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### Introduction

FickerStealer is a infostealer threat offered as a MaaS (Malware-as-a-Service) on underground hacker forums. FickerStealer is distributed by various phishing methods. Infected computers of this malware;

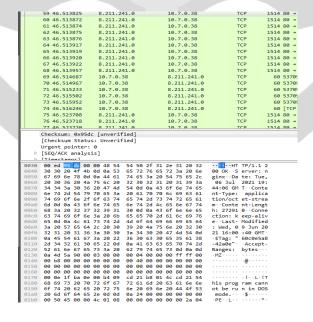
- Credentials saved in web browsers,
- Desktop messaging clients,
- · To FTP clients,
- Blockchain wallets,
- It provides access to computer documents.

### **Preview**

The FickerStealer malware in the examined version continued to spread as a DLL with phishing methods. The malicious file was originally named "file.dll". As a result of the analysis, it has been determined that this file acts as a loader to realize Stage 1.

| File Name: | file.dll   |
|------------|--|
| MD5        | 9b59d4744ff1de8b338eeb2b85748cf2                                 |
| SHA1       | f3306e866bc9992c2268f204f55e88f89833a25d                         |
| SHA256     | fc1f9739dc9d6e9c61222beb9e3552bbc9a5a94699eb48aafeb6491a404e8ad4 |

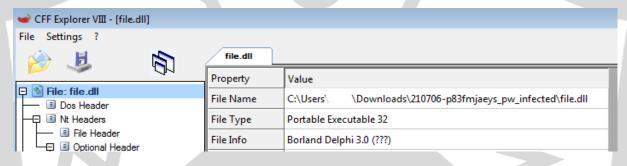
It has been observed that the file.dll malware downloads a file titled MZ when network traffic is monitored.



### file.dll ANALYSIS

When file.dll is examined statically, it is seen that it is a 32-bit executable file.

| Offset   | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | A  | В  | С  | D  | E  | F  | Ascii            |
|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------------|
| 00000000 | 4D | 5A | 90 | 00 | 03 | 00 | 00 | 00 | 04 | 00 | 00 | 00 | FF | FF | 00 | 00 | MZ . LJÿÿ        |
| 00000010 | B8 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 40 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | ,                |
| 00000020 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |                  |
| 00000030 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | F8 | 00 | 00 |    |                  |
| 00000040 | 0E | 1F | BA | 0E | 00 | B4 | 09 | CD | 21 | В8 | 01 | 4C | CD | 21 | 54 | 68 | ቻ °፫.1.Í!, LÍ!Th |
| 00000050 | 69 | 73 | 20 | 70 | 72 | 6F | 67 | 72 | 61 | 6D | 20 | 63 | 61 | 6E | 6E | 6F | is.program.canno |
| 00000060 | 74 | 20 | 62 | 65 | 20 | 72 | 75 | 6E | 20 | 69 | 6E | 20 | 44 | 4F | 53 | 20 | t.be.run.in.DOS. |
| 00000070 | 6D | 6F | 64 | 65 | 2E | 0D | 0D | 0A | 24 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | mode\$           |
|          |    |    |    |    |    |    |    |    |    |    |    |    |    |    | 7  |    |                  |

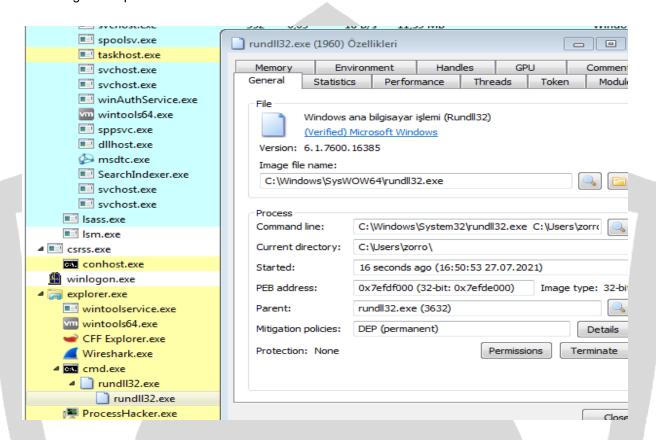


#### **Dynamically loaded DLLs:**

| Adres                | Hex      |     |     |     |    |     |     |     |     |    |     |     |    |    |     |    | ASCII            |
|----------------------|----------|-----|-----|-----|----|-----|-----|-----|-----|----|-----|-----|----|----|-----|----|------------------|
|                      | CO       |     | 2D  | 00  | 98 | 82  | 2F  | 00  | OA  | 00 | 00  | 00  | CO | DO | EO  | FO | Àæ/ÀĐàð          |
| 002FB8B0             | 65       | D6  | FE  | 7E  | 5C | 00  | 00  | 8E  | 4F  | 40 | 45  | 33  | 32 | 2E | 64  | 6C | eÖþ~\OLE32.d1    |
| 002FB8C0             | 6C       | 00  | 36  | 00  | 34 | 00  | 5C  | 00  | 6A  | D6 | FE  | 7E  | 6E | 00 | 00  | 88 | 1.6.4.\.jöþ~n    |
| 002FB8D0             | 4F       | 40  | 45  | 41  | 55 | 54  | 33  | 32  | 2E  | 64 | 6C  | 6C  | 00 |    | 65  | 00 | OLEAUT32.dlle.   |
| 002FB8E0             | 6F       | D6  | FE  | 7E  | 44 | 00  | 00  | 8D  | 4D  | 53 | 56  | 43  | 52 | 54 | 2E  | 64 | oöb~DMSVCRT.d    |
| 002FB8F0             | 6C       | 6C  | 00  | 00  | 44 | 00  | 41  | 00  | 6C  | D6 | FE  | 7E  | 3D |    | 00  | 8C | 11D.A.1öb~=      |
| 002FB900             | 4D       | 53  | 56  | 43  | 49 | 52  | 54  | 2E  | 64  | 6C | 6C  | 00  | 73 |    | 5C  | 00 | MSVCIRT.dll.s.\. |
| 002FB910             | 51       | D6  | FE  | 7E  | 72 | 00  | 00  | 88  | 4D  | 53 | 56  | 43  | 52 |    | 32  | 30 | QÖþ~rMSVCRT20    |
| 002FB920             | 2E       | 64  | 6C  | 6C  | 00 | 00  | 74  | 00  | 56  | D6 | FE  | 7 E | 52 |    | 00  | 88 | .d11t.vöb~R      |
| 002FB930             | 4D       | 53  | 56  | 43  | 52 | 54  | 34  | 30  | 2E  | 64 | 6C  | 6C  | 00 |    | 6F  | 00 | MSVCRT40.dllo.   |
| 002FB940             |          |     | FE  | 7E  | 6F | 00  | 00  | 8E  | 4D  | 46 | 43  | 34  | 30 | 2E | 64  | 6C | [Öþ~oMFC40.d]    |
| 002FB950             | 6C       | 00  | 61  | 00  | 6D | 00  | 46  | 00  | 58  | D6 | FE  | 7E  | 65 | 00 | 00  | 8E | 1.a.m.F.XÖb~e    |
| 002FB960             | 4D       | 46  | 43  | 34  | 32 | 2E  | 64  | 6C  | 6C  | 00 | 72  | 00  | 6F | 00 | 67  | 00 | MFC42.dll.r.o.g. |
| 002FB970             | 5D       | D6  | FE  | 7E  | 6D | 00  | 00  | 8C  | 4D  | 46 | 43  | 53  | 55 | 42 | 53  | 2E | 1Öb~mMFCSUBS.    |
| 002FB980             | 64       | 6C  | 6C  | 00  | 28 | 00  | 78  | 00  | 42  | D6 | FE  | 7E  | 29 | 00 | 00  | 88 | d11.(.x.Böb~)    |
| 002FB990             | 4D       | 46  | 43  | 34  | 32 | 45  | 4E  | 55  | 2E  | 44 | 40  | 40  | 00 | 00 | 46  | 00 | MFC42ENU.DLLF.   |
| 002FB9A0             | 47       | D6  | FE  | 7E  | 65 | 00  | 00  | 8C  | 4D  | 46 | 43  | 4E  | 34 | 32 | 44  | 2E | GÖb~eMFCN42D.    |
| 002FB9B0             | 44       | 40  | 40  | 00  | 6E | 00  | 50  | 00  | 44  | D6 | FE  | 7E  | 67 | 00 | 00  | 80 | DLL.n.P.DÖb~q    |
| 002FB9C0             | 4D       | 46  | 43  | 44  | 34 | 32  | 44  | 2E  | 44  | 40 | 40  | 00  | 73 | 00 | 28  | 00 | MFCD42D.DLL.S.(. |
| 002FB9D0             | 49       | D6  | FE  | 7E  | 36 | 00  | 00  | 8C  | 4D  | 46 | 43  | 4F  | 34 | 32 | 44  | 2E | IÖb~6MFCO42D.    |
| 002FB9E0             | 44       | 40  | 40  | 00  | 6F | 00  | 67  | 00  | 4E  | D6 | FE  | 7 E | 6D | 00 | 00  | 8D | DLL.o.g.NÖb~m    |
| 002FB9F0             | 4D       | 46  | 43  | 34  | 32 | 44  | 2E  | 44  | 4C  | 40 | 00  | 00  | 28 | 00 | 78  | 00 | MFC42D.DLL(.x.   |
| 002FBA00             | 33       | D.6 | FF  | 7 F | 29 | 00  | 00  | 88  | 4B  | 45 | 52  | 4F  | 45 | 40 | 33  | 32 | 30b~)KERNEL32    |
| 002FBA10             | 5 F      | 44  | 40  | 40  | 00 | 00  | 46  | 00  | 30  | D6 | FF  | 7F  | 65 |    | 00  | 88 | .DLLF.0Öb~e      |
| 002FBA20             | 42       | 4C  | 41  | 43  | 48 | 42  | 4F  | 5.8 | 5 F | 44 | 40  | 4C  | 00 | 00 | 50  | 00 | BLACKBOX.DLLP.   |
| 002FBA30             | 35       | D6  | FE  | 7E  | 67 | 00  | 00  | 88  | 6D  | 73 | 76  | 62  | 76 | 6D | 36  | 30 | 5Öb~amsvbvm60    |
| 002FBA40             | 2E       | 64  | 60  | 60  | 00 | 00  | 3D  | 00  | 3A  | D6 | FE  | 7E  | 5C | 00 | 00  | 88 | .dll=.:Öb~\      |
| 002FBA50             | 64       | 70  | 69  | 63  | 70 | 6C  | 33  | 32  | 2E  | 63 | 70  | 60  | 00 |    | 46  | 00 | jpicp132.cplF.   |
| 002FBA60             | 3F       |     | FE  | 7E  | 65 | 00  | 00  | 88  | 00  | 88 | 2E  | 00  | 80 |    | 2F  | 00 | ?Öb~e/°/.        |
|                      | A8       | 38  | 2D  | 00  |    |     | 00  | 00  | 3C  | D6 | FE  | 7 E | 6C | 00 |     | 88 | "8<Öb~1          |
| 002FBA80             | 68       | BA  | 2F  | 00  |    |     | 2 F | 00  | 80  |    |     | 00  | 01 |    |     | 00 | h°/°/)           |
| 002FBA90             |          | D6  | FF  | 7 E |    |     | 00  | 88  |     | BA | 2F  | 00  | во |    | 2 F | 00 | !Öb~Nº/. *°/.    |
|                      |          | 20  |     | 00  |    |     | 00  | 00  | 26  | D6 | FE  | 7 E |    |    | 00  | 88 | À&Öb~iü          |
| 002FBAB0             | 98       | BA  | 2F  | 00  | 10 |     | 2 F |     | 40  | EA | 2D  | 00  |    | 00 |     | 00 | .º/»/.@ê         |
| 002FBAC0             |          | D6  |     | 7 E | 53 |     | 00  | 88  | 80  | 88 | 2F  | 00  | EO |    | 2 F | 00 | +Öb~5/.à°/.      |
|                      |          | 20  |     | 00  |    |     | ōō  | 00  | 28  | D6 | FE  | 7E  |    | 00 | 00  | 88 | À,(Öþ~o          |
|                      | Č8       | BA  | 2F  | 00  | E8 |     |     | 00  | ΔR  | 38 | 20  | 00  |    | 00 |     | 00 | Ȱ/.ø°/. 8        |
| 002FBAE0             |          |     | ĒΕ  | 7E  |    |     | 00  | 88  |     | BA | 2E  | 00  | 80 | 88 |     | 00 | -Öb~\à°//.       |
| 002FBB00             |          | 29  | 20  | 00  |    |     | 00  | 00  | 12  | D6 | FE  | 7E  |    | 00 |     | 88 | .)öþ~N           |
| 002FBB10             |          | BA  | 2E  | 00  | 00 |     | 2 F | 00  | 20  | 88 | 2 E | 00  | 01 |    | 00  | 00 | **///            |
| 002FBB20             | 17       | D6  | ĒΕ  | 7E  | 4B | 00  | 00  | 8E  | 4F  | 4C | 45  | 33  | 32 | 2E | 64  | 60 | .Öb~KOLE32.dl    |
| 002FBB30             | 6C       | 00  | 4D  | 00  | 45 | 00  | 44  | 00  | 14  | D6 | FE  | 7E  | 56 | 00 | 00  | 88 | 1.M.E.DÖb~V      |
| 002FBB40             | 4F       | 40  | 45  | 41  | 55 | 5.4 | 33  | 32  | 2E  | 64 | 60  | 60  | 00 | 00 | 45  | 00 | OLEAUT32.dllE.   |
| 002FBB50             | 19       | D6  | FE  | 7É  |    | 00  | 00  | 8D  | 4D  | 53 | 56  | 43  | 52 | 54 | 2E  | 64 | .Öb~TMSVCRT.d    |
| 002FBB60             | 60       | 60  | 00  | 00  | 73 | 00  | 50  | 00  | 1E  | D6 | FE  | 7E  | 72 | 00 | 00  | 8C | 11s.\öþ~r        |
| 002FBB70             | 4D       | 53  | 56  | 43  | 49 | 52  | 54  | 2E  | 64  | 60 | 60  | 00  | 40 | 00 | 41  | 00 | MSVCIRT.dll.L.A. |
| 002FBB80             | 03       | D6  | FF  | 7F  | 44 | 00  | 00  | 8B  | 4D  | 53 | 56  | 43  | 52 | 54 | 32  | 30 | .Öb~DMSVCRT20    |
|                      |          |     | 60  | 60  | 00 | 00  | 73  | 00  | 00  | D6 | FF  | 7F  | 73 | 00 | 00  | 8B | .dllsöb~s        |
|                      |          |     |     |     |    |     |     |     |     |    |     |     |    |    |     |    |                  |
| 002FBB90<br>002FBBA0 | 2E<br>4D | 53  | 5.6 | 43  |    | 54  | 34  | 30  |     | 64 | 60  | 60  | 00 |    | 70  | 00 | MSVCRT40.dllp.   |

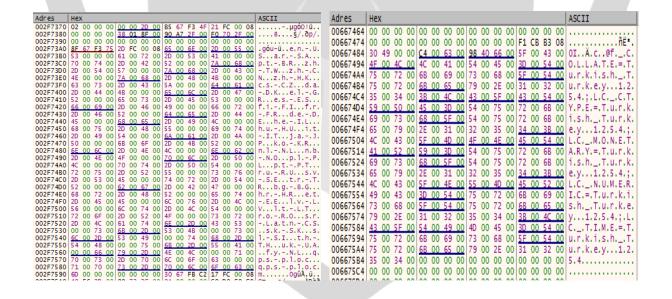
| GDI32.dll    | USP10.dll    |
|--------------|--------------|
| MFC42.dll    | msvcrt.dll   |
| VERSION.dll  | ADVAPI32.dll |
| MSCTF.dll    | SHLWAPI.dll  |
| OLEAUT32.dll | IMM32.dll    |

In general, when the behavior of file.dll is examined, it re-runs itself as suspend using the Process Hollowing technique.



#### Information Collected:

Targeted languages and countries:



#### cmd.exe path:

```
edi:L"=::=::\"

edi:L"=::=::\"

edi:L"=::=::\"

esi:L"ComSpec=C:\\windows\\system32\\cmd.exe"

esi:L"ComSpec=C:\\windows\\sid\windows\\sid\windows\\sid\windows\\sid\windows\\sid\windows\\sid\windows\\sid\windows\\
```

#### username:

```
| SF1997E1 | FF15 20411A6F | SF1997E7 | SBF8 | SF2 | S
```

#### LOGONSERVER:

#### NUMBER\_OF\_PROCESSOR:

```
call dword ptr ds:[&&GetEnvironmentStringsWx]
mov edi,eax
test edi,edi
pf fc1f9739dc9d6e9c61222beb9e3552bbc9a5a94699eb48aafeb6491a404e8ad4.6F199864
push esi
mov esi,edi
cmp word ptr ds:[edi],ax
line fc1f9739dc9d6e9c61222beb9e3552bbc9a5a94699eb48aafeb6491a404e8ad4.6F199767
add esi,2
cmp word ptr ds:[esi],ax
line fc1f9739dc9d6e9c61222beb9e3552bbc9a5a94699eb48aafeb6491a404e8ad4.6F199767
add esi,2
cmp word ptr ds:[esi],ax
line fc1f9739dc9d6e9c61222beb9e3552bbc9a5a94699eb48aafeb6491a404e8ad4.6F199767
edi:L"=::=::\\"
edi:L"=::=::\\"
edi:L"=::=::\\"
edi:L"=::=::\\"
edi:L"=::=::\\"
esi:L"NUMBER_OF_PROCESSORS=1"
esi:L"NUMBER_O
```

#### COMPUTERNAME:

#### PROCESSOR:

```
edi:L"=::=::\\"
edi:L"=::=::\\"
edi:L"=::=::\\"
edi:L"=::=::\\"
edi:L"=::=::\\"
edi:L"=::=::\\"
edi:L"=::=::\\"
esi:L"PROCESSOR_IDENTIFIER=Intel64 Family 6 Model 60 Stepping 3, GenuineIntel"
esi:L"PROCESSOR_IDENTIFIER=Intel64 Family 6 Model 60 Stepping 3, GenuineIntel"
edi:L":::::\\"
esi:L"PROCESSOR_IDENTIFIER=Intel64 Family 6 Model 60 Stepping 3, GenuineIntel"
edi:L":::::\\"
edi:L"PROCESSOR_IDENTIFIER=Intel64 Family 6 Model 60 Stepping 3, GenuineIntel"
esi:L"PROCESSOR_IDENTIFIER=Intel64 Family 6 Model 60 Stepping 3, GenuineIntel"
esi:L"PR
```

# 7gfdg5egds.exe ANALYSIS

| File Name: | 7gfdg5egds.exe   |
|------------|--|
| MD5        | 270C3859591599642BD15167765246E3                                 |
| SHA1       | E227A8A338166DC97E360CA9CDDDA5E007079C58                         |
| SHA256     | DEE4BB7D46BBBEC6C01DC41349CB8826B27BE9A0DCF39816CA8BD6E0A39C2019 |

| File pos              | Mem pos      | ID | Text               |                         |               |          |              |
|-----------------------|--------------|----|--------------------|-------------------------|---------------|----------|--------------|
| <b>A</b> 000000041C62 | 000000445662 | 0  | malloc             |                         |               |          |              |
| A 000000041C6C        | 00000044566C | 0  | memcmp             |                         |               | 1        |              |
| A 000000041C76        | 000000445676 | 0  | memcpy             |                         |               | 1        |              |
| A 000000041C80        | 000000445680 | 0  | memmove            |                         |               |          |              |
| A 000000041C8A        | 00000044568A | 0  | memset             | <b>A</b> 000000042300   | 000000445D00  | 0        | msvert.dll   |
| A 000000041C94        | 000000445694 | 0  | signal             |                         |               | _        |              |
| A 000000041C9E        | 00000044569E | 0  | strlen             | <b>A</b> 000000042340   | 000000445D40  | 0        | WS2_32.dll   |
| A 000000041CA8        | 0000004456A8 | 0  | strnemp            | <b>A</b> 000000042360   | 000000445D60  | 0        | ADVAPI32.dll |
| A 000000041CB2        | 0000004456B2 | 0  | vfprintf           | A 000000042374          | 000000445D74  | 0        | CRYPT32.dll  |
| A 000000041CBE        | 0000004456BE | 0  | WSACleanup         | A 00000004239C          | 000000445D9C  | 0        | GDI32.dll    |
| A 000000041CCC        | 0000004456CC | 0  | WSAGetLastError    | A 000000042470          | 000000445E70  | 0        | KERNEL32.dll |
| A 000000041CDE        | 0000004456DE | 0  | WSASocketW         | A 000000042498          | 000000445E98  | Ö        | USER32.dll   |
| A 000000041CEC        | 0000004456EC |    | WSAStartup         | A (1) 11 11 11 14 24 31 | 0000000443E36 | <u>_</u> | USENSZ.UII   |
| A 000000041CFA        | 0000004456FA | 0  | closesocket        |                         |               |          |              |
| A 000000041D08        | 000000445708 | 0  | connect            |                         |               |          |              |
| A 000000041D12        | 000000445712 | 0  | freeaddrinfo       |                         |               |          |              |
| A 000000041D22        | 000000445722 | 0  | getaddrinfo        |                         |               |          |              |
| A 000000041D30        | 000000445730 | 0  | ioctlsocket        |                         |               |          |              |
| A 000000041D4E        | 00000044574E | 0  | setsockopt         |                         |               |          |              |
| A 000000041D5C        | 00000044575C | 0  | shutdown           |                         |               |          |              |
| A 000000041D68        | 000000445768 | 0  | RegCloseKey        |                         |               |          |              |
| A 000000041D76        | 000000445776 | 0  | RegEnumKeyExW      |                         |               |          |              |
| A 000000041D86        | 000000445786 | 0  | RegOpenKeyExW      |                         |               |          |              |
| A 000000041D96        | 000000445796 | 0  | RegQueryInfoKeyW   |                         |               |          |              |
| A 000000041DAA        | 0000004457AA | 0  | RegQueryValueExW   |                         |               |          |              |
| A 000000041DBE        | 0000004457BE | 0  | CryptUnprotectData |                         |               |          |              |
|                       | 0000004457D4 |    |                    |                         |               |          |              |

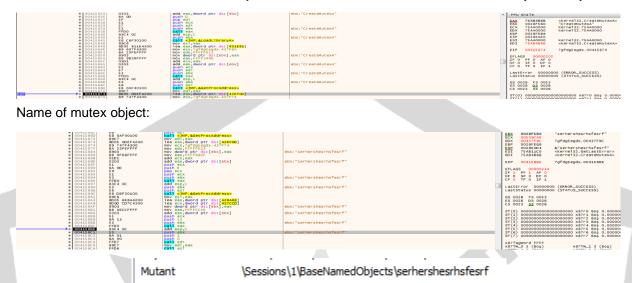
When we look at the imports of the pest, it uses important libraries such as USER32 and WS2\_32. When we look at the WS2\_32 library, it is understood that it has the capacity to perform network operations, as can be seen from the functions it uses.

When we examine the important DLL and functions in the pest;

- CreateToolhelp32Snapshot
- WriteFile
- GetSystemInfo
- CreateMutexA

It is seen that the malware can Access system information, create a mutex object, get information about the system and files, write files, and take a snapshot of the process.

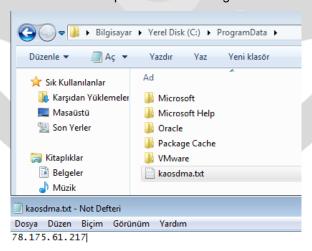
The malware first creates the mutex object with the "CreateMutexA" API that it loads dynamically.



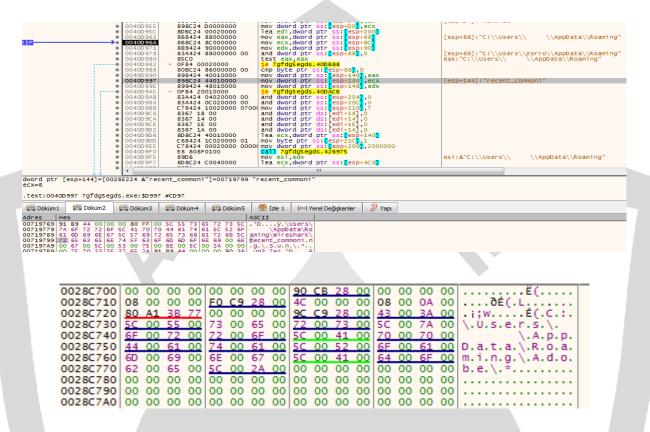
Some other DLL's and APIs it loads dynamically:



The malware then drops the .txt file with an ip address into ProgramData.



In general, it is seen that the malware has 2 basic behaviors. First, it scans the software installed on the system.



Another behavior is to steal personal data and identity information from web browsers. Since most applications are not installed, it seems that it just checks.

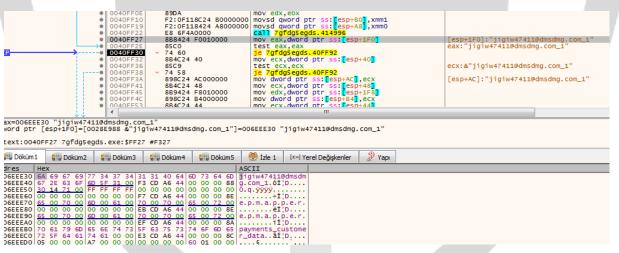
#### **Google Chrome:**



#### Phone number, credit card information kept in Google Chrome:

| Adres Hex ASCII   |     | aares   Hex                     |   | ASCII                        |
|---|-----|---------------------------------|---|------------------------------|
| 007895D0 43 6F 6E 66 69 72 6D 61 74 69 6F 6E 22 5D 7D 2C Confirmation"]},   |     | 006EEDA0 72 64 73 00 00         | 00 00 46 8F CD A6 44 00 00 0                                  | 00 8C rdsF.1;D               |
| 007895E0 22 6F 73 5F 63 72 79 70 74 22 3A 7B 22 65 6E 63 "05_crypt":{"enc   |     |                                 | 72 5F 63 61 72 64 5F 6D 65 7                                  |                              |
| 007895F0 72 79 70 74 65 64 5F 6B 65 79 22 3A 22 52 46 42 rypted_key": "RFB  |     |                                 | 00 00 46 83 CD A6 44 00 00 0                                  |                              |
| 00789600 42 55 45 6B 42 41 41 41 41 30 49 79 64 33 77 45 BUEKBAĀAAŌIYd3WE   |     |                                 | 69 6C 6C 5F 70 72 6F 66 69 6                                  |                              |
| 00789610   56 30 52 47   4D 65 67 44   41 54 38 4B   58 36 77 45   VORGMegDAT8KX6WE   |     |                                 | 73 68 00 87 CD A6 44 00 00 0                                  |                              |
| 00789620 41 41 41 44 74 44 50 31 66 66 67 30 42 52 61 42 AAADtDP1ffg0BRaB   |     |                                 | 69 6C 6C 5F 70 72 6F 66 69 6                                  |                              |
| 00789630 76 4B 4E 43 59 6D 42 72 55 41 41 41 41 41 49 VKNCYMBrUAĀAAAAI  |     |                                 | 6E 74 73 FB CD A6 44 00 00 0                                  |                              |
| 00789640 41 41 41 41 41 42 42 6D 41 41 41 41 51 41 AAAAAABBMAAAAAA  |     | 0065550 55 65 60 61 60          | 6C 73 63 FF CD A6 44 00 00 0                                  | o ea amailscritin            |
| 00789650 41 49 41 41 41 41 48 33 48 50 59 2F 74 6D 61 AIAAAAOH3HPY/tma  |     |                                 | 65 5F 61 75 74 6F 69 6E 64 6                                  |                              |
| 00789660 30 33 33 36 34 58 4D 32 5A 79 32 54 58 34 2B 35 03364XM2ZY2TX4+5<br>00789670 79 68 48 2F 48 53 69 46 35 4B 73 64 41 37 72 71 yhH/HSiF5KsdA7rq  |     |                                 | 5F 31 00 F3 CD A6 44 00 00 0                                  |                              |
| 00789680 34 41 41 41 41 41 36 41 41 41 41 41 67 41 4AAAAAAAAAAAAA   |     | 006FFF50 30 14 71 00 FF         | FF FF FF 00 00 00 00 00 00 0                                  | 0 00 0.0.000                 |
| 00789690 41 49 41 41 41 41 45 50 4D 32 31 2B 50 6B 79 67 AIAAAAEPM21+Pkyg   |     | 006EEE60 00 00 00 00 00         | 00 00 00 F7 CD A6 44 00 00 0                                  | 00 8E                        |
| 007896A0 6A 66 58 5A 6D 47 6F 59 4A 52 51 73 46 64 44 46 ifXZmGoYJROSFdDF   | (   | 006EEE70 65 00 70 00 6D         | 00 61 00 70 00 70 00 65 00 7                                  | 2 00 e.p.m.a.p.p.e.r.        |
| 00789680 54 38 2F 71 43 63 6C 53 52 68 32 75 54 36 66 58 T8/qCc1sRh2uT6fx   | (   | 006EEE80 00 00 00 00 00         | 00 00 00 EB CD A6 44 00 00 0                                  | 0 8EêÍ D                     |
| 007896C0 48 4D 41 41 41 41 4C 6B 57 45 56 44 55 79 69 32 HMAAAALkWEVDUyi2   |     | 006EEE90 65 00 70 00 6D         | 00 61 00 70 00 70 00 65 00 7                                  | <u>2 00</u> e.p.m.a.p.p.e.r. |
| 007896D0 46 68 59 4F 39 31 4C 4F 75 76 5A 51 4C 51 6D 53 FhY091L0uvZQLQmS   |     |                                 | 00 00 00 EF CD A6 44 00 00 0                                  |                              |
| 007896E0   56 4E 72 35   6C 42 39 43   50 64 76 31   64 4E 68 70   VNr51B9CPdv1dNhp   |     |                                 | 6E 74 73 5F 63 75 73 74 6F 6                                  |                              |
| 007896F0 34 78 58 63 69 77 67 37 31 31 69 6E 72 31 58 75 4xXciwg711inr1Xu   |     | 006EEEC0 72 5F 64 61 74         | 61 00 00 E3 CD A6 44 00 00 0                                  | 0 8C r_dataaI;D              |
| 00789700 62 31 75 42 75 59 45 41 41 41 41 42 38 34 76 35 bluBuYEAAAAB84V5   |     |                                 | 00 00 00 00 00 00 00 60 01 0                                  |                              |
| 00789710 28 71 70 6A 51 6F 4A 33 58 6C 2F 79 6C 42 6E 34 +qpjQ0J3X1/ylBn4   |     |                                 | 00 00 00 E7 CD A6 44 00 00 0                                  |                              |
| 00789720   56   4A   59   39   38   33   30   67   6A   39   51   7A   2F   75   57   50   VJY9830gj9Qz/uWP   00789730   61   37   31   38   56   49   57   50   48   65   36   6A   61   50   42   4A   a718VIWPHe6jaPBJ |     | 006EEEF0 00 00 00 00 F4         | EE 6E 00 F4 EE 6E 00 00 00 00<br>89 44 06 DB CD A6 44 00 00 0 | 0 000111.0111                |
| 00789740 70 4C 51 53 66 77 38 75 50 52 45 6D 57 39 6A 41 pLQSfw8uPREmW9jA   |     |                                 | 02 00 00 00 00 00 00 BO 69 7                                  |                              |
| 00789750 78 4C 4E 4E 45 36 48 46 65 71 61 6D 69 45 58 37 XLNNE6HFeqamiEX7   |     | 00655570 01 00 00 00 04         | 01 01 00 DF CD A6 44 00 00 0                                  | o ec in Rtin                 |
| 00789760 68 22 7D 2C 22 70 61 73 73 77 6F 72 64 5F 6D 61 h"}, "password_ma  |     | 006EEE30 00 00 00 00 E0         | 64 6B 75 00 00 00 00 00 00                                    | 00 00gdku                    |
| 00789770 6E 61 67 65 72 22 3A 7B 22 6F 73 5F 70 61 73 73 nager":{"os_pass   |     |                                 | 00 00 00 D3 CD A6 44 00 00 0                                  |                              |
| 00789780 77 6F 72 64 5F 62 6C 61 6E 6B 22 3A 74 72 75 65 word_blank":true   |     |                                 | 01 00 00 00 00 6A 00 00 00 0                                  |                              |
| 00789790 2C 22 6F 73 5F 70 61 73 73 77 6F 72 64 5F 6C 61 ,"os_password_la   |     | 006EEF60 0A 00 00 00 00         | 00 00 00 D7 CD A6 44 00 00 0                                  | 00 8Ax1 D                    |
| 007897A0 73 74 5F 63 68 61 6E 67 65 64 22 3A 22 31 33 32 st_changed":"132   |     |                                 | 69 6C 6C 5F 73 79 6E 63 5F 6                                  |                              |
| 00789780 35 39 37 36 35 31 38 32 38 34 35 35 39 36 22 7D 59765182845596"}<br>007897C0 2C 22 70 6C 75 67 69 6E 73 22 3A 7B 22 6D 65 74 ,"plugins":{"met  |     |                                 | 61 71 00 CB CD A6 44 00 00 0                                  |                              |
| 007897D0 61 64 61 74 61 22 3A 7B 22 61 64 6F 62 65 2D 66 adata":{"adobe-f   |     | 006EEF90 00 00 00 00 <u>94</u>  | EF 6E 00 94 EF 6E 00 00 00 0                                  | 0 00                         |
| 007897E0 6C 61 73 68 2D 70 6C 61 79 65 72 22 3A 7B 22 64 lash-player": ["   |     |                                 | F6 C4 06 CF CD A6 44 00 00 0                                  |                              |
| 007897F0 69 73 70 6C 61 79 75 72 6C 22 3A 74 72 75 65 2C isplayur1":true.   |     | 00655550 73 00 00 00 65         | 69 6C 6C 5F 70 72 6F 66 69 6<br>6E 74 73 C3 CD A6 44 00 00 0  | oc 65 autoriti_profite       |
| 00789800 22 67 72 6F 75 70 5F 6E 61 6D 65 5F 6D 61 74 63 "group_name_matc   |     |                                 | 69 6C 6C 5F 70 72 6F 66 69 6                                  |                              |
| 00789810 68 65 72 22 3A 22 2A 53 68 6F 63 6B 77 61 76 65 her": "*Shockwave  |     |                                 | 65 73 00 C7 CD A6 44 90 00 0                                  |                              |
| 00789820 20 46 6C 61 73 68 2A 22 2C 22 68 65 6C 70 5F 75 Flash*", "help_u 00789830 72 6C 22 3A 22 68 74 74 70 73 3A 2F 2F 73 75 70 rl": "https://sup  |     | 006EEFF0 6D 61 73 6B 65         | 64 5F 63 72 65 64 69 74 5F 6                                  | 3 61 masked credit ca        |
| 00789830 72 6C 22 3A 22 68 74 74 70 73 3A 2F 2F 73 75 70 r1":"https://sup   |     |                                 | 6E 72 F4 3B CE A6 44 00 00 0                                  |                              |
| 00789840 70 6F 72 74 2E 67 6F 6F 67 6C 65 2E 63 6F 6D 2F port.google.com/<br>00789850 63 68 72 6F 6D 65 2F 3F 70 3D 70 6C 75 67 69 6E chrome/?p=plugin  |     | 006EF010 61 75 74 6F 66         | 69 6C 6C 5F 70 72 6F 66 69 6                                  | C 65 autofill_profile        |
| 00789860 EE 66 61 73 68 22 27 27 20 65 67 61 65 67 22 24 22 Flash" "lang"."   |     | 006EF020 5F 65 6D 61  <u>69</u> | 6C 73 00 3F CE A6 44 00 00 0                                  | 0 89 _emails.?î;D            |
| 00789860 5F 66 6C 61 73 68 22 2C 22 6C 61 6E 67 22 3A 22 _flash", "lang": " 00789870 65 6E 2D 55 53 22 2C 22 6D 69 6D 65 5F 74 79 70 en-US", "mime_typ  |     | 006EF030 61 75 74 6F 66         | 69 6C 6C 5F 70 72 6F 66 69 6                                  | C 65 autofill_profile        |
| 00789880 65 73 22 3A 5B 22 61 70 70 6C 69 63 61 74 69 6F es": ["applicatio  |     | 006EF040 73 5F 74 72 61         | 73 68 00 33 CE A6 44 00 00 0                                  | 0 89 s_trash.3I;D            |
| 00789890 6E 2F 66 75 74 75 72 65 73 70 6C 61 73 68 22 2C n/futuresplash",   |     | 006EF050 61 75 74 6F 66         | 69 6C 6C 5F 70 72 6F 66 69 6<br>65 73 00 37 CE A6 44 00 00 0  | oc 65 autoriii_proriie       |
| 007898A0 22 61 70 70 6C 69 63 61 74 69 6F 6E 2F 78 2D 73 "application/x-s   |     | 006EF060 SF 70 68 6F 6E         | 69 6C 6C 5F 70 72 6F 66 69 6                                  | C 65 autofill profile        |
| 007898B0 68 6F 63 6B 77 61 76 65 2D 66 6C 61 73 68 22 5D hockwaye-flash"]   |     |                                 | 01 01 06 28 CE A6 44 00 00 0                                  |                              |
| 007898C0 2C 22 6E 61 6D 65 22 3A 22 41 64 6F 62 65 20 46 ,"name": "Adobe F  |     |                                 | FF FF FF 00 00 00 00 00 00 0                                  |                              |
| 007898D0 6C 61 73 68 20 50 6C 61 79 65 72 22 2C 22 75 72 lash Player", "ur 007898E0 6C 22 3A 22 68 74 74 70 73 3A 2F 2F 77 77 77 2E ll": "https://www.  |     | 006EF0A0 00 00 00 00            | 00 00 00 2F CE A6 44 00 00 0                                  | 0 88/Î:D                     |
| 007898F0 61 64 6F 62 65 2E 63 6F 6D 2F 70 72 6F 64 75 63 adobe.com/produc   |     | 006EF0B0 <u>C8 5B 72 00</u> FF  | FF FF FF 00 00 00 00 00 00 0                                  | 0 00 È[r.ÿÿÿÿ                |
| 00789900 74 73 2F 66 6C 61 73 68 70 6C 61 79 65 72 2F 65 ts/flashplayer/e   |     |                                 | 00 00 00 23 CE A6 44 00 00 0                                  |                              |
| 00789910 6E 64 2D 6F 66 2D 6C 69 66 65 2E 68 74 6D 6C 22 nd-of-life.html"   |     |                                 | 69 6C 6C 5F 73 79 6E 63 5F 6                                  |                              |
| 00789920 2C 22 76 65 72 73 69 6F 6E 73 22 3A 5B 7B 22 72 , "versions": [{"r   |     |                                 | 61 23 06 27 CE A6 44 00 00 0                                  |                              |
| 00789930 65 66 65 72 65 6E 63 65 22 3A 22 68 74 74 70 73 eference": "https  |     |                                 | 72 5F 63 61 72 64 5F 6D 65 7<br>6E 72 F4 1B CE A6 44 00 00 0  |                              |
| 00789940 3A 2F 2F 77 77 77 2E 61 64 6F 62 65 2E 63 6F 6D ://www.adobe.com<br>00789950 2F 70 72 6F 64 75 63 74 73 2F 66 6C 61 73 68 70 /products/flashp  |     | 006EF100 04 01 /4 61 AF         | 6B 65 64 5F 63 72 65 64 69 7                                  | 4 SE unmasked credit         |
| 00789950   2F 70 72 6F 64 75 63 74 73 2F 66 6C 61 73 68 70   /products/flashp<br>00789960   6C 61 79 65 72 2F 65 6E 64 2D 6F 66 2D 6C 69 66   layer/end-of-lif  |     |                                 | 00 00 00 1F CE A6 44 00 00 0                                  |                              |
| 00789970 65 2E 68 74 6D 6C 22 2C 22 73 74 61 74 75 73 22 e.html", "status"  |     |                                 | 72 5F 61 64 64 72 65 73 73 5                                  |                              |
| 00789980 3A 22 72 65 71 75 69 72 65 73 5F 61 75 74 68 6F : "requires_autho  |     | 006EF140 65 74 61 64 61         | 74 61 46 13 CE A6 44 00 00 0                                  | 0 8B etadataF.î;D            |
| 00789990 72 69 7A 61 74 69 6F 6E 22 2C 22 76 65 72 73 69 rization", "versi  |     | 006EF150 75 6E 6D 61 73         | 6B 65 64 5F 63 72 65 64 69 7                                  | 4 5F unmasked_credit_        |
| 007899A0 6F 6F 22 3A 22 33 32 2F 30 2F 30 2F 34 36 36 22 0n":"32.0.0.466"   |     | 006EF160 63 61 72 64 73         | 00 00 00 17 CE A6 44 00 00 0                                  | 0 8A cardsî¦D                |
| * 1   | 1.0 | 00655170161 75 74 65166         | eo er erlee zo zo eelee eo e                                  | C GE   sutofill profile      |
|   |     |                                 |   |                              |

#### The email address that Google Chrome keeps after logging in:



#### **Bitcoin wallet:**

```
8D00 13794300
8906
88 7ADAFFFF
0306
51
80 8C24 38070000
53
FFD0
83C4 0C
31D2
808C24 40030000
808C24 40030000
808424 80040000
                                                                                                        lea ecx,dword ptr ds: [437913]
mov dword ptr ds: [esi],eax
mov eax,FFFFDA7A
add eax,dword ptr ds: [esi]
push becx
push 19
lea ebx,dword ptr ss: [esp+738]
push ebx
call eax
add esp,C
xor edx,edx
lea ecx,dword ptr ss: [esp+340]
lea eax.dword ptr ss: [esp+340]
                                                                                                                                                                                                                                                                                                                                                        ebx:"%appdata%\\Bitcoin\\wallets"
```

#### **Exodus wallet:**

|   | 00419                   |                     | add esp,C                      |  |
|---|-------------------------|---------------------|--------------------------------|--|
|   | 00419                   |                     | lea ecx.dword ptr ss:[esp+340] | [esp+340]: "%appdata%\\Exodus\\exodus.walletA" |
|   | • 00419                 |                     | mov edx,edi                    | E  |
|   | <ul><li>00419</li></ul> | 9569 E8 5098FEFF    | call 7gfdg5egds.402DBE         |  |
|   | <ul><li>00419</li></ul> | 95 6E 8D05 33364300 | lea eax, dword ptr ds:[433633] |  |
| - | 00419                   | 1574 B9 5C7D4300    | mov ecx.7gfdg5egds.437D5C      | ecx:&"%appdata%\\Exodus\\exodus.walletA"       |
|   | <ul><li>00419</li></ul> | 9579 <b>8903</b>    | mov dword ptr ds:[ebx],eax     | [ebx]:"Jaxxp"                                  |
|   | • 00419                 | 957B B8 E920FFFF    | mov eax,FFFF20E9               |  |
|   | <ul><li>00419</li></ul> |                     | add eax,dword ptr ds:[ebx]     | [ebx]:"Jaxxp"                                  |
|   | <ul><li>00419</li></ul> | 95.82 <b>6A 95</b>  | push FFFFFF95                  |  |
|   | <ul><li>00419</li></ul> |                     | pop edx                        |  |
|   | <ul><li>00419</li></ul> |                     | add ecx,edx                    | ecx:&"%appdata%\\Exodus\\exodus.walletA"       |
|   | <ul><li>00419</li></ul> | 95.87 <b>51</b>     | push ecx                       | ecx:&"%appdata%\\Exodus\\exodus.walletA"       |

#### **Ethereum wallet:**

| •         | 00419BF4 | 41                 | inc ecx                                      |   |
|-----------|----------|--------------------|--|---|
|           | 00419BF5 | 8908               | mov dword ptr ds:[eax],ecx                   |   |
| <b>→•</b> | 00419BF7 | 8360 04 00         | and dword ptr ds:[eax+4],0                   |   |
|           | 00419BFB | 8360 08 00         | and dword ptr ds:[eax+8],0                   |   |
|           | 00419BFF | 894F 04            | mov dword ptr ds:[edi+4],ecx                 |   |
|           | 00419C02 | 8367 08 00         | and dword ptr ds:[edi+8],0                   |   |
|           | 00419C06 | 8D4424 20          | lea eax,dword ptr ss:[esp+20]                | [esp+20]:&"%appdata%\\Ethereum\\keystore" |
|           | 00419C0A | 8947 10            | mov dword ptr ds:[edi+10],eax                |   |
|           | 00419C0D | 894F 14            | mov dword ptr ds:[edi+14],ecx                |   |
|           | 00419C10 | 8D8424 B0040000    | lea eax,dword ptr ss:[esp+4B0]               | [esp+4B0]:"%appdata%\\Ethereum\\keystore" |
|           | 00419C17 | 8D8C24 40030000    | lea ecx,dword ptr ss:[esp+340]               |   |
|           | 00419C1E | 894424 20          | mov dword ptr ss:[esp+20],eax                | [esp+20]:&"%appdata%\\Ethereum\\keystore" |
|           | 00419C22 | C74424 24 C7264000 | mov dword ptr ss: [esp+24],7gfdg5egds.4026C7 |   |
|           | 00419C2A | F8 418A0000        | call 7ofdo5eod5.422670                       |   |

#### Data from the Discord app:

|               | 0041DE11 | 894424 04       | mov dword ptr ss:[esp+4],eax   |  |
|---------------|----------|-----------------|--------------------------------|--|
|               | 0041DE15 | 8D05 36124300   | lea eax,dword ptr ds:[431236]  |  |
|               | 0041DE1B | 8D0D C96F4300   | lea ecx,dword ptr ds:[436FC9]  |  |
|               | 0041DE21 | 8906            | mov dword ptr ds:[esi],eax     | esi:"%appdata%\\Discord\\Local Storage2\\Sessions" |
|               | 0041DE23 | B8 E644FFFF     | mov eax,FFFF44E6               |  |
|               | 0041DE28 | 0306            | add eax,dword ptr ds:[esi]     | esi:"%appdata%\\Discord\\Local Storage2\\Sessions" |
|               | 0041DE2A | 51              | push ecx                       |  |
|               | 0041DE2B | 6A 1F           | push 1F                        |  |
|               | 0041DE2D | 56              |                                | esi:"%appdata%\\Discord\\Local Storage2\\Sessions" |
|               | 0041DE2E | FFD0            | call eax                       |  |
| <del></del> ∘ | 0041DE30 | 83C4 0C         | add esp,C                      |  |
|               | 0041DE33 | 8D8C24 40030000 | lea ecy dword ntr ss:[esn+340] |  |

#### Steam:

|     |            | 00411213 | 3.3             | pop ccx                         |                                   |                      |
|-----|------------|----------|-----------------|---------------------------------|-----------------------------------|----------------------|
|     |            | 0041E2F6 | 51              | push ecx                        |                                   |                      |
| 4   |            | 0041E2F7 | 53              | push ebx                        | ebx: "SOFTWARE\\WOW6432Node\\Valv | re\\Steam\\Sessions" |
| -1  |            | 0041E2F8 | FFD0            | call eax                        |                                   |                      |
| - 1 | <b>→</b> • | 0041E2FA | 83C4 0C         | add esp,C                       |                                   |                      |
|     |            | 0041E2FD | 8D05 630D4300   | lea eax, dword ptr ds: [430D63] |                                   |                      |
|     |            | 0041E303 | 8D0D 25734300   | lea ecx,dword ptr ds:[437325]   |                                   |                      |
|     |            | 0041E309 | 898424 30070000 | mov dword ptr ss:[esp+730].eax  |                                   |                      |

.purple: It is the configuration directory in Windows. Here you can find information about the account, including chat logs, pictures from other users, passwords.

| 0041E18D     | 57              |                                | edi:"%appdata%\\.purple\\accounts.xmle2\\Sessions" |
|--------------|-----------------|--------------------------------|--|
| <br>0041E195 | FFD0            | call eax                       |  |
| 0041E197     | 83C4 0C         | add esp,C                      |  |
| 0041E19A     | 8DB424 A8010000 | lea esi,dword ptr ss:[esp+1A8] |  |
| 0041E1A1     | 89FA            | mov edx,edi                    | edi:"%appdata%\\.purple\\accounts.xmle2\\Sessions" |
| 0041E1A3     | 89F1            |                                | esi:"%appdata%\\.purple\\accounts.xmle2\\Sessions" |
| 0041E1A5     | E8 144CFEFF     | call 7gfdg5egds.402DBE         |  |

#### FileZilla:

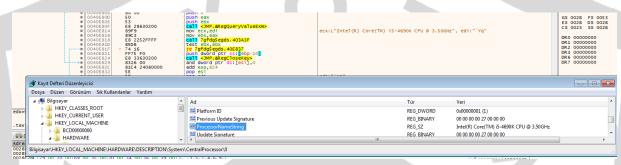
| 0041D11/ | 8DBC24 380/0000 | lea eq1, gword ptr ss:[esp+/38] |                                 |
|----------|-----------------|---------------------------------|---------------------------------|
| 0041D11E | 57              | push edi                        | edi:"recentservers.xml"         |
| 0041D11F | FFD0            | call eax                        |                                 |
| 0041D121 | 83C4 OC         | add esp,C                       |                                 |
| 0041D124 | 8D8C24 90000000 | lea ecx,dword ptr ss:[esp+90]   | [esp+90]:"%appdata%\\FileZilla" |
| 0041D12B | 89FA            | mov edx,edi                     | edi:"recentservers.xml"         |
| 0041D12D | E8 145BFEFF     | call 7gfdg5egds.402C46          |                                 |
| 0041D132 | 8D05 34A84200   | lea eax,dword ptr ds:[42A834]   |                                 |

Here, the system information received by the malware is displayed.

#### OS:



#### **Processor:**



#### Resolution:

```
0041B697 8957 20 mov dword ptr ds:[edi+20],edx mov dword ptr ds:[edi+24],ecx mov dword ptr ds:[edi+24],ecx mov dword ptr ds:[edi+24],ecx mov edx,esi mov edx,esi mov edx,esi mov ebx,edi [esp+200],bl mov ebx,edi [esp+340]:"Resolution 1920X1080\n' ex:"lyc" esi:"lyc" es
```

#### Ram:

#### Machine-Guid:



We see that the malware takes a snapshot of the operation.

```
| 0041C080 | S3F8 01 | Cmp eax,1 | cml eax
```

The values that the malware changes from the registry to escape antiviruses.

### **NETWORK ANALYSIS**



It has been seen that the malware tries to connect to the address 95[.]213[.]179[.]67[:]80 after stealing data. But because the server is not active, it could not establish a connection.

# **SOLUTION PROPOSALS**

- Actual and reliable anti-virus software should be used on the systems.
- Incoming e-mails should be read carefully, e-mails and URLs from unknown sources and files should not be opened without a full scan of attachments.
- All installed software and operating system should be kept up to date.
- Train users frequently to be aware of potential phishing schemas and how to handle them in the right way.
- The network movements of the processes running on the system should be examined.

### **Yara Rules**

```
import "hash"
rule FickerStealer
{
meta:
author = "Hakan Soysal - ZAYOTEM"
description ="file.dll"
strings:
$export0 = "Closewhether"
$export1 = "Meantduck"
$export2 = "My"
$export3 = "Ropemay"
condition:
hash.md5(0,filesize) == "9b59d4744ff1de8b338eeb2b85748cf2" or all of them
}
```

```
import "hash"
rule FickerStealer
{
meta:
author = "Hakan Soysal - ZAYOTEM"
description ="7gfdg5egds.exe"
strings:
$a =
"0x000102030405060708091011121314151617181920212223242526272829303132
333435363738394041424344454647484950515253545556575859606162636465666
76869707172737475767778798081828384858687888990919293949596979899[]"
$b = "_matherr(): %s in %s(%g, %g) (retval=%g)\\n"
$c = {48 09 0A 46 45 1B 48 08 53 1D 39 81 07 46 0A 1D}
$d = {22 53 6F 6D 65 4E 6F 6E 65 00 00 00 BC 94 43 00}
condition:
hash.md5(0,filesize) == "270c3859591599642bd15167765246e3" or all of them
```

