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Overview

Description

This blog details suspected Iranian espionage activity since June 2022 targeting aerospace, aviation and defense entities in Israel, UAE and potentially Turkey, India and Albania. The campaign involves social engineering to deploy two backdoors, MINIBIKE and MINIBUS, and extensive use of Azure infrastructure for command and control. The activity shows potential links to Iranian actor UNC1549, which overlaps with IRGC-affiliated Tortoiseshell. The targeting focuses on sectors of strategic interest to Iran and the evasion tactics aim to mask the malicious operations.

Confidence

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

15 / 100

Content

N/A

Malware

Name

Lightrail

Name

Minibike

Name

Minibus

Intrusion-Set

Name

UNC1549

Attack-Pattern

Name

Phishing for Information

ID

T1598

Description

Adversaries may send phishing messages to elicit sensitive information that can be used during targeting. Phishing for information is an attempt to trick targets into divulging information, frequently credentials or other actionable information. Phishing for information is different from [Phishing](<https://attack.mitre.org/techniques/T1566>) in that the objective is gathering data from the victim rather than executing malicious code. 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 credential harvesting campaigns. Adversaries may also try to obtain information directly through the exchange of emails, instant messages, or other electronic conversation means.(Citation: ThreatPost Social Media Phishing)(Citation: TrendMicro Phishing)(Citation: PCMag FakeLogin)(Citation: Sophos Attachment)(Citation: GitHub Phishery) Victims may also receive phishing messages that direct them to call a phone number where the adversary attempts to collect confidential information.(Citation: Avertium callback phishing) Phishing for information frequently involves social engineering techniques, such as posing as a source with a reason to collect information (ex: [Establish Accounts](<https://attack.mitre.org/techniques/T1585>) or [Compromise Accounts](<https://attack.mitre.org/techniques/T1586>)) and/or sending multiple, seemingly urgent messages. 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)

Phishing for information may also involve 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)

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

Encrypted Channel

ID

T1573

Description

Adversaries may employ a known encryption algorithm to conceal command and control traffic rather than relying on any inherent protections provided by a communication protocol. Despite the use of a secure algorithm, these implementations may be vulnerable to reverse engineering if secret keys are encoded and/or generated within malware samples/configuration files.

Name

Dynamic Resolution

ID

T1568

Description

Adversaries may dynamically establish connections to command and control infrastructure to evade common detections and remediations. This may be achieved by using malware that shares a common algorithm with the infrastructure the adversary uses to receive the malware's communications. These calculations can be used to dynamically adjust parameters such as the domain name, IP address, or port number the malware uses for command and control. Adversaries may use dynamic resolution for the purpose of [Fallback Channels](<https://attack.mitre.org/techniques/T1008>). When contact is lost with the primary command and control server malware may employ dynamic resolution as a means to reestablishing command and control.(Citation: Talos CCleanup 2017)(Citation: FireEye POSHSPY April 2017)(Citation: ESET Sednit 2017 Activity)

Name

Command and Scripting Interpreter

ID

T1059

Description

Adversaries may abuse command and script interpreters to execute commands, scripts, or binaries. These interfaces and languages provide ways of interacting with computer systems and are a common feature across many different platforms. Most systems come with some built-in command-line interface and scripting capabilities, for example, macOS and Linux distributions include some flavor of [Unix Shell](<https://attack.mitre.org/techniques/T1059/004>) while Windows installations include the [Windows Command Shell](<https://attack.mitre.org/techniques/T1059/003>) and [PowerShell](<https://attack.mitre.org/techniques/T1059/001>). There are also cross-platform interpreters such as [Python](<https://attack.mitre.org/techniques/T1059/006>), as well as those commonly associated with client applications such as [JavaScript](<https://attack.mitre.org/techniques/T1059/007>) and [Visual Basic](<https://attack.mitre.org/techniques/T1059/005>). Adversaries may abuse these technologies in various ways as a means of executing arbitrary commands. Commands and scripts can be embedded in [Initial Access](<https://attack.mitre.org/tactics/TA0001>) payloads delivered to victims as lure documents or as secondary payloads downloaded from an existing C2. Adversaries may also execute commands through interactive terminals/shells, as well as utilize various [Remote Services](<https://attack.mitre.org/techniques/T1021>) in order to achieve remote Execution. (Citation: Powershell Remote Commands)(Citation: Cisco IOS Software Integrity Assurance - Command History)(Citation: Remote Shell Execution in Python)

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

T1112

ID

T1112

Description

Adversaries may interact with the Windows Registry to hide configuration information within Registry keys, remove information as part of cleaning up, or as part of other techniques to aid in persistence and execution. Access to specific areas of the Registry depends on account permissions, some requiring administrator-level access. The built-in Windows command-line utility [Reg](https://attack.mitre.org/software/S0075) may be used for local or remote Registry modification. (Citation: Microsoft Reg) Other tools may also be used, such as a remote access tool, which may contain functionality to interact with the Registry through the Windows API. Registry modifications may also include actions to hide keys, such as prepending key names with a null character, which will cause an error and/or be ignored when read via [Reg](https://attack.mitre.org/software/S0075) or other utilities using the Win32 API. (Citation: Microsoft Reghide NOV 2006) Adversaries may abuse these pseudo-hidden keys to conceal payloads/commands used to maintain persistence. (Citation: TrendMicro POWELIKS AUG 2014) (Citation: SpectorOps Hiding Reg Jul 2017) The Registry of a remote system may be modified to aid in execution of files as part of lateral movement. It requires the remote Registry service to be running on the target system. (Citation: Microsoft Remote) Often [Valid Accounts](https://attack.mitre.org/techniques/T1078) are required, along with access to the remote system's [SMB/Windows Admin Shares](https://attack.mitre.org/techniques/T1021/002) for RPC communication.

Name

T1036

ID

T1036

Description

Adversaries may attempt to manipulate features of their artifacts to make them appear legitimate or benign to users and/or security tools. Masquerading occurs when the name or location of an object, legitimate or malicious, is manipulated or abused for the sake of evading defenses and observation. This may include manipulating file metadata, tricking users into misidentifying the file type, and giving legitimate task or service names. Renaming abusable system utilities to evade security monitoring is also a form of [Masquerading](https://attack.mitre.org/techniques/T1036). (Citation: LOLBAS Main Site) Masquerading may also include the use of [Proxy](https://attack.mitre.org/techniques/T1090) or VPNs to disguise IP addresses, which can allow adversaries to blend in with normal network traffic and bypass conditional access policies or anti-abuse protections.

Name

T1140

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

T1071

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.

Name

Screen Capture

ID

T1113

Description

Adversaries may attempt to take screen captures of the desktop to gather information over the course of an operation. Screen capturing functionality may be included as a feature of a remote access tool used in post-compromise operations. Taking a screenshot is also typically possible through native utilities or API calls, such as `CopyFromScreen``, `xwd``, or `screencapture``.(Citation: CopyFromScreen .NET)(Citation: Antiquated Mac Malware)

Country

Name

Albania

Name

Israel

Name

India

Name

British Indian Ocean Territory

Region

Name

Southern Europe

Name

Europe

Name

Middle East

Name

Southern Asia

Name

Asia

Name

Sub-Saharan Africa

Name

Africa

Sector

Name

Defense

Description

Public and private entities involved in the conception and production of weapons and the planning and conducting of military operations.

Name

Air transport

Description

All entities transporting people or goods by plane, managing or exploiting airports and structures, traffic authorities and plane manufacturers. Includes all civilian space activities.

Name

Transport

Description

All entities involved in the movement of people or goods from one place to another.

External References

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- <https://www.mandiant.com/resources/blog/suspected-iranian-unc1549-targets-israel-middle-east>
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- <https://otx.alienvault.com/pulse/65dfbc11dc780a2b1bebf376>