



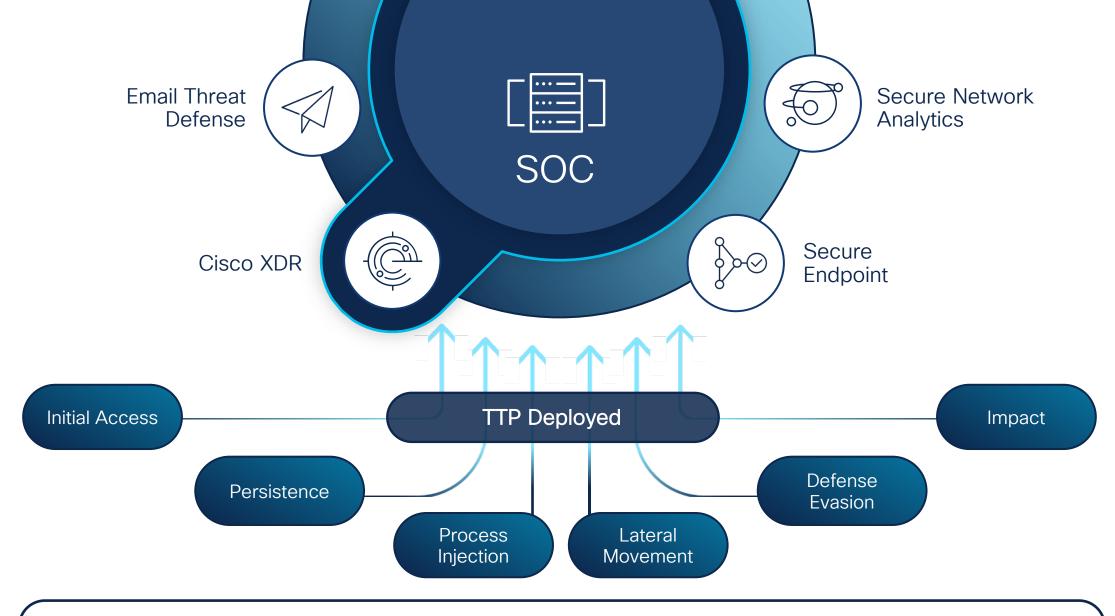
Tom Winburn – Security Engineer





Agenda

- Overview
- Extended Context
- Detections
- Response
- Resources

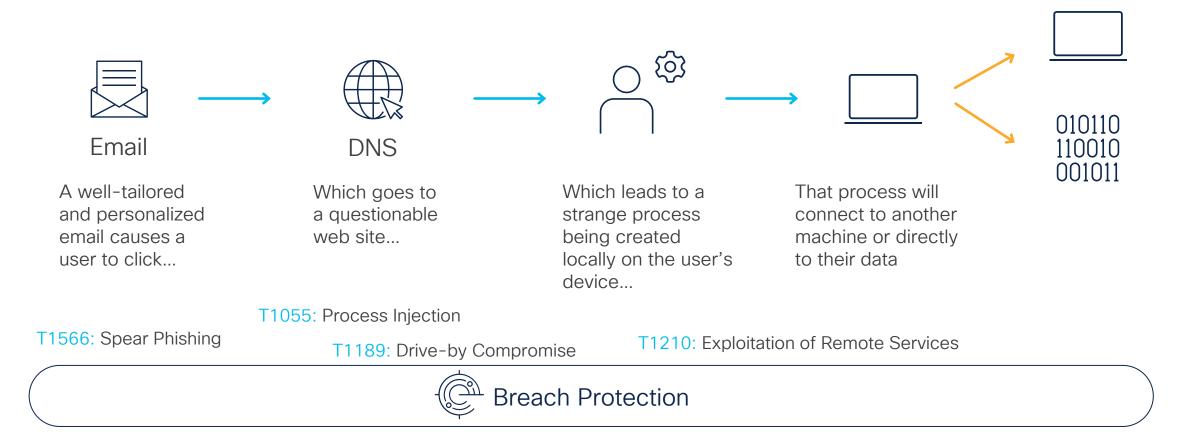


Organizations are struggling to detect and respond to sophisticated threats with multiple TTPs



Stop advanced threats like ransomware

Most attacks use a sequence like this...





Breach Protection Outcomes

How good are we at detecting attacks early?

1 Detect Sooner

Extend Asset Context

How quickly are we able to understand the entry vectors and full scope of attacks?

Where are we most exposed to risk? Are we prioritizing the attacks that represent the largest material impacts to our business?

3 Prioritize by Impact

Reduce Investigation Time

Do we have full visibility into all our assets?

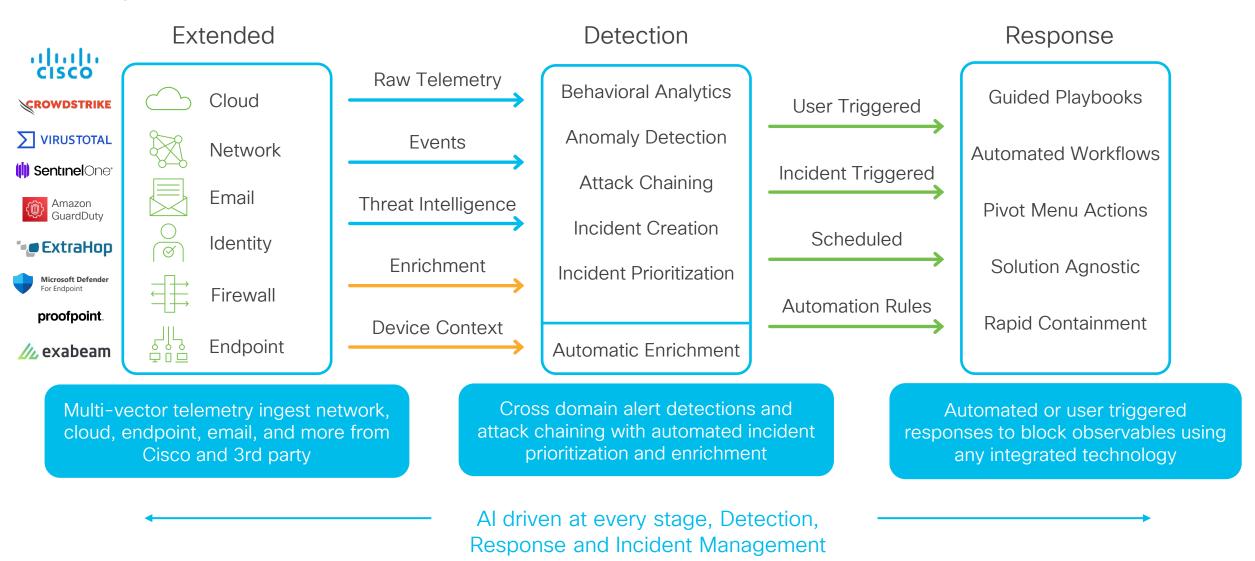
Can we reliably identify a device and who uses it?

How fast can we confidently respond? How much can SecOps automate? Are we improving our time to respond?

5 Accelerate Response

cisco Connect

High level architecture





Al driven at every stage







Threat Detections

Unearthing hidden threats with machine learning technique that finds suspicious activities using advanced algorithms

Native language processing detects spear phishing and advanced email attack

Al Summarization and reporting

Al summarizes incident alerts, events in a human readable and comprehensible format which makes it easier for a SOC analyst to understand and handle the attack from start to end.

Enhance Decision Making with Al generated multi-layer incident reports with tailored information at each level from executive summaries to event lists in a single view.

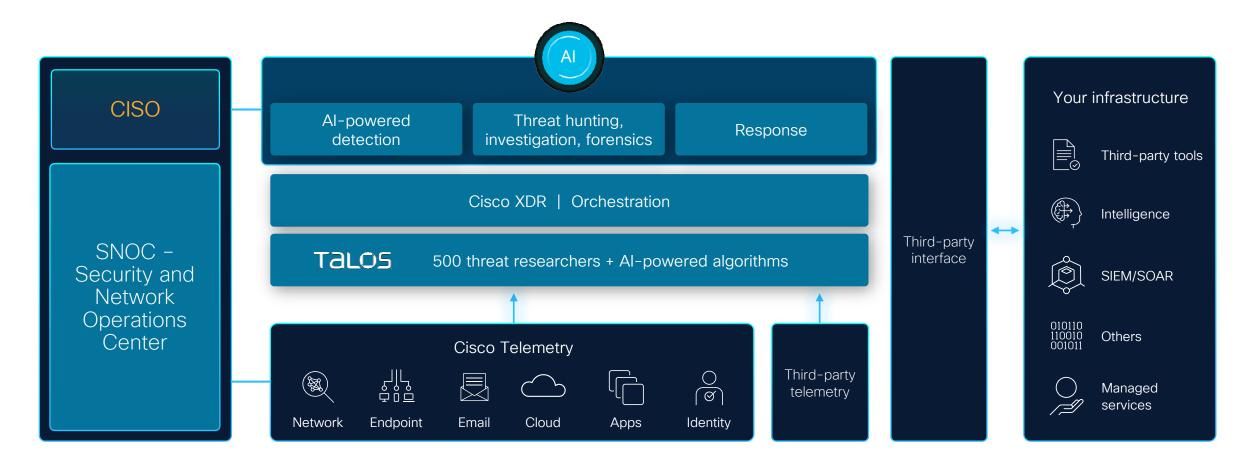
Interactive Al Assistance

Achieve faster outcomes with interactive Al Assistant, a SOC analyst can invoke and interact with Assistant at any stage of an incident.

Al Assistant supports the SOC analyst with incident management providing clarity, summarization, guided responses and tailored recommendations.



Cisco XDR: Al driven acceleration of the SNOC



Real-time attack chain detection for the most common attacks with curated integrations and response guidance



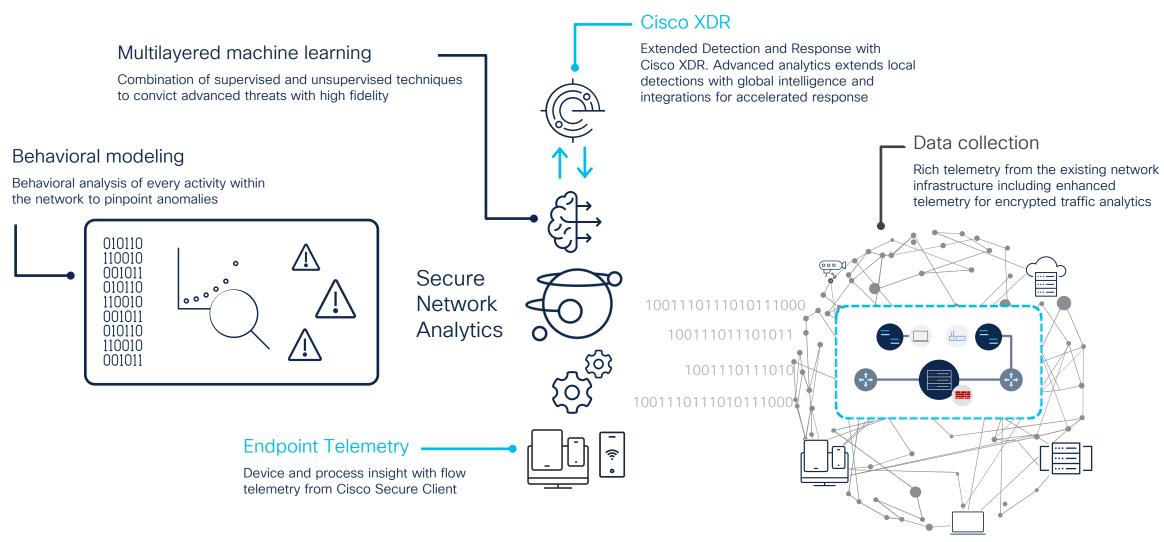
Redefined Endpoint Security



The Cisco secured endpoint is an integral component of the modern security stack



Network Analytics With Machine learning





Breach Protection

Correlated detections and automated responses

Detect

the most sophisticated threats

Correlation of detections, threat intelligence enrichment and cross-domain telemetry to surface the most complex and multidimensional threats from skilled attackers

Act

on what truly matters, faster

Application of advanced analytics to the collected and normalized evidence to produce correlated and prioritized detections of malicious activity

Elevate

productivity with automation

Guided responses across multiple control planes to quickly and effectively contain, mitigate, and eradicate the threat.

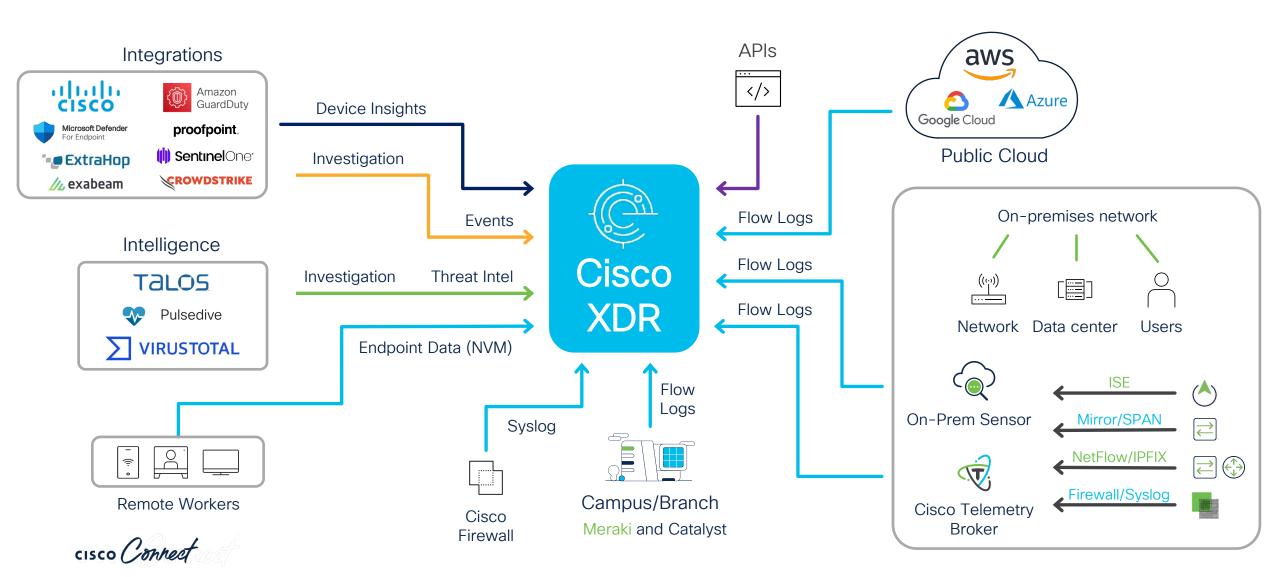


Extended Context

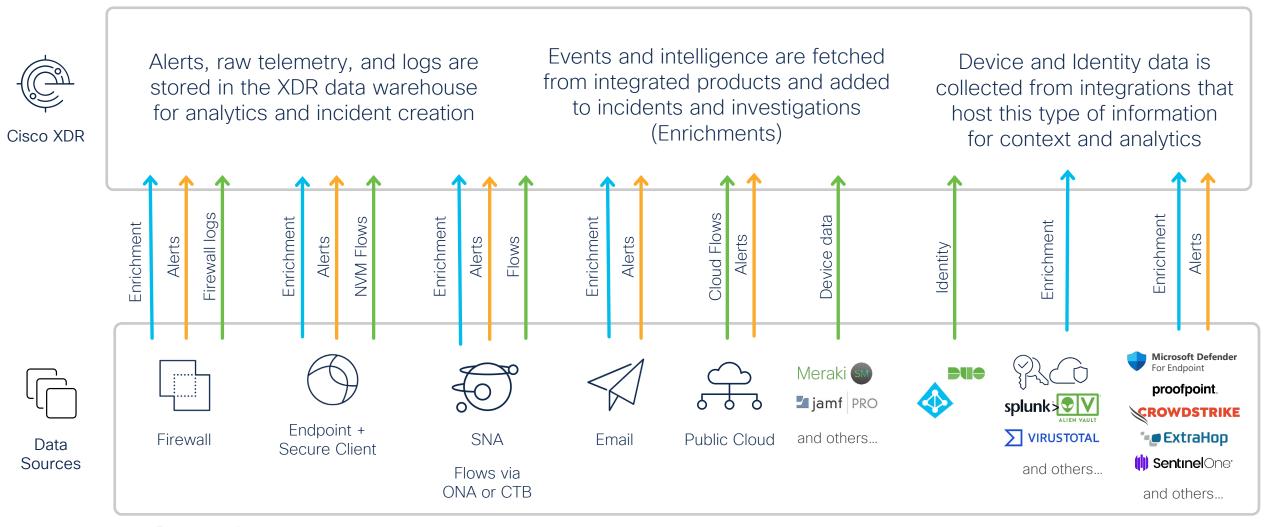


Telemetry Correlation with Cisco XDR

Flexible integration for existing infrastructure

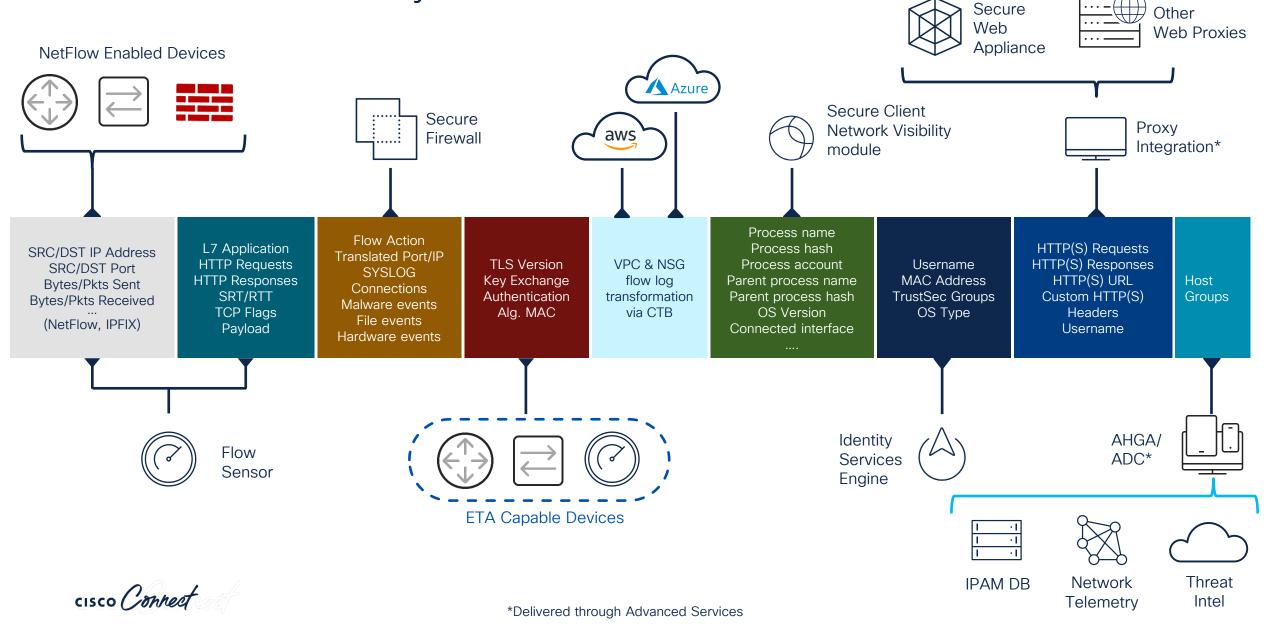


Telemetry and enrichment





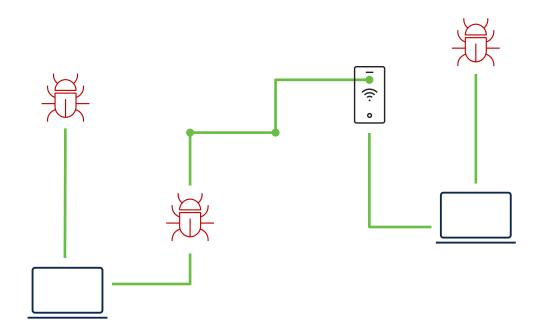
Network Visibility and Context



Endpoint visibility and Context

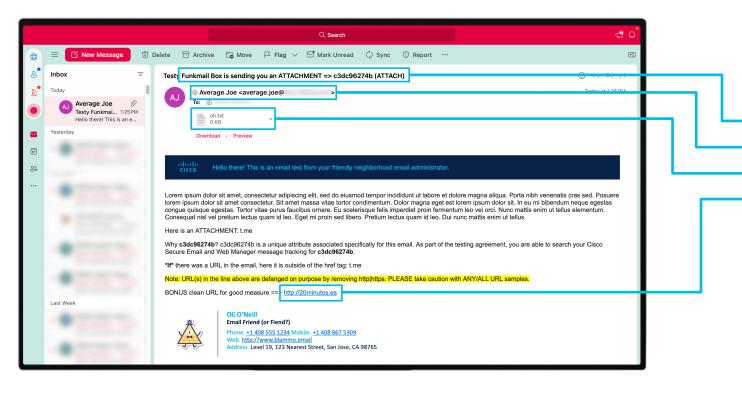
Visibility into file activity:

- File transfer activity from one device to another
- View file execution, creations and movement actions
- Understand file execution details, parent process, arguments and commands
- View process communications to outside
- Behavior Indicators that detail attacker methods
- Real-time endpoint interrogation for confirmation, triage, and contextualization





Email contextual properties



Understand email by visualizing message, sender, and email relationships.

ETD and XDR uses context from email properties, such as:

- Email Subject
- Email Address(es)
- File Name/Attachment/SHA256
- URL(s)

And information from email headers:

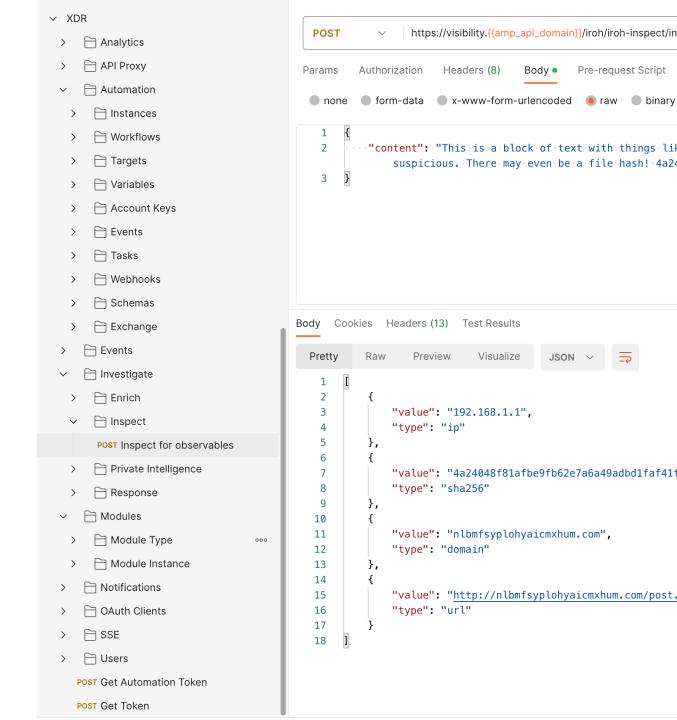
- Sender IP
- Email Message ID

These email data points are synced into XDR as Observables.

APIs are core to XDR

Cisco XDR has a wide variety of APIs that allow you to:

- Create and manage incidents and intelligence.
- Inspect content for observables and perform investigations.
- Communicate with integrated products and trigger response actions.





Extended context

https://docs.xdr.security.cisco.com/Content/Administration/cisco-third-party-integrations-and-capabilities.htm

Integrations

XDR is as powerful as its integrations, and Cisco XDR has over 80+ integrations with a wide variety of products.

- Open platform with more third-party integrations than Cisco integrations.
- Mix of security products, intelligence sources, device managers, and more.
- Easy to enable or configure built on APIbased communication with other products.
- Integrations can provide one or more capabilities including:
 - Detections and analytics
 - Threat Hunting and investigation
 - Asset Insights and Context
 - Automation and Response



Integration	Detection Analytics and Correlation	Threat Hunting and Investigation	Dashboard Tiles	Asset Insights and Context	Controls and Responses	Security Operations Center (SOC) Automation	
Cisco Vulnerability Management	No	No	No	No	No	Yes	
<u>Meraki</u>	No	No	No	Yes	No	Yes	
Orbital	No	Yes	Yes	Yes	No	Yes	
Secure Cloud Analytics	Yes	Yes	Yes	No	No	Yes	
Secure Email Appliance	No	Yes	Yes	No	No	Yes	
Secure Email Threat Defense*	Yes	No	Yes	No	No	No	
Secure Endpoint	Yes	Yes	Yes	Yes	Yes	Yes	
Secure Firewall	No	Yes	Yes	No	Yes	Yes	
Secure Malware Analytics	No	Yes	Yes	No	No	Yes	
Secure Network Analytics	No	Yes	Yes	No	Yes	Yes	
Secure Web Appliance	No	Yes	Yes	No	Yes	No	
Secure Workload	No	No	Yes	No	No	No	
<u>Umbrella</u>	No	Yes	Yes	Yes	Yes	Yes	
Webex	No	No	No	No	No	Yes	
					Automation and Response		
Integration	Detection Analytics and Correlation	Threat Hunting and Investigation	Dashboard Tiles	Asset Insights and Context	Controls and Responses	Security Operations Center (SOC) Automation	
ExtraHop Reveal(x) 360	No	No	No	No	No	Yes	
Ivanti Neurons	No	No	No	Yes	No	No	
Jamf Pro	No	No	No	Yes	No	No	
Jira Cloud	No	No	No	No	No	Yes	
Microsoft Azure Active Directory - Users	No	No	No	Yes	No	No	
Microsoft Defender for Endpoint*	Yes	Yes	No	Yes	Yes	Yes	
Microsoft Defender for Office 365*	No	Yes	No	No	Yes	Yes	
Microsoft Intune	No	No	No	Yes	No	No	
Palo Alto Networks Cortex XDR	No	No	No	Yes	No	Yes	
SentinelOne	No	Yes	No	Yes	Yes	Yes	
						Vee	
ServiceNow	No	No	No	No	No	Yes	

Automation and Response

Extended context

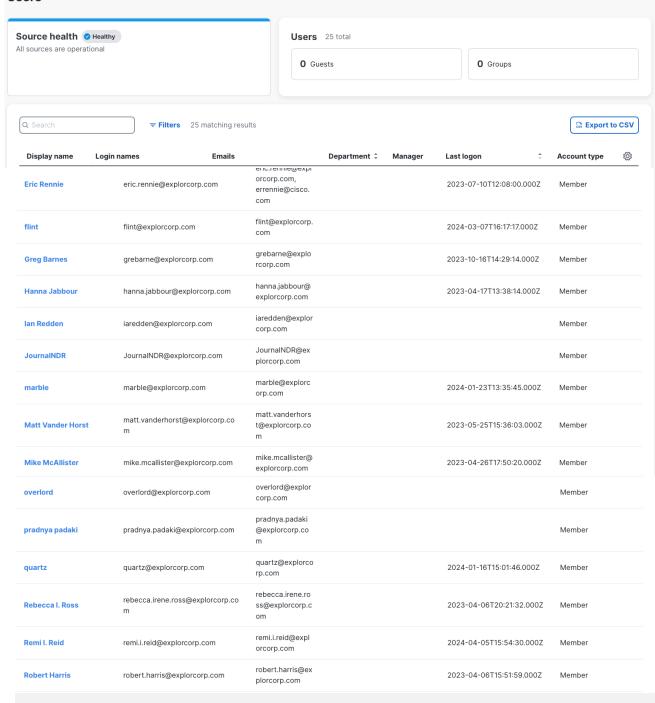
Identity

Leverage the integration framework to collect data about user inventory and posture.

- Results in a unified asset inventory that can be used to provide context to investigations and meaningful reports.
- Each user has a single page of information about it, merged from all sources.
- Allow User and Device data association with detections and incidents



Users

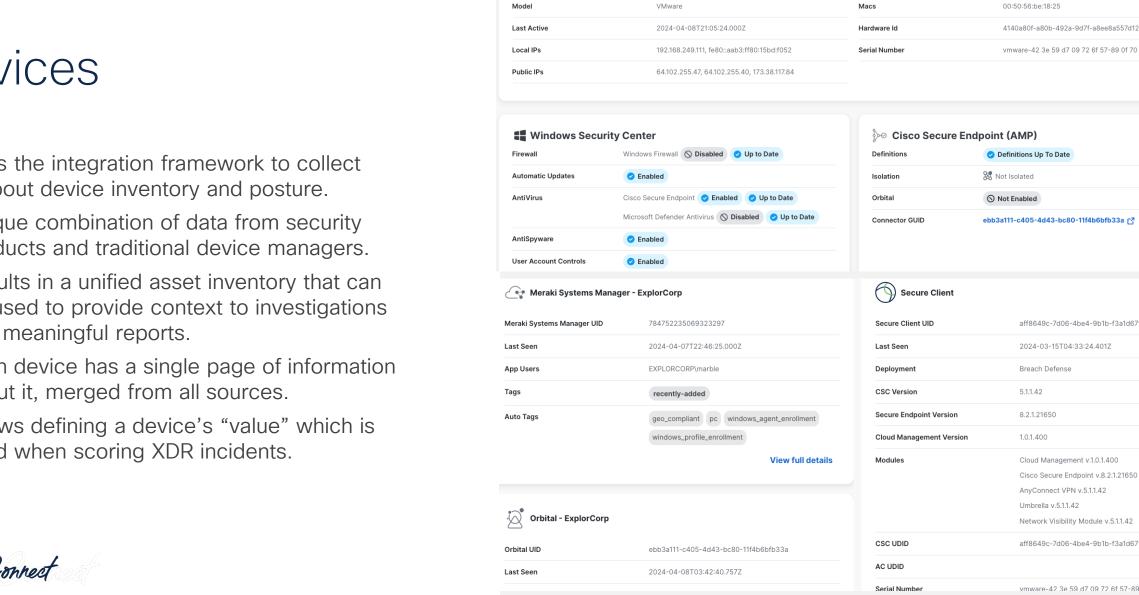


Extended context

Devices

Extends the integration framework to collect data about device inventory and posture.

- Unique combination of data from security products and traditional device managers.
- Results in a unified asset inventory that can be used to provide context to investigations and meaningful reports.
- Each device has a single page of information about it, merged from all sources.
- Allows defining a device's "value" which is used when scoring XDR incidents.



← Back to Devices

Details Operating System

Managed

Marble-WIN11.explorcorp.com

+ Add Labels

Windows 11, SP 0.0 (Build 22631.3296)

Device Value: 10 (Default value)

Location

Associated Users

2 Refresh from Orbital Live Query

Herndon, VA

EXPLORCORP\marble, tme, marble



Supported sources for XDR Devices and Identity



Duo Access Duo Beyond



Secure Endpoint



Umbrella (DNS)
Windows / macOS



Meraki SM



Secure Client



Orbital



Duo

Third Party



CrowdStrike



SentinelOne



Microsoft Intune



Jamf Pro



Ivanti Neurons (formerly MobileIron)



VMware Workspace ONE (formerly Airwatch)



Microsoft Defender for Endpoint



Microsoft Azure AD



Enhanced detections with diverse intelligence

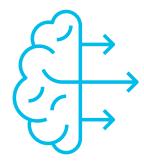
59.93.19.92	Malicious	IP Addr	2023-03-31T09:10:13.6 2023-04-30T09:10:13.6	TALOS IP B	High
59.97.169.111	Malicious	IP Addr	2023-03-31T09:10:13.6 2023-04-30T09:10:13.6	TALOS IP B	High
b0c57.binan	Malicious	Domain	2023-03-31T08:46:51.4 2023-04-07T08:46:51	ZeroDot1 C	Medium







Pulsedive



- Use public and private sources of intelligence to achieve better threat identification.
- Create and customize your own feeds based on your environment and needs.

Others...



Indicators

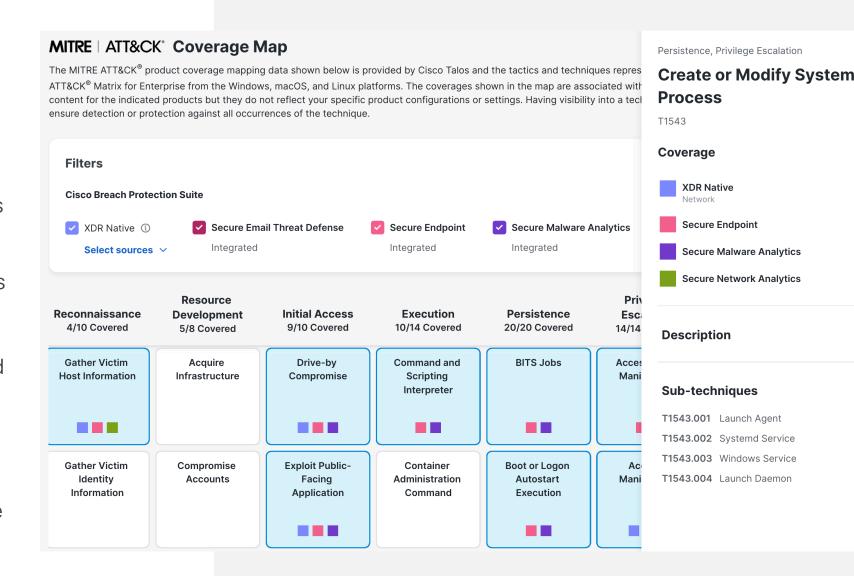
Feeds

Events



MITRE Coverage Map

- Mapping to Tactics and Techniques to Cisco Products XDR, Secure Email Threat Defense, Secure Endpoint, Secure Network Analytics and Secure Malware analytics
- Visibility on the coverage provided by each product for each tactic and technique.
- Allow faster identification of gaps and of possible routes to close these gaps
- Non-Cisco product integrations are planned in future updates





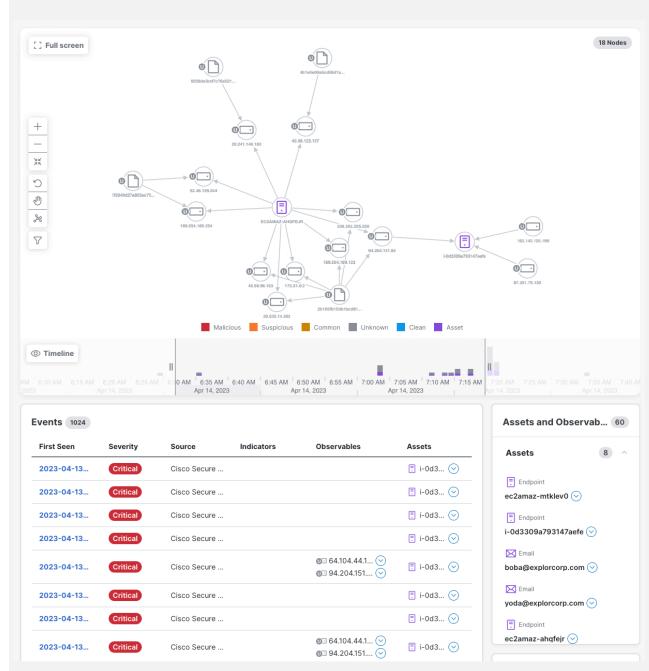
Investigate

One place to investigate across all your integrated products

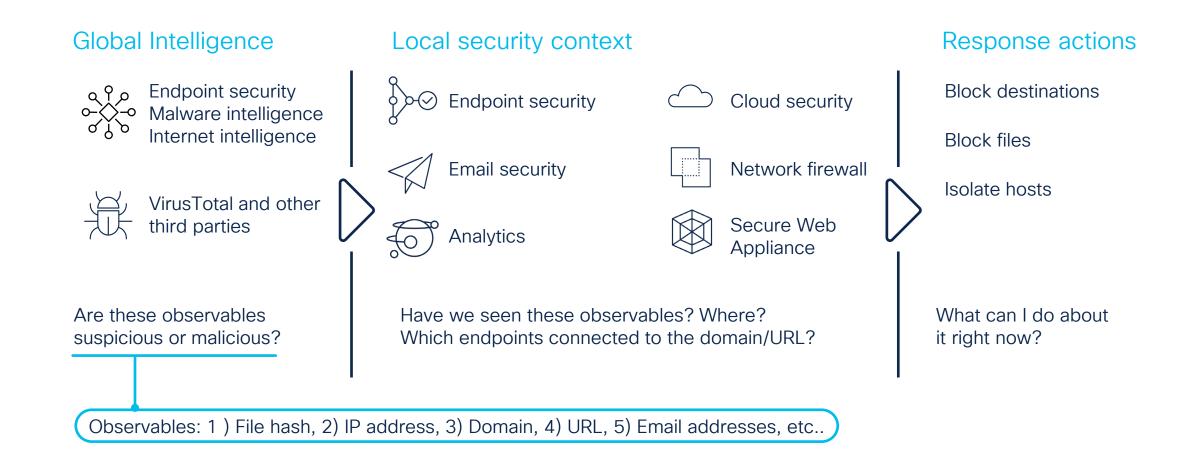
- Interactive visualization of observables and how they relate to each other.
- Classification of "targets" versus "assets".
- Built-in response actions via pivot menus.
- Dynamic timeline to filter events by a date/time range.
- Color-coded observables clearly identify dispositions.
- Investigations can be saved to share or to view later.



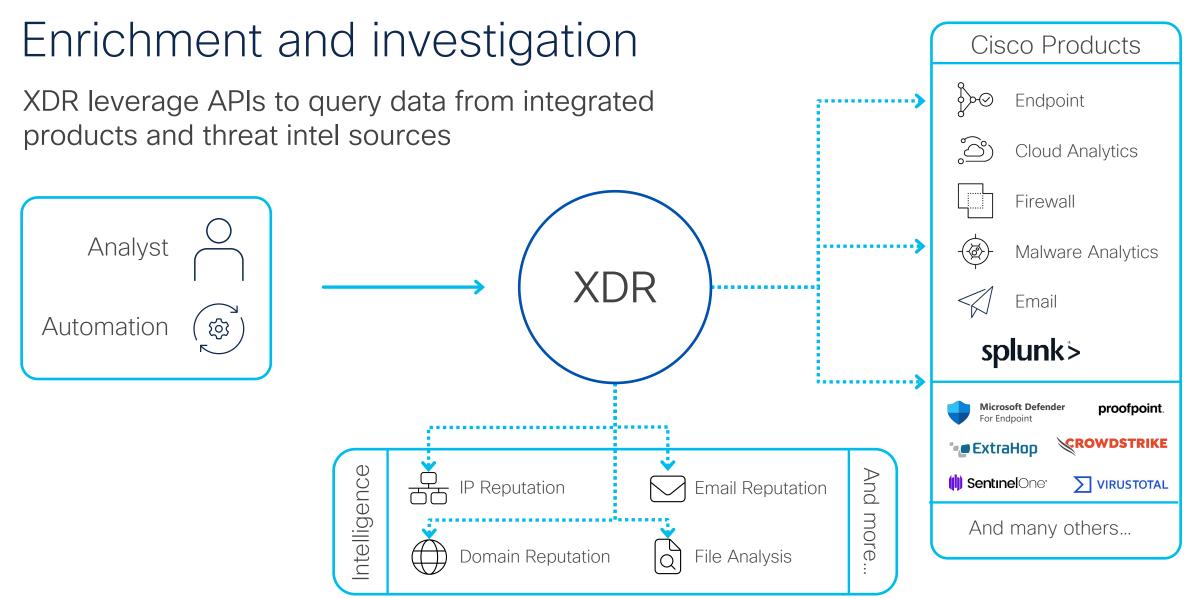
Example of investigating a previous incident



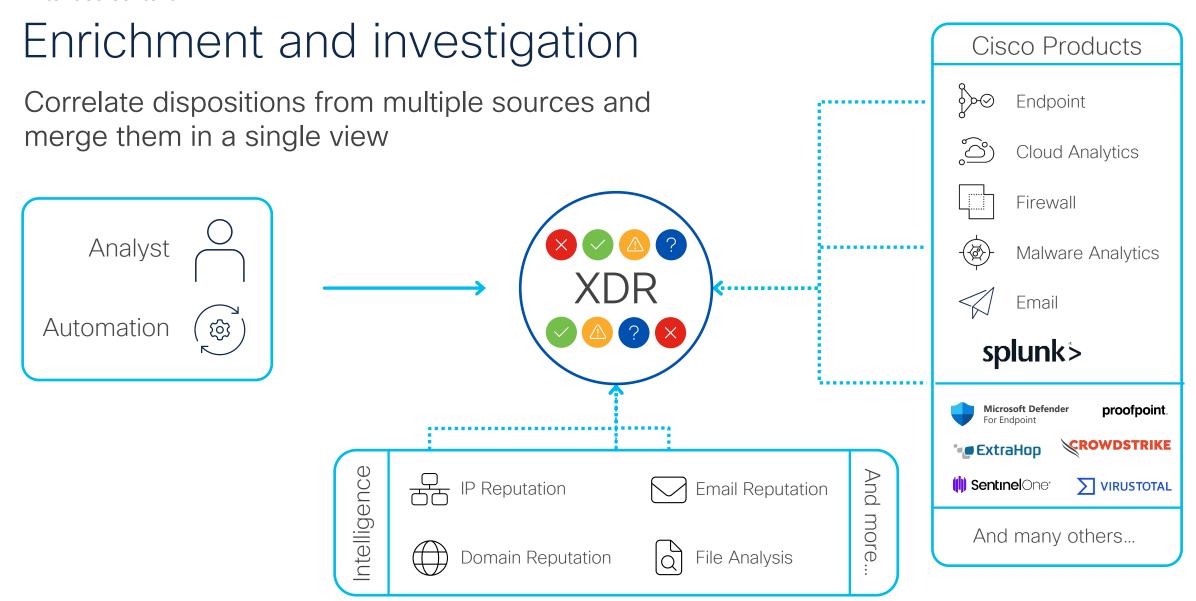
Investigate with intelligence, context and response







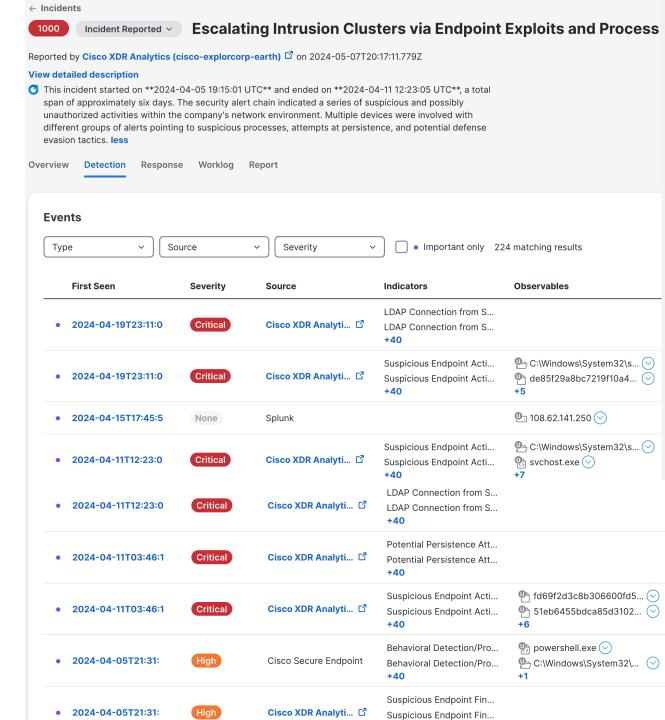






Detections



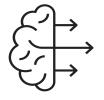


XDR Analytics detections from raw telemetry

010110 110010 001011







Behavioral analytics

- Machine learning techniques for suspicious activity detections
- Endpoint NVM detections
- Anomaly detection through statistical learning
- Role-based analytics
- Data movement analytics

Cloud Alerts

- Alerts tailored to AWS, GCP and Azure
- Leverage native cloud security controls
- Detect security relevant configuration changes
- Assess your cloud security posture

Machine Learning

- Machine learning based threat detection
- Intel gathered from across the Cisco ecosystem
- Detect threats within encrypted traffic without decrypting

Talos threat intel

- Malware classification
- Knowledge and correlation of global campaigns to local threats
- Threatening IP, URL, and domain communication detections



XDR Analytics detections from event telemetry



Endpoint Detections

- Command and Control
- Credential Access
- Defense evasion
- Discovery and Execution
- Lateral Movement
- Persistence and Privilege Escalation



Email Detections

- Initial Access
- Phishing & Spear Phishing
- Scam Emails
- Malware in Attachments
- Business Email Compromise



Network Detections

- Lateral Movement
- Data Exfiltration
- Data Movement
- Network Discovery
- Behavioral Traffic Change



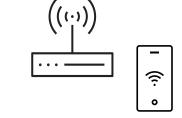
Comprehensive protection through detections



Public Cloud Detections

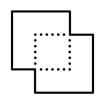
Network and Endpoint Detections

- Abnormal User
- AWS EC2 Startup Script Modified
- AWS Lambda Invocation Spike
- AWS Snapshot Exfiltration
- Azure Exposed Services
- Azure Transfer Data To Cloud Account
- Geographically Unusual AWS/ Azure API Usage
- Unusually Large EC2 Instance
- +40 more detections...



....

- Malicious Process Detected
- Meterpreter C&C SuccessPotential Persistence attempt
- Amplification Attack
- Exceptional Domain Controller
- Geographically Unusual Remote Access
- LDAP Connection Spike
- Potential Data/Database Exfiltration
- Repeated Umbrella Sinkhole Communications
- Unusual DNS Connection
- Vulnerable Transport Security Protocol
- +60 more detections...



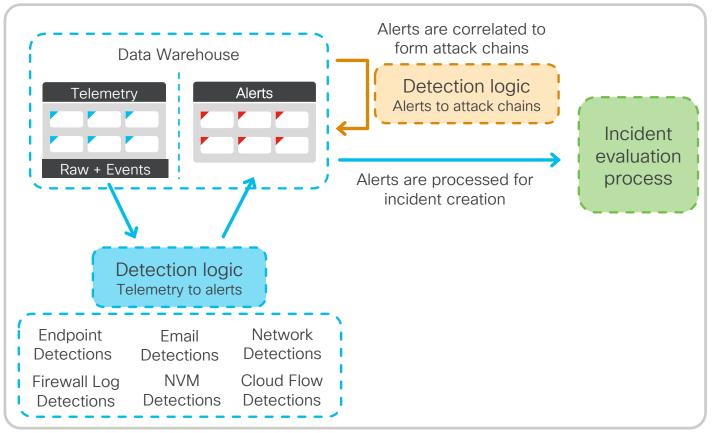
Firewall Analytics

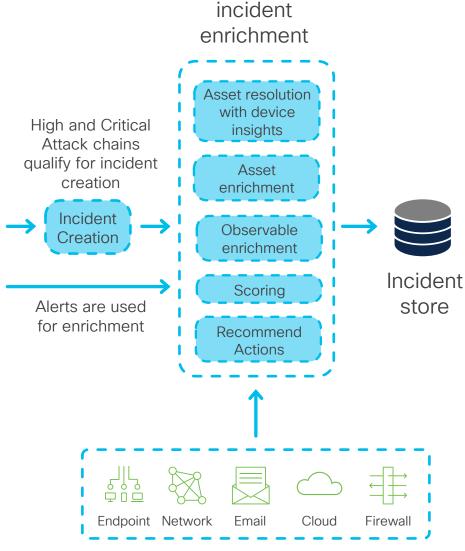
- Potentially Harmful Hidden File Ext
- Repeated Watchlist Communications
- Suspicious User Agent
- Talos Intelligence Watchlist Hits
- Unusual External Server
- Unusual File Extension from New External Server
- +72 on-premises detections



Detection architecture

XDR Analytics detection and incident evaluation





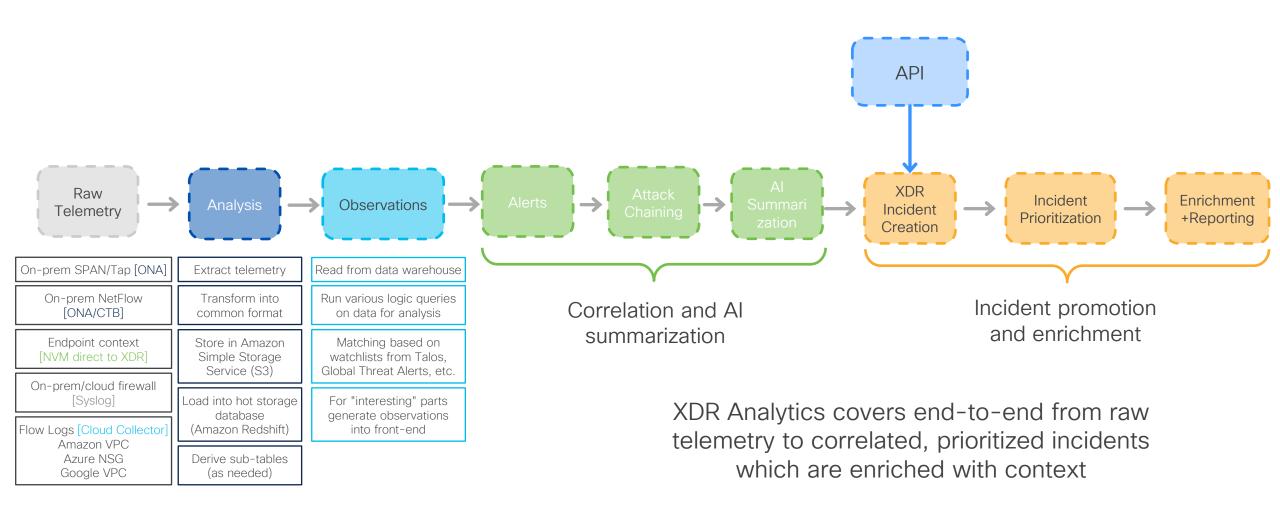
Automated





Detections

XDR Analytics detection and incident creation path



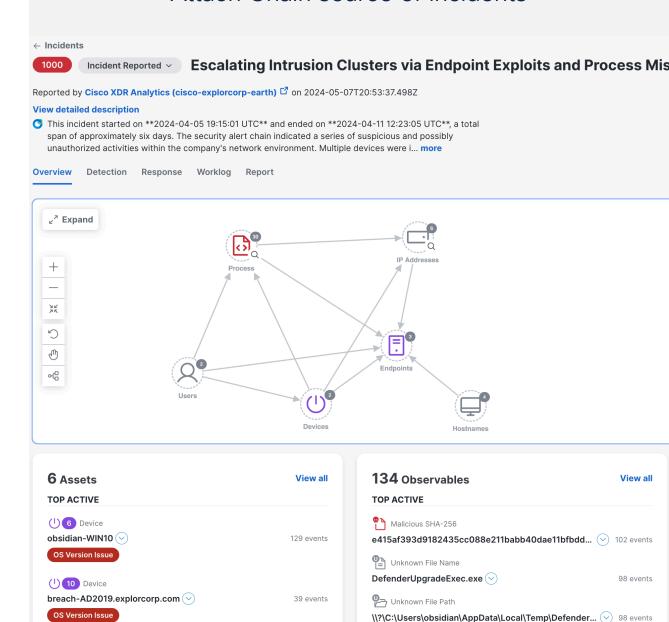


Correlation with attack chaining

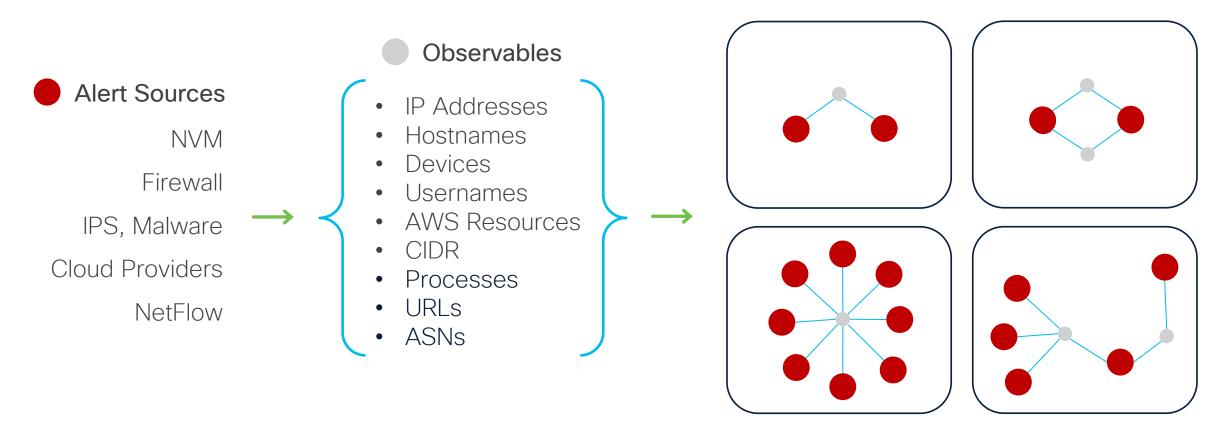
- Alerts from XDR and integrated products are correlated prior to becoming XDR incidents.
- Alerts with common indicators are combined into attack chains.
- New alerts are also appended to incidents as they occur over time.
- Analysts can also link incidents together for manual correlation.
- Attack chain are summarized with Gen Al



Attach Chain source of incidents



Chaining attacks based on common observables



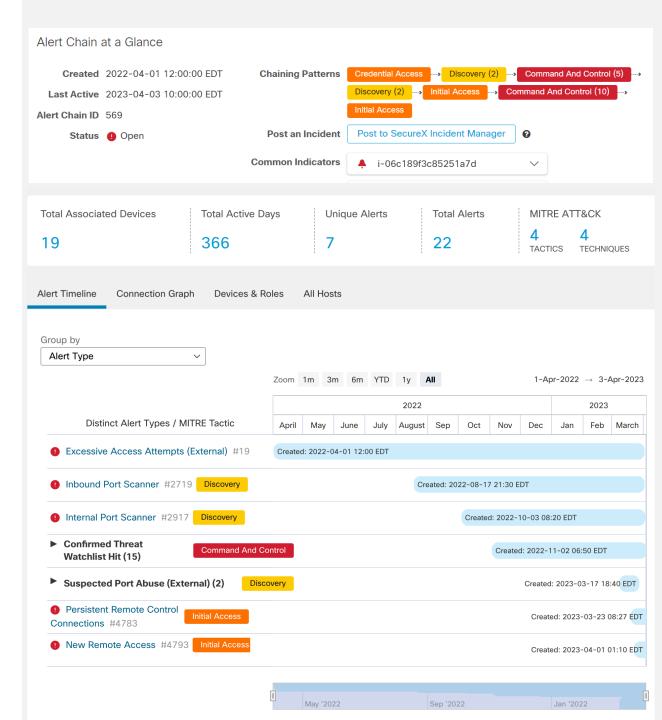
Leverage common observables to relate alerts coming from multiple sources and with different threat vectors in one attack chain.



Attack chains

Attack Chains correlate related alerts based on common indicators to show the entire attack

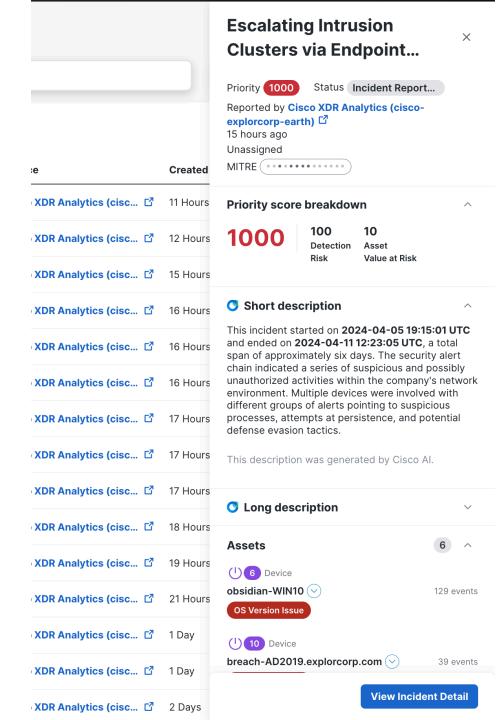
- Mapped to the MITRE ATT&CK framework.
- Chains are summarized with Al for better and simplified Incident comprehension.
- Alerts are correlated over time, revealing the bigger picture of a multi-stage attack.
- Alert activity is plotted on a timeline.
- Visualization is provided by the alert connection graph.





Incident creation

- Incidents are created from:
 - XDR Analytics alerts and security events correlated into attack chains
 - Manual event promotion from within XDR Analytics
 - API calls to XDR
- New incidents are assigned a priority score and are automatically enriched if their risk score is above 500
- Events discovered in enrichments that are relevant to an incident are added to that incident

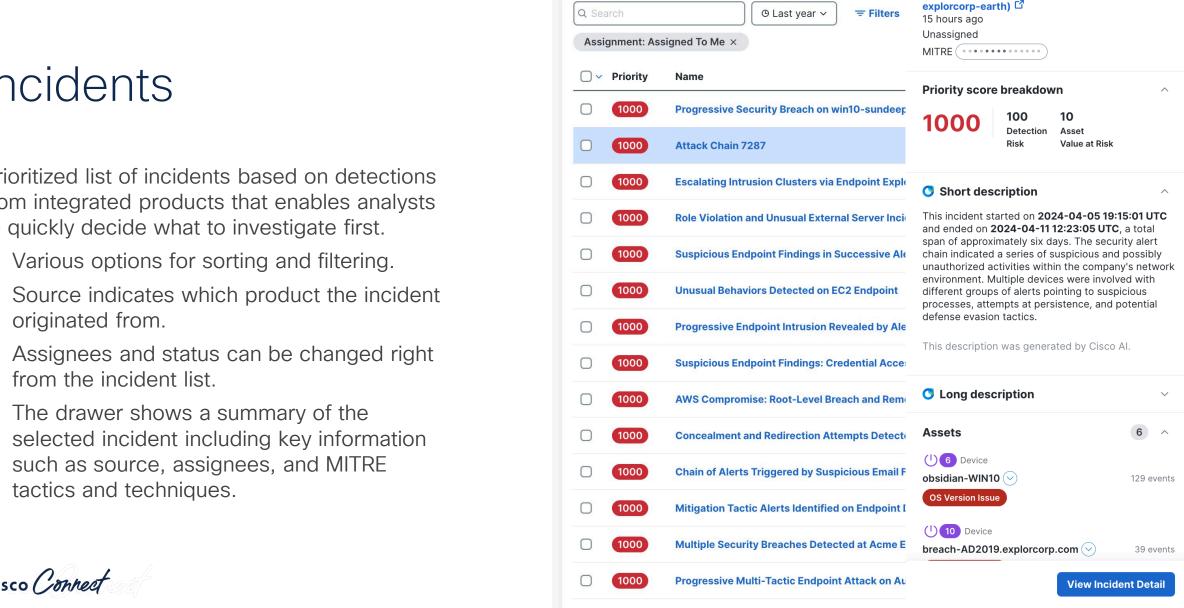




Incidents

Prioritized list of incidents based on detections from integrated products that enables analysts to quickly decide what to investigate first.

- originated from.
- from the incident list.
- The drawer shows a summary of the such as source, assignees, and MITRE tactics and techniques.



Incidents

433 Incidents

Escalating Intrusion

Priority 1000

21 New In

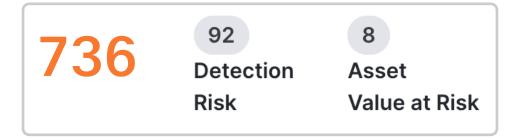
Clusters via Endpoint...

Reported by Cisco XDR Analytics (cisco-

Status Open



Identify the most impactful incidents based on risk



Priority Score = Detection Risk x Asset Value

0-1000

0-100

0-10

The Incident total priority score used to prioritize incidents

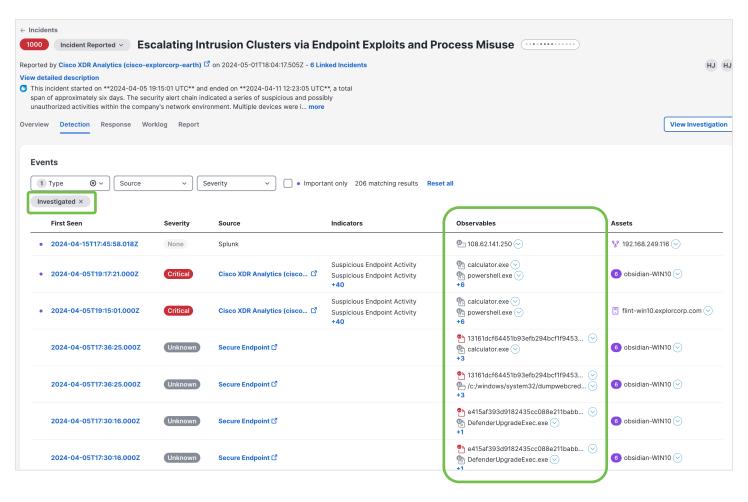
Detection Risk composed of multiple values:

- MITRE TTP Financial Risk
- Number of MITRE TTPs
- Source Severity

User Defined Asset Value represent the value of the asset involved in the incident



Incident enrichment provides incident context



- XDR incidents are automatically enriched when they are created.
- Enrichment uses Cisco integrations, third-party integrations, public intelligence, private intelligence, and endpoint data to add context to incidents.
- Judgments are automatically provided to analysts to help them make more informed incident response decisions with fewer steps.



Incident Al summarization

Short description

This incident transpired from 2024-04-05 19:15:01 UTC to 2024-04-05 21:31:03 UTC, showed the progression of suspicious activities across multiple devices in the network, leading to potential security breaches. Alerts were grouped under distinct categories such as "Suspicious Process Path", "Suspicious Endpoint Findings by Defense Evasion", "Suspicious Endpoint Findings by Privilege Escalation", and "Potential Persistence Attempt" implying a strategic escalation of hostile activities. Multiple stages of the attack pattern consisted of the execution of suspicious processes, evasion tactics, privilege escalation, and persistent attempts to maintain network access.

Long Description

Long descriptions provide detailed history of the attack based on the events timeline; the attack is described in in a human readable format without compromising on the details.

Short Description

Incidents are summarized with a short description that provides a high-level overview of the attack end to end

Simplified Alert Analysis with Al incident summarization elevating an Analyst proficiency



Cong description

Initially, at 2024-04-05 19:15:01 UTC, two alerts were generated under the "Suspicious Process Path" group from hosts flint-win10.explorcorp.com and obsidian-win10.explorcorp.com. This group was triggered due to suspicious processes executed from unusual directories and connected to an external IP address "108.62.141.250".

Shortly after at **2024-04-05 20:49:37 UTC**, a single alert from host breach-ad2019.explorcorp.com was generated under two distinct groups — "Suspicious Endpoint Findings by Defense Evasion" and "Suspicious Endpoint Findings by Privilege Escalation". These alerts pointed to suspicious behaviors mapped to Defense Evasion and Privilege Escalation tactics of the MITRE ATT&CK framework.

Following that, two more alerts were raised at **2024-04-05 20:52:05 UTC** under the "Potential Persistence Attempt" from the same sources. These alerts were triggered due to detected persistence mechanisms such as running applications from network shares and establishing background processes used for network access.

Afterward, at 2024-04-05 21:31:03 UTC, another set of two alerts emerged from the flint-win10.explorcorp.com host. They were classified under the groups of "Suspicious Endpoint Findings by Defense Evasion" and "Suspicious Endpoint Findings by Privilege

Incident details through progressive disclosure

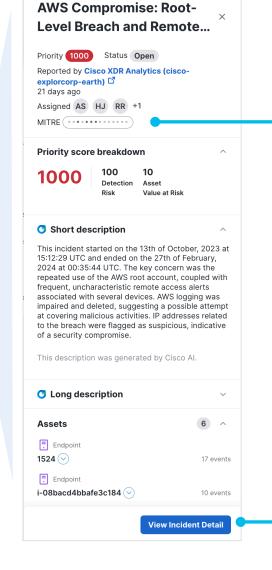
Progressive reveal of details

Looking into an incident is a progressive experience where the relevant data is revealed as needed without overwhelming the SOC analyst.



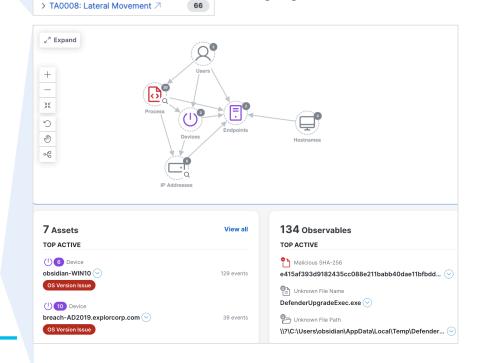
Rich incident details

Incidents are enriched with data, such as assets, indicators, and observables, from multiple sources. Associated MITRE ATT&CK tactics and techniques are displayed and factored into the incident priority score.



MITRE ATT&CK Mapping

Incidents are mapped to MITRE ATT&CK framework Tactic categories to highlight which attack stages the detections fall under, providing a quick view and link to a common language for the SOC



MITRE | ATT&CK

→ TA0002: Execution

The adversary is trying to run malicious

run malicious code are often paired with

broader goals, like exploring a network or

stealing data. For example, an adversary

might use a remote access tool to run a

PowerShell script that does Remote System

code. Execution consists of techniques that

result in adversary-controlled code running

on a local or remote system. Techniques that

techniques from all other tactics to achieve

Tactics

Discovery.

View all Tactics

100



Incident: Overview

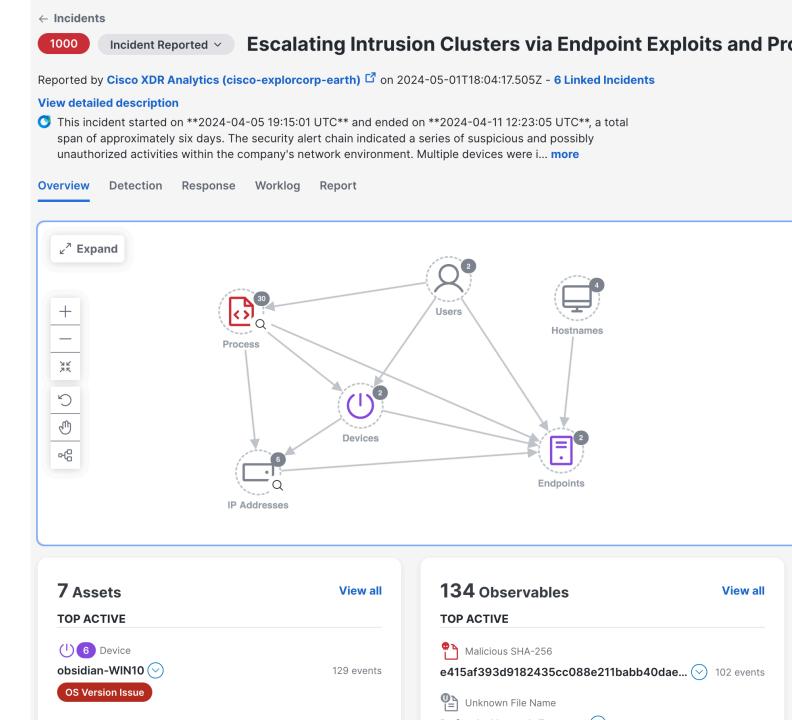
Simplified graphical view

A simple yet powerful graph tool to identify observables and their relations.

Key incident details

An overview of all Incident aspects: assets involved in the incident, relevant observables with their dispositions, and related indicators, all in one view.





Incident: Detection

Detailed events

Identify the events that caused an incidents along with their sources, severities, and associated observables.

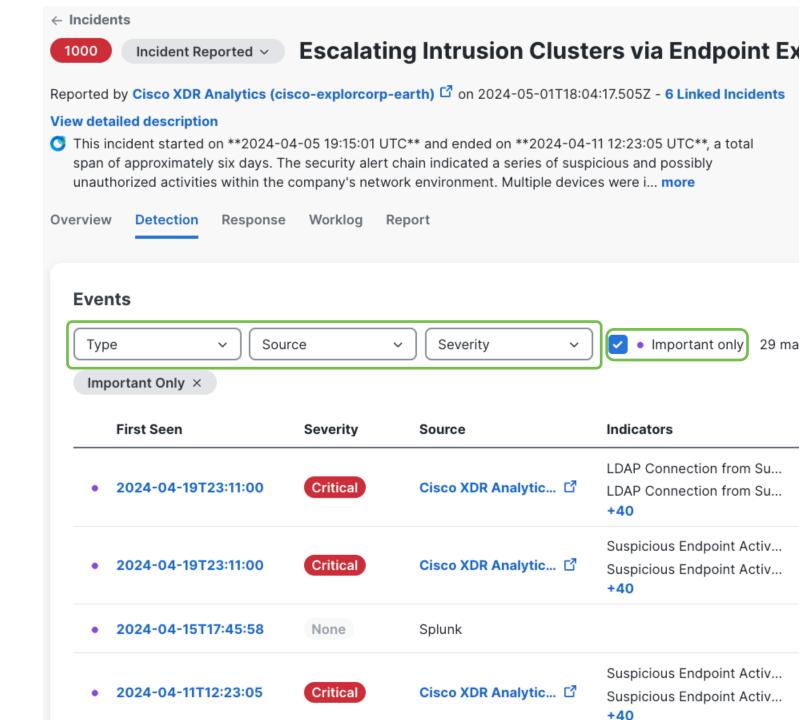
Flexible filtering

Filter detections based on their type, which integrated product they came from, or their severity. Use the "Important only" toggle to see the most critical detections.

Focus on importance

An important event can a target or indicator of first encounter, has high/critical severity or contains MITRE ATT&CK data.





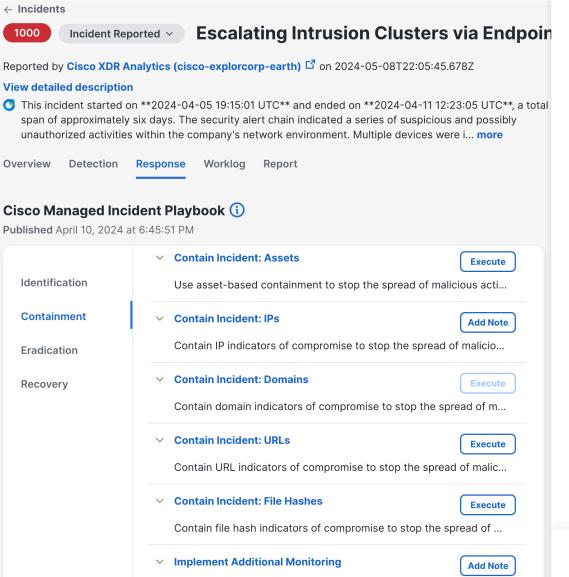
Incident: Response

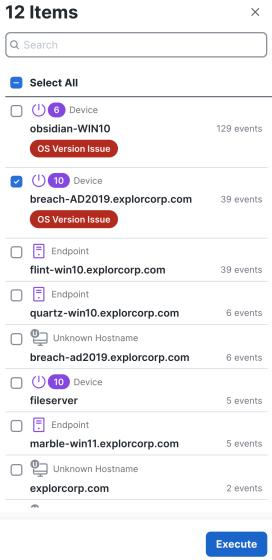
Built-in and custom playbooks

Contextual playbooks provide a step-by-step, guided response for incidents. Cisco provides built-in playbooks that follows the SANS PICERL incident response model. You can create and apply your own playbooks.

Powered by automation

Many actions in the playbook are powered by native XDR Automation workflows. These workflows take actions based on which products you have integrated accelerating how you respond.







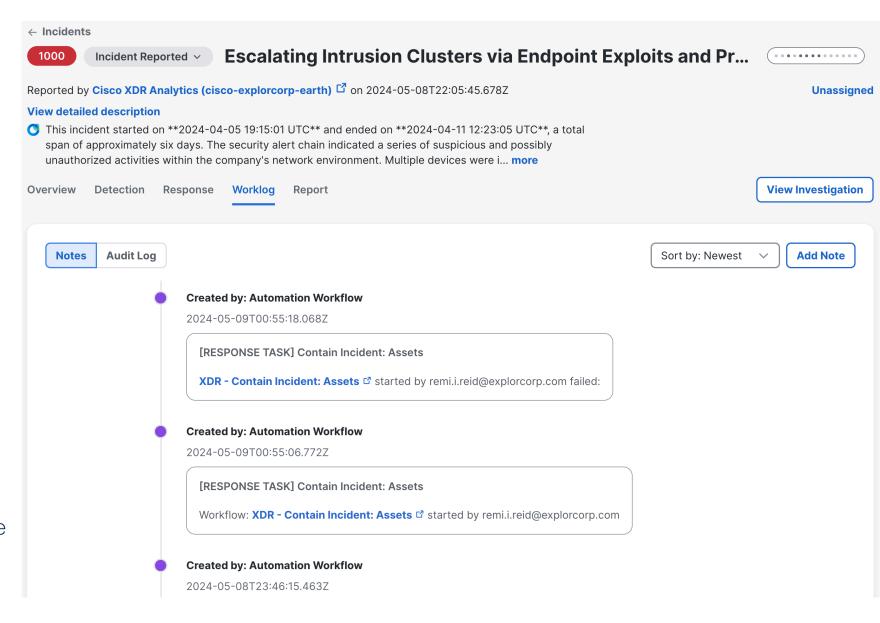
Incident: Worklog

Collaboration

View work already completed for the incident, post notes with important details, and collaborate with your team.

Auditing

See a history of actions taken, including the execution of automated response actions in the response playbook.



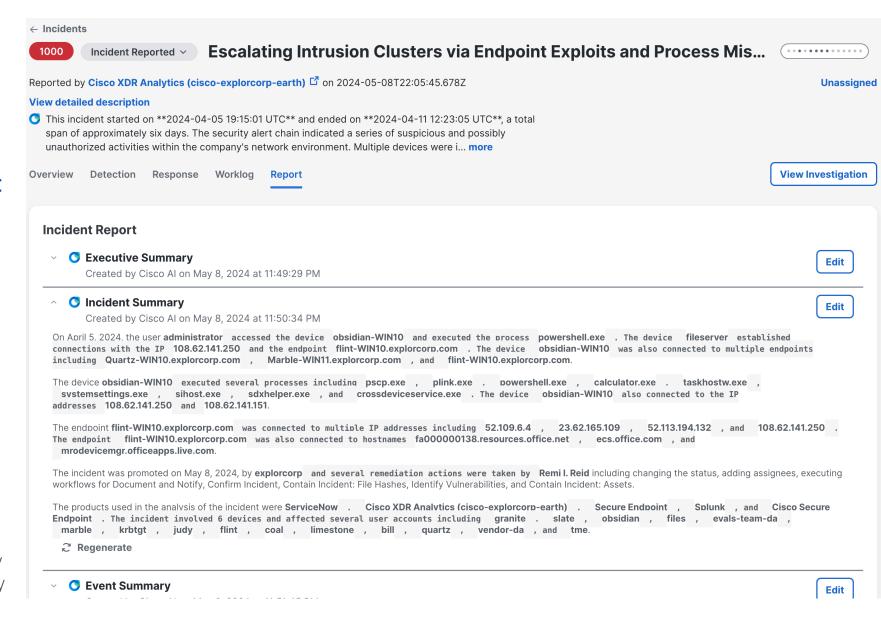


Incident Report

Downloadable Incident report

Provide a complete report of the incident including:

- Executive Summary: summary of the incident, when it occurred, what devices and which users were affected...
- Incident Summary: summarizes the incident with technical details and information on how it was handled.
- Event Summary: summary of all actions on each device including connection to destination, process executions and others
- Timeline of events: list of events by timeline on each device affected by the incident





Robust native response options



Pivot menus

Act on an observable from various places within XDR and other Cisco Secure products



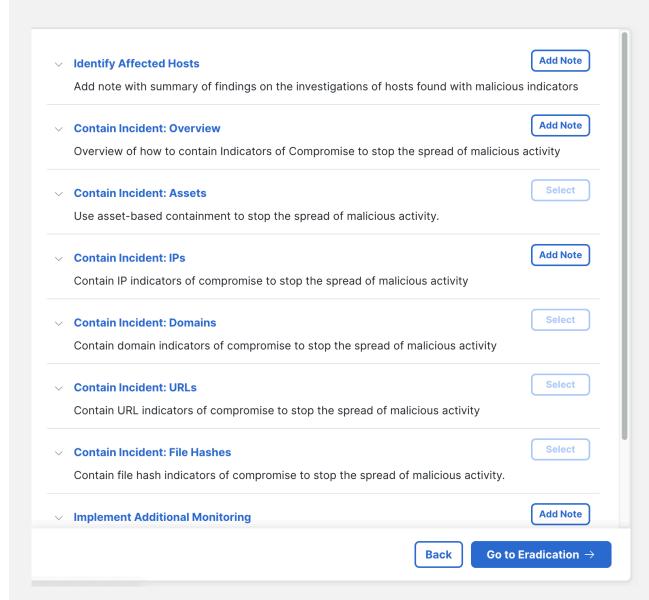
Incident playbooks

Built in Guided, four stage process for incident response, Bring your own playbook and apply it when needed



Automation

Simple or complex workflows that can investigate and respond at machine speed



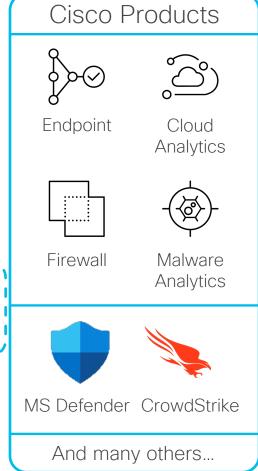
Architecture

Wide variety of actions

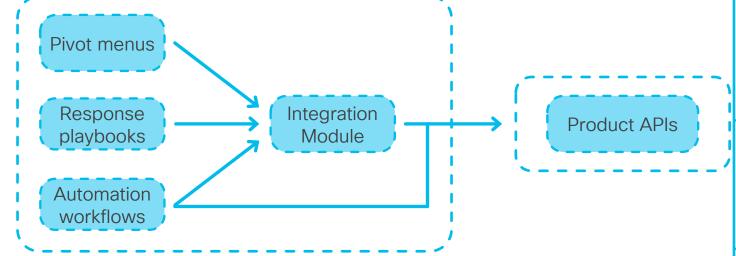
Isolate hosts, block IPs on firewalls, block hostnames in DNS, quarantine messages in a mailbox, and more...

Dynamic Response

Response actions can be automated or user-initiated







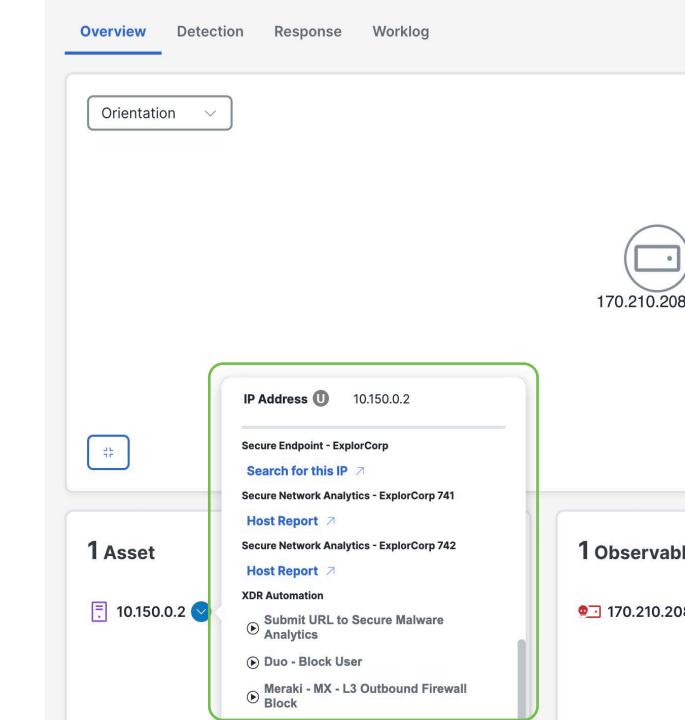


Pivot menu

Can be triggered for observables from various parts of XDR, including within investigations and incidents. Allow you to take actions such as:

- Creating a judgement
- Adding the observable to a case
- Linking out to other products to view additional information
- Taking a response action via an integrated product
- List of contextual response workflows which can be immediately executed by the user using XDR Automation

using XDR Au



Response playbooks

Bring the ability to take immediate response actions into the incident manager.

- Powered by out of the box XDR Automation workflows.
- Create customized playbooks and apply them where needed
- Broken down into four stages:









Identify Affected Hosts

Add Note

Add note with summary of findings on the investigations of hosts found with ...

Contain Incident: Overview

Add Note

Overview of how to contain Indicators of Compromise to stop the spread of ...

Contain Incident: Assets

Select

Use asset-based containment to stop the spread of malicious activity.

This automation worklow will network isolate/quarantine all selected assets on your integrated Endpoint Detection & Response solutions. After clicking Execute, you will be able to choose all or a subset of assets associated with this incident. Please make sure you have done proper identification before executing the workflow.

Contain Incident: IPs

Add Note

Contain IP indicators of compromise to stop the spread of malicious activity

Contain Incident: Domains

Select

Contain domain indicators of compromise to stop the spread of malicious act...

This automation worklow blocks the selected domain names on your integrated network policy enforcement solutions. After clicking Execute, you will be able to choose all or a subset of domains associated with this incident. Make sure you have done proper identification before executing the workflow.

Back

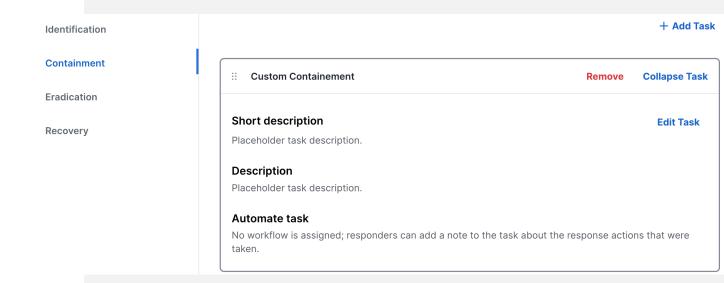
Go to Eradication \rightarrow

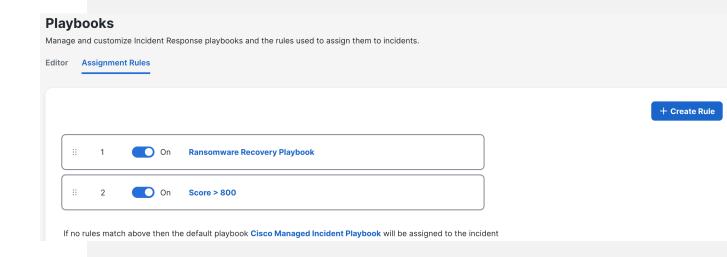


Custom Play Books

Provide the ability to create customized playbooks.

- Create customized playbooks provides the ability to respond to incidents with a customized actions based on use case.
- Dynamically assign playbooks using rules to link playbooks to incidents based on specific conditions.







Incident response in four stages

Identify



Review the incident and confirm the findings

Contain



Act against impacted hosts, domains, and files

Eradicate



Mitigate or remediate vulnerabilities and remove malicious content

Recover



Validate remediation steps and restore impacted services



Automation rules

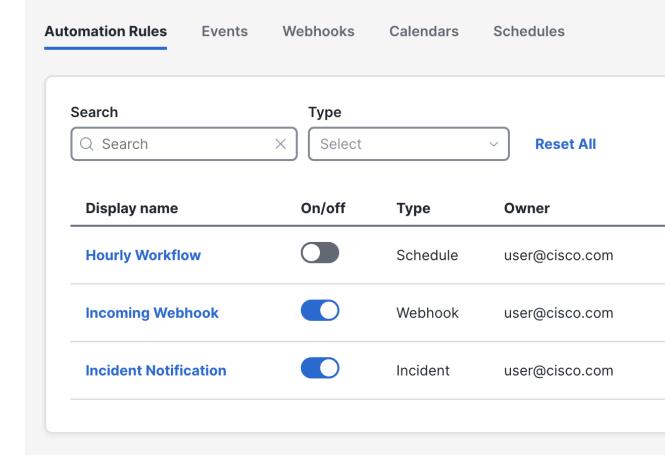
Allow various types of events to cause workflows to run.

- Approval Task Rule: An approval task is acted upon within XDR Automation.
- Email Rule: An email is received in a predefined inbox being monitored for new messages.
- Incident Rule: A matching incident is created in the XDR incident manager.
- Schedule Rule: A specific date, time, or interval of time has passed.
- Webhook Rule: An HTTP call was made to a specific webhook URL.



Triggers

To add a trigger to a workflow, configure an automation rule that determines when a workflow is executed, such as when an incident, specific event occurs, or on a schedule.



XDR Automation

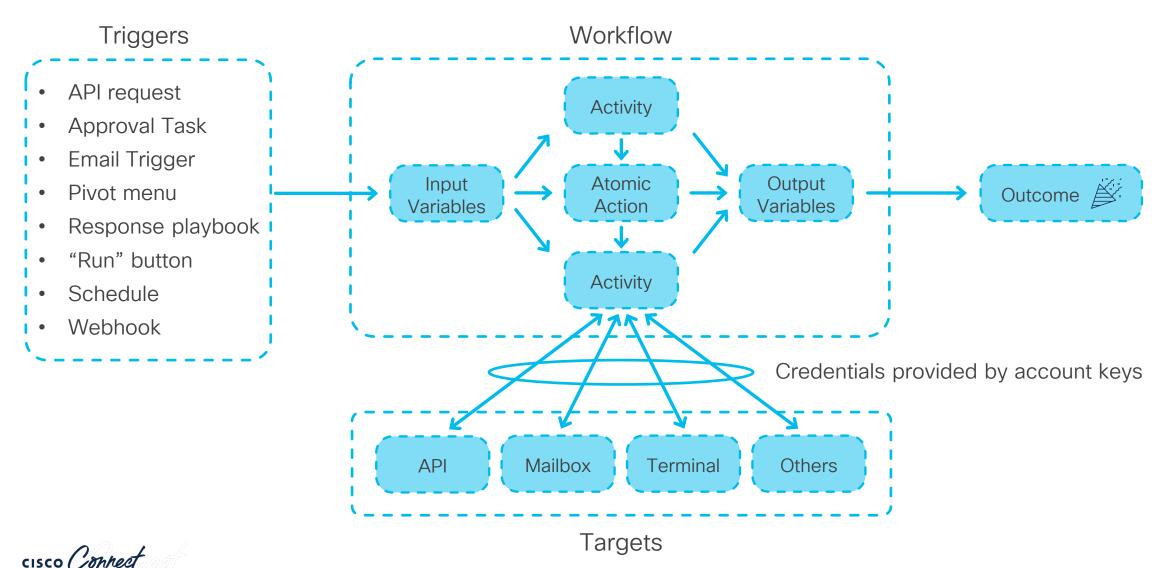
A "no to low code" drag and drop editor that allows you to build simple or complex workflows.

- Powers the playbook feature in the incident manager using out of the box workflows.
- Pre-written workflows are available for import from Cisco.
- Wide variety of use cases that are not limited to security or XDR-related outcomes.





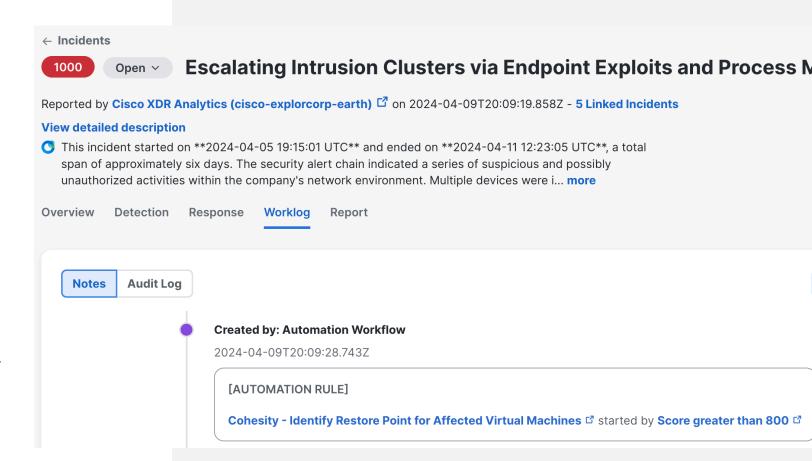
Workflow diagram



Ransomware Recovery

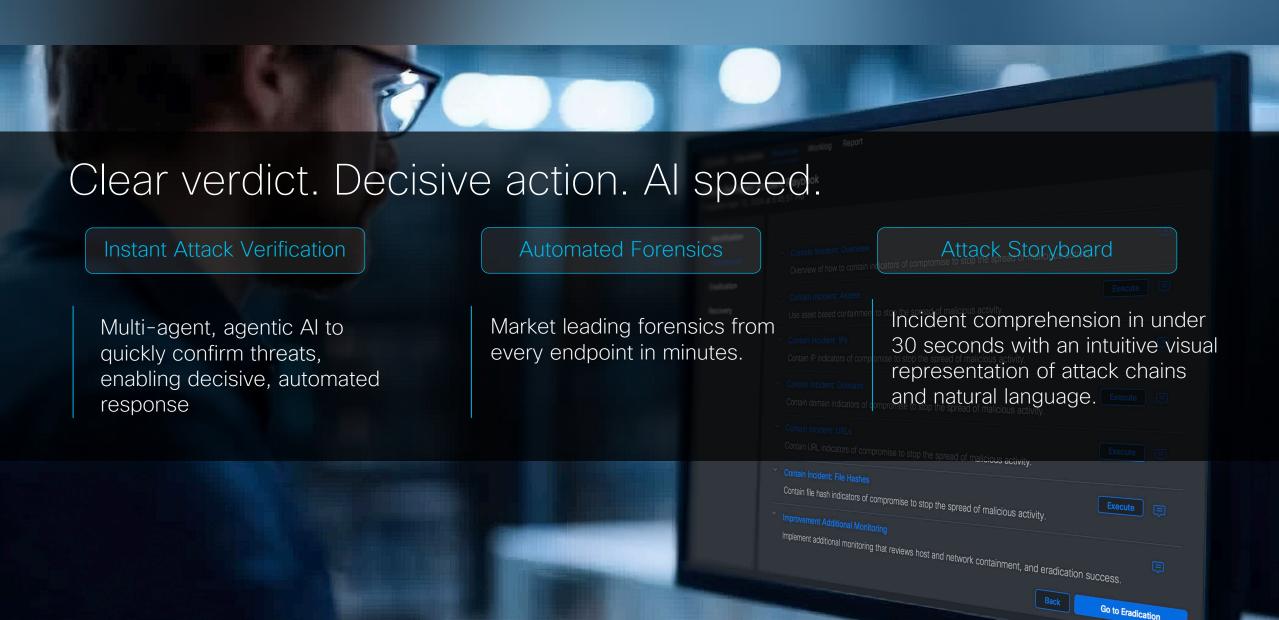
Achieve automated ransomware recovery leveraging XDR automation, rule-based triggering and Cohesity integration.

- Restore a device to its previous known good state before infection.
- Automate snapshot taking and recovery for devices to their known good state.
- Reduce downtimes and time for recovery with end-to-end automation





Introducing Cisco XDR 2.0



Summary



Why Cisco Breach Protections



Faster detections

Detect threats sooner with advanced analytics and a unique attack chaining capability that provides end-to-end attack correlation with automated incident prioritization based on risk and threat risk.



Simplified investigation

Simplified investigation using automated incident enrichment and event correlation. Empowering the SOC to quickly identify the source of a threat, its impact, and relevant resources like assets across integrated products.



Rapid containment

Contain threats with robust, automated response actions while keeping track of who did what right within the incident. Various places to initiate a response from an investigation, incident, or the Ribbon.



Resources

Where can you learn more about Cisco XDR?

- Cisco XDR At a Glance
- An XDR Primer: The Promise of Simplifying Security Operations Position Paper
- Cisco XDR: Security Operations Simplified eBook
- Five Ways to Experience XDR eBook
- Cisco XDR Overview Video
- XDR Instant Demo
- Threat Hunting Workshop

Cisco XDR on Cisco.com







Thank you

