

PUBLOAD, Software S1228 | MITRE ATT&CK®

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Enterprise [T1071 .001 Application Layer Protocol: Web Protocols](#)

[PUBLOAD](#) has communicated via `curl` over HTTP to identify device IP data.^[3] [PUBLOAD](#) has also utilized HTTP for a command-and-control protocol through HTTP POST.^{[4][5][6]} [PUBLOAD](#) has also leveraged HTTPS for C2.^[2]

[.002 Application Layer Protocol: File Transfer Protocols](#)

[PUBLOAD](#) has used `curl` for data exfiltration over FTP.^[3]

Enterprise [T1560 .001 Archive Collected Data: Archive via Utility](#)

[PUBLOAD](#) has used utilities such as `WinRAR` to archive data prior to exfiltration.^[3]

Enterprise [T1547 .001 Boot or Logon Autostart Execution: Registry Run Keys / Startup Folder](#)

[PUBLOAD](#) has added Registry Run keys to achieve persistence using `HKCU\Software\Microsoft\Windows\CurrentVersion\Run`.^{[7][4][5][3][1]}

Enterprise [T1059 .003 Command and Scripting Interpreter: Windows Command Shell](#)

[PUBLOAD](#) has used several commands executed in sequence via `cmd`.^[3]

Enterprise [T1001 .003 Data Obfuscation: Protocol or Service Impersonation](#)

[PUBLOAD](#) has modified HTTP POST requests to resemble legitimate communications.^{[5][6]} [PUBLOAD](#) used FakeTLS headers in network packets to impersonate various versions of TLS protocols to blend in with legitimate network traffic. [PUBLOAD](#) has utilized FakeTLS headers with the bytes 17 03 03.^[2]

Enterprise [T1622 Debugger Evasion](#)

[PUBLOAD](#) has embedded debug strings with messages to distract analysts.^{[7][1]} [PUBLOAD](#) has leveraged `OutputDebugStringW` and `OutputDebugStringA` functions.^[1]

Enterprise [T1140 Deobfuscate/Decode Files or Information](#)

[PUBLOAD](#) has decoded its payload prior to execution.^{[7][5][2][1][6]}

Enterprise [T1573 .001 Encrypted Channel: Symmetric Cryptography](#)

[PUBLOAD](#) has used RC4 encryption in C2 communications.^{[7][4][1]}

Enterprise [T1480 .001 Execution Guardrails: Environmental Keying](#)

[PUBLOAD](#) has utilized environmental keying in the payload to include the victim volume serial number, computer name, username, and machine's tick count.^[2]

Enterprise [T1048 .003 Exfiltration Over Alternative Protocol: Exfiltration Over Unencrypted Non-C2 Protocol](#)

[PUBLOAD](#) has leveraged `curl` for data exfiltration over FTP by uploading RAR archives containing targeted files (.doc, .docx, .xls, .xlsx, .pdf, .ppt, .pptx) to an adversary-owned FTP site.^[3]

Enterprise [T1574 .001 Hijack Execution Flow: DLL](#)

[PUBLOAD](#) has abused legitimate executables to side-load malicious DLLs.^{[7][4][5][2][1][6][8]}

Enterprise [T1105 Ingress Tool Transfer](#)

[PUBLOAD](#) has acted as a stager that can download the next-stage payload from its C2 server.^{[5][9][2][1][6]}

[PUBLOAD](#) has also delivered FDMTP as a secondary control tool and PTOCKET for exfiltration to some infected systems.^[3]

Enterprise [T1680 Local Storage Discovery](#)

[PUBLOAD](#) has leveraged `wmic logicaldisk get` to map local network drives.^[3]

Enterprise [T1036 .005 Masquerading: Match Legitimate Resource Name or Location](#)

[PUBLOAD](#) has renamed malicious files to mimic legitimate file names such as `adobe_wf.exe`.^[1]

Enterprise [T1106 Native API](#)

[PUBLOAD](#) has used various Windows API calls during execution, when establishing persistence and defense evasion.^{[5][2]} [PUBLOAD](#) stager leveraged Windows API functions with callback including `GrayStringW`,

`EnumDateFormatsA`, and `LineDDA` to bypass anti-virus monitoring.^[1] [PUBLOAD](#) has also utilized other native windows API functions with callback functions such as `EnumChildWindows` and `EnumSystemLanguageGroupsA`.^[6]

Enterprise [T1027 Obfuscated Files or Information](#)

[PUBLOAD](#) has obfuscated DLL names using the `ror13AddHash32` algorithm.^[7]

[.015 Compression](#)

[PUBLOAD](#) has been delivered as compressed files within ZIP files to victims.^{[5][6]}

Enterprise [T1057 Process Discovery](#)

[PUBLOAD](#) has used `tasklist` to gather running processes on victim host.^[3] [PUBLOAD](#) has also leveraged the `OpenEventA` Windows API function to check whether the same process was already running.^[1]

Enterprise [T1012 Query Registry](#)

[PUBLOAD](#) has queried Registry values to identify software using `reg query`.^[3]

Enterprise [T1053 .005 Scheduled Task/Job: Scheduled Task](#)

[PUBLOAD](#) has created scheduled tasks to maintain persistence with the command `schtasks.exe /F /Create /TN Microsoft_Licensing /sc minute /MO 1 /TR C:\\Users\\Public\\Libraries\\...`^{[7][5][1]}

Enterprise [T1518 Software Discovery](#)

[PUBLOAD](#) has used several commands executed in sequence via `cmd` in a short interval to gather software versions including querying Registry keys.^[3]

[.001 Security Software Discovery](#)

[PUBLOAD](#) has identified AV products on an infected host using the following command: `WMIC /Node:localhost /Namespace:\\root\\SecurityCenter2 Path AntiVirusProduct Get displayName /Format:List`.^[3]

Enterprise [T1553 .002 Subvert Trust Controls: Code Signing](#)

[PUBLOAD](#) has used valid legitimate digital signatures and certificates to evade detection.^[4]

Enterprise [T1082 System Information Discovery](#)

[PUBLOAD](#) has collected and sent system information including volume serial number, computer name, and system uptime to designated C2.^{[7][2]} [PUBLOAD](#) has also used several commands executed in sequence via `cmd` in a short interval to gather system information about the infected host including `systeminfo`.^[3] [PUBLOAD](#) has decrypted shellcode that collects the computer name.^[1]

Enterprise [T1614 .001 System Location Discovery: System Language Discovery](#)

[PUBLOAD](#) has checked supported languages on the compromised system.^[4]

Enterprise [T1016 System Network Configuration Discovery](#)

[PUBLOAD](#) has obtained information about local networks through the `ipconfig /all` command.^[3]

[.001 Internet Connection Discovery](#)

[PUBLOAD](#) has identified internet connectivity details through commands such as `tracert -h 5 -4 google.com` and `curl http://myip.ipip.net`.^[3]

[.002 Wi-Fi Discovery](#)

[PUBLOAD](#) has collected information on Wi-Fi networks from victim hosts leveraging `netsh wlan show profiles`, `netsh wlan show interface`, and `netsh wlan show`.^[3]

Enterprise [T1049 System Network Connections Discovery](#).

[PUBLOAD](#) has used several commands executed in sequence via `cmd` in a short interval to gather information on network connections.^[3]

Enterprise [T1033 System Owner/User Discovery](#).

[PUBLOAD](#) has obtained the username from an infected host.^{[7][4][2][1]}

Enterprise [T1007 System Service Discovery](#).

[PUBLOAD](#) has leveraged `tasklist` to gather running services on victim host.^[3]

Enterprise [T1124 System Time Discovery](#).

[PUBLOAD](#) has collected the machine's tick count through the use of `GetTickCount`.^[2]

Enterprise [T1205 Traffic Signaling](#)

[PUBLOAD](#) has utilized a magic packet value in C2 communications and only executes in memory when response packets match specific values of 17 03 03.^{[4][9][2][1][8]} [PUBLOAD](#) has also used magic bytes consisting of 46 77 4d.^[4]

Enterprise [T1047 Windows Management Instrumentation](#)

[PUBLOAD](#) has used `wmic` to gather information from the victim device.^[3]

Source: <https://attack.mitre.org/software/S1228>