VECTRA

EBOOK

Mind Your Attack Gaps

Across identity, network, cloud, and endpoint security

By Lucie Cardiet · Cyberthreat Research Manager

Why I wrote this

A note from the author

I spend my working hours watching what attackers are actually doing, not what vendors claim they're doing, not what last year's threat reports said, not what the category of products we all operate is supposed to catch. What they're actually doing, this week, against environments that look like yours.

What I see consistently is that defenders aren't losing because they under-invested. They're losing because the investments sit in partial effectiveness. Their EDR is working exactly as designed; the attacker is on the identity plane. Their SIEM is ingesting every log; and the attack is visible only in the correlation between logs. Their IAM is approving every policy-compliant login; the person on the other end isn't the employee whose credentials they're using.

This is the second edition of what I first wrote in 2025. What's new: two additional campaigns (Volt Typhoon and AWS compromised by AI agents in eight minutes), IDC's 2025 measured outcomes from running Vectra AI, a section on the regulatory pressure making continuous detection a compliance question, and a self-assessment at the end.

Read it with a pen. Tell me what you'd cut.

Lucie Cardiet

Enterprise networks outgrew their security architecture.

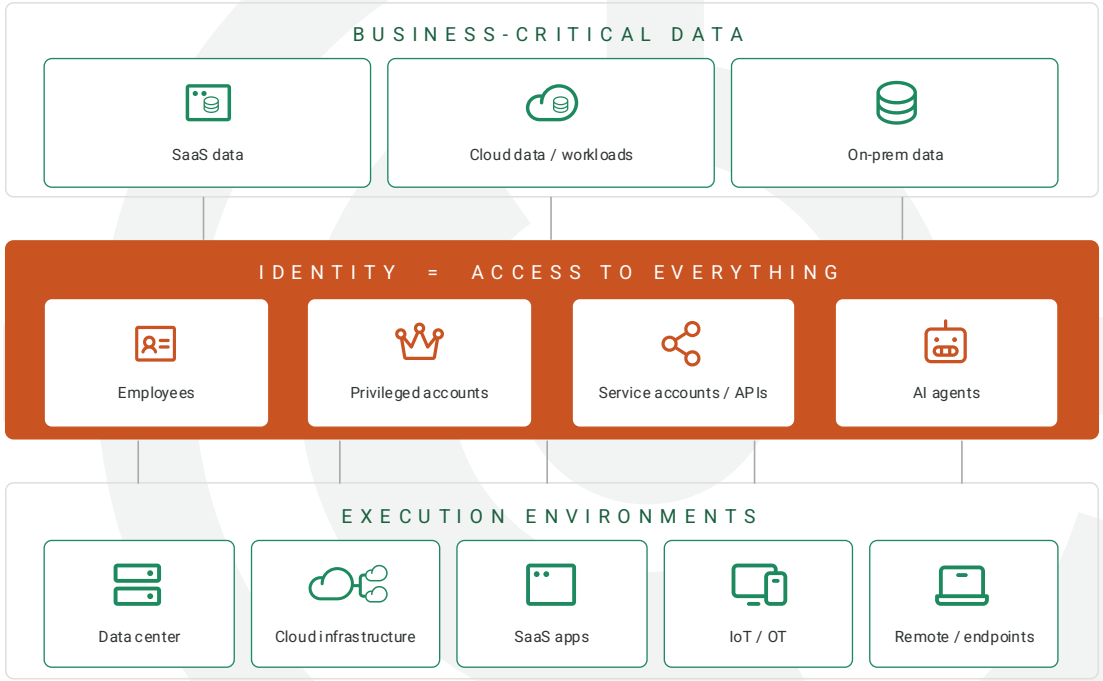
Today's enterprises no longer live behind a single perimeter

Enterprise environments span on-prem infrastructure, multiple public clouds, dozens of SaaS applications, identity providers, IoT and OT systemsAI services, and the autonomous agents acting on top of them. Those domains aren't independent, they're a single connected system.

- ✓ Your EDR watches endpoints.
- ✓ Your IAM approves logins.
- ✓ Your CSPM reads configurations.
- ✓ Your SIEM stores logs.

Each is doing its job.

Attackers, increasingly with AI assistance, have spent the last three years learning to move between them, in the spaces no single tool was built to watch.



The network has evolved. So have the attackers.

Your stack is strong, but is it complete?

By all appearances, you've built a strong security stack.

- You've invested in the best security technologies available today.
- You have endpoints protection on every device.
- You have tools monitoring your network.
- Your cloud posture management tools are properly scanning your configurations.
- You've strengthened identity management with IAM or PAM.

And yet, attackers can and are still getting through.

Not because your tools are broken. Because each tool was designed to own its domain, and attackers now operate between them.

Attackers aren't breaking your tools. They're bypassing them.

The reality is: modern attackers don't fight your stack. They avoid it.

Identity abuse
Compromised credentials are the initial access vector in 22% of breaches.[1] 88% of basic web-application attacks involve stolen credentials.[1]

Lateral movement
They move laterally without triggering alerts. Average eCrime breakout time – the gap between initial access and the first lateral pivot – has fallen to 29 minutes.[2]

Cloud privilege abuse
Valid-account abuse now accounts for 35% of cloud incidents.[2]

Between-tool operation
They hide in the gaps between tools, in spaces no single system was built to watch.

Alert-noise exploitation
They operate below your thresholds, knowing your SOC can't investigate everything.

Cross-domain speed
MFA blocks >99% of identity attacks, but adversaries increasingly log in via stolen tokens, consented OAuth apps, device-code flows, and adversary-in-the-middle proxies.[3]

AI-accelerated recon
Attacks by AI-enabled adversaries rose 89% year-over-year. In 2025, attackers exploited legitimate GenAI tools at 90+ organizations to generate credential-theft commands.[2]

[1] Verizon DBIR 2025. [2] CrowdStrike 2026 Global Threat Report. [3] Microsoft Digital Defense Report 2025.

Best-in-class tools don't equal complete coverage.

While each of your investments reduces risk in its specific area, they leave gaps in visibility and detection between tools. The 2026 numbers tell the story:

- 82% of intrusion detections in 2025 were malware-free. Attackers operated using valid credentials, trusted identity flows, and approved SaaS integrations.[1]
- Breaches involving multiple environments cost $5.05M on average, 25% more than on-prem-only breaches.[2]
- Average attacker breakout time has fallen to 29 minutes, with the fastest observed at 27 seconds.[1]

[1] CrowdStrike 2026 Global Threat Report. [2] IBM Cost of a Data Breach Report 2025.

The pattern isn't new. It's the new normal.

This ebook is designed to help you map those gaps, and show you where Vectra AI fits and how Vectra AI closes them.

Table of contents

Coverage overview 9
The Security Gap illustration 10
Anatomy #1: Scattered Spider: the helpdesk playbook 11
Anatomy #2: Volt Typhoon: the living-off-the-land playbook 12
Anatomy #3: AWS compromised by AI agents in eight minutes 13
Endpoint security 15
EDR – deep on the host, but nowhere else 16
EPP – blocks known malware, blind to everything else 17
The endpoint security gap 18
How Vectra AI fills the endpoint security gap 18
Cloud security 19
CASB – blocks unsanctioned apps, but misses active abuse 20
CSPM – finds misconfigurations, not malicious behavior 21
CWPP – protects workloads, if you deploy it everywhere 22
CNAPP – consolidates controls, still misses behavior 23
CIEM – manages entitlements, not behavior inside them 24
SASE – controls access, but not what happens after 25
The cloud security gap 26
How Vectra AI fills the cloud security gap 26
Network security 27
Email Security – stops spam, not social engineering 28
Firewalls – control the edge, not what happens inside 29
IDPS – detects signatures, not stealth 30
NAC – decides who can connect, not what they do after 31
SSE – the modern perimeter, with the old gaps 32
The network security gap 33
How Vectra AI fills the network security gap 33
Identity security 34
IAM – prevents unauthorized access, not abused access 35
PAM – protects privileged accounts, if you know who's privileged 36
UEBA – scores risk, but can't see in real time 37
The identity security gap 38
How Vectra AI fills the identity security gap 38
Regulatory pressure: detection is now the evidence 39
Conclusion 40
Vectra AI's Business Value – IDC outcomes 42
Self-assessment: which gaps are exposing you? 44

Coverage overview

The Security Gap illustration, plus three named campaigns that exploit it.

The Security Gap illustration

Your existing stack: no combination provides continuous detection across the entire hybrid infrastructure. Each tool stops short at key stages.

		Initial Access	Execution	Persistence	Privilege Escalation	Defense Evasion	Credential Access	Discovery	Lateral Movement	Collection	Command and Control	Exfiltration	Impact
ENDPOINT	EDR	●	●	●	●	●	●	●	●	●	●	●	●
ENDPOINT	EPP	●	●	○	○	○	○	○	○	○	○	○	○
CLOUD	CASB	●	○	○	●	○	●	○	○	●	○	●	○
CLOUD	CNAPP	●	●	●	●	●	●	●	●	●	●	●	●
CLOUD	CSPM	○	○	○	●	○	●	○	○	○	○	○	○
CLOUD	CWPP	●	●	●	●	○	○	●	○	●	●	○	●
CLOUD	SASE	●	○	○	○	○	○	○	●	○	●	●	○
NETWORK	Email	●	○	○	○	○	○	○	○	○	○	○	○
NETWORK	Firewalls	●	○	○	○	○	○	●	○	○	●	●	○
NETWORK	IDPS	●	○	○	○	○	○	●	●	○	●	●	○
NETWORK	NAC	●	○	○	○	○	○	○	○	○	○	○	○
NETWORK	SSE	●	○	○	○	○	○	○	●	○	●	●	○
IDENTITY	IAM	●	○	○	●	○	○	○	○	○	○	○	○
IDENTITY	PAM	○	○	○	●	○	●	○	○	○	○	○	○
IDENTITY	UEBA	●	○	●	●	●	●	●	●	○	○	●	○
Vectra AI Platform		●	●	●	●	●	●	●	●	●	●	●	●

● Partial visibility ● Full visibility ○ No visibility

Three gaps every stack has right now.

Not coverage gaps. Execution gaps. Controls that exist but don't detect.

1. Nothing looks wrong.

The attacker's tools are your tools. Remote desktop. PowerShell. A signed binary. Living-off-the-land binaries your own sysadmins use at 2am. Each individual action looks like normal operations.

2. Authentication succeeds.

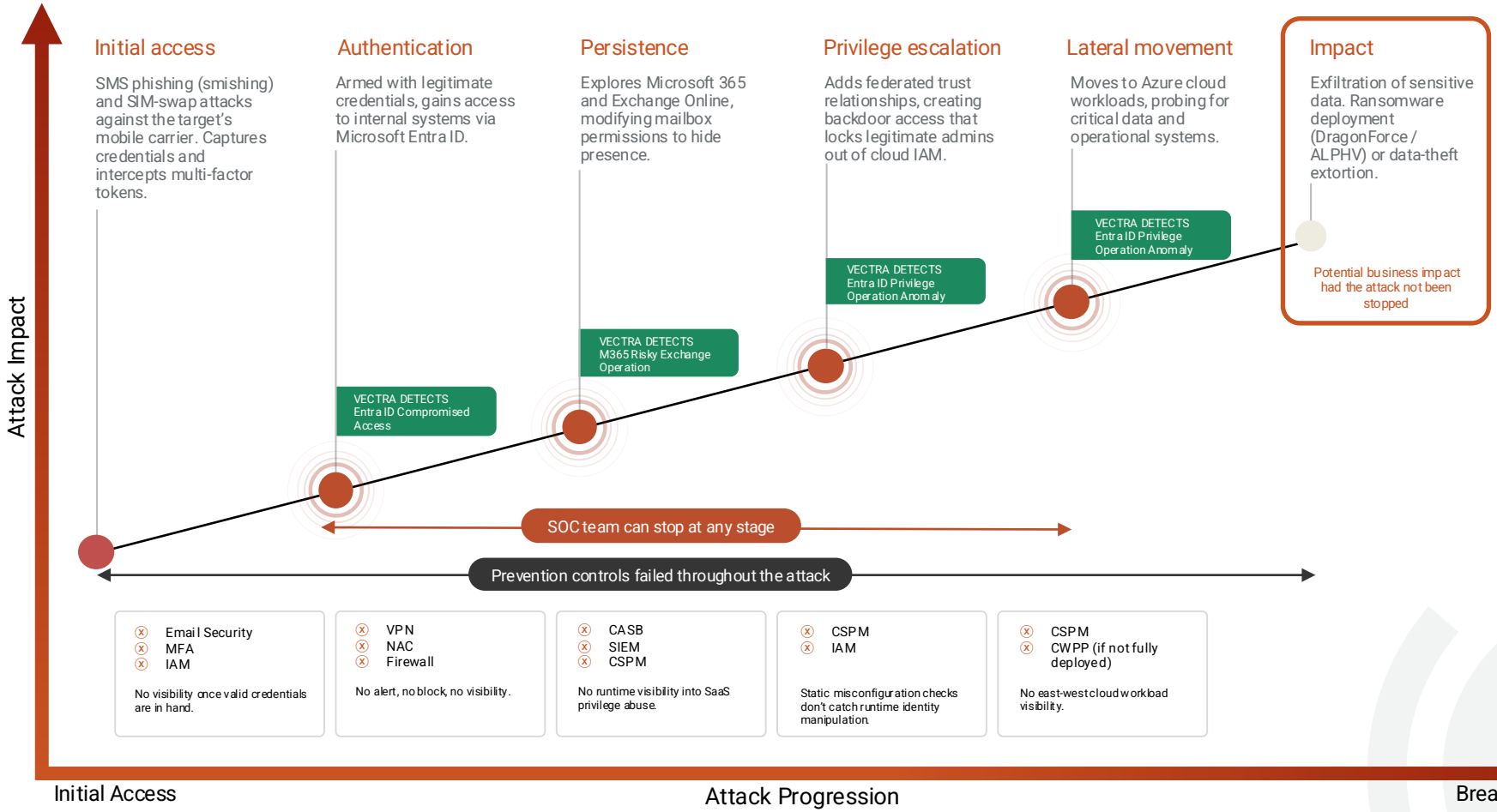
Valid credentials, MFA approved, the login is real. It's just not the person you think. Every authentication check says yes. The truth is that the valid user isn't actually the user.

3. Movement isn't visible.

Once inside, lateral movement happens through trusted integrations: SaaS-to-SaaS, federated identity, OAuth tokens, service accounts. EDR doesn't see it. CASB doesn't see it. The movement is invisible by architecture, not by stealth.

Scattered Spider: the helpdesk playbook

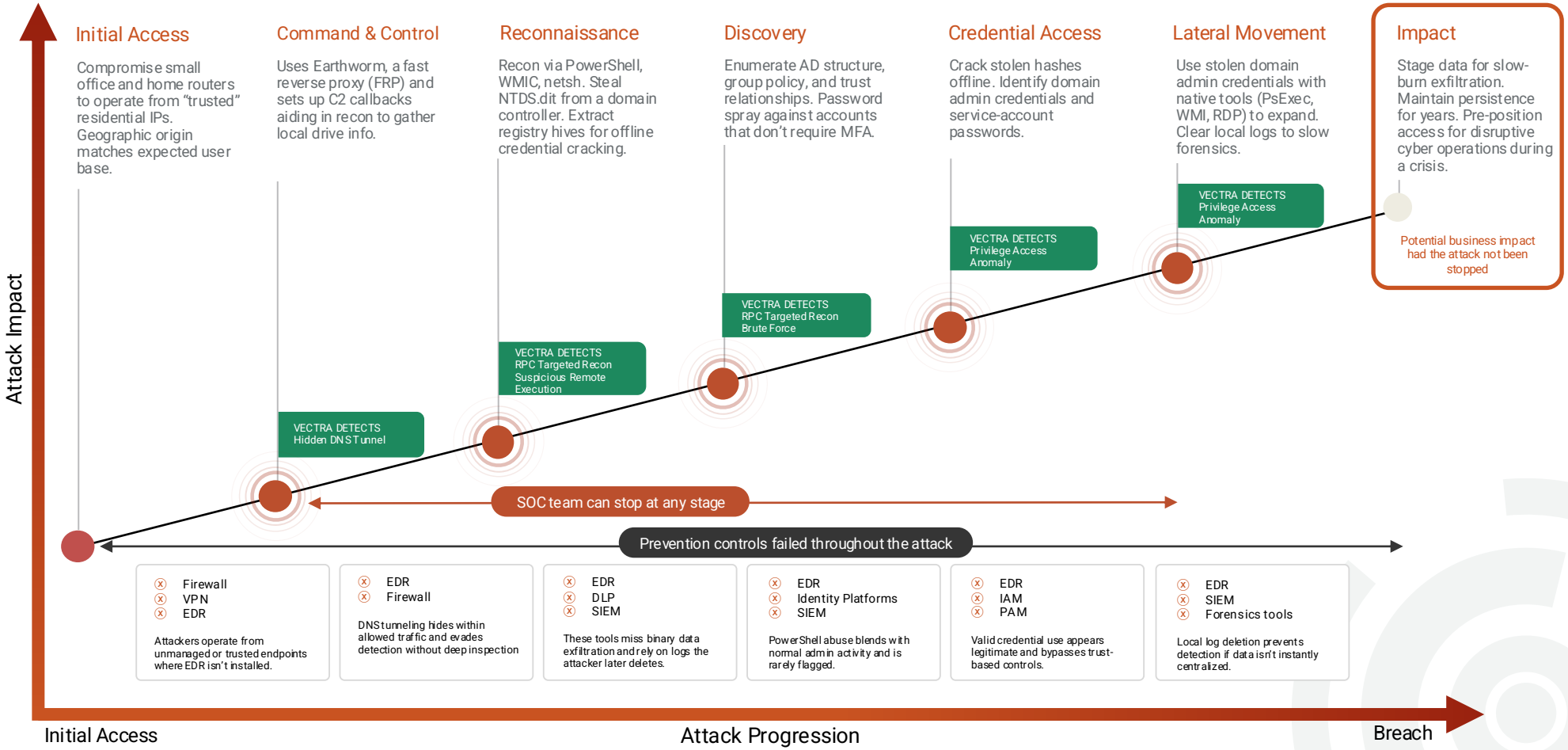
Scattered Spider (UNC3944) illustrate perfectly the reason why “valid credentials” became a detection problem. The group didn’t exploit vulnerabilities. They called the helpdesk.



Sources: Mandiant UNC3944 reporting (2023–2024); CISA Advisory AA23-320A on Scattered Spider TTPs.

Volt Typhoon: the living-off-the-land playbook

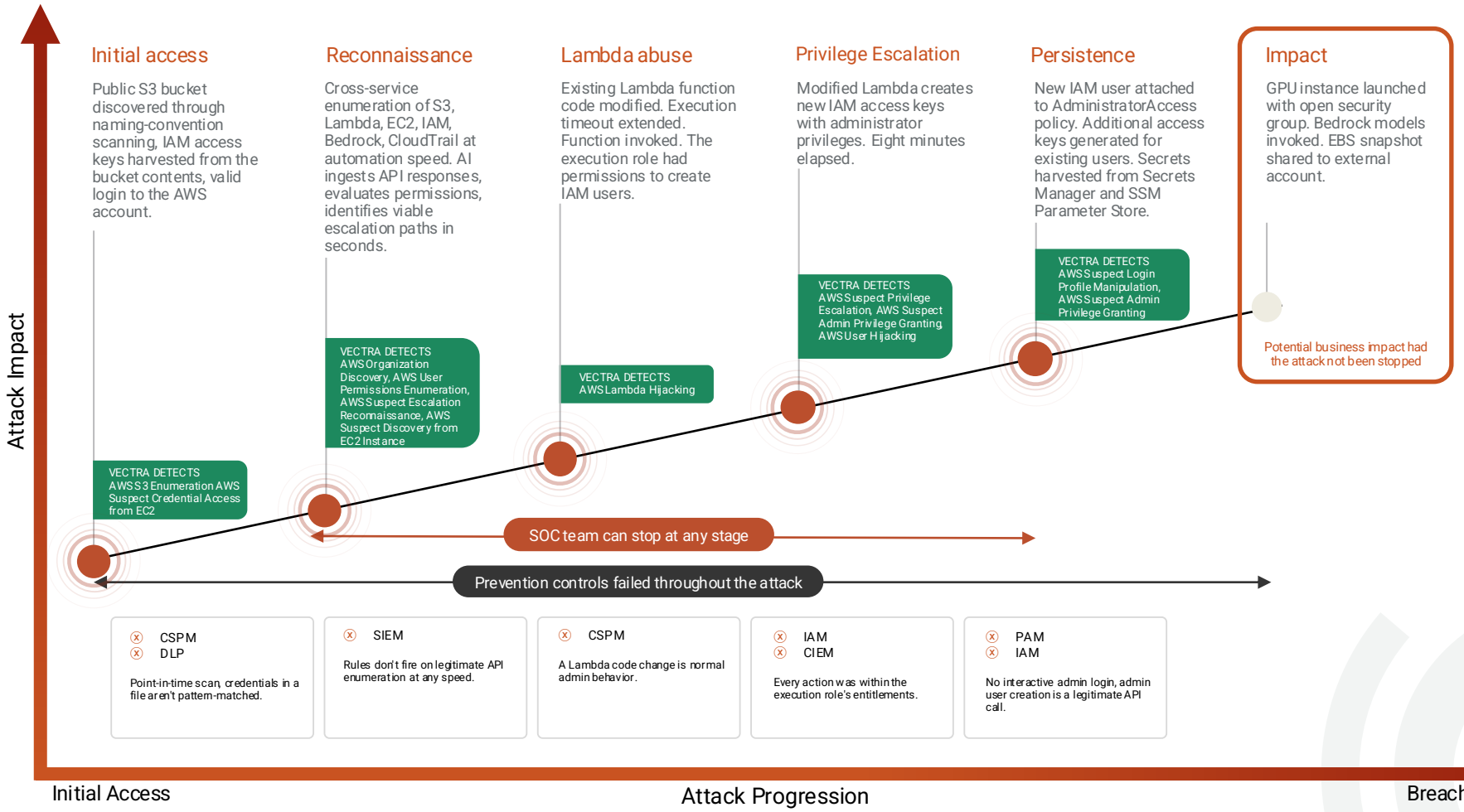
Volt Typhoon is the PRC-attributed campaign that taught U.S. defenders what "living off the land" actually looks like. The February 2024 CISA/NSA/FBI advisory documented operators sitting inside critical-infrastructure networks for up to five years using only native Windows tools, with no malware to flag.



Sources: CISA/NSA/FBI joint advisory AA24-038A (Feb 2024); Microsoft Threat Intelligence "Volt Typhoon targets US critical infrastructure with living-off-the-land techniques" (May 2023)..

AWS compromised by AI agents in eight minutes.

Sysdig-documented intrusion (2025). Valid credentials. Native AWS services. Machine-speed reconnaissance.



Sources: Sysdig threat-research blog (2025); MITRE ATLAS valid-account abuse and cloud service discovery techniques.

Why your existing stack leaves you blind.

Three different attackers. Three different years. Three different entry points. Every attack looked legitimate end-to-end inside any single tool. Only across the network, the identity plane, and the cloud control plane does attacker intent become visible.

It's easy to assume that with your investment in firewalls, EDR, CASB, CSPM, IAM, and SIEM, you've closed the gaps. The truth is these tools weren't designed to detect attacker behavior across hybrid environments, and the data shows it.

82%

of intrusion detections in 2025 were malware-free.

CrowdStrike 2026 Global Threat Report

32%

surge in identity-based attacks in the first half of 2025.

Microsoft Digital Defense Report 2025

241 days

to identify and contain a breach. 292 when stolen credentials are involved.

IBM Cost of a Data Breach Report 2025

In the following sections, we break down exactly where each part of your stack falls short, and show you how Vectra AI closes these gaps across network, cloud, SaaS, and identity.

VECTRA

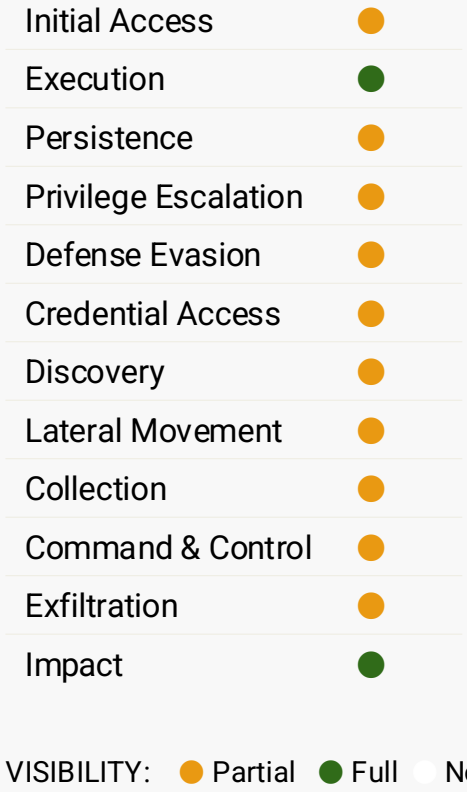
MIND YOUR ATTACK GAPS

Endpoint security

Why EDR and EPP are not enough on their own.

EDR: deep on the host, but nowhere else.

Endpoint Detection and Response offers detailed telemetry where it's deployed.



EDR goes further than prevention, offering detailed telemetry and analytics for processes, registry changes, and local activity. It's powerful where it's installed. The 2025 reality: 82% of intrusion detections were malware-free.[1] Attackers operating with valid credentials inside trusted sessions, where EDR has nothing to flag.

HOW ATTACKERS BYPASS

- Avoid the endpoint entirely by operating in cloud consoles or SaaS apps.
- Exploit coverage gaps. EDR only sees hosts where it's installed.
- Move through unmanaged or BYOD devices that don't run an agent.
- Use valid credentials to perform activity that appears "normal" to EDR.

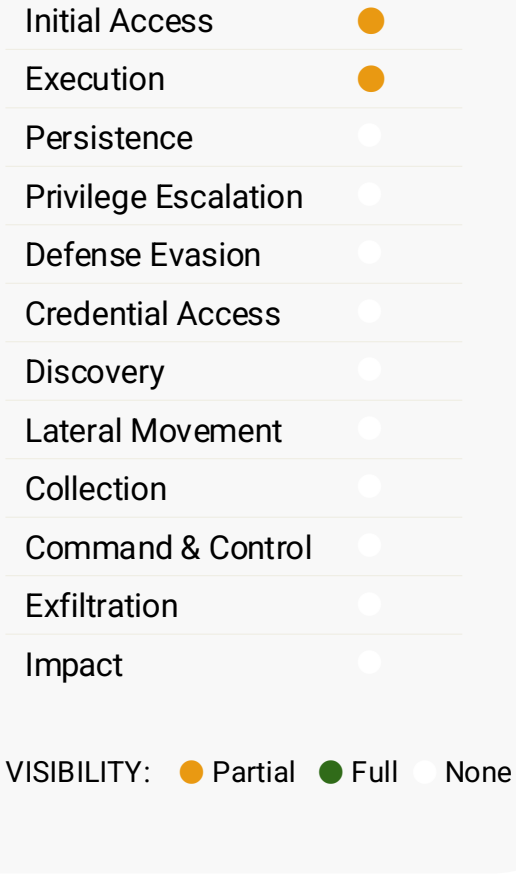
EDR has no visibility into cloud-native attacks, identity abuse, or SaaS activity.

Three of the four most exploited vulnerabilities in 2024 were zero-days in security products themselves: Palo Alto, Ivanti, Fortinet.[2]

[1] CrowdStrike 2026 Global Threat Report. [2] Mandiant M-Trends 2025

EPP: blocks known malware, blind to everything else.

Endpoint Protection Platforms prevent execution of known threats.



EPPs use signatures, heuristics, and basic sandboxing. Modern EPP (NGAV) adds behavioral detection and ML fileless analysis, but remains endpoint-scoped and blind to cross-domain attacker movement.

HOW ATTACKERS BYPASS

- Use fileless malware or careful staging to evade behavioral detection.
- Exploit zero-days or newly crafted binaries that don't match signatures.
- Operate through legitimate tools (PowerShell, WMI, RDP) that EPP can't reliably distinguish from admin activity.

EPP can't reliably detect living-off-the-land or credential-based attacks.

Even modern EPP with behavioral detection is endpoint-scoped. Cloud-console operations, identity-plane pivots, and SaaS-to-SaaS movement are invisible by design.

The endpoint security gap and how Vectra AI fills it.

THE ENDPOINT SECURITY GAP

EDR and EPP are foundational, but they only cover part of the kill chain.

They miss:

- Identity-based attacks that use valid credentials in Microsoft 365 or Microsoft Entra ID.
- SaaS privilege abuse that doesn't touch the endpoint (mailbox delegation, OAuth abuse).
- Lateral movement across cloud workloads, unmanaged devices, or federated identity systems.
- Network-based reconnaissance and exfiltration over encrypted or non-HTTP channels.

Even on endpoints, EPP often misses sophisticated behaviors, and EDR doesn't always detect account misuse if no malware is involved.

WHAT VECTRA AI ADDS

- Identity Threat Detection for compromised accounts abusing SaaS and cloud services.
- SaaS Misuse Detection in Microsoft 365, Exchange Online, and Microsoft Entra ID — even when no malware is involved.
- Hybrid coverage that extends from endpoints to cloud, network, and identity.
- Integrates with CrowdStrike, Microsoft Defender for Endpoint, SentinelOne, and other EDR platforms.

VECTRA

MIND YOUR ATTACK GAPS

Cloud security

The hybrid cloud blind spot.

CASB: blocks unsanctioned apps, but misses active abuse.

Enforces policies across SaaS. doesn't see attackers in valid sessions.

Initial Access	Partial
Execution	None
Persistence	None
Privilege Escalation	Partial
Defense Evasion	None
Credential Access	Partial
Discovery	None
Lateral Movement	None
Collection	Partial
Command & Control	None
Exfiltration	Partial
Impact	None

VISIBILITY: Partial Full None

CASBs enforce policies via API or inline proxy modes. In API mode (the common deployment), they see activity near-real-time with minutes of lag. Either way, CASBs operate above the network and identity planes, blind to what attackers do once a valid session exists.

HOW ATTACKERS BYPASS

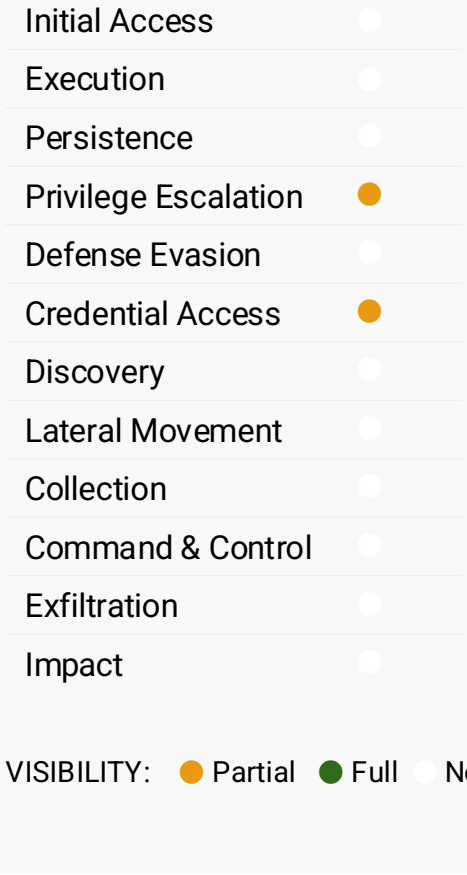
- Use valid credentials to access sanctioned SaaS (Microsoft 365, Box, Salesforce).
- Exploit permissions from inside (mailbox delegation).
- Abuse federated identity trust to log in through trusted SSO pathways.

CASB provides no network-layer visibility.

Doesn't always detect live privilege abuse, identity manipulation, or insider-style behaviors.

CSPM: finds misconfigurations, not malicious behavior.

Identifies risky settings. Great for prevention, not detection.



CSPM flags open S3 buckets, exposed SSH ports, disabled logging. It's prevention-focused, scanning for conditions that could enable attacks, not detecting attacks themselves.

HOW ATTACKERS BYPASS

- Exploit a misconfiguration before it's remediated.
- Use API tokens or OAuth access to escalate inside cloud services.
- Abuse over-privileged IAM roles that CSPM may flag but not monitor in real time.

CSPM provides no network-layer visibility.

Doesn't see runtime activity, credential misuse, or lateral movement. It flags conditions, not attacks.

CWPP: protects workloads, if you deploy it everywhere.

VMs, containers, serverless, if agents are deployed.

Initial Access	Partial
Execution	Partial
Persistence	Partial
Privilege Escalation	Partial
Defense Evasion	None
Credential Access	None
Discovery	Partial
Lateral Movement	None
Collection	Partial
Command & Control	Partial
Exfiltration	None
Impact	Partial

VISIBILITY: Partial Full None

CWPPs secure compute instances with runtime behavior visibility on cloud workloads.

Coverage depends on deployment consistency.

HOW ATTACKERS BYPASS

- Move into unmanaged workloads or regions where agents aren't installed.
- Use legitimate tools within a workload (PowerShell, bash) to avoid detection.
- Operate entirely in SaaS or identity layers where CWPP has no reach.

CWPPs provide no network-layer visibility.

Blind to SaaS abuse and cloud IAM misuse.

CNAPP: consolidates controls, still misses behavior.

Combines CSPM, CWPP, increasingly CIEM and runtime detection.

Initial Access	Partial
Execution	Partial
Persistence	Partial
Privilege Escalation	Partial
Defense Evasion	Partial
Credential Access	Partial
Discovery	Partial
Lateral Movement	Partial
Collection	Partial
Command & Control	Partial
Exfiltration	Partial
Impact	Partial

VISIBILITY: Partial Full None

Modern CNAPPs add runtime detection (CDR) alongside posture scanning. But runtime detection remains workload-scoped. It watches what happens on a given workload, not the identity-plane and network-plane pivots attackers use to move between workloads.

HOW ATTACKERS BYPASS

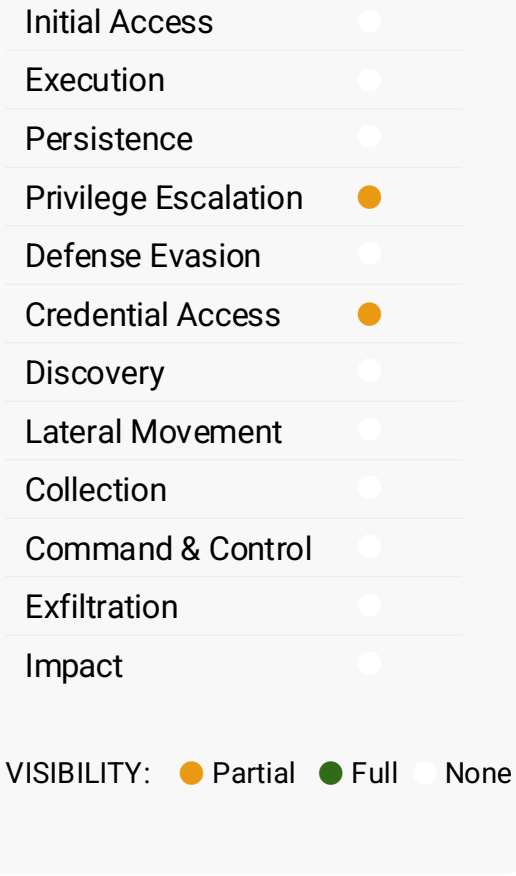
- Use federated identity or SaaS manipulation, which CNAPP doesn't track deeply.
- Operate between workloads, avoiding detection if east-west traffic isn't inspected.
- Move quickly before configuration scans run again.

CNAPP improves visibility, but not enough.

Still lacks attacker behavior detection in network, cloud identity, and SaaS layers.

CIEM: manages entitlements, not behavior inside them.

A distinct category since 2023.



CIEM analyzes cloud identity entitlements: who can do what in AWS, Azure, GCP. Flags over-privileged roles, dormant access, excessive permissions.

HOW ATTACKERS BYPASS

- Use entitlements rated low-risk but usable for privilege escalation when chained.
- Act within approved boundaries in ways the baseline never modeled.
- Abuse federated roles and cross-account trust. CIEM maps them, but doesn't monitor in real time.

CIEM flags over-privileged access. It doesn't detect when legitimate privileges are abused.

Like CSPM and CNAPP, CIEM operates at the posture layer. Entitlements are static; attacks are dynamic behavior inside those entitlements.

SASE: controls access, but not what happens after.

SWG + ZTNA + CASB + DLP, unified.

Initial Access	●
Execution	○
Persistence	○
Privilege Escalation	○
Defense Evasion	○
Credential Access	○
Discovery	○
Lateral Movement	◐
Collection	○
Command & Control	◐
Exfiltration	◐
Impact	○

VISIBILITY: ◐ Partial ● Full ○ None

SASE controls how users access apps, but doesn't detect what those users do inside the cloud once access is granted.

HOW ATTACKERS BYPASS

- Authenticate using stolen credentials, bypassing trust models.
- Abuse legitimate SaaS features (mailbox rules, data sharing) to maintain access and steal data.
- Move laterally via cloud-native connections (IAM role chaining, federated trust).

SASE sees access paths, not the attacker behaviors hidden within them.

The cloud security gap and how Vectra AI fills it.

THE CLOUD SECURITY GAP

Your cloud tools are strong on prevention, weak on detection.

They miss:

- SaaS privilege abuse (mailbox delegation in Microsoft 365).
- Federated identity backdoors (Microsoft Entra ID trust manipulation).
- East-west traffic inside cloud, between VPCs, between containers, between accounts.
- Cross-account API call patterns and IAM role chaining.
- Cloud-native command and control (AWS STS token abuse, Entra ID role abuse).

Valid-account abuse accounted for 35% of cloud incidents in 2025. Cloud-conscious intrusions rose 37% year-over-year, 266% among nation-state actors.[1]

WHAT VECTRA AI ADDS

- Real-time detection across Microsoft 365, Microsoft Entra ID, AWS / Azure / Google Cloud workloads, and federated identity infrastructure.
- Sees what your posture tools miss: who is doing what, right now, and whether it's normal.
- Behavioral correlation across identity, network, and cloud, not just log aggregation.

[1] CrowdStrike 2026 Global Threat Report.

VECTRA

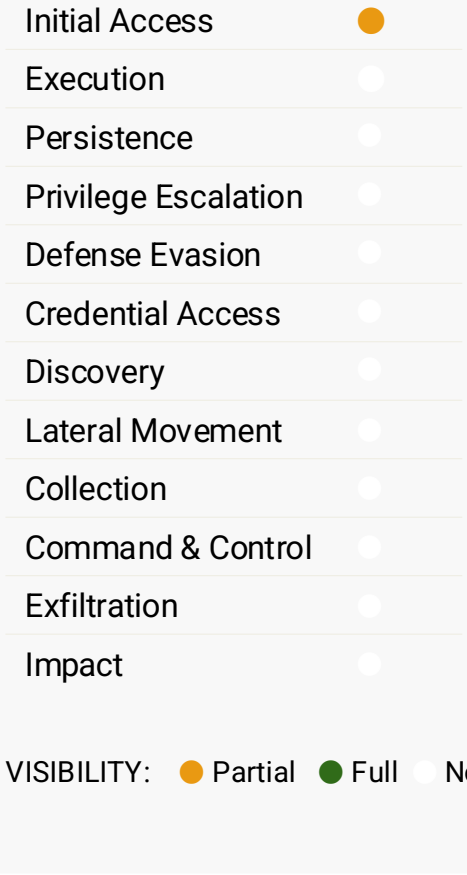
MIND YOUR ATTACK GAPS

Network security

When traffic looks normal but isn’t.

Email security: stops spam, not social engineering.

Blocks known bad messages. Misses compromise that occurs after a successful phish.



Tools like secure email gateways and phishing filters block known-bad messages. But attackers now rely on well-crafted phishing and social engineering that evades traditional detection.

HOW ATTACKERS BYPASS

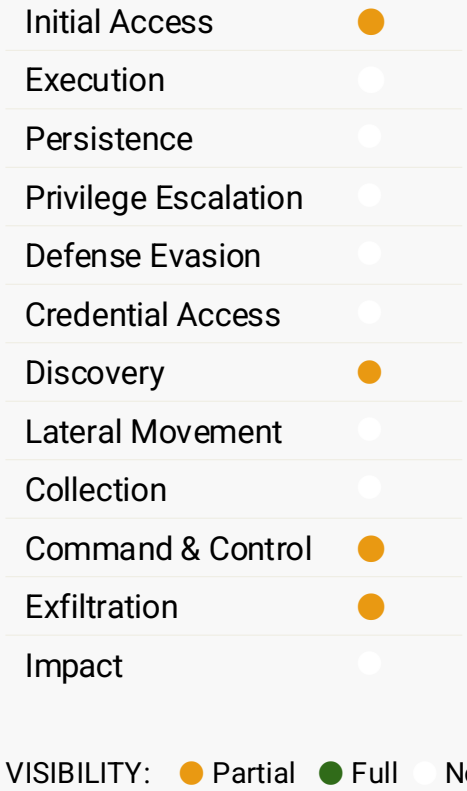
- Send credential phishing via SMS, LinkedIn, or personal email, bypassing corporate filters.
- Use lookalike domains or MFA fatigue to trick users into surrendering credentials.
- Exploit trust, not malware. No attachment or link is flagged.

Email security tools can’t detect account compromise after a successful phish.

Which is where most modern breaches actually live.

Firewalls: control the edge, not what happens inside.

Traditional and next-gen firewalls restrict at the perimeter; once a trusted user passes, they're blind.



Traditional firewalls restrict traffic by IP, port, and protocol. Next-Generation Firewalls add application-layer inspection and TLS decryption. In either case, once a trusted user passes through with valid credentials, the firewall has done its job.

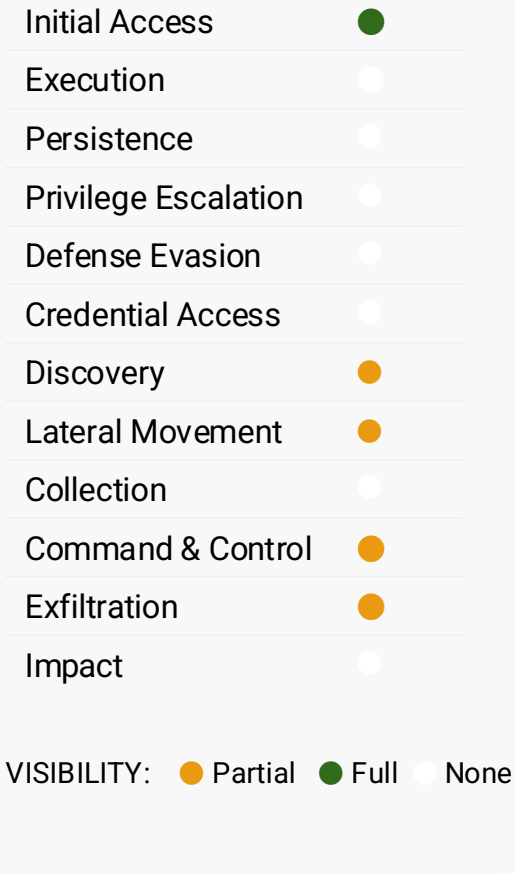
HOW ATTACKERS BYPASS

- Use allowed protocols (HTTPS, DNS, RDP) to move undetected.
- Operate over encrypted channels firewalls can't fully inspect.
- Leverage VPNs or SSO to authenticate like trusted users.

Firewalls can't detect C2 hidden in approved protocols, lateral movement, or SaaS access with valid credentials.

IDPS: detects signatures, not stealth.

Signature matching catches known attack patterns, not what sophisticated attackers use.



Intrusion Detection and Prevention Systems look for known attack patterns. Sophisticated attackers rarely use them.

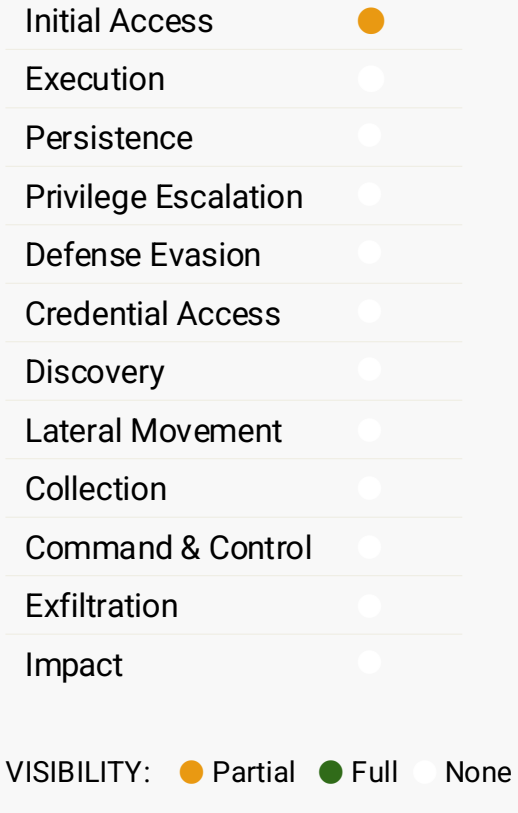
HOW ATTACKERS BYPASS

- Use custom or encrypted payloads that evade signature matching.
- Live off the land, using legitimate tools and ports.
- Throttle activity to fly under detection thresholds.

IDPS fails against novel techniques and encrypted east-west movement.

NAC: decides who can connect, not what they do after.

Validates device and identity at connect-time. Loses visibility once inside.



Network Access Control solutions validate device posture and identity before granting access. Once a user is connected, NAC loses visibility.

HOW ATTACKERS BYPASS

- Hijack trusted credentials or devices to gain access without triggering NAC.
- Move between trusted systems, which NAC doesn't monitor.
- Exploit unmanaged or BYOD devices that slip through posture checks.

NAC doesn't detect lateral movement, suspicious traffic, or post-authentication behavior.

SSE: the modern perimeter, with old gaps.

Security Service Edge: SWG + ZTNA + CASB + FWaaS, cloud-delivered. The replacement for legacy firewall + VPN.

Initial Access	●
Execution	○
Persistence	○
Privilege Escalation	○
Defense Evasion	○
Credential Access	○
Discovery	○
Lateral Movement	◐
Collection	○
Command & Control	◐
Exfiltration	◐
Impact	○

VISIBILITY: ◐ Partial ● Full ○ None

Security Service Edge consolidates secure web gateway, zero-trust network access, CASB, and firewall-as-a-service into a cloud-delivered platform. SSE is what replaced the legacy firewall + VPN stack in many enterprises but it inherits the same blindspot every perimeter tool has had.

HOW ATTACKERS BYPASS

- Authenticate via stolen credentials. ZTNA approves the connection because the credential is valid.
- Operate inside sanctioned applications. SWG sees the destination host, not the malicious activity inside the session.
- Move laterally via cloud-native paths (IAM role chaining, OAuth grants) that bypass the SSE proxy entirely.
- Exfiltrate through SaaS-to-SaaS connections that SSE has no visibility into.

SSE replaces the firewall, not the missing detection layer behind it.

Same Vectra-fills-the-gap argument applies to SSE-protected environments as to legacy firewall-protected ones.

The network security gap and how Vectra AI fills it.

THE NETWORK SECURITY GAP

Your current network tools focus on prevention and control, not detection.

They miss:

- Lateral movement between workloads and regions in cloud and hybrid networks.
- Command-and-control over encrypted or trusted protocols.
- Data exfiltration disguised as business traffic.
- Behavioral anomalies in east-west movement, privileged access, and credential use.
- Post-authentication behavior inside SSE-protected sessions.

WHAT VECTRA AI ADDS

- Analyzes traffic from on-prem, cloud, and SaaS environments in real time.
- Detects lateral movement, privilege escalation, and exfiltration, even hidden in encrypted traffic (via metadata analysis).
- Integrates with SIEM and SOAR for high-fidelity alerts your SOC can act on immediately.
- Integrates with Splunk, Palo Alto Networks, Juniper, Fortinet, and others.

VECTRA

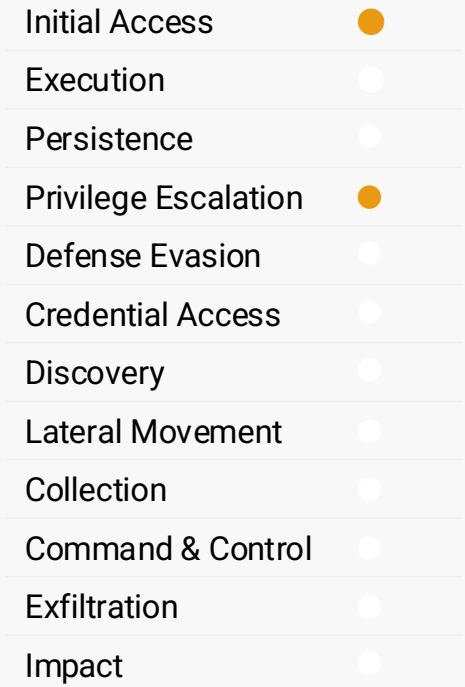
MIND YOUR ATTACK GAPS

Identity security

When valid logins become invisible threats.

IAM: prevents unauthorized access, not abused access.

Foundational to Zero Trust. Assumes trust once a user is in.



IAM tools control who can log in, from where, and with what permissions. Modern identity providers add risk-based signals (impossible travel, leaked credentials, unfamiliar devices) but these operate at the point of authentication. Once a valid session exists, IAM assumes trust. MFA blocks >99% of identity attacks, yet identity-based attacks still surged 32% in the first half of 2025[1], because attackers increasingly bypass MFA via stolen tokens, consented OAuth apps, device-code flows, and adversary-in-the-middle proxies.

HOW ATTACKERS BYPASS

- Steal valid credentials or session tokens, then log in as a legitimate user.
- Move laterally using over-permissioned accounts or misconfigured policies.
- Authenticate through trusted identity providers, including federated logins and SSO.
- Target the ESTSAUTHPERSISTENT cookie and similar session artifacts that bypass MFA entirely.

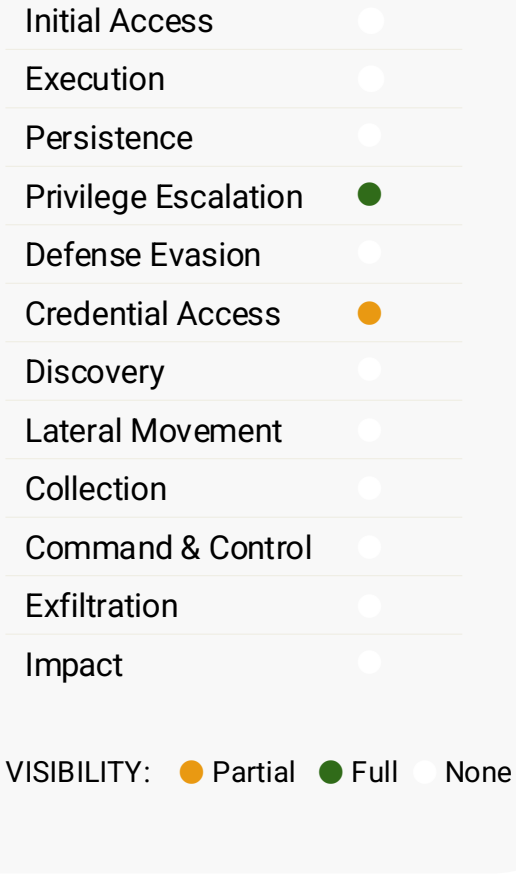
IAM enforces login policies. It doesn't watch what identities do after authentication.

97% of identity attacks are password attacks[1]. MFA stops the password attack. Nothing in IAM stops the post-authentication abuse that follows.

[1] Microsoft's 2025 Digital Defense Report:

PAM: protects privileged accounts, if you know who's privileged.

Restricts privileged access. But attackers don't always need it to escalate.



PAM solutions restrict how users access critical systems: password vaults, session recording, just-in-time access. But attackers don't always need a privileged account to escalate.

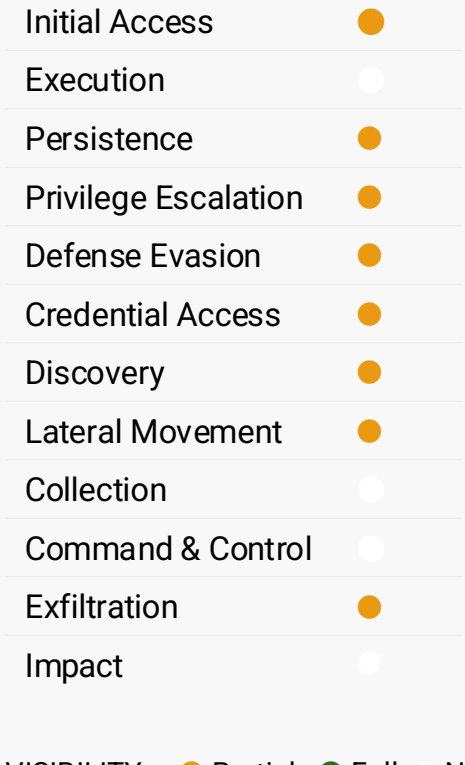
HOW ATTACKERS BYPASS

- Abuse non-privileged accounts to escalate using SaaS permissions (mailbox delegation, OAuth scopes).
- Exploit federated identity trust to gain access without touching PAM-controlled accounts.
- Use shadow admins (roles with effective privileges but not flagged as "privileged").

PAM can't detect identity abuse that doesn't match predefined privilege boundaries.

UEBA: scores risk, but can’t see in real time.

Increasingly a feature inside SIEM/XDR rather than a standalone category.



UEBA builds profiles of normal behavior and assigns risk scores when users deviate from them. It depends on complete data and often takes too long to respond. Gartner no longer maintains a separate UEBA Magic Quadrant.

HOW ATTACKERS BYPASS

- Mimic normal user behavior (same location, device, or access pattern).
- Act slowly or during off-hours, avoiding noticeable spikes.
- Exploit incomplete log sources, preventing UEBA from ever seeing the full picture.

UEBA delays detection and can’t provide real-time visibility into identity misuse.

The identity security gap and how Vectra AI fills it.

THE IDENTITY SECURITY GAP

Most tools focus on access control or risk scoring, not attacker behavior. A newer category (ITDR – Identity Threat Detection and Response) has emerged specifically to watch what IAM can't.

They can't see:

- Credential abuse across SaaS platforms and cloud services.
- Privilege escalation in Microsoft Entra ID or Exchange Online.
- Trust relationship abuse between identity providers.
- Identity-based lateral movement that doesn't touch the endpoint.

WHAT VECTRA AI ADDS

- Active Directory, Microsoft Entra ID, Microsoft 365 / Exchange Online, Azure / AWS cloud, Cloud IAM roles and federated identity infrastructure.
- SaaS privilege abuse detection (mailbox delegation, OAuth abuse).
- Federation manipulation detection (new trust relationships, role impersonation).
- Credential misuse across hybrid infrastructure, even when MFA was passed.

Regulatory pressure: detection is now the evidence.

Compliance is continuous, and continuous compliance needs continuous detection.

Policy binders and annual attestations don't satisfy a 24-hour incident disclosure rule. If your stack can't see the attack, no compliance framework fixes the problem.

NIS2 (EU)

Effective October 2024

Requires appropriate technical measures for incident detection and response. Mandates significant-incident reporting within 24 hours of awareness. Article 21(2)(b) explicitly requires incident handling capability.

DORA (EU financial)

Effective January 2025

Chapter II requires operational resilience. ICT-related incident reporting windows are short. Expects continuous evidence that detection is working, not a point-in-time audit.

SEC Cyber Disclosure

Effective December 2023

Public companies must disclose material cybersecurity incidents within four business days of determining materiality. Requires understanding what attackers did (i.e. detection that sees attacker behavior).

The compliance question is now the detection question.

Conclusion

Close the gap before it’s exploited.

You can’t defend what you can’t see.

Today’s attackers don’t rely on malware. Your traditional tools weren’t designed for this.

Attackers leverage credentials, exploit SaaS misconfigurations, manipulate identity trust, and move across cloud workloads unseen.

Traditional tools don’t see this activity, not because they’re broken, but because they weren’t designed to.

- EDR doesn’t see identity abuse in Microsoft 365.
- CASB and SASE don’t detect lateral movement in cloud workloads.
- SIEM can’t alert on threats that upstream tools don’t detect.

Meanwhile, your SOC is left with too many alerts, not enough context, and no real visibility across hybrid infrastructure.

How Vectra AI completes your stack.

And what customers measure when they deploy it. IDC Business Value Study, 2025.

SECURITY CAPABILITY	WHAT'S MISSING	WHAT VECTRA AI ADDS
Endpoint threat detection	Blind to network and cloud	Real-time detection across all traffic (agentless)
Identity threat detection	No visibility post-authentication	Detects misuse of valid accounts and privilege escalation
Cloud threat visibility	Blind to hybrid attacker behavior	Detects cloud-native, hybrid, SASE, SaaS, IaaS movement
Lateral movement detection	Unseen across hybrid	Real-time detection of lateral movement
Noise reduction	Alert fatigue	AI-driven signal clarity with high-fidelity detections

WHAT VECTRA DELIVERS, MEASURABLY — IDC 2025

391%	6mo	$3.4M	40%	60%	69.4%	99.9%
3-yr ROI	payback	annual benefit	more efficient SOC	less time on alerts	fewer breaches	productivity-loss avoid.

Source: IDC Business Value Study of Vectra AI, April 2025

Vectra AI closes your attack gaps.

Observability. Signal. Control. And real outcomes from real customers.

Observability

Vectra AI continuously analyzes network activity to reveal every identity, device, and AI agent in real-time so SecOps teams always know who is doing what on their network.

Signal

By correlating and contextualizing activity across hybrid environments, Vectra AI helps teams prioritize real risk, investigate faster, hunt with confidence, and stop attacks before impact.

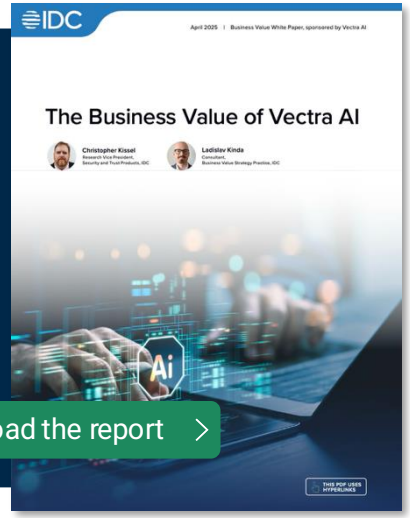
Control

Vectra AI shows who and what is on your network, what activity signals attack, and where exposure is changing, so you can reduce risk, improve efficiency, and prove compliance.

FROM AN IDC INTERVIEW · GLOBAL COSMETICS COMPANY

"Before Vectra AI, we received no alerts and only learned of Red Team's access through their annual reports, which consistently showed they had domain admin and root access. The first year with Vectra, we detected, expelled, and completely defeated the Red Team. Vectra is my top security tool."

The same SOC team runs with 7 full-time equivalents (FTEs). Their benchmark says they need 14.



Download the report

Self-assessment: which gaps are exposing you?

Read each statement. Tick the box if it sounds like your environment. The boxes you tick are the gaps you carry.

GAP 1

Nothing looks wrong.

- [ ] We see PowerShell, RDP, and WMI in our EDR alerts, and most of the time we assume it's admin activity.
- [ ] We don't have a documented baseline of what "normal" admin behaviour looks like in our environment.
- [ ] When EDR flags a "potentially unwanted" process, alerts sometimes sit unreviewed for more than a day.
- [ ] If an attacker abused signed binaries and lived off the land for two weeks, we're not confident we'd notice.
- [ ] Our detection rules don't reliably distinguish attacker-created scheduled tasks from legitimate ones.

GAP 2

Authentication succeeds.

- [ ] MFA is enforced for our human users, but we're less certain about service accounts and workload identities.
- [ ] Our primary identity threat signal is the IdP's risk score (impossible travel, unfamiliar device).
- [ ] We're not ingesting Microsoft 365, Entra ID, or Okta audit logs into a detection layer beyond the IdP.
- [ ] If a session token were stolen from an infostealer-infected home device and reused, we have no specific detection.
- [ ] When a credential or MFA factor is reset, nothing automatically watches the account's behavior for the next 24 hours.

GAP 3

Movement isn't visible.

- [ ] Our network detection is north-south only, we don't see east-west traffic between workloads.
- [ ] We can't reliably detect SMB or RDP lateral movement across segments where EDR coverage is inconsistent.
- [ ] Cloud control-plane API calls (AWS STS assume-role, Entra ID role changes) don't feed our detection layer in real time.
- [ ] We have no detection for OAuth-app pivots between sanctioned SaaS platforms.
- [ ] When we cite "dwell time" in SOC reports, the number comes from incident reconstruction, not continuous measurement.

How to read your score: 0–3 ticked = meaningful coverage. 4–7 ticked = the gap is measurably exposing you. 8–11 ticked = primary attacker route into your environment. 12+ ticked = detection is incomplete across the full attack progression

About Vectra AI

The Vectra AI Platform protects modern enterprises by detecting and stopping attacks across network, identity, and cloud as one unified attack surface. It combines threat exposure management, AI-driven detection and response, and posture improvement to reduce risk before attacks begin and stop threats in progress. Security teams gain clear signal, faster response, and measurable improvements in resilience. For more information, visit www.vectra.ai.

VECTRA