

Head Mare delivers PhantomCore and PhantomGraph backdoors via an unpatched TrueConf server

SL securelist.com/tr/head-mare-targets-trueconf-server-with-phantomcore/120988

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Overview of the attack

In July 2026, Kaspersky experts detected a new attack by the Head Mare group. Previously, we classified them as hacktivists, but now we define them as an APT group due to the sophistication of their TTPs and the absence of destructive activity (encryption, wiping) in the targeted infrastructures. In this latest campaign, the attackers exploited a chain of vulnerabilities in the TrueConf video conferencing server and replaced the original TrueConf client installers with infected versions that installed the PhantomCore malware on the system.

An investigation of the compromised server revealed that the attackers used a combination of two new vulnerabilities (assigned the internal identifiers [KLCERT-26-057](#) and [KLCERT-26-058](#)), allowing them to execute arbitrary code with the highest privileges.

The attack occurs in several stages:

1. 1 The attackers connect to the TrueConf server without prior authorization via port 4307/TCP, which, according to the product documentation, is open by default. The attack targets TrueConf servers running versions 5.3.X **through 5.3.9**, 5.4.X **through 5.4.9**, and 5.5.X **through 5.5.5**.

2. 2 Once connected, attackers call a server function to transmit a malicious script and execute it on the server. The vulnerability that allows this stage of the attack to be carried out has been assigned the internal identifier **KLCERT-26-057**.
3. 3 The received script runs on the TrueConf server in an isolated environment. By default, operating system functions are not accessible in this environment, which should limit the capabilities of the executed code.
4. 4 To escape the isolated environment, attackers exploit a second vulnerability, assigned the internal identifier **KLCERT-26-058**. Exploiting this vulnerability allows them to bypass the restrictions of the isolated environment and proceed to execute commands in the context of the operating system.
5. 5 Once the environment's restrictions are bypassed, attackers gain the ability to execute arbitrary code on the server with the privileges of the NT AUTHORITY\SYSTEM account.
6. 6 Once they have gained elevated privileges, attackers replace the file ...
`\public\js\locale.php` with a web shell, which can be used for subsequent remote control of the compromised server.

This web shell was used for the following activities:

- collecting data on the IT infrastructure;
- gaining privileged access to the TrueConf database;
- replacing the original TrueConf Client distribution with an infected version containing the PhantomCore backdoor.

The vulnerabilities exploited by the attackers were patched by the vendor in the latest TrueConf Server updates (versions 5.3.9, 5.4.9, and 5.5.5). These updates [were released](#) on June 18, 2026.

The PhantomCore backdoor was successfully detected by Kaspersky solutions.

To automatically launch the malware after the system boots, a registry key is created:

HKEY_CURRENT_USER\Software\Classes\CLSID\{0340F119-A598-4ed9-B0AC-6F6A12D3E755}\InprocServer32, with the value set to the path to the malicious program's file.

Using a web shell, in addition to PhantomCore, the attackers load a backdoor that we have named PhantomGraph, consisting of two modules:

- `SysExcSvc.dll` is responsible for receiving commands from the attackers and transmitting the results of their execution. The attackers used an account on Microsoft OneDrive cloud storage as their command-and-control (C2) server.

- SysReadSvc.dll reads the command transmitted by the first module, executes it, and saves the execution result.

To establish persistence on the system, the attackers execute a Base64-encoded PowerShell command that installs SysExcSvc.dll and SysReadSvc.dll as Windows services. We believe the attackers deliberately split this malicious command into two components to make it harder to detect using EDR tools. Additionally, the program's code partially matches that of PhantomCore, indicating that it belongs to Head Mare's arsenal.

We also managed to identify the commands executed by the attackers when connecting to the backdoor. The SysReadSvc module executes commands using a BATCH file. Example of execution:

```
1 $system32\cmd.exe /c cmd /c ""$temp\cmd_cmd_4488.bat"" 2>&1
```

Commands detected:

Memory dump of the lsass.exe process:

Reconnaissance of the user and system names:

```
1 hostname
2
3 whoami
4
5 "$system32\WindowsPowerShell\v1.0\powershell.exe" -noexit -command Set-Location -
literalPath '$system32\inetsrv'
```

Launching an SSH reverse tunnel:

In addition, we discovered several commands that did not work due to the attackers' typos and encoding issues.

We are observing several active Head Mare campaigns targeting Russian organizations across various industries: instrument manufacturing, electronics, transportation, energy, IT, and software development. The attackers distribute their backdoors using various methods, including phishing, exploiting public web servers, or through a subcontractor.

We recommend that all organizations using TrueConf software install the latest server version (versions 5.3.9, 5.4.9, and 5.5.5) in accordance with the vendor's recommendations.

We also recommend verifying that the client distributions downloaded from the TrueConf server used by your organization have a valid TrueConf digital signature and have not been tampered with. The malicious distributions we detected did not have a valid digital signature. You can also verify authenticity [on the vendor's website](#).

Important: Even if your organization does not use a TrueConf server, your employees may connect to compromised TrueConf servers belonging to business partners to participate in online meetings and download infected installation packages.

The attack mechanism and the vulnerabilities exploited are described in more detail [on the Kaspersky ICS CERT website](#).

Detection by Kaspersky solutions

Kaspersky security solutions successfully detect malicious activity associated with the attacks described above.

The malware used in this attack is detected by our solutions with the following detection names:

- Backdoor.PHP.WebShell.abi,
- Backdoor.Win64.PhantomCore.dt,
- Trojan.Win64.Agent.smgvnc,
- Trojan.Win64.Agent.smgvnb,
- HEUR:Backdoor.Win64.PhantomCore.gen,
- HEUR:Backdoor.Linux.Agent.fb,
- HEUR:Backdoor.Linux.PhantomHook.a,
- HEUR:Backdoor.Linux.PhantomReact.a,
- Trojan.Win64.PhantomGraph.gen
- UDS:Backdoor.Win64.PhantomCore.a

Let's take a closer look using [Kaspersky Endpoint Detection and Response Expert](#) (KEDR Expert) as an example.

Specifically, activity involving the replacement of the legitimate file `...\\public\\js\\locale.php` with a web shell, as well as the deletion of entries from TrueConf event logs, is detected by

the rule [unusual_php_file_creation_from_trueconf_process](#).

Process tree

SettingsView saved treesCommentsReset changes

#250

#250

locale.php

Event details

FileMd5d3b48fbae4aa29f1941b27bc37f3448dbd2

FileModificationTime2026-08-06 17:12:39.330

FileNamelocale.php

FileSha2568fba45087bf0b0b2f6e294daf455748558ba0afcc781dedad72905d23ca3c3

HostNametrueconf-srv-win

HostOsNameMicrosoft Windows Server Standard

ParentProcessCmdlineC:\WINDOWS\system32\services.exe

ParentProcessFileNameC:\WINDOWS\system32\services.exe

ParentProcessMd58d82d0a9b53fc1a83858006a92d575d

ParentProcessNameServices.exe

ParentProcessSha256ec48f61b12942b8d475e440599fc33344cde21a64f611195a2301b36671215

ParentProcessFileSignatureResulttrue

ParentProcessFileSignatureSubjectNameMicrosoft Corporation

ParentProcessId10064

ProcessCmdline"C:\Program Files\TrueConf Server\ts_server.exe" /Service /

ProcessDirectoryC:\WINDOWS\system32\

ProcessFileDescriptionTrueConf Server

ProcessFileFullPathC:\Program Files\TrueConf Server\ts_server.exe

ProcessFileMd5d172b8f866414b70c266578c1124d1e

ProcessFileNamets_server.exe

ProcessFileProductnameTrueConf Server

ProcessFileProductvendorTrueConf LLC

ProcessFileProductversion5.5.4.1016

ProcessFileSha2566eb4c2604b24215e1ef22b1700b843c2eb8b86d781f534841f28a952108f74

ProcessId9082

ProcessUserNameNT AUTHORITY\SYSTEM

ProductEDR

TypeBase

IoA

Name	Alert	Severity	Confidence	Techniques	Tactics
unusual_php_file_creation_from...	Enabled	High	High	t1505.003	Persistence

Downloading a file containing the PhantomCore backdoor via the replaced legitimate file ...
\\public\js\locale.php is detected by KEDR Expert with the rule

unusual_file_creation_from_trueconf.

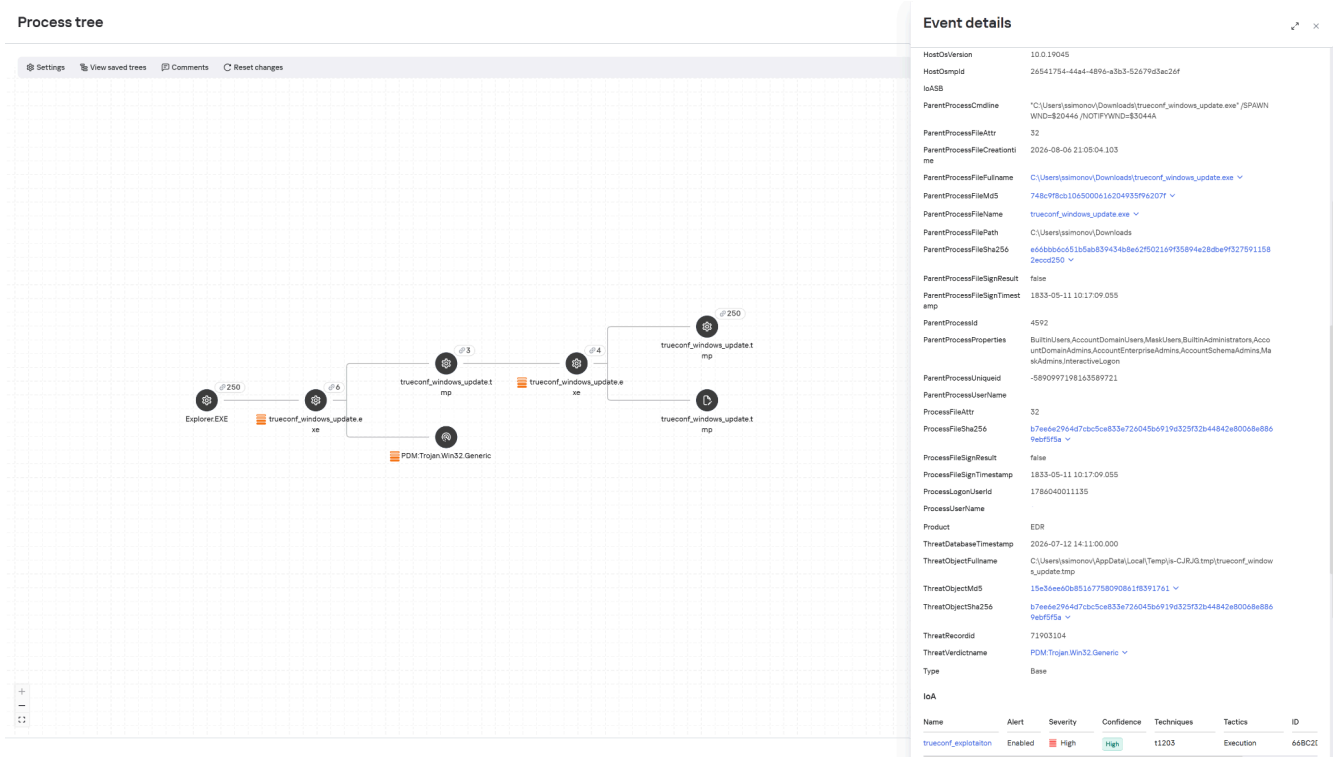
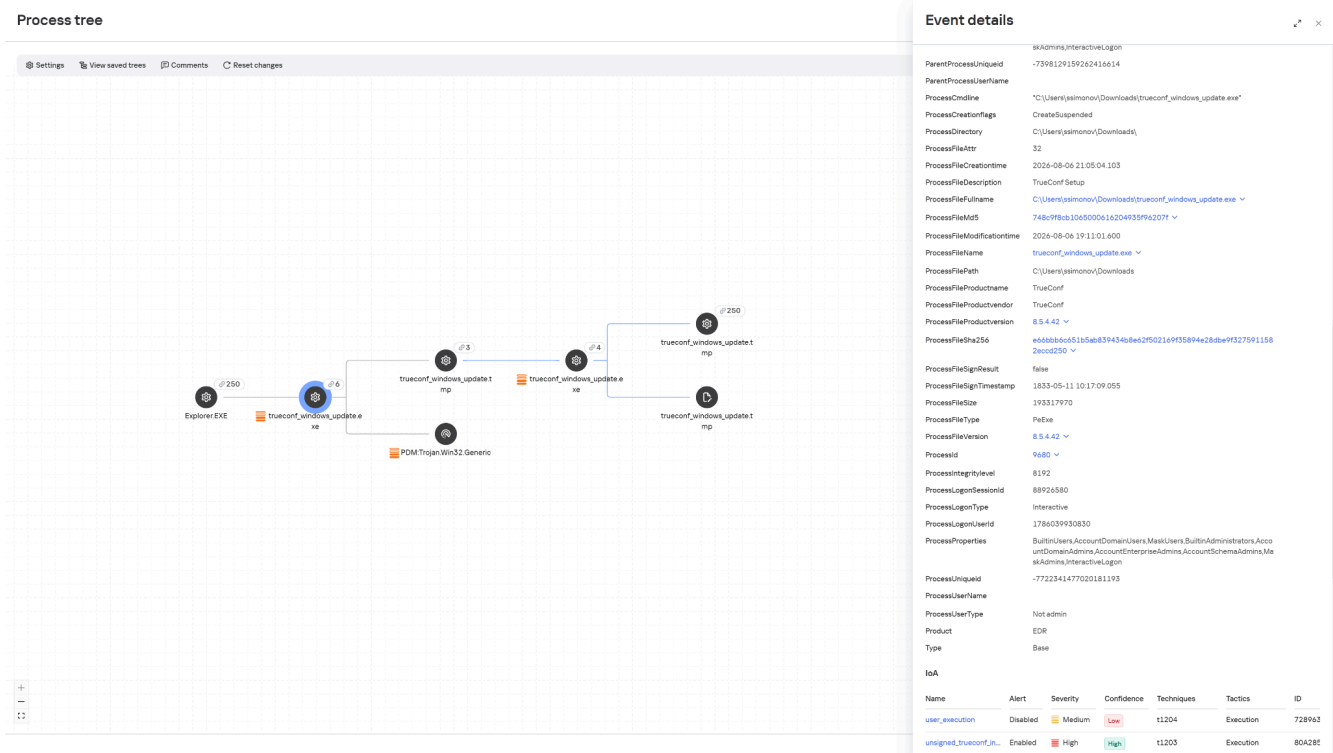
Event details

FileMd5	ba696a408d62eea5af26d004bc7f0254
FileName	SysExcSvc.dll
FilePath	C:\Program Files\TrueConf Server\httpconf\site\public\js
HostName	trueconf-srv-win
EventType	File Create
HostOsName	Microsoft Windows ServerStandard
ParentProcessCmdline	"C:\Program Files\TrueConf Server\httpconf\bin\tc_webmgr.exe" -kru nservice
ParentProcessFileFullName	C:\Program Files\TrueConf Server\httpconf\bin\tc_webmgr.exe
ParentProcessFileMd5	9f96d3cf81df99983ceded90d8c2ad77
ParentProcessFileName	tc_webmgr.exe
ParentProcessFileOriginalname	httpd.exe
ParentProcessFilePath	C:\Program Files\TrueConf Server\httpconf\bin
ParentProcessFileSha256	198109590c9b918140180a7bb93b7f2253802d0a4a45c9b6c5e4c b802a81ecd8
ParentProcessFileSignResult	false
ParentProcessFileSignTimestamp	60056-05-28 08:36:10 955
ParentProcessId	3700
ParentProcessProperties	BuiltinAdministrators,MaskAdmins,LocalSystem
ParentProcessUniqeid	-6026420527606346430
ParentProcessUserName	NT AUTHORITY\SYSTEM
ProcessCmdline	"C:\Program Files\TrueConf Server\httpconf\bin\tc_webmgr.exe" -d "C:/Program Files/TrueConf Server/httpconf"
ProcessDirectory	C:\Program Files\TrueConf Server\httpconf\
ProcessFileDescription	Apache HTTP Server
ProcessFileFullName	C:\Program Files\TrueConf Server\httpconf\bin\tc_webmgr.exe
ProcessFileMd5	9f96d3cf81df99983ceded90d8c2ad77
ProcessFileName	tc_webmgr.exe
ProcessFileOriginalname	httpd.exe
ProcessFilePath	C:\Program Files\TrueConf Server\httpconf\bin
ProcessFileProductname	Apache HTTP Server
ProcessFileProductvendor	Apache Software Foundation
ProcessFileSha256	198109590c9b918140180a7bb93b7f2253802d0a4a45c9b6c5e4c b802a81ecd8
ProcessUserName	NT AUTHORITY\SYSTEM

IoA

Name	Alert	Severity	Confidence	Techniques	Tactics	ID
unusual_file_creati...	Enabled	High	High	t1505.003	Persistence	E2E5E7

Activity related to the installation of an infected TrueConf client installer containing the PhantomCore backdoor is detected by KEDR Expert using the unsigned_trueconf_installer rule.



The [Kaspersky Managed Detection and Response](#) service detects the described attack by monitoring the following actions:

1. 1 Creation of suspicious files by TrueConf Server processes.
2. 2 Execution of a TrueConf Client installer file that lacks a software developer's signature.

3. 3 Suspicious process chains associated with TrueConf Client executables and TrueConf Client update executables.
4. 4 Registration of suspicious libraries in the HKEY_CURRENT_USER\Software\Classes\CLSID\ registry key.
5. 5 Actions related to retrieving information about the lsass.exe process.
6. 6 Memory dump creation for the lsass.exe process using the comsvcs.dll library.
7. 7 Accessing the memory of the lsass.exe process.
8. 8 Creating tunnels using the ssh process.

To protect companies using our [Kaspersky SIEM system](#), a general set of rules is available in the product repository that allows detection of the following techniques:

1. 1 Creation of suspicious files in the C:\Windows\System32\inetsrv* directory:
R405_07_File write to IIS native modules folder or OWA via WriteData.
2. 2 Creating a memory dump of the lsass.exe process using the comsvcs.dll library:
R233_04_Process memory dump via comsvcs.dll.
3. 3 Accessing the memory of the lsass.exe process:
R262_Suspicious access to the LSASS process.

We also recommend paying attention to the following events when developing your own detection rules or conducting threat hunting:

1. 1 Registration of suspicious libraries in the registry key \Software\Classes\CLSID\{0340F119-A598-4ed9-B0AC-6F6A12D3E755}\InprocServer32:
 - 1 (DeviceEventClassID = '4657' OR DeviceEventClassID = '13')
 - 2 AND FileName like '%\Software\Classes\CLSID\{0340F119-A598-4ed9-B0AC-6F6A12D3E755}%' AND DeviceCustomString6 = 'InprocServer32'
2. 2 Creating the SysExcSvc and SysReadSvc services to run executables from temporary directories in the background via cmd:
 - 1 DeviceEventClassID = '4697'
 - 2 AND (DestinationServiceName = 'SysExcSvc' OR DestinationServiceName = 'SysReadSvc')
 - 3 AND match (FileName, '.*cmd\s+\Vc.*temp\\cmd_cmd_.*\bat.*')

3. 3 Creation of suspicious processes originating from the TrueConf update process (trueconf_windows_update.exe)

- 1 (DeviceEventClassID = '4688' OR DeviceEventClassID = '1')
- 2 AND SourceProcessName LIKE '%\trueconf_windows_update.exe'

For the detection rules to work correctly, ensure that events from Windows systems are received in full, including Security events 4688, 4663, 4657, and 4697 and Sysmon events 1, 7, 11, and 13.

Indicators of compromise

File hashes (MD5)

Web shell

[4d27b4eb1c5dbb3d8160f29b8119523e](#) locale.php

Infected installer

[748c9f8cb1065000616204935f96207f](#) trueconf_windows_update.exe

PhantomCore DLL

[c5a460e4e68a088f6e51b2c6474642ec](#)

[129462164a7d52e9ea8560b60f0412c5](#) doc.txt

[ec0bf4a2186a88874e9f26f07cfeb532](#) usocacheddata.txt

[b348642146ea34771e5785c5857950f5](#)

[c915cb6c2aeb863ee8479238e1644217](#) doc.txt

[0e79996d9483d1e44fea32b0a48c2c19](#) doc.txt

[2bb75c20e778eb5c416965bd4d4259b1](#) trueconf_windows_client_x64_[redacted].exe

[b3a6fee3307f1c26841fd5c603e2b013](#) usocacheddata.txt

[8fcc3e4ccbf1725d9989fb464abf3561](#) usocacheddata.txt

PhantomGraph

[489f43be558b2679284ceabed7adc4f3](#) sysexcsvc.dll

[dd1fd2b459b97b7d59375cb8383cd19a](#) sysreadsvc.dll

[0e4541c3153ec5ed01497f19cf4f63d0](#) sysexcsvc.dll

[12d4e8f5295f2ef7e0f9bfc0f4830939](#) sysexcsvc.dll

[7f267006cac10f341c356b62fe493527](#) sysexcsvc.dll

[ee2861d5965e8730708cd1da8a93fa4c](#) sysexcsvc.dll

Backdoor (ELF)

[c3a2abe8756910f42582b04a44ea351443f435c3c437bc879a2d7d4634f43494](#)

Rootkit

[aee9642b45b099cb7f3053b9b680b425](#)

IP

[81.177.32\[.\]12](#)

[194.87.239\[.\]71](#) ssh

[194.87.93\[.\]153](#) ssh

[38.244.205\[.\]244](#)

[31.59.102\[.\]61](#)

Domains

[penzadogshelter\[.\]site](#)

[trendy-market\[.\]site](#)

[bright-deals\[.\]site](#)

[nova-stream\[.\]site](#)

[rinomobile\[.\]ink](#)

[urbanpixel\[.\]store](#)

[flexish\[.\]shop](#)

[media-hub\[.\]today](#)

[cosmetic-deals\[.\]store](#)

[vks.gossopka\[.\]forum](#)

Windows service names

SysExcSvc

SysReadSvc

File paths

C:\Windows\System32\inetsrv\SysExcSvc.dll

C:\Windows\System32\inetsrv\SysReadSvc.dll

C:\Windows\System32\inetsrv\graphi-refresh.dat

C:\Windows\System32\inetsrv\share\input_*.txt

C:\Windows\System32\inetsrv\share\output_*.txt

%TEMP%\cmd_cmd_*.bat

%LOCALAPPDATA%\TrueConf\Client\api-ms-win-crt-time-l1-1-0-2.dll
/etc/systemd/system/omicluster.service
/etc/systemd/system/schedul2-bin.service
/opt/acronis/bin/schedul2-bin
/omi/bin/omicluster
/usr/lib64/libzvbi-tchain.so.2
/var/tmp/cx2

Registry keys

HKEY_CURRENT_USER\Software\Classes\CLSID\{0340F119-A598-4ed9-B0AC-6F6A12D3E755}\InprocServer32

Kaspersky detection names

Backdoor.PHP.WebShell.abi
Backdoor.Win64.PhantomCore.dt
Trojan.Win64.Agent.smgvnc
Trojan.Win64.Agent.smgvnb
HEUR:Backdoor.Win64.PhantomCore.gen
HEUR:Backdoor.Linux.Agent.fb
HEUR:Backdoor.Linux.PhantomHook.a
HEUR:Backdoor.Linux.PhantomReact.a
Trojan.Win64.PhantomGraph.gen
UDS:Backdoor.Win64.PhantomCore.a

YARA rules

```

1  import "pe"
2
3  rule apt_HeadMare_PhantomCore
4  {
5
6  meta:
7
8      description = "Rule to detect PhantomCore used by HeadMare"
9
10     author = "Kaspersky ICS CERT"
11
12     copyright = "Kaspersky ICS CERT"
13
14     version = "1.0"
15
16     last_modified = "2026-08-02"
17
18     hash = "c5a460e4e68a088f6e51b2c6474642ec"
19
20 strings:
21
22     $a1 = "lying.dll" ascii
23
24     $a2 = { 2D 7F 95 4C 2D F4 51 58 }
25
26     $a3 = { 4F 81 67 F7 7E 7B 05 14 }
27
28 condition:
29
30     (uint16(0) == 0x5A4D) and (filesize > 4MB) and (filesize < 20MB) and (all of them)
31     and (pe.number_of_signatures == 0)
32
33 }

```

```
1 rule apt_HeadMare_FakeConf_installer
2
3 {
4     meta:
5
6         description = "Rule to detect any unsigned TrueConf installers"
7
8         author = "Kaspersky"
9
10        copyright = "Kaspersky"
11
12        version = "1.0"
13
14        last_modified = "2026-08-02"
15
16        hash = "748c9f8cb1065000616204935f96207f"
17
18    strings:
19
20        $a1 = "TrueConf Setup" wide
21
22        $a2 = "This installation was built with Inno Setup." wide
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```

1 rule apt_HeadMare_PhantomCore_exchange
2
3 {
4     meta:
5
6         description = "Rule to detect PhantomCore exchange module used by HeadMare"
7
8         author = "Kaspersky ICS CERT"
9
10        copyright = "Kaspersky ICS CERT"
11
12        version = "1.0"
13
14        last_modified = "2026-08-02"
15
16        hash = "489f43be558b2679284ceabed7adc4f3"
17
18 strings:
19
20     $a1 = "graphi_exchange.dll" ascii
21
22     $a2 = "graphi-client/1.0" ascii
23
24     $b1 = "https://graph.microsoft.com/v1.0/me/drive/root:/" ascii
25
26     $b2 = ":/children?$select=name,id&$top=200" ascii
27
28     $b3 = "offline_access Files.ReadWrite" ascii
29
30     $b4 = "GRAPHI_INSECURE" ascii
31
32     $b5 = "\"@microsoft.graph.conflictBehavior\": \"replace\"" ascii
33
34     $b6 = "https://login.microsoftonline.com/" ascii
35
36 condition:
37
38     (uint16(0) == 0x5A4D) and (any of ($a*)) and (3 of ($b*))
39
40 }

```

```

1 rule apt_HeadMare_PhantomCore_executor
2
3 {
4     meta:
5
6         description = "Rule to detect PhantomCore executor module used by HeadMare"
7
8         author = "Kaspersky ICS CERT"
9
10        copyright = "Kaspersky ICS CERT"
11
12        version = "1.0"
13
14        last_modified = "2026-08-02"
15
16        hash = "dd1fd2b459b97b7d59375cb8383cd19a"
17
18 strings:
19
20     $a1 = "graphi_reader.dll" ascii
21
22     $a2 = "^input_(.+)\.txt$" ascii
23
24     $b1 = "output_" ascii
25
26     $b2 = "cmd_cmd_" ascii
27
28     $b3 = "cmd /c \"" ascii
29
30     $b4 = "error: failed to start cmd process" ascii
31
32     $b5 = "share" ascii
33
34     $b6 = "SysReadSvc" ascii
35
36 condition:
37
38     (uint16(0) == 0x5A4D) and (filesize < 4MB) and (any of ($a*)) and (4 of ($b*))
39
40 }

```

```
1 rule apt_HeadMare_FakeLocale_webshell
2
3 {
4     meta:
5
6         description = "Rule to detect the HeadMare TrueConf web shell"
7
8         author = "Kaspersky"
9
10        copyright = "Kaspersky"
11
12        version = "1.0"
13
14        last_modified = "2026-08-04"
15
16        hash = "4d27b4eb1c5dbb3d8160f29b8119523e"
17
18    strings:
19
20        $a1 = "X-Redirect-Bit" ascii wide nocase
21
22        $a2 = "tc_vcs_web_db_conn" ascii wide
23
24        $a3 = "user=postgres" ascii wide
25
26
27        $b1 = "UPL ok::" ascii wide
28
29        $b2 = "DWN fail nexs" ascii wide
30
31        $b3 = "DWN fail inv" ascii wide
32
33
34    condition:
35
36        (2 of ($a*)) or (2 of ($b*))
37
38 }
```

```
1 rule apt_HeadMare_TrueConf_Rootkit
2
3 {
4     meta:
5
6         description = "Rule to detect the HeadMare rootkit installed on TrueConf servers"
7
8         author = "Kaspersky"
9
10        copyright = "Kaspersky"
11
12        version = "1.0"
13
14        last_modified = "2026-08-06"
15
16        hash = "aee9642b45b099cb7f3053b9b680b425"
17
18    strings:
19
20        $a1 = "PQconnectdb"
21
22        $a2 = "obfuscated_data"
23
24        $a3 = "install_hook"
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```
1 rule apt_HeadMare_Github_Backdoor
2
3 {
4     meta:
5
6         description = "Rule to detect the HeadMare backdoor with Github C2"
7
8         author = "Kaspersky"
9
10        copyright = "Kaspersky"
11
12        version = "1.0"
13
14        last_modified = "2026-08-06"
15
16        hash = "43f435c3c437bc879a2d7d4634f43494"
17
18        hash = "c3a2abe8756910f42582b04a44ea3514"
19
20    strings:
21
22        $a1 = "cryptor5crypt"
23
24        $a2 = "execraw_task"
25
26        $a3 = "jitter_task"
27
28        $a4 = "upload_task"
29
30        $a5 = "exec_task"
31
32        $a6 = "react_comment"
33
34
35    condition:
36
37        (uint32(0) == 0x464c457f) and (filesize > 5000000) and (filesize < 10000000) and (4
38        of them)
39
40 }
```

- [Targeted attacks](#)
- [Zero-day vulnerabilities](#)
- [Malware](#)
- [APT](#)
- [Backdoor](#)
- [Head Mare](#)
- [Privilege escalation](#)