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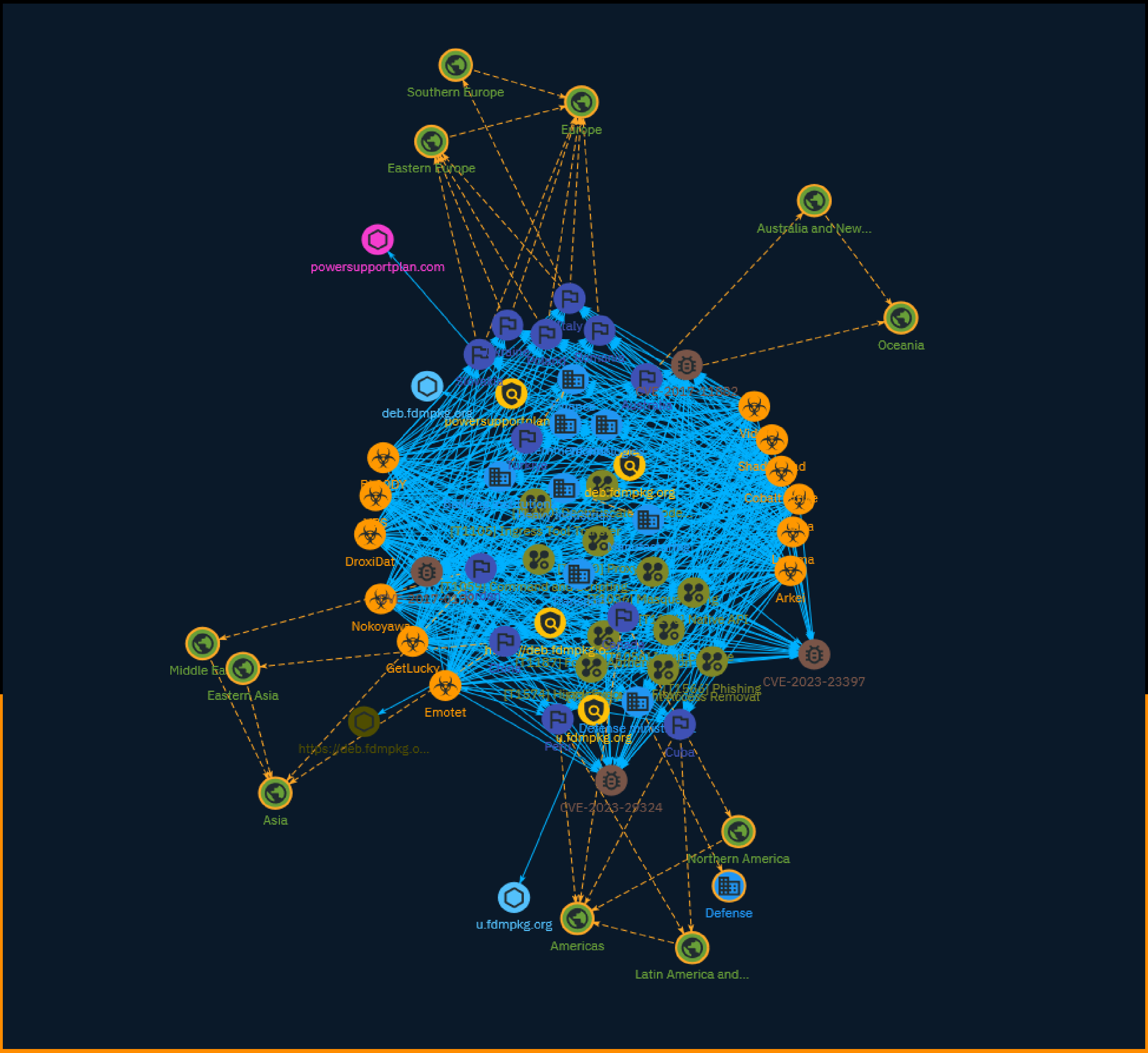
NETMANAGEIT

Intelligence Report

IT threat evolution Q3 2023



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Overview

Entities

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Overview

Description

A summary of Q3 2023 threats.

Confidence

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

15 / 100

Content

N/A

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
Forced Authentication
ID
T1187
Description

Adversaries may gather credential material by invoking or forcing a user to automatically provide authentication information through a mechanism in which they can intercept. The Server Message Block (SMB) protocol is commonly used in Windows networks for authentication and communication between systems for access to resources and file sharing. When a Windows system attempts to connect to an SMB resource it will automatically attempt to authenticate and send credential information for the current user to the remote system. (Citation: Wikipedia Server Message Block) This behavior is typical in enterprise environments so that users do not need to enter credentials to access network resources. Web Distributed Authoring and Versioning (WebDAV) is also typically used by Windows systems as a backup protocol when SMB is blocked or fails. WebDAV is an extension of HTTP and will typically operate over TCP ports 80 and 443. (Citation: Didier Stevens WebDAV Traffic) (Citation: Microsoft Managing WebDAV Security) Adversaries may take advantage of this behavior to gain access to user account hashes through forced SMB/WebDAV authentication. An adversary can send an attachment to a user through spearphishing that contains a resource link to an external server controlled by the adversary (i.e. [Template Injection](https://attack.mitre.org/techniques/T1221)), or place a specially crafted file on navigation path for privileged accounts (e.g. .SCF file placed on desktop) or on a publicly accessible share to be accessed by victim(s). When the user's system accesses the untrusted resource it will attempt authentication and send information, including the user's hashed credentials, over SMB to the adversary controlled server. (Citation: GitHub Hashjacking) With access to the credential hash, an adversary can perform off-line [Brute Force](https://attack.mitre.org/techniques/T1110) cracking to gain access to plaintext credentials. (Citation: Cylance Redirect to SMB) There are several different ways this can occur. (Citation: Osanda Stealing NetNTLM Hashes) Some specifics from in-the-wild use include: * A spearphishing attachment containing a document with a resource that is automatically loaded when the document is opened (i.e. [Template Injection](https://attack.mitre.org/techniques/T1221)). The document can include, for example, a request similar to `file[:]//[remote address]/Normal.dotm` to trigger the SMB request. (Citation: US-CERT APT Energy Oct 2017) * A modified .LNK or .SCF file with the icon filename pointing to an external reference such as `\\[remote address]\pic.png` that will force the system to load the resource when the icon is rendered to repeatedly gather credentials. (Citation: US-CERT APT Energy Oct 2017)

Name
Masquerading
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

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

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. 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. 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 use assembly to directly or in-directly invoke syscalls in an attempt to subvert defensive sensors and detection signatures such as user mode API-hooks.(Citation: Redops Syscalls) Adversaries may also attempt to tamper with sensors and defensive tools associated with API monitoring, such as unhooking monitored functions via [Disable or Modify Tools](https://attack.mitre.org/techniques/T1562/001).

Name

Hijack Execution Flow

ID

T1574

Description

Adversaries may execute their own malicious payloads by hijacking the way operating systems run programs. Hijacking execution flow can be for the purposes of persistence, since this hijacked execution may reoccur over time. Adversaries may also use these mechanisms to elevate privileges or evade defenses, such as application control or other restrictions on execution. There are many ways an adversary may hijack the flow of execution, including by manipulating how the operating system locates programs to be executed. How the operating system locates libraries to be used by a program can also be intercepted. Locations where the operating system looks for programs/resources, such as file directories and in the case of Windows the Registry, could also be poisoned to include malicious payloads.

Name

Ingress Tool Transfer

ID

T1105

Description

Adversaries may transfer tools or other files from an external system into a compromised environment. Tools or files may be copied from an external adversary-controlled system to the victim network through the command and control channel or through alternate protocols such as [ftp](https://attack.mitre.org/software/S0095). Once present, adversaries may also transfer/spread tools between victim devices within a compromised environment (i.e. [Lateral Tool Transfer](https://attack.mitre.org/techniques/T1570)). On Windows, adversaries may use various utilities to download tools, such as `copy`, `finger`, [certutil](https://attack.mitre.org/software/S0160), and [PowerShell](https://attack.mitre.org/techniques/T1059/001) commands such as `IEX(New-Object Net.WebClient).downloadString()` and `Invoke-WebRequest`. On Linux and macOS systems, a variety of utilities also exist, such as `curl`, `scp`, `sftp`, `tftp`, `rsync`, `finger`, and `wget`. (Citation: t1105_lolbas) Adversaries may also abuse installers and package managers, such as `yum` or `winget`, to download tools to victim hosts. Files can also be transferred using various [Web Service](https://attack.mitre.org/techniques/T1102)s as well as native or otherwise present tools on the victim system.(Citation: PTSecurity Cobalt Dec 2016) In some cases, adversaries may be able to leverage services that sync between a web-based and an on-premises client, such as Dropbox or OneDrive, to transfer files onto victim systems. For example, by compromising a cloud account and logging into the service's web portal, an adversary may be able to trigger an automatic syncing process that transfers the file onto the victim's machine.(Citation: Dropbox Malware Sync)

Name

Account Access Removal

ID

T1531

Description

Adversaries may interrupt availability of system and network resources by inhibiting access to accounts utilized by legitimate users. Accounts may be deleted, locked, or manipulated (ex: changed credentials) to remove access to accounts. Adversaries may also subsequently log off and/or perform a [System Shutdown/Reboot](https://attack.mitre.org/techniques/T1529) to set malicious changes into place.(Citation: CarbonBlack LockerGoga 2019)(Citation: Unit42 LockerGoga 2019) In Windows, [Net](https://attack.mitre.org/software/S0039) utility, `Set-LocalUser` and `Set-ADAccountPassword` [PowerShell](https://attack.mitre.org/techniques/T1059/001) cmdlets may be used by adversaries to modify user accounts. In Linux, the `passwd` utility may be used to change passwords. Accounts could also be disabled by Group Policy. Adversaries who use ransomware or similar attacks may first perform this and other Impact behaviors, such as [Data Destruction](https://attack.mitre.org/techniques/T1485) and [Defacement](https://attack.mitre.org/techniques/T1491), in order to impede incident response/recovery before completing the [Data Encrypted for Impact](https://attack.mitre.org/techniques/T1486) objective.

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

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)

Sector

Name
Heavy industries

Description
Private entities working to transform raw materials into manufactured products (Chemicals, metal etc.).

Name
Defense ministries (including the military)

Description
Includes the military and all defense related-space activities.

Name
Finance

Description
Public and private entities involved in the allocation of assets and liabilities over space and time.

Name

Manufacturing
Description
Private entities transforming and selling goods, products and equipment which are not included in other activity sectors.
Name
Transport
Description
All entities involved in the movement of people or goods from one place to another.
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.
Name

Banking institutions
Description
Credit institutions whose business consists in receiving repayable funds from the public and granting credit. As the bank of banks, central banks are included in this scope.
Name
Technologies
Description
Private entities related to the research, development, manufacturing and distribution of electronics, softwares, computers and products related to information technologies.

Indicator

Name
https://deb.fdmpkg.org/freedownloadmanager.deb
Description
HTML document, ASCII text, with CRLF line terminators 55f7d9e99b8e2d4e0e193b2f0275501e6d9c1ebd29cadbea6a0da48a8587e3e0
Pattern Type
stix
Pattern
[url:value = 'https://deb.fdmpkg.org/freedownloadmanager.deb']
Name
powersupportplan.com
Description
Cobalt Strike botnet C2 domain (confidence level: 100%)
Pattern Type

stix

Pattern

[domain-name:value = 'powersupportplan.com']

Name

deb.fdmpkg.org

Pattern Type

stix

Pattern

[hostname:value = 'deb.fdmpkg.org']

Name

u.fdmpkg.org

Pattern Type

stix

Pattern

[hostname:value = 'u.fdmpkg.org']

Country

Name
Slovakia

Name
Poland

Name
Peru

Name
Australia

Name
Canada

Name
Türkiye

Name
Cuba

Name
Italy

Name
Jordan

Name
Romania

Name
China

Name
Ukraine

Region

Name
Europe

Name
Asia

Name
Southern Europe

Name
Northern America

Name
Oceania

Name
Australia and New Zealand

Name
Eastern Europe

Name
Middle East

Name
Americas

Name
Eastern Asia

Name
Latin America and the Caribbean

Malware

Name

Lumma

Name

DroxiDat

Name

ShadowPad

Description

[ShadowPad](https://attack.mitre.org/software/S0596) is a modular backdoor that was first identified in a supply chain compromise of the NetSarang software in mid-July 2017. The malware was originally thought to be exclusively used by [APT41](https://attack.mitre.org/groups/G0096), but has since been observed to be used by various Chinese threat activity groups. (Citation: Recorded Future RedEcho Feb 2021)(Citation: Securelist ShadowPad Aug 2017)(Citation: Kaspersky ShadowPad Aug 2017)

Name

Emotet

Description

[Emotet](https://attack.mitre.org/software/S0367) is a modular malware variant which is primarily used as a downloader for other malware variants such as [TrickBot](https://

attack.mitre.org/software/S0266) and [IcedID](https://attack.mitre.org/software/S0483). Emotet first emerged in June 2014 and has been primarily used to target the banking sector. (Citation: Trend Micro Banking Malware Jan 2019)

Name
BL00DY

Name
Cuba

Description
[Cuba](https://attack.mitre.org/software/S0625) is a Windows-based ransomware family that has been used against financial institutions, technology, and logistics organizations in North and South America as well as Europe since at least December 2019.(Citation: McAfee Cuba April 2021)

Name
Nokoyawa

Name
Vidar

Name
Arkei

Name
VBS

Name

Cobalt Strike

Description

[Cobalt Strike](https://attack.mitre.org/software/S0154) is a commercial, full-featured, remote access tool that bills itself as “adversary simulation software designed to execute targeted attacks and emulate the post-exploitation actions of advanced threat actors”. Cobalt Strike’s interactive post-exploit capabilities cover the full range of ATT&CK tactics, all executed within a single, integrated system.(Citation: cobaltstrike manual) In addition to its own capabilities, [Cobalt Strike](https://attack.mitre.org/software/S0154) leverages the capabilities of other well-known tools such as Metasploit and [Mimikatz](https://attack.mitre.org/software/S0002).(Citation: cobaltstrike manual)

Name

GetLucky

Vulnerability

Name
CVE-2023-23397
Description
Microsoft Office Outlook contains a privilege escalation vulnerability that allows for a NTLM Relay attack against another service to authenticate as the user.
Name
CVE-2017-0199
Description
Microsoft Office and WordPad contain an unspecified vulnerability due to the way the applications parse specially crafted files. Successful exploitation allows for remote code execution.
Name
CVE-2017-11882
Description
Microsoft Office contains a memory corruption vulnerability that allows remote code execution in the context of the current user.

Name
CVE-2023-29324

Domain-Name

Value
powersupportplan.com

Hostname

Value
u.fdmpkg.org
deb.fdmpkg.org

Url

Value
https://deb.fdmpkg.org/freedownloadmanager.deb

External References

- https://otx.alienvault.com/pulse/656f325a6ea0fd30be841bf1
- https://securelist.com/it-threat-evolution-q3-2023/111171/