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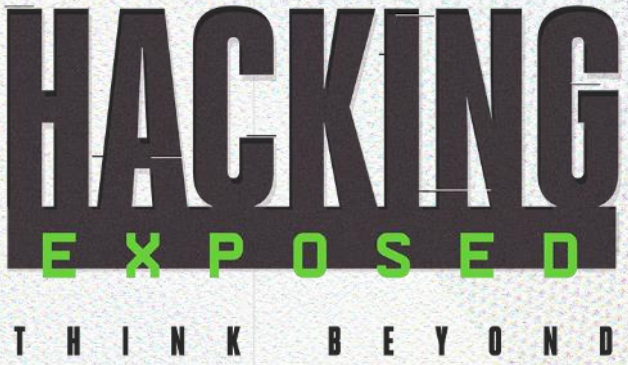
Cylance Webinar Series//
Presented:
March 29th, 2018

CYLANCE

VS



[redacted] **Presented By //**

Stuart McClure, CEO Cylance, CNE, CCSE, [redacted]S

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Brian Robison, Sr. Dir. of Security Technology

HOUSEKEEPING

- Audio will sound best streamed through your computer
- Please submit questions via the Q&A box
- We will post additional resources in the chat box
- Your feedback is essential, please the polling questions at the end of the webinar
- Links to the recording and presentation will be sent to you in the next few days
- Need help? Contact us at: webinars@Cylance.com

HACKING EXPOSED
THINK BEYOND

SPEAKERS

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CEO and co-Founder at Cylance

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Brian Robison

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RSA 2018

HACKING EXPOSED: NEXTGEN AI POWERED

APRIL 18, 2018
3:00-3:45PM
MOSCONE WEST 2004

STOP BY OUR BOOTH IN THE NORTH HALL #3911
LIVE DEMOS + PROMO GIVEAWAYS!

Agenda

- Meltdown/Spectre exploitation
- Middle East targeting of nuclear power plants globally
- Adversarial AI

Why “Think Beyond”?

Questioning the status quo…

THINK BEYOND

- *Apple and Steve Jobs' "Think Different"*
- More layers <> security
- Compliance <> security
- Predictive Prevention is possible
- Reimagine your endpoint, stack, architecture
- Don't "outsource" your decision making
- Threat centric prevention, before detect and respond

AGENDA

- Quick Recap of HE: DLLs
- Cylance VS HE: DLLs
- Cylance 101 and Tech to Prevent
- Hands On
- Q&A

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Quick Recap of HE: DLLs

What did we do last time?

RECAP FROM LAST HACKING EXPOSED

- What is a DLL
- Are DLLs a Threat?
- Some Real World Examples Using DLLs
  - LSADUMP2
  - OPM
  - SHELL_CREW
  - Customer ?????
- Hands On!
  - Direct Execution Utilizing `rundll32.exe` – malicious Not-Petya
  - Exploiting the inherent trust with `rundll32.exe`
  - DLL Hijacking and Side-Loading Examples
- Weaponization
  - Hancitor
- What can we do?

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Cylance VS HE: DLLs

What can Cylance do to protect me?

CYLANCE 101

CylancePROTECT®

- AI-Driven Malware Prevention
- Memory Exploit Prevention
- Script Management
- Device Policy Enforcement
- Application Control for fixed function devices

Pre-execution Prevention

CylanceOPTICS™

- AI-Driven Incident Prevention
- Dynamic Rule-Based Threat Detection
- Root Cause Analysis
- Smart Threat Hunting
- Aggressive Containment
- Automated Incident Response

Near Zero Latency Incident Prevention

CYLANCE TECH USED TO PREVENT DLL ATTACKS

CylancePROTECT

- AI/ML-based PE detection
  - Pre-Execution
    - Malicious DLL execution
  - Resident On Disk
    - BTD/File Watcher
- Script Control
  - PowerShell/JavaScript/VB
- Memory/Exploit Prevention

CylanceOPTICS

- Non-Malware Behavioral Prevention
  - RunDLL JavaScript Invocation
  - Fileless PowerShell Malware
  - PowerShell Download
  - MITRE ATT&CKs
    - Netsh DLL Persistence

Hands On

Hands on examples of techniques and Cylance prevention.

DIRECT EXECUTION - UTILIZING RUNDLL32.EXE

Part of the trusted base OS – can also be leveraged to execute scripts and download a hosted payload

- Execute malicious DLL by running it directly with RunDLL32.exe
- Malware Demo – Not-Petya/Petya-Like

- CylancePROTECT prevents the execution of the malicious code
- File Watcher will find the dll after being copied

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DEMO

Direct Execution

EXPLOITING TRUST: RUNDLL32.EXE'S TRUSTED STATUS

Rundll32.exe can be used to execute script, download and execute code

- Using Metasploit to setup a dropper website
- Execute script using rundll32.exe to download dropper and execute directly into memory
  - No file to disk – bypasses AV as well as AppLocker/Software Restriction Policies

- CylancePROTECT Script Control will prevent the use of JavaScript and PowerShell
- If Script Control is disabled, CylanceOPTICS steps in a prevents the behavior

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DEMO

Exploiting Trust

DLL HIJACKING/SIDE-LOADING

When programs require additional DLLs that get loaded at runtime and on demand; it's possible to take advantage of this and have a legitimate program load a malicious DLL.

- DLL hijacking demo
  - Build a malicious DLL using MSFVenom
  - Trick InternetExplorer into executing the DLL by replacing a legitimate DLL
  - Opens a reverse shell to Metasploit

- CylancePROTECT will detect the malicious DLL same result as direct execution

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Hijacking/Side-Loading

DLL PERSISTENCE TECHNIQUES MITRE ATT&CK

DLLs offer great persistence options because it's normal to see rundll32.exe and dlls listed in the registry.

- Netsh can be used as a persistence proxy technique, firewall control, pivoting, sniffing and as a wireless backdoor – ATT&CK ID T1128

- CylancePROTECT will detect the malicious DLL same result as direct execution
- CylanceOPTICS will detect the non-malware based behavior

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MITRE ATT&CK: DLL Persistence

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Weaponization.

Bringing it all together.

DLL WEAPONIZATION

- Phishing and Social Engineering
  - Getting a user to reveal credentials
  - Tricking a user into opening an exe disguised as a folder or a document
  - Downloading seemingly benign programs and running them
  - Weaponized attachments like Hancitor (dll code executed directly into memory)
- Attackers placing malicious DLLs in packages of legitimate software
- Poorly written software that fails to validate dependencies

BONUS: HANCITOR

- Weaponized Word document
- Tricks user into enabling macros to see hidden content
- Macro code is very special
  - Wrote their own base64 decoder
  - Payload (Hancitor) was encoded and embedded within a secret form field in the VBA project
  - Uses native Windows API calls instead of VBA APIs to directly run the binary
  - No files dropped to disk
  - Makes a copy of a legitimate system DLL, executes and suspends the process
  - Replaces that code with the malicious code and resumes the process
  - Contacts C2 to obtain further RATs

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DEMO

Hancitor

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DEMO

One more thing…

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QUESTIONS AND ANSWERS

Polling Questions

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THANK YOU

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