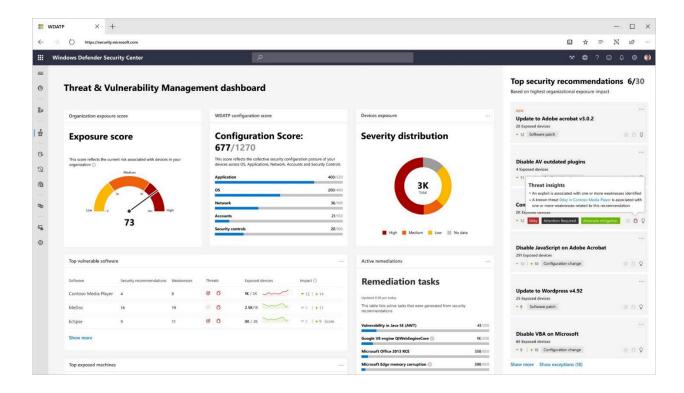
Practice security administration

By: Ryan Stewart





"Threat and vulnerability management"

Effectively identifying, assessing, and remediating endpoint weaknesses is pivotal to running a healthy security program and reducing organizational risk. Threat and vulnerability management serves as an infrastructure for reducing organizational exposure, hardening endpoint surface area, and increasing organizational resilience.

This infrastructure helps organizations discover vulnerabilities and misconfigurations in real time, based on sensors, without the need of agents or periodic scans. It prioritizes issues based on many factors. Those factors include the threat landscape, detections in your organization, sensitive information on vulnerable devices, and business context.

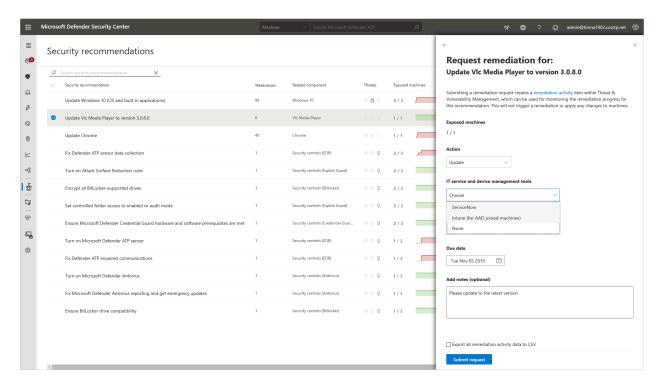
Threat and vulnerability management is built in, real-time, cloud-powered, fully integrated with the Microsoft endpoint security stack, the Microsoft Intelligent Security Graph, and the application analytics knowledge base. It can create a security task or ticket through integration with Microsoft Intune and Microsoft Endpoint Manager.

It provides the following solutions to **gaps** across security operations, security administration, and IT administration:

- Real-time endpoint detection and response (EDR) insights correlated with endpoint vulnerabilities
- Linked machine vulnerability and security configuration assessment data in the context of exposure discovery

Built-in remediation processes through Microsoft Intune and Microsoft Endpoint Manager

For example, using the security recommendations present in the portal, an administrator could request an application update, which would then notify the Intune team to remediate the request.



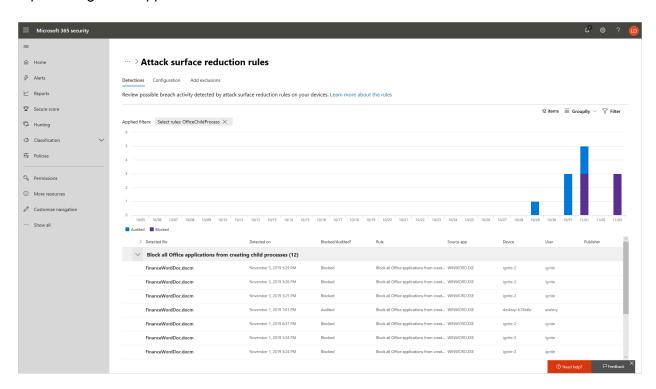
Attack surface reduction

The attack surface reduction set of capabilities provides the first line of defense in the stack by ensuring configuration settings are properly set and exploit mitigation techniques are applied.

- Hardware-based isolation protects and maintains the integrity of the system as it starts
 and while it's running, and validates system integrity through local and remote
 attestation. Container isolation for Microsoft Edge helps protect the host operating
 system from malicious websites.
- Application control moves away from the traditional application trust model where all
 applications are assumed trustworthy by default to one where applications must earn
 trust in order to run.
- **Exploit protection** applies mitigation techniques to apps your organization uses, both individually and organization-wide.
- Network protection extends the malware and social engineering protection offered by Microsoft Defender SmartScreen in Microsoft Edge to cover network traffic and connectivity on your organization's devices.

- **Controlled folder access** helps protect files in key system folders from changes made by malicious and suspicious apps, including file-encrypting ransomware malware.
- Attack surface reduction reduces the attack surface of your applications with intelligent rules that stop the vectors used by Office-, script-, and mail-based malware.
- Network firewall uses host-based, two-way network traffic filtering that blocks unauthorized network traffic flowing into or out of the local device.

The below screenshot shows a chart of detections against an attack surface reduction rule that is protecting office applications:



Next generation protection

Microsoft Defender Antivirus is a **built-in** antimalware solution that provides next generation protection for desktops, portable computers, and servers. Microsoft Defender Antivirus includes:

- Cloud-delivered protection for near-instant detection and blocking of new and emerging threats. Along with machine learning and the Intelligent Security Graph, cloud-delivered protection is part of the next-gen technologies that power Microsoft Defender Antivirus.
- **Always-on scanning**, using advanced file and process behavior monitoring and other heuristics (also known as "real-time protection").
- Dedicated protection updates based on machine-learning, human and automated big-data analysis, and in-depth threat resistance research.

The following proxy and network settings should be considered:

- The Microsoft Defender for Endpoint sensor requires Microsoft Windows HTTP (WinHTTP) to report sensor data and communicate with the Microsoft Defender for Endpoint service.
- The embedded Microsoft Defender for Endpoint sensor runs in system context using the LocalSystem account. The sensor uses Microsoft Windows HTTP Services (WinHTTP) to enable communication with the Microsoft Defender for Endpoint cloud service.
- The WinHTTP configuration setting is independent of the Windows Internet (WinINet) internet browsing proxy settings and can only discover a proxy server by using the following auto discovery methods:
 - Transparent proxy
 - Web Proxy Autodiscovery Protocol (WPAD)

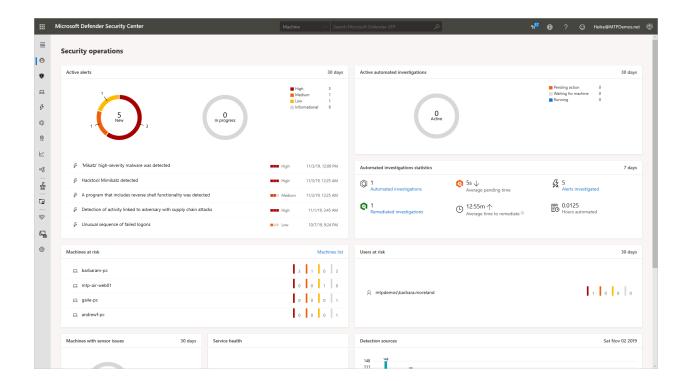
Endpoint detection and response

Microsoft Defender for Endpoint endpoint detection and response capabilities provides advanced attack detections that are **near real-time and actionable**. Security analysts can **prioritize** alerts effectively, gain visibility into the full scope of a breach, and take response actions to remediate threats.

When a threat is detected, alerts are created in the system for an analyst to investigate. Alerts with the same attack techniques or attributed to the same attacker are aggregated into an entity called an **incident**. Aggregating alerts in this manner makes it easy for analysts to collectively investigate and respond to threats.

Inspired by the "assume breach" mindset, Microsoft Defender for Endpoint continuously collects behavioral cyber telemetry. Which includes process information, network activities, deep optics into the kernel and memory manager, **user sign-in activities**, **registry and file system changes**, and others. The information is stored for six months, enabling an analyst to travel back in time to the start of an attack. The analyst can then pivot using various views and approach an investigation through multiple vectors.

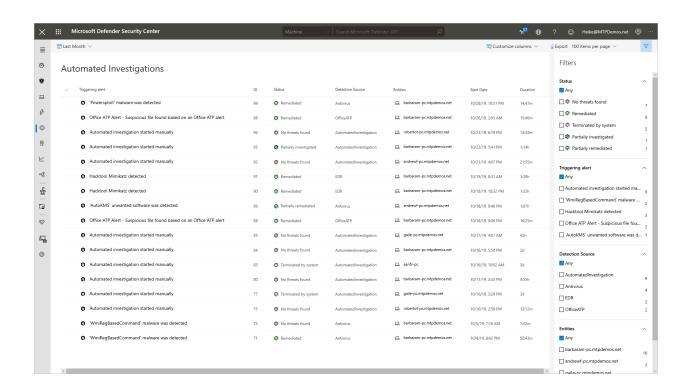
The Security operations dashboard (shown in the screenshot) is where the endpoint detection and response capabilities are surfaced. It provides a **high-level overview** of where detections were seen and highlights where response actions are needed.

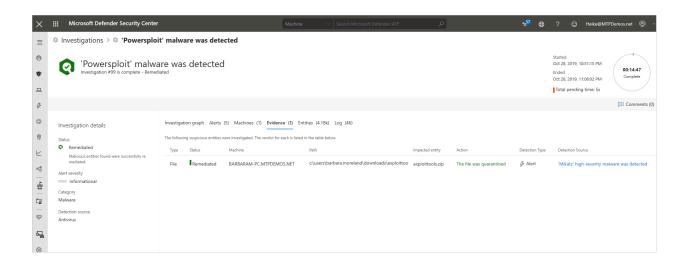


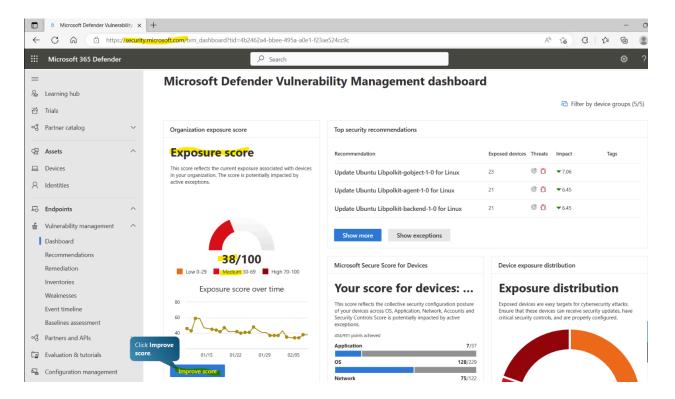
Automated investigation and remediation

Microsoft Defender for Endpoint offers a wide breadth of visibility on multiple machines. With this kind of optics, the service generates a multitude of alerts. The volume of alerts generated can be challenging for a typical security operations team to individually address. To address this challenge, Microsoft Defender for Endpoint uses automated investigation and remediation capabilities to significantly reduce the volume of alerts that must be investigated individually.

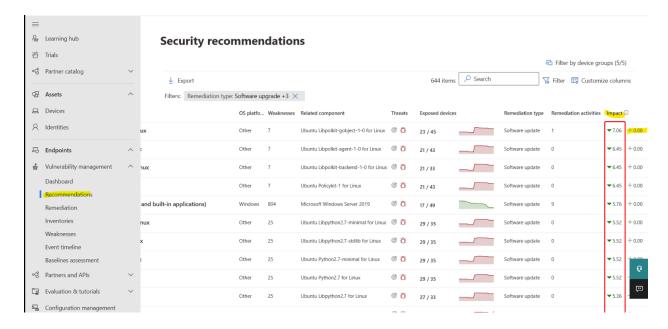
The automated investigation feature uses various inspection algorithms, and processes used by analysts (such as playbooks) to examine alerts and take immediate remediation action to resolve breaches. This significantly reduces alert volume, allowing security operations experts to focus on more sophisticated threats and other high value initiatives. In the following investigation screenshot, we can see that malware was detected, and automatically remediated:







 Your exposure score reflects how vulnerable your organization is to cybersecurity threats. A low exposure score means your devices are less vulnerable to exploitation.



- The impact column displays the potential reduction in your exposure score and the projected increase to your secure score for devices once a recommendation is implemented. A higher secure score for devices means your endpoints are more resilient against cybersecurity attacks.

Update Ubuntu Libpolkit-gobject-1-0 for Linux



O Remediation required

Open software page Report inaccuracy

General Exposed devices Installed devices Associated CVEs Activities

Description

Update Libpolkit-gobject-1-0 for Linux to a later version to mitigate 7 known vulnerabilities affecting your devices.

Associated CVEs



- A verified local privilege escalation exploit is publicly available for one or more weaknesses related to this recommendation
- · This exploit is part of an exploit kit

Related threats

Threat Insights: CVE-2021-4034 PwnKit local privilege escalation is associated with one or more weaknesses related to this recommendation.

Details

Number of vulnerabilities

7

Exploit available

Yes

Exposed devices

23 / 45

Devices pending restart

4 / 15

Impact

-7.06 + 0.00

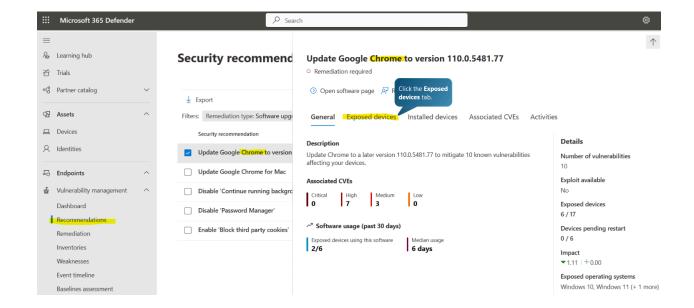
Exposed operating systems

Linux

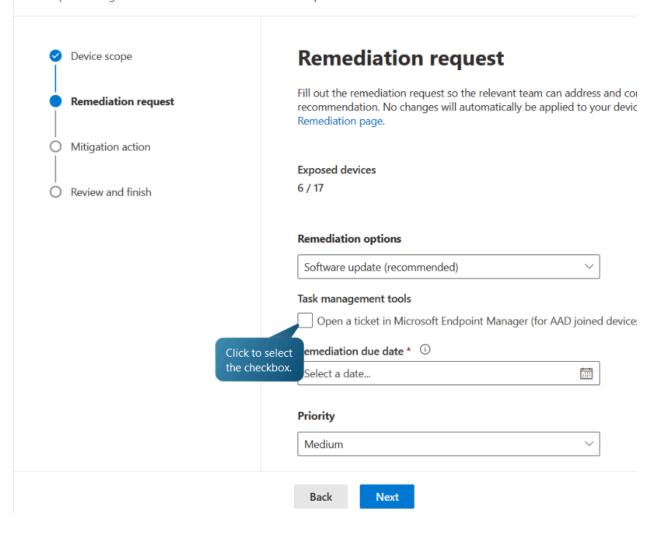
6

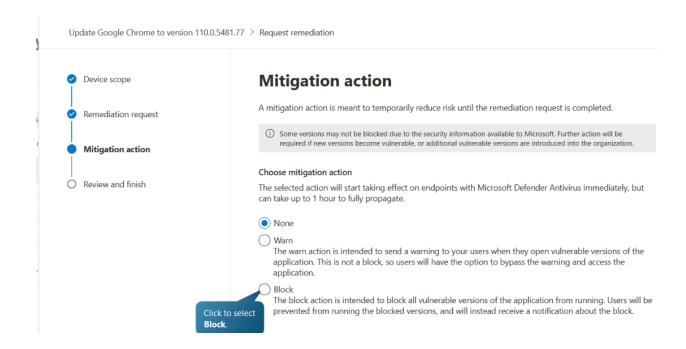
Request remediation

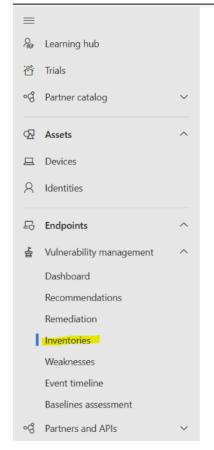
Exception options

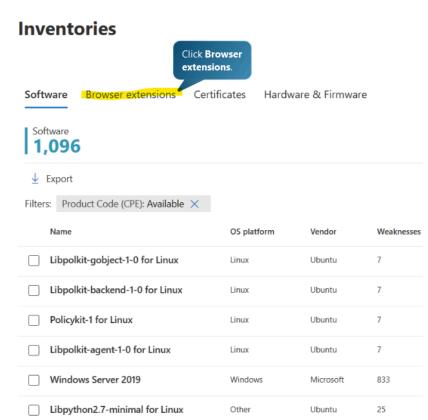


Update Google Chrome to version 110.0.5481.77 mmend Remediation required Open software page Report inaccuracy Software upgi Exposed devices Installed devices Associated CVEs Activities General on 6 items me to version OS platform Name Last seen Tags me for Mac dkrzakowski-win Windows 10 Feb 13, 2023 4:40 P... nning backgro jmnzenbook Windows 10 Feb 7, 2023 9:34 AM anager' desktop-win10 Windows 10 Feb 13, 2023 7:10 ... arty cookies' jrhi-2019 Windows Server 20... Feb 13, 2023 5:11 ... jrhi-win-2004 Feb 13, 2023 6:09 ... Windows 10 jrhi-win11-1 Feb 13, 2023 5:10 ... Windows 11 Click Request remediation. Request remediation **Exception options**







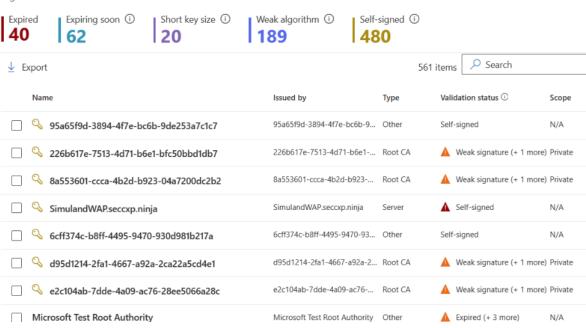


Inventories

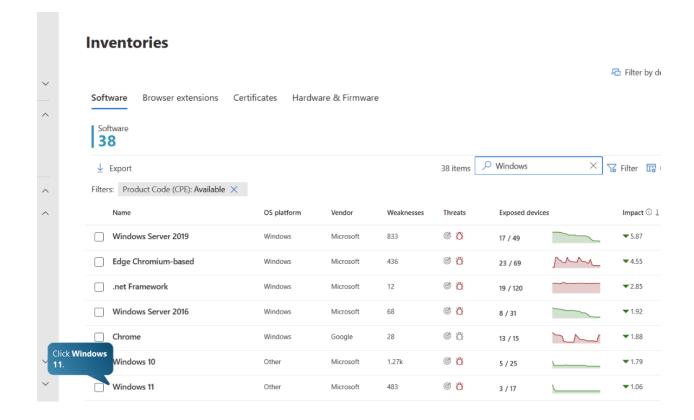
Click Hardware & Firmware.

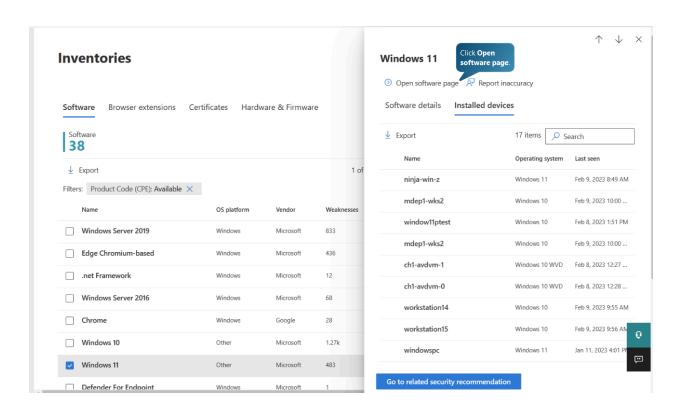
Software Browser extensions Certificates Hardware & Firmware

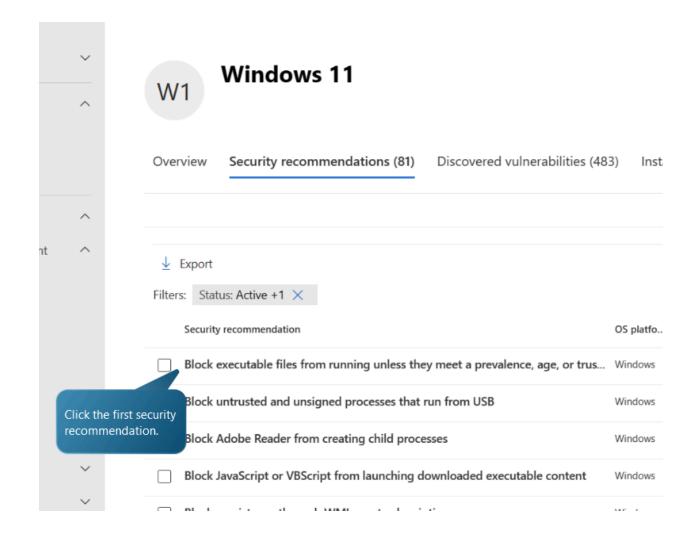
Gain insights into potentially vulnerable certificates by viewing the number of certificates that have been identified as potentially less secure and introganization. Show more

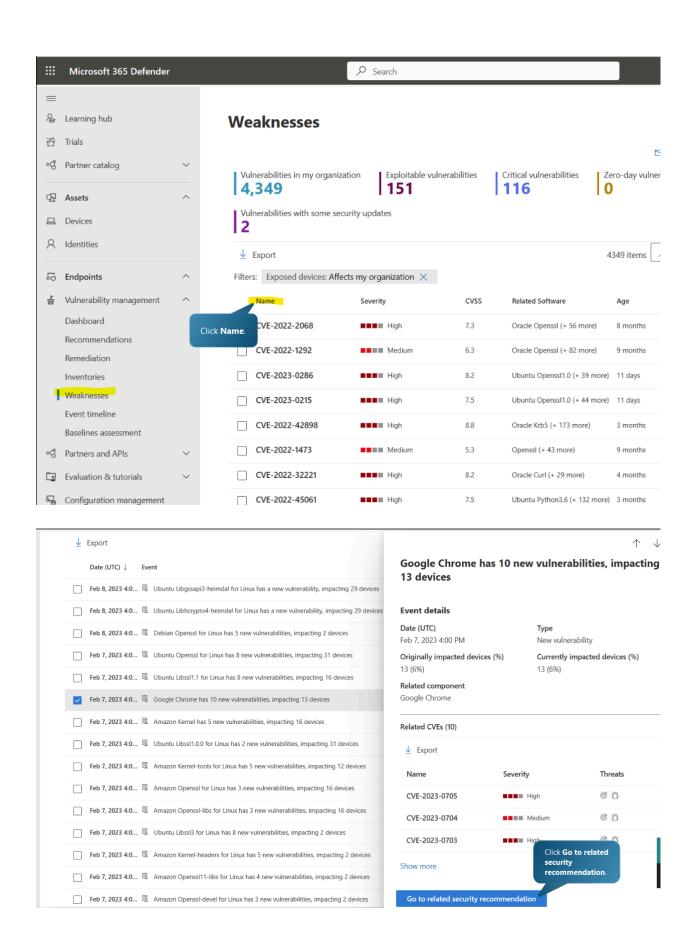


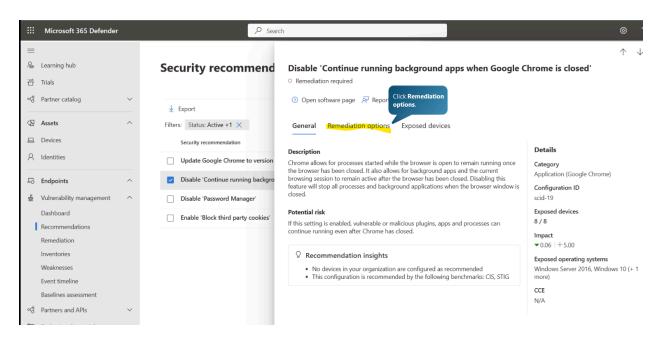
Inventories Filter by device gra Software Browser extensions Certificates Hardware & Firmware ① The weaknesses information in this page correspond to processors and BIOS only. Exposed devices for CPU and BIOS vulnerabilities are deter only based on security advisories from Lenovo, Dell, and HP. Status of these vulnerabilities for other system vendors is not known. Laptop, desktop and server models HP models Dell models Microsoft models Other models Lenovo models 1 0 4 Bios Processors. Search 5 items Model family OS platform Weaknesses Thinkpad P14s Gen 1 ThinkPad P14s Gen 1 Windows 51 Lenovo Virtual Machine Not Available Linux Microsoft 0 M5.large Not Specified Linux Amazon Ec2 Google Compute Engine Not Available Windows 0 Google Hvm Domu Not Available Linux 0 Xen

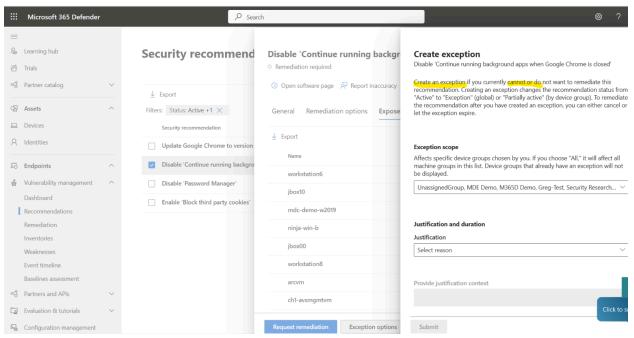












Create exception

Disable 'Continue running background apps when Google Chrome is closed'

Exception scope

Affects specific device groups chosen by you. If you choose "All," it will affect all machine groups in this list. Device groups that already have an exception will not be displayed.

UnassignedGroup, MDE Demo, M365D Demo, Greg-Test, Security Research... $\,$

Justification and duration

Justification

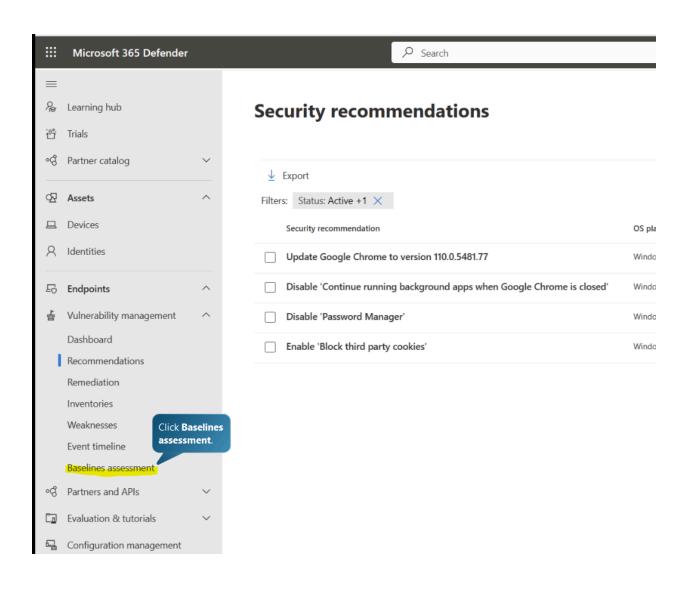
Risk accepted \vee

Provide justification context

The organization accepts the risk associated with this recommendation due to the low organizational risk posed by this process.

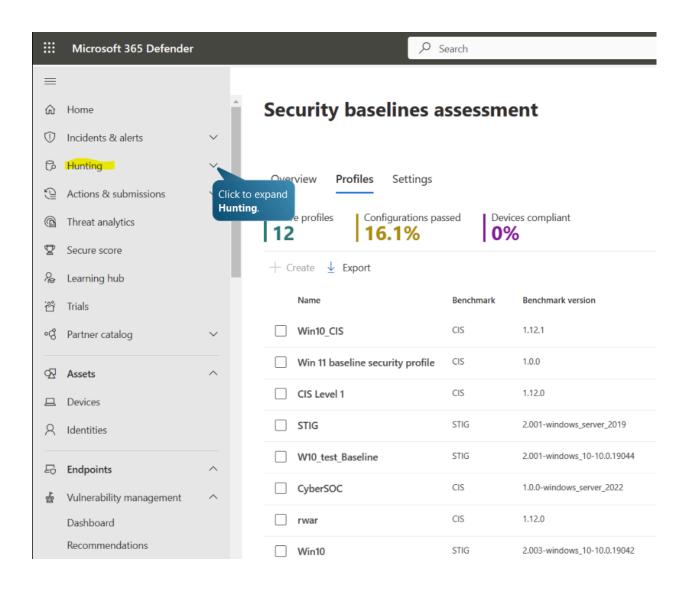
Exception duration





Security baselines assessment

	Overview Profiles Settings Active profiles Configurations passed Devices compliant 16.1% + Create Export				
Click the	Name	Benchmark	Benchmark version		
	CIS Benchmark Level 2 - Windo	CIS	1.3.0-windows_server_2019		
	e first Vin 11 baseline security profile	CIS	1.0.0		
	CIS Level 1	CIS	1.12.0		
	STIG	STIG	2.001-windows_server_2019		
	W10_test_Baseline	STIG	2.001-windows_10-10.0.19044		
	CyberSOC	CIS	1.0.0-windows_server_2022		
	rwar	CIS	1.12.0		
	Win10	STIG	2.003-windows_10-10.0.19042		



Advanced hunting

