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Threat Level

Red

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THREAT ADVISORY

ATTACK REPORT

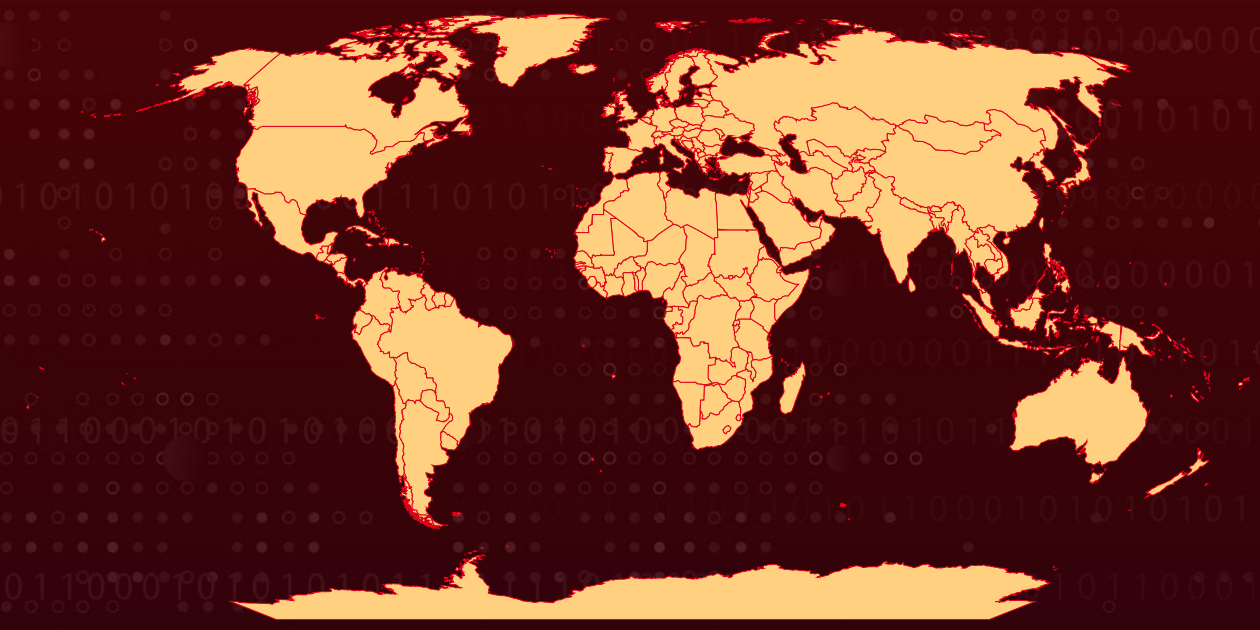
RustDuck DDoS Botnet Targeting IoT and Server Infrastructure

Date of Publication	Admiralty Code	TA Number
July 01, 2026	A1	TA2026183

Summary

First Seen: February 2026
Targeted Regions: Worldwide
Targeted Platforms: IoT devices (routers, IP cameras, DVRs), Android, Linux servers
Targeted Products: Huawei HG532, D-Link DIR-823X, Totolink X6000R, Apache CouchDB, TP-Link, ZTE, Ruijie, TVT, ThinkPHP, Jenkins, Hadoop YARN
Malware: RustDuck
Attack: RustDuck is a two-stage (Loader plus Core) botnet, active since February 2026, whose core function is large-scale distributed denial-of-service attacks. It spreads opportunistically via weak Telnet and SSH passwords, exposed Android Debug Bridge interfaces, and a mix of historical vulnerabilities in devices and web applications affecting routers, DVRs, IP cameras, and Linux servers. The core module is being migrated from C to Rust and incorporates layered anti-analysis, HKDF-SHA256 key derivation, and encrypted command-and-control channels that masquerade as ordinary TLS traffic.

Attack Regions



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CVEs

CVE	NAME	AFFECTED PRODUCT	ZERO-DAY	CISA KEV	PATCH
CVE-2025-29635	D-Link DIR-823X Command Injection Vulnerability	D-Link DIR-823X	✗	✓	EOL
CVE-2017-17215	Huawei HG532 Remote Code Execution Vulnerability	Huawei HG532	✓	✗	EOL
CVE-2018-8007	Apache CouchDB Privilege Escalation Vulnerability	Apache CouchDB	✗	✗	✓
CVE-2024-1781	Totolink Command Injection Vulnerability	Totolink X6000R	✗	✗	✓

Attack Details

#1

RustDuck is a new two-stage malware family that hijacks home routers, IP cameras, Android boxes, and weakly secured servers, then links them into a network used to knock websites and online services offline. It does not rely on one trick. It uses whatever works: guessing weak passwords on exposed Telnet and SSH services, and exploiting known remote code execution and command-injection flaws in both consumer and enterprise devices.

#2

Those flaws include CVE-2017-17215 in Huawei HG532 routers, CVE-2025-29635 in D-Link DIR-823X routers, CVE-2024-1781 in Totolink X6000R routers, and CVE-2018-8007 in Apache CouchDB. It also abuses exposed Android Debug Bridge interfaces and other device flaws in TVT, Ruijie, TP-Link, and ZTE hardware. On the server side it goes after ThinkPHP, Jenkins, and Hadoop YARN, so its reach runs from cheap home devices to exposed servers. Once it lands on a host, RustDuck installs in two stages. A small loader holds the startup code, and the compressed core payload and a config block are tacked onto the end of the file. At runtime, the loader decrypts and unpacks the core.

#3

Before it runs, the core checks whether it is being watched. It works through a series of environment checks, adding to a risk score as it goes, and if that score passes a set limit it wipes its traces and quits. For command and control, it follows the IK pattern of the Noise protocol. It pairs a hardcoded server public key with a fresh runtime key in a Curve25519 exchange, then derives session keys with HKDF-SHA256 and rotates them every ten minutes.

#4

A single message ID runs through every phase to keep messages in order and help roll new keys. The handshake uses ChaCha20 encryption and a four-step sequence (login, verify, confirm, ack) that reports the host's architecture, CPU core count, and memory, and sets a unique bot ID. After the handshake, traffic switches to an AES-GCM command loop. It adds a three-byte SSL-like marker to look like normal TLS traffic and uses separate keys for sending and receiving to block man-in-the-middle interception. The C2 servers rely on free dynamic-DNS services such as duckdns.org. Operators can start or stop DDoS attacks, request status, pull new samples for a hot update, and switch to new C2 domains or IPs on the fly.

Recommendations

- **Remove Remote Management from Public Exposure:** Take Telnet, SSH, and device web-configuration interfaces off the public internet and restrict them to trusted management networks or VPN access, since exposed remote-login services are RustDuck's primary entry point.
- **Eliminate Default and Weak Credentials:** Enforce unique, strong passwords on all network-reachable devices and services and disable default accounts, because weak-password brute forcing against Telnet and SSH is a core propagation method.
- **Upgrade Apache CouchDB:** Update affected CouchDB instances to release 1.7.2 or 2.1.2 or later to remediate CVE-2018-8007, which allows an authenticated admin to escalate to remote code execution.
- **Retire End-of-Life D-Link DIR-823X Devices:** Remove DIR-823X routers from service rather than waiting for a fix; per D-Link advisory SAP10469, the model is End-of-Life and End-of-Service across all hardware revisions, and no patch will be issued for CVE-2025-29635.
- **Monitor for TLS-Masquerading Outbound Traffic:** Watch for anomalous outbound sessions that carry the SSL-like magic header but do not complete a standard TLS handshake, and for periodic beaconing to dynamic-DNS domains, to surface RustDuck C2 activity.

Potential MITRE ATT&CK TTPs

Tactic	Technique	Sub-technique
Initial Access	T1190: Exploit Public-Facing Application	
	T1078: Valid Accounts	T1078.001: Default Accounts
Execution	T1059: Command and Scripting Interpreter	
Defense Evasion	T1140: Deobfuscate/Decode Files or Information	
	T1027: Obfuscated Files or Information	T1027.002: Software Packing
	T1622: Debugger Evasion	
	T1497: Virtualization/Sandbox Evasion	T1497.001: System Checks
		T1497.003: Time Based Evasion
	T1480: Execution Guardrails	
	T1036: Masquerading	
Discovery	T1082: System Information Discovery	
Credential Access	T1110: Brute Force	T1110.001: Password Guessing
Command and Control	T1071: Application Layer Protocol	
	T1573: Encrypted Channel	T1573.001: Symmetric Cryptography
		T1573.002: Asymmetric Cryptography

Tactic	Technique	Sub-technique
Command and Control	T1568: Dynamic Resolution	
	T1008: Fallback Channels	
	T1105: Ingress Tool Transfer	
Impact	T1498: Network Denial of Service	

Indicators of Compromise (IOCs)

TYPE	VALUE
SHA1	8315f650e9e4f67c00277b076ab304eed23db47d, 6aa791c76b3107fca9d57b7ecea8f46d97d83738, 4d11bd496da82d15b3ed13050f414e44f5a892d4, d39a3ee96be6b8f5238cb1253514ab55c88f714c
Domains	gayporn[.]twilightparadox[.]com, bigniggadick[.]ignorelist[.]com, ilovefemboy[.]mooo[.]com, igmc[.]duckdns[.]org, qewqewqewqtq[.]duckdns[.]org, qewqewqewqtqthree[.]duckdns[.]org, qewqewqewqtqtwo[.]duckdns[.]org, disciplinenahidwin[.]st, criminalcloudflare[.]online, dhdsjsdjxc[.]duckdns[.]org, fcfrfxrfrsfs5f[.]duckdns[.]org
IPv4	176[.]65[.]139[.]204

Patch Details

CVE-2025-29635: D-Link DIR-823X, **CVE-2025-29635 - EoL/EoS** advisory; no patch, device retirement recommended.
Link:
https://supportannouncement.us.dlink.com/security/publication.aspx?name=SAP10469

CVE-2017-17215: Huawei HG532, **CVE-2017-17215 - EoL/EoS** advisory; no patch, device retirement recommended.
Link:
https://www.huawei.com/en/psirt/security-notices/2017/huawei-sn-20171130-01-hg532-en

CVE-2018-8007: fix available via upgrade to CouchDB 1.7.2 or 2.1.2
Link:
https://couchdb.apache.org/#download

CVE-2024-1781:
https://www.totolink.tw/support_view/X6000R

References

https://blog.xlab.qianxin.com/rustduck-en/

What Next?

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