

Building a Future-Ready Security Posture



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Cyberthreats have grown 5x+



...some specific EDU metrics

3rd

Education was the third most targeted industry in Q2 2024.¹

3x

More data security incidents occurred in organizations using over 15 tools.²

1

single student education record can be worth as much as \$350.³

43%

of higher education institutions in the UK report a cyber incident at least once a week.¹

83%

of organizations experience multiple data breaches over time.²

1.5x

more likely to succeed with AI by having a mature information management strategy.⁴

1. [Cyber Signals Issue 8 | Education under siege: How cybercriminals target our schools](#)

2. [Microsoft Digital Defense Report 2024](#)

3. [Microsoft Education Blog: Protect educational data with Azure](#)

4. [Microsoft and Gartner webinar: Information lifecycle and governance in the age of AI and storage limits](#)

Organizations are facing unprecedented complexity

A disconnected collection
of fragmented tools



Source: Microsoft

Cybersecurity pros
needed in the world



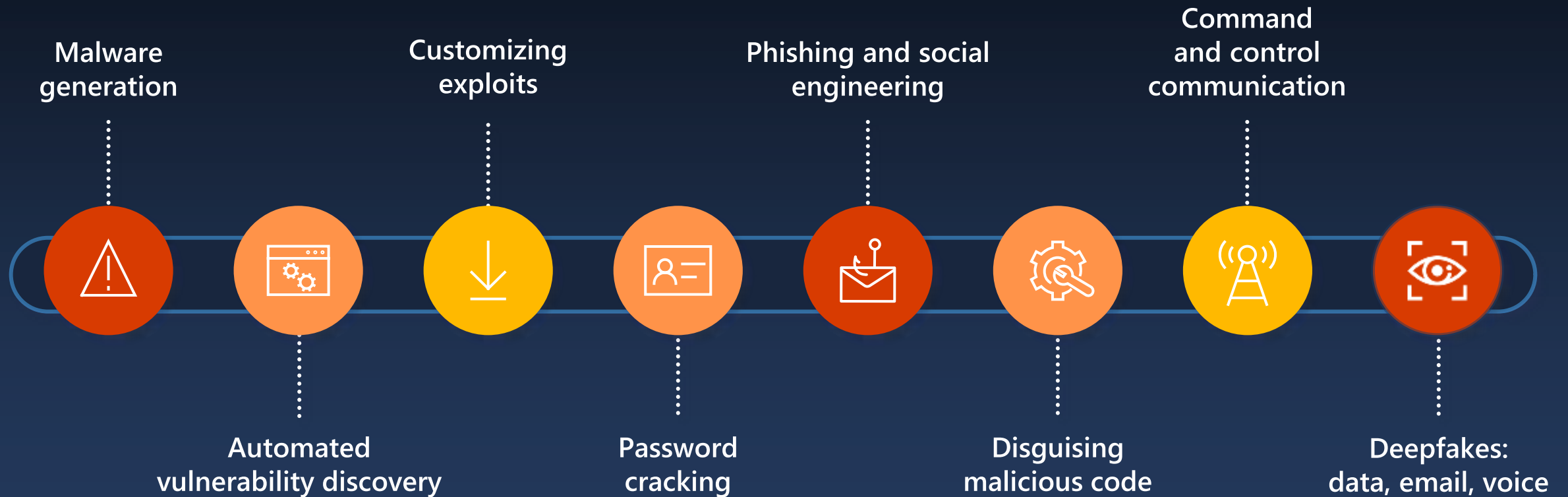
Source: ISC2

New regulatory updates
tracked every day

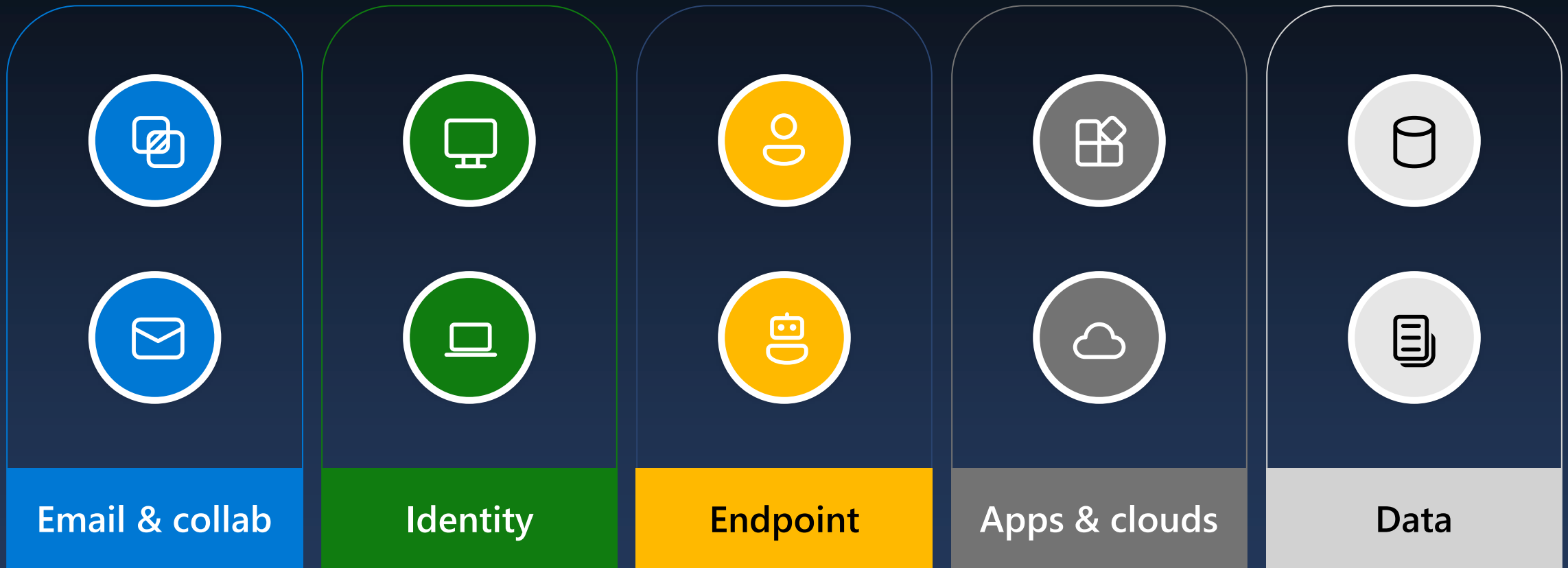
250 
every day

Source: IDC

Adversaries will use GenAI in creative ways

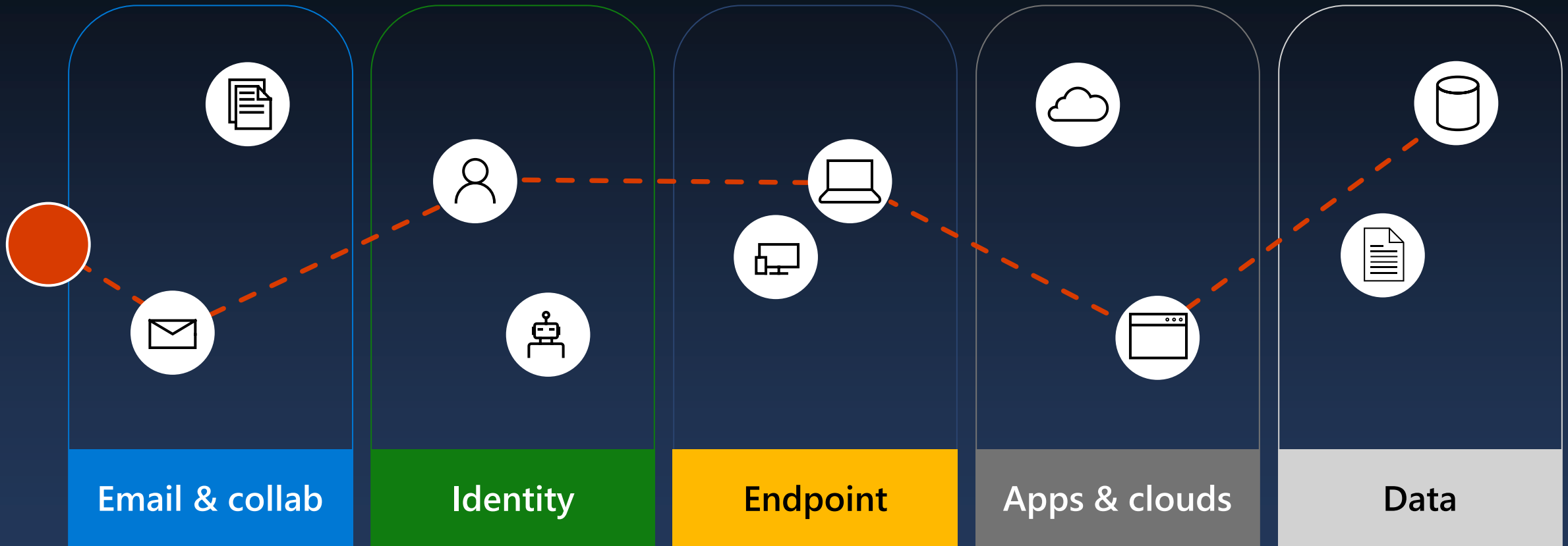


Security teams are forced to defend in silos



...with tools focused on protecting individual domains

Attackers think in **graphs**



...quietly traversing across the network through the gaps between siloed tools

Security teams need better outcomes in the age of AI



Be more secure



Stay compliant



Lower total cost of
ownership

What if you could have better outcomes



Lower the risk
of a breach by **72%**



Reduce the time
it takes to respond
to threats by **88%**



Increase the accuracy
of novice security pros
by **44%**

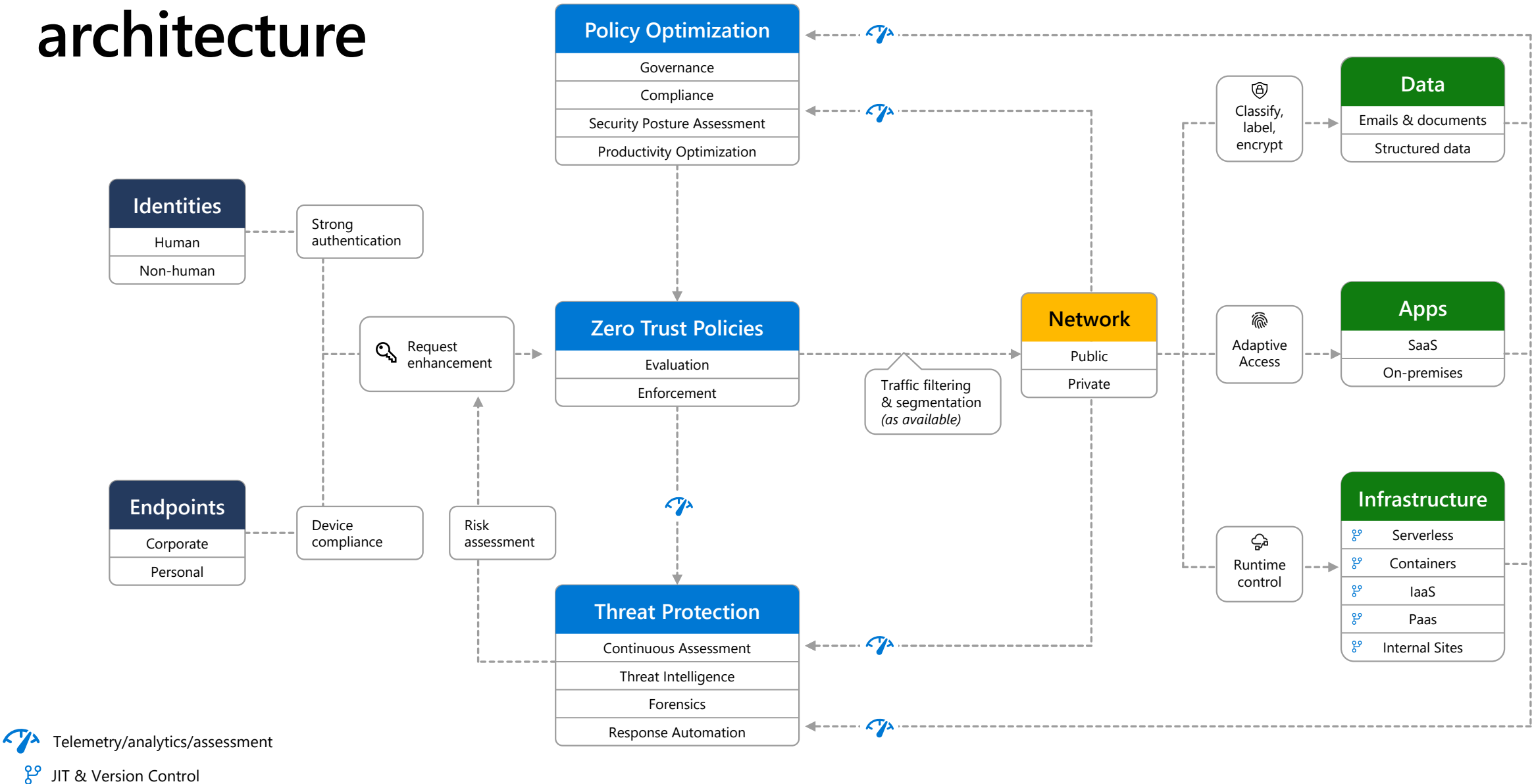
Securing our customers with a Zero Trust approach

Verify explicitly | Use least-privileged access | Assume breach

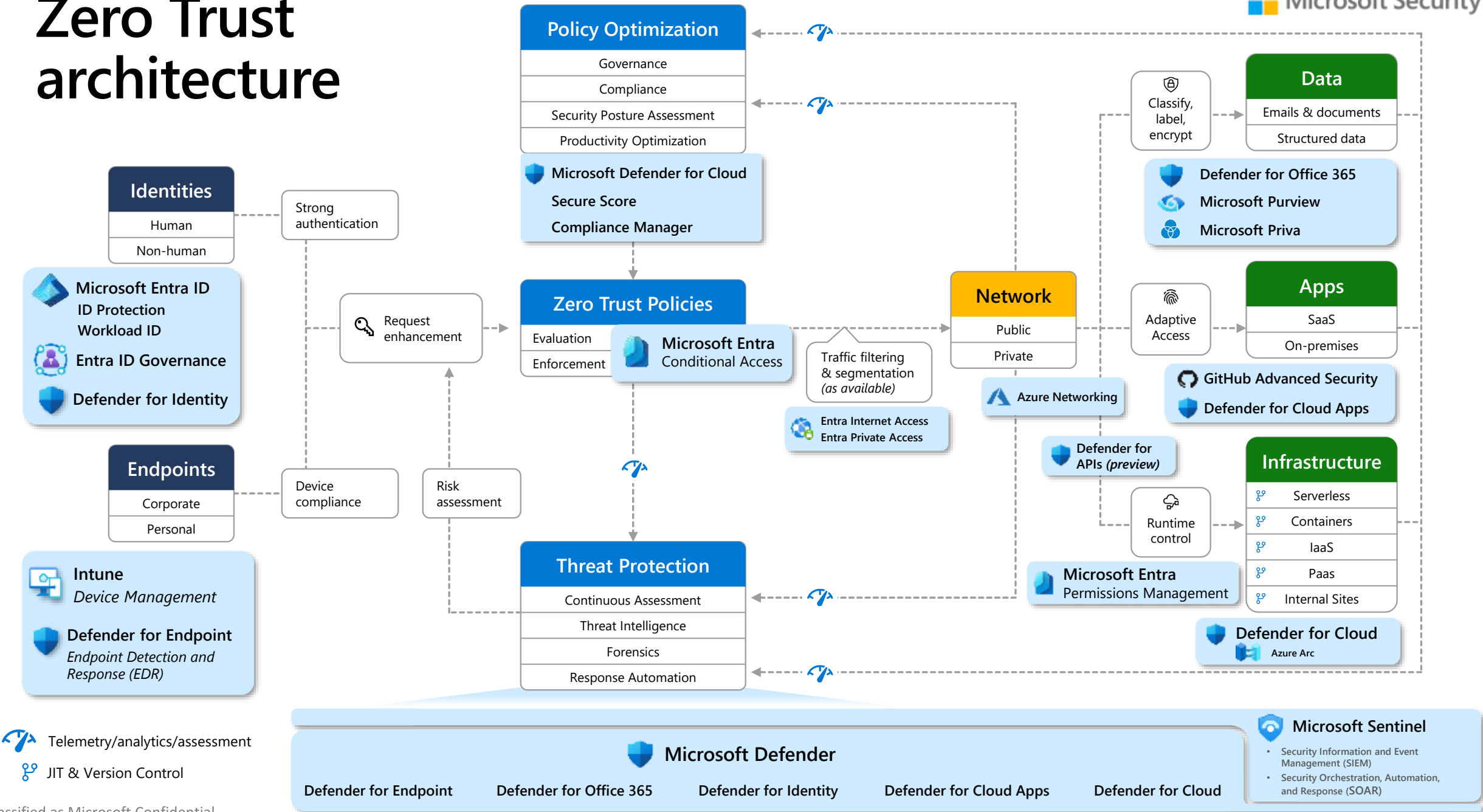


Zero Trust is a proactive mindset that assumes all activity—even by known users—could be an attempt to breach systems.

Zero Trust architecture



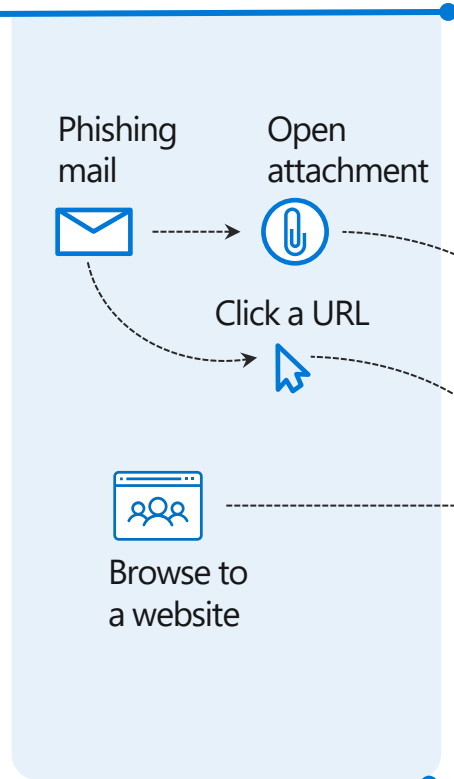
Zero Trust architecture



Microsoft Defender XDR

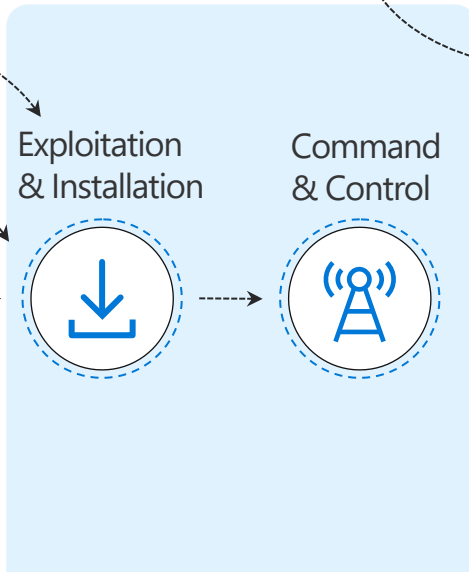
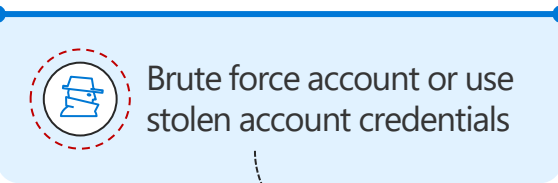
Defender for Office 365

Malware detection, safe links, and safe attachments



Entra Identity Protection

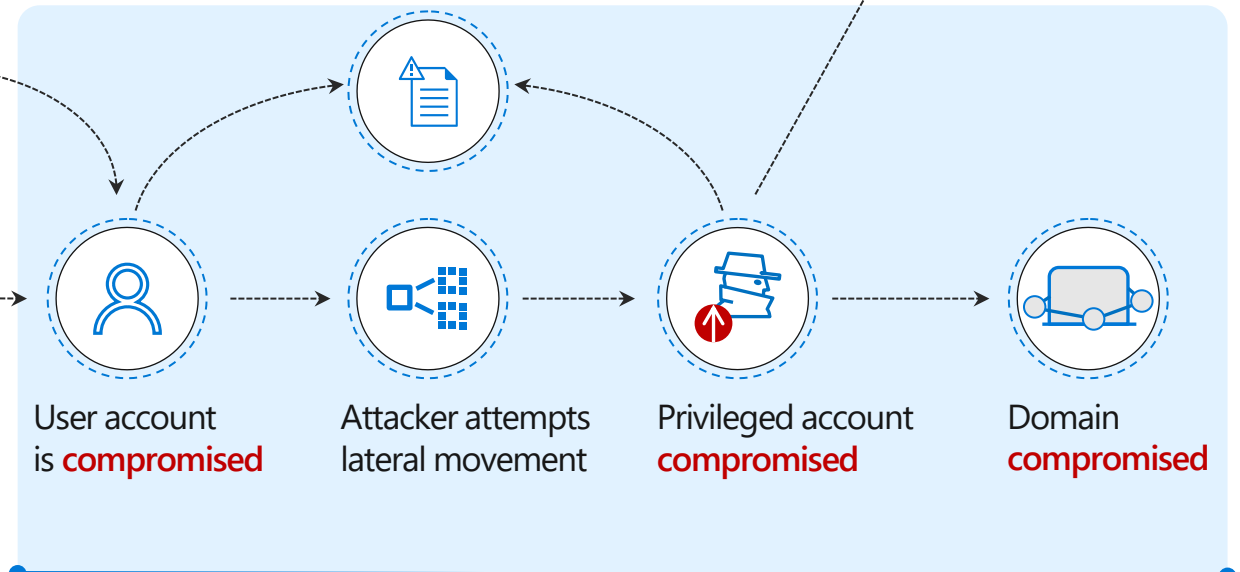
Identity protection & conditional access



Defender for Endpoint

Endpoint Detection and Response (EDR) & End-point Protection (EPP)

Attacker collects
reconnaissance & configuration data

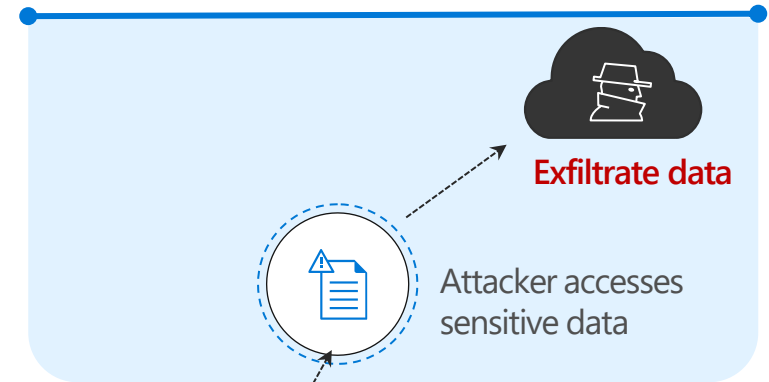


Defender for Identity

Identity protection

Defender for Cloud Apps

Extends protection & conditional access to other cloud apps



Microsoft Entra ID

Protect your users, apps, workloads, and devices.

Multicloud identity and access management



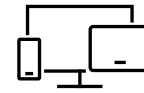
Users



Apps



Workloads



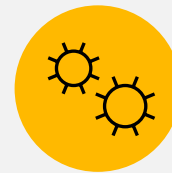
Devices



Secure
adaptive access



Seamless user
experiences



Unified identity
management



Simplified identity
governance

Microsoft Defender for Identity

Protect on-premises identities with cloud intelligence.

Proactive identity posture assessments highlight misconfigurations or strays from best practice to help bolster defenses.

Risky configurations mean lower security

Built-in detections, mapped to MITRE techniques, enable SecOps to detect threats with high confidence in real time.

Detection breadth: Suspicious activities and behaviour analysis

User investigation priority score combines data from cloud and on-premises to highlight users at the highest risk.

User investigation ranking

Integration with Microsoft Defender XDR delivers **full XDR signal**, enabling advanced hunting and comprehensive automatic remediation.

Automated security workflows

Comprehensive capabilities



Proactive identity security posture assessments



Real-time analytics and data intelligence



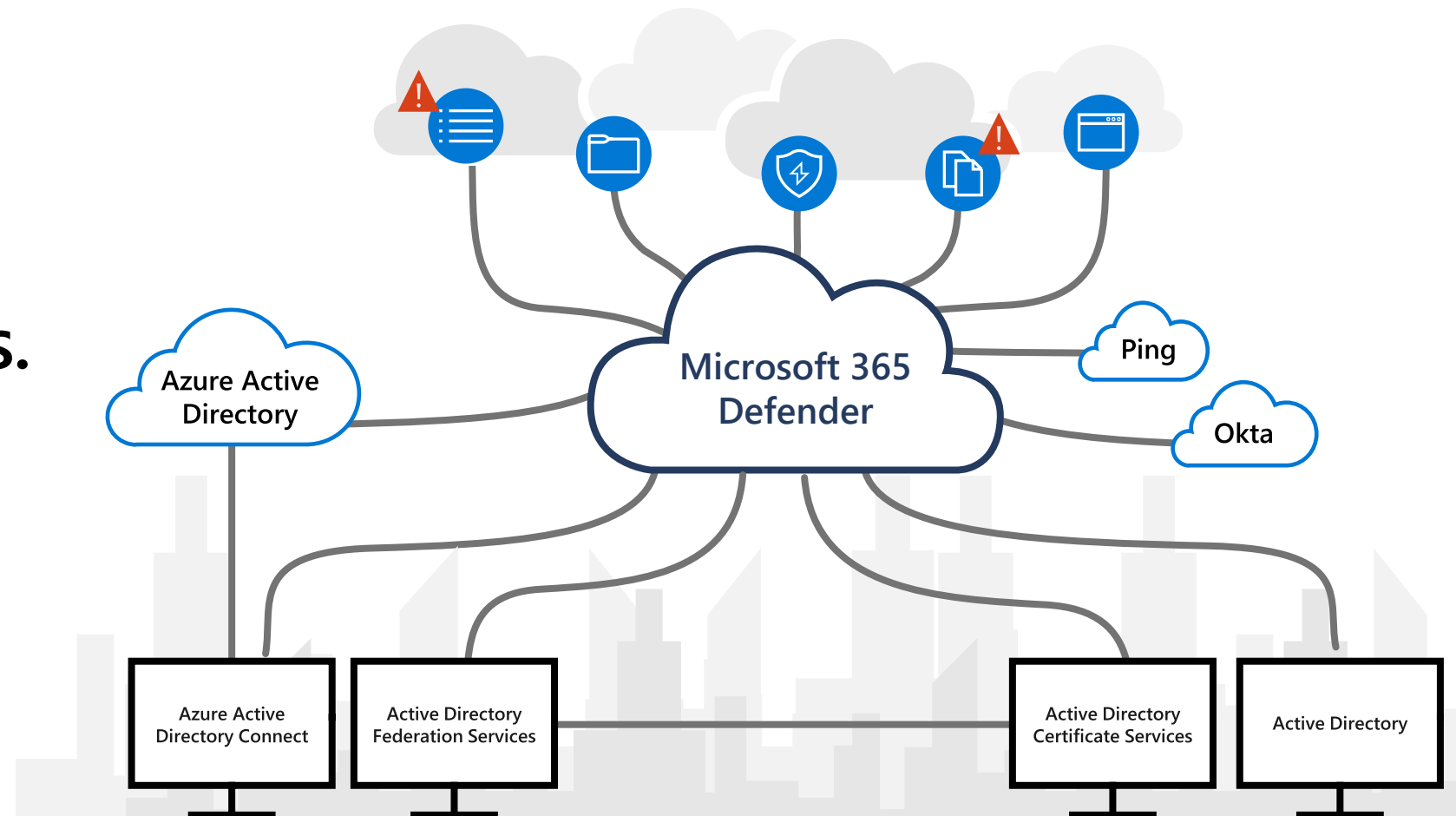
User investigation priority



Automatic response to compromised identities

Use advanced identity detections.

Detect attacks across your identities and identity infrastructure.



Reconnaissance

- Security principal enumeration (LDAP)
- Users group membership enumeration
- Users and IP address enumeration

Credential access

- Brute force attempts (now also detected via AD FS)
- Suspicious VPN connection
- Honeytoken account suspicious activities

Lateral movement

- NTLM Relay and NTLM tampering
- Pass-the-Ticket
- Pass-the-Hash
- Overpass-the-Hash

Persistence

- Golden Ticket attack
- DCShadow, DCSync
- Data exfiltration
- Code execution/service creation on DC & AD FS
- SMB packet manipulation



Endpoint Detection and Response isn't enough



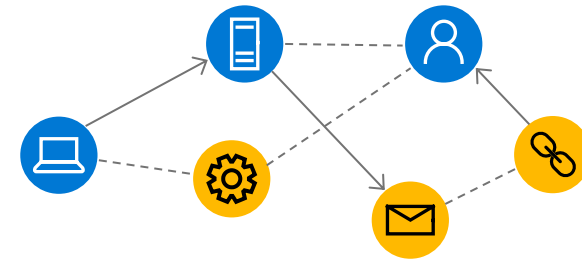
EDR

Endpoint security only

Siloed endpoint alerts

Can only help fend off endpoint-specific attacks and lacks the big picture to help with advanced attacks

VS.



XDR

Holistic security and signal correlation across identity, email, endpoint, cloud app, data loss prevention (DLP) security, and more

Incident-based investigation and response experience

Protects against advanced attacks such as ransomware and business email compromise (BEC)

Microsoft Defender for Endpoint

Delivering end-to-end protection for all your devices.

Coverage that works **across platforms**—from iOS and Android to Linux and macOS to Windows and network devices.

Industry-leading **threat protection** backed by global threat intelligence, proven with **MITRE attack results**.¹

Built in AI and **automation** help identify vulnerabilities and threats while enabling rapid response.

Natively integrates with Microsoft 365 Defender, enabling a **full XDR solution** for more comprehensive protection.

Comprehensive capabilities



Vulnerability
management



Attack surface
reduction



Next-generation
protection



Endpoint detection
and response

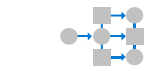


Auto investigation
and remediation

1. Microsoft protects against human-operated ransomware across the full attack chain in the 2022 MITRE Engenuity ATT&CK® Evaluations blog, Rob Lefferts, Corp VP, Microsoft 365 Security

Email - Multi-Layered protection stack

Edge protection



Network throttling



IP reputation/throttling



Domain reputation



Directory-based edge filtering



Backscatter detection



Enhanced filtering for on-prem routing

Sender intelligence



Account compromise detection



DMARC DKIM, SPF, ARC



Intra-org spoof intelligence



Cross-domain spoof intelligence



Bulk filtering



Mailbox intelligence



Mailbox intelligence impersonation



User impersonation

microsoft.com

Domain impersonation

Content filtering



Transport custom rules



AV engines



Type blocking



Attachment reputation blocking



Heuristic clustering



ML models



Tenant allow/block lists



URL reputation blocking



Content heuristics



Safe attachments



Linked content detonation



URL detonation

Post-delivery protection



Safe links



Phish zero-hour auto-purge



Malware zero-hour auto-purge



Spam zero-hour auto-purge



Campaigns



End-user reporting



Office clients



OneDrive/SharePoint



URL detonation

Microsoft Defender for Cloud Apps

Discover and control the use of shadow IT

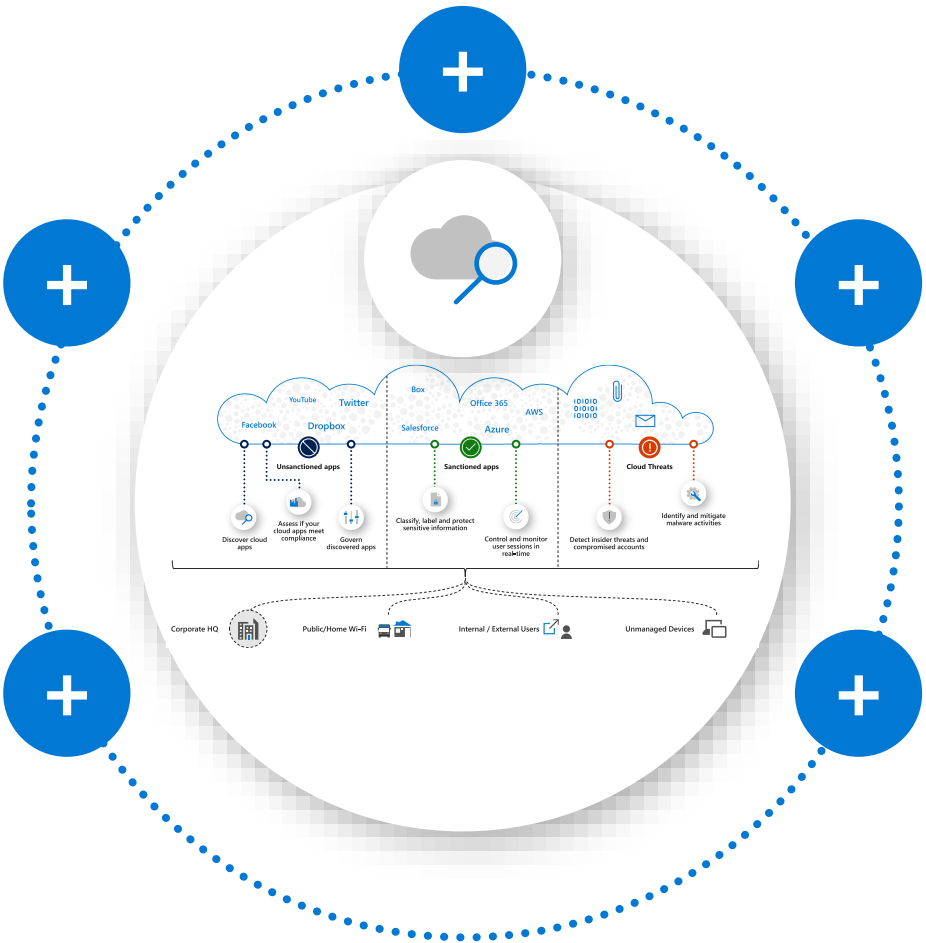
Identify, and assess risk of cloud apps and services used by your organization.

Protect your information anywhere in the cloud

Understand, classify, and protect the exposure of sensitive information—across all your cloud apps.

Secure Access

Secure access, without compromising performance, for any user on any device to any resource.



Protect against cyberthreats and anomalies

Detect unusual behavior, compromised users, or rogue applications and remediate automatically.

Security Posture Management

Investigate security configuration gaps by viewing all cloud platform security recommendations together.

Microsoft Defender for Cloud Apps

SaaS Security Platform

Deep Visibility and Risk Assessment

Natively integrated across the broader Microsoft product stack to deliver unique capabilities

Rooted in supporting any app



Flexible protection across your multi-cloud, multi-platform environments

1. Collect
Gather data from all your
sources with unlimited
cloud speed and scale

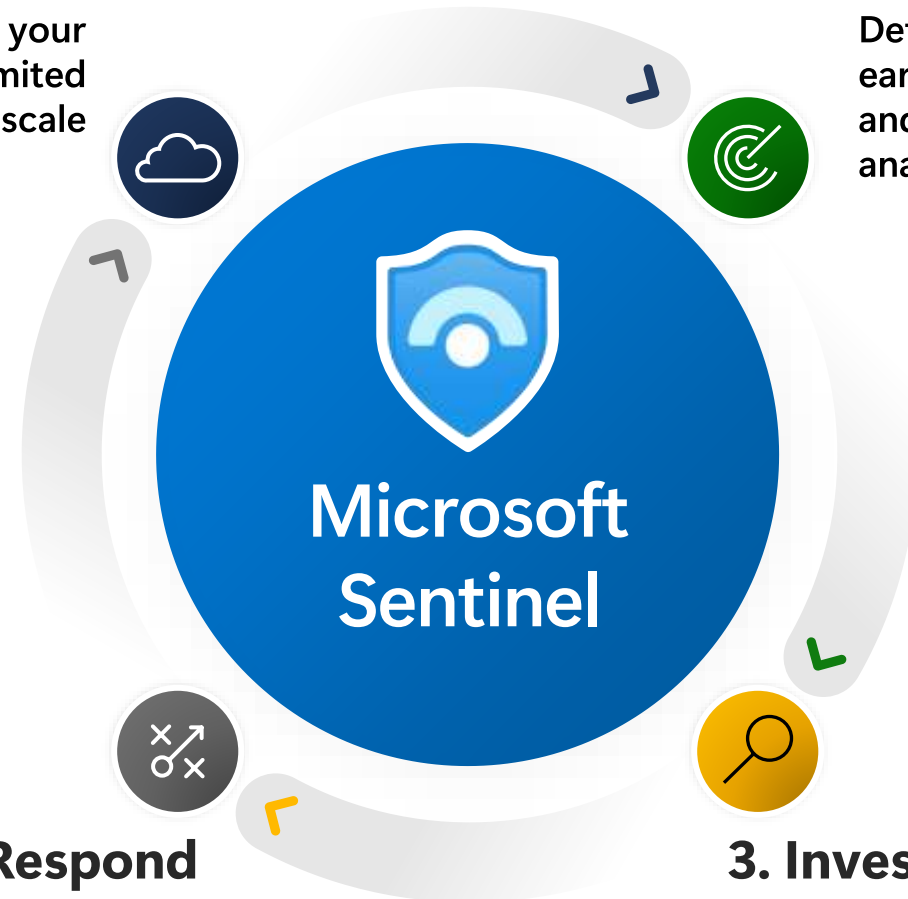


2. Detect
Detect anomalies
early with user entity
and behavior
analytics



3. Investigate
Correlate alerts into
prioritized incidents for
a full picture of attacks

4. Respond
Built in SOAR automation
for rapid response



A real-world story of corporate espionage

Trusted employee, Jane Doe, used stolen proprietary information to start her own company

Suspect: Jane Doe



2012-2018



Principal/Manager
in two Fortune 500
companies for
5.5 years



2021

Convicted felon



Jane collected proprietary info from multiple companies leveraging her privileged title.



She attempted to copy the info to an external hard drive but was blocked by the DLP policy at Company A.



She found a loophole to exfiltrate the proprietary info by uploading them to her personal cloud storage at both companies.



She copied those files from the cloud storage to an external hard drive at Company B.



She was terminated from both companies and her hard drive underwent an authority investigation.



Companies didn't have visibility into sensitive data



DLP didn't flag the repeated offender



The granted collaboration was abused

Jane was convicted and charged with wire fraud, economic espionage, and trade secret theft for collecting trade secret information to apply for foreign government funds and attempting to start her own company.

The intellectual property **cost companies almost \$120 million** to develop.



Data security incidents can happen anytime, anywhere



Data at risk of misuse if organization has no visibility into their data estate

1

User falls prey to phishing attack, compromises user credentials



Data compromise by external threat



2

User copies file to a USB, then uploads to a personal Dropbox



Data theft by malicious insider



3

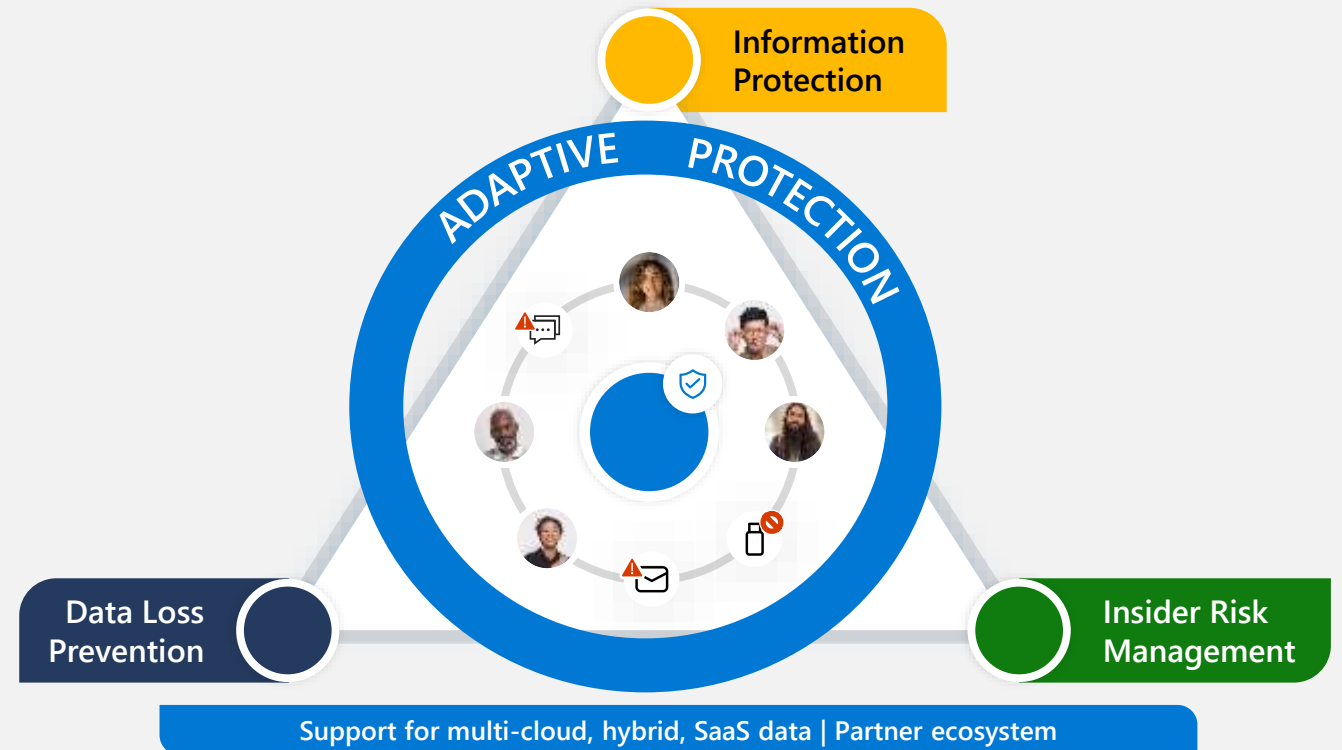
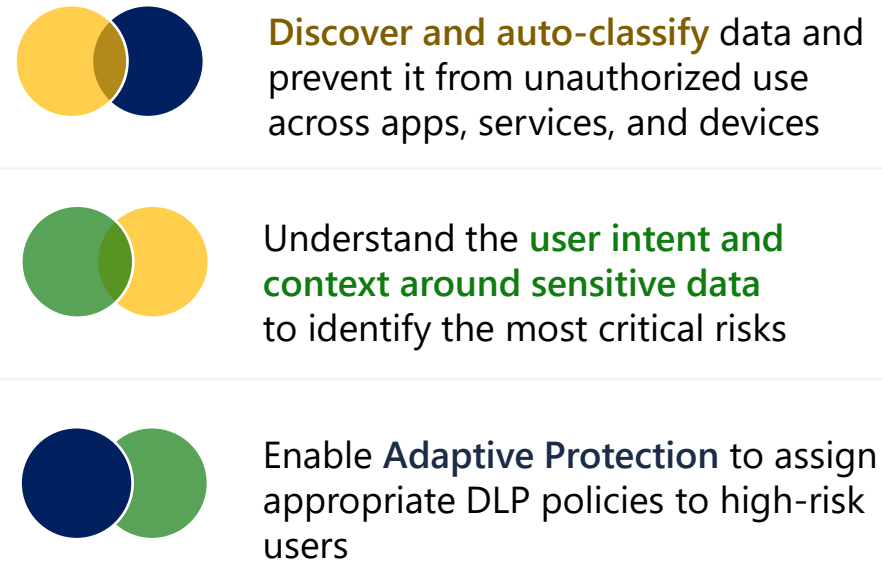
User inadvertently shares the file copy with a few colleagues



Data exposure by negligent insider



Fortify data security with an integrated approach



Adaptive Protection in Microsoft Purview

Optimize data security automatically

Context-aware detection

Identify the most critical risks with ML-driven analysis of both content and user activities

Dynamic controls

Enforce effective controls on high-risk users while others maintain productivity

Automated mitigation

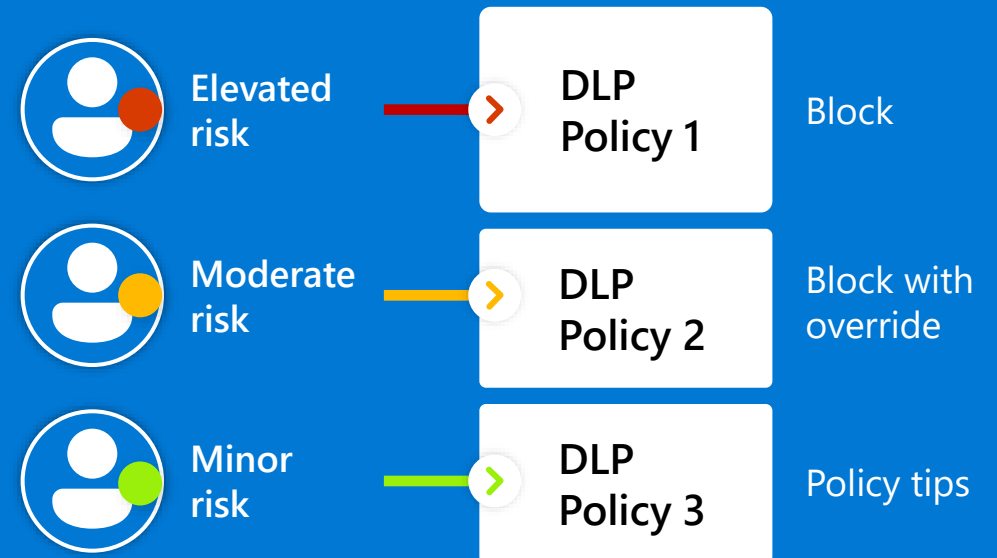
Minimize the impact of potential data security incidents and reduce admin overhead

Insider Risk Management

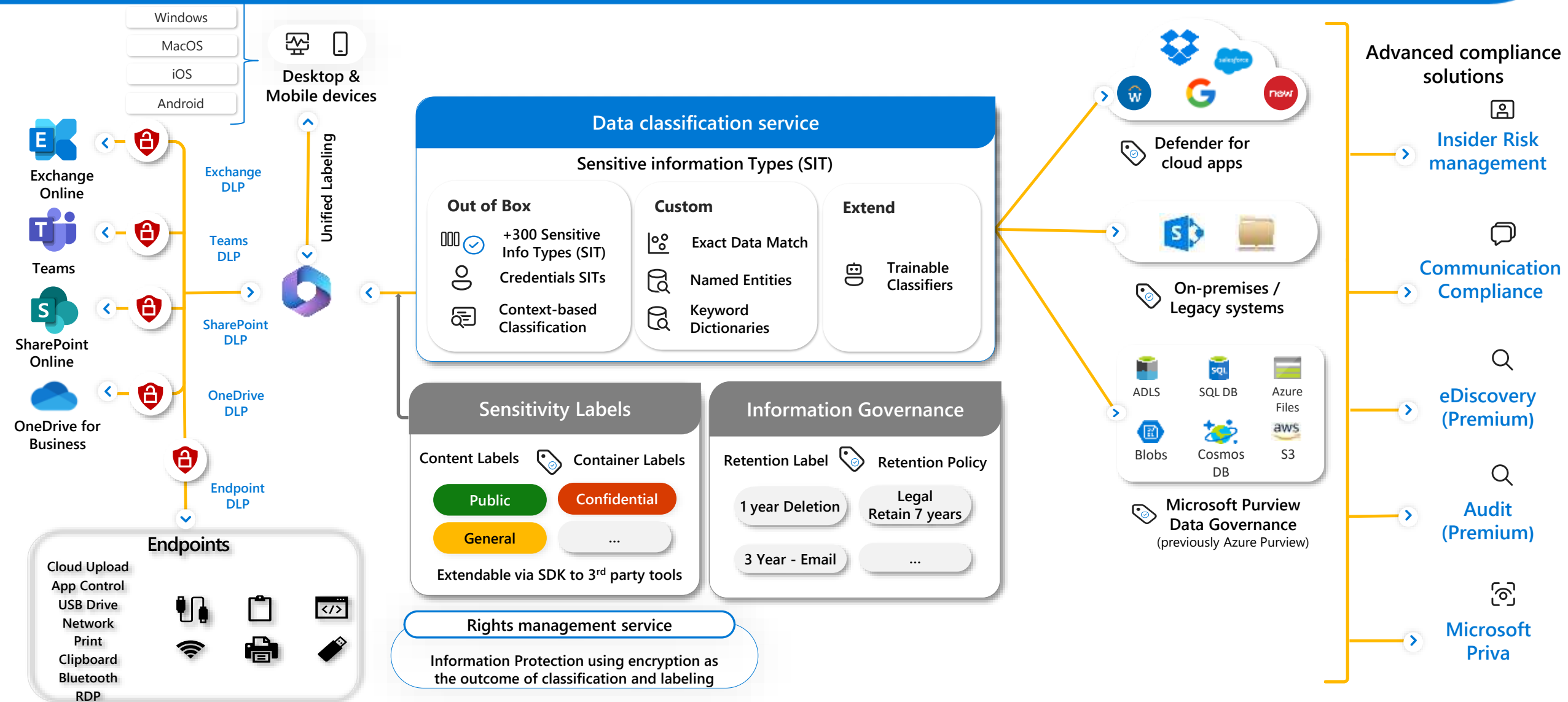
Detect risky users and assign risk levels

Data Loss Prevention

Dynamically apply preventative controls

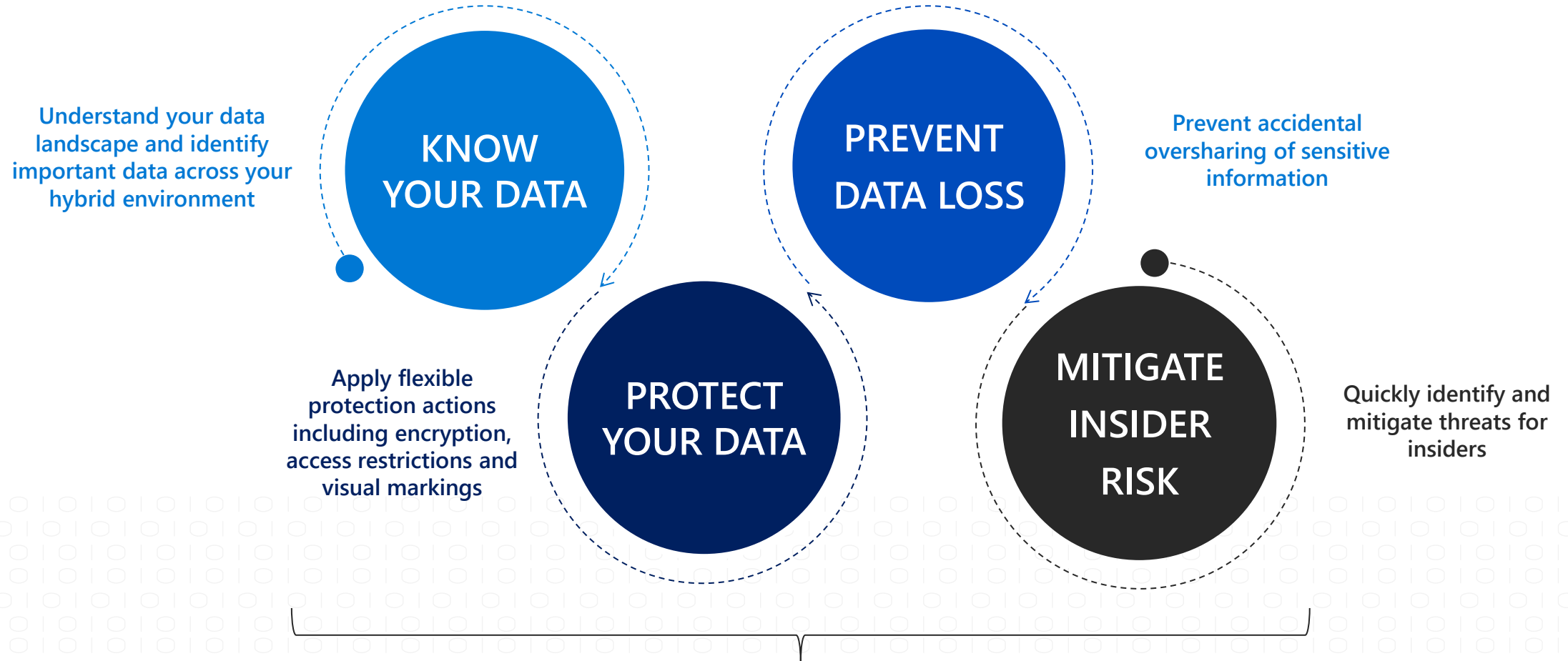


Microsoft Purview Data Security



Data Security

Protecting your digital crown jewels



Powered by an intelligent platform

Unified approach to automatic data classification, policy management, analytics and APIs



Compliance Management

Microsoft offers the most comprehensive set of compliance offerings to help you comply with national, regional, and **industry-specific requirements** (NIST, CJIS, IRS Pub 1075, HIPAA ...)

Data Security & Governance



Information protection

Discover, classify, and protect sensitive and business-critical content throughout its lifecycle across your organization.



Data loss prevention

Detects sensitive content as it's used and shared throughout your organization, in the cloud and on devices, and helps prevent accidental data loss.



Data Lifecycle Management

Manages your content lifecycle using solutions to import, store, and classify business-critical data so you can keep what you need and delete what you don't.



Records management

Uses intelligent classification to automate and simplify the retention schedule for regulatory, legal and business-critical records in your organization.

Risk Management



Insider risk management

Detects risky activity across your organization to help you quickly identify, investigate, and take actions on insider risks and threats.



Communication compliance

Minimizes communication risks by helping you automatically capture inappropriate messages, investigate possible policy violations, and take steps to remediate.

Data Security Posture Management for AI

Provides reports to quickly gain insights into AI use within your organization. One-click policies help you protect your data and comply with regulatory requirements.

Discover & Respond



eDiscovery

Helps respond to FOIL and litigation discovery requests using core and advanced solutions for identifying, preserving, analyzing, and exporting data.



Audit

Records user and admin activity from your organization so you can search the audit log and investigate a comprehensive list of activities across all locations and services.



Privacy Management (Microsoft Priva)

Generates actionable insights on enterprise *personal data* to help you spot issues and reduce risks and to respond to data subject requests.

Fortify data security with Microsoft Purview



Information Protection

- **Discover, classify, and protect** data at scale, using automation and ML
- Productivity tools with built-in **user-selectable sensitivity labels** for precise controls
- Data is **protected (encrypted) across environments**, throughout its lifecycle

Insider Risk Management

- Leverage **analytics, machine learning, sequencing** to understand user context and intent
- Investigate potential incidents with **curated, high-quality, and enriched** alerts and evidence
- Ensure user privacy while identifying **highest risk users**

Data Loss Prevention

- **Prevent unauthorized use**, like improperly saving, storing or printing sensitive data
- Create, deploy, and manage DLP policies **across all cloud, apps, and devices from a single location**
- Leverage data classification, labeling, and user **insights to finetune and adapt DLP policies**

Adaptive Protection

- Dynamically adjust data security controls based on user risk level

Blueprint for securing data by default (4 phases)



Activities

Outcomes

Efforts



Foundational

Start with recommended labels

- Start with **default labels** and protection at **file and site** level
- Turn on data security pre-requisites and adv. Analytics (currently in preview)
- Train users on managing exceptions (make policy tips part of cyber awareness training)
- Turn on DLP for labeled content (Sensitive & Restricted)



M365 new/updated content protected



1 week



Managed

Address files with highest sensitivity

- Manually configure priority sites **default library** labeling
- Autolabeling for credentials and contextual conditions (low hanging fruit to protect city)
- Turn on DLP for content that is **not** labeled (PCI, PHI, PII, IP, IRS, etc)
- Turn on **Adaptive Protection** and data leak behavioral rules (Requires Insider Risk Management)



M365 priority content protected



2 weeks



Optimized

Expand to your entire M365 data estate

- Auto-label sensitive files **on clients** (low thresholds)
- Simulate** auto-labeling sensitive files at rest
- Reduce false positives with advanced classifiers
- Automate and improve M365 protection to historical and in use data (Automatic label policies – SP/OD/EXO)



M365 historical content protected



2 weeks iteration



Strategic

Operate, expand, and retroactive actions

- Operational review** of user labeling behaviors
- Iterate** with new labeling scenarios
- Set up accountability chain and lifecycle management
- Extend protection** to Azure SQL, Fabric, and other non-M365 storage (file shares)



Protection beyond M365



Situational



Let's go back to Jane Doe...

This incident illustrates data protection gaps Microsoft Purview was designed to cover



An insider used stolen proprietary information to start her own company.



Jane Doe



Jane collected proprietary info from multiple companies leveraging her privileged title.



She attempted to copy the info to an external hard drive but was blocked by the DLP policy at Company A.



She found a loophole to exfiltrate the proprietary info by uploading them to her personal cloud storage at both companies.



She copied those files from the cloud storage to an external hard drive at Company B.



She was terminated from both companies and her hard drive underwent an authority investigation.

Microsoft Purview data security



Use built-in ML trainable classifiers in **Information Protection** to discover and auto-label intellectual property. The proprietary information can be protected by encryption and access policies.

Use 100+ ready-to-use indicators and ML models in **Insider Risk Management** data leak/theft polices to detect Jane Doe as a repeat offender and conducted a thorough investigation and take action.

Use **Adaptive Protection** to enforce a block **Data Loss Prevention** policy on high-risk users. Jane's actions to upload files to a cloud storage and copy to a hard drive can be blocked dynamically, while others could work as usual.

Accelerated the investigation with intelligent insights and investigation capabilities in **Insider Risk Management**.

Purview Data Security value map

Outcomes and Strategies

Reduce Risk

- Discover and protect sensitive data throughout its lifecycle
- Better understand user activity context around the data and identify risks
- Prevent data from unauthorized use across apps, services, and devices

Reduce Cost

- Consolidate vendor solutions
- Reduce time to resolve breaches and threats

Financial Impact/KPIs



Risk of data breach



Risk of Data Loss



Understanding of user context and intent



Time to identify, classify and label sensitive data



Time to detect potential suspicious activity



Cost of Data Breach



Cost of Insider Threat



Cost of Compliance and Data Protection Products

Purview Capabilities

Information Protection

Insider Risk Management

Dynamic Data Loss Prevention

ML-driven data classification

Adaptive Protection

Single Management Portal with Collaboration

Microsoft Purview *A5 Compliance Suite* Microsoft

Data Map and Data Catalog

Maximize the business value of data for your consumers by creating a unified map to automate and manage metadata from hybrid sources. Make data easily discoverable and understand the origin of your data with interactive data lineage visualization. **Azure subscription required**

Privacy management *(Add-on feature)*

Generates actionable insights on enterprise personal data to help you spot issues and reduce risks and to respond to data subject requests for GDPR.

Audit (Premium)

Records user and admin activity from your organization so you can search the audit log and investigate a comprehensive list of activities across all locations and services. **(One year log retention, forensic investigation)**

eDiscovery (Premium)

Discover and manage your data in-place with end-to-end workflows for internal or legal investigations.



Compliance Manager

Reduce risk by translating complex regulatory requirements into specific improvement actions that help you raise your score and track progress **(Baseline template + any 3 templates of your choice)**



Information protection

Discover, identify, classify, and protect sensitive data that is business critical, then manage and protect it across your environment. **(Automatic Labeling, CASB Content Explorer, Activity Explorer, Trainable classifiers)**

Data loss prevention

Automatically protect sensitive information from risky and unauthorized access across apps, services, endpoints, and on-premises files. **(also covers Teams, Endpoints, file shares)**

Data Lifecycle Management

Classify and govern data at scale to meet your legal, business, privacy, and regulatory content obligations. **(Automatic retention labels, Adaptive scopes)**

Records management

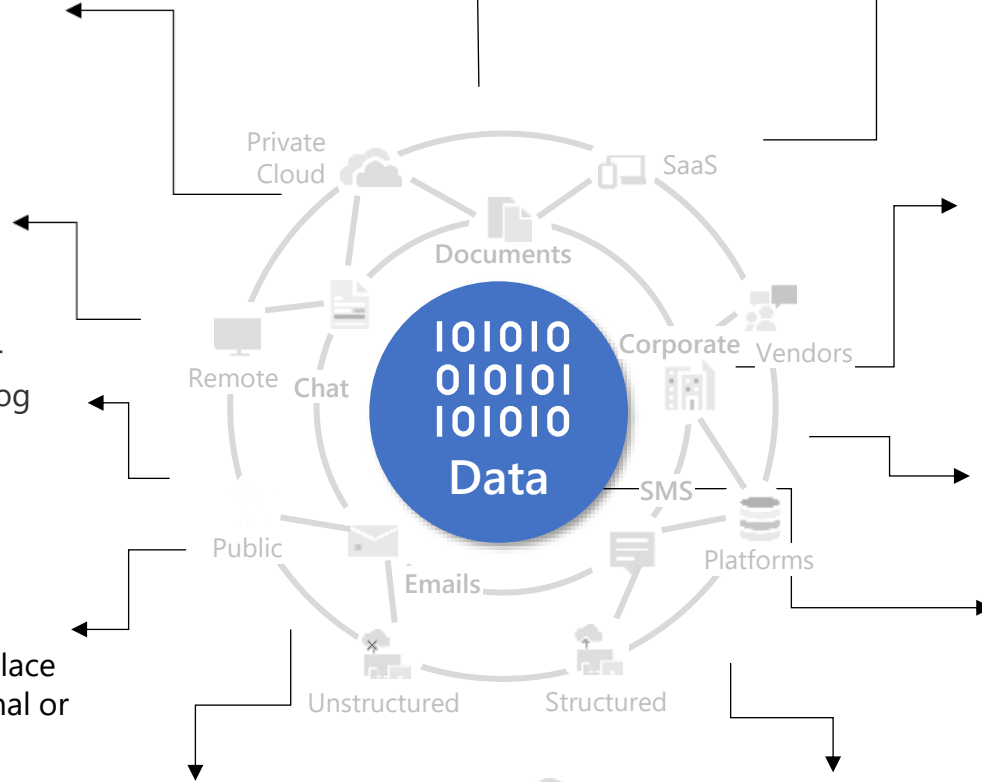
Uses intelligent classification to automate and simplify the retention schedule for regulatory, legal and business-critical records in your organization.

Insider risk management

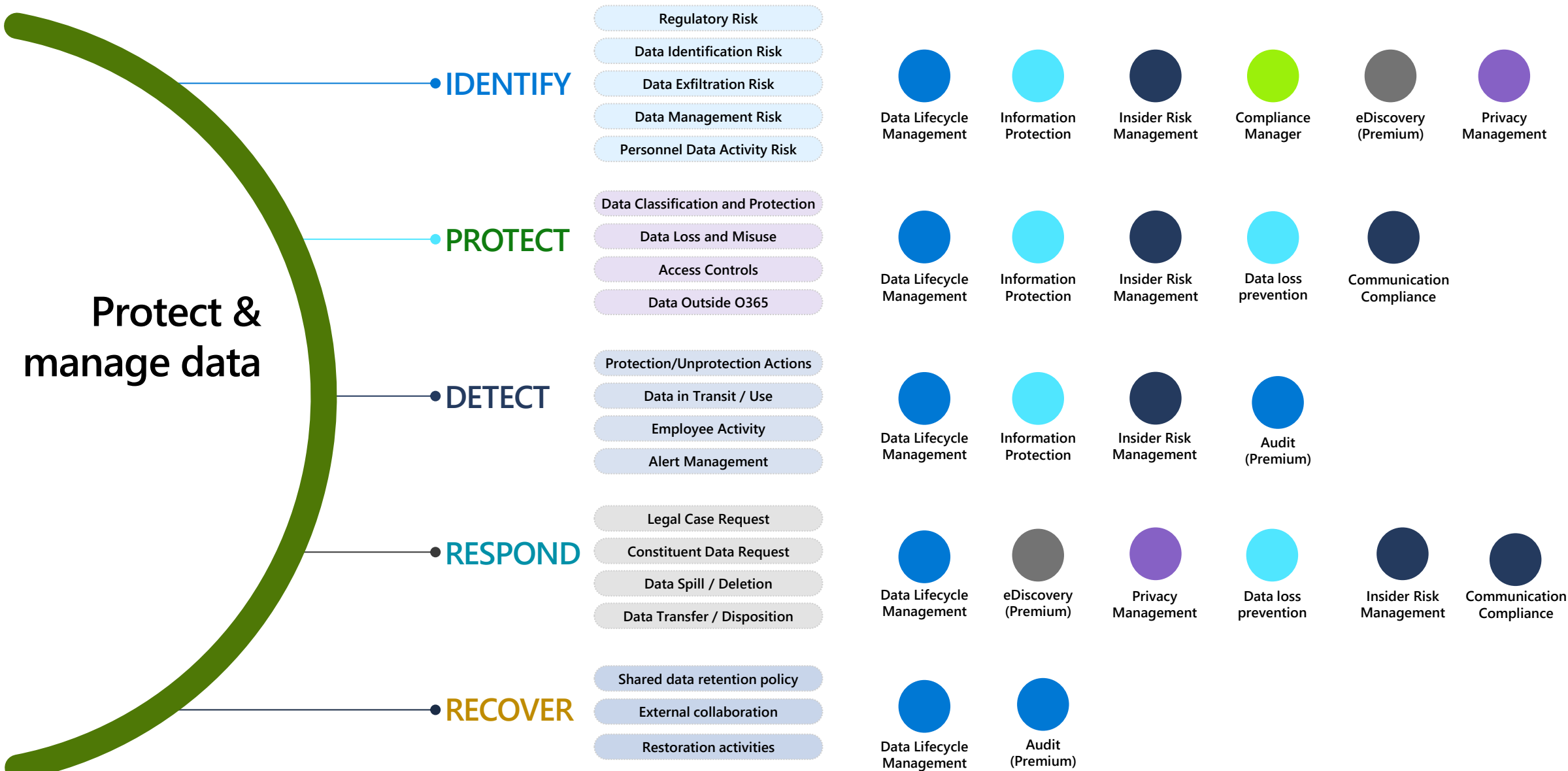
Detect, investigate, and take action on critical risks in your organization, including data theft, data leaks, and security policy violations.

Communication compliance

Reduce risk by translating complex regulatory requirements into specific improvement actions that help you raise your score and track progress.



Map of Microsoft Purview capabilities to NIST Cybersecurity Framework



Summary of M365 A5 Components



Streamline and strengthen

Replace up to 50 disparate products with integrated, end-to-end security.

