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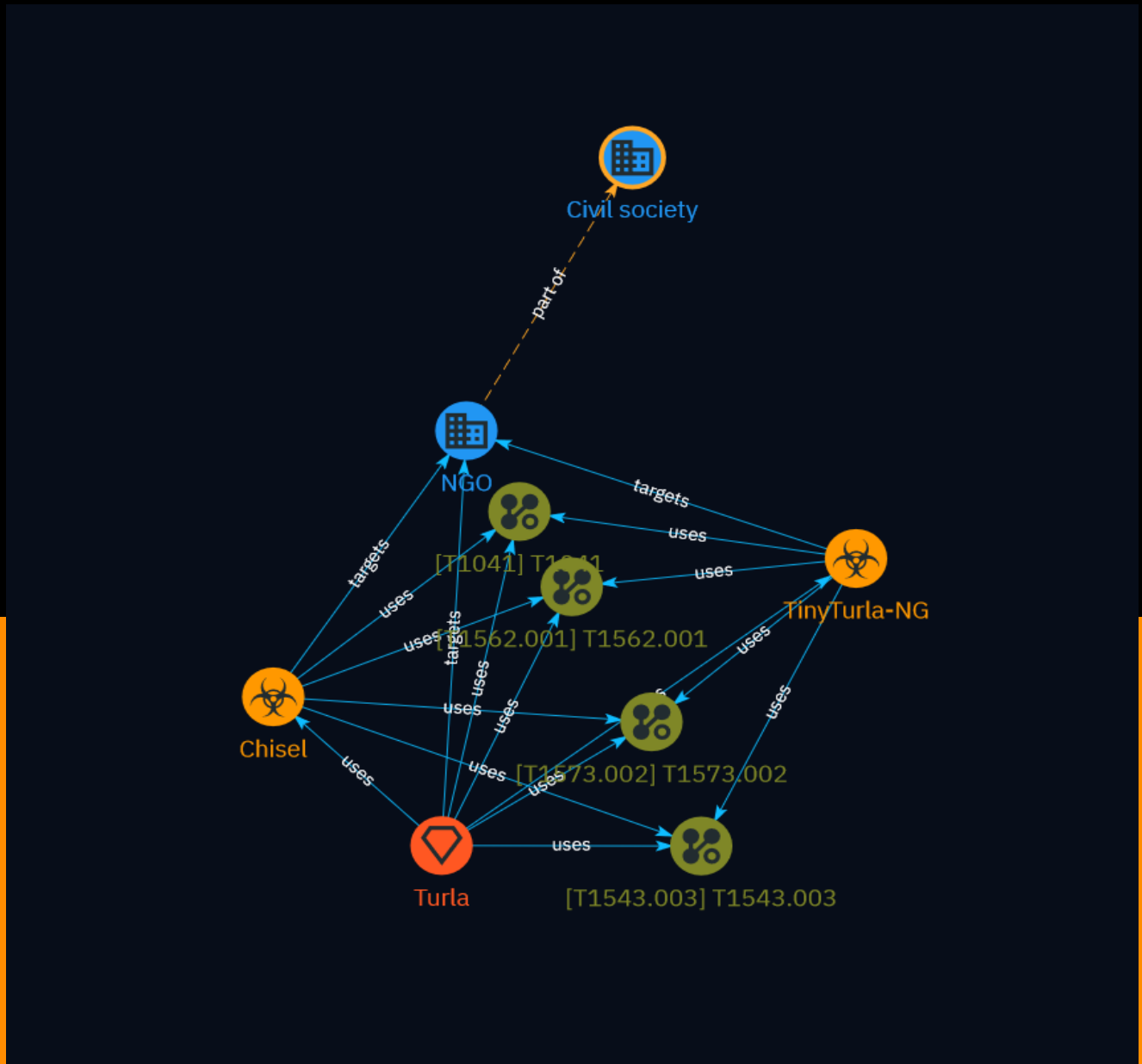
NETMANAGEIT

Intelligence Report

New details on TinyTurla's post-compromise activity reveal full kill chain



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Overview

Description

Cisco Talos provides an update on its reports on a campaign where Turla, a Russian espionage group, deployed their TinyTurla-NG implant. The analysis reveals Turla infected systems in a European NGO's network, compromised the first system, established persistence, and added exclusions to AV products. Turla then opened channels via Chisel for exfiltration and pivoting. The full kill chain is traced from compromise to exfiltration.

Confidence

This value represents the confidence in the correctness of the data contained within this report.

100 / 100

Content

N/A

Malware

Name
Chisel

Name
TinyTurla-NG

Intrusion-Set

Name

Turla

Description

[Turla](https://attack.mitre.org/groups/G0010) is a cyber espionage threat group that has been attributed to Russia's Federal Security Service (FSB). They have compromised victims in over 50 countries since at least 2004, spanning a range of industries including government, embassies, military, education, research and pharmaceutical companies. [Turla](https://attack.mitre.org/groups/G0010) is known for conducting watering hole and spearphishing campaigns, and leveraging in-house tools and malware, such as [Uroburos](https://attack.mitre.org/software/S0022).(Citation: Kaspersky Turla)(Citation: ESET Gazer Aug 2017)(Citation: CrowdStrike VENOMOUS BEAR)(Citation: ESET Turla Mosquito Jan 2018)(Citation: Joint Cybersecurity Advisory AA23-129A Snake Malware May 2023)

Attack-Pattern

Name
T1573.002
ID
T1573.002
Description
Adversaries may employ a known asymmetric encryption algorithm to conceal command and control traffic rather than relying on any inherent protections provided by a communication protocol. Asymmetric cryptography, also known as public key cryptography, uses a keypair per party: one public that can be freely distributed, and one private. Due to how the keys are generated, the sender encrypts data with the receiver's public key and the receiver decrypts the data with their private key. This ensures that only the intended recipient can read the encrypted data. Common public key encryption algorithms include RSA and ElGamal. For efficiency, many protocols (including SSL/TLS) use symmetric cryptography once a connection is established, but use asymmetric cryptography to establish or transmit a key. As such, these protocols are classified as [Asymmetric Cryptography](https://attack.mitre.org/techniques/T1573/002).
Name
T1562.001
ID
T1562.001

Description

Adversaries may modify and/or disable security tools to avoid possible detection of their malware/tools and activities. This may take many forms, such as killing security software processes or services, modifying / deleting Registry keys or configuration files so that tools do not operate properly, or other methods to interfere with security tools scanning or reporting information. Adversaries may also disable updates to prevent the latest security patches from reaching tools on victim systems.(Citation: SCADAfence_ransomware) Adversaries may also tamper with artifacts deployed and utilized by security tools. Security tools may make dynamic changes to system components in order to maintain visibility into specific events. For example, security products may load their own modules and/or modify those loaded by processes to facilitate data collection. Similar to [Indicator Blocking](https://attack.mitre.org/techniques/T1562/006), adversaries may unhook or otherwise modify these features added by tools (especially those that exist in userland or are otherwise potentially accessible to adversaries) to avoid detection.(Citation: OutFlank System Calls)(Citation: MDSec System Calls) Adversaries may also focus on specific applications such as Sysmon. For example, the “Start” and “Enable” values in `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\WMI\Autologger\EventLog-Microsoft-Windows-Sysmon-Operational` may be modified to tamper with and potentially disable Sysmon logging.(Citation: disable_win_evt_logging) On network devices, adversaries may attempt to skip digital signature verification checks by altering startup configuration files and effectively disabling firmware verification that typically occurs at boot.(Citation: Fortinet Zero-Day and Custom Malware Used by Suspected Chinese Actor in Espionage Operation)(Citation: Analysis of FG-IR-22-369) In cloud environments, tools disabled by adversaries may include cloud monitoring agents that report back to services such as AWS CloudWatch or Google Cloud Monitor. Furthermore, although defensive tools may have anti-tampering mechanisms, adversaries may abuse tools such as legitimate rootkit removal kits to impair and/or disable these tools.(Citation: chasing_avaddon_ransomware)(Citation: dharma_ransomware)(Citation: demystifying_ryuk)(Citation: doppelpaymer_crowdstrike) For example, adversaries have used tools such as GMER to find and shut down hidden processes and antivirus software on infected systems.(Citation: demystifying_ryuk) Additionally, adversaries may exploit legitimate drivers from anti-virus software to gain access to kernel space (i.e. [Exploitation for Privilege Escalation](https://attack.mitre.org/techniques/T1068)), which may lead to bypassing anti-tampering features.(Citation: avoslocker_ransomware)

Name

T1041

ID

T1041

Description

Adversaries may steal data by exfiltrating it over an existing command and control channel. Stolen data is encoded into the normal communications channel using the same protocol as command and control communications.

Name

T1543.003

ID

T1543.003

Description

Adversaries may create or modify Windows services to repeatedly execute malicious payloads as part of persistence. When Windows boots up, it starts programs or applications called services that perform background system functions.(Citation: TechNet Services) Windows service configuration information, including the file path to the service's executable or recovery programs/commands, is stored in the Windows Registry. Adversaries may install a new service or modify an existing service to execute at startup in order to persist on a system. Service configurations can be set or modified using system utilities (such as sc.exe), by directly modifying the Registry, or by interacting directly with the Windows API. Adversaries may also use services to install and execute malicious drivers. For example, after dropping a driver file (ex: `.sys`) to disk, the payload can be loaded and registered via [Native API](https://attack.mitre.org/techniques/T1106) functions such as `CreateServiceW()` (or manually via functions such as `ZwLoadDriver()` and `ZwSetValueKey()`), by creating the required service Registry values (i.e. [Modify Registry](https://attack.mitre.org/techniques/T1112)), or by using command-line utilities such as `PnPUtil.exe`.(Citation: Symantec W.32 Stuxnet Dossier)(Citation: Crowdstrike DriveSlayer February 2022)(Citation: Unit42 AcidBox June 2020) Adversaries may leverage these drivers as [Rootkit](https://attack.mitre.org/techniques/T1014)s to hide the presence of malicious activity on a system. Adversaries may also load a signed yet vulnerable driver onto a compromised machine (known as "Bring Your Own Vulnerable Driver" (BYOVD)) as part of

[Exploitation for Privilege Escalation](https://attack.mitre.org/techniques/T1068).(Citation: ESET InvisiMole June 2020)(Citation: Unit42 AcidBox June 2020) Services may be created with administrator privileges but are executed under SYSTEM privileges, so an adversary may also use a service to escalate privileges. Adversaries may also directly start services through [Service Execution](https://attack.mitre.org/techniques/T1569/002). To make detection analysis more challenging, malicious services may also incorporate [Masquerade Task or Service](https://attack.mitre.org/techniques/T1036/004) (ex: using a service and/or payload name related to a legitimate OS or benign software component).

Sector

Name
NGO
Description
A legally constituted non-commercial organization created by natural or legal persons with no participation or representation of any government.
Name
Civil society
Description
The general public and all non-governmental entities, or individuals independent of governments, which may be linked by interests or activities aiming at promoting the interests and the will of citizens.

External References

- https://blog.talosintelligence.com/tinyturla-full-kill-chain/
- https://otx.alienvault.com/pulse/65fc90429e7f43fbbef20918