Hive Pro

Threat Level

Red

CISA: AR23-110A

HiveForce Labs

THREAT ADVISORY

ATTACK REPORT

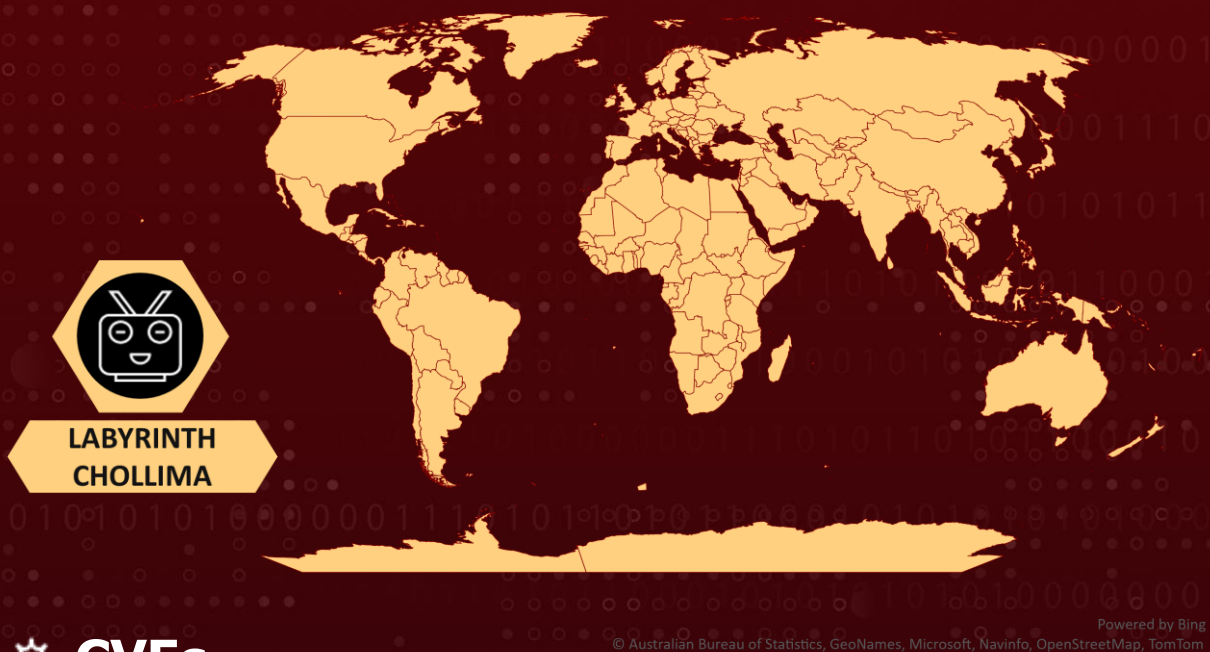
SmoothOperator Campaign Trojanizes 3CXDesktopApp

Date of Publication	Last Update Date	Admiralty Code	TA Number
March 31, 2023	April 25, 2023	A1	TA2023167

Summary

Attack began: March 22, 2023
Actor: LABYRINTH CHOLLIMA (aka HIDDEN COBRA, Guardians of Peace, ZINC, NICKEL ACADEMY, Lazarus Group, UNC4736)
Malware: ICONIC Stealer or SUDDENICON
Affected Products: Windows and macOS
Attack Region: Worldwide
Targeted Industries: Automotive, Food & Beverage, Hospitality, Managed Information Technology Service Provider (MSP), Manufacturing
Attack: The 3CX desktop app trojanized via a multi-stage supply attack chain in the SmoothOperator campaign.

Attack Regions



CVEs

CVE	NAME	AFFECTED PRODUCT	ZERO-DAY	CISA KEV	PATCH
CVE-2023-29059	Arbitrary code execution in 3CXDesktopApp	3CX DesktopApp for Windows Versions: 18.12.407, 18.12.416 & 3CX DesktopApp for macOS Versions: 18.11.1213	✗	✗	✓

Attack Details

#1

The SmoothOperator campaign conducted a supply chain attack targeting downstream customers via rigged installers of a popular conferencing software. The first stage uses a trojanized 3CXDesktopApp, followed by ICO files pulled from Github, ultimately leading to an infostealer dubbed ICONIC Stealer aka SUDDENICONDLL. 3CXDesktopApp is compromised and actively exploited with embedded malicious code (CVE-2023-29059).

#2

The malevolent DLL, which has been sideloaded, includes instructions and a payload encrypted within another DLL using a blob. The shellcode is also present in this blob, which endeavors to retrieve ICO files from GitHub that encompass several URIs for download. The payload is eventually loaded and installed into the targeted environment. The malign behavior comprises beaconing to infrastructure under the control of the attacker, deployment of second-stage payloads, and, in a few instances, direct manipulation of the keyboard. The 3CX software is accessible through a Chrome extension, and the PWA client enables users to access it via web browsers instead of the desktop app.

Recommendations

To begin, uninstall the 3CX Electron Desktop Application from all Windows and Mac OS PCs to avoid potential security breaches.

Second, keep running routine AV scans and employ the most recent EDR solutions to identify and defend against any malware threats that might be residing within your network.

The PWA Web Client App should be used instead of the Desktop App, as it is a safer and more secure solution. This allows you to get the benefits of 3CX while reducing the likelihood of any security concerns.

Potential MITRE ATT&CK TTPs

TA0001 Initial Access	**TA0002** Execution	**TA0003** Persistence	**TA0004** Privilege Escalation
TA0005 Defense Evasion	**TA0006** Credential Access	**TA0007** Discovery	**TA0008** Lateral Movement
TA0009 Collection	**TA0011** Command and Control	**T1091** Replication Through Removable Media	**T1059** Command and Scripting Interpreter
T1543 Create or Modify System Process	**T1543.003** Windows Service	**T1547** Boot or Logon Autostart Execution	**T1547.001** Registry Run Keys / Startup Folder
T1574 Hijack Execution Flow	**T1574.002** DLL Side-Loading	**T1056** Input Capture	**T1071** Application Layer Protocol

Indicators of Compromise (IOCs)

TYPE	VALUE
URLs	github[.]com/IconStorages/images hxxps[://][://]www.3cx[.]com/blog/event-trainings/ hxxps[://]akamaitechcloudservices[.]com/v2/storage hxxps[://]azureonlinestorage[.]com/azure/storage hxxps[://]msedgepackageinfo[.]com/microsoft-edge hxxps[://]glcloudservice[.]com/v1/console hxxps[://]pbxsources[.]com/exchange hxxps[://]msstorageazure[.]com/window hxxps[://]officestoragebox[.]com/api/session hxxps[://]visualstudiofactory[.]com/workload hxxps[://]azuredeploystore[.]com/cloud/services hxxps[://]msstorageboxes[.]com/office hxxps[://]officeaddons[.]com/technologies hxxps[://]sourceslabs[.]com/downloads hxxps[://]zacharryblogs[.]com/feed

TYPE	VALUE
URLs	hxxps[://]pbxcloudeservices[.]com/phonesystem hxxps[://]pbxphonenetwork[.]com/voip hxxps[://]msedgeupdate[.]net/Windows hxxps[://]sbmsa[.]wiki/blog/_insert
Emails	cliego.garcia@proton[.]me philip.je@proton[.]me
SHA1	cad1120d91b812acafef7175f949dd1b09c6c21a bf939c9c261d27ee7bb92325cc588624fca75429 20d554a80d759c50d6537dd7097fed84dd258b3e 769383fc65d1386dd141c960c9970114547da0c2 3dc840d32ce86cebf657b17cef62814646ba8e98 9e9a5f8d86356796162cee881c843cde9eaedfb3
SHA256	dde033480755127962413 89dfea5560c20a3d2a2eac95c894e7bbed5e85a0acc fad482ded2e25ce9e1dd3d3ecc3227af714bdfbbde04347dbc1b21d6a3670405 92005051ae314d61074ed94a52e76b1c3e21e7f0e8c1d1fdd497a006ce45fa61 b86c695822013483fa4e2dfdf712c5ee777d7b99cbad8c2fa2274b133481eadb aa124a4b4df12b34e74ee7f6c683b2ebec4ce9a8edcf9be345823b4fdcf5d868 59e1edf4d82fae4978e97512b0331b7eb21dd4b838b850ba46794d9c7a2c0983 5407cda7d3a75e7b1e030b1f33337a56f293578ffa8b3ae19c671051ed314290 E6bbc33815b9f20b0cf832d7401dd893fbc467c800728b5891336706da0dbcec e2ef455e92b3cb5a4c0f3093191d0bfb4fe3ff961e2a403feaa26060a298c70f
MD5	c9f452576b2430814821da0223a535c8

Patch Links

https://www.3cx.com/blog/news/security-incident-updates/

https://www.3cx.com/user-manual/web-client/#h.85vdwzu7eh2a

References

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https://thehackernews.com/2023/03/3cx-supply-chain-attack-heres-what-we.html

https://attack.mitre.org/groups/G0032/

What Next?

At **Hive Pro**, it is our mission to detect the most likely threats to your organization and to help you prevent them from happening.

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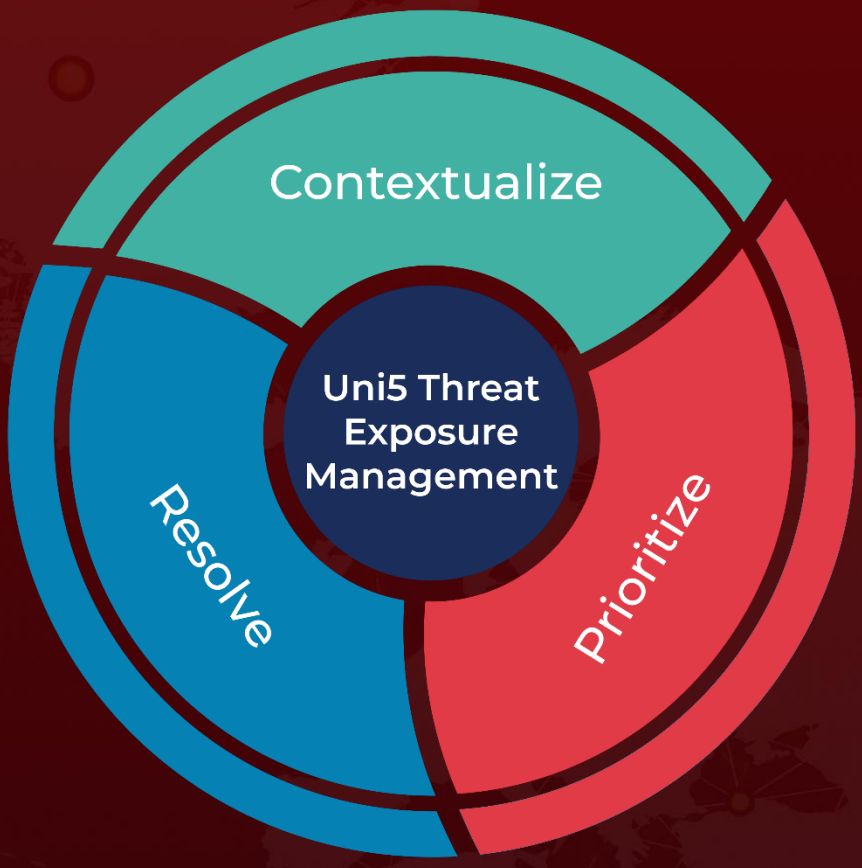

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