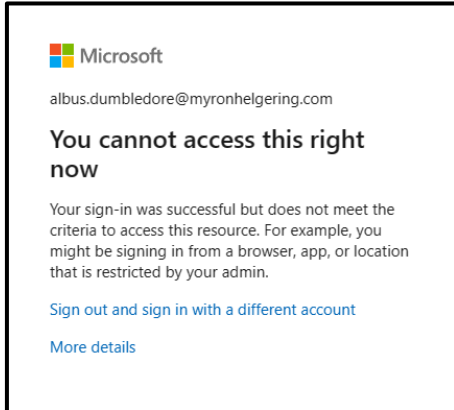


Conditional Access policies are created

Policy Name ↑↓	State ↑↓
[SharePoint admin center]Block access from apps on unmanaged devices - 2023/08/21	On
[SharePoint admin center]Use app-enforced Restrictions for browser access - 2023/08/21	On

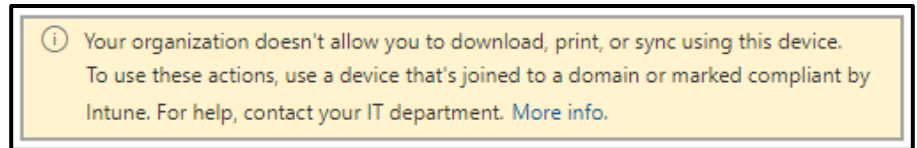
Policy 1: Block access from apps on unmanaged devices

- Block access from desktop apps on unmanaged devices
- Applies to SharePoint Online by default, but more apps can be added



Policy 2: Use app-enforced restrictions for browser access

- Enforces limited web access on unmanaged devices
- Blocks download, print, or syncing
- Can only apply to SharePoint Online and Exchange Online



Enable app-enforced restrictions for Exchange Online with Powershell

```
Administrator: Windows PowerShell
PS C:\WINDOWS\system32> Connect-ExchangeOnline
PS C:\WINDOWS\system32> Set-OwaMailBoxPolicy -Identity OwaMailboxPolicy-Default -ConditionalAccessPolicy ReadOnly
PS C:\WINDOWS\system32> Get-OwaMailBoxPolicy | select-object ConditionalAccess*

ConditionalAccessPolicy ConditionalAccessFeatures
-----
ReadOnly                {Offline, AttachmentDirectFileAccessOnPrivateComputersEnabled, AttachmentDirectFileAccess0..
.
```

Set-OwaMailBoxPolicy -Identity OwaMailboxPolicy-Default -ConditionalAccessPolicy ReadOnly

Sensitivity Labels

- Target locations with sensitive data only
- Applies to M365 Groups, SharePoint Sites, and Teams

Edit sensitivity label

✓ Name and tooltip

✓ Scope

✓ Items

Groups & sites

External sharing & conditional access

○ Schematized data assets (preview)

○ Finish

Define external sharing and conditional access settings

Control who can share SharePoint content with people outside your organization and decide whether users can access labeled sites from unmanaged devices.

☐

Control external sharing from labeled SharePoint sites

When this label is applied to a SharePoint site, these settings will replace existing external sharing settings configured for the site.

☒

Use Azure AD Conditional Access to protect labeled SharePoint sites

You can either control the level of access users have from unmanaged devices or select an existing authentication context to enforce restrictions.

☒

Determine whether users can access SharePoint sites from unmanaged devices (which are devices that aren't [hybrid Azure AD joined](#) or enrolled in Intune).

○ For this setting to work, you must also configure the SharePoint feature that blocks or limits access to SharePoint files from unmanaged devices. [Learn more](#)

☐ Allow full access from desktop apps, mobile apps, and the web

☒ Allow limited, web-only access ⓘ

☐ Block access ⓘ

Back

Next

Cancel

Method 5: Session Policies

- Applies web restrictions through a reverse proxy
- Restricts download, upload, print, cut/copy, paste, and more!
- Supports Microsoft 365 and third-party cloud apps

✓ Great method for many different scenarios but comes with a price tag.



Demo: Session Policies with Microsoft Defender for Cloud Apps

☰

Conditional Access | Policies

⋮

Microsoft Entra ID



- 📘

Overview
- ☰

Policies
- 💡

Insights and reporting
- 🔧

Diagnose and solve problems
- 🔧

Manage
- 🔗

Named locations
- 🔧

Custom controls (Preview)
- 📄

Terms of use
- ⚙️

VPN connectivity
- 👤

Authentication contexts
- 🛡️

Authentication strengths
- ☰

Classic policies
- 👁️

Monitoring
- 📄

Sign-in logs
- 📄

Audit logs
- 🔧

Troubleshooting + Support
- 👤

New support request

⏪

+

New policy

+

New policy from template

⬆

Upload policy file

👤

What if

🔄

Refresh

|

🔧

Preview features

|

🗉

Got feedback?

Microsoft Entra Conditional Access policies are used to apply access controls to keep your organization secure. [Learn more](#)

All policies

30

Total

Microsoft-managed policies

1

out of 30

🔍

Search

🔍

Add filter

30 out of 30 policies found

Policy name	Tags	State	Alert	Creation d
Multifactor authentication for admins accessing Microsoft Admin Po...	MICROSOFT-MANAGED	Off		12/5/2023,
Block access for unknown or unsupported device platforms		Off		12/3/2022,
Block access from desktop apps on unmanaged devices		Off		7/9/2023, :
Block all personal devices (device filters)		Off		8/20/2023,
Block legacy authentication		On		
CA11 - Block access for all locations except Netherlands		Off		
CA20 - Require MFA		On		
CA21 - Require MFA - Guests		On		
CA22 - Require passwordless MFA		Off		12/3/2022,
CA23 - Require phishing-resistant MFA		Off		12/3/2022,



- Home
- Incidents & alerts
- Hunting
- Actions & submissions
- Threat intelligence
- Learning hub
- Trials
- Partner catalog
- Exposure management
- Assets
- Endpoints
- Identities
- Email & collaboration
- Cloud apps
 - Cloud discovery
 - Cloud app catalog
 - OAuth apps

Home

Light mode

Get your SIEM and XDR in one place

Connect Microsoft Sentinel and Microsoft Defender XDR to unify your security operations in a single portal with more AI, automation, search, and threat intelligence.

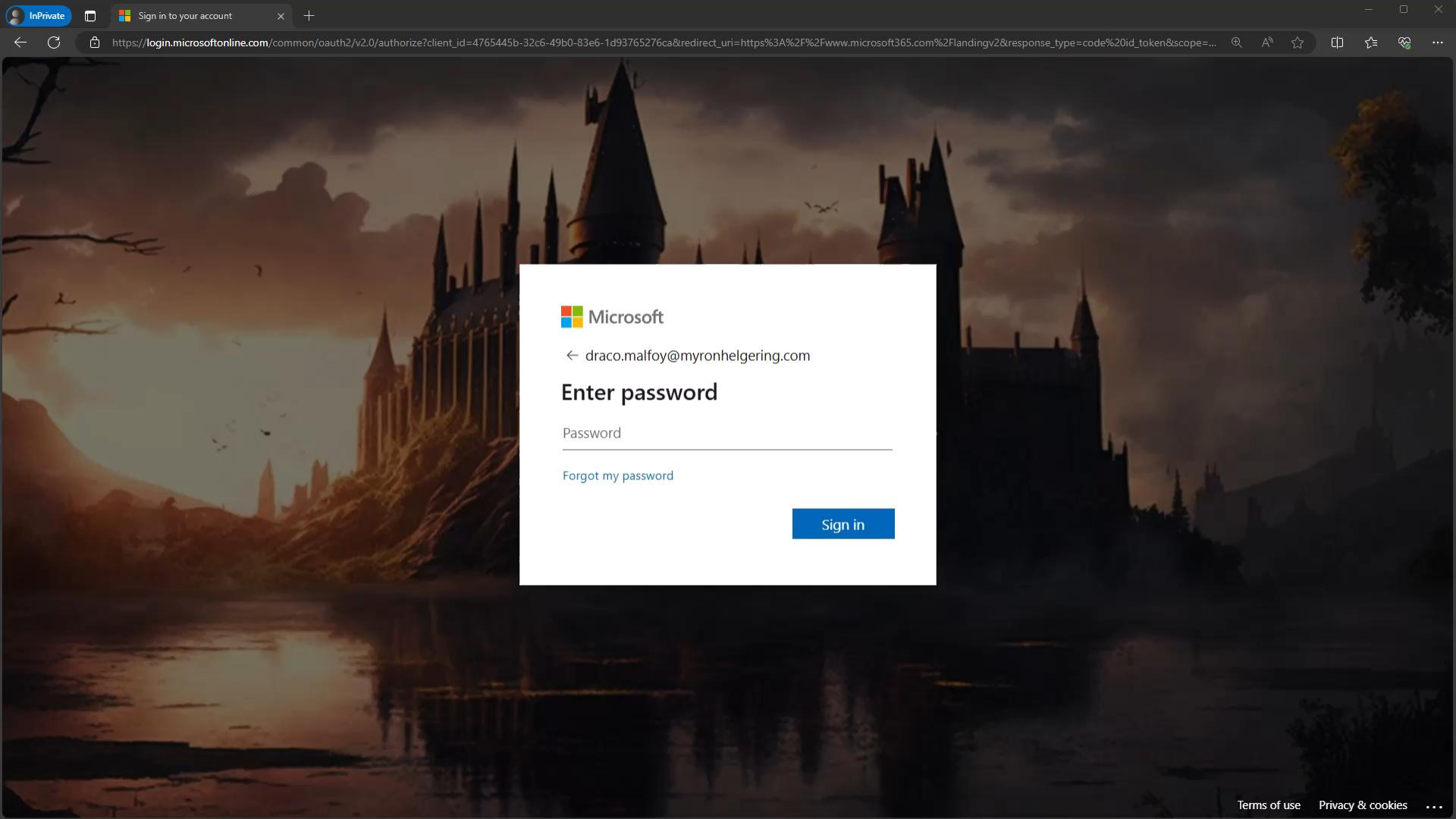
[Connect a workspace](#)[Guided tour](#) [What's new?](#) [Community](#) [Add cards](#)

Active incidents

No active incidents

No incidents found

[View all incidents](#)



← draco.malfoy@myronhelgering.com

Enter password

Password

[Forgot my password](#)

Sign in

Block only if data is sensitive

Files matching all of the following

Filters:



Sensitivity label



equals



Confidential-Internal only



Inspection method

Data Classification Service



Match if

All



of the following occur:



Credit Card Number



Advanced settings



EU Passport Number



Advanced settings

Two ways of protection with session policies

Reverse proxy (Default)

All browsers and operating systems

No user interaction needed

Slower user experience

Easier to bypass controls (dev tools)

Less secure (doesn't support MAM)

Supports all restrictions

In-browser protection (Preview)

Edge with Windows 10/11 or MacOS

Requires Edge profile sign in

Faster user experience

Harder to bypass controls (dev tools)

More secure (supports MAM)

Doesn't support all restrictions yet

Edge for Business protection

PREVIEW FEATURE

Turn on Edge for Business browser protection to provide end users with a faster, more secure experience.

Turn on Edge for Business browser protection



Enforce usage of Edge for Business

☐ Do not enforce

☒ Allow access only from Edge

☐ Enforce access from Edge when possible ⓘ | [Learn more](#)

Enforce for which devices?

☐ All devices

☒ Unmanaged devices only

☒ Notify users in non-Edge browsers to use Microsoft Edge for Business for better performance and security

☒ Use default message | [Preview](#)

☐ Customize message | [Preview](#)

Save

We secure your data as described in our [privacy statement](#) and [online service terms](#).

Method 6: App protection policies

- Manage and wipe corporate data through managed apps
- Apply data protection controls
- Enforce secure authentication
- Ensure device compliance
- Android, iOS & Windows only

✓ Great method with many security features, especially for Android and iOS devices.



App protection policies for Android & iOS

- No copy/paste between apps
- No printing or downloading
- No screenshots
- Encrypt app data
- Secure authentication (PIN/biometric)
- Set device conditions such as minimum OS or app version

Apps | App protection policies

Search

+ Create policy

Refresh Columns Export

Search by policy

Policy	Deployed	Platform
MAM for Android - all users	Yes	Android
MAM for iOS - all users	Yes	iOS/iPadOS

By platform

- Windows
- iOS/iPadOS
- macOS
- Android

Policy

App protection policies

Require app protection policy with Conditional Access

- Authenticator app for iOS
- Company Portal app for Android

The screenshot shows the configuration page for a Conditional Access policy named "Require app protection policy - Android & iOS". The interface is dark-themed. Key sections include:

- Name:** "Require app protection policy - Android & iOS"
- Assignments:** (Empty section)
- Users:** "All users included and specific users excluded"
- Target resources:** "All cloud apps"
- Conditions:** "1 condition selected" with a blue arrow pointing to a box containing:
 - ☒ Select device platforms
 - ☒ Android
 - ☒ iOS
- Access controls:** (Empty section)
- Grant:** "1 control selected" with a blue arrow pointing to a box containing:
 - ☒ Require app protection policy



Set up email



Google



Outlook, Hotmail, and Live



Yahoo



Exchange and Office 365



Other



Enter your email address

Email

draco.malfoy@myronhelgering.com

Set up manually

Next



icrosoftonline.com



Microsoft

draco.malfoy@myronhelgering.com

You can't get there from here

It looks like you're trying to open this resource with a client app that is not available for use with app protection policies. Ask your IT department or see a list of applications that are protected [here](#).

[Sign out and sign in with a different account](#)

[More details](#)

OK

[Terms of use](#)

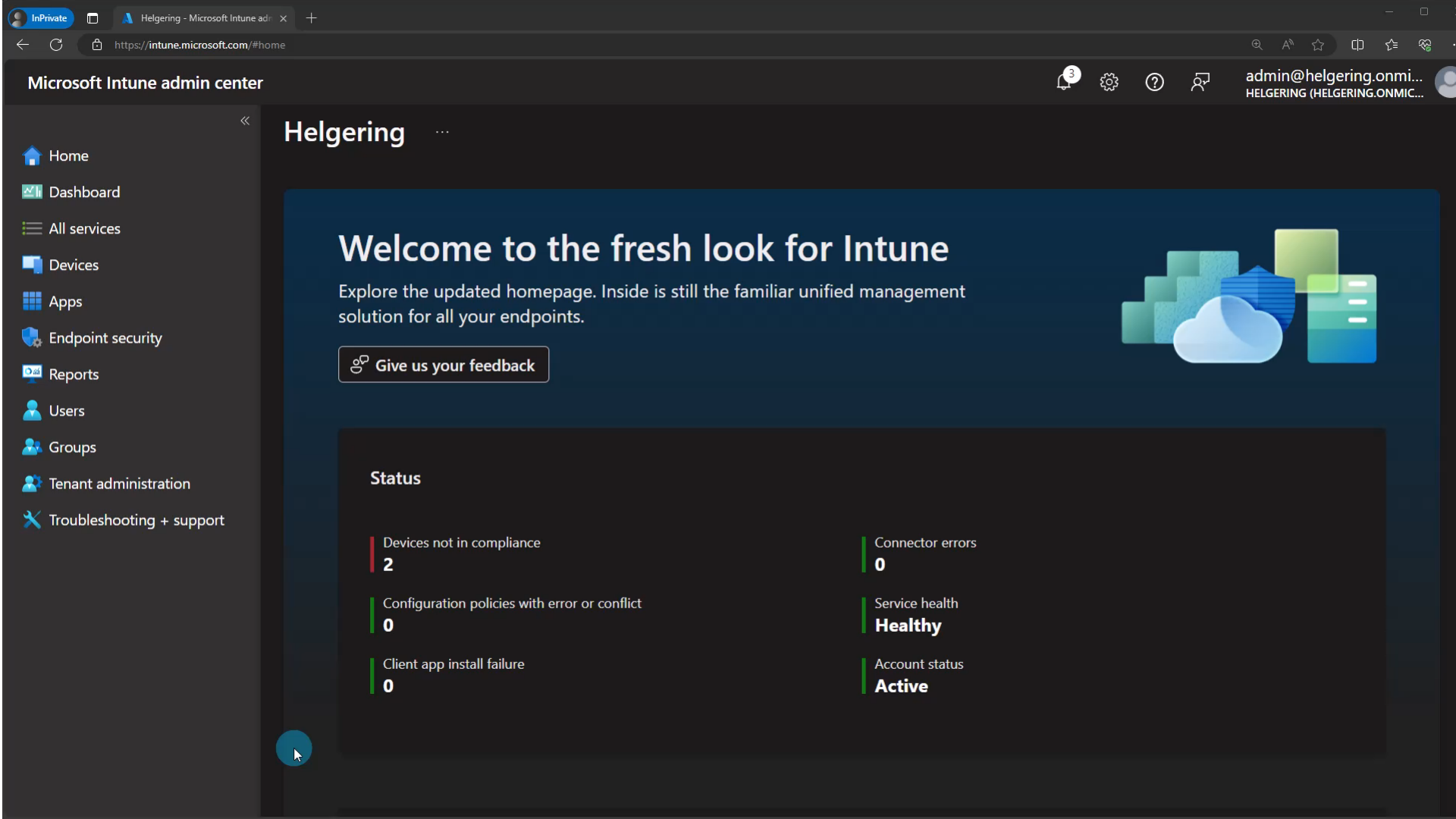
[Privacy & cookies](#)

...

WE!
60

RESPECTIVE
General

Demo: Mobile Application Management (MAM) for Windows





Helgering ...

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

Welcome to the fresh look for Intune

Explore the updated homepage. Inside is still the familiar unified management solution for all your endpoints.

[Give us your feedback](#)

Status

Devices not in compliance

2

Configuration policies with error or conflict

0

Client app install failure

0

Connector errors

0

Service health

Healthy

Account status

Issues

☰

Conditional Access | Policies

Microsoft Entra ID

×

⏪

+

 New policy

+

 New policy from template

⬆

 Upload policy file

👤

 What if

🔄

 Refresh

|

🖨

 Preview features

|

🗣

 Got feedback?

- 📘

 Overview
- ☰

 Policies
- 💡

 Insights and reporting
- 🔧

 Diagnose and solve problems
- 📁

 Manage

- 📍

 Named locations
- 🔒

 Custom controls (Preview)
- 📄

 Terms of use
- ⚙

 VPN connectivity
- 👥

 Authentication contexts
- 🛡

 Authentication strengths
- ☰

 Classic policies

- 📊

 Monitoring
- 🔍

 Sign-in logs
- 📋

 Audit logs

- 🔧

 Troubleshooting + Support
- 👤

 New support request

Microsoft Entra Conditional Access policies are used to apply access controls to keep your organization secure. [Learn more](#)

All policies

32

Total

Microsoft-managed policies

🏆

1

out of 32

🔍

 Search

🔍

 Add filter

32 out of 32 policies found

Policy name	Tags	State	Alert	Creation c
Multifactor authentication for admins accessing Microsoft Admin Po...	MICROSOFT-MANAGED	Off		12/5/2023
Block access for unknown or unsupported device platforms		Off		12/3/2022
Block access for unmanaged devices		Off		8/22/2023
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Block all personal devices (device filters)		Off		8/20/2023
Block legacy authentication		On		
CA11 - Block access for all locations except Netherlands		Off		
CA20 - Require MFA		On		
CA21 - Require MFA - Guests		On		
CA22 - Require passwordless MFA		Off		12/3/2022

14:53

Monday, 27 May



TECH EVENTS WITH PERSPECTIVE

General

What to expect in the future?



Microsoft Purview compliance portal: Data Loss Prevention - New inline data protection in Edge for Business for unmanaged Windows and macOS devices

Microsoft Purview compliance portal

Microsoft Edge

■■■ LAUNCHED

PREVIEW AVAILABLE
May 2025

ROLLOUT START
August 2025

Following further review, we mistakenly marked the roadmap as "launched." The correct status is In Development. We apologize the inconvenience. When using Microsoft Edge for Business as the secure enterprise browser, Admins in Purview DLP can now configure policies that apply protections directly in the Edge browser that target scenarios where users on unmanaged (or BYO) devices are sharing data to or exfiltrating data from org-managed cloud apps (apps which use Entra authentication for user sign-in).

Roadmap ID	Cloud instances(s)	Platform(s)	Release phases(s)
486366	Worldwide (Standard Multi-Tenant)	Web	General Availability, Preview

Added to roadmap: 03/25/2025 | Last modified: 10/07/2025

Requirements






- Enable (or require) in-browser protection
- Conditional Access policy with App Control

- ✓ Data to protect
- ✓ Template or custom policy
- ✓ Name
- ✓ Admin units
- Locations**
- Policy settings
- Policy mode
- Finish

Choose where to apply the policy

We'll apply the policy to data that's stored in the locations you choose.

- ① Protecting sensitive info in on-premises repositories (SharePoint sites and file shares) is now in preview. Note that there are prerequisite steps needed to support this new capability. [Learn more about the prerequisites](#)
- ① Pay-as-you-go billing needs to be set up to configure policies for non-Microsoft 365 data sources. [Learn more about pay-as-you-go billing](#)

Location	Scope	Actions
<input checked="" type="checkbox"/>  Managed cloud apps	All users, groups, managed apps	Edit
 OpenAI ChatGPT	Turn on location to scope	
 Google Gemini	Turn on location to scope	
 Microsoft Copilot	Turn on location to scope	
 DeepSeek	Turn on location to scope	

^ Content contains



Group name *

Default

Group operator

Any of these ▾



Sensitive info types

Credit Card Number

High confidence ▾



Instance count

1

to

Any



EU Passport Number

Medium confidence ▾



Instance count

1

to

Any



Add ▾

 Create group

AND ▾

^ Managed or unmanaged devices



Detect whether information's being accessed by an unmanaged or managed device. Managed devices are Microsoft Entra hybrid joined or managed by Microsoft Intune.

Unmanaged ▾

^ Restrict browser and network activities



Audit or block activities that involve data being shared to or from the cloud apps you specified.

[Learn more](#)

☐ Text upload

Audit Only ▾

☐ File upload

Audit Only ▾

☒ File Download

Block ▾

☐ Cut or copy data

Audit Only ▾

☐ Paste clipboard data

Audit Only ▾

☐ Print data

Audit Only ▾

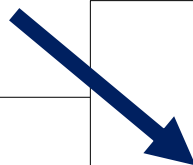


Sign in with your work account

For the best browsing experience while accessing a service, app or website, we recommend signing in to your Microsoft Edge browser profile using **draco.malfoy@myronhelgering.com**.

When you use the browser's work profile, your organization can view some of your data.[Learn More](#)

Switch to work profile



Access to Microsoft SharePoint Online is monitored

For improved security, your organization allows access to **Microsoft SharePoint Online** in monitor mode.

Access is only available from a web browser.

☐ Hide this notification for all apps for one week



[Continue to Microsoft SharePoint Online](#)

SharePoint

Search this library

Communication site

Home Documents Pages Site contents Normenkader Edit

Documents

Open Share Copy link Delete Pin to top Favorite Add shortcut Download

	Name	Modified	Modified By	
	Sensitive Document.docx			

Microsoft Purview

Your organization prevents you from downloading this file.

File Download is blocked by your organization's security policy.

Learn more

OK

Downloads

Sensitive Document.docx
Couldn't download - Blocked

Sensitive Document.docx
Couldn't download - Blocked

Sensitive Document.docx
Couldn't download - Blocked

Sensitive Document.docx
Couldn't download - Blocked

test (3).docx
Couldn't download - Blocked

test (3).docx
Couldn't download - Blocked

See more



Cloud infrastructure

Microsoft Sentinel

Identities

Endpoints

Email & collaboration

Cloud apps

Cloud discovery

Cloud app catalog

OAuth apps

App governance

Activity log

Governance log

Policies

Policy management

Policy templates

Policies

Threat detection

Information protection

Conditional access

Shadow IT

All policies

① Starting June 15th, 2025, Microsoft Defender for Cloud Apps will adopt a dynamic threat detection model to enhance accuracy and responsiveness, policies that require this information, [visit our documentation](#).

Filters:

Name:

Policy name

Type: **Select type**

Status:

ACTIVE

DISABLED

Severity:

Categor...

+ Create policy

↓ Export

1 - 4 of 4 Policies

Policy	Count	Se... ↓	Action
Purview - Custom policy - DLP rule [Disabled] [Entra ID policy missing]	1 active incidents	Medi...	
Block cut/copy and print on unmanaged devices [Disabled] [Entra ID policy missing]	0 active incidents	Low	
Block downloads on unmanaged devices [Disabled] [Entra ID policy missing]	0 active incidents	Low	
Purview - DLP - Browser activity - DLP rule - Block sensitive information downloads	0 active incidents	Low	

Takeaways

- ✗ Don't do nothing
- ! Don't (completely) manage personal devices
- ! Consider blocking unmanaged devices
- ✓ Enforce app enforced restrictions (with CA or Sensitivity Labels)
- ✓ Enforce session policies (with MDA)
- ✓ Enforce app protection policies (with MAM)

Bonus Methods!

- ✓ Personally owned work profiles
- ✗ Windows Information Protection (WIP)
- ! Endpoint Data Loss Prevention (DLP)

Blogs on unmanaged devices

[Block access with Conditional Access for Unmanaged Devices](#)

[Limited Access with App-enforced Restrictions for Unmanaged Devices](#)

[Limited Access with Sensitivity Labels for Unmanaged Devices](#)

[Limited Access with Session Policies for Unmanaged Devices](#)

[First look at Mobile Application Management for Windows](#)

[Mobile Application Management for Android and iOS](#)

[Blog Series: Unmanaged Devices](#)



in/myronhelgering



myronhelgering.com



TECH EVENTS WITH PERSPECTIVE
General

Time for questions!

Other sessions @ Live! 360

- Wednesday, November 19, 2025
 - Automated Data Security: Identifying Sensitive Data with Microsoft Purview **(9:30am – 10:45am)**
- Thursday, November 20, 2025
 - Six Methods to Protect your Business from the Threat of Unmanaged Devices **(1:00pm – 2:15pm)**
 - The Challenge of Providing Secure Access to External Admins **(2:30pm – 3:45pm)**

Session Survey

- Your feedback is very important to us
- Please take a moment to complete the session survey found in the mobile app
- Use the QR code or search for “Converge360 Events” in your app store
- Find this session on the Agenda tab
- Click “Session Evaluation”
- Thank you!



Thank you!