

Practical Malware Analysis Lab 3-1

Questions

1. What are this malware's imports and strings?
2. What are the malware's host based indicators?
3. Are there any useful network-based signatures for this malware If so, what are they?

Question 1

When putting the exe Lab03-01.exe into Dependencies it only showed one import kernel32.dll and the function ExitProcess. The strings gave us more information about what this malware does.

StubPath

SOFTWARE\Classes\http\shell\open\commandV

Software\Microsoft\Active Setup\Installed Components\

test

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Admin

?503

200

advpack

CONNECT %s:%i HTTP/1.0

VideoDriver

WinVMX32-

Vmx32to64.exe

SOFTWARE\Classes\http\shell\open\commandV

Software\Microsoft\Active Setup\Installed Components\

SOFTWARE\Microsoft\Windows\CurrentVersion\Run

Dynamic Analysis

Regshot Results

```
-res-x86 - Notepad
File Edit Format View Help
HKU\S-1-5-21-2000478354-113007714-682003330-500\Software\Microsoft\Advanced INF Setup\IEHomePageInfo\RegBackup\0.map\3bdd6b017b35029e: ",1,HKCU,Software\Microsoft\Inter
-----
Values added: 203
-----
HKLM\SOFTWARE\Classes\svw\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\acp\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\apc\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\atc\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\bfr\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\cap\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\enc\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\erf\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\fdx\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\ntar\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\out\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\pcap\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\pcapng\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\pkt\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\rf5\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\snoop\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\sys\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\tpc\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\tr1\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\trace\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\trc\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\vmr\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\wpc\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\wpz\:"wireshark-capture-file"
HKLM\SOFTWARE\Classes\Wireshark-capture-file\:"Wireshark capture file"
HKLM\SOFTWARE\Classes\Wireshark-capture-file\DefaultIcon\:"C:\Program Files\Wireshark\Wireshark.exe,1"
HKLM\SOFTWARE\Classes\Wireshark-capture-file\Shell\Open\Command\:"C:\Program Files\Wireshark\Wireshark.exe" "%1" ""
HKLM\SOFTWARE\Microsoft\WSEnt\Process\Wireshark\DEBUG\Trace Level\:""
HKLM\SOFTWARE\Microsoft\WBEM\CIMOM\ADAPTERFlt\Timeout\:"0x0000003C"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\App Paths\Wireshark.exe\:"C:\Program Files\Wireshark\Wireshark.exe"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\WinPcapInst\DisplayVersion\:"4.1.3"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\WinPcapInst\DisplayName\:"WinPcap 4.1.3"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\WinPcapInst\UninstallString\:"C:\Program Files\WinPcap\uninstall.exe"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\WinPcapInst\Publisher\:"Riverbed Technology, Inc."
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\WinPcapInst\URLInfoAbout\:"http://www.riverbed.com/"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\WinPcapInst\URLUpdateInfo\:"http://www.winpcap.org"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\WinPcapInst\VersionMajor\:"4"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\WinPcapInst\VersionMinor\:"1"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\WinPcapInst\DisplayVersion\:"4.1.0.2980"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\WinPcapInst\DisplayIcon\:"C:\Program Files\WinPcap\uninstall.exe"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Wireshark\Comments\:"Wireshark 1.10.14 (32-bit)"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Wireshark\DisplayIcon\:"C:\Program Files\Wireshark\Wireshark.exe,0"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Wireshark\DisplayName\:"Wireshark 1.10.14 (32-bit)"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Wireshark\DisplayVersion\:"1.10.14"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Wireshark\HelpLink\:"http://ask.wireshark.org/"
HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Wireshark\InstallLocation\:"C:\Program Files\Wireshark"
```

Wireshark Results

Capturing from Local Area Connection [Wireshark 1.10.14 (v1.10.14-0-g825f971 from master-1.10)]							
File Edit View Go Capture Analyze Statistics Telephony Tools Internals Help							
Filter: frame contains malware Expression... Clear Apply Save							
No.	Time	Source	Destination	Protocol	Length	Info	
21	22.9813280	192.168.205.133	192.168.205.2	DNS	92	Standard query 0xc11e	A www.practicalmalwareanalysis.com
22	23.0588600	192.168.205.2	192.168.205.133	DNS	138	Standard query response 0xc11e	CNAME practicalmalwareanalysis.com A 192.0.78.24 A 192.0.
39	53.1095610	192.168.205.133	192.168.205.2	DNS	92	Standard query 0x23a9	A www.practicalmalwareanalysis.com
42	53.1904420	192.168.205.2	192.168.205.133	DNS	138	Standard query response 0x23a9	CNAME practicalmalwareanalysis.com A 192.0.78.24 A 192.0.
53	83.2508640	192.168.205.133	192.168.205.2	DNS	92	Standard query 0xa88b	A www.practicalmalwareanalysis.com
54	83.3443760	192.168.205.2	192.168.205.133	DNS	138	Standard query response 0xa88b	CNAME practicalmalwareanalysis.com A 192.0.78.25 A 192.0.
66	113.392061	192.168.205.133	192.168.205.2	DNS	92	Standard query 0x770b	A www.practicalmalwareanalysis.com
67	113.485616	192.168.205.2	192.168.205.133	DNS	138	Standard query response 0x770b	CNAME practicalmalwareanalysis.com A 192.0.78.24 A 192.0.

Process Monitor Results

1:54:2...	Lab03-01.exe	2040	RegSetValue	HKLM\SOFTWARE\Microsoft\Cryptogr...	SUCCESS	Type: REG_BINA...
1:54:2...	Lab03-01.exe	2040	RegSetValue	HKLM\SOFTWARE\Microsoft\Window...	SUCCESS	Type: REG_SZ, Le...
1:54:2...	Lab03-01.exe	2040	RegSetValue	HKLM\SOFTWARE\Microsoft\Cryptogr...	SUCCESS	Type: REG_BINA...
1:54:2...	Lab03-01.exe	2040	RegSetValue	HKLM\SOFTWARE\Microsoft\Cryptogr...	SUCCESS	Type: REG_BINA...
1:54:2...	Lab03-01.exe	2040	RegSetValue	HKLM\SOFTWARE\Microsoft\Cryptogr...	SUCCESS	Type: REG_BINA...
1:54:2...	Lab03-01.exe	2040	RegSetValue	HKLM\SOFTWARE\Microsoft\Cryptogr...	SUCCESS	Type: REG_BINA...
1:54:2...	Lab03-01.exe	2040	RegSetValue	HKLM\SOFTWARE\Microsoft\Cryptogr...	SUCCESS	Type: REG_BINA...
1:54:2...	Lab03-01.exe	2040	RegSetValue	HKLM\SOFTWARE\Microsoft\Cryptogr...	SUCCESS	Type: REG_BINA...

Type: REG_SZ
Length: 510
Data: C:\WINDOWS\system32\vmx32to6

Question 2

Some host based indicators include the exe `C:\Windows\system32\Vm32to64.exe` , and the registry entry of VideoDriver.

Question 3

Traffic to the website www.practicalmalwareanalysis.com