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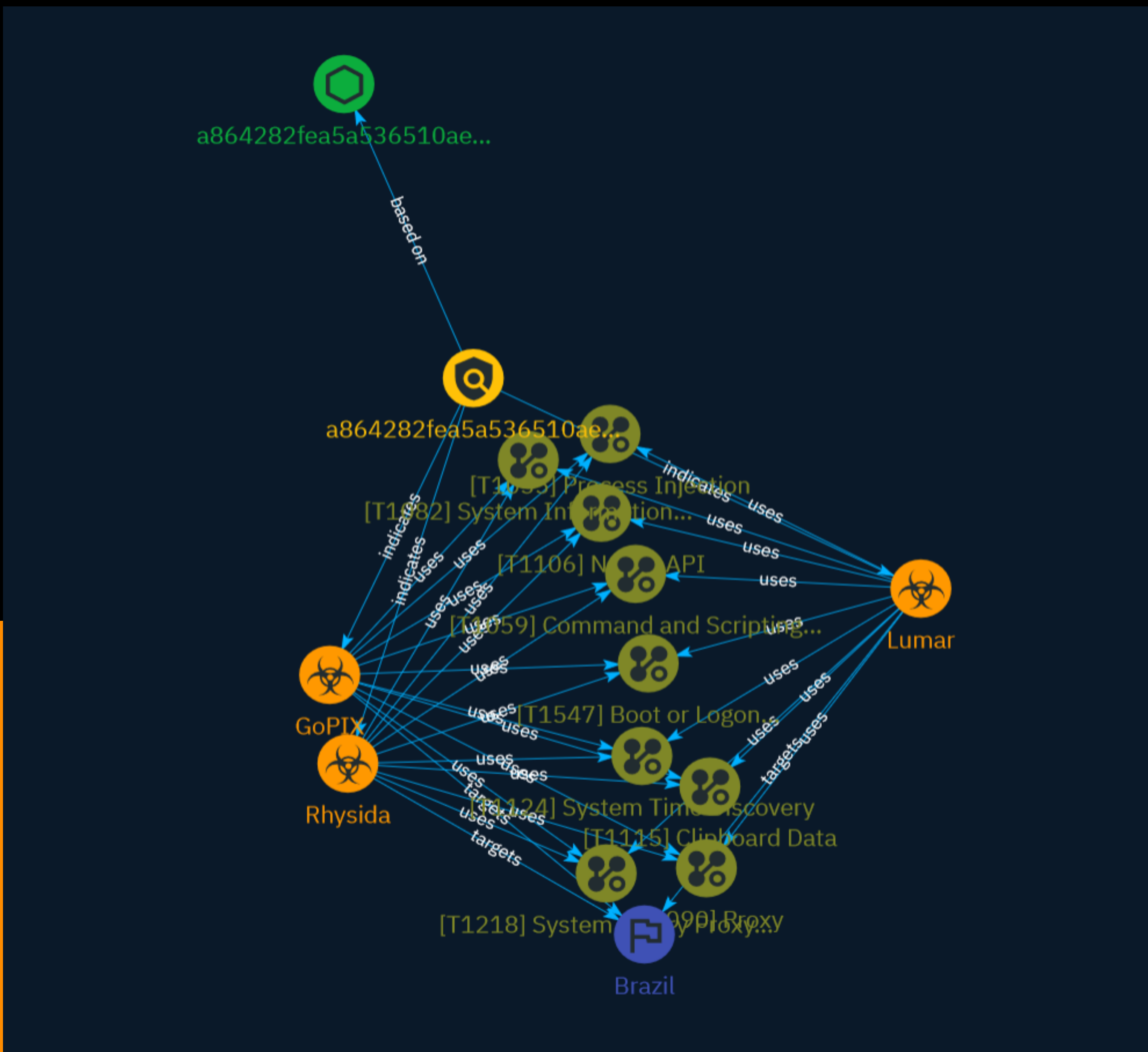
NETMANAGEIT

Intelligence Report

Stealer for PIX payment system, new Lumar stealer and Rhysida ransomware



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Overview

Description

In this article, we share excerpts from our reports on malware that has been active for less than a year: the GoPIX stealer targeting the PIX payment system, which is gaining popularity in Brazil; the Lumar multipurpose stealer advertised on the dark web; and the Rhysida ransomware supporting old Windows versions.

Confidence

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

15 / 100

Content

N/A

Attack-Pattern

Name
Boot or Logon Autostart Execution
ID
T1547
Description
Adversaries may configure system settings to automatically execute a program during system boot or logon to maintain persistence or gain higher-level privileges on compromised systems. Operating systems may have mechanisms for automatically running a program on system boot or account logon.(Citation: Microsoft Run Key)(Citation: MSDN Authentication Packages)(Citation: Microsoft TimeProvider)(Citation: Cylance Reg Persistence Sept 2013)(Citation: Linux Kernel Programming) These mechanisms may include automatically executing programs that are placed in specially designated directories or are referenced by repositories that store configuration information, such as the Windows Registry. An adversary may achieve the same goal by modifying or extending features of the kernel. Since some boot or logon autostart programs run with higher privileges, an adversary may leverage these to elevate privileges.
Name
System Time Discovery
ID
T1124

Description

An adversary may gather the system time and/or time zone from a local or remote system. The system time is set and stored by the Windows Time Service within a domain to maintain time synchronization between systems and services in an enterprise network. (Citation: MSDN System Time)(Citation: Technet Windows Time Service) System time information may be gathered in a number of ways, such as with [Net](https://attack.mitre.org/software/S0039) on Windows by performing `net time \\hostname` to gather the system time on a remote system. The victim's time zone may also be inferred from the current system time or gathered by using `w32tm /tz`.(Citation: Technet Windows Time Service) On network devices, [Network Device CLI](https://attack.mitre.org/techniques/T1059/008) commands such as `show clock detail` can be used to see the current time configuration.(Citation: show_clock_detail_cisco_cmd) This information could be useful for performing other techniques, such as executing a file with a [Scheduled Task/Job](https://attack.mitre.org/techniques/T1053)(Citation: RSA EU12 They're Inside), or to discover locality information based on time zone to assist in victim targeting (i.e. [System Location Discovery](https://attack.mitre.org/techniques/T1614)). Adversaries may also use knowledge of system time as part of a time bomb, or delaying execution until a specified date/time.(Citation: AnyRun TimeBomb)

Name

Process Injection

ID

T1055

Description

Adversaries may inject code into processes in order to evade process-based defenses as well as possibly elevate privileges. Process injection is a method of executing arbitrary code in the address space of a separate live process. Running code in the context of another process may allow access to the process's memory, system/network resources, and possibly elevated privileges. Execution via process injection may also evade detection from security products since the execution is masked under a legitimate process. There are many different ways to inject code into a process, many of which abuse legitimate functionalities. These implementations exist for every major OS but are typically platform specific. More sophisticated samples may perform multiple process injections to segment modules and further evade detection, utilizing named pipes or other inter-process communication (IPC) mechanisms as a communication channel.

Name
Proxy
ID
T1090
Description
Adversaries may use a connection proxy to direct network traffic between systems or act as an intermediary for network communications to a command and control server to avoid direct connections to their infrastructure. Many tools exist that enable traffic redirection through proxies or port redirection, including [HTRAN](https://attack.mitre.org/software/S0040), ZXProxy, and ZXPortMap. (Citation: Trend Micro APT Attack Tools) Adversaries use these types of proxies to manage command and control communications, reduce the number of simultaneous outbound network connections, provide resiliency in the face of connection loss, or to ride over existing trusted communications paths between victims to avoid suspicion. Adversaries may chain together multiple proxies to further disguise the source of malicious traffic. Adversaries can also take advantage of routing schemes in Content Delivery Networks (CDNs) to proxy command and control traffic.

Name
Native API
ID
T1106
Description
Adversaries may interact with the native OS application programming interface (API) to execute behaviors. Native APIs provide a controlled means of calling low-level OS services within the kernel, such as those involving hardware/devices, memory, and processes.

(Citation: NT API Windows)(Citation: Linux Kernel API) These native APIs are leveraged by the OS during system boot (when other system components are not yet initialized) as well as carrying out tasks and requests during routine operations. Native API functions (such as `NtCreateProcess`) may be directed invoked via system calls / syscalls, but these features are also often exposed to user-mode applications via interfaces and libraries.(Citation: OutFlank System Calls)(Citation: CyberBit System Calls)(Citation: MDSec System Calls) For example, functions such as the Windows API `CreateProcess()` or GNU `fork()` will allow programs and scripts to start other processes.(Citation: Microsoft CreateProcess)(Citation: GNU Fork) This may allow API callers to execute a binary, run a CLI command, load modules, etc. as thousands of similar API functions exist for various system operations.(Citation: Microsoft Win32)(Citation: LIBC)(Citation: GLIBC) Higher level software frameworks, such as Microsoft .NET and macOS Cocoa, are also available to interact with native APIs. These frameworks typically provide language wrappers/abstractions to API functionalities and are designed for ease-of-use/portability of code.(Citation: Microsoft NET)(Citation: Apple Core Services)(Citation: MACOS Cocoa)(Citation: macOS Foundation) Adversaries may abuse these OS API functions as a means of executing behaviors. Similar to [Command and Scripting Interpreter](https://attack.mitre.org/techniques/T1059), the native API and its hierarchy of interfaces provide mechanisms to interact with and utilize various components of a victimized system. While invoking API functions, adversaries may also attempt to bypass defensive tools (ex: unhooking monitored functions via [Disable or Modify Tools](https://attack.mitre.org/techniques/T1562/001)).

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
System Binary Proxy Execution

ID
T1218

Description
Adversaries may bypass process and/or signature-based defenses by proxying execution of malicious content with signed, or otherwise trusted, binaries. Binaries used in this technique are often Microsoft-signed files, indicating that they have been either downloaded from Microsoft or are already native in the operating system.(Citation: LOLBAS Project) Binaries signed with trusted digital certificates can typically execute on Windows systems protected by digital signature validation. Several Microsoft signed binaries that are default on Windows installations can be used to proxy execution of other files or commands. Similarly, on Linux systems adversaries may abuse trusted binaries such as `split` to proxy execution of malicious commands.(Citation: split man page)(Citation: GTFO split)

Name
System Information Discovery

ID

T1082

Description

An adversary may attempt to get detailed information about the operating system and hardware, including version, patches, hotfixes, service packs, and architecture. Adversaries may use the information from [System Information Discovery](https://attack.mitre.org/techniques/T1082) during automated discovery to shape follow-on behaviors, including whether or not the adversary fully infects the target and/or attempts specific actions. Tools such as [Systeminfo](https://attack.mitre.org/software/S0096) can be used to gather detailed system information. If running with privileged access, a breakdown of system data can be gathered through the `systemsetup` configuration tool on macOS. As an example, adversaries with user-level access can execute the `df -aH` command to obtain currently mounted disks and associated freely available space. Adversaries may also leverage a [Network Device CLI](https://attack.mitre.org/techniques/T1059/008) on network devices to gather detailed system information (e.g. `show version`).(Citation: US-CERT-TA18-106A) [System Information Discovery](https://attack.mitre.org/techniques/T1082) combined with information gathered from other forms of discovery and reconnaissance can drive payload development and concealment.(Citation: OSX.FairyTale)(Citation: 20 macOS Common Tools and Techniques) Infrastructure as a Service (IaaS) cloud providers such as AWS, GCP, and Azure allow access to instance and virtual machine information via APIs. Successful authenticated API calls can return data such as the operating system platform and status of a particular instance or the model view of a virtual machine.(Citation: Amazon Describe Instance)(Citation: Google Instances Resource)(Citation: Microsoft Virutal Machine API)

Name

Clipboard Data

ID

T1115

Description

Adversaries may collect data stored in the clipboard from users copying information within or between applications. For example, on Windows adversaries can access clipboard data by using `clip.exe` or `Get-Clipboard`.(Citation: MSDN Clipboard)(Citation: clip_win_server)(Citation: CISA_AA21_200B) Additionally, adversaries may monitor then replace users’ clipboard with their data (e.g., [Transmitted Data Manipulation](https://attack.mitre.org/techniques/T1565/002)).(Citation: mining_ruby_reversinglabs) macOS and Linux also have commands, such as `pbpaste`, to grab clipboard contents.(Citation: Operating with EmPyre)

Indicator

Name
a864282fea5a536510ae86c77ce46f7827687783628e4f2ceb5bf2c41b8cd3c6
Description
stack_string SHA256 of 0c8e88877383ccd23a755f429006b437
Pattern Type
stix
Pattern
[file:hashes.'SHA-256' = 'a864282fea5a536510ae86c77ce46f7827687783628e4f2ceb5bf2c41b8cd3c6']

Country

Name
Brazil

Malware

Name
GoPIX

Name
Lumar

Name
Rhysida

StixFile

Value
a864282fea5a536510ae86c77ce46f7827687783628e4f2ceb5bf2c41b8cd3c6

External References

- https://otx.alienvault.com/pulse/6537c2b2571bf1a8c6ad5b86
- https://securelist.com/crimeware-report-gopix-lumar-rhysida/110871/