



Practical Malware Analysis & Triage

Malware Analysis Report

Bossfight-Wannacry.exe

Oct 2022 | maT | v1.0



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Executive Summary

Filename	Ransomware.wannacry.exe
SHA256 hash	24d004a104d4d54034dbcffc2a4b19a11f39008a575aa614ea04703480b1022c
VT detection	68/71 engines

The artifact collected is a WannaCry ransomware specimen. It is an example of crypto ransomware (with worm characteristics), used by cybercriminals to extort money.

This malware is composed of multiple components, such as:

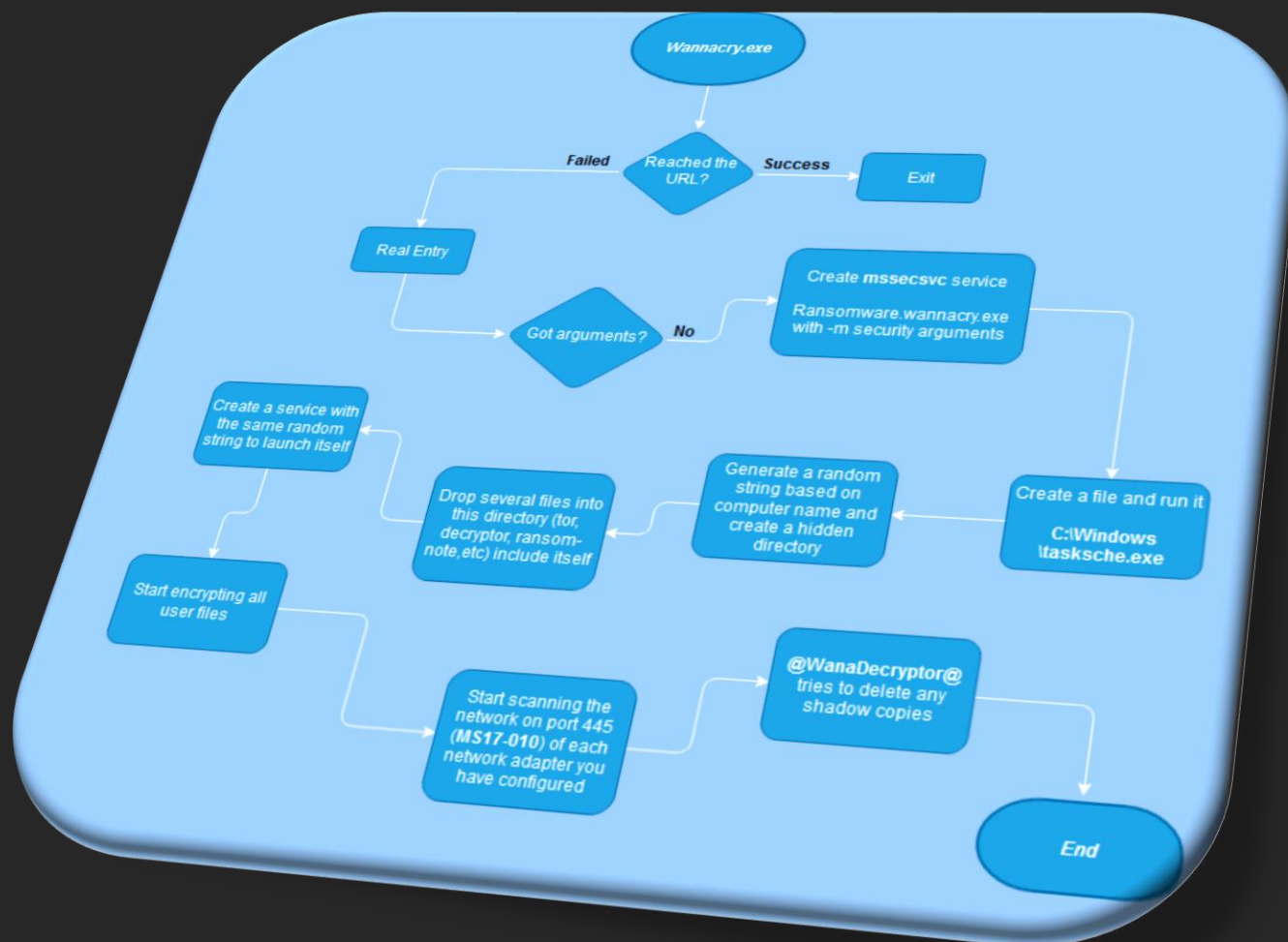
- a) An initial dropper contains the encryptor as an embedded resource;
- b) The encryptor component contains a decryption application, a password-protected zip file containing a copy of Tor, several individual files with configuration information and encryption keys.

Once executed, and meeting all the requirements described in the **Dynamic Analysis** section, all the user files are encrypted, a persistence mechanism is set, a scan over the network on port 445 is performed (in order to propagate itself abusing a known vulnerability in the SMB protocol – MS17-010) and the decryptor component tries to delete any shadow copies.

YARA signature has been created and the malware sample and hashes have been submitted to VirusTotal for further examination.



Execution Flow





Malware Composition

The WannaCry ransomware consists of several files, but the main ones are:

File Name	SHA256 Hash
Ransomware.wannacry.exe	24D004A104D4D54034DBCFFC2A4B19A11F39008A575AA614EA04703480B1022C
tasksche.exe	ED01EBFBC9EB5BBEA545AF4D01BF5F1071661840480439C6E5BABE8E080E41AA
@WanaDecryptor@.exe	B9C5D4339809E0AD9A00D4D3DD26FDF44A32819A54ABF846BB9B560D81391C25

[Ransomware.wannacry.exe](#)

The initial dropper which start all the infection chain and perform the scanning over the internal network

[tasksche.exe](#)

The encryptor and main artifact to achieve the malware goal (sequesterate the user files)

[@WanaDecryptor@.exe](#)

The decryptor, responsible to scare the user with the ransom-note and to seek & destroy any possibility of file recovery



Static Analysis

Using the FLOSS tool, we were able to extract some interesting strings from the sample:

```
C:\Users\root\Desktop  
λ FLOSS.exe Ransomware.wannacry.exe -n 8 > strings_wanna.txt
```

Fig 1: FLOSS searching for strings with the length ≥ 8 chars

- mssecsvc.exe
- tasksche.exe
- taskdl.exe
- cmd.exe /c "%s"
- taskse.exe
- diskpart.exe
- lhdfgui.exe
- icacls . /grant Everyone:F /T /C /Q
- WNCry@2oI7
- %s -m security
- C:\%s\qeriuwjhrf
- hxxp://www.iuqerfsodp9ifjaposdfjhgosurijfaewrwergwea[.]com

The PEstudio was able to show us even more sneaky stuff, increasing our suspicion of this sample

indicator (60)	detail	level
file > extensions > Ransomware Wiper	count: 164	1
functions > blacklist	count: 203	1
strings > blacklist	count: 63	1
resource > size > suspicious	resource: R.1831, size: 3514368 bytes	1
file > embedded	signature: executable, location: .data, offset: 0x0000B020, size: 5263716	1
file > embedded	signature: executable, location: .data, offset: 0x0000F080, size: 5297524	1
file > embedded	signature: executable, location: .rsrc, offset: 0x000320A4, size: 3514368	1
URL > pattern	url: http://www.iuqerfsodp9ifjaposdfjhgosurijfaewrwergwea.com	1
libraries > blacklist	count: 3	2
functions > anonymous	count: 91	2
file > checksum > invalid	expected: 0x00394136	2
overlay > signature	name: executable	2
string > suspicious	size: 1403 bytes	2
string > suspicious	size: 1403 bytes	2
string > suspicious	size: 1430 bytes	2
string > suspicious	size: 1554 bytes	2
string > suspicious	size: 2693 bytes	2
string > suspicious	size: 2693 bytes	2
string > suspicious	size: 2988 bytes	2
resources > file-ratio	value: 94,41%	2

Fig 2: PEStudio showing the main suspicious indicator of the file

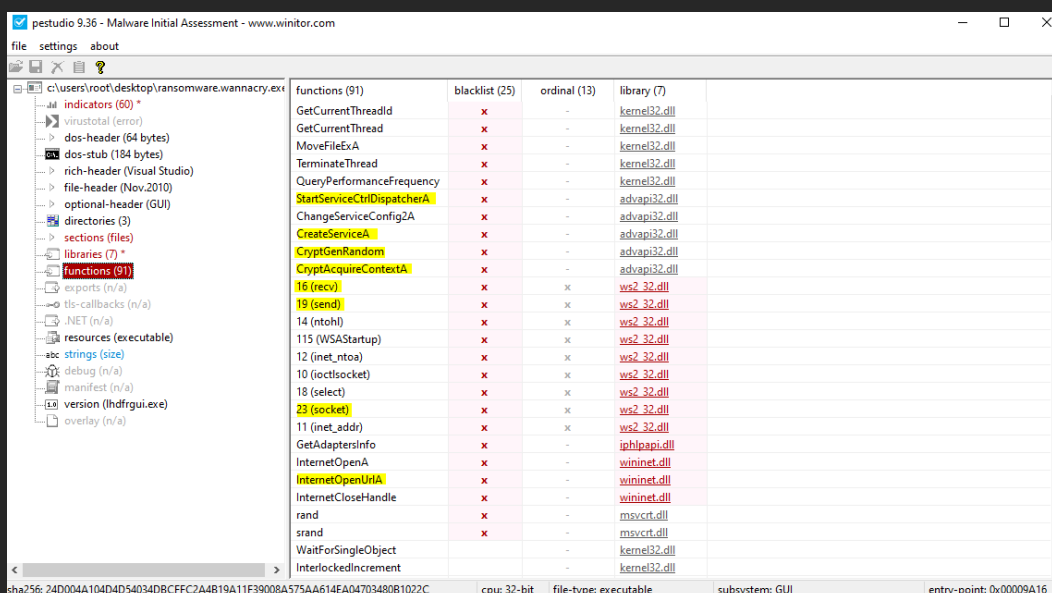


Fig 3: PESTudio showing some suspicious DLL functions used by this binary

In order to take a close look at this suspicious resource embedded into our sample, the tool **ResourcesExtract** (Nimsoft) was pretty useful

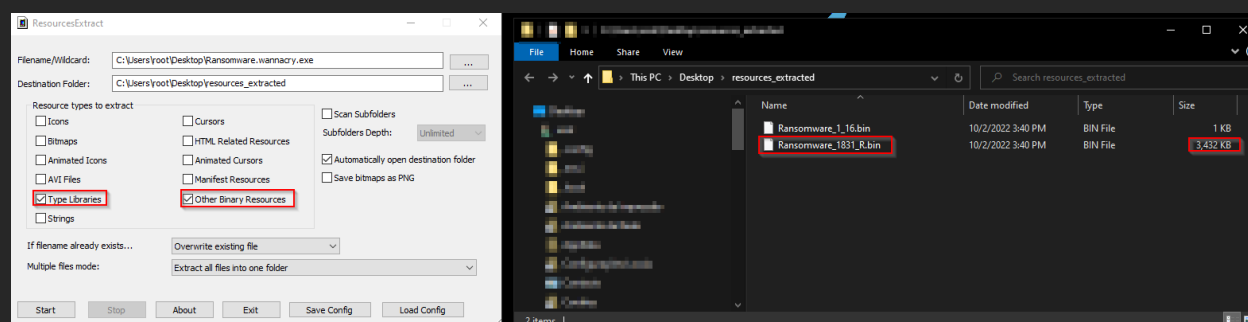


Fig 4: ResourceExtract collecting the suspicious embedded resource

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```
C:\Users\root\Desktop\resources_extracted
λ file *
Ransomware_1831_R.bin: PE32 executable (GUI) Intel 80386, for MS Windows
Ransomware_1_16.bin:  data

C:\Users\root\Desktop\resources_extracted
λ sha256sum.exe *
ed01ebfbc9eb5bbea545af4d01bf5f1071661840480439c6e5babe8e080e41aa *Ransomware_1831_R.bin
2f3fc51546ada848dfc8e775554c0de3689d6fae7ba4bf3d40e3c8dec68b277b *Ransomware_1_16.bin
```

We've just found out
the encryptor
tasksche.exe

Fig 5: Quickly assessment to understand what we've collected

So now, it's time to call on our friends **FLOSS** and **PEstudio** again to help us to get to know this new PE better

Strings got with FLOSS:

- cmd.exe /c "%s"
- Global\MsWinZonesCacheCounterMutexA
- icacls . /grant Everyone:F /T /C /Q
- attrib +h .
- WNcry@2oI7
- msg/m_portuguese.wnry (and several others for other languages)
- taskdl.exe
- taskse.exe
- WanaCrypt0r (the name of our decryptor)
- %s\ProgramData
- diskpart.exe

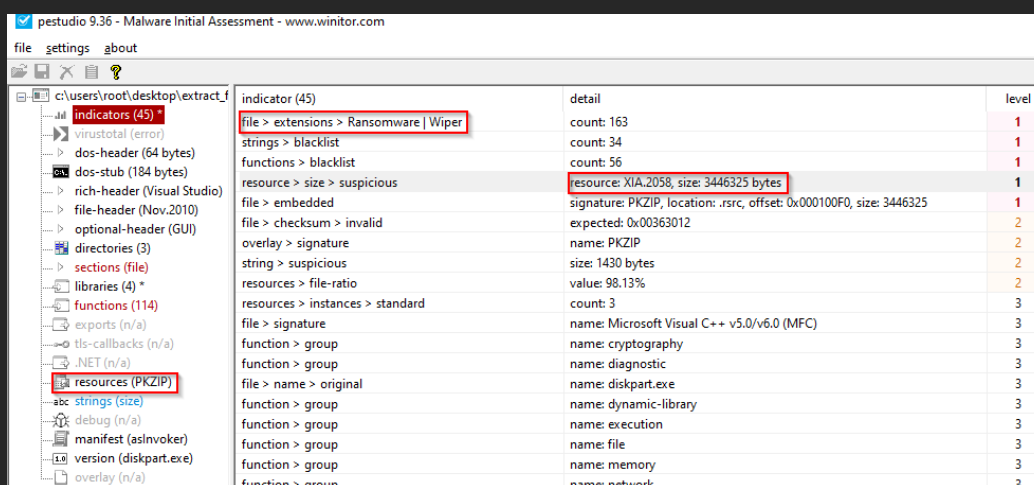


Fig 6: PEStudio analyzing our new PE found (Ransomware_1831_R.bin)



As we can see, this file also contains a suspicious resource, but in this particular case a ZIP file (which one we certainly will take a look)

In the image below, there are several other files inside our zip file, but unfortunately it requires a password to unzip them (which we haven't found yet)

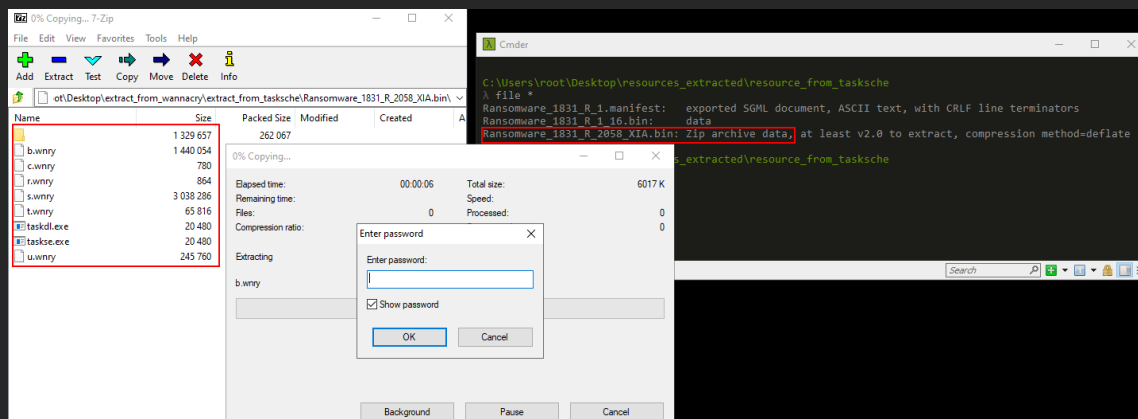


Fig 7: The ZIP file asking for the password

The decryptor (@WanaDecryptor@.exe) has been found only during the dynamic analysis, so after we got it we performed the same assessment procedure already done with the dropper and the encryptor

Strings got with FLOSS:

- /c vssadmin delete shadows /all /quiet & wmic shadowcopy delete & bcdedit /set {default} bootstatuspolicy ignoreallfailures & bcdedit /set {default} recoveryenabled no & wadmin delete catalog -quiet
- hxxp://www.btcfrog[.]com/qr/bitcoinPNG.php?address=%s
- Ooops, your files have been encrypted!
- \Program Files (x86)
- \Local Settings\Temp
- \AppData\Local\Temp
- @WanaDecryptor@.exe.Ink
- @WanaDecryptor@.bmp
- Wana Decrypt0r 2.0
- WanaCrypt0r



pestudio 9.36 - Malware Initial Assessment - www.winitor.com

file settings about

c:\users\root\desktop\@wanadecryptor@.exe

indicator (50)	detail	level
file > extensions > Ransomware Wiper	count: 145	1
strings > blacklist	count: 42	1
functions > blacklist	count: 611	1
URL > pattern	url: 127.0.0.1	1
URL > pattern	url: http://www.btcfrog.com/qr/bitcoinPNG.php?address=%s	1
URL > pattern	url: https://en.wikipedia.org/wiki/Bitcoin	1
URL > pattern	url: https://www.google.com/search?q=how+to+buy+bitcoin	1
functions > anonymous	count: 2912	2
libraries > blacklist	count: 3	2
file > checksum > invalid	expected: 0x0004A55E	2
overlay > signature	name: dialog-data	2
string > suspicious	size: 1158 bytes	2
resources > instances > standard	count: 16	3
resources > manifest	name: Hola	3
file > name > original	name: LODCTR.EXE	3
file > signature	name: Microsoft Visual C++ v5.0/v6.0 (MFC)	3
function > group	name: cryptography	3
function > group	name: data-exchange	3

Fig 8: PEStudio assessing the decryptor



Dynamic Analysis

Before detonate our sample, we must be prepared to collect as much relevant information as possible. So, based on that, the following tools were always running previous any detonation:

- Wireshark
- Procmon
- TCPview
- Process Hacker

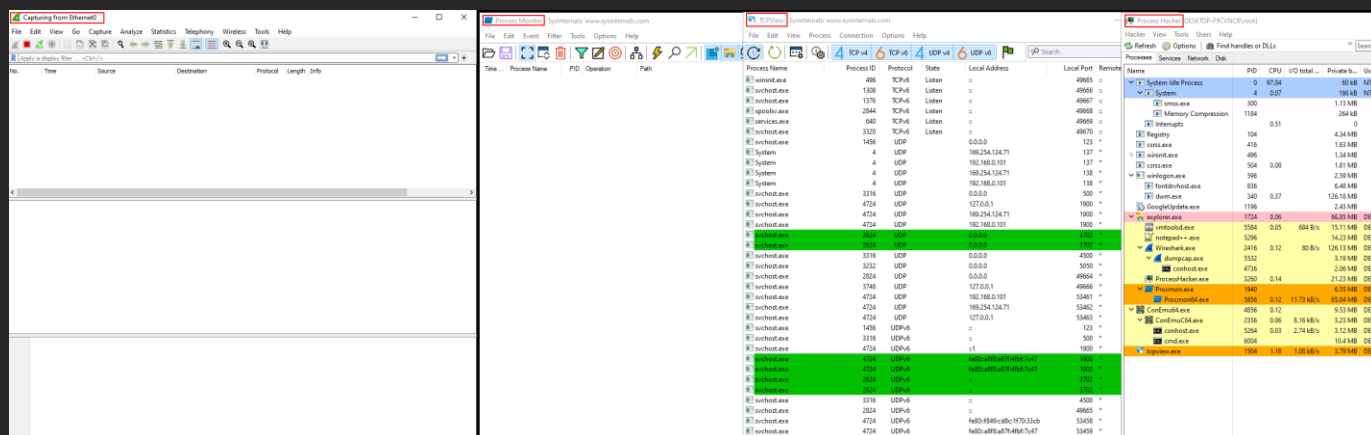
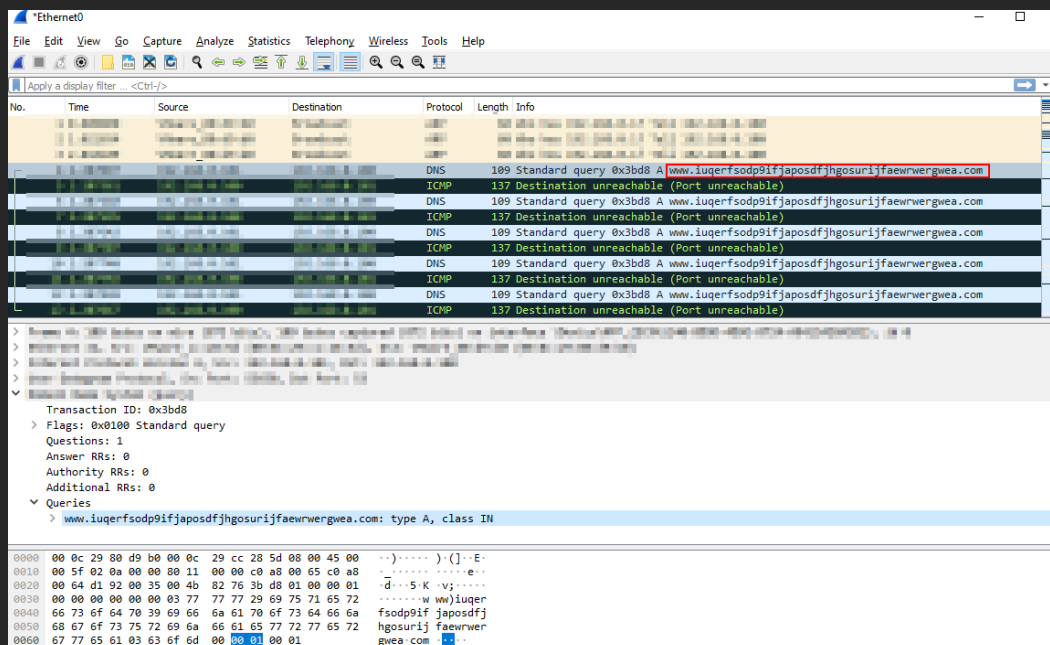


Fig 9: Preparing before detonation

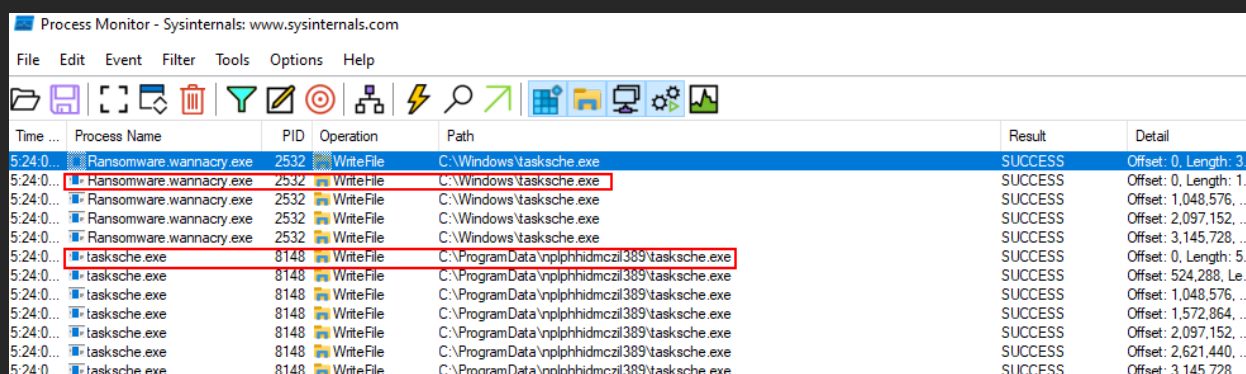
After some sample detonations, we could identify the requirements for the malware executes its payload:

- Run it with **administrator** privileges
- The DNS/HTTP request to **www[.]iuqerfsodp9ifjaposdfjhgosurijfaewrrergwea.com** must not be answered (killswitch mechanism)



Once the requirements mentioned above were met, we can observe the following behavior of our sample

- 1) The encryptor (**tasksche.exe**) being dropped in 2 location





2) A scanning has been initiated towards the 2 networks related to my network adapters

Time of Day	Process Name	PID	Operation	Path	Result	Detail
5:24:10.4099227 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	192.168.0.101:49675 -> 192.168.0.1445	SUCCESS	Length: 0, sequm...
5:24:10.4875682 PM	Ransomware.wannacry.exe	7740	TCP Reconnect	169.254.124.71:49676 -> 169.254.0.1445	SUCCESS	Length: 0, sequm...
5:24:10.4877313 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49676 -> 169.254.0.1445	SUCCESS	Length: 0, sequm...
5:24:10.5495205 PM	Ransomware.wannacry.exe	7740	TCP Reconnect	169.254.124.71:49677 -> 169.254.1.1445	SUCCESS	Length: 0, sequm...
5:24:10.5496049 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49677 -> 169.254.1.1445	SUCCESS	Length: 0, sequm...
5:24:10.6119618 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49678 -> 169.254.2.1445	SUCCESS	Length: 0, sequm...
5:24:10.6746982 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49679 -> 169.254.3.1445	SUCCESS	Length: 0, sequm...
5:24:10.7375282 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49680 -> 169.254.5.1445	SUCCESS	Length: 0, sequm...
5:24:10.8151921 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49681 -> 169.254.6.1445	SUCCESS	Length: 0, sequm...
5:24:10.8775883 PM	Ransomware.wannacry.exe	7740	TCP Reconnect	169.254.124.71:49682 -> 169.254.6.1445	SUCCESS	Length: 0, sequm...
5:24:10.8776469 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49682 -> 169.254.6.1445	SUCCESS	Length: 0, sequm...
5:24:10.9557252 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49683 -> 169.254.7.1445	SUCCESS	Length: 0, sequm...
5:24:11.0185219 PM	Ransomware.wannacry.exe	7740	TCP Reconnect	169.254.124.71:49684 -> 169.254.8.1445	SUCCESS	Length: 0, sequm...
5:24:11.0186449 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49684 -> 169.254.8.1445	SUCCESS	Length: 0, sequm...
5:24:11.0810757 PM	Ransomware.wannacry.exe	7740	TCP Reconnect	169.254.124.71:49685 -> 169.254.9.1445	SUCCESS	Length: 0, sequm...
5:24:11.0811451 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49685 -> 169.254.9.1445	SUCCESS	Length: 0, sequm...
5:24:11.5025957 PM	Ransomware.wannacry.exe	7740	TCP Reconnect	169.254.124.71:49687 -> 169.254.10.1445	SUCCESS	Length: 0, sequm...
5:24:11.5028148 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49687 -> 169.254.10.1445	SUCCESS	Length: 0, sequm...
5:24:11.5651217 PM	Ransomware.wannacry.exe	7740	TCP Reconnect	169.254.124.71:49688 -> 169.254.11.1445	SUCCESS	Length: 0, sequm...
5:24:11.5652232 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49688 -> 169.254.11.1445	SUCCESS	Length: 0, sequm...
5:24:11.6119738 PM	Ransomware.wannacry.exe	7740	TCP Reconnect	169.254.124.71:49689 -> 169.254.12.1445	SUCCESS	Length: 0, sequm...
5:24:11.6120628 PM	Ransomware.wannacry.exe	7740	TCP Disconnect	169.254.124.71:49689 -> 169.254.12.1445	SUCCESS	Length: 0, sequm...

Fig 12: Attempt to spread over the internal network

3) Suspicious folder/files created by tasksche.exe

Name	Date modified	Type	Size
msg	10/2/2022 6:10 PM	File folder	
TaskData	10/2/2022 6:10 PM	File folder	
@Please_Read_Me@.txt	10/2/2022 5:24 PM	Text Document	1 KB
@WanaDecryptor@.exe	5/12/2017 2:22 AM	Application	240 KB
@WanaDecryptor@.exe	10/2/2022 5:24 PM	Shortcut	1 KB
00000000.eky	10/2/2022 5:24 PM	EKY File	0 KB
00000000.pkty	10/2/2022 5:24 PM	PKY File	1 KB
00000000.res	10/2/2022 6:10 PM	RES File	1 KB
b.wnry	5/11/2017 8:13 PM	WNRy File	1,407 KB
c.wnry	10/2/2022 5:25 PM	WNRy File	1 KB
f.wnry	10/2/2022 5:24 PM	WNRy File	1 KB
r.wnry	5/11/2017 3:59 PM	WNRy File	1 KB
s.wnry	5/9/2017 4:58 PM	WNRy File	2,968 KB
t.wnry	5/12/2017 2:22 AM	WNRy File	65 KB
taskdl.exe	5/12/2017 2:22 AM	Application	20 KB
taskse.exe	10/2/2022 5:24 PM	Application	3,432 KB
taskse.exe	5/12/2017 2:22 AM	Application	20 KB
u.wnry	5/12/2017 2:22 AM	WNRy File	240 KB

Fig 13: tasksche.exe first steps



4) The persistence mechanism being set

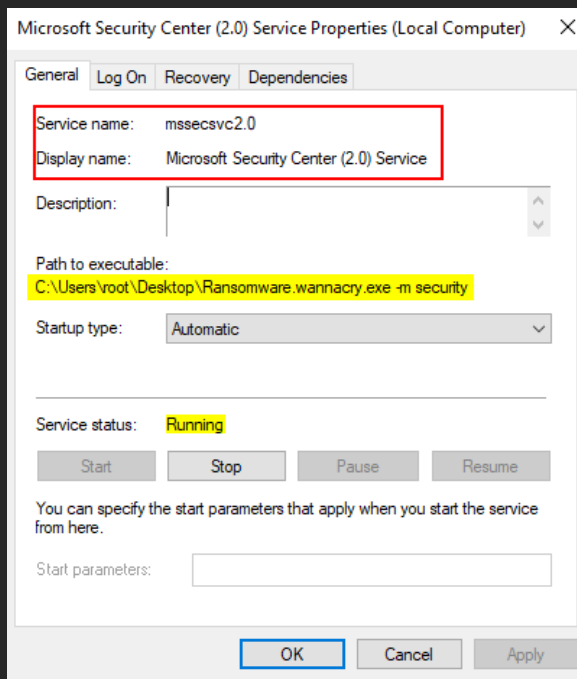


Fig 14: Service mssecsvc2.0 being created & running

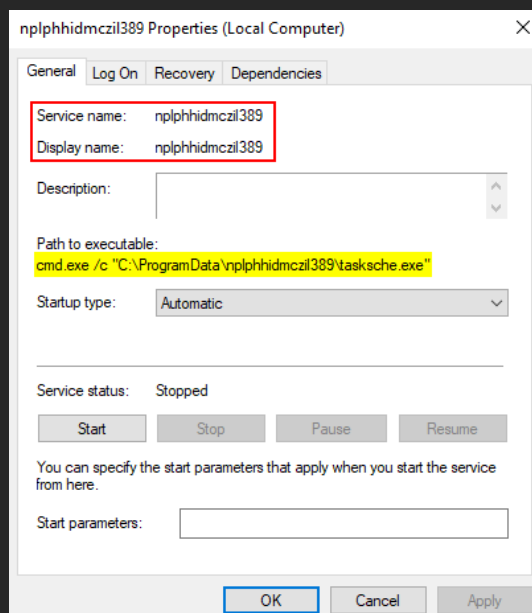


Fig 15: Service named with the same name as the previously mentioned folder



5) Then the files start to be encrypted

The screenshot shows the Process Monitor application window with the 'Filter' menu open. The main pane displays a list of file operations performed by 'tasksche.exe'. The operations are all 'WriteFile' actions, and the paths are all files on the desktop. The 'Result' column shows 'SUCCESS' for all operations. The 'Detail' column shows the offset and length of the data written.

Time of Day	Process Name	PID	Operation	Path	Result	Detail
5:24:10.5152684 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\README.txt.WNCRYT	SUCCESS	Offset: 0, Length: 8...
5:24:10.5153645 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\README.txt.WNCRYT	SUCCESS	Offset: 8, Length: 4...
5:24:10.5153885 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\README.txt.WNCRYT	SUCCESS	Offset: 12, Length: ...
5:24:10.5154041 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\README.txt.WNCRYT	SUCCESS	Offset: 268, Length...
5:24:10.5154245 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\README.txt.WNCRYT	SUCCESS	Offset: 272, Length...
5:24:10.5157425 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\README.txt.WNCRYT	SUCCESS	Offset: 280, Length...
5:24:10.5245858 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\cosmo.jpeg.WNCRYT	SUCCESS	Offset: 0, Length: 8...
5:24:10.5246905 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\cosmo.jpeg.WNCRYT	SUCCESS	Offset: 8, Length: 4...
5:24:10.5247365 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\cosmo.jpeg.WNCRYT	SUCCESS	Offset: 12, Length: ...
5:24:10.5248062 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\cosmo.jpeg.WNCRYT	SUCCESS	Offset: 268, Length...
5:24:10.5248238 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\cosmo.jpeg.WNCRYT	SUCCESS	Offset: 272, Length...
5:24:10.5353780 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\cosmo.jpeg.WNCRYT	SUCCESS	Offset: 280, Length...
5:24:10.5398429 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\cosmo.jpeg.WNCRYT	SUCCESS	Offset: 1,048,856, ...
5:24:10.5908171 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\labs\5-3.ReportWriting\ReportTemplate.docx.WN...	SUCCESS	Offset: 0, Length: 8...
5:24:10.5909034 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\labs\5-3.ReportWriting\ReportTemplate.docx.WN...	SUCCESS	Offset: 8, Length: 4...
5:24:10.5909263 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\labs\5-3.ReportWriting\ReportTemplate.docx.WN...	SUCCESS	Offset: 12, Length: ...
5:24:10.5909370 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\labs\5-3.ReportWriting\ReportTemplate.docx.WN...	SUCCESS	Offset: 268, Length...
5:24:10.5909471 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\labs\5-3.ReportWriting\ReportTemplate.docx.WN...	SUCCESS	Offset: 272, Length...
5:24:10.5960568 PM	tasksche.exe	6492	WriteFile	C:\Users\vroot\Desktop\PMAT-labs-main\labs\5-3.ReportWriting\ReportTemplate.docx.WN...	SUCCESS	Offset: 280, Length...

Fig 16: Encryption routine takes place

6) After the encryption procedure is completed, the decryptor (@WanaDecryptor@.exe) pop up to the user with the ransom-note and attempts to delete any Windows shadow copies using the following command (found with PEstudio during the static analysis step)

```
vssadmin delete shadows /all /quiet & wmic shadowcopy delete & bcdedit /set {default} bootstatuspolicy ignoreallfailures & bcdedit /set {default} recoveryenabled no & wbadmin delete catalog -quiet
```



Fig 17: Decryptor interface

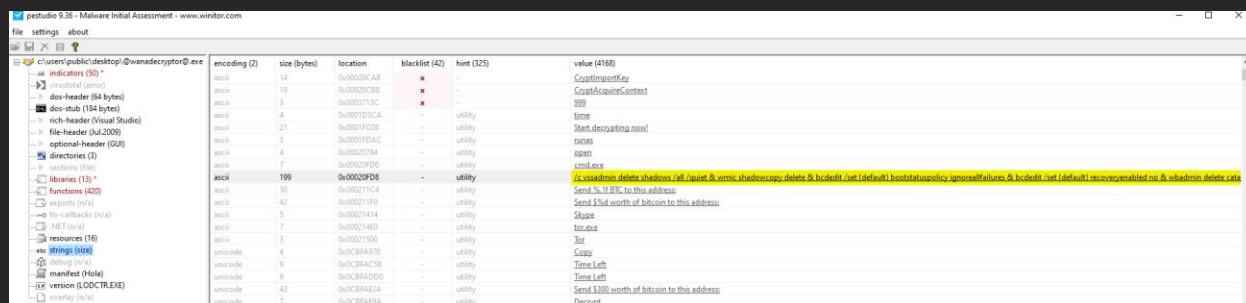


Fig 18: Command line inside the @WanaDecryptor@.exe



A bit of Reverse Engineering

Leveraging the power of the **Cutter** tool, we are able to understand various steps seen during the dynamic analysis, such as

The kill switch mechanism (via Graph view)

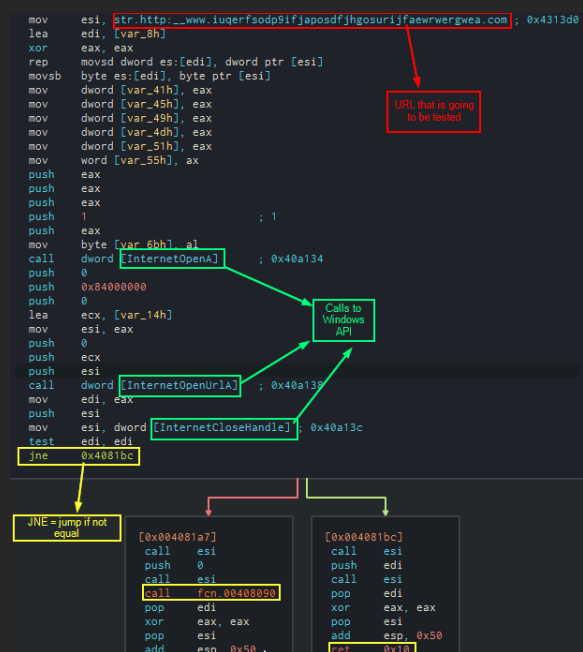


Fig 19: First lines of the main function

In a nutshell, the killswitch mechanism works with the following logic

if $ZF* == 0$ (happens when the HTTP request is performed with success and there is a value set on the register EDI) then **exit** the program

if $ZF* == 1$ (happens when the $EDI = 0$, because the result of bitwise AND operation between $0 \text{ AND } 0 = 0$ and then the ZF is set to 1) so the program continues and run the “real entry” located within the function **fcf.00408090**

* ZF means Zero Flag



Once inside the function **fcn.00408090**, the number of arguments is checked and then we are led to the function **fcn.00407c40**, which is responsible for creating & running the service called **mssecsvc2.0** (Decompiler Ghidra view)

```
undefined4 fcn.00407c40(void)
{
    code *pcVar1;
    int32_t iVar2;
    int32_t iVar3;
    char *pcStack272;
    undefined4 uStack268;
    undefined auStack260 [260];

    uStack268 = 0x70f760;
    pcStack272 = "%s -m security";
    (*_sprintf)(auStack260);
    uStack268 = 0xf003f;
    pcStack272 = (char *)0x0;
    iVar2 = (*_OpenSCManagerA)(0);
    if (iVar2 != 0) {
        iVar3 = (*_CreateServiceA)(iVar2, "mssecsvc2.0", "Microsoft Security Center (2.0) Service" 0xf01ff, 0x10, 2, 1
        , &pcStack272, 0, 0, 0, 0, 0);
        pcVar1 = _CloseServiceHandle;
        if (iVar3 != 0) {
            (*_StartServiceA)(iVar3, 0, 0);
            (*pcVar1)(iVar3);
        }
        (*pcVar1)(iVar2);
        return 0;
    }
    return 0;
}
```

Fig 20: The persistence being set

And then along with the **fcn.00407ce0** the encryptor is prepared and dropped on the victim machine (Decompiler jsdec)

```
eax = &lpExistingFileName;
void (*esi)(void, void, void, char*) (eax, bl, bl, "tasksche.exe");
ecx = &lpNewFileName;
void (*esi)(void, char*, char*) (ecx, "C:\\\\%s\\qeriuwjhrf", "WINDOWS");
edx = &lpNewFileName;
eax = &lpExistingFileName;
uint32_t (*MoveFileExA)(void, void, void) (eax, edx, 1);
ecx = &var_7ch;
eax = uint32_t (*0x431458)(void, void, void, void, void, void, void) (ecx, 0x4000000, ebx, ebx, 2, 4, ebx);
esi = eax;
```

Fig 21: The encryptor being cooked & delivered



Indicators of Compromise

The list of some IOCs can be found below.

Network Indicators

IOC	Description
hxxp://www.iuqerfsodp9ifjaposdfjhgosurijfaewrwergwea[.]com	Killswitch URL

Host-based Indicators

IOC	Description
24D004A104D4D54034DBCFFC2A4B19A11F39008A575AA614EA04703480B1022C	Ransomware.wannacry.exe
ED01EBFBC9EB5BBEA545AF4D01BF5F1071661840480439C6E5BABE8E080E41AA	tasksche.exe
B9C5D4339809E0AD9A00D4D3DD26FDF44A32819A54ABF846BB9B560D81391C25	@WanaDecryptor@.exe
E8406294C82D351EAFE539E881F5608E92AA99347CF47142A448AE69BF016D14	00000000.eky
BB025FE52E2C82E02BDD9CBE2A458CBEFF0D955911C566CB6744525FDE8C93BB	00000000.pky
E829A8FB718A2FC0CC6B0A484458B8DE8C1E0C838DB0323FB2025DBA8691F85B	00000000.res
4A25D98C121BB3BD5B54E0B6A5348F7B09966BFFEEC30776E5A731813F05D49E	@Please_Read_Me@.txt
C725AEB013F116C1477D8D767F3BAEF0CA8C71CA2DE3AC956AB5C7805FE1AC45	@WanaDecryptor@.exe.lnk
D5E0E8694DDC0548D8E6B87C83D50F4AB85C1DEBADB106D6A6A794C3E746F4FA	b.wnry
818CD840D99B8EC263FCCF7CC43798A207020A1F9A5F7F5711086B31A0F950C7	c.wnry
61AE893E866452CC9ED9FC12F9693D2732B21CA61748A4381157E93465F4FC54	f.wnry
402751FA49E0CB68FE052CB3DB87B05E71C1D950984D339940CF6B29409F2A7C	r.wnry
E18FDD912DFE5B45776E68D578C3AF3547886CF1353D7086C8BEE037436DFF4B	s.wnry
97EBCE49B14C46BEBCE9EC2448D00E1E397123B256E2BE9EBA5140688E7BC0AE6	t.wnry
4A468603FDCB7A2EB5770705898CF9EF37AADE532A7964642ECD705A74794B79	taskdl.exe
2CA2D550E603D74DEDDA03156023135B38DA3630CB014E3D00B1263358C5F00D	taskse.exe
mssecsvc2.0	service name (persistence)
HKCU\SOFTWARE\WanaCrypt0r\wd	registry key



Rules & Signatures

YARA rule

```
rule WannaCry_Ransomware {

    meta:
        author = "maT"
        description = "Detects the WannaCry dropper + encryptor + decryptor"
        filetype = "PE"
        version = "1.0"
        reference = "https://academy.tcm-sec.com/courses/enrolled/1547503"
        hash_dropper =
            "24D004A104D4D54034DBCFFC2A4B19A11F39008A575AA614EA04703480B1022C"
        hash_encryptor =
            "ED01EBFBC9EB5BBEA545AF4D01BF5F1071661840480439C6E5BABE8E080E41AA"
        hash_decryptor =
            "B9C5D4339809E0AD9A00D4D3DD26FDF44A32819A54ABF846BB9B560D81391C25"

    strings:
        $s1 = "icaccls . /grant Everyone:F /T /C /Q" fullword ascii
        $s2 = "www.iuqerfsodp9ifjaposdfjhgosurijfaewrwergwea.com" fullword ascii
        $s3 = "Wncry@2017" fullword ascii
        $s4 = "taskse.exe" fullword ascii
        $s5 = "tasksche.exe" fullword ascii
        $s6 = "taskdl.exe" fullword ascii
        $s7 = "msg/m_portuguese.wnry" fullword ascii
        $s8 = "Global\\MsWinZonesCacheCounterMutexA" fullword ascii
        $s9 = "vssadmin delete shadows" fullword ascii

        $s10 = "WanaCrypt0r" fullword wide
        $s11 = "Oops, your files have been encrypted!" fullword wide
        $s12 = "@WanaDecryptor@.bmp" fullword wide

    condition:
        uint16(0) == 0x5A4D // MZ
        and 4 of ($s*)
        and filesize < 4MB
}
```