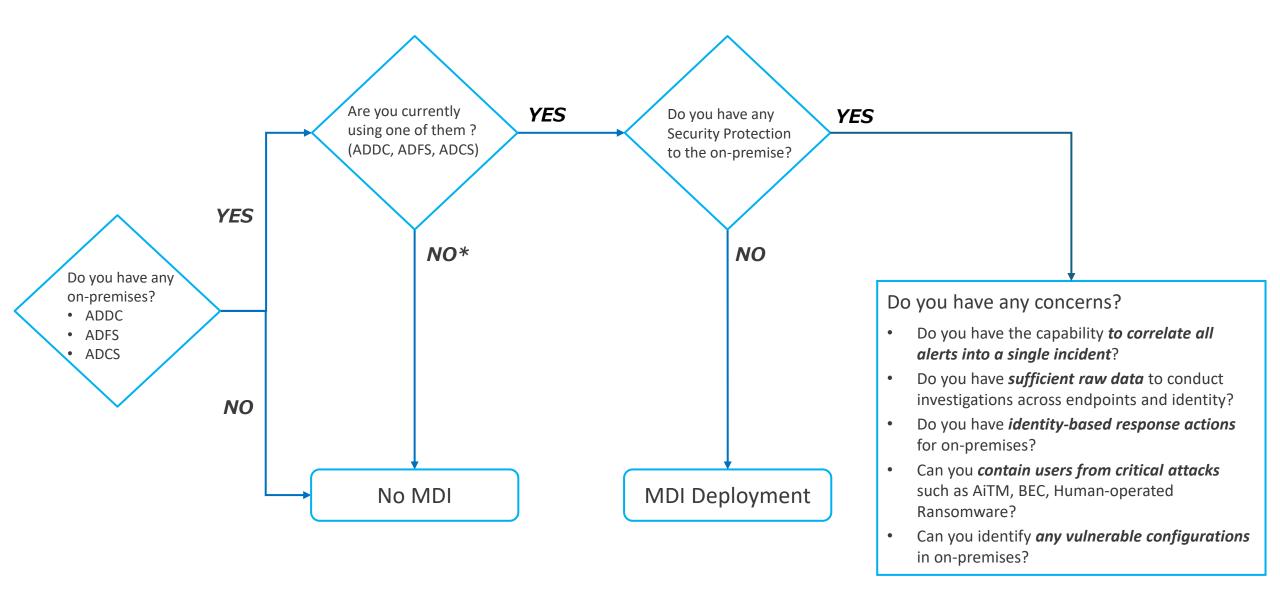
The reasons to consider deploying Microsoft Defender for Identity



You might need cloud-based on-premise protection?



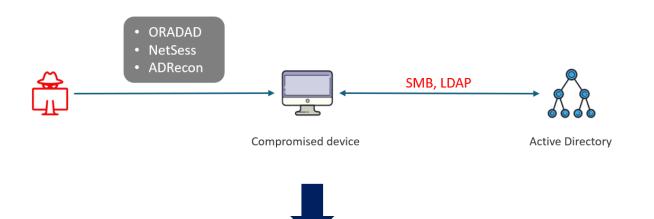
^{*}Even if you are not currently using on-premises, you might have to consider deploying MDI due to potential security risks as long as you have them.

Agenda

- Do you have the capability to correlate all alerts into a single incident?
- Do you have sufficient raw data to conduct investigations across endpoints and identity?
- Do you have identity-based response actions for on-premises?
- Can you contain users from critical attacks such as AiTM, BEC, Human-operated Ransomware?
- Can you identify *any vulnerable configurations* in on-premises?

MDE + MDI better together – Reconnaissance (SMB/LDAP)

Expand the visibility of breaches from endpoint to identity



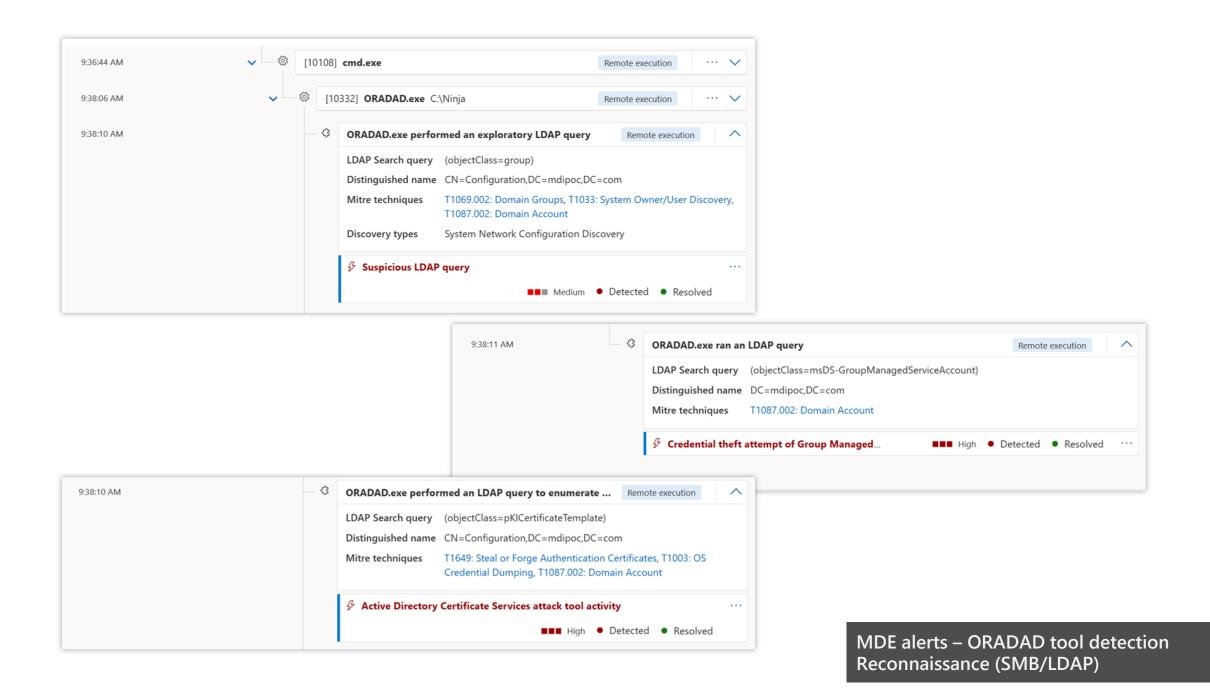
If you have these products, they generate alerts across endpoint and identity. Ultimately, these alerts correlate into one single incident.

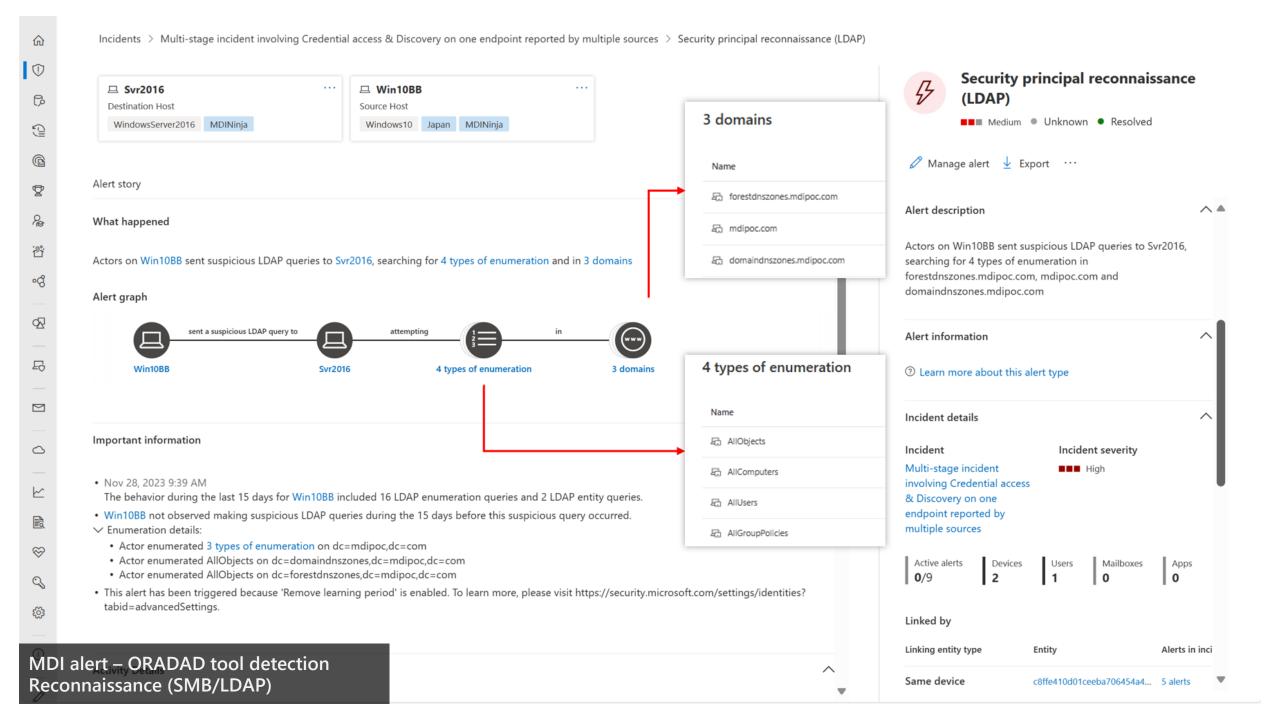
Microsoft Defender XDR

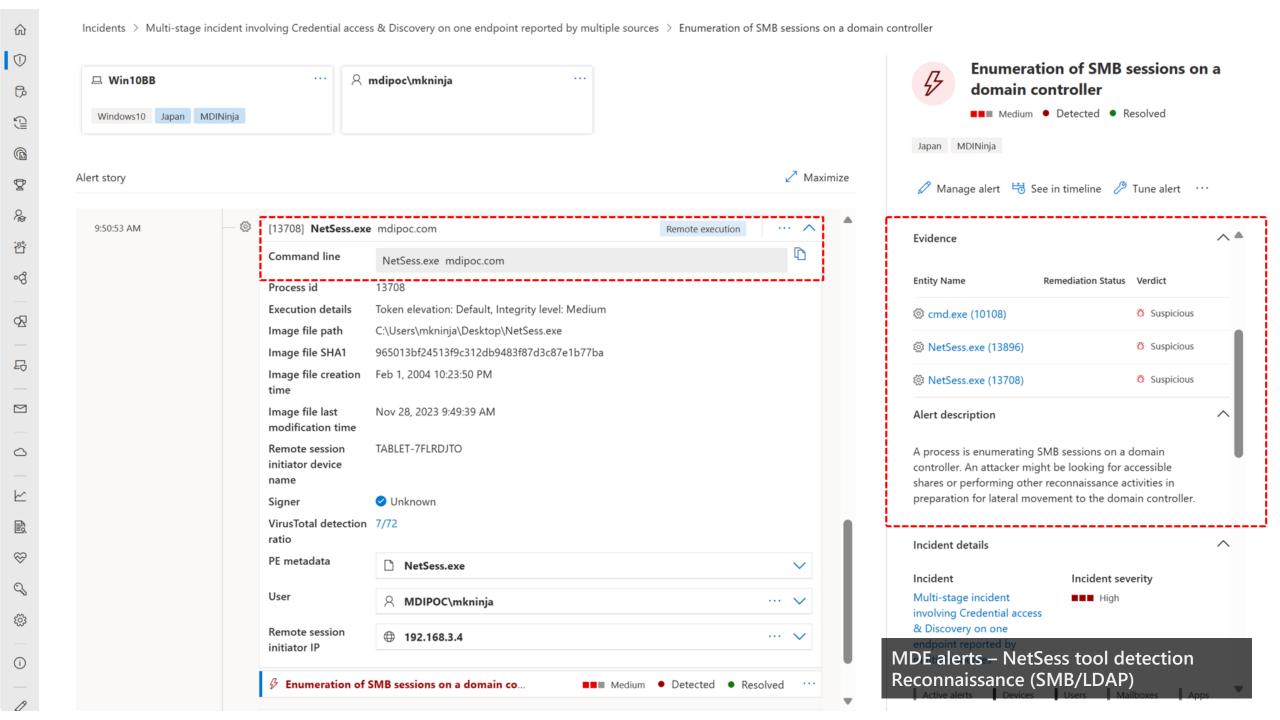
- Microsoft Defender for Endpoint
- Microsoft Defender for Identity

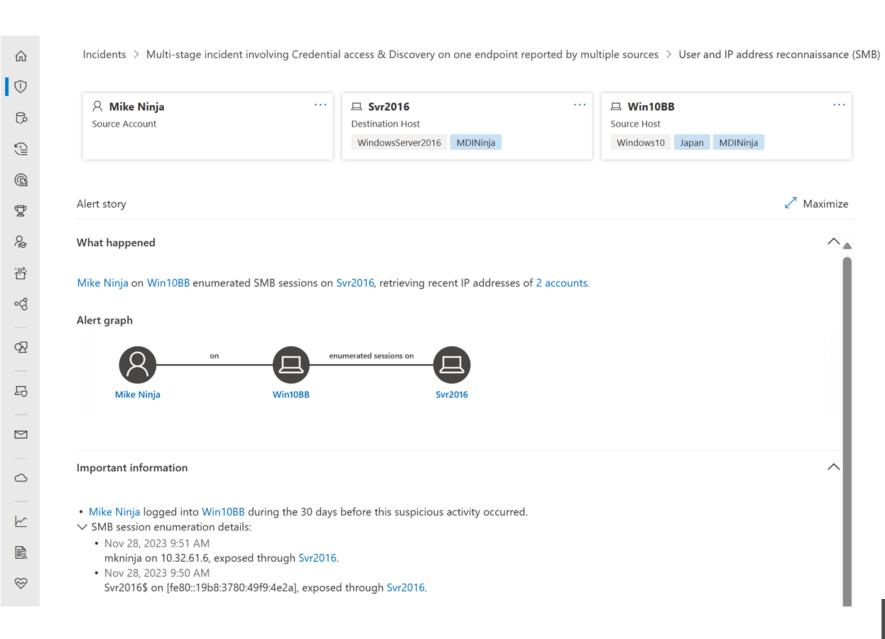
Incident : Multi-stage incident involving Credential access & Discovery on one endpoint reported by multiple sources Alerts: Detection source, Alert name - EDR, Possible Active Directory data enumeration using ADRecon

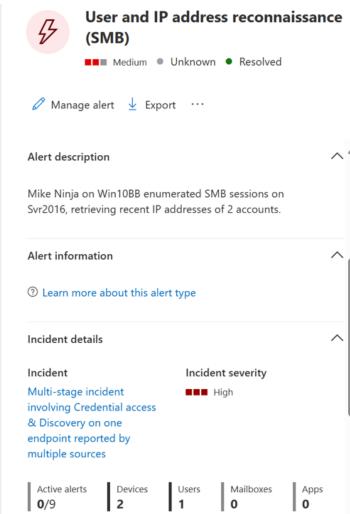
- EDR, Suspicious sequence of exploration activities
- EDR, Suspicious User Account Discovery
- EDR, Credential theft attempt of Group Managed Service Accounts (gMSA)
- EDR, Suspicious LDAP query
- EDR, Active Directory Certificate Services attack tool activity
- MDI, User and IP address reconnaissance (SMB)
- MDI, Security principal reconnaissance (LDAP)
- Defender XDR, Enumeration of SMB sessions on a domain controller



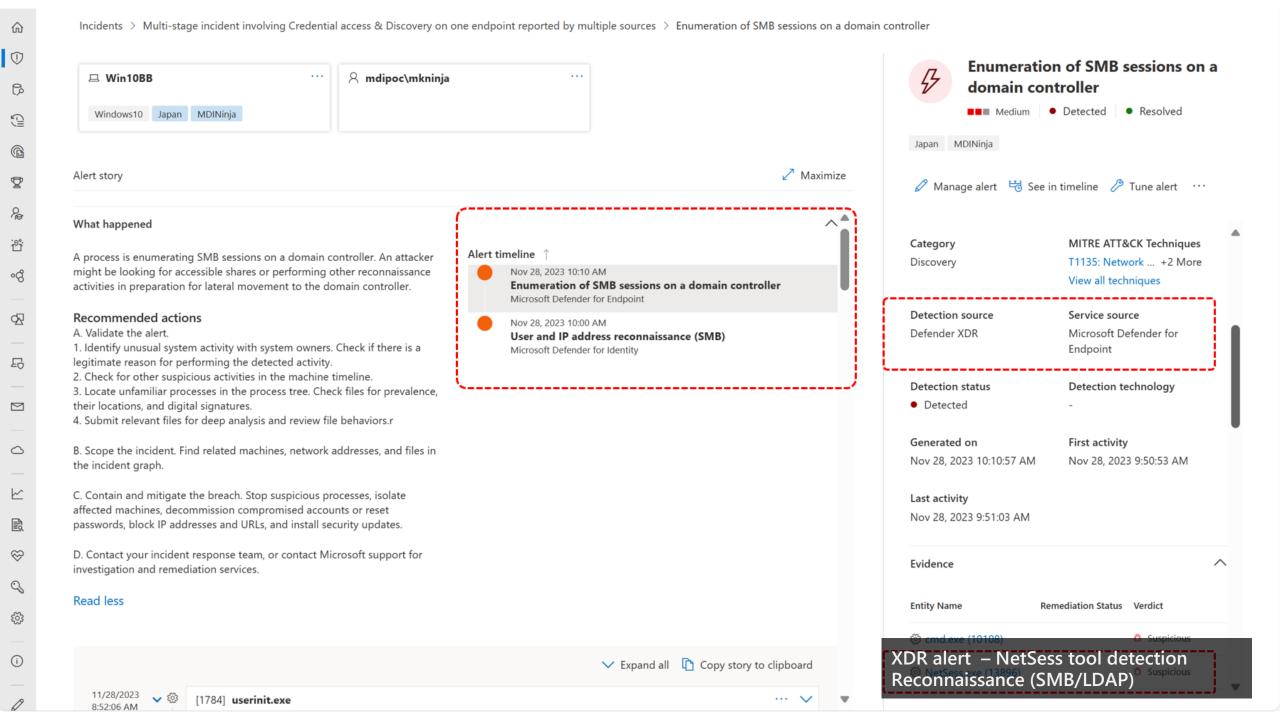








MDI alert – NetSess tool detection Reconnaissance (SMB/LDAP)



Advanced hunting

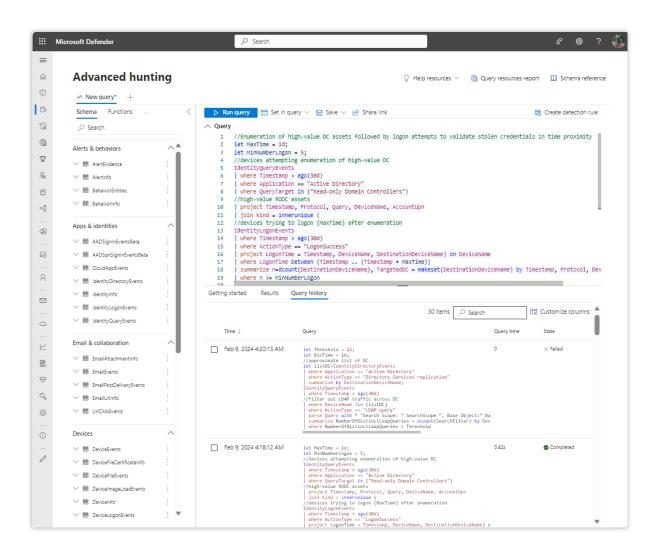
A query-based threat hunting tool that lets you explore up to 30 days of raw data.

Enrich existing information

- Understand the impact of existing alerts
- Get more information on entities and IOCs

Proactive hunting

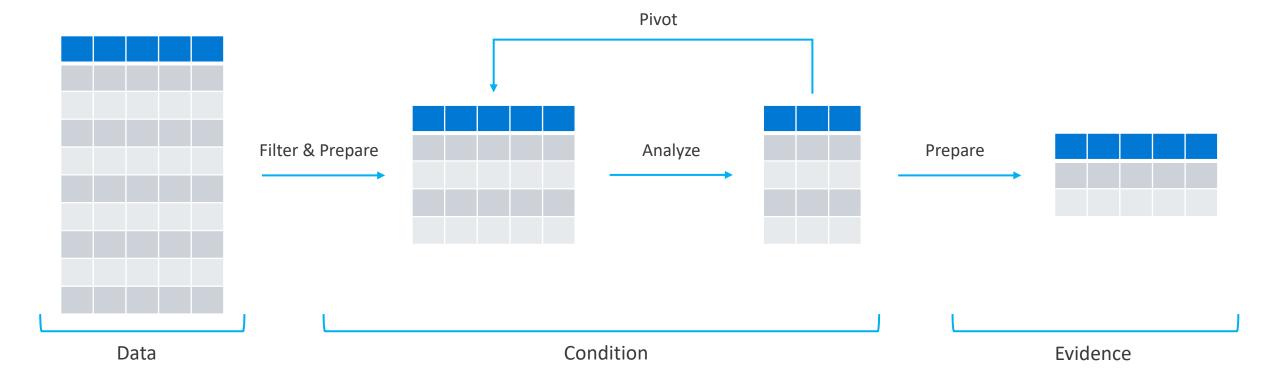
- Proactive and interactive search for threats
- The power of knowing the network
- Not all threat scenarios begin with an alert



KQL

KQL is a powerful language for hunting specific activities and data. For example, threat hunters use KQL to find suspicious activities in Advanced Hunting, Microsoft 365 Defender and Microsoft Sentinel.

DeviceEvents | where ActionType == "AntivirusDetection" | summarize count() by DeviceName | limit 3



Apps & identities

- ✓ III IdentityInfo
- ✓ I IdentityLogonEvents
- ✓ ☐ IdentityQueryEvents Microsoft Defender for Identity
- ✓ I IdentityDirectoryEvents
- ✓ I CloudAppEvents

Identity related tables : Microsoft Defender for Identity Microsoft Entra ID

4 5 20

Devices

- ✓

 DeviceInfo
- ✓ DeviceNetworkInfo
- ✓ DeviceProcessEvents
- ✓ DeviceNetworkEvents
- ✓ DeviceFileEvents
- ✓ DeviceLogonEvents
- ✓

 DeviceImageLoadEvents
- ✓

 DeviceFileCertificateInfo

41 tables

Email & collaboration

- ✓ III EmailAttachmentInfo
- ✓ III EmailUrlInfo
- ✓ I EmailPostDeliveryEvents
- ✓

 ☐ UrlClickEvents

Alerts & behaviors

- ✓ III AlertInfo
- ✓ AlertEvidence
- ✓

 BehaviorInfo
- ✓ BehaviorEntities

Defender Vulnerability Management

- ✓ DeviceTvmSoftwareVulnerabilities
- ✓ III DeviceTvmSoftwareVulnerabilitiesKB
- ✓

 DeviceTvmSecureConfigurationAssessment
- ✓

 DeviceTvmSecureConfigurationAssessmentKB
- ✓ Ⅲ DeviceBaselineComplianceAssessment
- ✓

 DeviceBaselineComplianceAssessmentKB
- ✓

 DeviceBaselineComplianceProfiles
- ✓

 DeviceTvmSoftwareInventory
- ✓

 DeviceTvmCertificateInfo
- ✓

 DeviceTvmInfoGathering
- ✓

 DeviceTvmInfoGatheringKB
- ✓ DeviceTvmSoftwareEvidenceBeta
- ✓ DeviceTvmBrowserExtensions
- ✓ DeviceTvmBrowserExtensionsKB
- ✓

 DeviceTvmHardwareFirmware

e.g. solorigate (Midnight blizzard)

```
📅 Set in guery 🗸 🔚 Save 🗸 🖻 Share link
  ▶ Run query
                                                                                                                          Create detection rule

∧ Query

         //Enumeration of high-value DC assets followed by logon attempts to validate stolen credentials in time proximity
         let MaxTime = 1d;
         let MinNumberLogon = 5;
         //devices attempting enumeration of high-value DC
         IdentityQueryEvents
         | where Timestamp > ago(30d)
         where Application == "Active Directory"
         | where QueryTarget in ("Read-only Domain Controllers")
         //high-value RODC assets
         | project Timestamp, Protocol, Query, DeviceName, AccountUpn
   10
         | join kind = innerunique (
   11
         //devices trying to logon {MaxTime} after enumeration
   12
         IdentityLogonEvents
   13
         | where Timestamp > ago(30d)
   14
         | where ActionType == "LogonSuccess"
   15
          project LogonTime = Timestamp, DeviceName, DestinationDeviceName) on DeviceName
   16
          where LogonTime between (Timestamp .. (Timestamp + MaxTime))
   17
          summarize n=dcount(DestinationDeviceName), TargetedDC = makeset(DestinationDeviceName) by Timestamp, Protocol, DeviceName
   18
           where n >= MinNumberLogon
   19
    20
```

e.g. Last Password Reset & Account Disabled Time List

This query helps list the last password reset and account disabled time in your environment.

♂ Table name & Description

- <u>IdentityDirectoryEvents</u>: Events involving an on-premises domain controller running Active Directory (AD). This table covers a range of identity-related events and system events on the domain controller
- IdentityInfo: Account information from various sources, including Microsoft Entra ID

```
let PasswordChanged = IdentityDirectoryEvents
 where ActionType == "Account Password changed"
 extend PasswordChangedTime = Timestamp
 summarize arg max(PasswordChangedTime, *) by TargetAccountUpn
 project PasswordChangedTime, TargetAccountUpn, ActionType, Application;
let AccountDisabled = IdentityDirectoryEvents
 where ActionType == "Account Disabled changed"
 extend AccountDisabledTime = Timestamp
 summarize arg max(AccountDisabledTime, *) by TargetAccountUpn
 project AccountDisabledTime, TargetAccountUpn, ActionType, Application;
IdentityInfo
 where SourceProvider in ("Hybrid", "ActiveDirectory")
 summarize arg_max(Timestamp, *) by AccountUpn
 join kind = leftouter PasswordChanged on $left.AccountUpn == $right.TargetAccountUpn
 join kind = leftouter AccountDisabled on $left.AccountUpn == $right.TargetAccountUpn
 project AccountUpn, AccountDisplayName, SourceProvider, AccountDisabledTime, PasswordChangedTime
```

Out-of-the-box KQL queries

Microsoft kql queries

- Threat analytics, Microsoft Defender XDR
- Microsoft Security Blog
- Azure-Sentinel/Hunting Queries at master · Azure/Azure-Sentinel

GitHub (Not official queries from Microsoft)

- reprise99/Sentinel-Queries
- FalconForceTeam/FalconFriday
- LearningKijo/KQL
- Bert-JanP/Hunting-Queries-Detection-Rules
- <u>cyb3rmik3/KQL-threat-hunting-queries</u>
- DanielpFR/MDI

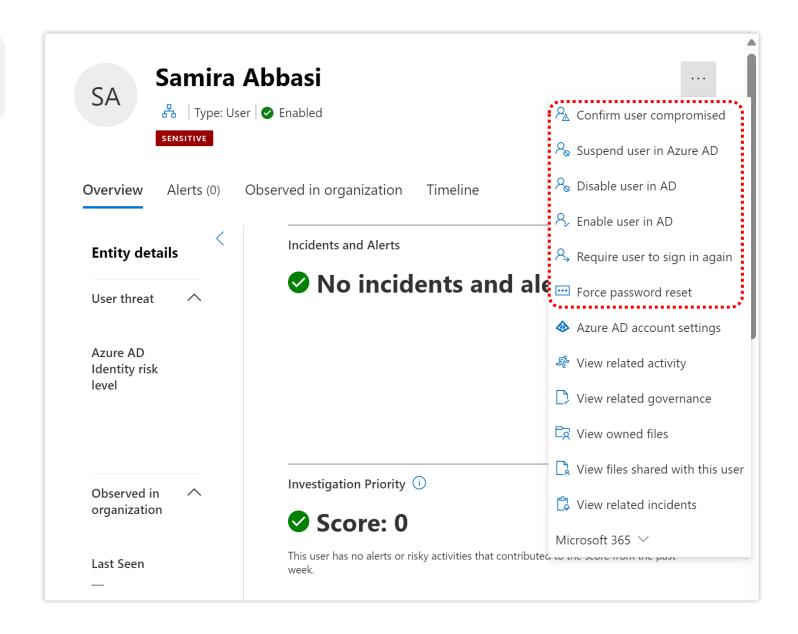
Do you have **Identity-based response actions** for on-premise?

MDI user response actions

- <u>Disable/Enable user in Active Directory</u>
- Reset user password

Other actions

- Suspend user in Azure AD (Entra ID)
- Require user to sign in again
- Confirm user compromised



Automatic attack disruption

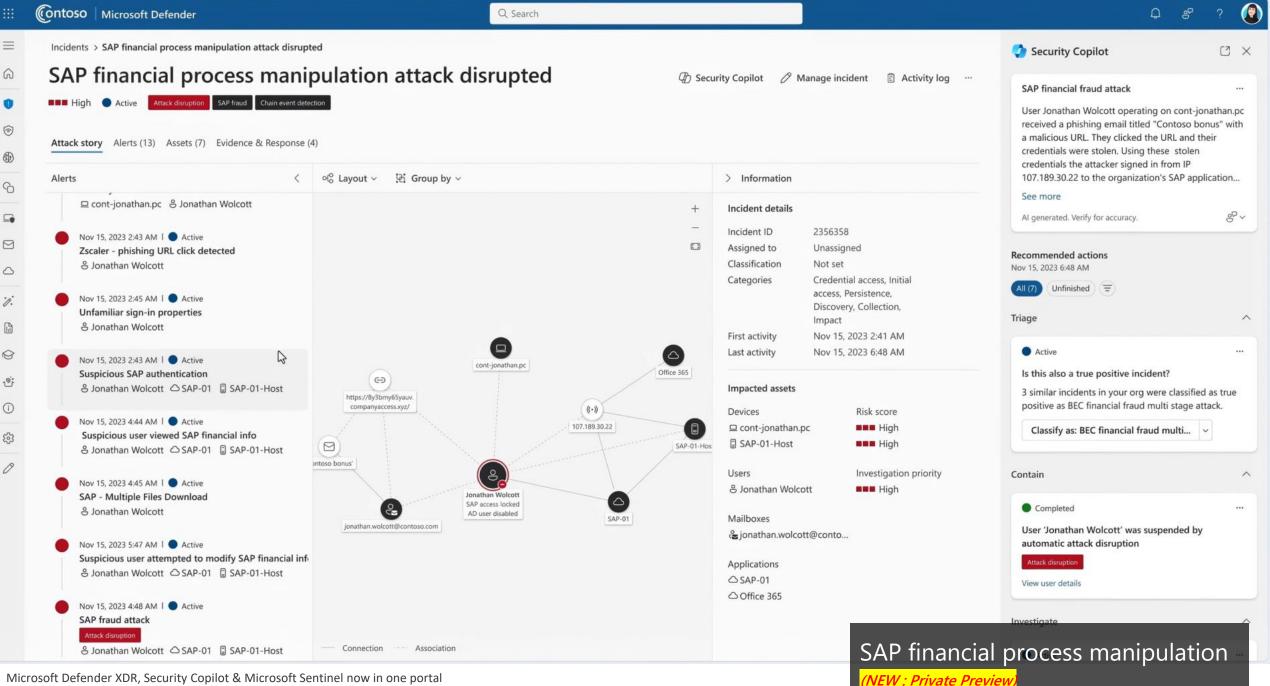
Automatic attack disruption in Microsoft Defender XDR uses XDR signals from different sources (endpoints, email, identity, data) to automatically contain compromised assets and stop ongoing cyber attacks, minimizing their impact on organizations.

Here are Automated response actions

Source	Action
Microsoft Defender for Identity	- <u>Disable user in Active Directory</u>
Microsoft Defender for Endpoint	Contain devices from the networkContain user from the network

Here are supported attacks

Advanced attack	Microsoft Security blog
Adversary-in-the-middle attacks (AiTM)	Automatically disrupt adversary-in-the-middle (AiTM) attacks with XDR
Business email compromise (BEC)	XDR attack disruption in action – Defending against a recent BEC attack
Human-operated ransomware attacks	Automatic disruption of Ransomware and BEC attacks with Microsoft 365 Defender
SAP financial process manipulation (NEW: Private Preview)	Gaining control of SAP applications security and automatic attack disruption

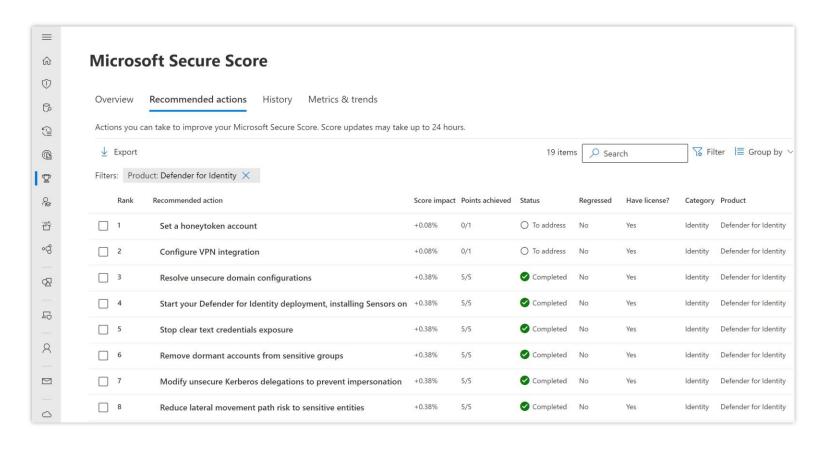


https://youtu.be/snV2joMnSlc?si=x4bXpKpORj450FTA

Proactively identify misconfigurations

Microsoft Defender for Endpoint helps identify only endpoint-based vulnerable configuration.

For on-premise, Microsoft Defender for Identity helps discover vulnerable configuration across *ADDC, ADCS and ADFS.*



[Microsoft Defender XDR portal -> Secure Score -> Microsoft Defender for Identity]