

Cybercrime Trends

2020 Update

WEALTH ADVISORY | OUTSOURCING | AUDIT, TAX, AND CONSULTING

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Create Opportunities

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Learning Objectives

- Identify cybercrimes
- Recognize payment fraud trends and tactics hackers are using
- Explain how and why hackers are targeting your school
- Identify recent cybercrime litigation issues
- Identify common information security weaknesses
- Identify solutions to help minimize risk

Hackers have “monetized” their activity

- More hacking
- More sophistication
- More “hands-on” effort
- Smaller organizations targeted



Current State of Affairs

Organized Crime

- Wholesale theft of personal information

Ransomware

- Holding your data hostage

Payment Fraud

- “Corporate Account Take-Over” - aka CATO
- Use of credentials to commit online banking and credit card fraud

Credential “Harvesting”



Ransomware

Ransomware

- CryptoWall, CryptoLocker, wannacry, petya, **Ryuk** etc.
- Encrypt all data, hold it “ransom” for \$\$
 - Data on local machine and on network
- Attackers are putting much more time and effort into these types of attacks over the last year
- Starting to target other operating systems, like Macs



Ransomware

3 Generations

1. Local machine only
2. Local machine plus network permissions
3. Local machine plus ***ENTIRE NETWORK***



Create Opportunities



Corporate Account Takeover – 3 Versions

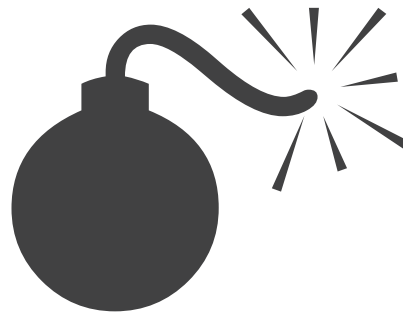
1. Deploy malware – keystroke logger
2. Deploy malware – man in the middle
3. Recon/email persuasion

1. “Whaling”

2. Business email Compromise

3. CEO attack

1. NEW – W2 attacks





Payment
Fraud

Multi-Factor Authentication Solutions

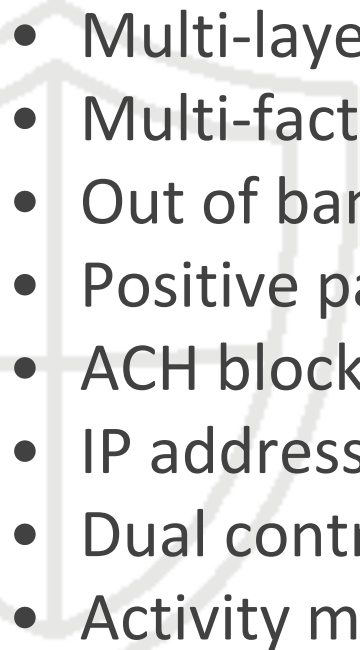
- MFA is critical
- Silver bullet?
- Text msg?





Payment
Fraud

CATO Defensive Measures

- 
- Multi-layer authentication
 - Multi-factor authentication
 - Out of band authentication
 - Positive pay
 - ACH block and filter
 - IP address filtering
 - Dual control
 - Activity monitoring



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Credential Harvesting

Credential Harvesting

- Driven by movement to the cloud
- Malware
- Social engineering



COVID “Opportunities”

1. Virus/health related news
2. Remote Work force
3. Re-opening of businesses
4. SBA funding
5. PPP programs
6. Political news

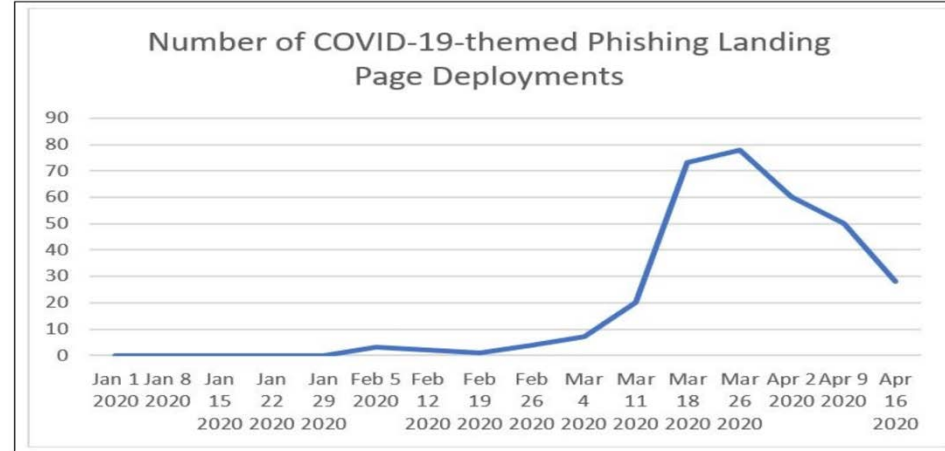


COVID “Opportunities”

Most breaches have a root cause in some form of Phishing

What is “Spear Phishing”

These templates, which use realistic-looking graphics, are designed to imitate the World Health Organization, the U.S. Centers for Disease Control and Prevention, the Internal Revenue Service, as well as government websites in the U.K., Canada and France, according to Proofpoint. The templates enable fraudsters to quickly create malicious domains to lure victims who have been sent phishing emails, according to the researchers. Of the more than 300 phishing attacks that Proofpoint has examined since January, nearly half were designed to steal either login credentials or banking information.

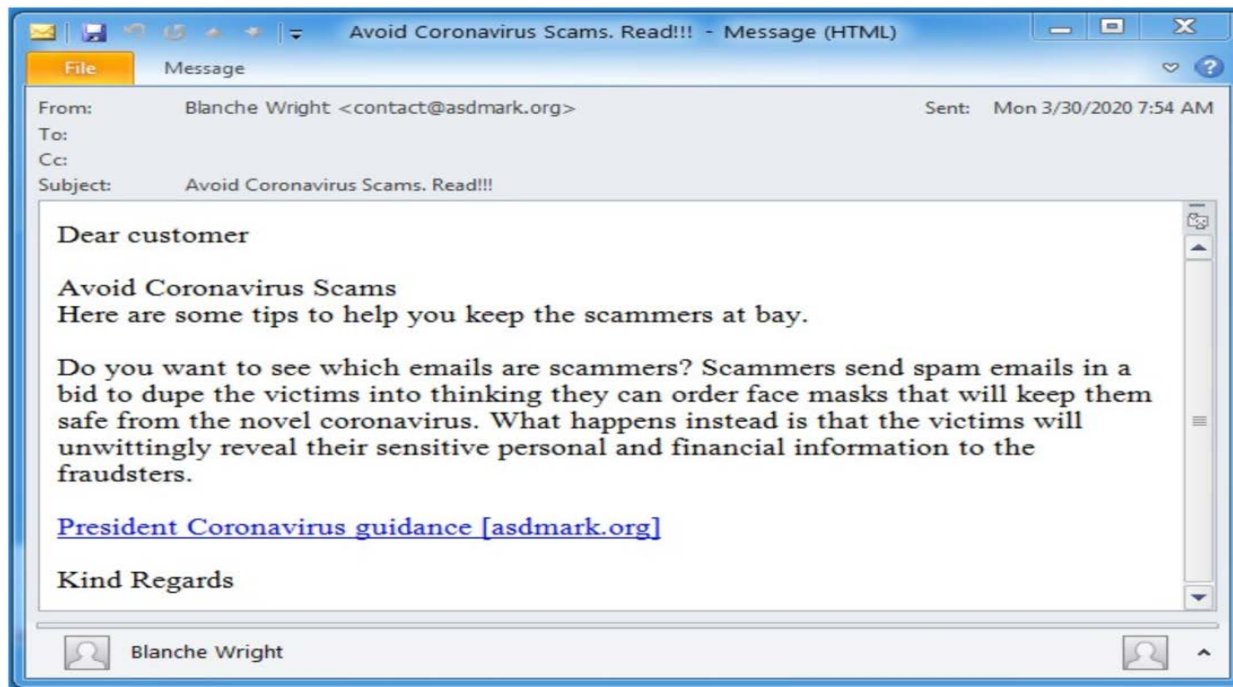


(Source: Proofpoint)

As more governments around the world offer stimulus payments and financial assistance to citizens and businesses, the lures have shifted, says Sherrod DeGrippe, senior director of threat research and detection at Proofpoint.



Example Coronavirus email - March





Payment
Fraud

Mitigation Keys

- Train users regarding email phishing
- Maintain current patch levels
- Remove local administrators
 - Best practice for ADMINS?
- ***Maximize relationship with the bank***
- ***Isolate the PC used for online banking***
- ***Air gap the back up media***
- Implement breach monitoring/
incident response
- Use MFA for all cloud apps



Create Opportunities

Current State of Affairs



The Cost

Global cybercrime cost business up to:
\$400 **BILLION** annually

Some companies theorize it will reach:
\$2.1 **TRILLION** by 2019

“There are only two types of companies: Those that have been hacked and those that will be. Even that is merging into one category: those that have been hacked and will be again.”

- Robert Mueller

10 Key Defensive Measures

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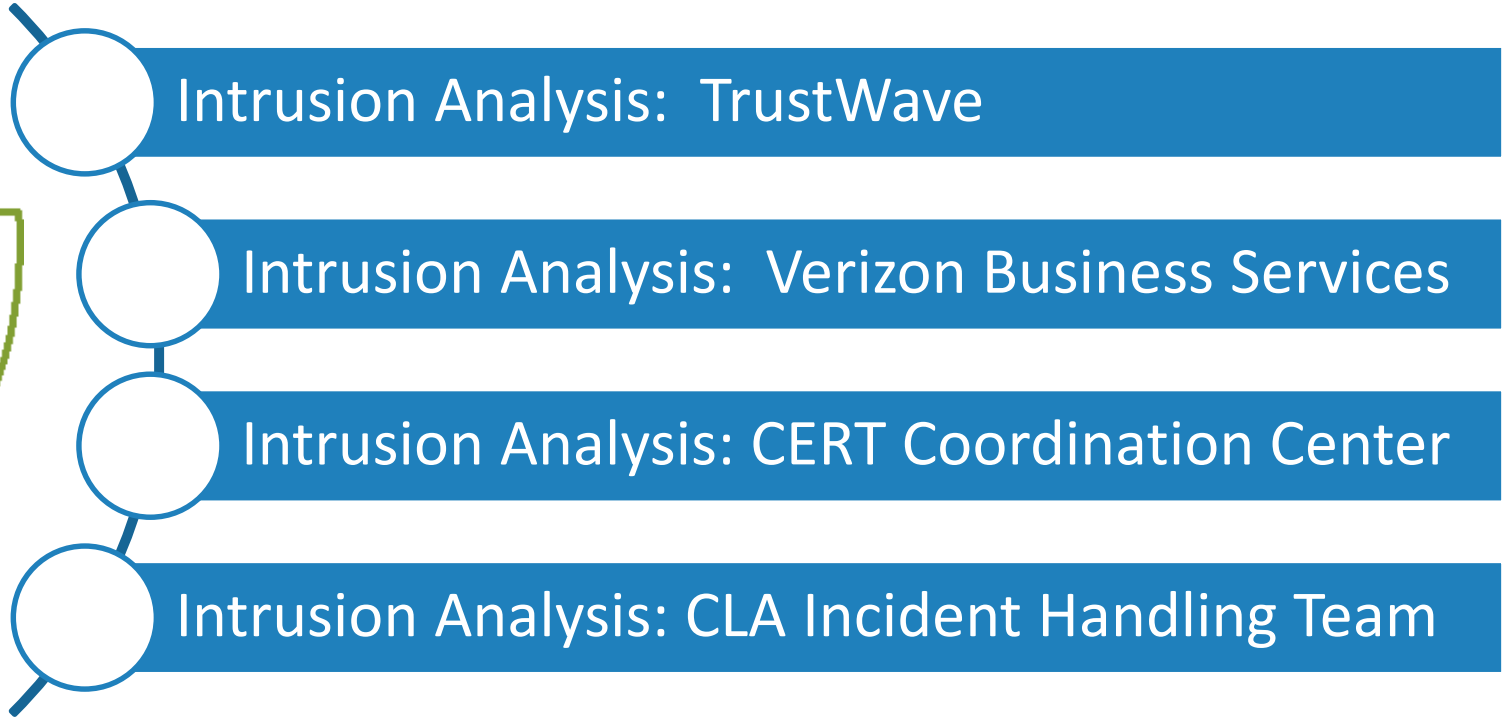
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96% of Attacks are Preventable!



Strategies



Our information security strategy should have the following objectives:

- Users who are more aware and savvy
- Networks that are resistant to malware
- Relationship with our financial institution is maximized



Ten Keys to Mitigate Risk

1. Strong Policies -

- Email use
- Website links
- Removable media
- **Users vs Admin**

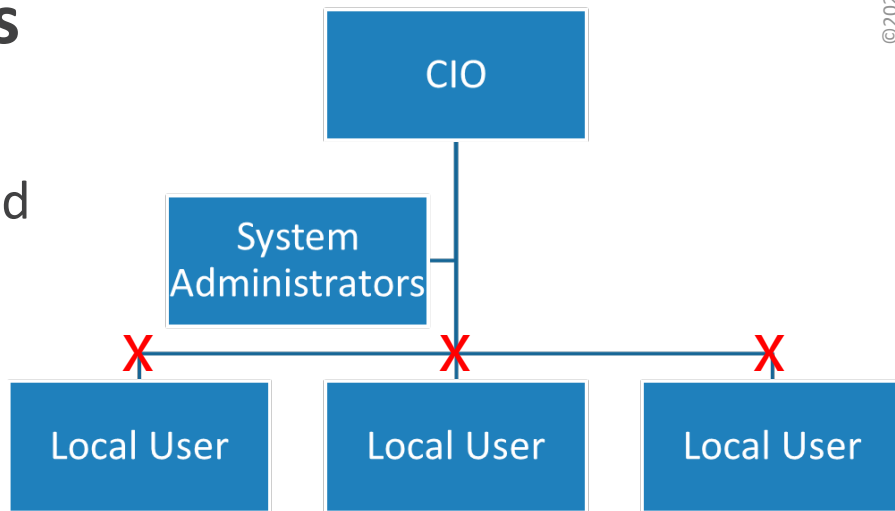




Ten Keys to Mitigate Risk

2. Defined user access roles and permissions

- Principal of minimum access and least privilege
- **Users should NOT have system administrator rights**
 - **“Local Admin” in Windows should be removed (if practical)**





Ten Keys to Mitigate Risk

3. Hardened internal systems (end points)

- Hardening checklists
- Turn off unneeded services
- **Change default password**
- **Use Strong Passwords**
- **Consider application white-listing**

4. Encryption strategy – data centered

- Email
- Laptops and desktops
- Thumb drives
- **Email enabled cell phones**
- Mobile media



Ten Keys to Mitigate Risk

5. Vulnerability management process

- Operating system patches
- **Application patches**
- Testing to validate effectiveness –
 - “belt and suspenders”





Ten Keys to Mitigate Risk

6. Well defined perimeter security layers

- **Network segments**
- Email gateway/filter
- Firewall – “Proxy” integration for traffic in AND out
- Intrusion Detection/Prevention for network traffic, Internet facing hosts, AND workstations (end points)

7. Centralized audit logging, analysis, and automated alerting capabilities

- Routing infrastructure
- Network authentication
- Servers
- Applications
- Know what “normal” looks like...



Ten Keys to Mitigate Risk

8. Defined incident response plan and procedures

- **Be prepared**
- Including data leakage prevention and monitoring
- Application whitelisting
- Forensic preparedness
- Insurance
- Practice...

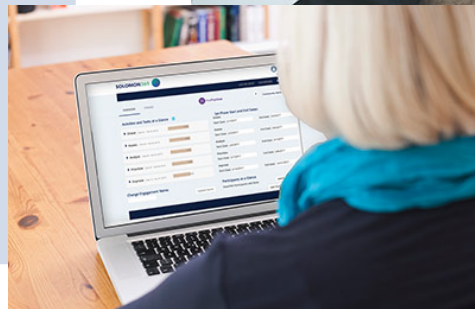




Ten Keys to Mitigate Risk

9. Know/Use Online Banking Tools

- Multi-factor authentication
- Dual control/verification
- Out-of-band verification/call-back thresholds
- ACH positive pay
- ACH blocks and filters
- Review contracts relative to all these
- Monitor account activity *daily*
- **Isolate the PC used for wires/ACH**





Ten Keys to Mitigate Risk

10. Test Test Test

- “Belt and suspenders” approach
- Penetration testing
 - ◇ Internal and external
- Social engineering testing
 - ◇ Simulate spear phishing
- Application testing
 - ◇ Test the tools with your bank
 - ◇ Test internal processes

Questions?

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