Cybersecurity Hot Topics

The Latest Trends

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Agenda:

- Cybersecurity Trends
- Risk Management
- Resources

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Cybersecurity Trends

Cybersecurity threats and trends – Overview

- Threat actors are interested in you – everyone is a target
  - Small business, large business, individuals…
- Phishing and spam continue to be the most opportunistic attacks
- Digital extortion continues to be a significant threat
  - Primarily ransomware

Cybersecurity threats and trends – Threat actors

2021 Verizon Cyber Espionage Report

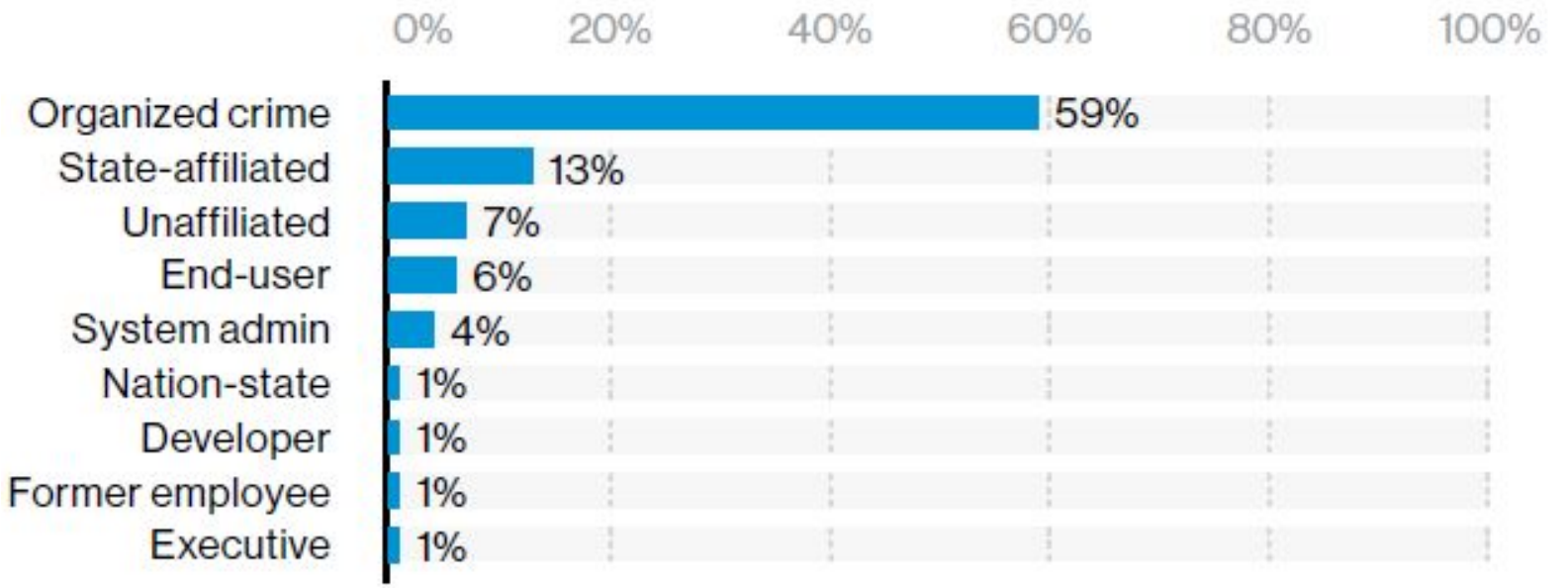


Figure #35: Actor varieties within all breaches (2014-2020 DBIR; n=9,077)

Cybersecurity threats and trends – State sponsored

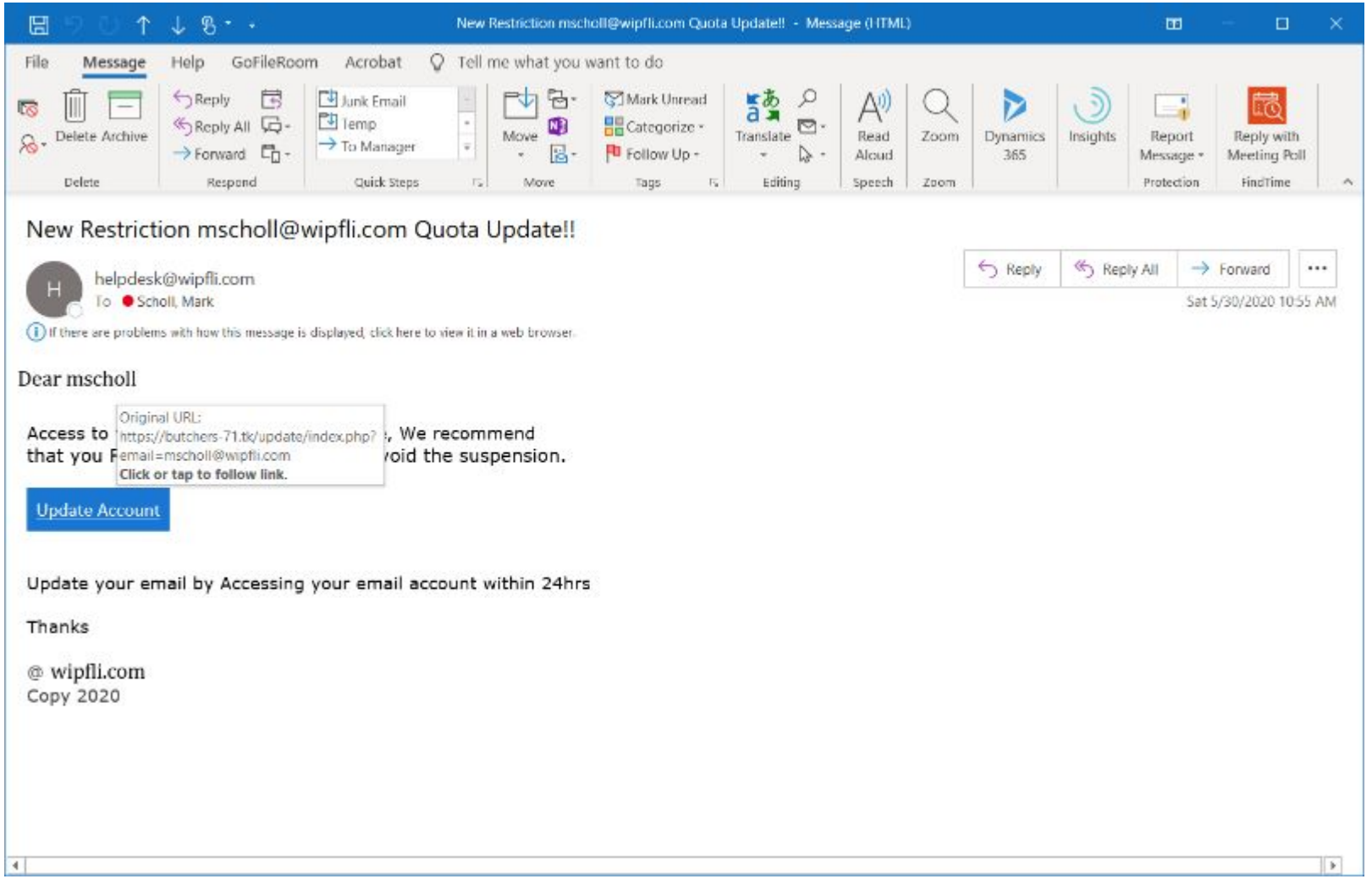
Challenges for law enforcement

- Anonymity
  - Originating IP address is difficult to track
  - Dark web users do not use nicknames, usernames, or email addresses from surface web
- Jurisdictional
  - Extradition rights
  - Digital crime continues to evolve
- Money trail
  - Cryptocurrencies

Cybersecurity threats and trends − Email scam types

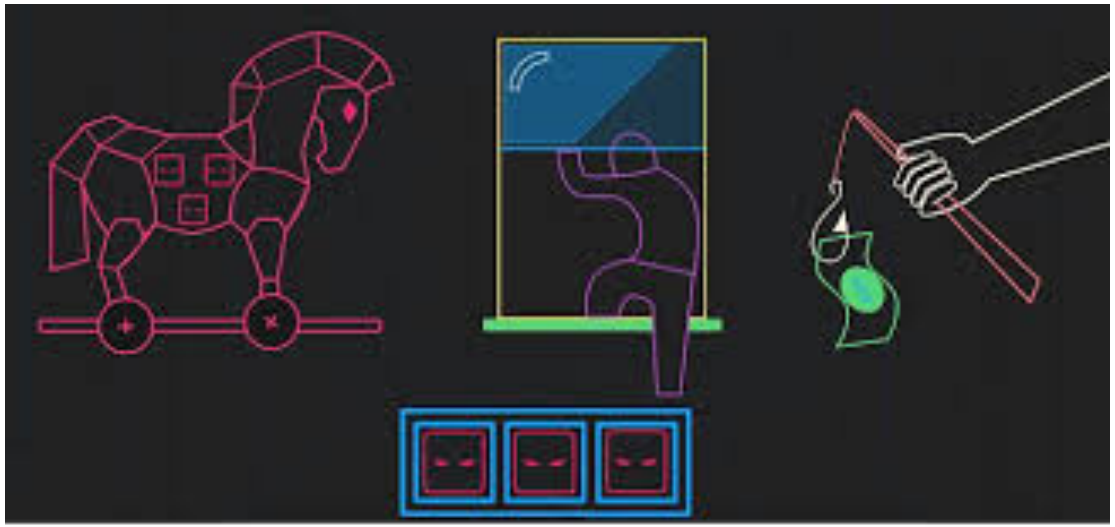
- Email scams are the attack vector!!!
  - Deliver malicious software
    - Ransomware
    - Backdoors
    - Keyloggers
  - Account takeover
  - Business email compromise (BEC)
  - Extortion

Email phishing example – Password stealing



Supply chain attacks

- Emerging threat that targets software developers and suppliers
- Outside partner or provider with access to your system is infiltrated
  - Process of infecting legitimate applications
    - Accessing and modifying source code
    - Typically installed through application updates
  - Examples
    - SolarWinds attack
    - Kaseya
    - Log4j
      - Open-source software libraries



Cybersecurity trends – Business email compromise (BEC)

- Attacker targets CxO or business owner; attacker gains access to victim's email account or uses a "look-alike" domain to send a message tricking an employee into performing a wire transfer or other identity scam
  - Fraudulent wire transfer
  - Payroll diversion
  - Gift card scam
  - Tech support scam
  - W-2 scams

Business email compromise

From: [redacted]
Date: March 23, 2016 at 10:25:39 AM CDT
To: [redacted]
Subject: Wire Payment

Mark,

Are you in the office? I'm in a contract meeting til 5pm and i need you to take care of an invoice payment before the cutoff time today.

I'm very busy, Email me.

[redacted]

Chairman Emeritus

[redacted]

Phone [redacted]

Fax [redacted]

[redacted]

Evolution of ransomware – Dual threat

- Encrypt organization's data and require ransom to be paid for encryption key
  - Backup for recovery as a reactive control
- Name and shame
  - Threat of leaking the organization's data on the internet
- Average downtime of a ransomware attack is 19 days
- Extortion demands have drastically increased – many are demanding six-figure sums to release the data

Evolution of ransomware – Dual threat

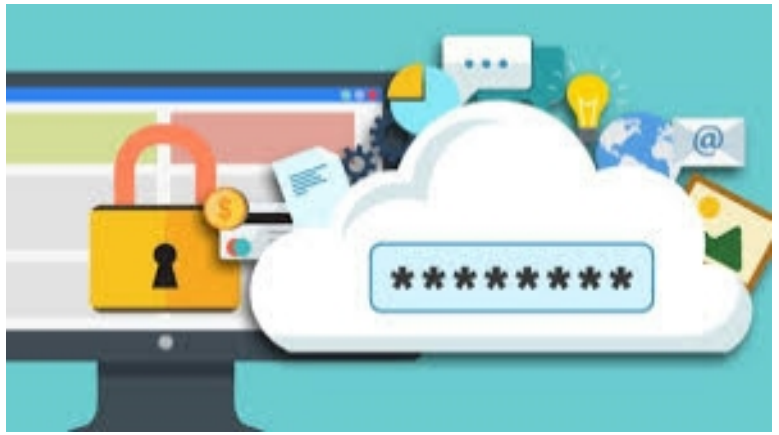
Risk Management

Cybersecurity key controls

- Focus on the basics
  - Patch management, perimeter defense, encryption, backups
  - Access control management, inventory of hardware/software
  - Network monitoring, malware protection, network segmentation
- Talk with your internet service provider and vendors about DDoS attacks
- Ongoing employee training and testing

Strong Authentication

- Passwords should be minimum length of 14 characters
- Multi-factor authentication
  - Remote access
  - Administrative accounts
- Password managers
  - Generates strong and unique passwords
  - Auto-fill logins
  - Provides security score for “at-risk” passwords
  - Notifies you of any login credentials involved in a data breach



Cyber incident management and resilience

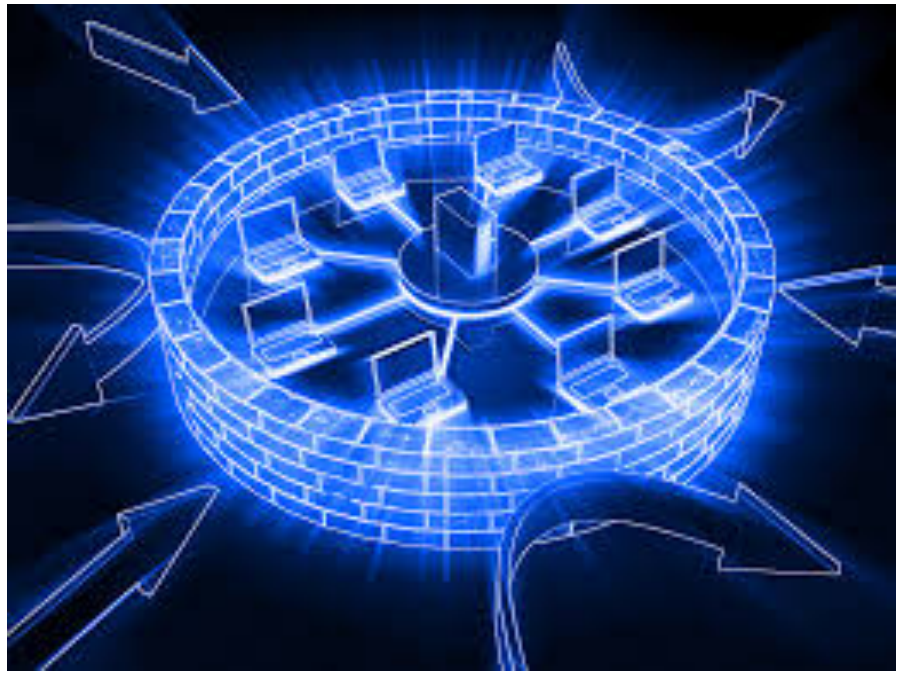
- Create a positive cybersecurity culture
- Have enhanced incident response plans – tabletop testing
  - Have arrangements with vendors who can work with your institution to implement incident response—a proactive approach, not when an incident has occurred
  - Work with regional crime taskforces
  - Ensure plan includes how you will notify customers
- Ensure there is periodic tabletop testing of your incident response program

Cybersecurity insurance

- Fee is increasing mostly due to ransomware attacks (15% is the beginning range in many instances)
  - Drastic increase in extortion demands
  - Mandated notifications
- Understand your data collection and protection requirements
  - Multi-factor authentication
  - Security monitoring
- Pay attention to exclusionary language

Validating your controls

- IT controls review
- Penetration testing
- Vulnerability assessments
- Cloud security assessments
  - M365, AWA, Azure
- Social engineering
  - Email spoofing
  - Pretext calling
  - Onsite physical pen testing



Resources

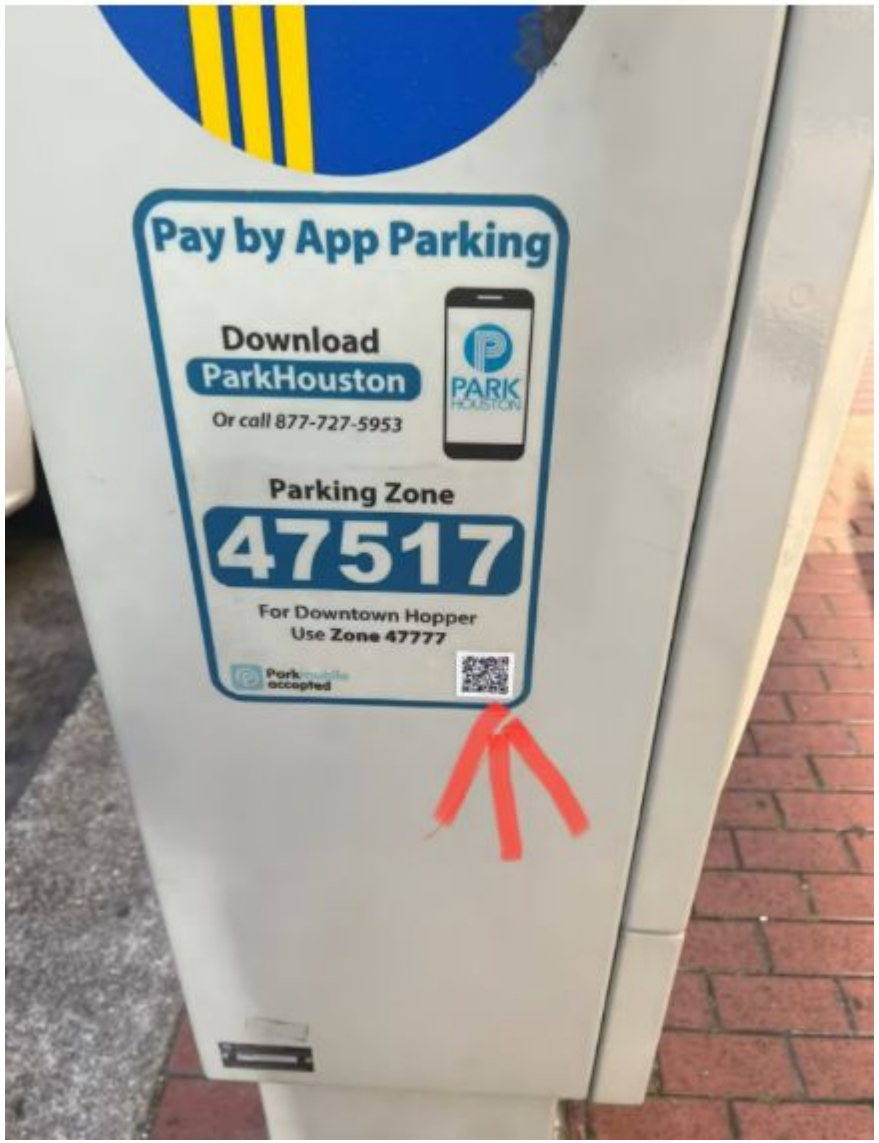
Cybersecurity resources

- 18 CIS Critical Security Controls
  - https://www.cisecurity.org/controls/cis-controls-list
- Ransomware Self-Assessment Tool
  - https://www.csbs.org/ransomware-self-assessment-tool
- Regulatory bulletins and alerts
  - US-CERT
    - https://www.cisa.gov/uscert/mailing-lists-and-feeds
- Shields Up
  - https://www.cisa.gov/shields-up

InfraGard

- www.infragard.org
- Partnership between the FBI and members of the private sector
- Provides a vehicle for seamless public-private collaboration with government that expedites the timely exchange of information and promotes mutual learning opportunities relevant to the protection of Critical Infrastructure

QR code phishing



QR code phishing

- One is good and one is bad… Do you know the difference?

QR code phishing

Good

www.chicagocubs.com

Bad!!!

www.stlouiscardinals.com

QR code phishing

- Treat them the same way as links in emails.
  - Is it taking you to a website you were expecting? Does it look as it should?
  - Use a clean browser and type in the web address manually before logging in or making a payment
- Think before you scan. Is it a sticker? Is it in an email?
- A password manager can be helpful to spot websites that do not represent the legitimate site.
- Use QR code scanning apps that filter phishing sites.

Questions?