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EUROPEAN COLLABORATION SUMMIT 2023

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BIWUG

Cutting through the noise

My experiences running an insider risk program with Microsoft Purview

CollabDays Belgium 2023

Security & Compliance Architect @

SULAVA
CREATING BETTER WORKLIFE

★ Data protection,
Compliance & Insider Risk

Generative AI
& AI security

Identity & access
management

Power Platform &
Low-code/No-code

Modern work

Mission statement

Gathering signals

Assembling a team

Essential configurations

Getting started

Decision points

Fine tuning

Integration

Mission statement

Insider

Any person who has or had **authorized access to** or **knowledge of** an organization's…

- Information
- Networks
- Systems
- Personnel
- Facilities
- Equipment

CISA – "Defining Insider Threats"

Insider risk

The potential for an insider to use their **authorized access** or **understanding of an organization** to harm that organization.

CISA – ”Defining Insider Threats”

Accidental

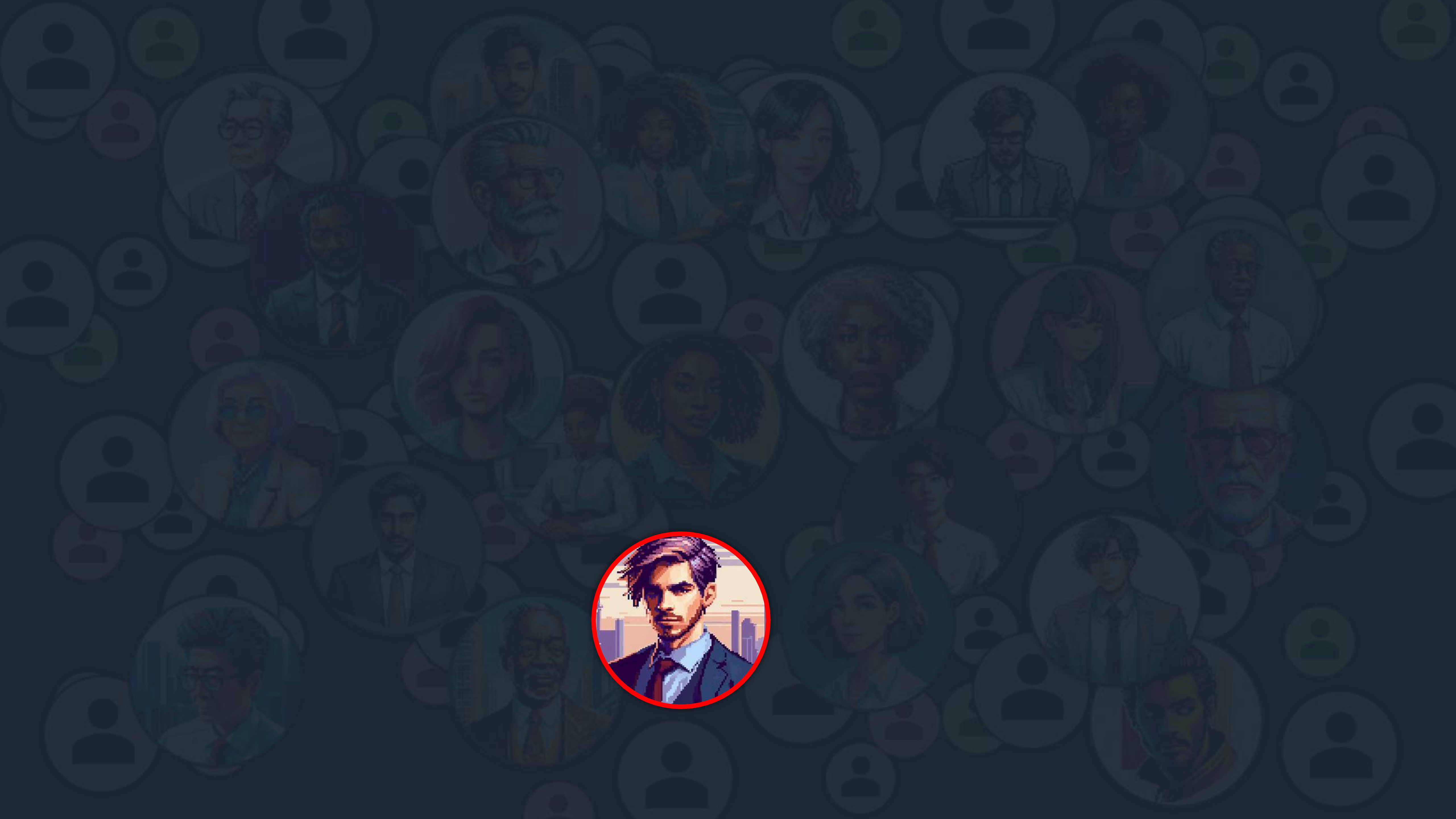
Negligent

- Behavior that violates security policies
- Lack of training or concentration
- Misuse of given tools and resources
- Undesirable behaviour caused by haste or overload

Coerced or malicious

- Unauthorised disclosure of information
- Embezzlement
- Sabotage
- Appropriation of intellectual property
- Corporate espionage

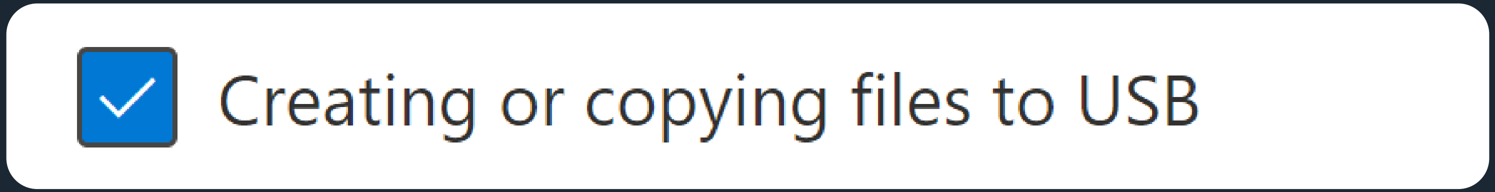
The signal is lost in the noise



Gathering signals

Indicator

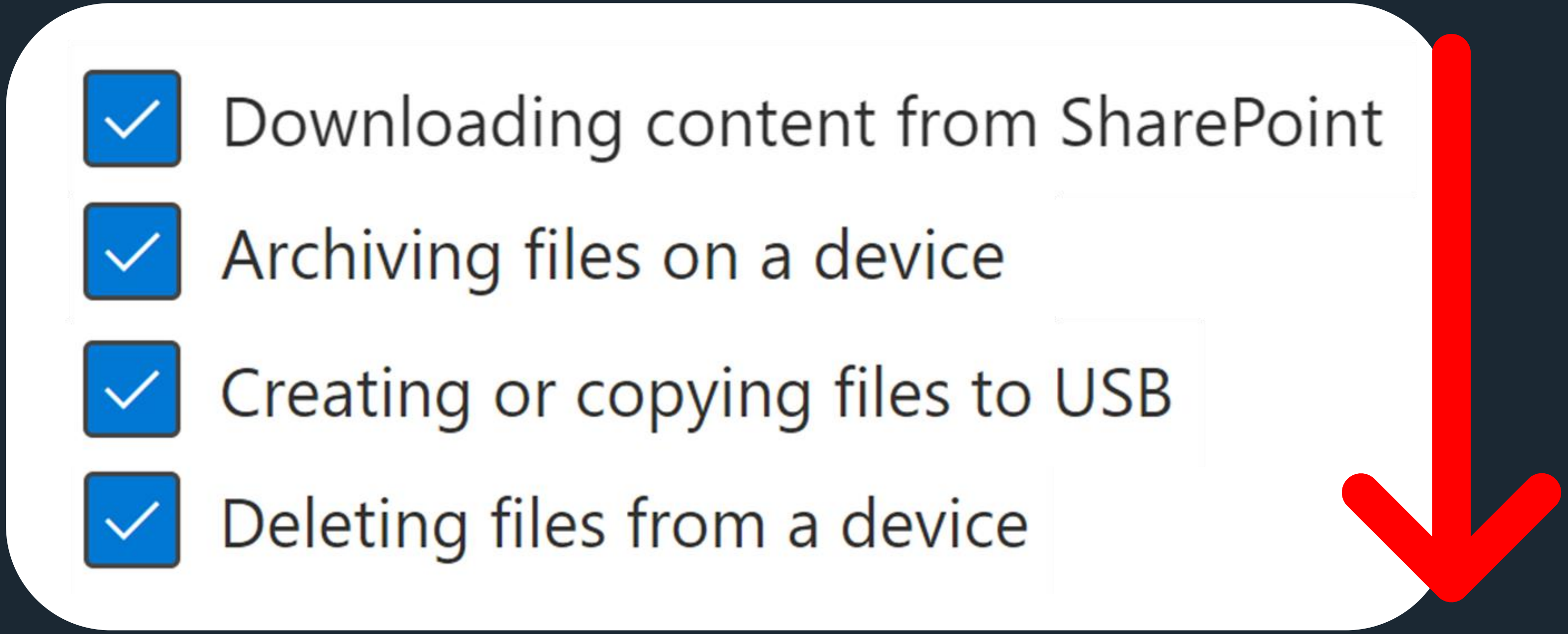
Individual meaningful event



☑ Creating or copying files to USB

Sequence

An interlinked series of meaningful events



☑ Downloading content from SharePoint

☑ Archiving files on a device

☑ Creating or copying files to USB

☑ Deleting files from a device

Indicator source tier list (for getting started)

Device events

Microsoft 365 / Office events

Critical

Defender for Endpoint security events

(Edge & Chrome) Risky browsing events

OK

Defender for Cloud Apps

Physical access events

Health record events

Situational

Device events

Onboard devices to Microsoft Purview!

> Creating or copying files to USB

> Using a browser to upload files to the web

> Copying files over RDP & Bluetooth

> Printing documents

> Deleting files from the endpoint

…

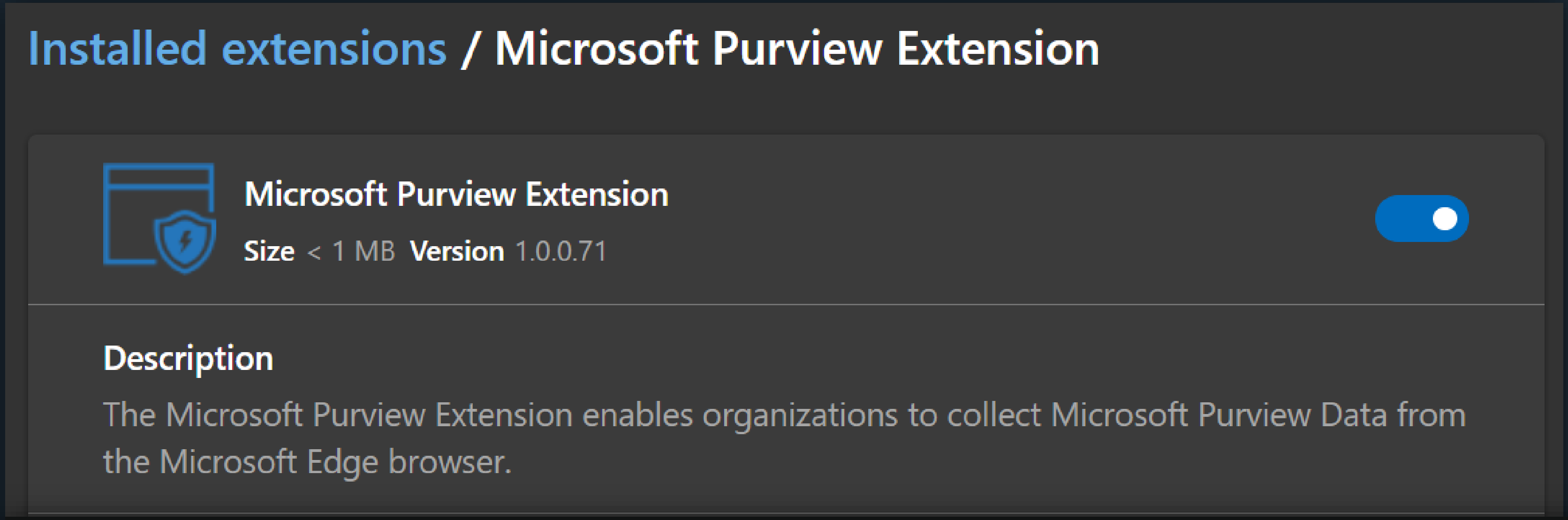
Most data is exfiltrated w/ these

Microsoft 365 / Office events

- Downloading content from SharePoint / OneDrive
- Sharing files with externals
- Downgrading or removing sensitivity labels
- Accessing sensitive or priority SharePoint sites
- Sending email with attachments to externals

…

Most sequences start with these



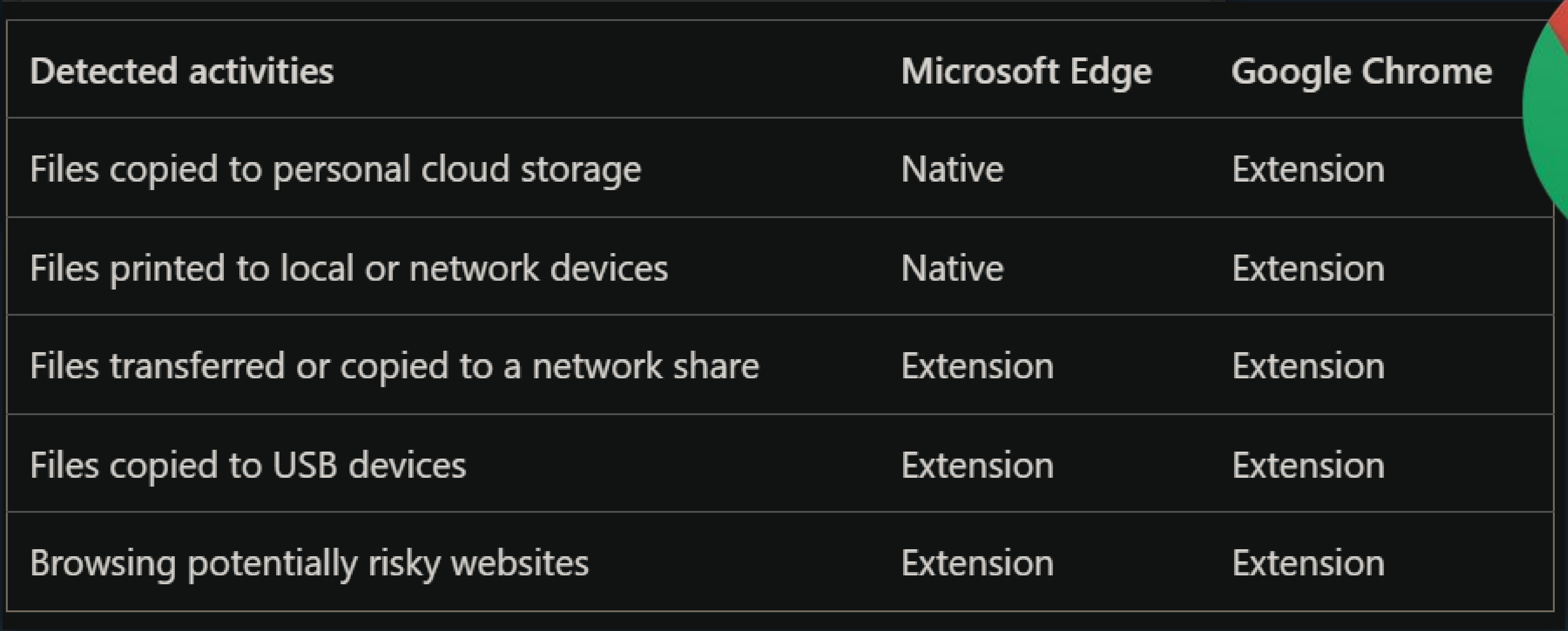
Installed extensions / Microsoft Purview Extension

Microsoft Purview Extension

Size < 1 MB **Version** 1.0.0.71

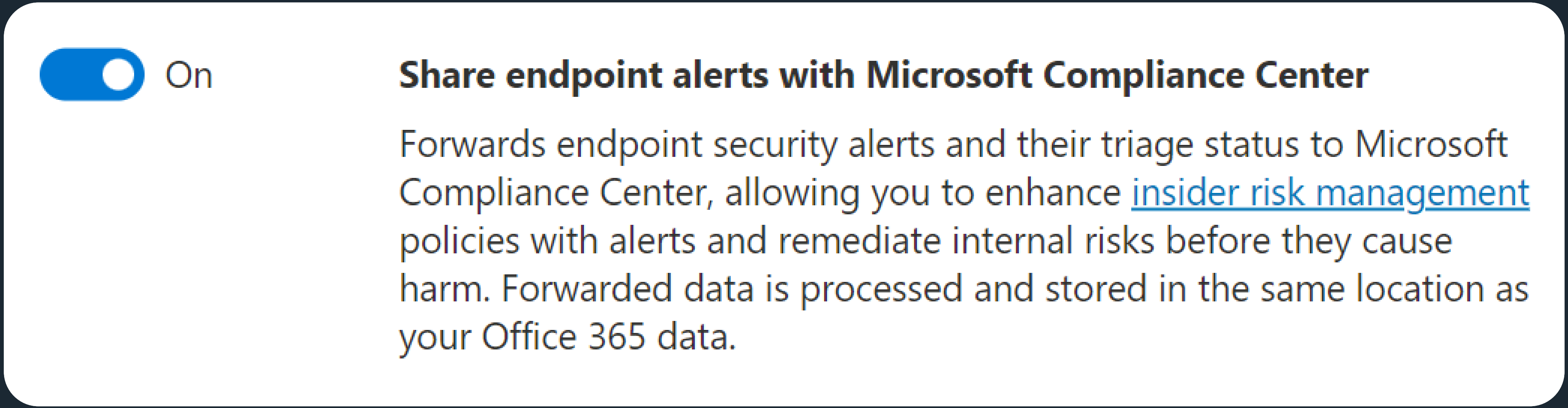
Description

The Microsoft Purview Extension enables organizations to collect Microsoft Purview Data from the Microsoft Edge browser.



Detected activities	Microsoft Edge	Google Chrome
Files copied to personal cloud storage	Native	Extension
Files printed to local or network devices	Native	Extension
Files transferred or copied to a network share	Extension	Extension
Files copied to USB devices	Extension	Extension
Browsing potentially risky websites	Extension	Extension

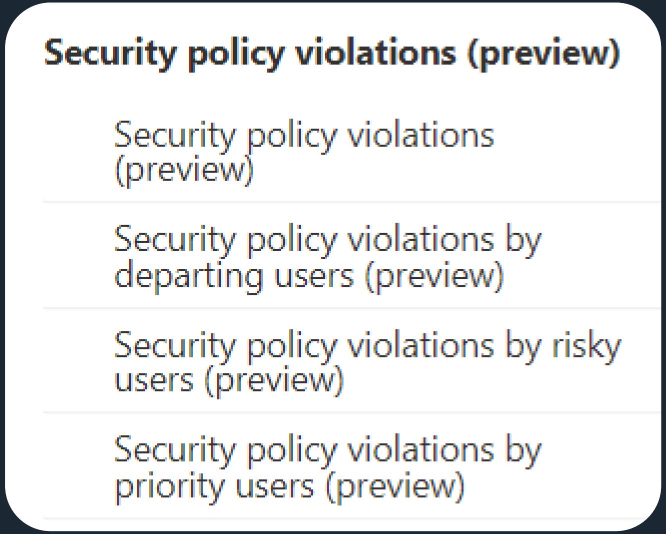
Enable MDE-IRM integration



On

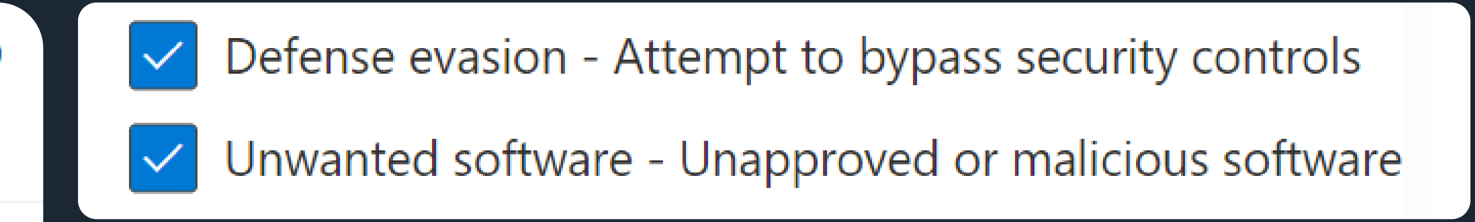
Share endpoint alerts with Microsoft Compliance Center

Forwards endpoint security alerts and their triage status to Microsoft Compliance Center, allowing you to enhance insider risk management policies with alerts and remediate internal risks before they cause harm. Forwarded data is processed and stored in the same location as your Office 365 data.



Security policy violations (preview)

- Security policy violations (preview)
- Security policy violations by departing users (preview)
- Security policy violations by risky users (preview)
- Security policy violations by priority users (preview)



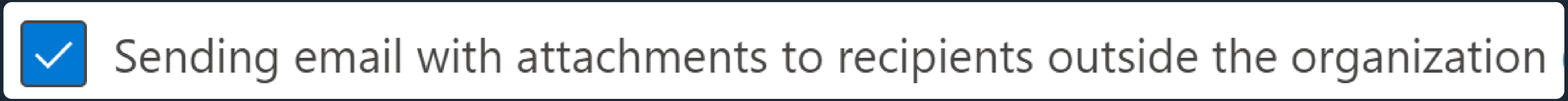
☑ Defense evasion - Attempt to bypass security controls

☑ Unwanted software - Unapproved or malicious software

Synergy between your SecOps & Insider Risk teams!

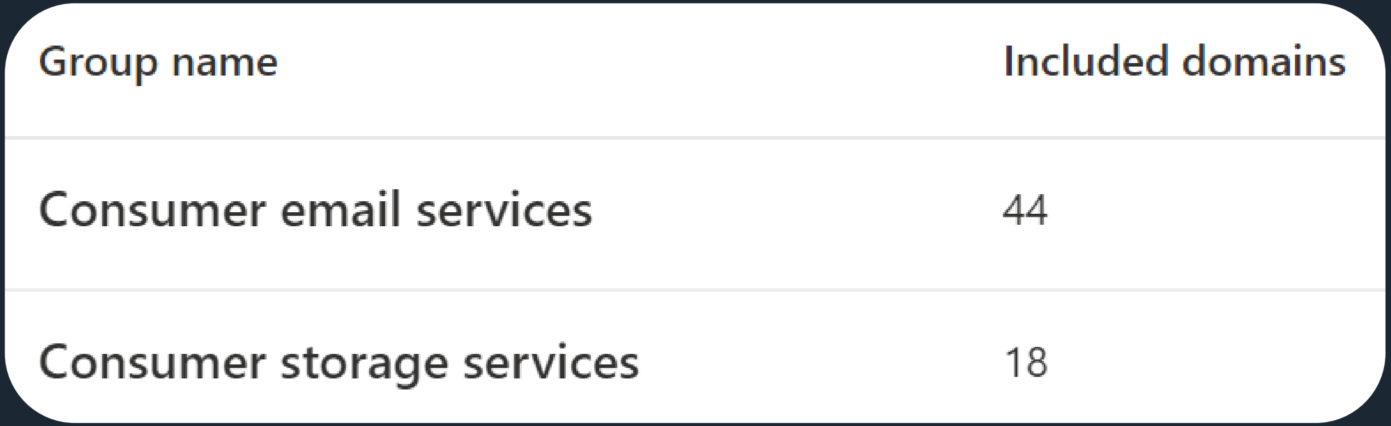
Tip: Create custom variants

Base indicator



☑ Sending email with attachments to recipients outside the organization

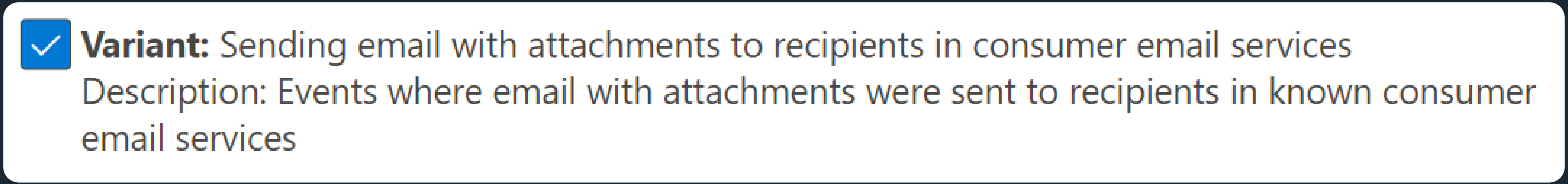
+ Custom domain group



Group name	Included domains
Consumer email services	44
Consumer storage services	18

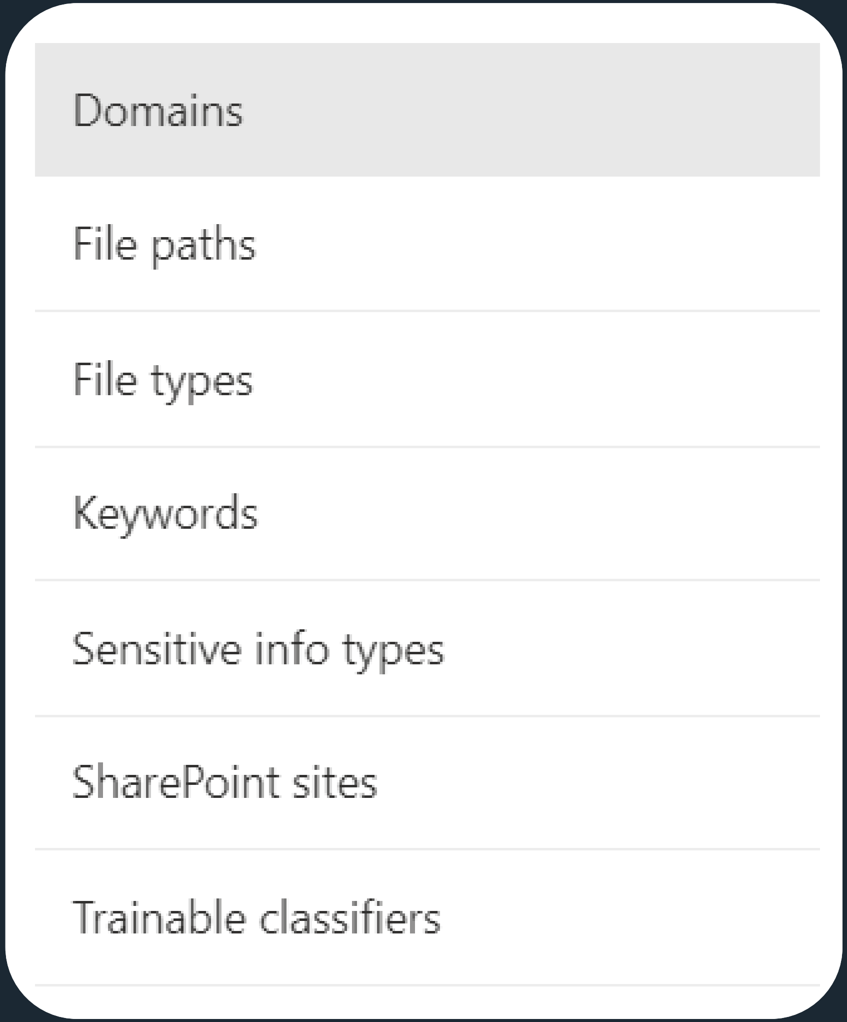
Tip: Create custom variants

= Indicator variant → better signals!



☑ **Variant:** Sending email with attachments to recipients in consumer email services
Description: Events where email with attachments were sent to recipients in known consumer email services

Tip: Create custom variants



Domains

File paths

File types

Keywords

Sensitive info types

SharePoint sites

Trainable classifiers

Many different types!

Assembling a team

Make **HR, Legal & Compliance** your allies from the start

- Identify specific **regulatory and other requirements**
- Get buy-in from C-levels to resource the insider risk program
- Build bridges to support future development initiatives
- Vital in any **true positive** cases

Plan process & roles around IRM RBAC

Management
Insider Risk Admin

Analysis & triage
Insider Risk Analyst

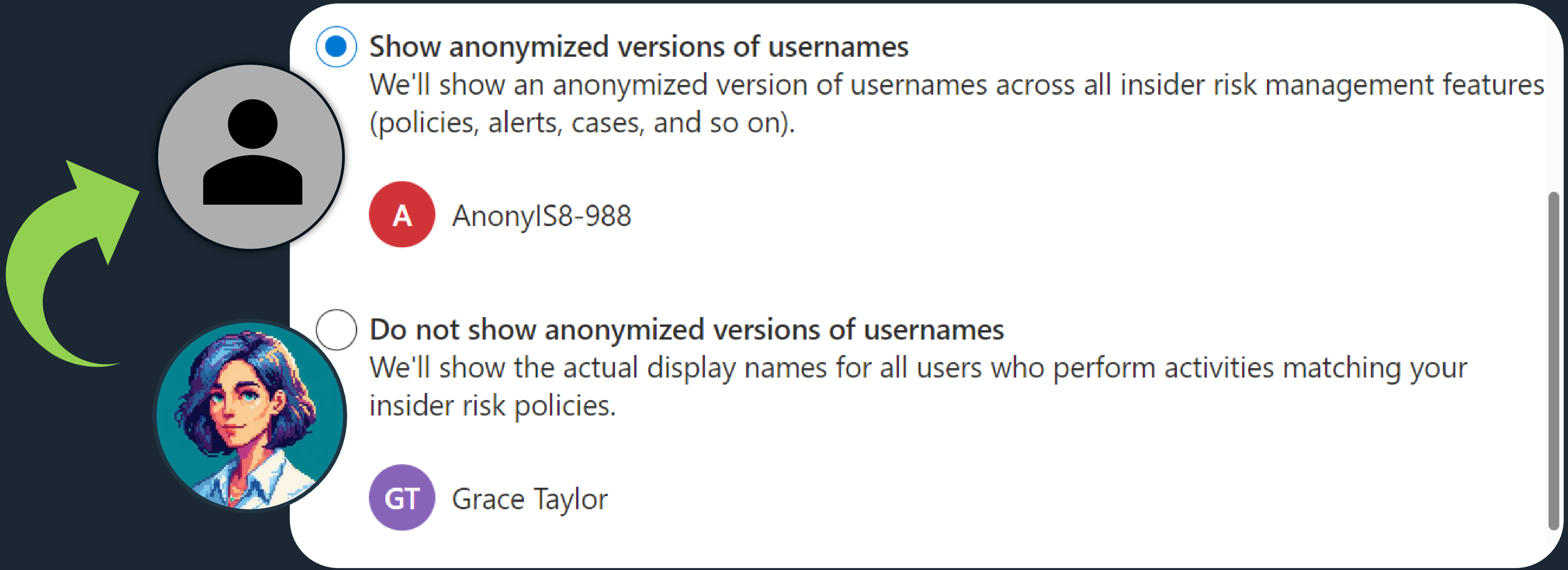
Investigation
Insider Risk Investigator

Auditing
Insider Risk Auditor

Essential configurations

”I never liked that guy.. let’s see what he’s been up to.”

Avoid!



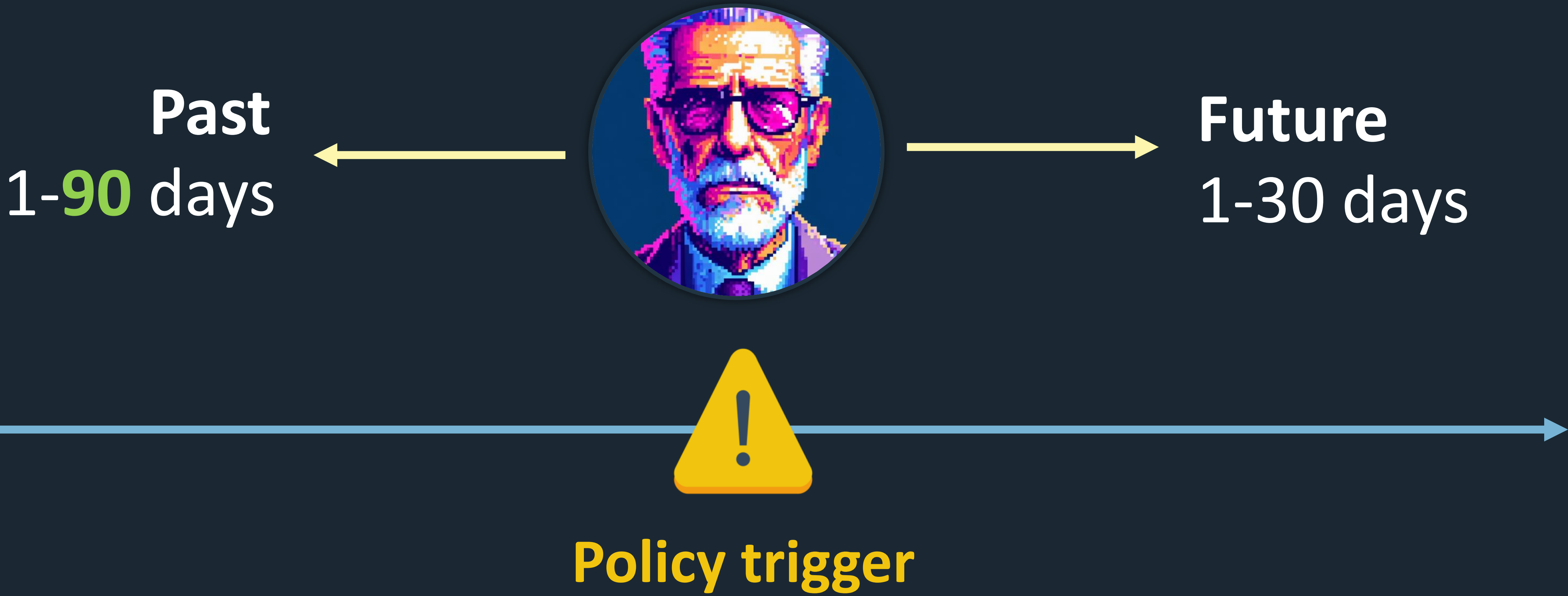
● **Show anonymized versions of usernames**
We'll show an anonymized version of usernames across all insider risk management features (policies, alerts, cases, and so on).

A AnonyIS8-988

○ **Do not show anonymized versions of usernames**
We'll show the actual display names for all users who perform activities matching your insider risk policies.

GT Grace Taylor

Pseudoanonymization is essential for privacy & investigation integrity

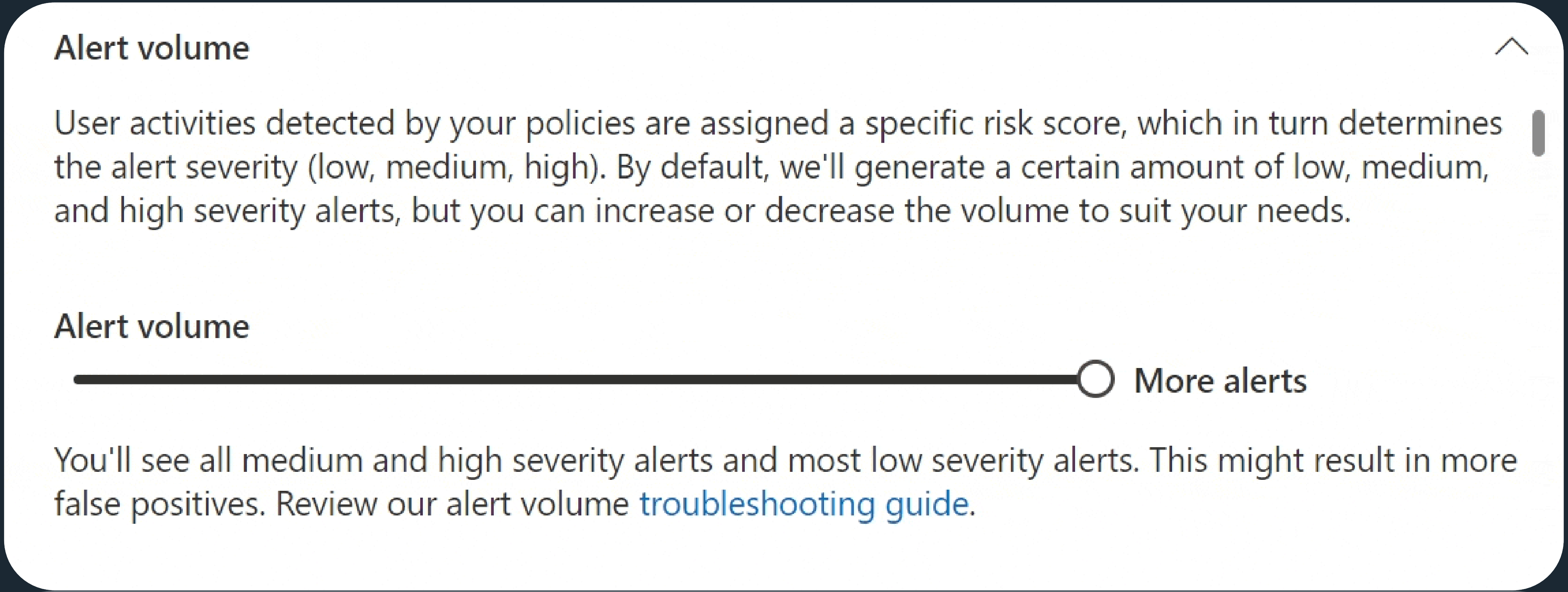


Past
1-90 days

Future
1-30 days

Policy trigger

IRM is noisy before fine-tuning
Lower your **alert volume** initially



Alert volume

User activities detected by your policies are assigned a specific risk score, which in turn determines the alert severity (low, medium, high). By default, we'll generate a certain amount of low, medium, and high severity alerts, but you can increase or decrease the volume to suit your needs.

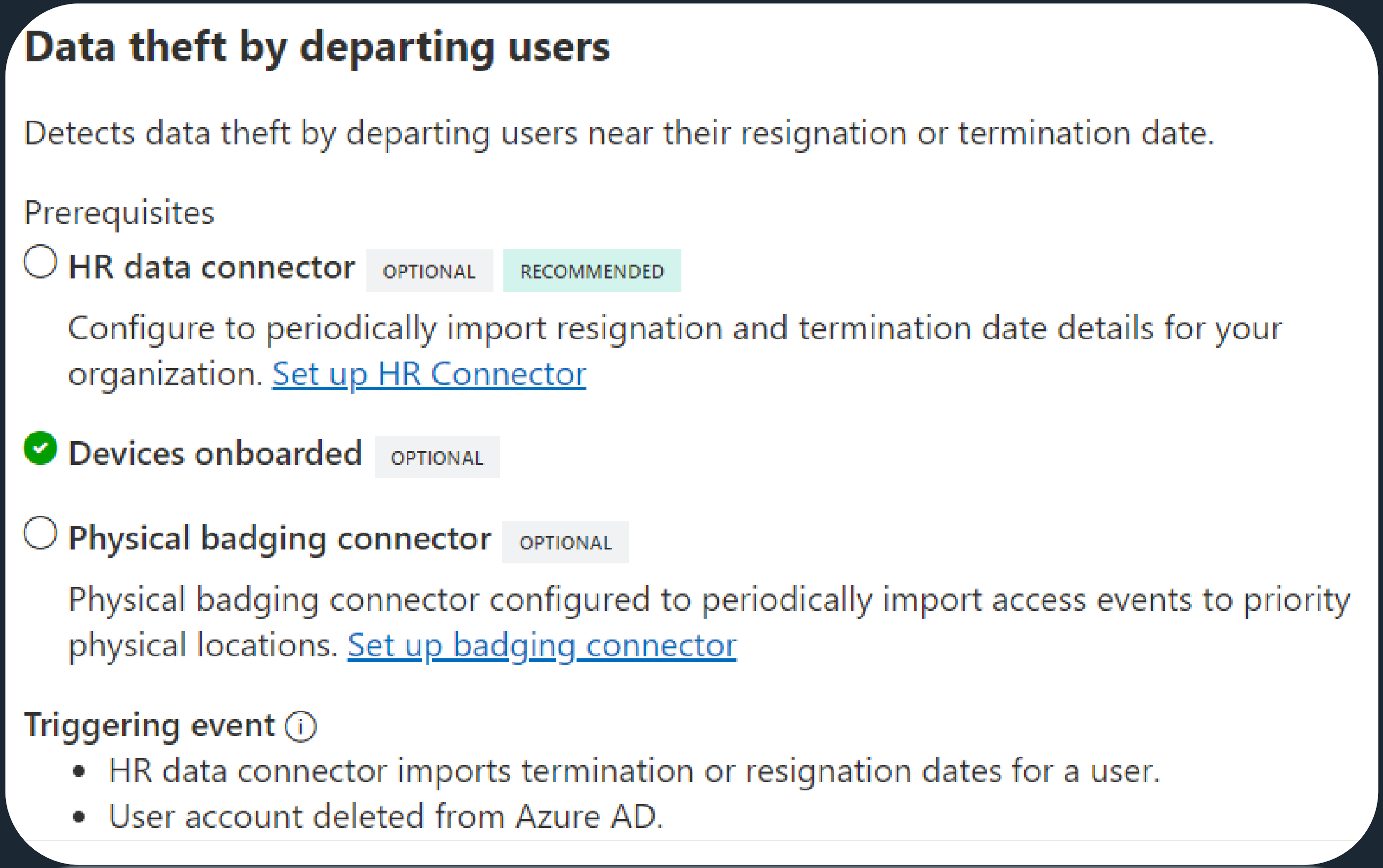
Alert volume

More alerts

You'll see all medium and high severity alerts and most low severity alerts. This might result in more false positives. Review our alert volume troubleshooting guide.

Getting started

Start with **Data theft by departing users**



Data theft by departing users

Detects data theft by departing users near their resignation or termination date.

Prerequisites

○ **HR data connector** OPTIONAL RECOMMENDED

Configure to periodically import resignation and termination date details for your organization. Set up HR Connector

✓ **Devices onboarded** OPTIONAL

○ **Physical badging connector** OPTIONAL

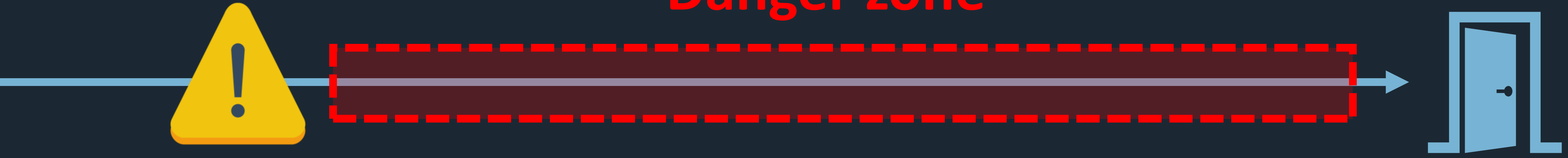
Physical badging connector configured to periodically import access events to priority physical locations. Set up badging connector

Triggering event ⓘ

- HR data connector imports termination or resignation dates for a user.
- User account deleted from Azure AD.

- ✓ ***Very* common real-life stuff for easy wins**
- ✓ **High true positive %**
- ✓ **Practice & validate processes**
- ✓ **Get buy-in for more complex scenarios**

Danger zone



Employment end date set

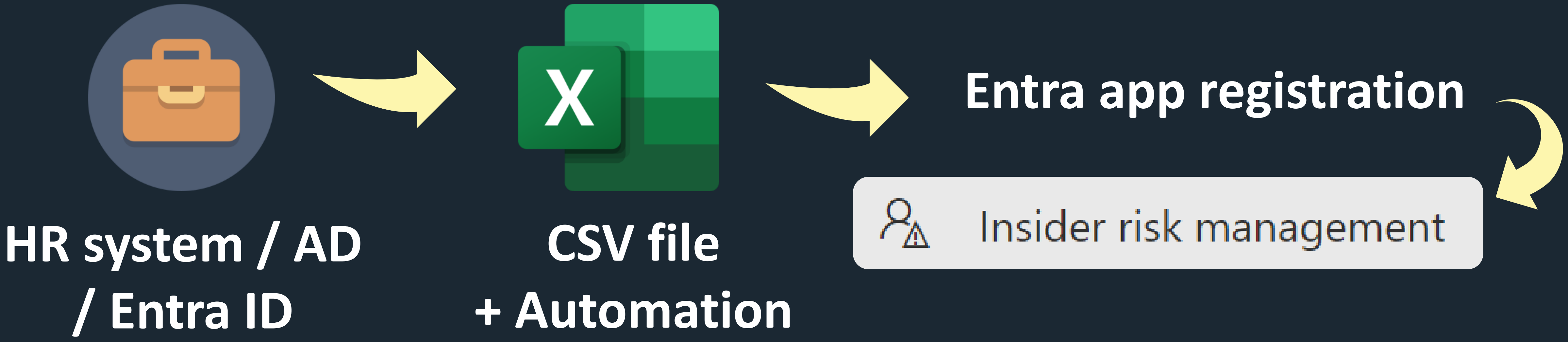
August 1st 2023

Employment ends

October 31st 2023

Start with **Data theft by departing users**

- Usable even without HR connector for pilot & practice
- **HR connector** is *required* to identify real exfiltration by leavers in time to take action
- **HR connector** can also work w/ AD or Entra ID data!



HR system / AD / Entra ID

CSV file + Automation

Entra app registration

Insider risk management

Build a routine as early as possible

Every day:

Book at least an hour to triage new alerts & raise cases

Every week:

Go through recent findings with Insider Risk team

Decide on actions to take on raised cases

Every month:

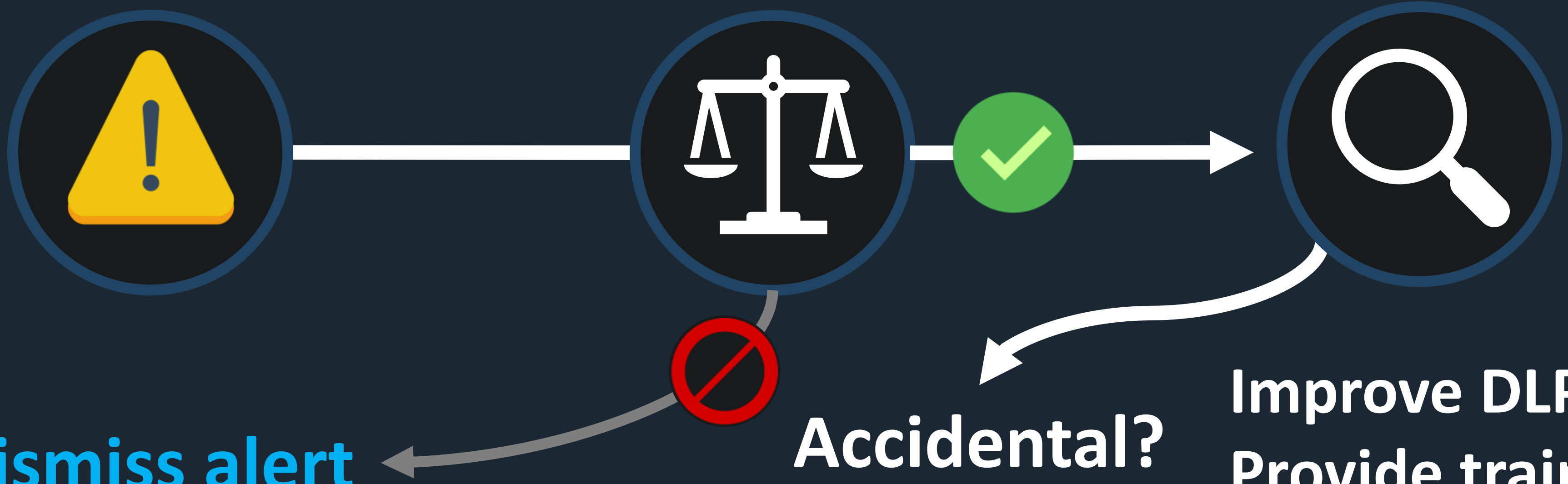
Refine & create policies, custom indicators and variants

Decision points

Alert created

Actions warrant investigation?

Escalate to case & investigate user



Dismiss alert

Accidental?

Improve DLP rules
Provide training

Negligent?

Provide *targeted* training & feedback

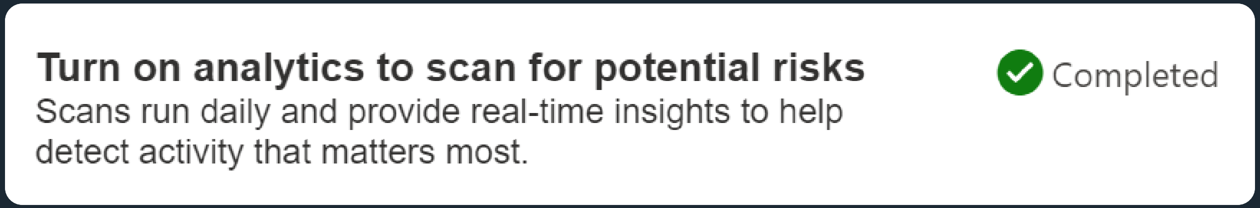
Malicious?

Remove pseudoanon.
Capture forensic evidence
Involve legal & authorities

The hardest part of Insider Risk Management!

Fine tuning

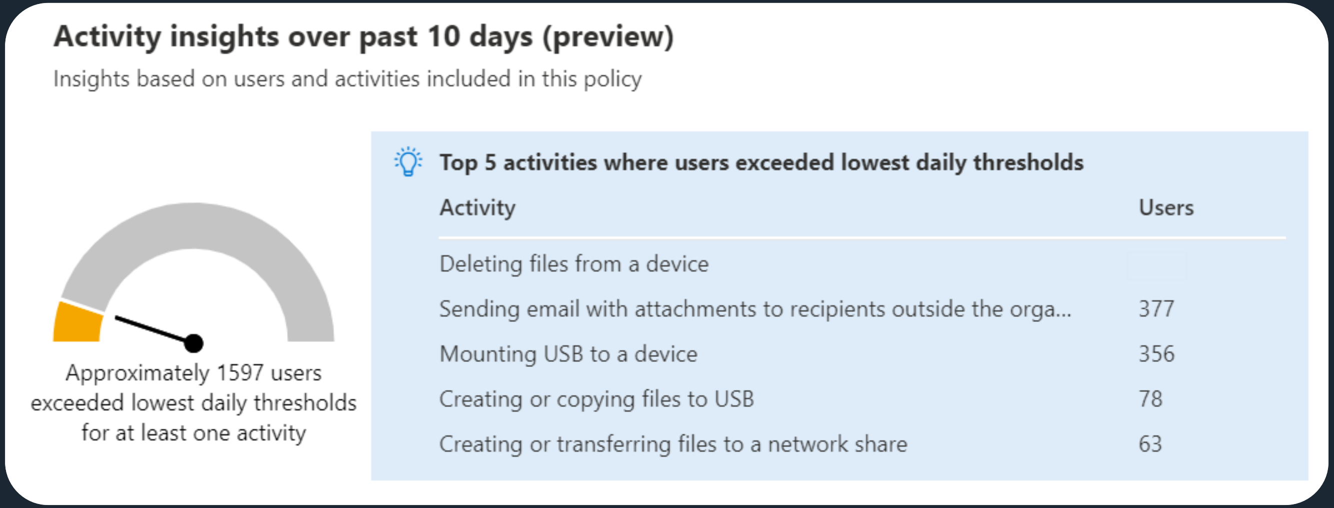
Enable analytics to allow fine-tuning policies



Turn on analytics to scan for potential risks

Scans run daily and provide real-time insights to help detect activity that matters most.

✓ Completed



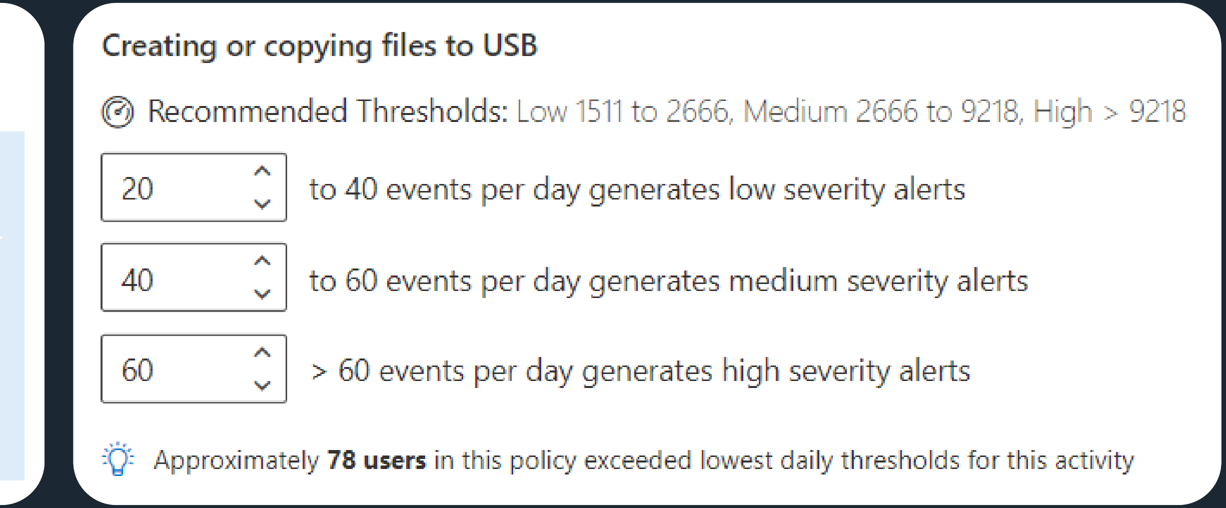
Activity insights over past 10 days (preview)

Insights based on users and activities included in this policy

Approximately 1597 users exceeded lowest daily thresholds for at least one activity

Top 5 activities where users exceeded lowest daily thresholds

Activity	Users
Deleting files from a device	
Sending email with attachments to recipients outside the orga...	377
Mounting USB to a device	356
Creating or copying files to USB	78
Creating or transferring files to a network share	63



Creating or copying files to USB

Recommended Thresholds: Low 1511 to 2666, Medium 2666 to 9218, High > 9218

20 to 40 events per day generates low severity alerts

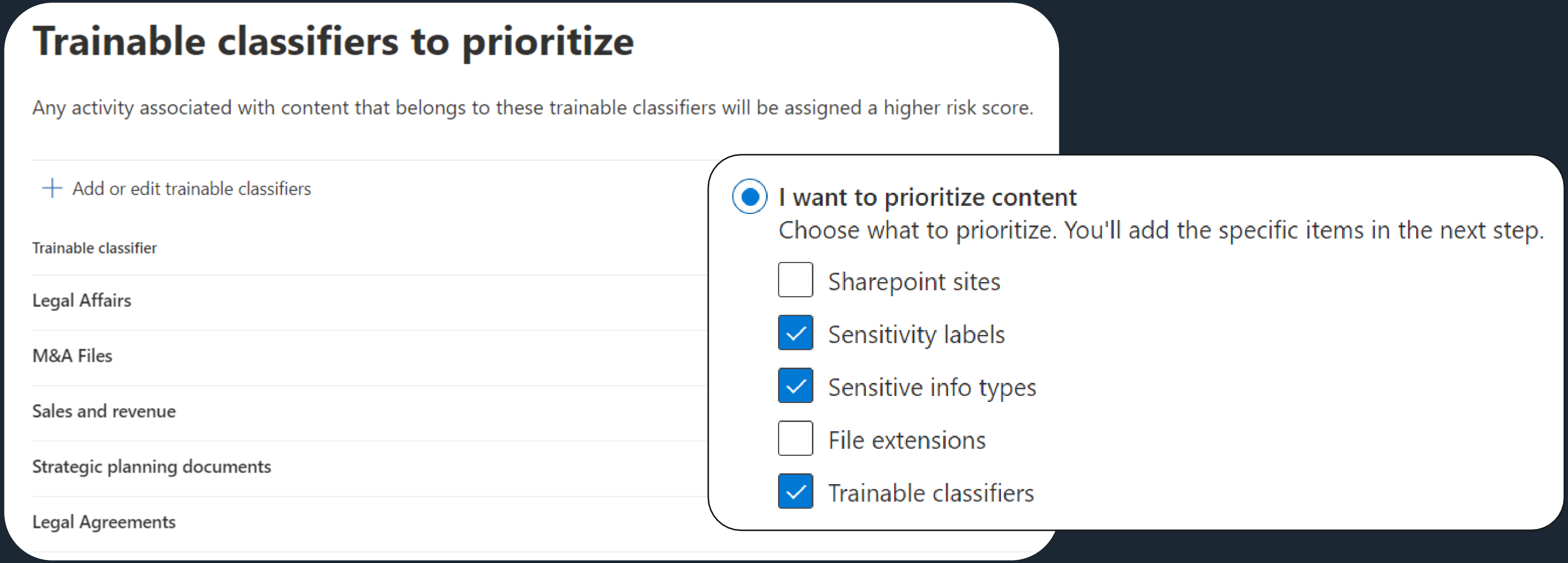
40 to 60 events per day generates medium severity alerts

60 > 60 events per day generates high severity alerts

Approximately **78 users** in this policy exceeded lowest daily thresholds for this activity

Do a fine-tuning pass for each policy & set meaningful thresholds for each indicator

Determine & add **priority content** to each policy



Trainable classifiers to prioritize

Any activity associated with content that belongs to these trainable classifiers will be assigned a higher risk score.

+ Add or edit trainable classifiers

Trainable classifier
Legal Affairs
M&A Files
Sales and revenue
Strategic planning documents
Legal Agreements

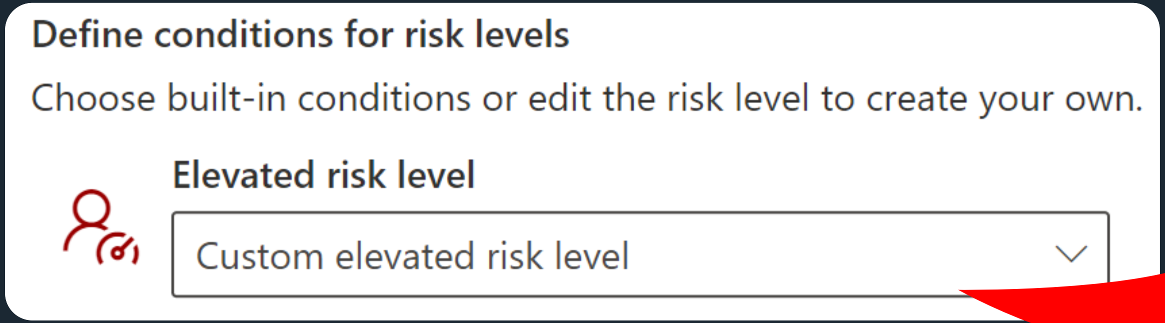
● I want to prioritize content
Choose what to prioritize. You'll add the specific items in the next step.

- □ Sharepoint sites
- ☑ Sensitivity labels
- ☑ Sensitive info types
- □ File extensions
- ☑ Trainable classifiers

You can create *multiple* IRM policies from the same template **w/ differentiated priority content**

Integration

Adaptive Protection is easier to use initially with **custom risk levels**

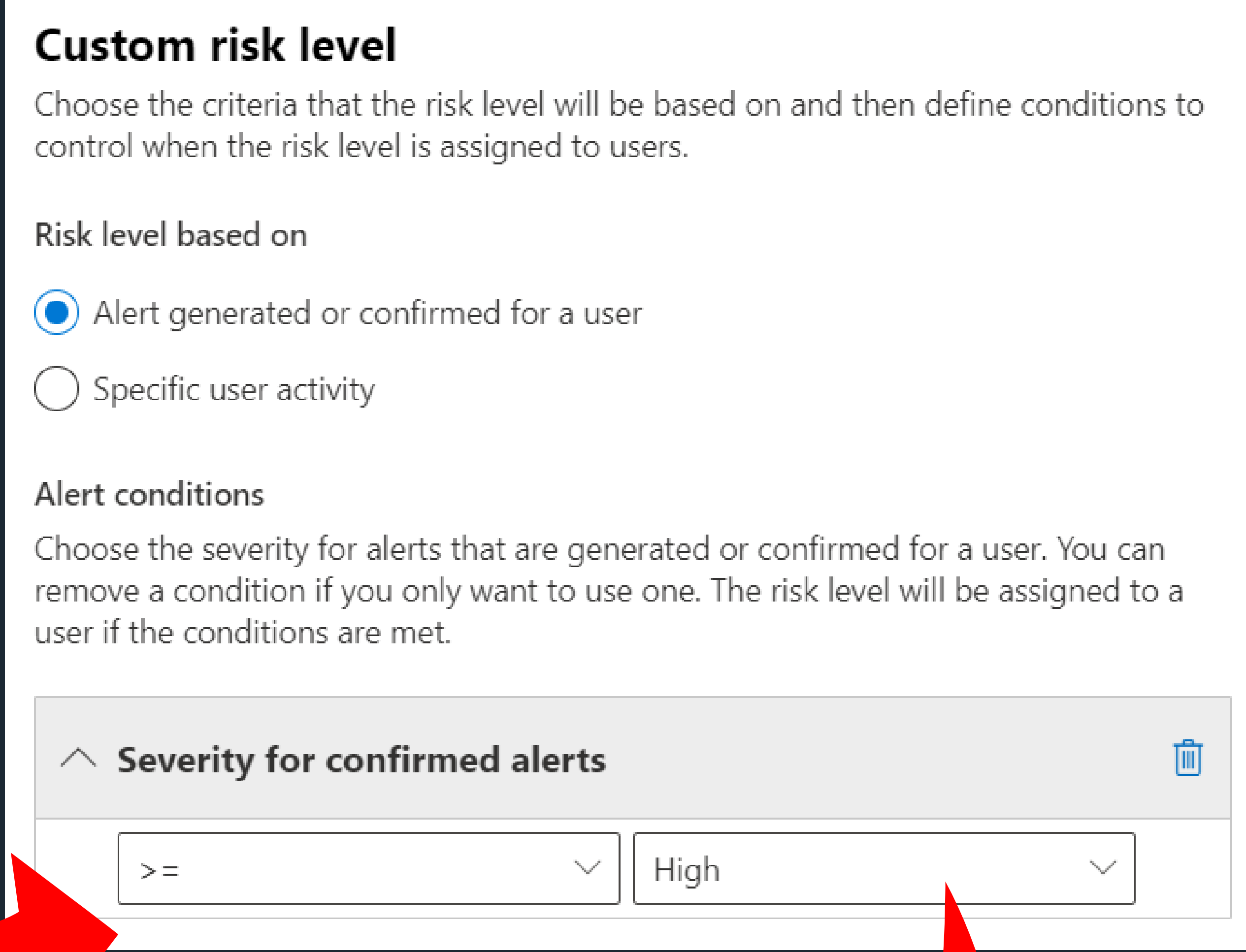


Define conditions for risk levels

Choose built-in conditions or edit the risk level to create your own.

Elevated risk level

Custom elevated risk level



Custom risk level

Choose the criteria that the risk level will be based on and then define conditions to control when the risk level is assigned to users.

Risk level based on

● Alert generated or confirmed for a user

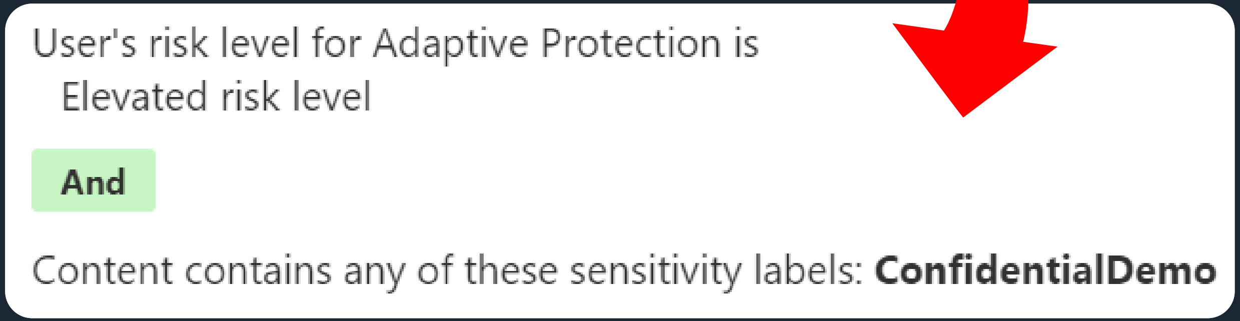
○ Specific user activity

Alert conditions

Choose the severity for alerts that are generated or confirmed for a user. You can remove a condition if you only want to use one. The risk level will be assigned to a user if the conditions are met.

Severity for confirmed alerts

>= High



User's risk level for Adaptive Protection is
Elevated risk level

And

Content contains any of these sensitivity labels: **ConfidentialDemo**

Enhanced DLP auditing, policy tips & controls

Recap

- Craft a clear mission statement
- Ensure access to key indicators
- Involve the right stakeholders & establish a routine
- Pseudoanonymization is critical
- Start with **data theft by departing employees**
- The hardest part is determining intent
- Fine-tune your IRM policies!
- Leverage user risk levels in DLP w/ Adaptive Protection

Thank you!

Time for Q&A

Connect with me!