Diving into MassLogger

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Harmful Logging - Diving into MassLogger

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There are many things that can be logged on a computer. While not all logging data is useful for the average user, a lot of logging goes on in the background of any system. However: There is good logging and bad logging. We have looked at an example of logging you definitely would not want.

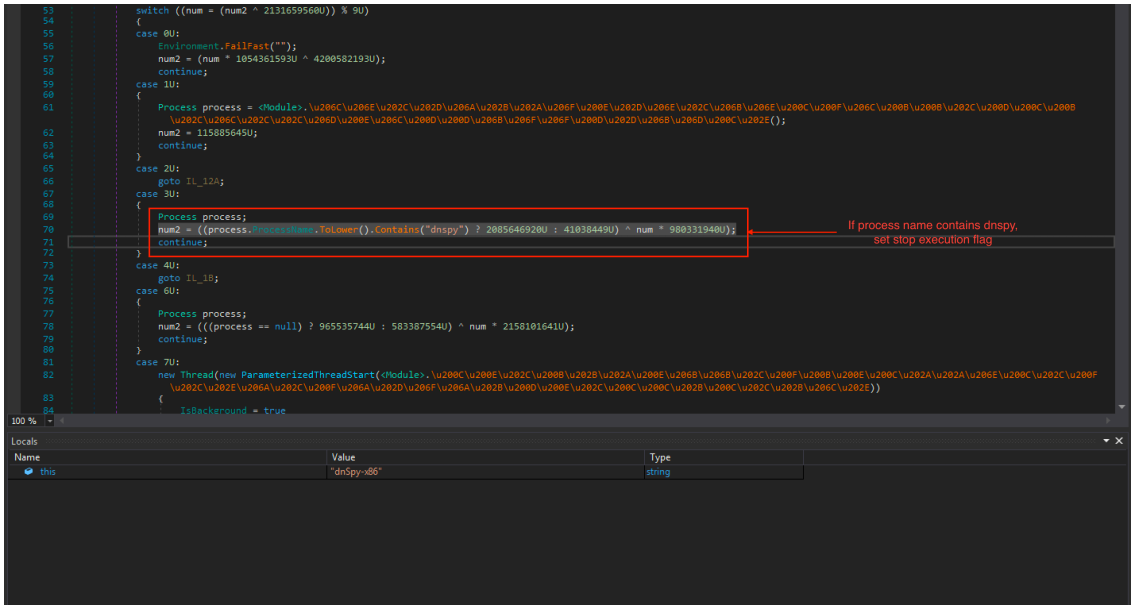
Over the last weeks we observed a malware variant named MassLogger which is sold on hacker forums and advertised via Youtube videos. It is a .NET malware classified as a credential stealer and spyware, being weaponized with a variety of routines to steal sensitive data from users, as well as spy on them.

The use cases for MassLogger vary a lot. However, we observed reports from other researchers and are confident that MassLogger is mostly distributed by phishing mails.

Modularity

MassLogger is developed to be sold to a wide variety of criminals, therefore it is also highly modular. During our analysis, we found flags for various kinds of modules this malware has to offer. These modules are also introduced by the author. We are confident that customers are able to enable or disable certain features once a purchase is made.

Masslogger is usually packed with various packers which implement additional techniques to evade environments used to analyse malicious binaries. The sample we investigated was packed with at least the CyaX .NET Packer or reuses its code. One more packing stage was added which was able to detect whether the dnSpy debugger is attached to it.



Packer stage looking for dnspy substring in process name

Credential Logging

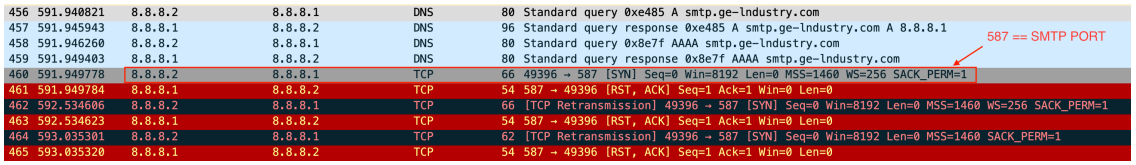
As the trend to execute malicious code in memory continues, MassLogger also makes use of this. The sample we investigated starts itself in a new process, allocates executable memory and injects the mentioned routine into the newly created process via Process Injection. The new process starts to iterate over files holding login credentials and writes them into a new file.

The sample writes credentials, as well as its configuration into a separate log file. It also has the capability to take screenshots.

```
########################################################################
MassLogger v1.2.2.0
########################################################################

### Logger Details ###
User Name: [redacted]
IP: 127.0.0.1
OS: Microsoft Windows 7 Professional 64bit
CPU: Intel(R) Core(TM) i7-9750H CPU @ 2.60GHz
GPU: VirtualBox Graphics Adapter
AV: NA
Screen Resolution: 1680x984
Current Time: 6/8/2020 6:33:10 AM
MassLogger Started: 6/8/2020 6:32:47 AM
Interval: 1 hour
MassLogger Process: [redacted]\Desktop\axio.exe
As Administrator: False


### WD Exclusion ###
Disabled

### Binder ###
Disabled

### Downloader ###
Disabled

### USB Spread ###
Disabled

### Bot Killer ###
Disabled

### Search And Upload ###
Disabled

### Telegram Desktop ###
Not Installed

### Pidgin ###
Not Installed

### FileZilla ###
Not Installed
```

Created log file holding information about victim's system and MassLogger's configuration

The C2 carrier protocol depends on the sample's configuration, the variant we investigated tried to send the results over SMTP to the c2 server. We also identified that MassLogger can atleast be configured to transfer the logging results via FTP to its control server.



Captured SMTP traffic to c2 domain

Preventing MassLogger infection and outlook

During the creation of this article, we continued to watch MassLogger and its distribution. We believe that MassLogger will spread and stay alive for at least the next months. So it is recommened to keep an eye on suspicious mails, because malicious email attachments are still the most popular way to distribute malware. Furthermore we suggest to stay updated on the current threat landscape and read cyber security news in order to proactively defend yourself against cyber security threats.

IoCs

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