Germanwiper's big brother? gandgrab's kid ? sodinokibi!

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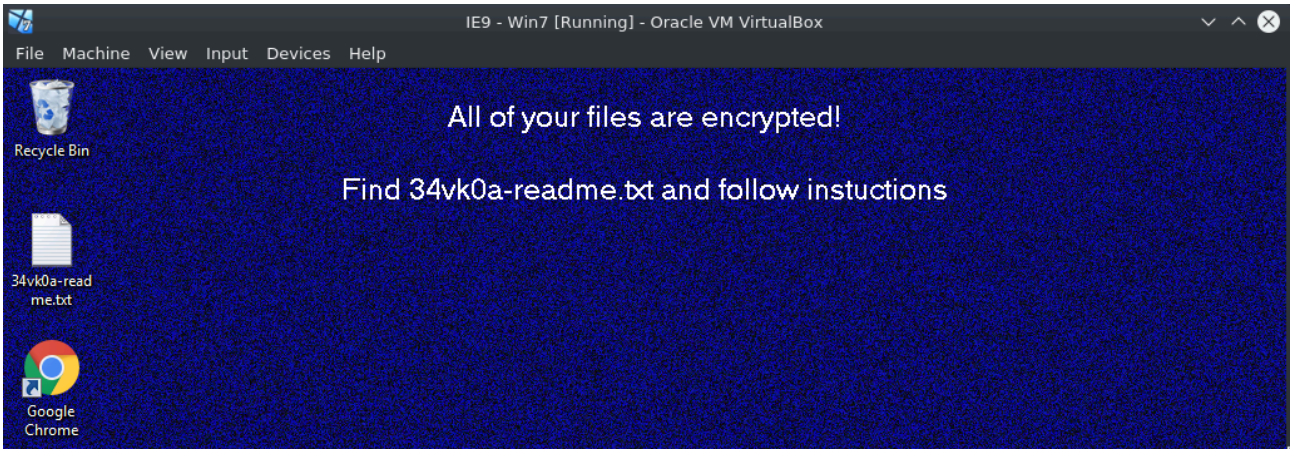
Sat 10 August 2019 in Ransomware

After last week's analysis on GermanWiper I thought it would be about time to have a Look at Sodinokibi aka REvil, the new weird kid on the block.



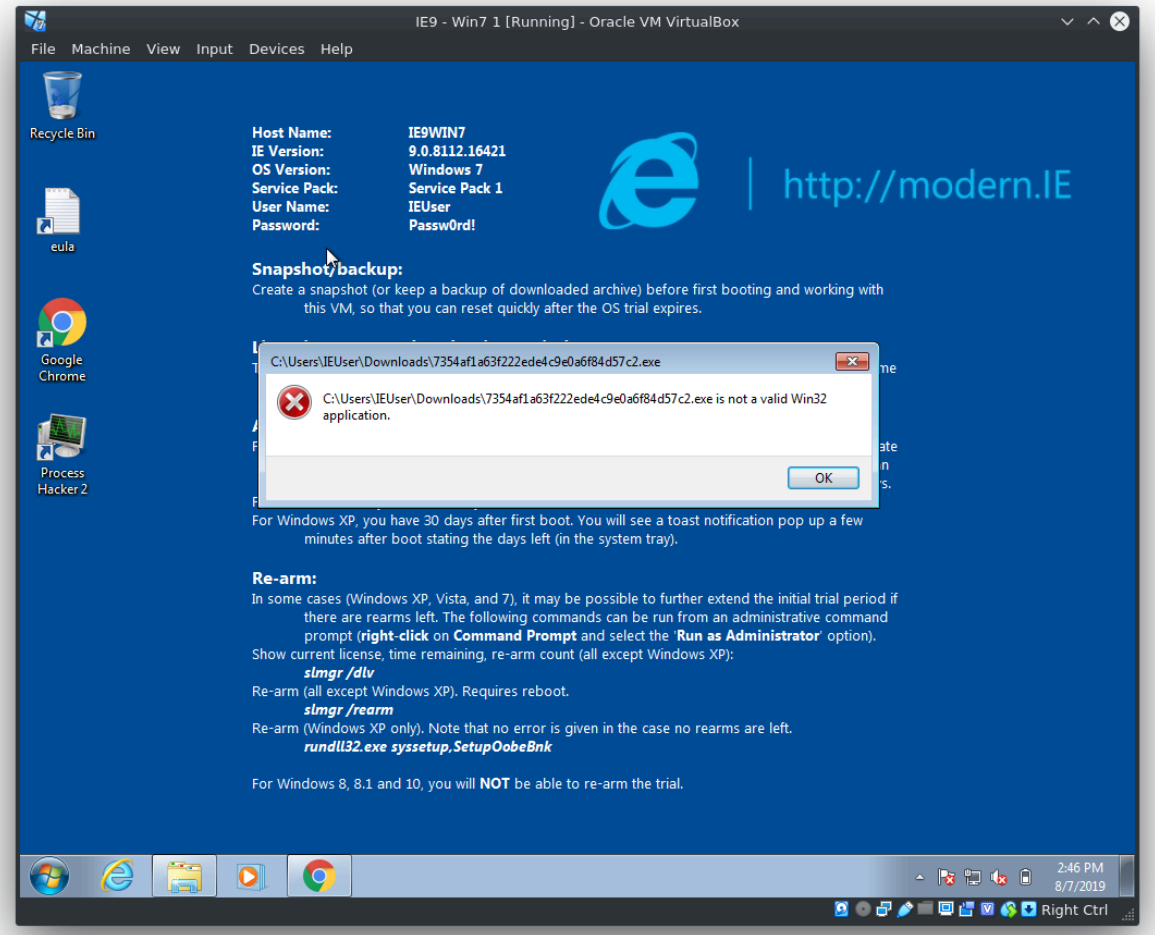
According to Cybereason the Sodinokibi Ransomware was written by the same guys who created GandCrab, which is a pretty big deal after GandCrab retired recently. The samples that I'll be looking at today were first dropped in Asia, but it did not take long to reach other continents as well.

A general disclaimer as always: downloading and running the samples linked below will lead to the encryption of your personal data, so be f$cking careful. Also check with your local laws as owning malware binaries/ sources might be illegal depending on where you live.

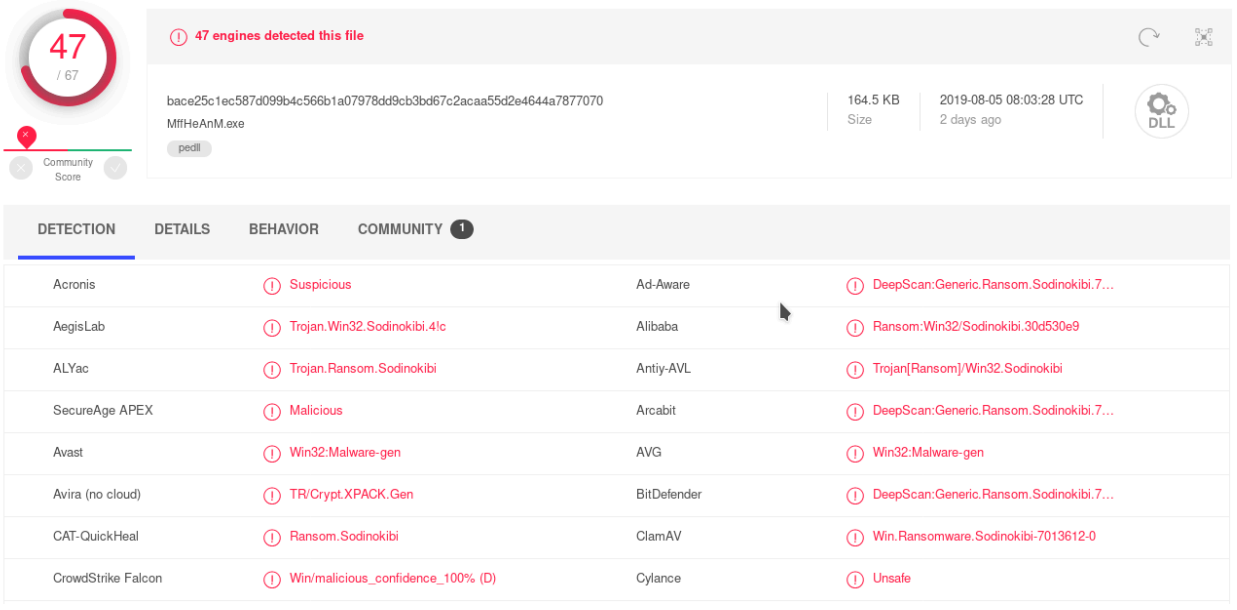
Where I dug up the samples this time:

Sodinokibi #1 available @ https://malshare.com/sample.php?action=detail&hash=6cb6fda0b353d411a30c5b945e53ea52 `sha256` `bace25c1ec587d099b4c566b1a07978dd9cb3bd67c2acaa55d2e4644a7877070`

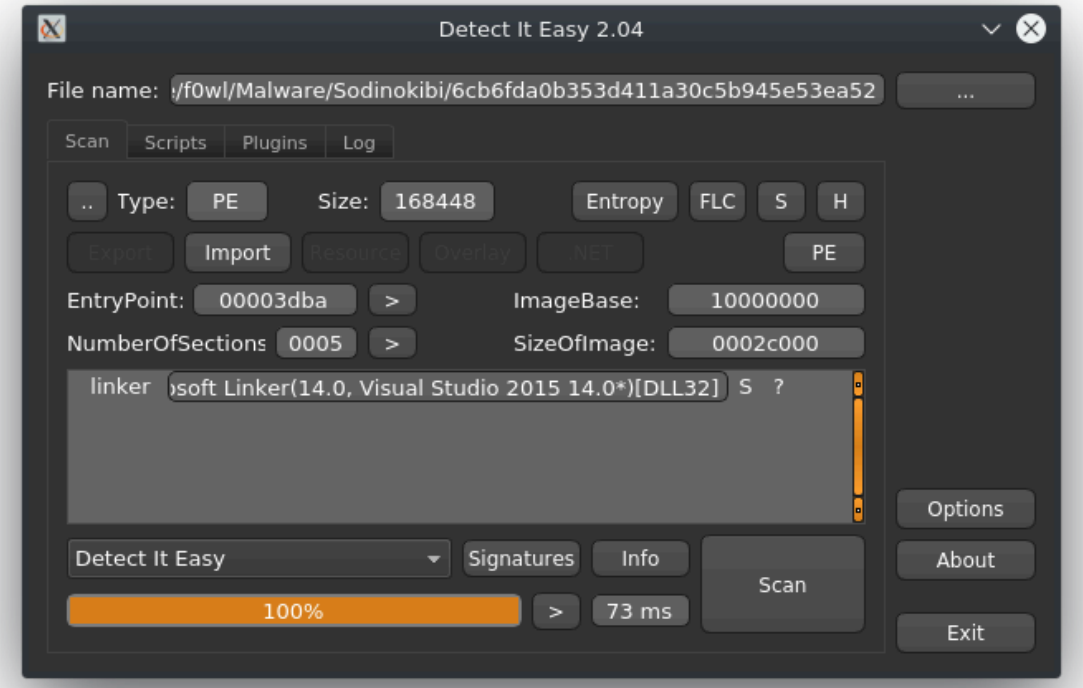
Sodinokibi #2 available @ https://malshare.com/sample.php?action=detail&hash=7354af1a63f222ede4c9e0a6f84d57c2 `sha256` `2fea45f7be7c7313ee6e4fe7ad9ef64d9966a2391003a00dcbbd6214e9c522ef`



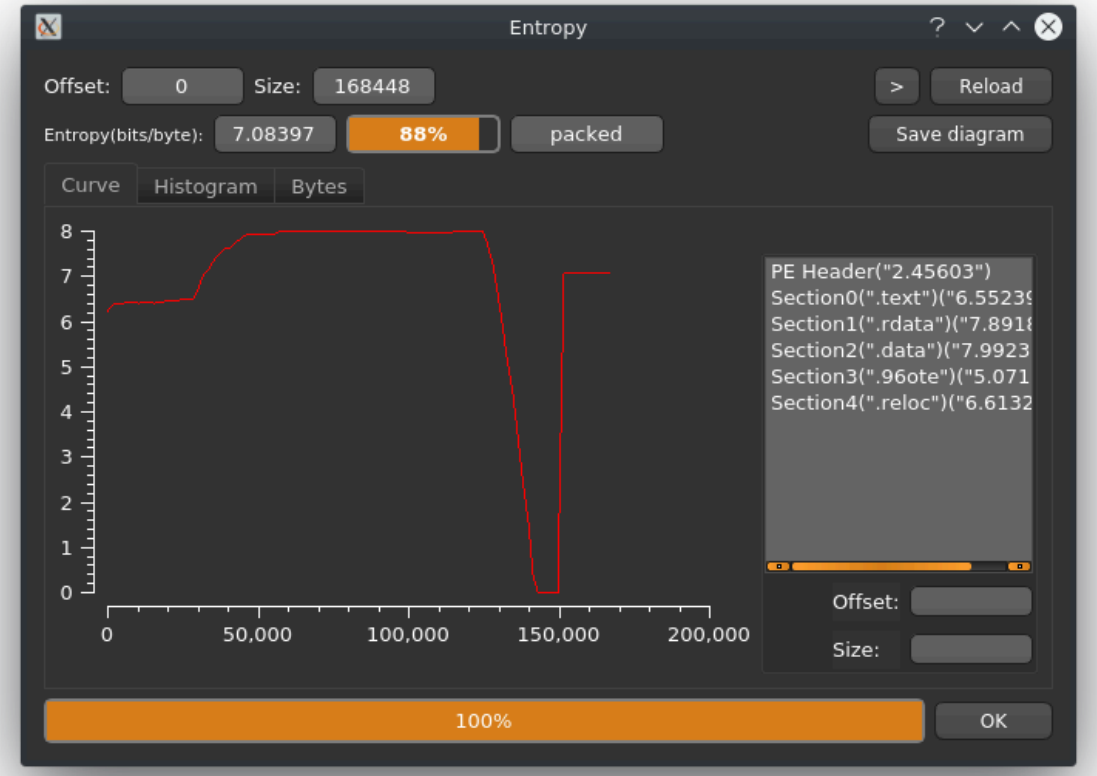
Running it through VirusTotal we get a pretty good detection rate, but that is to be expected since REvil is around for a few days already. Here's a direct Link to the [VT Analysis](#).

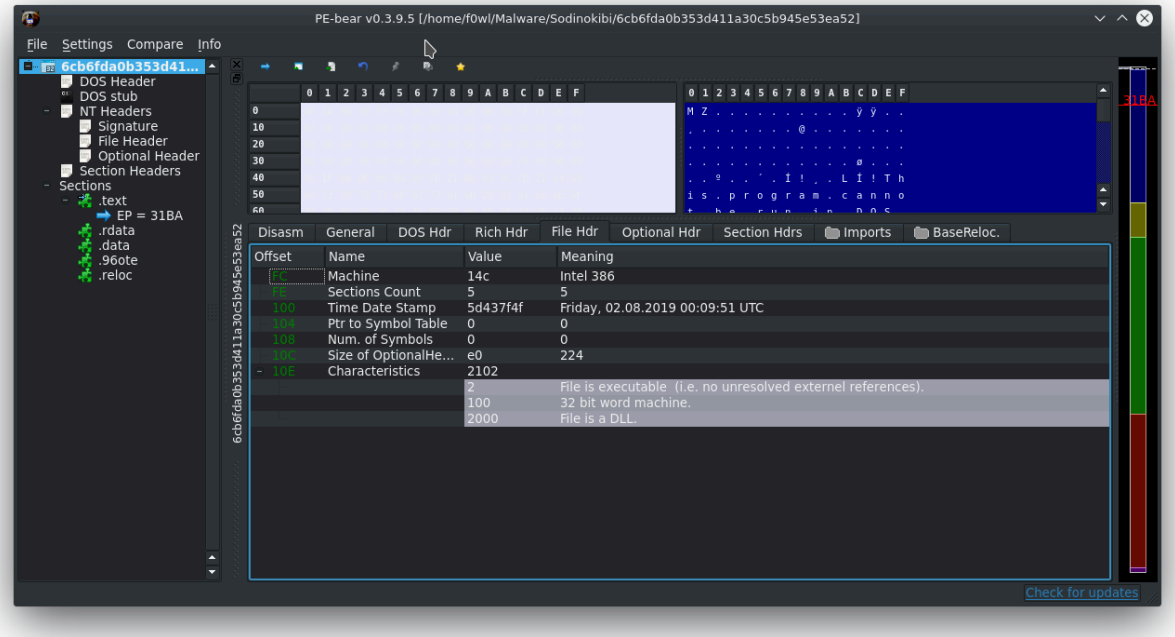


Looking at Detect it easy we don't see anything special either. The PE seems to be built with MS Visual Studio 2015 (Linker Version 14).

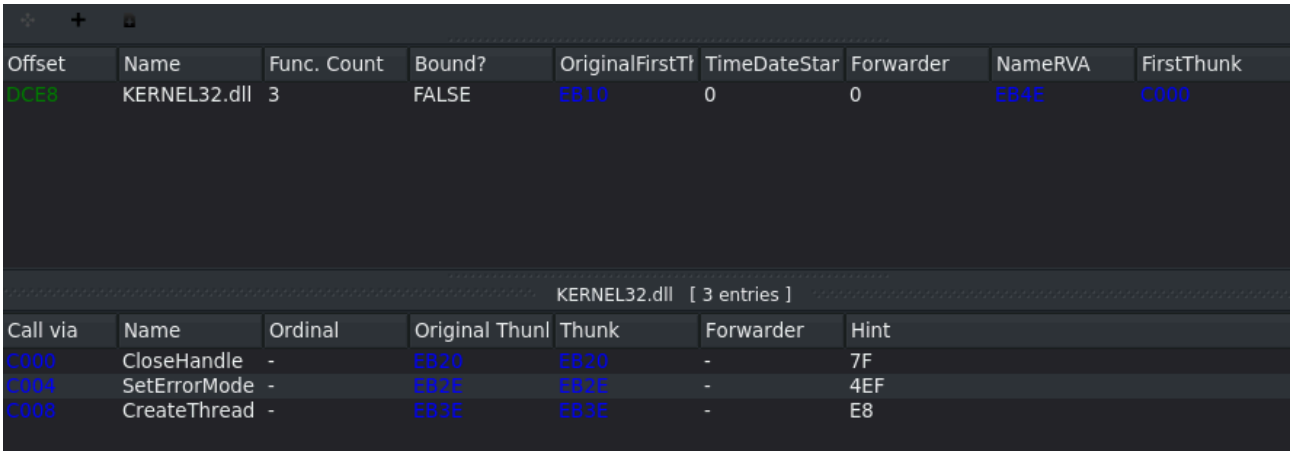


Entropy-wise we can observe a huge drop near the end of the binary.





The imports definitely indicate that somethings is wrong here. Only loading kernel32.dll with 3 entries is a bit minimalistic for ransomware.

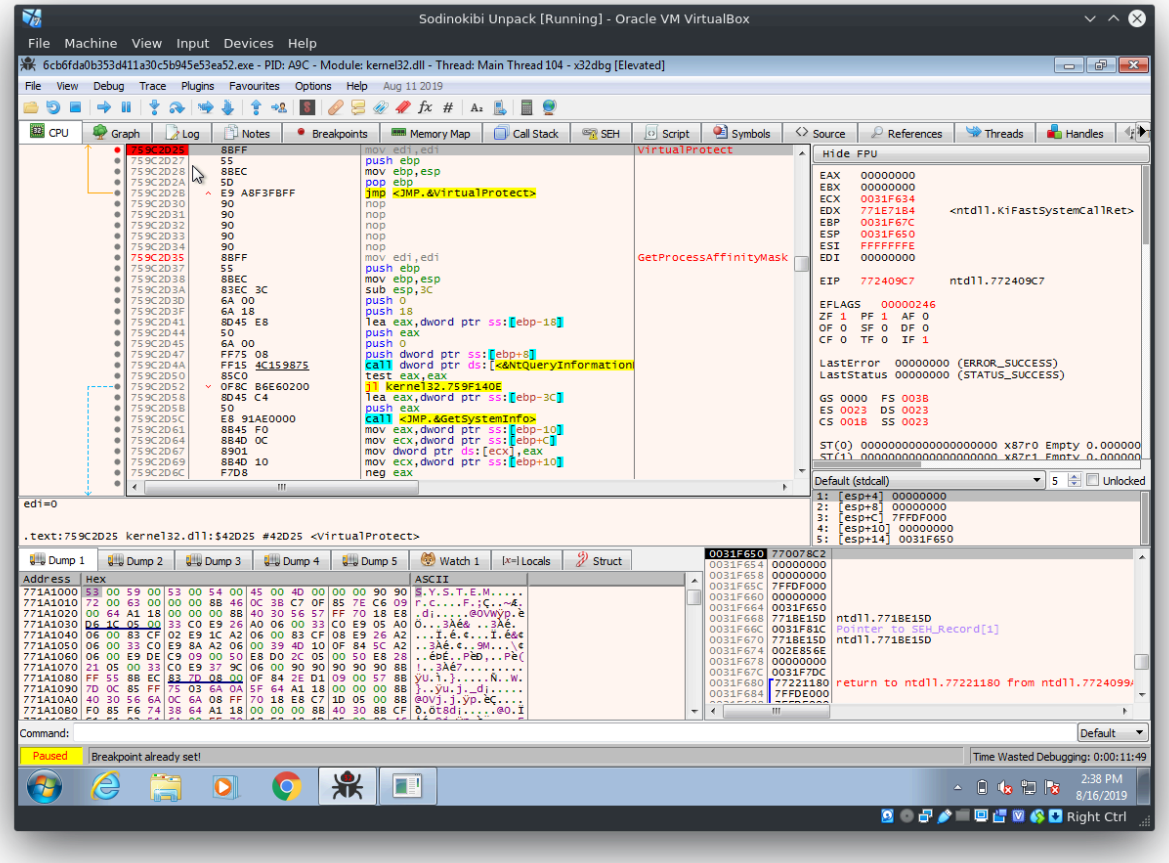


Offset	Name	Func. Count	Bound?	OriginalFirstTh	TimeDateStar	Forwarder	NameRVA	FirstThunk
DCE8	KERNEL32.dll	3	FALSE	EB10	0	0	EB4E	C000

KERNEL32.dll [3 entries]

Call via	Name	Ordinal	Original Thunk	Thunk	Forwarder	Hint
C000	CloseHandle	-	EB20	EB20	-	7F
C004	SetErrorMode	-	EB2E	EB2E	-	4EF
C008	CreateThread	-	EB3E	EB3E	-	E8

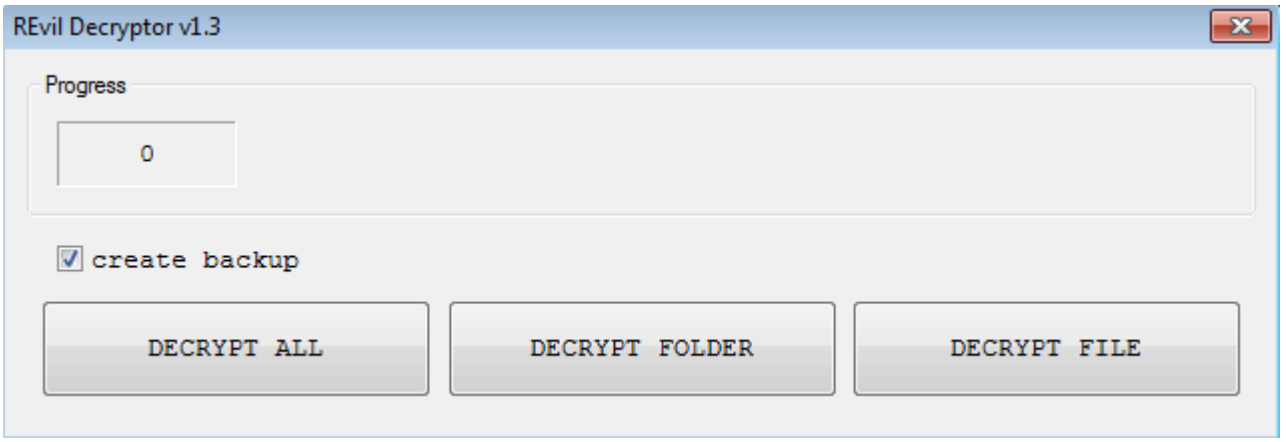
For one to get his/her Hands on the actual PE with an intact/complete IAT there are a couple of possible ways. Sergei Frankoff explained a very fast, but slightly "messy" Method on OALive. I'll try to replay this technique and plan to come back to this sample soon to try and script my way out of this hole.

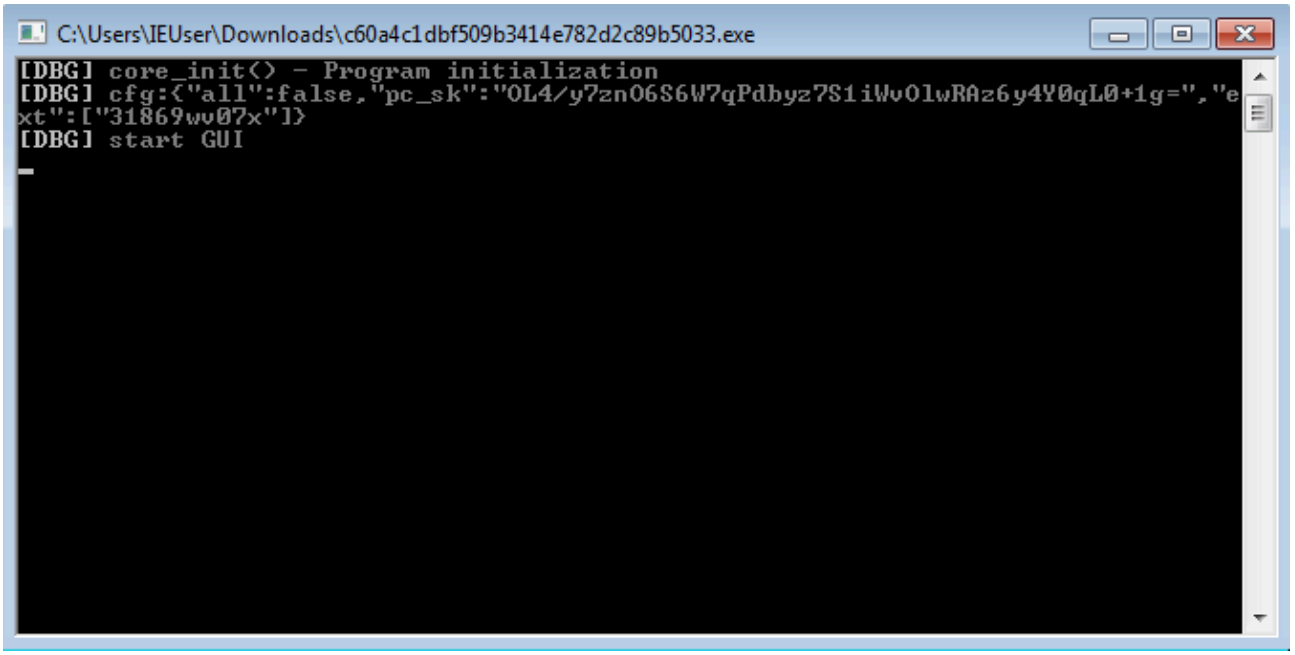


A dump of the strings in the binary file can be found here. Likewise a sample of the ransomnote dropped as a textfile by the malware is available here.

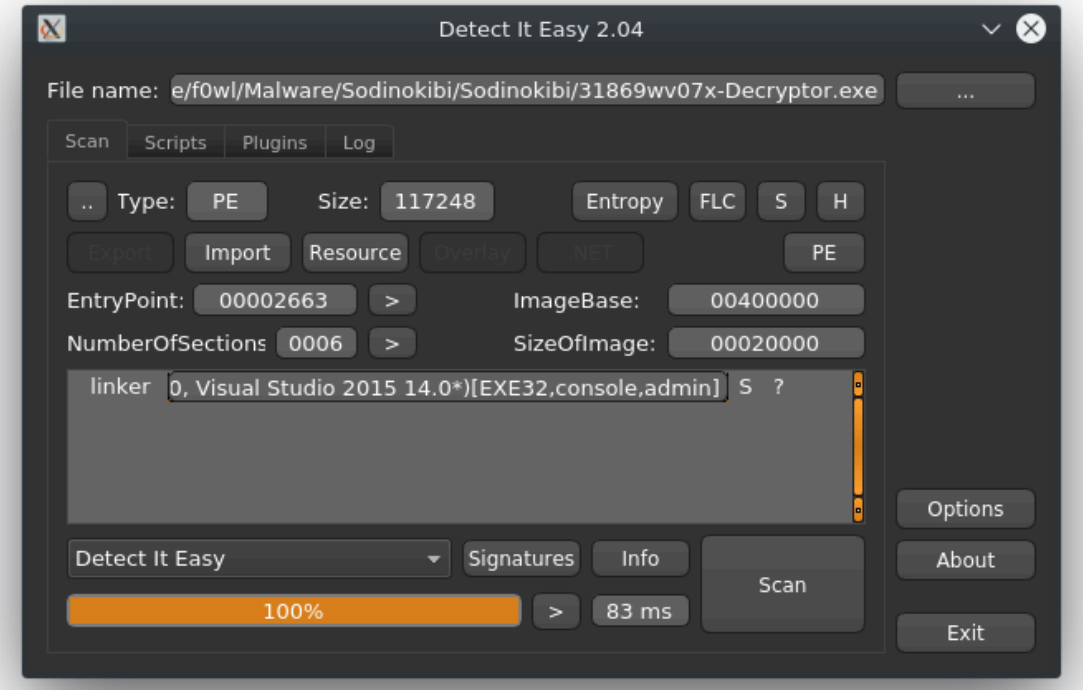
The Decryptor

Thanks to a businessman who shall remain nameless but decided to pay the ransom we can take a look at the Decryptor V1.3 as well. My feeling about this executable is, that it is being built to order rather than prepared in case a decryption is requested. The tool feels relatively unpolished because of the active debugging, no obfuscation or anti-evasion.





Running it through Detect it Easy there is nothing spectacular going on here. Consistent with the ransomware itself the decryptor was built with Visual Studio 2015 as well. Entropy-wise there are no surprises either at *4.64889*.



OL4/y7znO6S6W7qPdbyz7S1iWvOlwRAz6y4Y0qL0+1g= 31869wv07x

IOCs

Sodinokibi / REvil Ransomware (SHA256)

```
bace25c1ec587d099b4c566b1a07978dd9cb3bd67c2acaa55d2e4644a7877070
2fea45f7be7c7313ee6e4fe7ad9ef64d9966a2391003a00dcbbd6214e9c522ef
ada9794bcc8e87af05f9982522e26f7ead3d1cb07bb76ce58fac1bf98e41cf53
```

URLs

```
httx://decryptor[.]top
httx://aplebzu47wgazapdqks6vrcv6zcnjppkbxbr6wketf56nf6aq2nmyoyd.onion
```
