

PROBLEM @ Initech

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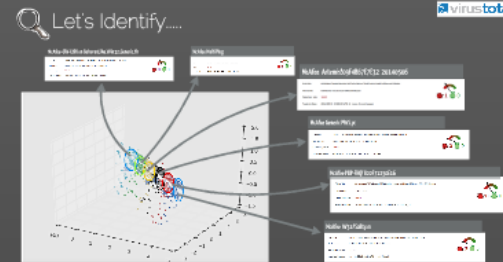
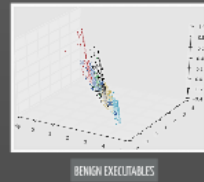
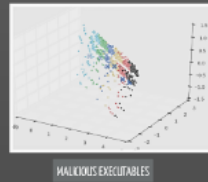
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- * Primarily with the aim to procure sensitive information or, to a lesser degree, disrupt day-to-day operations.

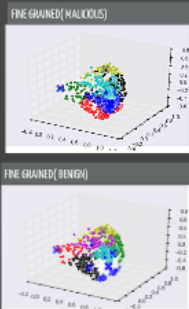
NO SECURITY MEASURES --> OVERHEAD --> HOTBED FOR MALWARE --> DENEIGD COVERAGE & FUNDING ☹️

MALWARE FAMILIES

* Based on the PEinfo files used by the company in the past, 6 malicious families can be clearly visualized as compared to the benign ones.



SIMILARITY (BY OBJ_DUMP)



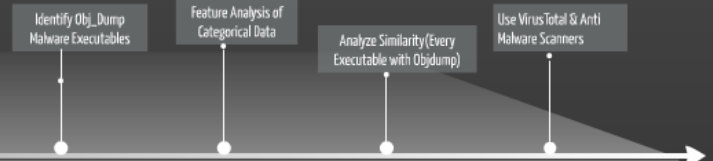
SIMILARITY ALGORITHM:

- 1) Analyze Malicious and Benign Object Dump Files.
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- 3) Cluster Obj_Dump & Train the system with cluster labels.
- 4) Test & Predict on Peinfo (Nearest Neighbors)
- 5) Different Algorithms differ from original cluster (LSH, Ball Tree the best)



Concerns & Recommendations

- * Similar obj_dump gives similar identification results of PEinfo.
- * Silhouette Analysis provides a clear distinction of the separation of clusters, but the inter cluster distance is less with respect to peinfo(73%) and objdump(9.18%)
- * But Similar Peinfo result lie in different clusters of obj_dump using nearest Neighbor Algorithms.
- * LSH forest gives better results but more clusters with unevenly distributed samples.



INITECH THE MALWARE ENIGMA



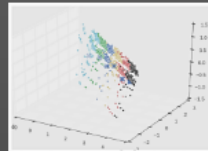
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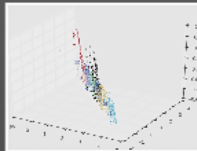
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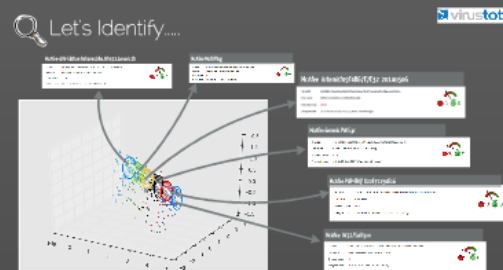


MALICIOUS EXECUTABLES



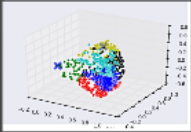
BENIGN EXECUTABLES

Let's Identify....

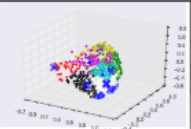


SIMILARITY (BY OBJ_DUMP)

FINE GRAINED (MALICIOUS)

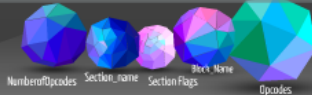


FINE GRAINED (BENIGN)



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FEATURES ANALYZED

Concerns & Recommendations

- * Similar obj_dump gives similar identification results of PEinfo.
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INITECH THE MALWARE ENIGMA





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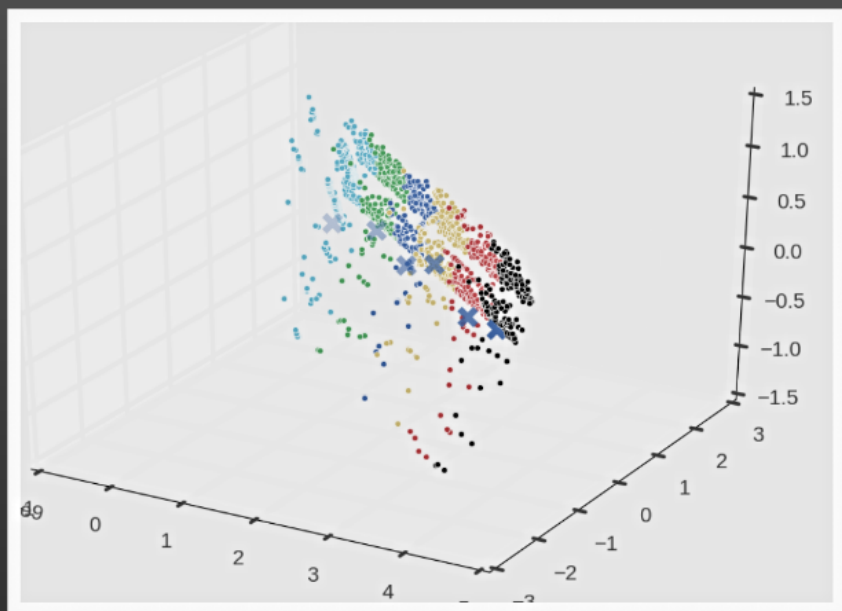
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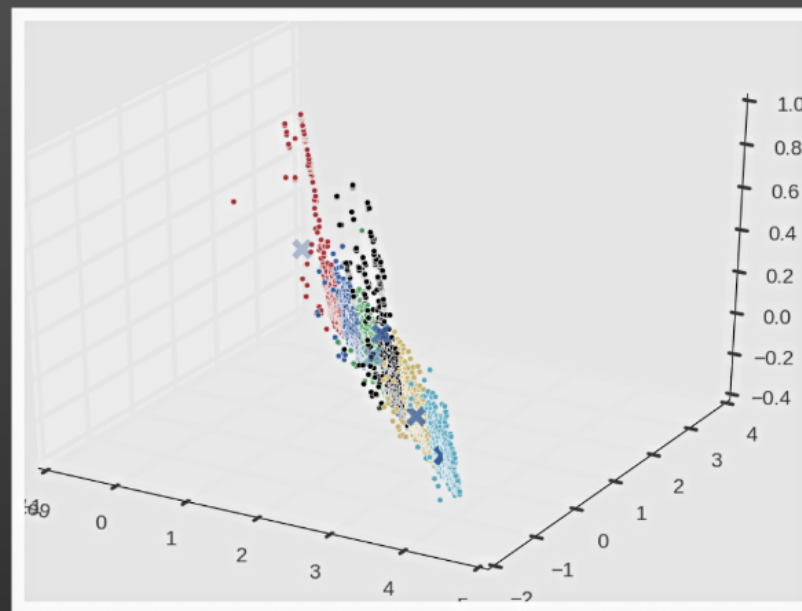


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MALICIOUS EXECUTABLES



BENIGN EXECUTABLES



Let's Identify.....



McAfee-GW-Edition BehavesLike.Win32.Generic.th

SHA256: 00066b4c7d0dd54bc6b43607e0c5f1ee73b37e02da2dd53c55a0cc0205d0b1
Filename: c:\win\giga_15b\3866a20477a00b0b\chb\10020
Detection rate: 15 / 57
Analysis Date: 2014-05-03 00:10:07 UTC (vor 8 Monaten, 3 Wochen)



McAfee MultiPlug

SHA256: 00066b4c7d0dd54bc6b43607e0c5f1ee73b37e02da2dd53c55a0cc0205d0b1
Filename: c:\win\giga_15b\3866a20477a00b0b\chb\10020
Detection rate: 15 / 57
Analysis Date: 2014-05-03 00:10:07 UTC (vor 8 Monaten, 3 Wochen)



McAfee Artemis!09F4B67E7E32 20140506

SHA256: 00066b4c7d0dd54bc6b43607e0c5f1ee73b37e02da2dd53c55a0cc0205d0b1
File name: 09f4b67e7e32afc42a74345af593e280
Detection rate: 16/52
Analysis Date: 2014-05-06 02:05:03 UTC (2 years, 8 months ago)



McAfee Generic PWS.yc

SHA256: 007b11124224c0b857051520c7d68b0f0b5d0f1010b0c085e4d36
Filename: 003c055578b513788100e22147b41_vmsq
Detection rate: 52 / 57
Analysis Date: 2015-09-29 15:01:36 UTC (vor 1 Jahr, 3 Monate)



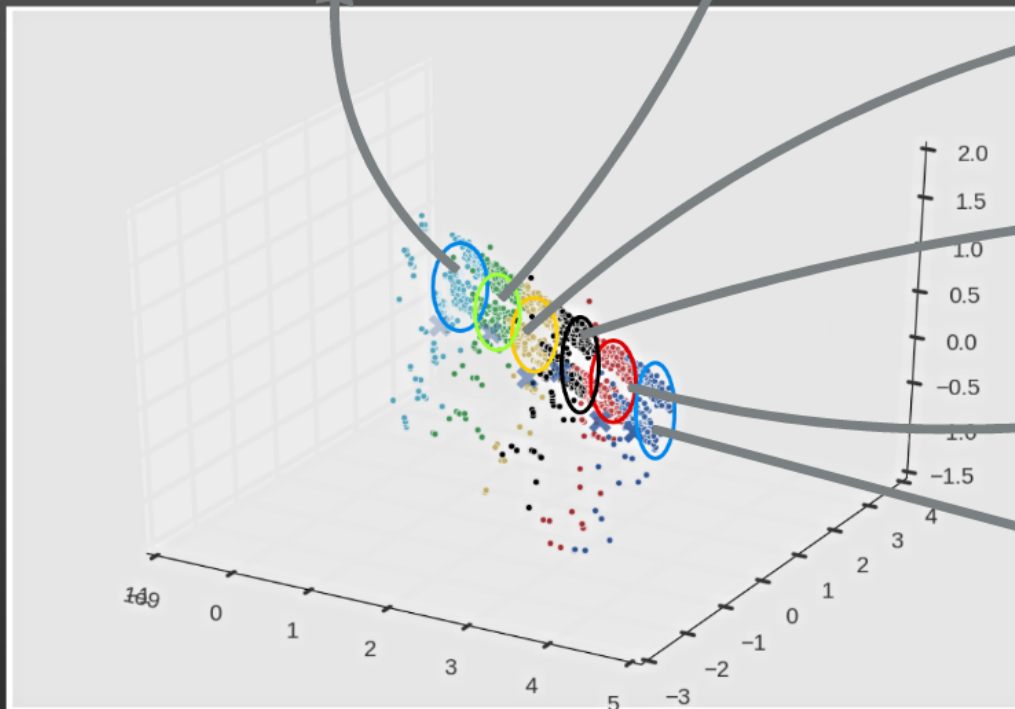
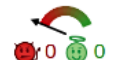
McAfee PUP-FHQ! 822F71250E16

SHA256: 001a46ad6757db4c4a9703b06123c4a1e3b2cca2f5eafed0fba2f6f823ca
File name: TSULoader
Detection rate: 28/51
Analysis Date: 2014-04-08 01:36:09 UTC (2 years, 9 months ago)



McAfee W32/Sality.m

SHA256: 01657080ea367a2e02e70c7891b019a56222c36214901ccf011b03d035019
Filename: 04d5f9048978415e1445fa7e43e23c.exe
Detection rate: 45 / 48
Analysis Date: 2014-01-05 16:23:29 UTC (vor 3 Jahre)



But...What does it mean?

Generic PWS.yc

- Trojan that comes hidden in malicious programs.
- Once the program is installed, gains to attempt "root" access (administrator level access) to your computer without your knowledge.
- Hide themselves by integrating into the operating system.
- Once it infects your computer, Generic PWS.yc executes each time your computer boots and attempts to download and install other malicious files.
- Upon successful execution, it deletes the source program, making it more difficult to detect.

But...What does it mean?

PUP-FMQ 822f7125d616

- Detected as a "potentially unwanted program" (PUP), not a virus or a Trojan
- This program may have legitimate uses. knowingly installed application and agreeing with license agreement may cause legal obligations with regard of removing the software.
- PUPs are often made by a legitimate corporate entity for some beneficial purpose.
- Alter the security state of the computer on which they are installed, or the privacy posture of the user of the system, such that most users will want to be aware of those.

But...What does it mean?

W32/Sality.m

- This detection is for a W32/Sality virus variant that infects Windows portable executable (PE) files.
- Drops and injects the 00140202.001 file into running processes infects PE executable files
- Infected files grow in length by 20 kilobytes.
- When an infected file is run, the virus searches for other files to infect. It appends configuration data into the SYSTEM32 file.
- Downloads additional malware from various pre-defined servers - they may be Adware SpyShield, Backdoor Proxy, Keylogger or other PUPs and Trojans.



Concerns.Are there any?

- Infect executable files on local, removable and remote shared drives by replacing the original host code at the entry point of the executable to redirect execution to the polymorphic viral code, which has been encrypted and inserted in the last section of the host file.
- Purposely search for specific registry sub-keys to infect the executable files that run when Windows starts.
- A sneaky computer threat that hides itself in the registry files of a compromised computer...modifies a computer's settings thereby making it vulnerable to attackers and giving them access to a victim's sensitive information.
- Ruins Web browsing experience by inserting ads throughout Web pages you visit, redirecting search engine queries and displaying pop-up advertisements.

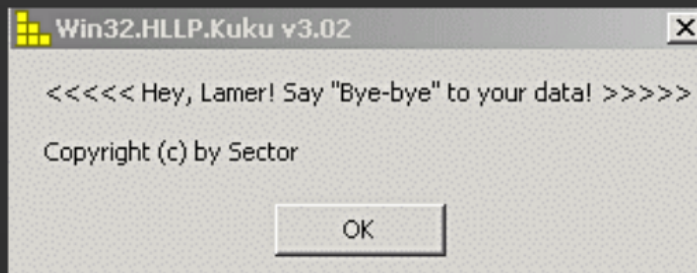




But..What does it mean?

W32/Sality.m

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- * Drops and inject the OLEMDB32.DLL file into running processes infects PE executable files
- * Infected files grow in length by 20 kilobytes.
- * When an infected file is run, the virus searches for other files to infect & appends configuration data into the SYSTEM.INI file
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PUP-FHQ! 822F71250E16

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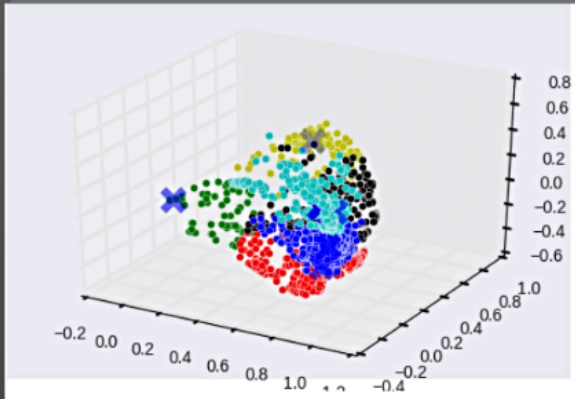


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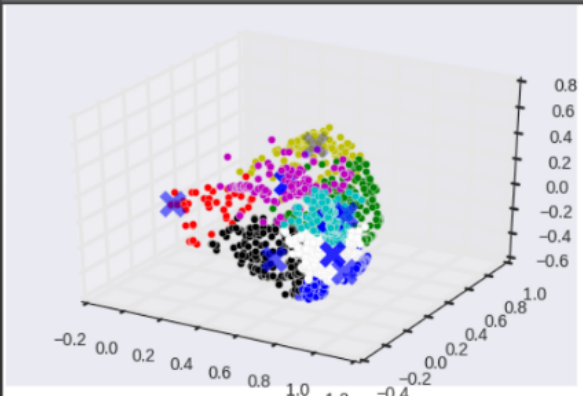
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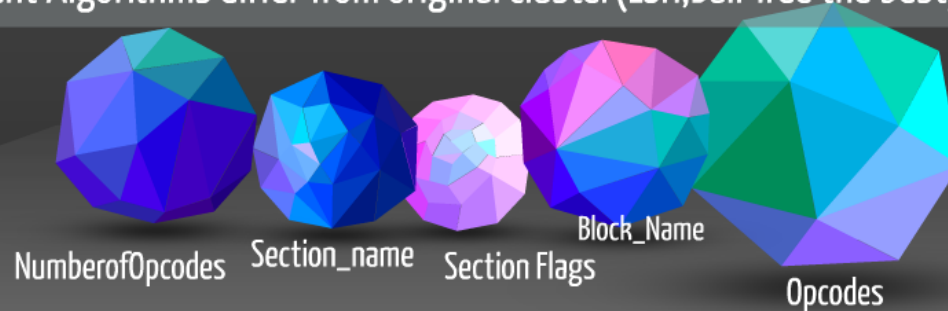


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Identify Obj_Dump
Malware Executables

Feature Analysis of
Categorical Data

Analyze Similarity(Every
Executable with Objdump)

Use VirusTotal & Anti
Malware Scanners



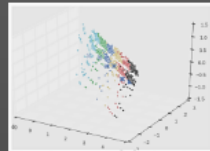
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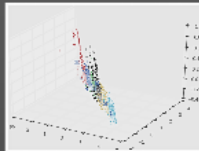
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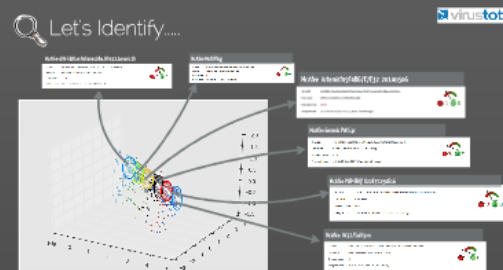


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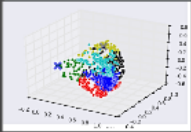
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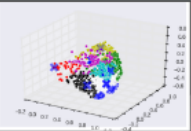


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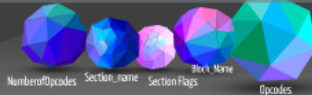


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