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KPMG Cyber Threat Intelligence Platform

Cyber Threat Notification | Hackers Disguise PlugX Trojan as Legitimate Windows Debugger Tool

Tracker ID: TN2334 **Date:** March 07, 2023 **Category:** Malware **Industry:** All **Region**: All

Overview

In an attempt to get through security measures and gain control of a target system, the PlugX remote access trojan has been observed disguising itself as an open source Windows debugger tool named x64dbg.Researchers from Trend Micro Buddy Tancio, Jed Valderama, and Catherine Loveria wrote in a report published last week: "This file is a legitimate open-source debugger tool for Windows that is generally used to analyze kernel-mode and user-mode code, crash dumps, or CPU registers.

PlugX, also referred to as Korplug, is a post-exploitation modular implant that is renowned for its various functionalities, including data exfiltration and the capacity to use the compromised machine for nefarious purposes.Early samples of the malware date back to February 2008, despite being initially detected over a decade ago in 2012, according to a Trend Micro report at the time. PlugX has been used over time by cybercrime groups as well as threat actors with Chinese nexus.DLL side-loading is a key tactic used by the malware to load a malicious DLL from a digitally signed software application, in this case the x64dbg debugging tool (x32dbg.exe).It's important to note that DLL side-loading attacks make use of Windows' DLL search order mechanism to load and then launch a legitimate application that executes a rogue payload. The researchers said that while x32dbg.exe is a legitimate application, its valid digital signature may confuse some security tools, enabling threat actors to avoid detection, maintain persistence, increase their level of privileges, and bypass file execution restrictions.

Palo Alto Networks Unit 42, which disclosed a new variant of the malware that hides malicious files on detachable USB devices to propagate the infection to other Windows hosts, disclosed the hijacking of x64dbg to load PlugX last month. Persistence is achieved via making modifications to the Windows Registry and establishing scheduled processes to maintain access even after a system restart. In addition, x32dbg.exe was used to deploy a backdoor, a UDP shell client that gathers system information and waits for further instructions from a remote server, as per Trend Micro's analysis of the attack chain. "Despite advances in security technology, attackers continue to use [DLL side-loading] since it exploits a fundamental trust in legitimate applications," the researchers said. "This technique will remain viable for attackers to deliver malware and gain access to sensitive information as long as systems and applications continue to trust and load dynamic libraries."

The fact that DLL side loading is still used by threat actors today shows that it is an effective way to get around protective measures and gain control of a target system. This has been demonstrated by the discovery and analysis of the malware attack using the open-source debugger tool x32dbg.exe. Attackers still utilize this method despite advances in security technologies as it takes control of users' inherent trust in reliable programmes. As long as systems and applications continue to trust and load dynamic libraries, this technique will continue to be a viable way for attackers to deliver malware and access sensitive information.

The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavour to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act on such information without appropriate professional advice after a thorough examination of the particular situation.

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MITRE ATT&CK Tactics

Resource Development, Initial Access, Execution, Persistence, Defense Evasion, Command and Control, Exfiltration.

Indicators of Compromise *

Please refer to the attached sheet for IOCs.

Recommendations

- Check with your existing AV/EDR vendor to validate the detection scope of identified samples.
- Allow only known and trusted applications to run on the system while blocking any suspicious or unknown ones.
- Ensure that all DLLs are signed with a trusted digital signature to ensure their authenticity and integrity.
- Monitor and control the execution of applications and their dependencies, including DLLs, to detect and prevent malicious activities.
- Use endpoint protection solutions that offer behavioral analysis and predictive machine learning for better security capabilities
- Enable biometric security features such as fingerprint or facial recognition for unlocking the mobile device to avoid unauthorized access obtained using malicious activities such as keylogging and screen recording.
- Use complex passwords and enforce multi-factor authentication wherever possible.
- Follow multilayered defense solutions and active monitoring to detect threats before operators can launch their attacks.

References

- Buddy Tancio, Jed Valderama, Catherine Loveria, the PlugX Trojan Disguised as Legitimate Windows Debugger Tool, February 24, 2023, External Link (www.trendmicro.com).
- Ravie Lakshmanan, PlugX Trojan Disguised as Legitimate Windows Debugger Tool in Latest Attacks, February 27, 2023, External Link (thehackernews.com).
- Alexandre Cote Cyr, Mustang Panda's latest backdoor treads new ground with Qt and MQTT, March 2 ,2023 , External link (www.welivesecurity.com).

In case of a Security Incident, please report to IN-FM KPMG SOC.

For any query or feedback, feel free to reach us at IN-FM KPMG CTI.

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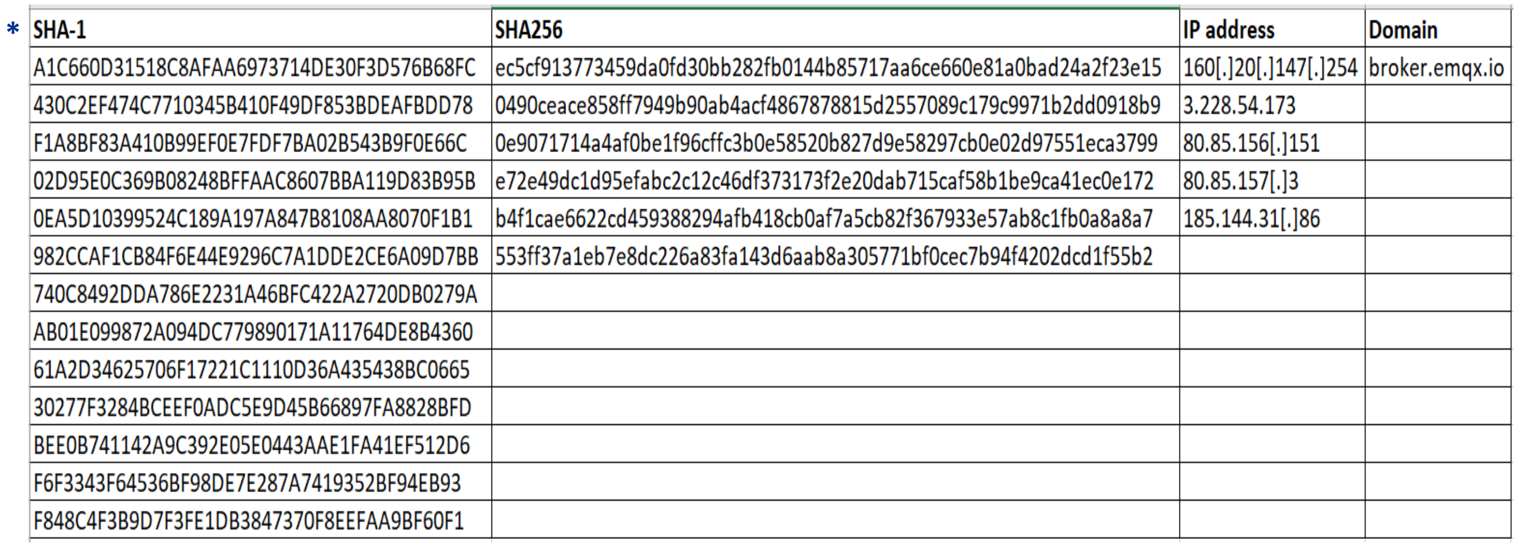

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