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2021 Fall Technical Forum
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Security & Privacy

From Bolted-on to Built-in: The Journey of Cybersecurity

Casandra Bowes

Principal Security Architect
Comcast

2021 Fall Technical Forum
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Introduction

- In the past
  - Security was an afterthought
  - Security was bolted on at the end, if at all
    - Or, addressed after a serious incident
- Then …
  - Governments, corporations and consumers were HACKED
    - Data breaches
    - Malware
- Now
  - Security is a top priority for everyone
    - Built into products and services, not bolted on
    - Always a topic of interest, not just after an incident

Security Goes Mainstream

How hackers helped security take a step forward

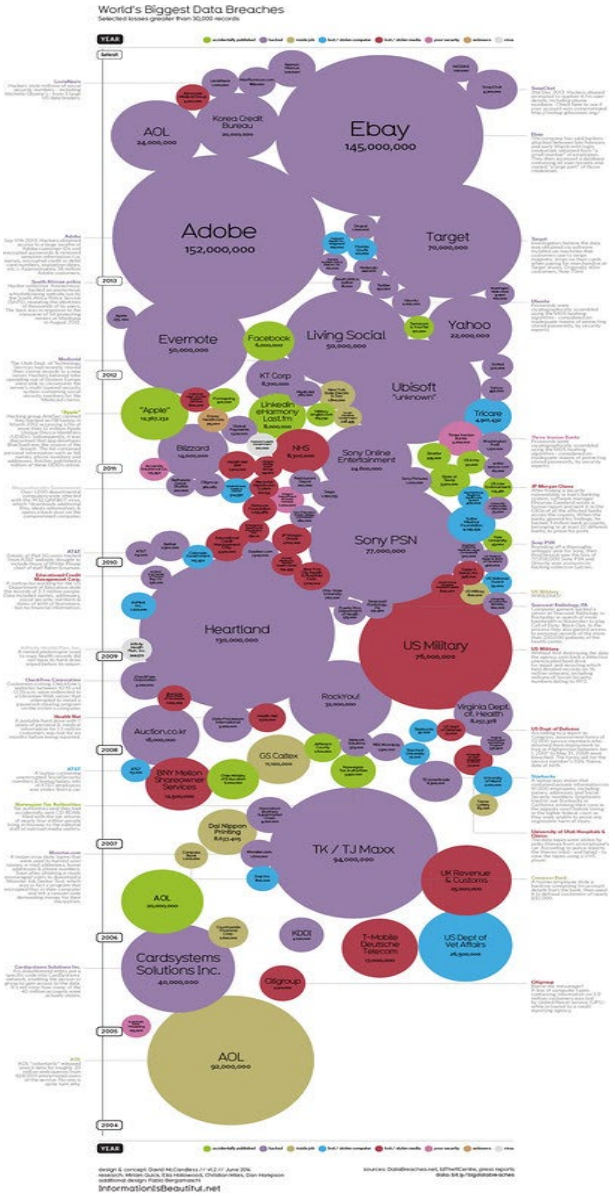
- Data breaches were making big headlines.
  - Consumer information was being leaked
    - Corporations
    - Governments
  - Hackers were outsmarting outdated “point solution” security controls
    - Multifaceted polymorphic approach

Common Attacks

- Compromised Credentials
- Ransomware
- Brand Phishing
- Voice Fraud
- Internet Facing Applications

Compromised Credential Attacks

- 61% of Data Breaches are caused by compromised accounts
- Common Methods
  - Credential Stuffing
  - Phishing
  - Brute Force password Attacks



https://www.securelink.com/blog/81-hacking-related-breaches-leverage-compromised-credentials/

Ransomware

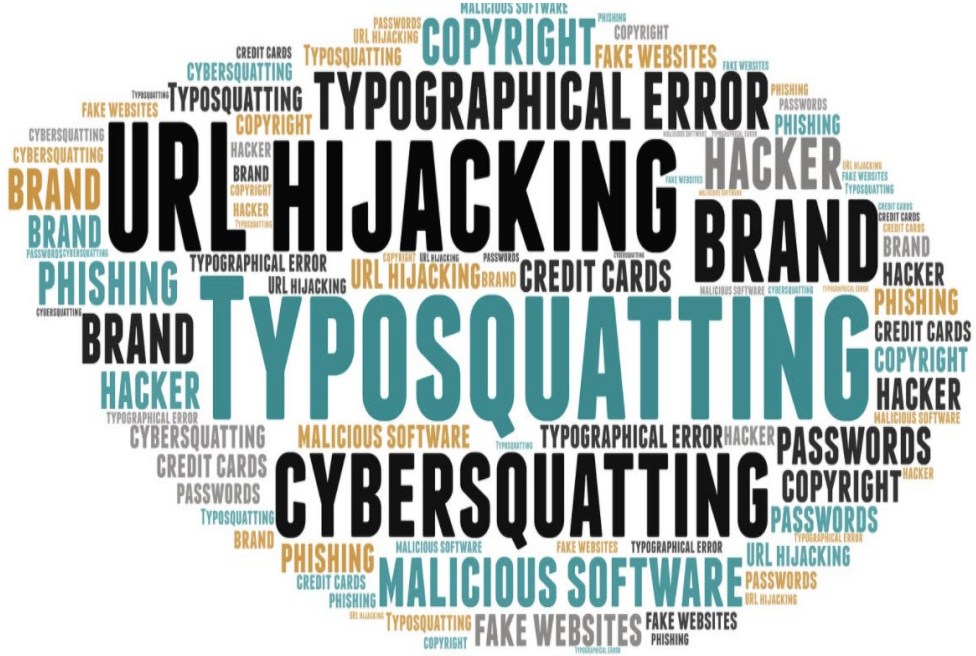
2021 Stats

- An attack will happen every 11 seconds
- Estimated cost of $20 million globally

- Common Methods
  - Email containing malware
  - Unpatched Vulnerabilities
  - Exposed ports/services with weak authentication for remote access

Brand Phishing

- "Lower my Cable Bill"
  - Scammers pose as cable employees trick customers into providing account information
    - Exposes customers to additional risk of identity theft



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Voice Fraud

- Scammers use an unsuspecting customer's account to place high volumes of expensive calls
  - Estimated cost to providers of $12 billion in lost revenue
- Common Methods:
  - Compromised credentials
  - Outdated PBX Firmware

Internet Facing Application Attacks

It's estimated that 90% of internet facing applications have security vulnerabilities

- Common Methods:
  - Attacks on Webservers and Databases
    - Cross-site scripting
    - SQL Injection

https://www.darkreading.com/cloud/it-takes-an-average-38-days-to-patch-a-vulnerability

Turning the Tides

- Rule #1 – Assume you will be breached
  - Strengthen your security posture starting with your most critical and most vulnerable assets (perimeter)
    - Zero Trust
    - Improved Incident Detection and Response
    - Multi-Factor Authentication
    - Ransomware Readiness
    - Shifting Security Left
    - Securing your Customers
    - CyberScore

Zero Trust

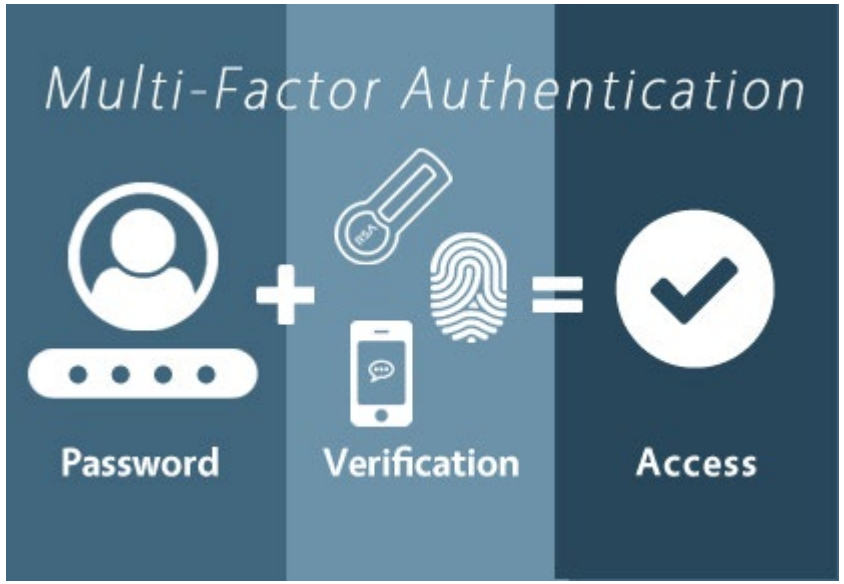
- The philosophy of “never trust, always verify”
  - Outdated “castle and moat” security models do not meet today’s security needs
    - The network perimeter has disappeared
  - Shift from IP based controls to Identity based controls
  - Assume every user, device, and application is a threat until verified

Improved Incident Detection/Response

- Threat intelligence programs
  - Advanced data collection/analysis capabilities
    - Next Gen SIEM solutions
    - Advanced Filtering
    - Smart Alerting
  - Tools
    - MITRE ATT&CK Framework
    - Purple Team Events

Multi-Factor Authentication

- Can be something you know, something you have, something you are
  - Password + OTP
  - Device + Facial Recognition
- More than 99% effective in stopping PW related attacks
- Companies and consumers alike have recognized the value

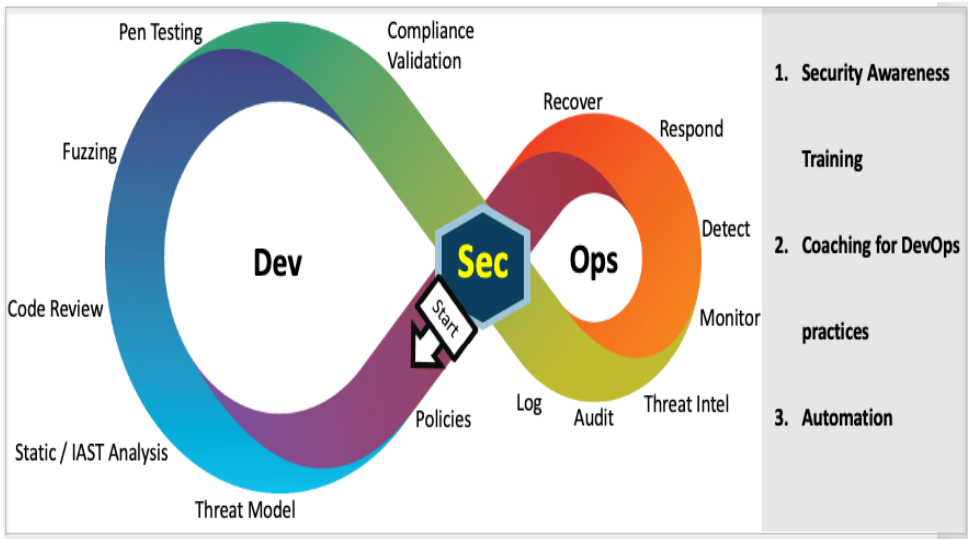


Ransomware Readiness

- Address your known vulnerabilities and keep up to date on patches, especially on parameter assets.
- Disable unused services and processes, specifically RDP and SSH, on externally facing systems. If these services must be exposed, use ACLs and multi-factor authentication.
- Use least privilege access models.
- Reduce the blast radius of attacks with network micro segmentation
- Use advanced security tooling for logging, monitoring, and alerting to bring visibility to what's happening within your environments
- Back-up your systems regularly and encrypt backups
- Have a response plan ready and practice recovery efforts, especially for critical resources.

Shifting Security Left

- Training
  - Train resources on security best practices according to their role
- Coaching
  - Assist with prioritization of security efforts
  - Focus on progress
  - Assimilate security into team norms
- Automation
  - DevOps to DevSecOps
    - Incorporating security into CI/CD pipelines
    - Automated security scans
    - Dev resources as security champions



CyberScoring

- Combines data from various security tools to create an overall view of cybersecurity
  - Creates visibility across the board
    - Drill down/up to any level of the organization
    - Drill down from a centralized dashboard to source tool data
  - Some platforms exist, but are in the early stages
    - Some companies are buying, others are building their own
  - Provides opportunity to better prioritize security concerns based on company's risk appetite

Securing Customers

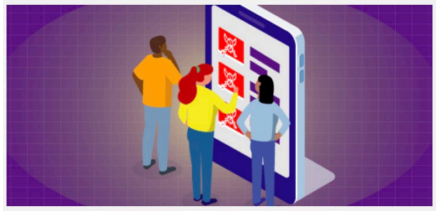
Advanced Security Capabilities

- External Credential spill Monitoring and remediation, build this as basic feature for standard security operations
- Deep and Dark web credential advertisement detection and remediation
- BOT attack prevention at Web, API, and mobile authentication interfaces
- Use IP information for “geo velocity” and to determine “geo location” to reduce credential theft
- Implement 2FA or MFA support for consumers and disable less secure authentication methods
- Detection capabilities for credential sharing and compromised accounts
- Work with law enforcement and other enforcement bodies to identify and disrupt the distribution of unlicensed content

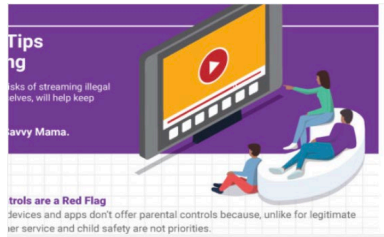
Securing Customers

Customer Education

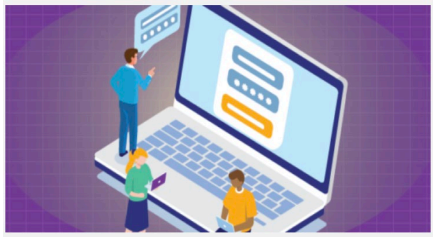
- Partnered with CTAM for streamsafely.com
  - Educates customers on safe streaming practices
    - Risks of password sharing
    - Risks of viewing pirated content



Four Ways to Protect Yourself from Pirated Content



Five Tech Savvy Tips for Safe Streaming



Four Risks of Password Sharing

Fast Fact: How do I prevent Malware?

Securing Customers

Combating Email Fraud

- Partnered with big tech to secure third party email clients
  - Microsoft
  - Google
  - Apple
- Disable unused 3rd party email clients
- Modernize authentication for 3rd party email clients using oauth
- Implement Email platform anti-abuse capabilities (anti-spam, anti-malware, anti-phishing, anti-viral)

Conclusion

- Security is now in the spotlight!
  - Thanks, Hackers!
- Security is no longer bolted on
  - Security is built into products and services
- Everybody is part of the conversation
  - Companies
  - Governments
  - Consumers
- Let’s keep security part of the conversation!

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Thank You!

Casandra Bowes and Harwant Mahal

Principal Security Architect
Comcast
Casandra_bowes@comcast.com

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