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Connect to Protect

SESSION ID: BAS-M04

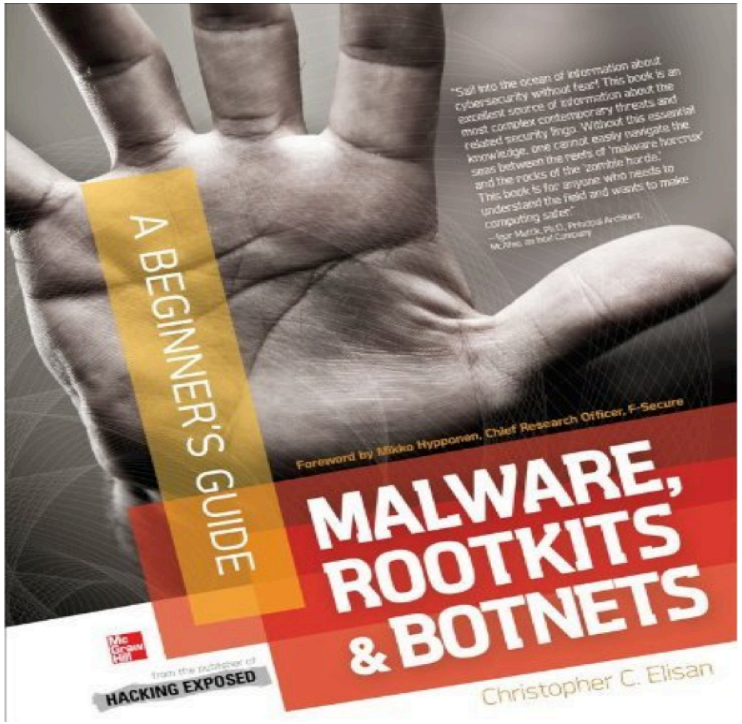
Demystifying a Malware Attack

Christopher Elisan
Principal Malware Scientist
RSA
@Tophs

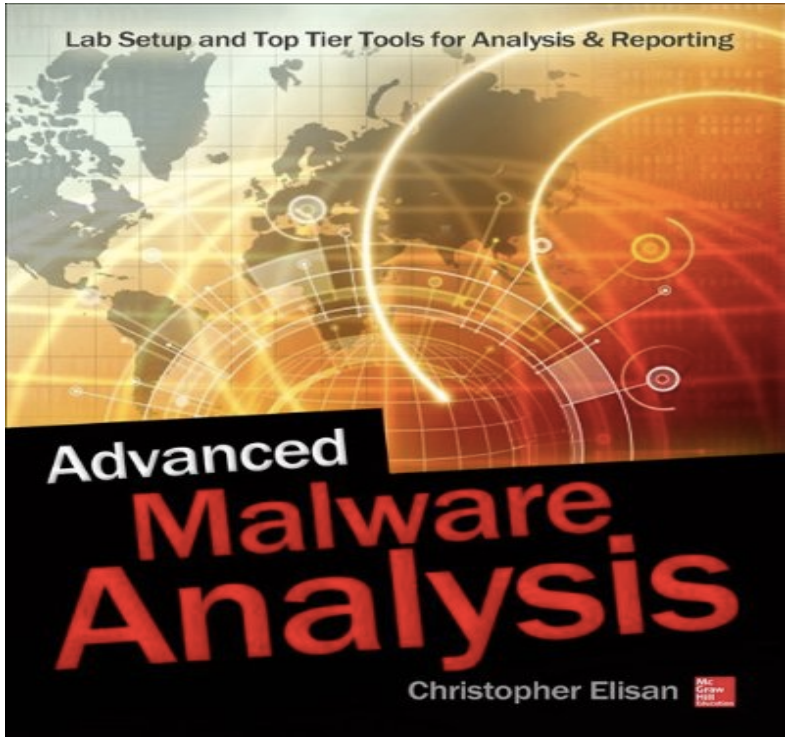
About Me

- Principal Malware Scientist / Sr. Manager MIT
- Past Adventures
  - Damballa
  - F-Secure
  - Trend Micro
- @Tophs

Author of

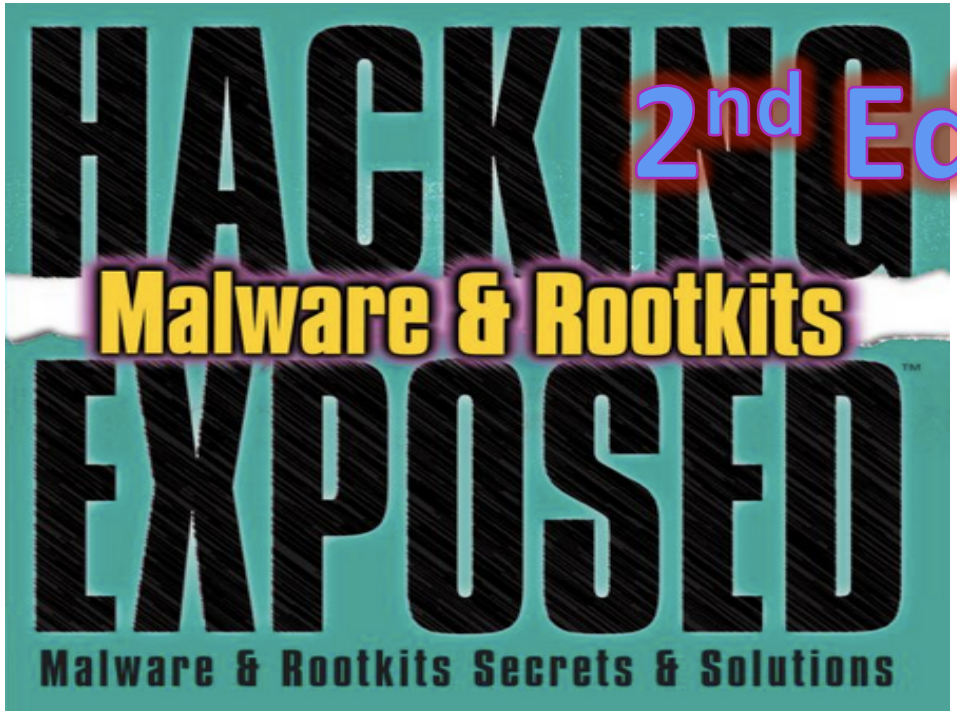


2012



2015

Co-Author of

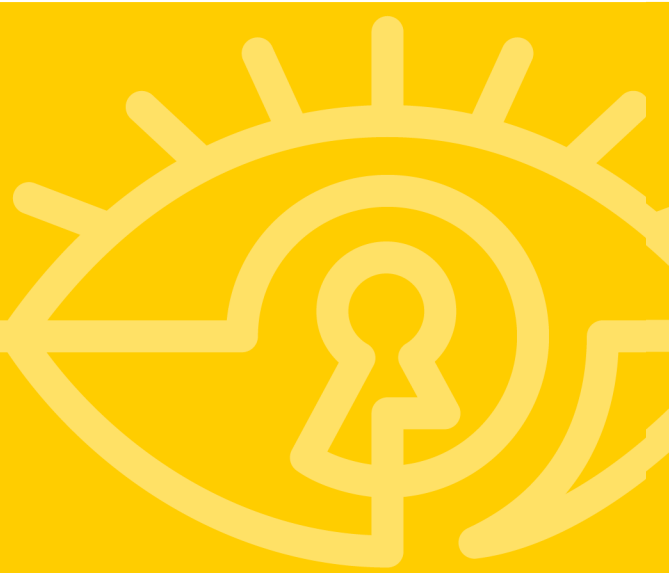


2nd Edition

2016

Agenda

- The Attack
- Behind the Scenes
- Lessons Learned



The Attack

We Are All Under Attack

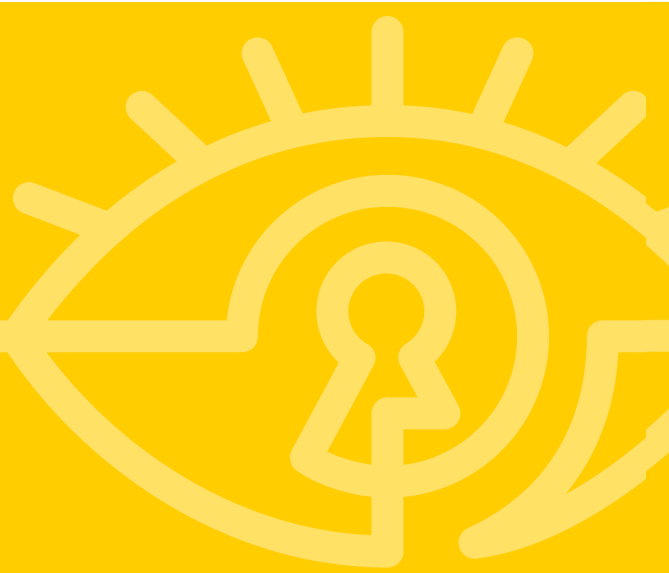
Opportunistic Attack

Opportunistic Attack

Opportunistic Attack

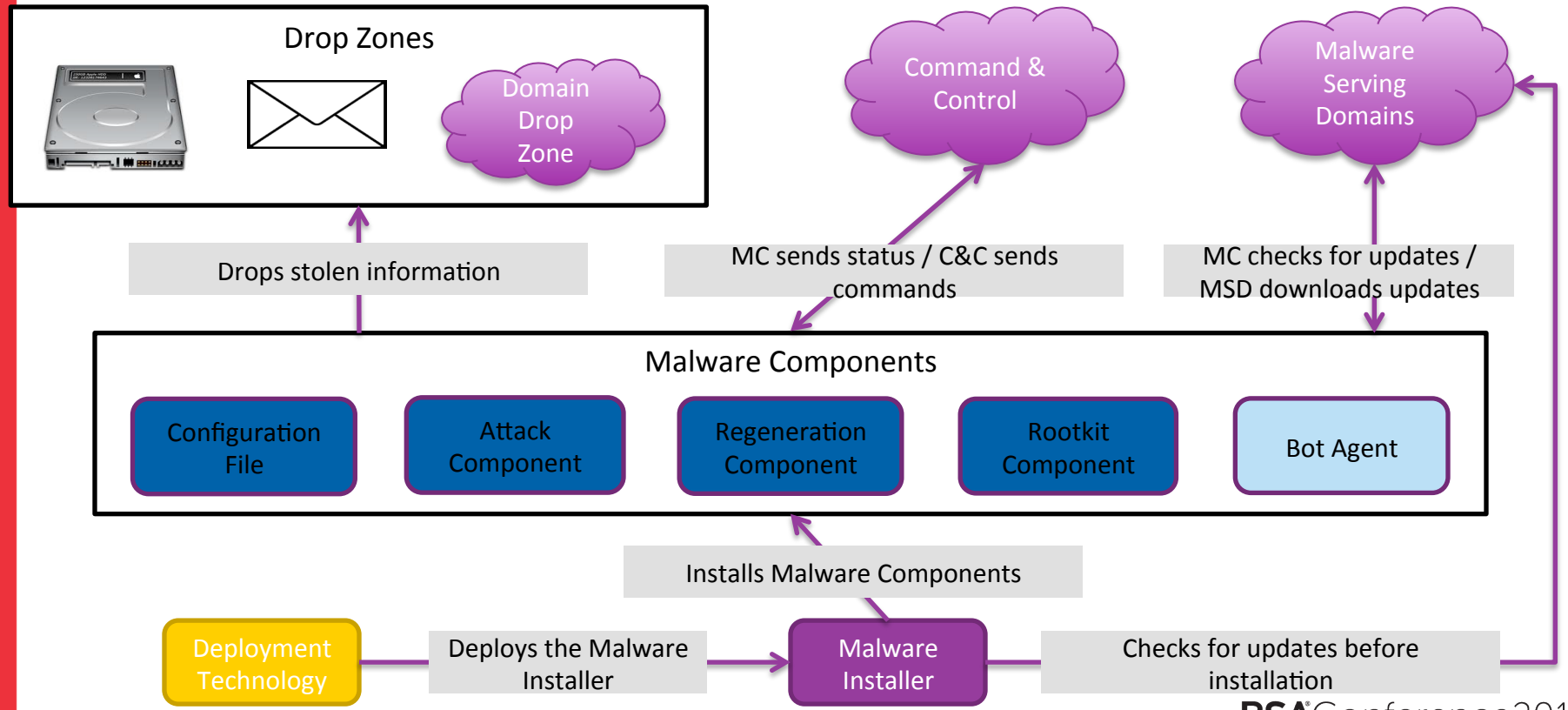
Targeted Attack

Regardless of the attack, the threat infrastructure and the people behind them are similar



Behind the Scenes

Attack Infrastructure



The Attackers

Sponsor
- Government
- Commercial Organization
- Non-commercial Organization
- Activist Groups
- Individual
- Terrorist Organization

Crime Boss
- Runs the show
- Individual or organization
- Middle man between sponsor and TPs
- Can be a sponsor

Money Mules
- Unsuspecting Public
- Work from home

Malware Writers

- Original malware creator(s)
- Offer malware "off-the-rack" or custom built
- May offer DIY construction kits
- Money-back guarantee if detected
- 24x7 support

Botnet Master

- Individual or criminal team that owns the botnet
- Maintains and controls the botnet
- Holds admin credentials for CnC

Botnet Operator

- Operates a section of the botnet for direct financial gain
- Issues commands to the bot agents
- May be the **Botnet** Master

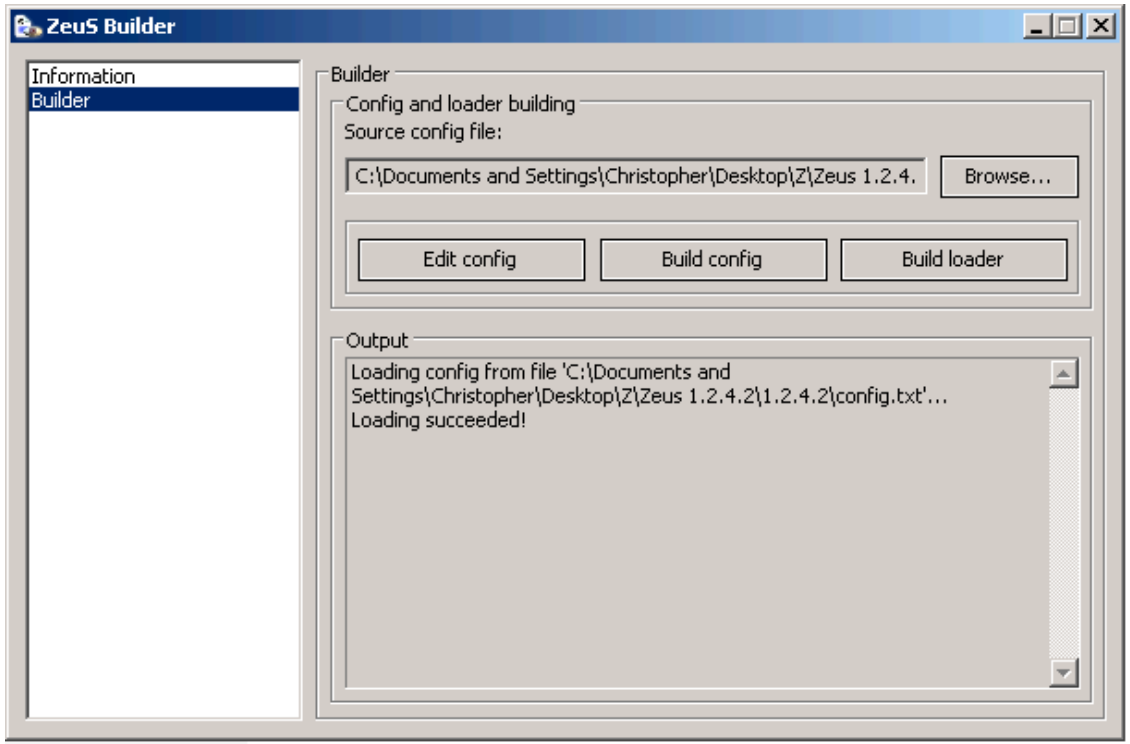
Deployment Provider
- Specialized distribution network
- Attracts and infects victims
- Global & targeted content delivery
- Delivery through Spam/drive-by/USB/etc.
- Offers 24x7 support

Resilience Provider (MSP)
- Provides CnC resilience services
- Anti-takedown network construction
- Bullet-proof domain hosting
- Fast-flux DNS services
- Offers 24x7 Support

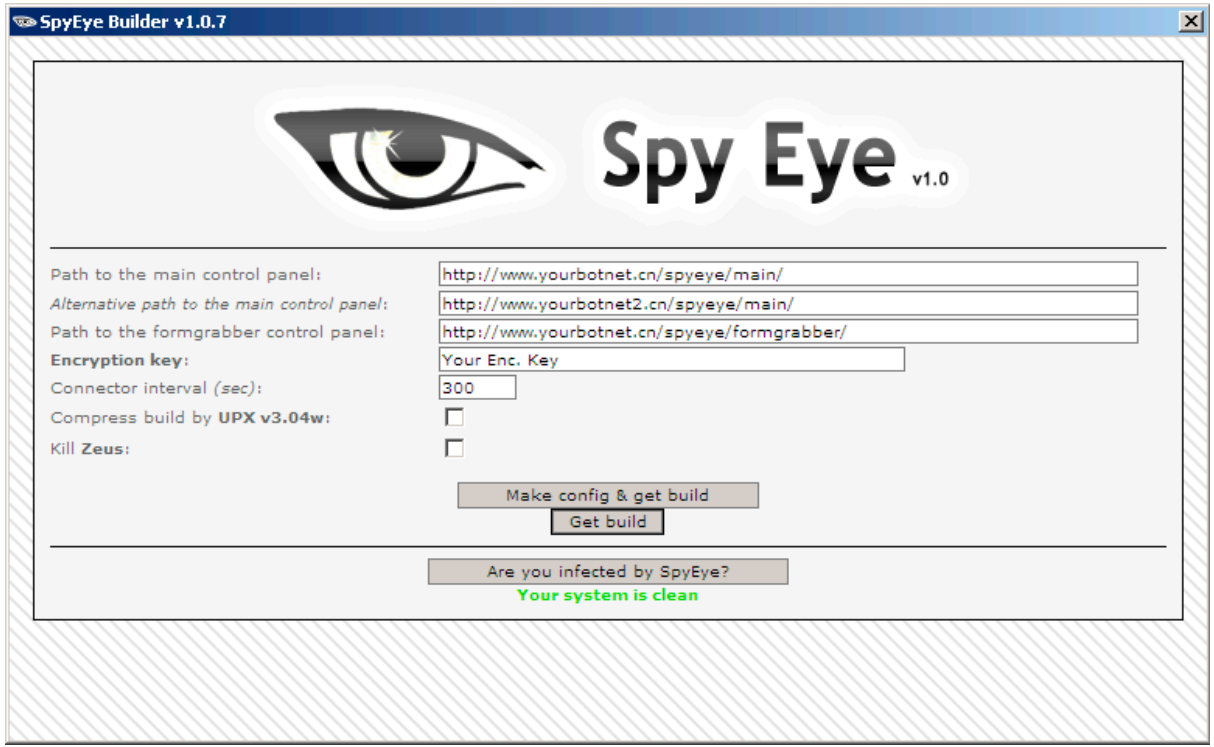
Malware Tools

- DiY Kits
- Armoring Tools

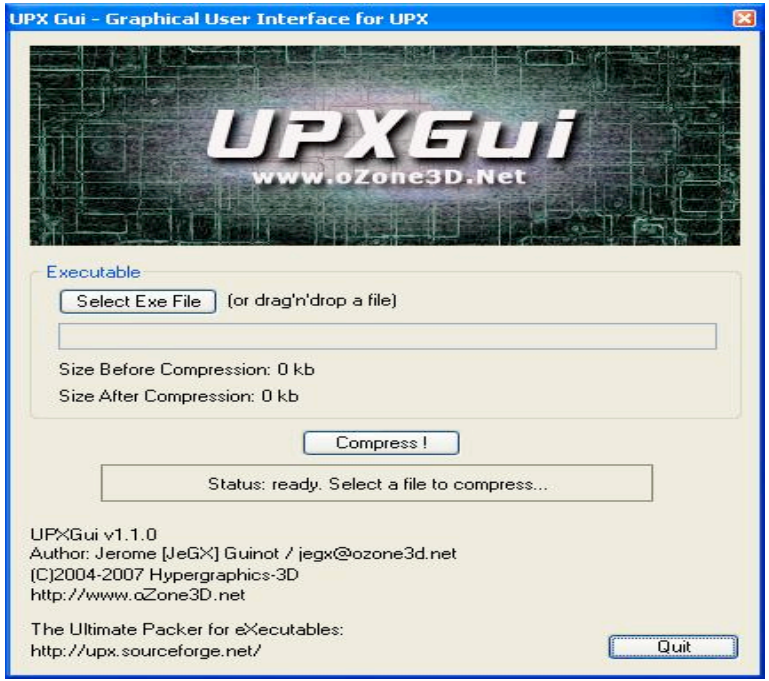
DiY Kits

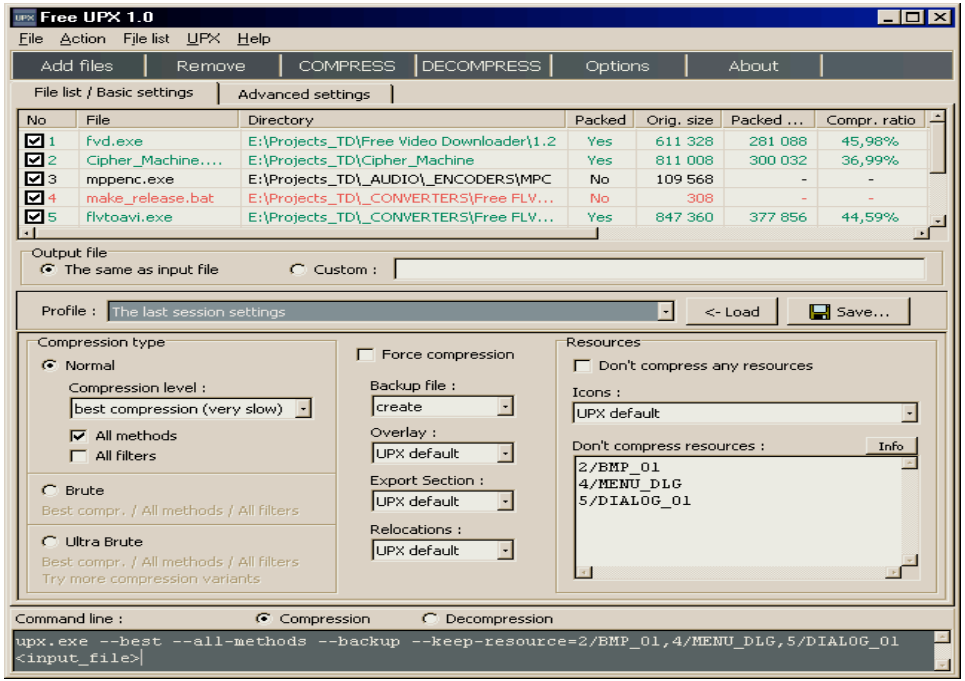

ZeuS Builder
Information
Builder
Builder
Config and loader building
Source config file:
C:\Documents and Settings\Christopher\Desktop\Z\Zeus 1.2.4.
Browse...
Edit config
Build config
Build loader
Output
Loading config from file 'C:\Documents and Settings\Christopher\Desktop\Z\Zeus 1.2.4.2\1.2.4.2\config.txt'...
Loading succeeded!

DiY Kits

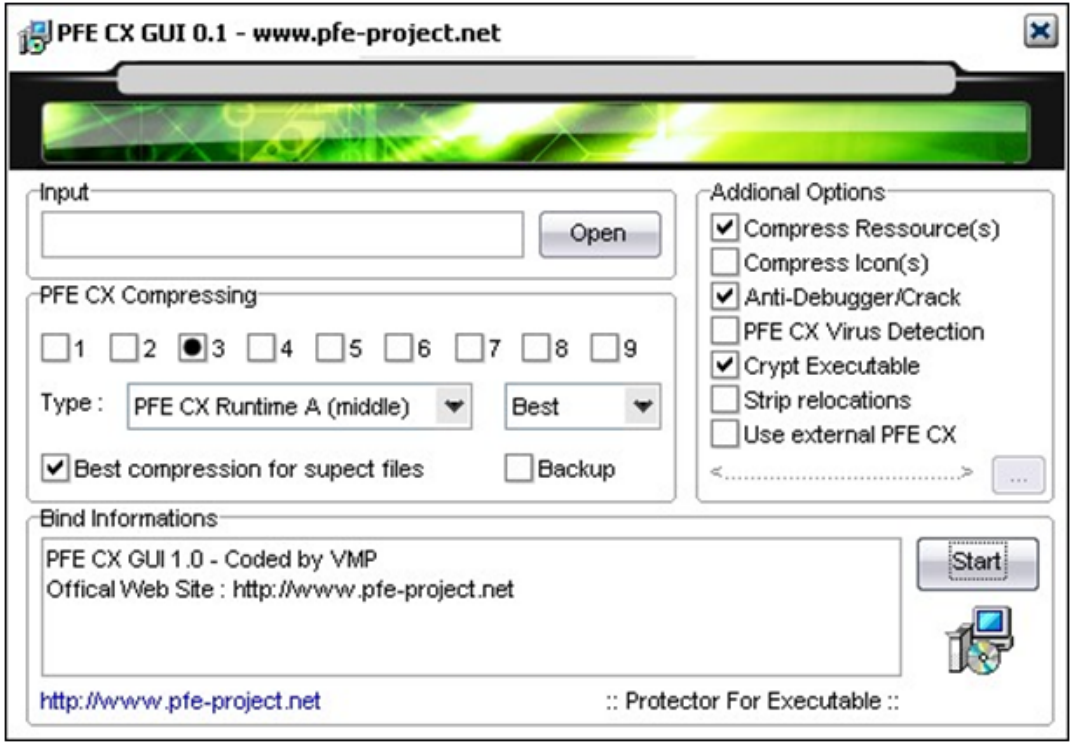

SpyEye Builder v1.0.7
Spy Eye v1.0
Path to the main control panel:
http://www.yourbotnet.cn/spyeye/main/
Alternative path to the main control panel:
http://www.yourbotnet2.cn/spyeye/main/
Path to the formgrabber control panel:
http://www.yourbotnet.cn/spyeye/formgrabber/
Encryption key:
Your Enc. Key
Connector interval (sec):
300
Compress build by UPX v3.04w:
Kill Zeus:
Make config & get build
Get build
Are you infected by SpyEye?
Your system is clean

Armoring Tools

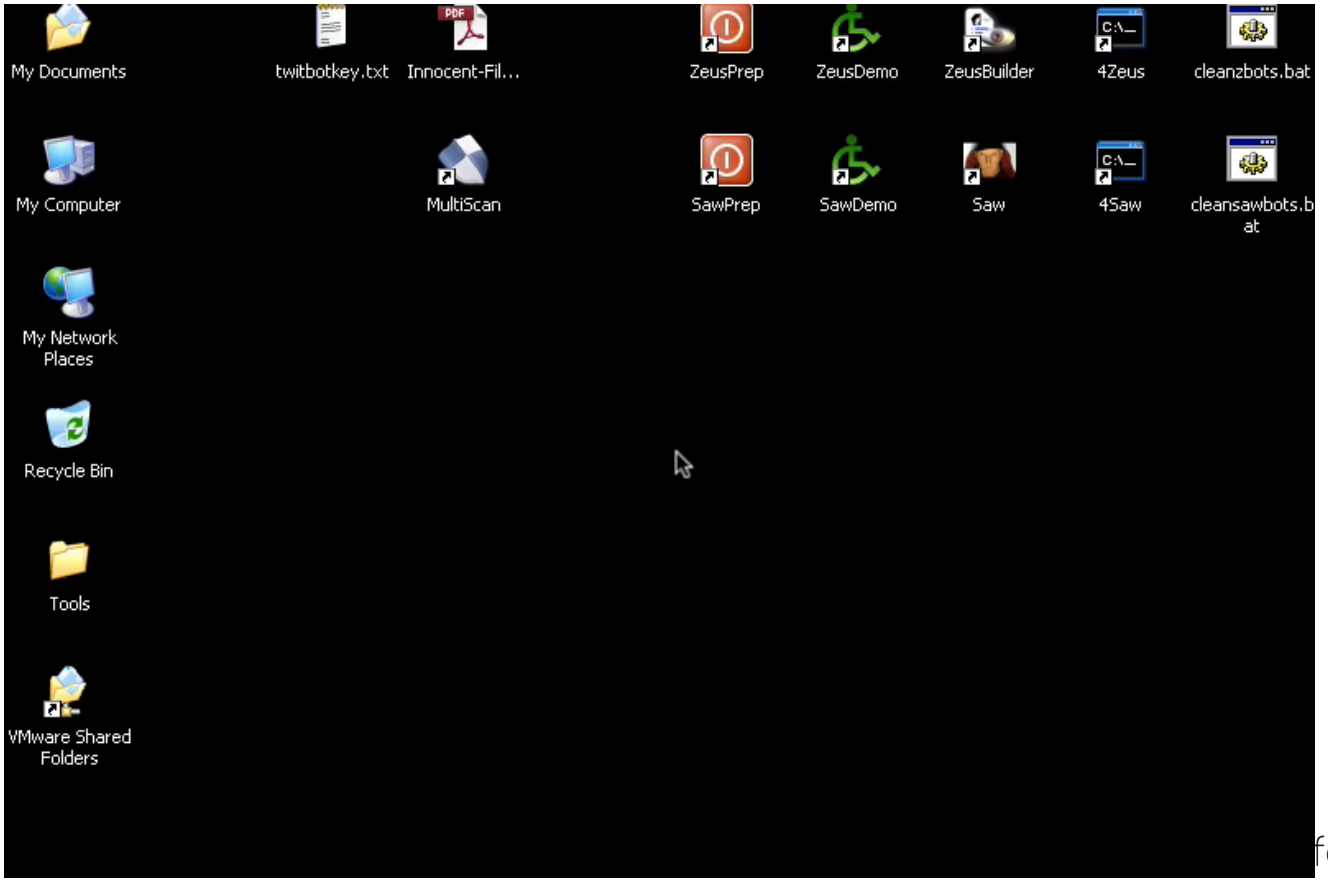




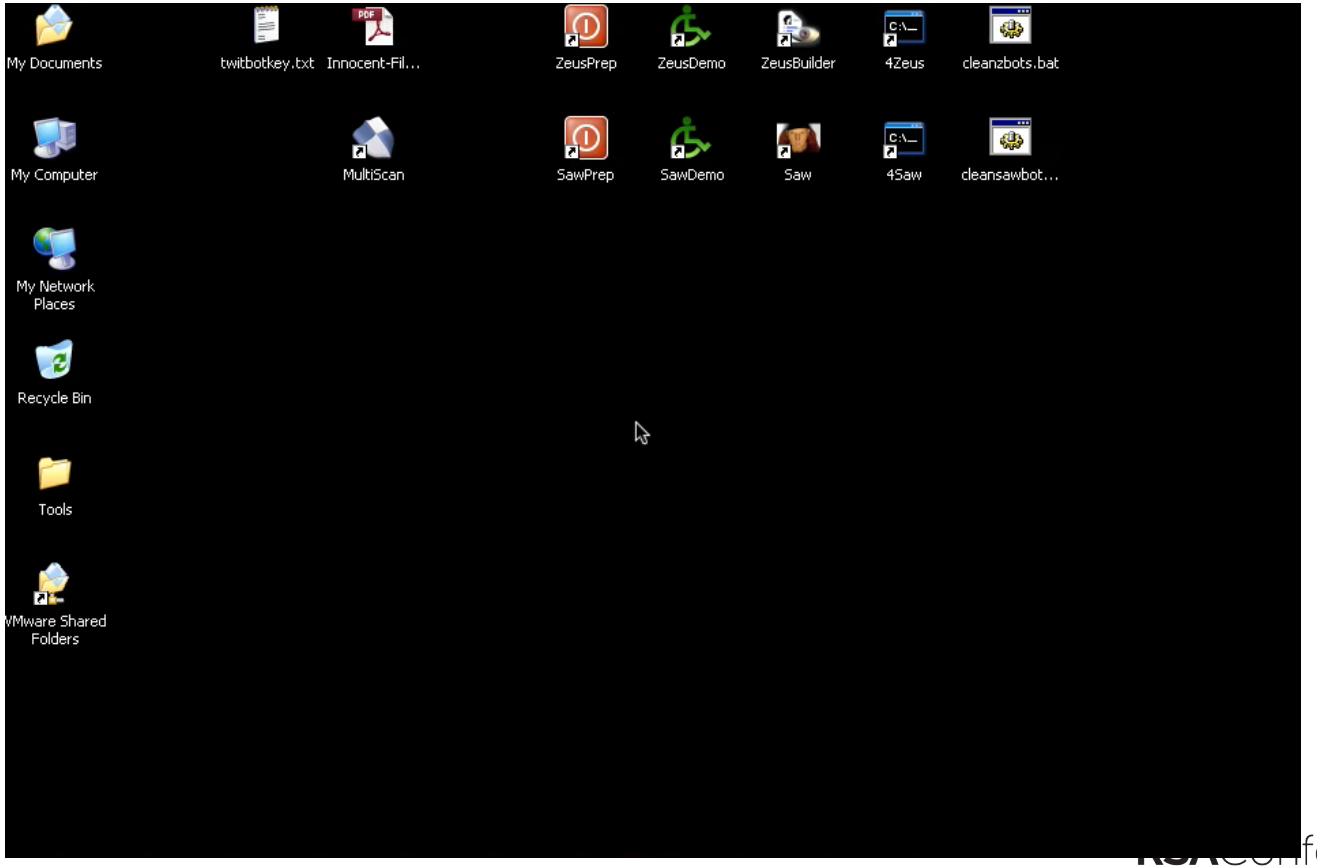
Armoring Tools

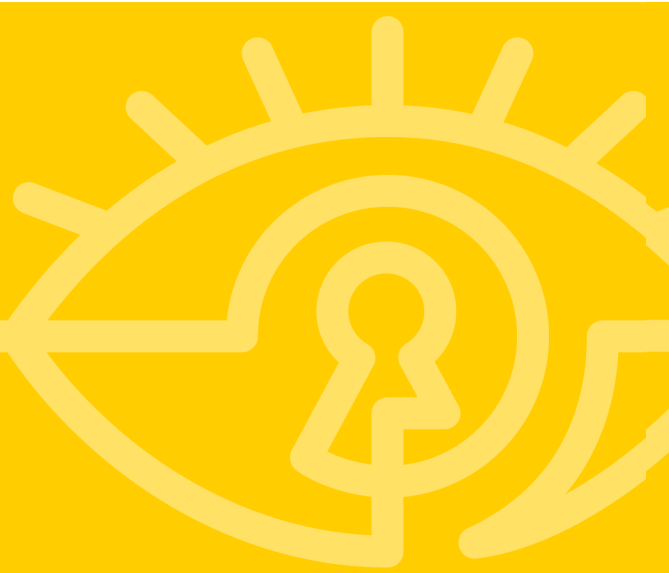


The Malware Factory



The Malware Factory





Lessons Learned

The Whole Picture

- To fully understand the threat, we need to look at the following…
  - Target (Roles, systems)
  - Infrastructure
  - Different roles required to support the infrastructure

Sometimes it is hard, so we collaborate

- Technical
  - Research
  - Scientific approach
  - Knowledge Sharing
- Legal
  - Work with LEOs
  - Share evidence to appropriate entities

Thank You!!!

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