IT Examination Hot Topics – Cybersecurity

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FFIEC's Cybersecurity Assessment Tool

- A look back
  - Based on other frameworks
  - Regulators expect a robust risk management process for cybersecurity
  - Not mandatory, but baseline reflects "minimum expectations required"

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FFIEC's Cybersecurity Assessment Tool

- Where are we now?
  - Establish desired maturity levels
  - Be consistent
  - Be able to explain your rationale
  - Need someone to review it
  - Ensure sufficient Board reporting

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FFIEC's Cybersecurity Assessment Tool

- A look forward
  - Focus is on baseline; however, more will be expected
  - Expect updates
  - Consider NIST Cybersecurity Framework

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FDIC/OCC Joint Statement on Cybersecurity

- Issued in January
  - Response and Resilience Capabilities
  - Authentication
  - System Configuration
  - Employee Training
  - Monitoring
  - Data Protection

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Security Awareness Training

- Need for a comprehensive Security Awareness Training Program
- For who?
  - Board
  - Employees
  - Customers

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Security Awareness Training

- Board-Level Training
  - Real-world scenarios
  - Incident response
  - Monitoring
  - Results
  - Not too technical
  - More than once a year

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Security Awareness Training

- Employee Training
  - Not just phishing
  - More than once a year
  - Frequent/shorter communications
    - Emails
    - Short videos
  - Communications should be bi-directional

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Security Awareness Training

- Customer Training
  - Focus on high-risk customers
  - Customers' controls are typically weaker
  - Opportunity to engage your customers

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Information Security Officer Role

- Smaller FIs continue to struggle with independence
- Trends
  - Outsourcing
  - Committee approach
  - Creativity with compensating controls

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Vendor Management

- Ensure we review all vendors
- Focus on higher-risk vendors
- Always consider what a vendor does for you

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Vendor Management

- BCP and cyber resilience
- Trend toward reviewing vendor's subservice organization

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Office 365 Security

- Ensure MFA is turned on for EVERYONE!
- Review access levels within Azure
- Restrict Mobile Device Access
  - Consider Mobile Device Management solutions
- Ensure sufficient alerting is in place
- Check your Microsoft Secure Score

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Email Security

- Use MFA!
- Block attachment file types that are not needed
- Use spam filtering
- Implement deep inspection of attachments and links
- Provide a secure method to transfer files
- Consider SSL/TLS decryption

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Ransomware Update

- We're seeing more specific targeting
- Criminal organizations are threatening to release data if you don't pay
  - Data exfiltration controls
- Ensure backups are adequate

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New Password Expectations

- Regulatory agencies are beginning to expect stronger passwords
  - 12-15 character minimums
  - 8 character passwords can now be cracked in less than 2.5 hours*
  - Passphrase is preferred rather than a password
  - Expiration expectations

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New Password Expectations

- Password Vaults
  - So many passwords!
  - Many password vaults support enterprise environments
  - There are open-source (free) alternatives
  - To access your vault, use strong passwords and/or MFA
  - Easier on the user, but potentially still harmful

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New Password Expectations

- Single Sign-On and Multi-Factor Authentication
  - Pass-through vs. vault
  - Better to supplement with multi-factor authentication
  - MFA for initial login
    - Becoming more affordable
    - Hard and soft token, text and email codes, fingerprint pattern
    - Possible HR policy issues with soft token

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Software End of Support/End of Life

- Microsoft
  - Windows 7 and 2008 Server support ended January 14, 2020
  - End of free security updates and support
  - Options for these operating systems
    - Paid support – Extended Security Update (ESU)
    - Additional support for upgrade commitments
  - Make sure your ATMs are upgraded!

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Software End of Support/End of Life

- Other Microsoft software and third-party software
  - MS Office client 2010, SharePoint Server 2010, Project Server 2010, Windows Embedded Standard 7 – 10/13/2020
  - See Microsoft and Adobe sites for additional information. Adobe Flash Player will be discontinued December 31, 2020
    - Ask any vendors using the product about migration plans
    - Most popular browsers are working toward or already blocking flash (though it can be turned back on if needed)

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Pandemic Plans

- Updates for Pandemic
  - COVID-19 should have prompted review and plans to test your Pandemic policy and procedures
  - FFIEC released an updated statement 3/6/20 on Pandemic Plans at
    - https://www.ffiec.gov/press/pr030620.htm
  - FFIEC fully updated guidance:
    - https://www.ffiec.gov/press/PDF/FFIEC%20Statement%20on%20Pandemic%20Planning.pdf

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Pandemic Plans

- Not many differences from before, mostly some updated language
- Guidance provides very good information and additional resources to help update your plans as needed

"…the institution's business continuity plan(s) (BCP) should address pandemics and provide for a preventive program, a documented strategy scaled to the stages of a pandemic outbreak, a comprehensive framework to ensure the continuance of critical operations, a testing program, and an oversight program to ensure that the plan is reviewed and updated. The pandemic segment of the BCP must be sufficiently flexible to address a wide range of possible effects that could result from a pandemic, and also be reflective of the institution's size, complexity, and business activities."

TEST YOUR PLAN!!!

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FFIEC Guidance on Disaster Recovery

- Updated guidance now titled “Business Continuity Management (BCM) Information Technology Handbook” released November 2019
  - Press release - https://www.ffiec.gov/press/pr111419.htm
  - Placing more emphasis on enterprise-wide approaches that address technology, business operations, testing and updating, and communication strategies than before.
  - Expect more focus on updating, testing, and defining social media guidelines
  - Incident response now directly in the BCM guideline – training, testing, communication, forensics

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Social Engineering

- Pretext Calling
  - Most institutions are doing well with testing phishing. Keep it going!
  - There appears to be an uptick in recommending testing in some regions.
  - There are merits to third-party testing.
  - Ensure the procedures are effective through testing, adjust as necessary. Then train, train, train, and test, test, test!

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Social Engineering

- Physical Pen Testing
  - Financial institutions should test employees' ability to follow procedures for vendors and visitors.
  - It's ok to say "no" or "please come back after making an appointment," etc.
  - Stress that testing is a way to educate, not humiliate.

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Quick Hits

- Mobile Device Security
- Incident Response Testing
- Monitoring
- Firewall Review
- Access Reviews
- Patch Management
- PVA vs. Pen Test

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FBI Internet Crime Report – 2019

By Victim Loss

Crime Type	Loss	Crime Type	Loss
BEC/EAC	$1,776,549,688	Employment	$42,618,705
Confidence Fraud/Romance	$475,014,032	Civil Matter	$20,242,867
Spoofing	$300,478,433	Harassment/Threats of Violence	$19,866,654
Investment	$222,186,195	Misrepresentation	$12,371,573
Real Estate/Rental	$221,365,911	IPR/Copyright and Counterfeit	$10,293,307
Non-Payment/Non-Delivery	$196,563,497	Ransomware	**$8,965,847
Identity Theft	$160,305,789	Denial of Service/TDoS	$7,598,198
Government Impersonation	$124,292,606	Charity	$2,214,383
Personal Data Breach	$120,102,501	Malware/Scareware/ Virus	$2,009,119
Credit Card Fraud	$111,491,163	Re-shipping	$1,772,692
Extortion	$107,498,956	Gambling	$1,458,118
Advanced Fee	$100,602,297	Health Care Related	$1,128,838
Other	$66,223,160	Crimes Against Children	$975,311
Phishing/Vishing/Smishing/Pharming	$57,836,379	Hacktivist	$129,000
Overpayment	$55,820,212	Terrorism	$49,589
Tech Support	$54,041,053		
Corporate Data Breach	$53,398,278		
Lottery/Sweepstakes/Inheritance	$48,642,332		

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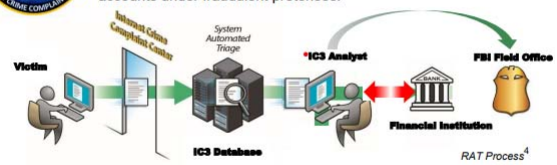
FBI Internet Crime Report – 2019

- Recovery Asset Team
  - Establish relationships with law enforcement

The Recovery Asset Team (RAT) was established in February 2018 to streamline communication with financial institutions and assist FBI field offices with the recovery of funds for victims who made transfers to domestic accounts under fraudulent pretenses.



*If criteria is met, transaction details are forwarded to the identified point of contact at the recipient bank to notify of fraudulent activity and request freezing of the account. Once response is received from the recipient bank, RAT contacts the appropriate FBI field office(s).

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Verizon Data Breach Report – 2019

- Attack patterns continue to show email as a primary threat vector

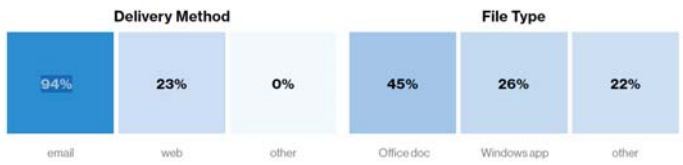

Figure 19. Malware types and delivery methods

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Source: Verizon's Data Breach Investigations Report

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Verizon Data Breach Report – 2019

- Financial Services Breach Statistics

Action	Asset	Count
Hacking - Use of stolen creds	Server - Mail	43
Social - Phishing	Server - Mail	41
Hacking - Use of backdoor or C2	User Dev - Desktop	17
Malware - C2	User Dev - Desktop	16
Physical - Skimmer	Kiosk/Term - ATM	16
Misuse - Privilege abuse	Server - Database	14
Hacking - Use of stolen creds	Server - Web application	10
Social - Phishing	User Dev - Desktop	10
Error - Misdelivery	User Dev - Desktop	9
Malware - Backdoor	User Dev - Desktop	9

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Source: Verizon's Data Breach Investigations Report

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Case Study – Business Email Compromise

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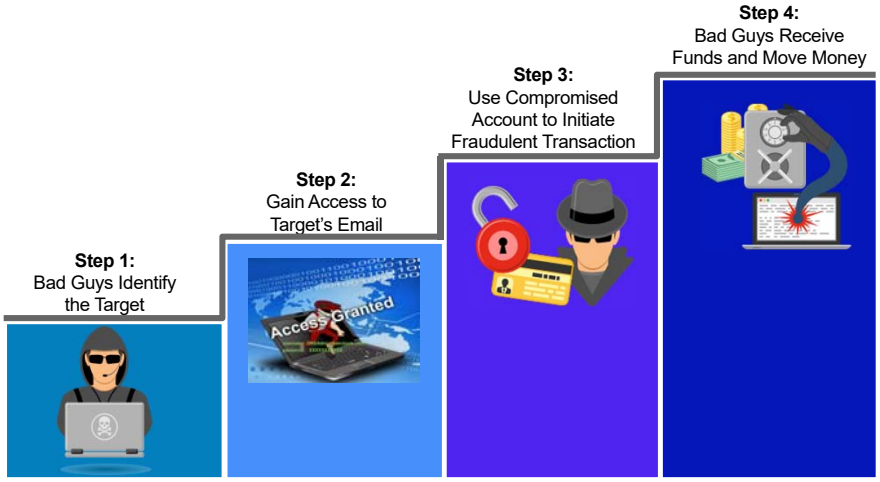
Business Email Compromise Timeline



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Case Study – Business Email Compromise

- How to Prevent
  - Educate your commercial customers
  - Treat email as a critical asset
  - Be on alert for warning signs
  - Ensure your callback/verification procedures are effective
    - Recording callbacks
    - Verification can't be bypassed

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How Can We Help?

- IT Examinations
- External Testing
  - Perimeter vulnerability assessments
  - External penetration test
- Internal Testing
  - Internal vulnerability scan
  - Internal penetration test

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How Can We Help?

- Social Engineering
  - Email spoofing/phishing tests
  - Pretext calling
  - Physical penetration testing
- Assessments
  - Cybersecurity Assessment Tool
  - GLBA Information Security Risk Assessments
  - IT Audit Risk Assessments

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How Can We Help?

- Firewall/Router Configuration Review
- Disaster Recovery and Incident Response
  - Policy development
  - Facilitated tabletop testing
- Forensics Readiness Assessment

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Questions

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Closing

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