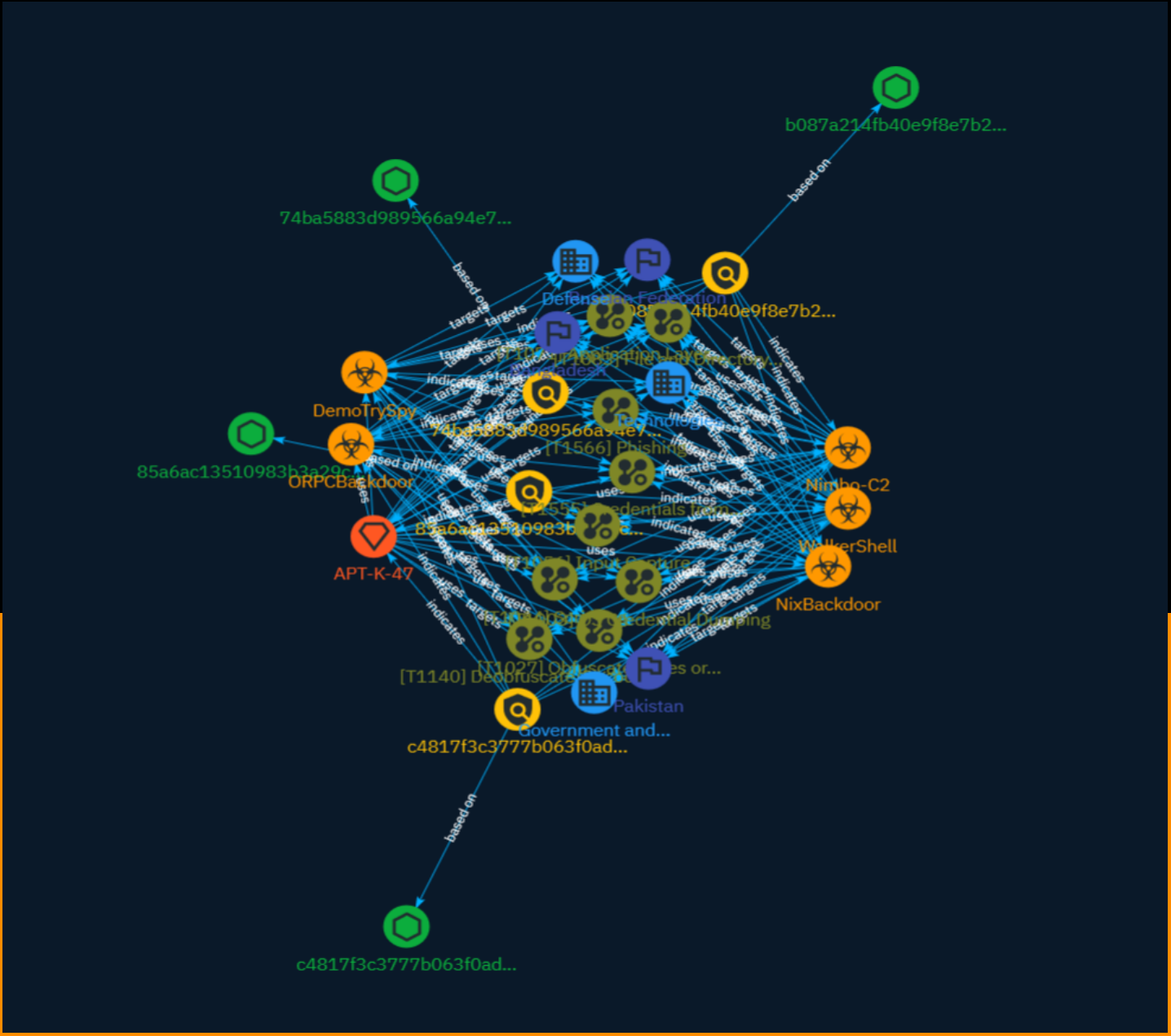
Feb 05 2024

NETMANAGEIT

Intelligence Report

APT-K-47 group uses new malware tools to launch data theft attacks



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Overview

Entities

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Overview

Description

This report provides an analysis of a recent data theft campaign conducted by the APT-K-47 group, a threat actor based in South Asia. The group deployed new and previously undisclosed malware tools, including WalkerShell, DemoTrySpy, NixBackdoor and Nimbo-C2, to compromise targets and steal sensitive data. After gaining initial access, the attackers downloaded additional payloads like ORPCBackdoor to establish persistence. The campaign targeted organizations in countries like Russia, Pakistan, Bangladesh and the United States across multiple industries. The attackers were able to traverse file systems to exfiltrate documents of interest and steal browser passwords. The report examines the new malware tools in detail, including their capabilities and role in the attack chain.

Confidence

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

15 / 100

Content

N/A

Indicator

Name
85a6ac13510983b3a29ccb2527679d91c86c1f91fdfee68913bc5d3d01eeda2b
Pattern Type
stix
Pattern
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Pattern Type
stix
Pattern
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Pattern Type

stix

Pattern

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Name

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Pattern Type

stix

Pattern

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Pattern Type

stix

Pattern

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Name

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Pattern Type

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Pattern

[file:hashes.'SHA-256' = 'c4817f3c3777b063f0adbc1c8e4671da533f716bab7ad2c4b9bc87295df67334']

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Name

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Pattern Type

stix

Pattern

[file:hashes.'SHA-256' = '74ba5883d989566a94e7c6c217b17102f054ffbe98bc9c878a7f700f9809e910']

Malware

Name
ORPCBackdoor
Name
Nimbo-C2
Name
NixBackdoor
Name
DemoTrySpy
Name
WalkerShell
Name
ORPCBackdoor
Name
Nimbo-C2

Name
NixBackdoor

Name
DemoTrySpy

Name
WalkerShell

Intrusion-Set

Name
APT-K-47

Name
APT-K-47

Attack-Pattern

Name
Input Capture
ID
T1056
Description
Adversaries may use methods of capturing user input to obtain credentials or collect information. During normal system usage, users often provide credentials to various different locations, such as login pages/portals or system dialog boxes. Input capture mechanisms may be transparent to the user (e.g. [Credential API Hooking](https://attack.mitre.org/techniques/T1056/004)) or rely on deceiving the user into providing input into what they believe to be a genuine service (e.g. [Web Portal Capture](https://attack.mitre.org/techniques/T1056/003)).
Name
Scripting
ID
T1064
Description

This technique has been deprecated. Please use [Command and Scripting Interpreter](https://attack.mitre.org/techniques/T1059) where appropriate. Adversaries may use scripts to aid in operations and perform multiple actions that would otherwise be manual. Scripting is useful for speeding up operational tasks and reducing the time required to gain access to critical resources. Some scripting languages may be used to bypass process monitoring mechanisms by directly interacting with the operating system at an API level instead of calling other programs. Common scripting languages for Windows include VBScript and [PowerShell](https://attack.mitre.org/techniques/T1086) but could also be in the form of command-line batch scripts. Scripts can be embedded inside Office documents as macros that can be set to execute when files used in [Spearphishing Attachment](https://attack.mitre.org/techniques/T1193) and other types of spearphishing are opened. Malicious embedded macros are an alternative means of execution than software exploitation through [Exploitation for Client Execution](https://attack.mitre.org/techniques/T1203), where adversaries will rely on macros being allowed or that the user will accept to activate them. Many popular offensive frameworks exist which use forms of scripting for security testers and adversaries alike. Metasploit (Citation: Metasploit_Ref), Veil (Citation: Veil_Ref), and PowerSploit (Citation: Powersploit) are three examples that are popular among penetration testers for exploit and post-compromise operations and include many features for evading defenses. Some adversaries are known to use PowerShell. (Citation: Alperovitch 2014)

Name

File and Directory Discovery

ID

T1083

Description

Adversaries may enumerate files and directories or may search in specific locations of a host or network share for certain information within a file system. Adversaries may use the information from [File and Directory Discovery](https://attack.mitre.org/techniques/T1083) during automated discovery to shape follow-on behaviors, including whether or not the adversary fully infects the target and/or attempts specific actions. Many command shell utilities can be used to obtain this information. Examples include `dir`, `tree`, `ls`, `find`, and `locate`.(Citation: Windows Commands JPCERT) Custom tools may also be used to gather file and directory information and interact with the [Native API](https://attack.mitre.org/techniques/T1106). Adversaries may also leverage a [Network Device CLI]

(https://attack.mitre.org/techniques/T1059/008) on network devices to gather file and directory information (e.g. `dir`, `show flash`, and/or `nvram`).(Citation: US-CERT-TA18-106A)

Name

Obfuscated Files or Information

ID

T1027

Description

Adversaries may attempt to make an executable or file difficult to discover or analyze by encrypting, encoding, or otherwise obfuscating its contents on the system or in transit. This is common behavior that can be used across different platforms and the network to evade defenses. Payloads may be compressed, archived, or encrypted in order to avoid detection. These payloads may be used during Initial Access or later to mitigate detection. Sometimes a user's action may be required to open and [Deobfuscate/Decode Files or Information](https://attack.mitre.org/techniques/T1140) for [User Execution](https://attack.mitre.org/techniques/T1204). The user may also be required to input a password to open a password protected compressed/encrypted file that was provided by the adversary. (Citation: Volexity PowerDuke November 2016) Adversaries may also use compressed or archived scripts, such as JavaScript. Portions of files can also be encoded to hide the plain-text strings that would otherwise help defenders with discovery. (Citation: Linux/Cdorked.A We Live Security Analysis) Payloads may also be split into separate, seemingly benign files that only reveal malicious functionality when reassembled. (Citation: Carbon Black Obfuscation Sept 2016) Adversaries may also abuse [Command Obfuscation](https://attack.mitre.org/techniques/T1027/010) to obscure commands executed from payloads or directly via [Command and Scripting Interpreter](https://attack.mitre.org/techniques/T1059). Environment variables, aliases, characters, and other platform/language specific semantics can be used to evade signature based detections and application control mechanisms. (Citation: FireEye Obfuscation June 2017) (Citation: FireEye Revoke-Obfuscation July 2017)(Citation: PaloAlto EncodedCommand March 2017)

Name

Phishing

ID

T1566

Description

Adversaries may send phishing messages to gain access to victim systems. All forms of phishing are electronically delivered social engineering. Phishing can be targeted, known as spearphishing. In spearphishing, a specific individual, company, or industry will be targeted by the adversary. More generally, adversaries can conduct non-targeted phishing, such as in mass malware spam campaigns. Adversaries may send victims emails containing malicious attachments or links, typically to execute malicious code on victim systems. Phishing may also be conducted via third-party services, like social media platforms. Phishing may also involve social engineering techniques, such as posing as a trusted source, as well as evasive techniques such as removing or manipulating emails or metadata/headers from compromised accounts being abused to send messages (e.g., [Email Hiding Rules](https://attack.mitre.org/techniques/T1564/008)).(Citation: Microsoft OAuth Spam 2022)(Citation: Palo Alto Unit 42 VBA Infostealer 2014) Another way to accomplish this is by forging or spoofing(Citation: Proofpoint-spoof) the identity of the sender which can be used to fool both the human recipient as well as automated security tools.(Citation: cyberproof-double-bounce) Victims may also receive phishing messages that instruct them to call a phone number where they are directed to visit a malicious URL, download malware,(Citation: sygnia Luna Month)(Citation: CISA Remote Monitoring and Management Software) or install adversary-accessible remote management tools onto their computer (i.e., [User Execution](https://attack.mitre.org/techniques/T1204)).(Citation: Unit42 Luna Moth)

Name

Credentials from Password Stores

ID

T1555

Description

Adversaries may search for common password storage locations to obtain user credentials. Passwords are stored in several places on a system, depending on the

operating system or application holding the credentials. There are also specific applications and services that store passwords to make them easier for users to manage and maintain, such as password managers and cloud secrets vaults. Once credentials are obtained, they can be used to perform lateral movement and access restricted information.

Name

Deobfuscate/Decode Files or Information

ID

T1140

Description

Adversaries may use [Obfuscated Files or Information](https://attack.mitre.org/techniques/T1027) to hide artifacts of an intrusion from analysis. They may require separate mechanisms to decode or deobfuscate that information depending on how they intend to use it. Methods for doing that include built-in functionality of malware or by using utilities present on the system. One such example is the use of [certutil](https://attack.mitre.org/software/S0160) to decode a remote access tool portable executable file that has been hidden inside a certificate file.(Citation: Malwarebytes Targeted Attack against Saudi Arabia) Another example is using the Windows `copy /b` command to reassemble binary fragments into a malicious payload.(Citation: Carbon Black Obfuscation Sept 2016) Sometimes a user's action may be required to open it for deobfuscation or decryption as part of [User Execution](https://attack.mitre.org/techniques/T1204). The user may also be required to input a password to open a password protected compressed/encrypted file that was provided by the adversary. (Citation: Volexity PowerDuke November 2016)

Name

Application Layer Protocol

ID

T1071

Description

Adversaries may communicate using OSI application layer protocols to avoid detection/network filtering by blending in with existing traffic. Commands to the remote system, and often the results of those commands, will be embedded within the protocol traffic between the client and server. Adversaries may utilize many different protocols, including those used for web browsing, transferring files, electronic mail, or DNS. For connections that occur internally within an enclave (such as those between a proxy or pivot node and other nodes), commonly used protocols are SMB, SSH, or RDP.

Name

OS Credential Dumping

ID

T1003

Description

Adversaries may attempt to dump credentials to obtain account login and credential material, normally in the form of a hash or a clear text password, from the operating system and software. Credentials can then be used to perform [Lateral Movement](https://attack.mitre.org/tactics/TA0008) and access restricted information. Several of the tools mentioned in associated sub-techniques may be used by both adversaries and professional security testers. Additional custom tools likely exist as well.

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Input Capture

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T1056

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Adversaries may use methods of capturing user input to obtain credentials or collect information. During normal system usage, users often provide credentials to various different locations, such as login pages/portals or system dialog boxes. Input capture mechanisms may be transparent to the user (e.g. [Credential API Hooking](https://attack.mitre.org/techniques/T1056/004)) or rely on deceiving the user into providing input into what they believe to be a genuine service (e.g. [Web Portal Capture](https://attack.mitre.org/techniques/T1056/003)).

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Country

Name
Russian Federation
Name
Pakistan
Name
Bangladesh
Name
Russian Federation
Name
Pakistan
Name
Bangladesh

Sector

Name
Technologies
Description
Private entities related to the research, development, manufacturing and distribution of electronics, softwares, computers and products related to information technologies.
Name
Government and administrations
Description
Civilian government institutions and administrations of the executive and legislative branches. The diplomatic and judicial branches are not included.
Name
Defense
Description
Public and private entities involved in the conception and production of weapons and the planning and conducting of military operations.

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Technologies
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StixFile

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74ba5883d989566a94e7c6c217b17102f054ffbe98bc9c878a7f700f9809e910

External References

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