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Threat Level

Red

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THREAT ADVISORY

VULNERABILITY REPORT

Multiple Flaws in Citrix NetScaler ADC and Gateway Pose Immediate Threat

Date of Publication	Last Updated Date	Admiralty Code	TA Number
June 27, 2025	November 19, 2025	A1	TA2025202

Summary

First Seen: May 2025
Affected Product: Citrix NetScaler ADC and NetScaler Gateway
Impact: In June, multiple critical vulnerabilities were identified in NetScaler ADC and Gateway appliances, including CVE-2025-6543 (memory overflow) and CVE-2025-5777 (CitrixBleed 2), pose critical risks such as denial-of-service, session hijacking, and multi-factor authentication bypass. CVE-2025-6543 is already being actively exploited, and CVE-2025-5777 has now been confirmed to have been exploited as a zero-day prior to its public disclosure, significantly increasing its risk profile. Affected versions include NetScaler ADC/Gateway prior to 14.1-47.46 and 13.1-59.19, as well as all EOL versions, including 12.1 and 13.0. Urgent patching and post-update session termination are strongly recommended.

CVEs

CVE	NAME	AFFECTED PRODUCT	ZERO-DAY	CISA KEV	PATCH
CVE-2025-6543	Citrix NetScaler ADC and NetScaler Gateway Buffer Overflow Vulnerability	Citrix NetScaler ADC and NetScaler Gateway	✓	✓	✓
CVE-2025-5777	CitrixBleed 2 (Citrix NetScaler Gateway Out-of-Bounds Read Vulnerability)	Citrix NetScaler ADC and NetScaler Gateway	✓	✓	✓
CVE-2025-5349	Citrix NetScaler ADC and NetScaler Gateway Improper Access Control Vulnerability	Citrix NetScaler ADC and NetScaler Gateway	✗	✗	✓

Vulnerability Details

#1

In June, critical vulnerabilities have been identified in NetScaler ADC and Gateway appliances, most notably CVE-2025-6543, a memory overflow flaw with a CVSS score of 9.2. This vulnerability has already been observed in active attacks, primarily resulting in denial of service but with the potential for more severe outcomes, such as unauthorized code execution. It affects appliances configured as VPNs, ICA proxies, CVPNs, RDP proxies, or AAA servers running versions prior to 14.1-47.46, 13.1-59.19, and all unsupported 12.1 and 13.0 releases.

#2

Another major issue, CVE-2025-5777 (widely referred to as “CitrixBleed 2”), is a critical out-of-bounds read vulnerability (CVSS 9.3) that allows attackers to extract session tokens and authentication data directly from memory. This enables session hijacking and multi-factor authentication bypass, echoing the notorious 2023 CitrixBleed incident. Recent analysis has confirmed that this vulnerability has been exploited as a zero-day, with Amazon’s MadPot honeypot network detecting exploitation attempts even before the vulnerability was publicly disclosed. The availability of public proof-of-concept exploit code further increases the likelihood of widespread attacks incident.

#3

Analysis of the attacks indicates targeted and deliberate operations rather than broad, automated scanning. Threat actors have demonstrated advanced tradecraft, including anti-forensic cleanup, memory-leak harvesting, and persistence through web-shell deployment on compromised appliances. These behaviors, combined with targeted reconnaissance and stealthy post-exploitation activity, are consistent with tactics commonly associated with well-resourced threat groups.

#4

Citrix has also addressed CVE-2025-5349, a high-severity improper access control vulnerability in the management interface. Security updates for all three vulnerabilities are available in 14.1-47.46 and later, 13.1-59.19 and later, and their respective FIPS/NDcPP variants; however, patching alone may not be sufficient. Systems that were exploited before patching may still harbor web shells or other persistence mechanisms, requiring thorough post-patch investigation. All appliances running unsupported versions (12.1 and 13.0) remain permanently exposed and must be upgraded or decommissioned.

Vulnerabilities

CVE ID	AFFECTED PRODUCTS	AFFECTED CPE	CWE ID
CVE-2025-6543	NetScaler ADC and NetScaler Gateway 14.1 BEFORE 14.1-47.46, 13.1 BEFORE 13.1-59.19 NetScaler ADC 13.1-FIPS and NDcPP BEFORE 13.1-37.236-FIPS and NDcPP	cpe:2.3:a:citrix:netscaler_application_delivery_controller:*:*:*:*:-:*:*:* cpe:2.3:a:citrix:netscaler_gateway:*:*:*:*:*:*:*:* cpe:2.3:a:citrix:netscaler_application_delivery_controller:*:*:*:*:fips:*:*:* cpe:2.3:a:citrix:netscaler_application_delivery_controller:*:*:*:*:ndcpp:*:*:*	CWE-119
CVE-2025-5777	NetScaler ADC and NetScaler Gateway 14.1 BEFORE 14.1-43.56, 13.1 BEFORE 13.1-58.32 NetScaler ADC 13.1-FIPS and NDcPP BEFORE 13.1-37.235-FIPS and NDcPP NetScaler ADC 12.1-FIPS BEFORE 12.1-55.328-FIPS	cpe:2.3:a:citrix:netscaler_application_delivery_controller:*:*:*:*:-:*:*:* cpe:2.3:a:citrix:netscaler_gateway:*:*:*:*:*:*:*:* cpe:2.3:a:citrix:netscaler_application_delivery_controller:*:*:*:*:fips:*:*:* cpe:2.3:a:citrix:netscaler_application_delivery_controller:*:*:*:*:ndcpp:*:*:*	CWE-125
CVE-2025-5349			CWE-284

Recommendations

Apply Security Updates Immediately: Organizations must prioritize patching all customer-managed Citrix NetScaler ADC and Gateway appliances to secure versions. The affected versions include 14.1 (before 14.1-47.46), 13.1 (before 13.1-59.19), and 13.1 FIPS/NDcPP (before 13.1-37.236). Appliances running 12.1 or 13.0 should be decommissioned, as these versions are End-of-Life and will not receive patches.

Terminate Active Sessions Post-Patch: After patching, proactively kill all active ICA and PCoIP sessions to invalidate potentially compromised session tokens:

- kill icaconnection –all
- kill pcoipConnection –all

This ensures that any existing session tokens potentially exposed prior to patching are invalidated.

Restrict Internet Exposure: Public-facing NetScaler appliances are the primary attack surface for this vulnerability. Wherever possible, restrict external access using VPNs, firewalls, or segmentation strategies. Limit access to management interfaces and authentication services (e.g., AAA virtual servers) to trusted IP ranges only.

Implement Defense-in-Depth Controls: Apply layered security measures to reduce risk even if exploitation occurs. This includes enforcing least privilege on all administrative interfaces, using strong authentication methods, and segregating NetScaler systems from high-value targets within the network. Log access to all NetScaler interfaces for audit and alerting purposes.

Potential MITRE ATT&CK TTPs

TA0003 Persistence	TA0042 Resource Development	TA0001 Initial Access	TA0040 Impact
TA0002 Execution	TA0004 Privilege Escalation	TA0006 Credential Access	TA0003 Persistence
T1588.006 Vulnerabilities	T1068 Exploitation for Privilege Escalation	T1203 Exploitation for Client Execution	T1059 Command and Scripting Interpreter

T1556 Modify Authentication Process	T1190 Exploit Public-Facing Application	T1588 Obtain Capabilities	T1498 Network Denial of Service
T1046 Network Service Discovery	T1078 Valid Accounts	T1071 Application Layer Protocol	T1071.001 Web Protocols
T1070 Indicator Removal	T1505.003 Web Shell	T1505 Server Software Component	T1588.005 Exploits

Indicators of Compromise (IOCs)

TYPE	VALUE
IPv4	64[.]176[.]50[.]109, 38[.]154[.]237[.]100, 102[.]129[.]235[.]108, 121[.]237[.]80[.]241, 45[.]135[.]232[.]2

Patch Links

https://support.citrix.com/support-home/kbsearch/article?articleNumber=CTX694788

https://support.citrix.com/support-home/kbsearch/article?articleNumber=CTX693420

References

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https://industrialcyber.co/threat-landscape/ncsc-nl-warns-of-ongoing-cyber-threat-after-citrix-netscaler-exploit-targets-dutch-critical-organizations/

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https://infosec.exchange/@ntkramer/114814182409288951

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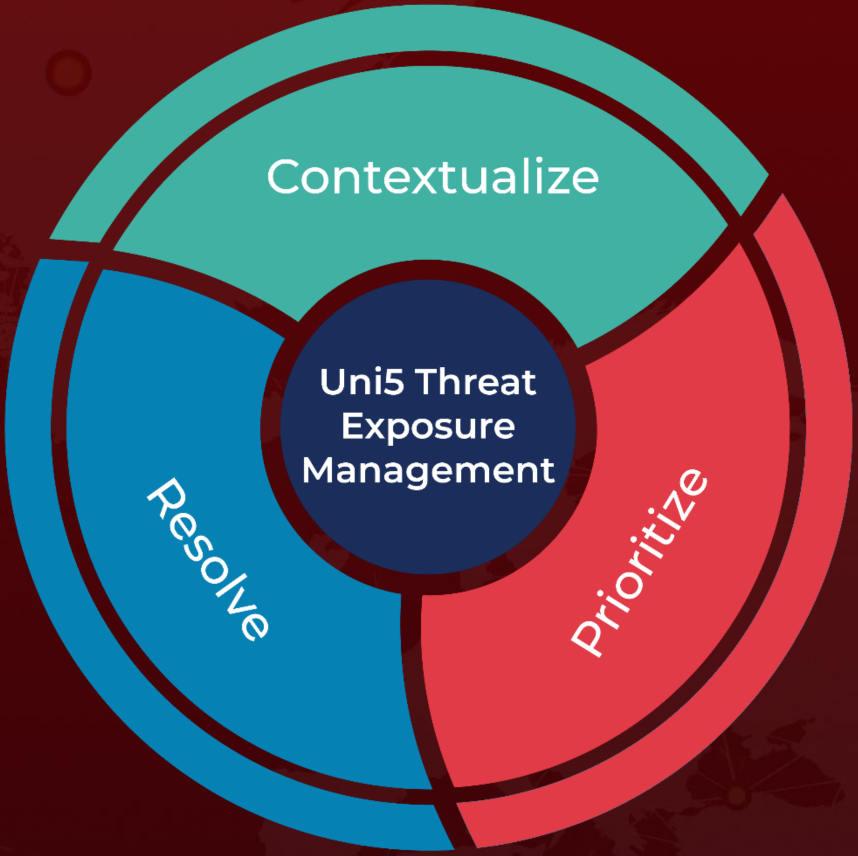

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