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THREAT ADVISORY

Aurora Ransomware and AI-Assisted Exploitation

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Executive Snapshot

A Russian-speaking affiliate operating the Aurora ransomware has been directly observed relying on an AI coding assistant to plan and execute network intrusions. Research from CloudSEK, drawn from an exposed operator server, revealed activity against more than twenty organizations across nine countries between April and July 2026, with domain-level access achieved at seventeen; four victims have since appeared on Aurora's public extortion site. A separate investigation by Gambit Security found the same tooling used for hands-on exploitation against ten additional targets, and identified a further cluster, attributed with medium confidence, hitting eight more victims across Israel, Germany, Austria, Spain, the U.S., and Argentina.

The ransomware is cross-platform, built from a single Zig codebase for Windows and Linux/ESXi, with strong anti-recovery features. Researchers also traced ransom payments on-chain and uncovered a laundering network pooling proceeds from multiple victims, with the affiliate's cut varying per victim rather than following a fixed split. This indicates AI-assisted intrusion is an operational pattern within a sustained, financially significant campaign, not an isolated incident.

Immediate Priorities:

- **Certificate services risk:** Audit Active Directory Certificate Services templates for exploitable misconfigurations, since this is a primary path attackers use to escalate to domain administrator access.
- **Backup infrastructure exposure:** Isolate backup systems on separate credentials and network segments, as compromised backups often signal an imminent encryption event is about to occur.
- **Virtualization targeting:** Segment and closely monitor ESXi and vCenter management interfaces, and maintain offline immutable backups, given this ransomware deliberately terminates virtual machines before encrypting them.
- **Social engineering entry points:** Verify help-desk and remote-access requests through formal callback procedures, since impersonation calls and email-bombing campaigns remain common initial-access techniques for this operator.
- **Reconnaissance tooling:** Hunt for and alert on common enumeration utilities like NetExec, BloodHound, and Nmap, since AI-agent-driven attacks still rely on these off-the-shelf tools to scan and map victim networks.

TIDE Team Analysis

The clearest window into Aurora's tradecraft came from CloudSEK's discovery of a misconfigured Linux server serving the operator's own home directory without authentication. It contained Kerberos tickets, credential dumps, Group Policy exports, BloodHound collections, shell history, AI-assistant chat logs, and the encryptor itself. This was an unusually complete operational picture that CloudSEK, partnering with blockchain analytics firm TRM Labs, used to trace ransom payments on-chain.

Initial access methods documented across reporting include credential-based entry, aggressive phishing/email-bombing, and vishing calls impersonating IT help desk staff to induce remote-access tool installation. Once inside, the operator routed all victim-facing activity through rented SOCKS pivots, then ran a consistent playbook: LDAP/SMB enumeration, credential-hash cracking, and privilege escalation via one of three paths: a custom-scripted domain-controller impersonation chain; Active Directory Certificate Services abuse; or NTLM relay coercion. Exfiltration used bulk archiving staged before deployment.

An AI coding assistant was used throughout the later stages of this workflow, drafting full exploitation plans (in Russian) and, according to a separate study by threat intelligence firm Gambit Security, directly executing offensive commands against victims when supplied credentials or an existing foothold. Tasking ranged from open-ended objectives to specific tool invocation, with the operator often simply selecting from AI-suggested next steps. Gambit's researchers noted that most agent-run commands failed on the first attempt and needed iterative correction, suggesting the tooling accelerates and lowers the skill floor for intrusion work without yet enabling fully autonomous compromise. Researchers also flagged a second, medium-confidence Aurora-linked cluster targeting more eight victims across six countries, separate from the previously documented activity.

ADVERSARY PROFILE

Aurora

Aur0ra

ALSO No other widely reported aliases

ATTRIBUTION	**Russia (unconfirmed state affiliation; assessed Russian-speaking),** Independent criminal affiliate, not state-sponsored
ACTIVE SINCE	2026 (1+ years)
MOTIVES	**Financial gain** **Extortion** **Data theft**
INDUSTRIES	Manufacturing, food and agriculture, professional services, logistics, consumer goods, waste management, and IT and backup infrastructure
COUNTRIES	The United States, Germany, the Netherlands, Canada, the United Kingdom, etc.

NOTABLE TTPs

01	Email bombing followed by help desk impersonation calls to gain remote access
02	AI-assisted attack planning and command generation via a coding assistant
03	LDAP and SMB enumeration using NetExec
04	Kerberoasting and ASREPRoasting for credential access
05	Active Directory Certificate Services exploitation for privilege escalation
06	NTLM relay attacks coerced via PetitPotam, PrinterBug, and DFSCoerce
07	Volume shadow copy deletion and System Restore disabling to inhibit recovery
08	Forced termination of running virtual machines prior to ESXi encryption

The encryptor exists in matched Windows and Linux/ESXi builds compiled from one unusual-language source tree, which is a choice that limits the volume of existing malware signatures available to defenders. The Windows variant chains shadow-copy deletion and System Restore disabling; the Linux/ESXi variant force-kills every running VM before encrypting and writes its ransom note into the host's SSH login banner. Furthermore, on-chain tracing linked a recovered ransom payment to a broader laundering network moving proceeds from multiple confirmed and probable victims, with affiliate payout shares varying case-by-case rather than following a fixed ratio.

Why It Matters

This case demonstrates that AI-assisted intrusion has moved from novelty to a repeatable component of an active, multi-victim ransomware operation. Techniques that once required specialist knowledge (such as Active Directory Certificate Services abuse, NTLM relay chaining, systematic domain enumeration) are now executable through natural-language tasking of a commercial coding assistant. The human operator in several documented cases did little more than select from AI-suggested next steps, which narrows the skill gap between low- and high-capability threat actors and makes advanced intrusion techniques accessible to a wider range of criminal operators than before.

The victim spread is also significant. More than twenty organizations across nine countries were affected in the primary cluster, spanning manufacturing, food and agriculture, professional services, logistics, and backup/IT infrastructure, while a second, related cluster added roughly eight more victims across six additional countries. This breadth indicates opportunistic, indiscriminate targeting rather than a narrow, sector-specific campaign. Stakeholders should not rely on sector prestige or perceived low profile as a proxy for risk since mid-market manufacturers and distributors were compromised just as readily as more visible targets.

The encryptor's design choices carry their own operational risk. Its deliberate targeting of ESXi and virtualization infrastructure, including forced termination of running virtual machines prior to encryption, means hypervisor environments are a primary objective rather than incidental damage. Organizations with heavy virtualization footprints (which describes most mid-size and large enterprises today) face outsized downtime risk if this variant reaches production environments. The use of an uncommon programming language for the encryptor also means fewer existing detection signatures exist for defenders to rely on, which may temporarily reduce the effectiveness of signature-based tooling.

Finally, on-chain tracing of recovered ransom payments confirmed that proceeds from multiple victims converged through shared laundering infrastructure, and that affiliate payout shares varied per victim rather than following a fixed ratio. This points to a financially mature, ongoing operation generating real and substantial revenue, not a short-lived or opportunistic one-off crew. Combined with the demonstrated use of AI tooling to compress the time and expertise needed for exploitation, this campaign should be read as an early indicator of how ransomware operations broadly are likely to evolve, making proactive hardening now more valuable than reactive response later. Notably, this pattern was independently corroborated by more than one security research team, reinforcing that it reflects a genuine operational shift rather than an isolated or unverified finding.

How to Respond

- **Harden Active Directory Certificate Services:** audit all templates for exploitable misconfigurations, remove enrollee-supplied-subject flags, and enable auditing on certificate request/issuance events, since AD CS abuse is a primary escalation path in this campaign.
- **Disable legacy protocols and enforce authentication protections:** turn off LLMNR/NBT-NS and SMBv1, enable SMB signing and Extended Protection for Authentication, and restrict WinRM to designated admin hosts.
- **Treat backup infrastructure as a high-value target:** isolate systems like Veeam on separate credentials and network segments, since compromised backups are a leading indicator of imminent encryption.
- **Protect virtualization environments directly:** segment and closely monitor ESXi/vCenter management interfaces, and maintain offline immutable backups, given the encryptor's deliberate VM-termination behavior.
- **Verify help-desk requests and hunt for common reconnaissance tooling:** formalize callback verification for remote-access requests and alert on anomalous use of enumeration utilities like NetExec, BloodHound, and Nmap that may indicate AI-agent-driven activity.

What UltraViolet Cyber is Doing

- Tracking new CVEs and high impact vulnerabilities, analyzing and deploying public Proof-Of-Concept code against custom built targets.
- Proactively enabling custom detections based on the collected artifacts, tactics, techniques, and procedures identified in this activity.
- Performing hypothesis driven threat hunts based on threat actor behavior and artifacts. UVCyber customers will be informed of the results through secure channels.
- Parsing available victim dump data for any social, financial, business, or technical relations to UVCyber Clients and partner organizations.
- Aggregating threat intelligence from myriad sources and applying the most up-to-date knowledge to proactive threat hunting and response.

About UltraViolet Cyber

UltraViolet Cyber is a leading tech-enabled managed security services provider, delivering unparalleled cybersecurity expertise that fills technology and talent gaps across Global 2000 and Federal Government customers. Founded and operated by security practitioners from the national intelligence community, UltraViolet Cyber connects offensive security, application security, detection and response, and security engineering to deliver a differentiated approach to cybersecurity operations. Transforming customers' security programs, UltraViolet Cyber's flagship security-as-a-service solution, UV Lens, removes complex operational silos, replacing them with integrated security capabilities. UltraViolet is headquartered in McLean, Virginia with technology centers across the world.

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