System Security
&
IT Best Practices

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BRIEF **INTRODUCTION**

Reid Burchell

Director – IT Services/DevOps

TODAY'S **AGENDA**

1. Changing Landscape
2. Passwords & MFA
3. Phishing
4. Online Security
5. Backups & Updates
6. Q&A Session

Changing Landscape

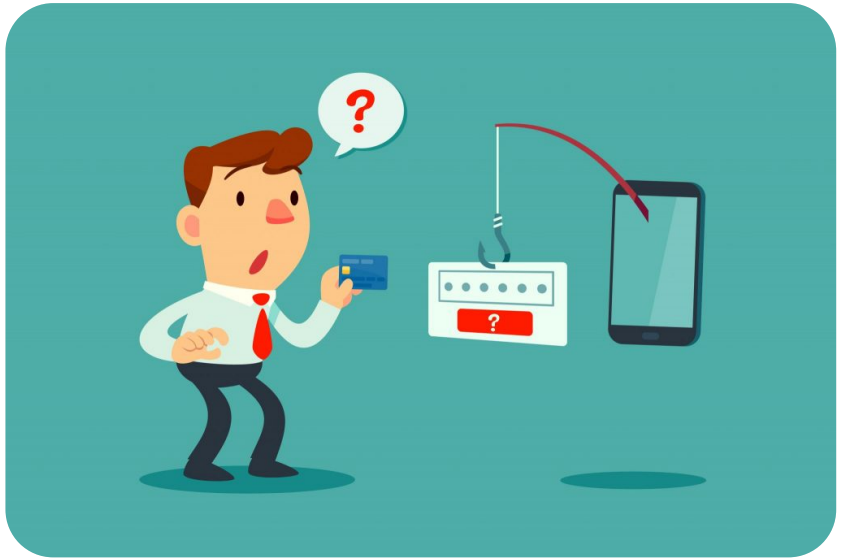
To the Cloud?

- What is the cloud?
- Migration of systems/data to cloud hosting comes with many benefits…
- But there are new risks that should be accounted for as well

Changing Landscape

Phishing, Malware, Ransomware, Oh My!

- Cybersecurity threats continue to rise
  - Newsworthy data breaches every month
  - Websites, Credit Card Terminals, etc.
- Biggest risk still remains…the human element
  - 95% of breaches are caused by human error
  - Email phishing attacks often an initial vector



Changing Landscape

Work from…Anywhere?

- Working outside typical office buildings
  - Can offer benefits to both employer and employees…
  - New risks that need to be considered
- How do you better prepare and protect yourself?
  - VPN (Virtual Private Network)
  - Anti-Virus/Anti-Malware
  - On Device Spam/Content Filtering

Cybersecurity Hygiene

Forming Good Cybersecurity Habits

- Knowledge is key!
  - Education is the #1 thing you can do to protect yourself
  - Stay up-to-date with security awareness training
- Everyone has different skills levels with technology
  - Don't be afraid to ask for help

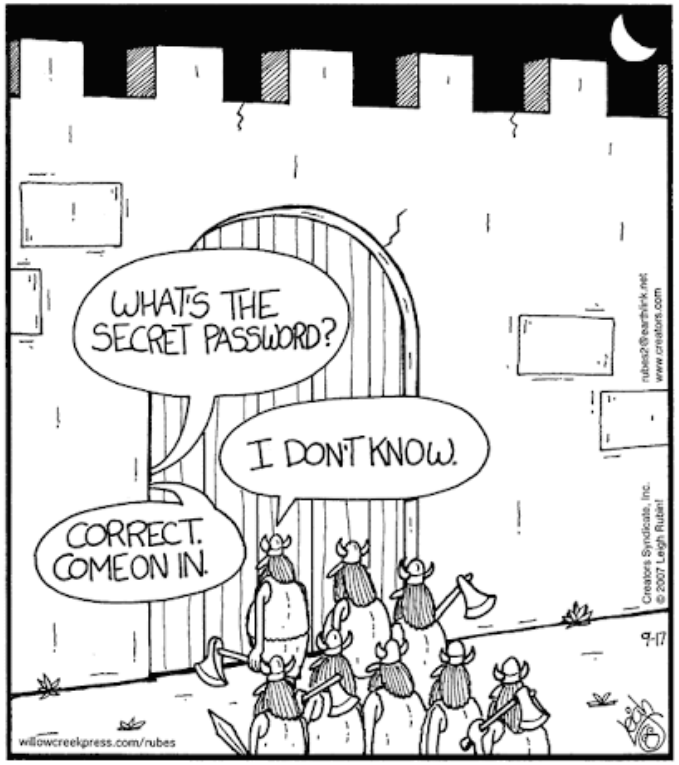
Cybersecurity Hygiene

"Best Practices" Pillars

- Employ good password practices
  - Use multi-factor authentication whenever possible
- Know the signs of Phishing
- Stay secure online
- Ensure critical data is backed up
- Update, update, update

Passwords

- Most common digital security mechanism
  - Often the first line of defense for your accounts
  - Should be hard to guess…don't use names/birthdays!
- Password Rules:
  - Shorter password = easier to remember…but also
  - Shorter password = easier to guess
  - More complex isn't necessarily better…to a point



Why great care and consideration should be taken when selecting the proper password

Passwords

- 1234
  - Length: 4 / Complexity: 0-9 allowed
  - 10^4 = 1,000
- 123456
  - Length: 6 / Complexity: 0-9 allowed
  - 10^6 = 100,000
- 1a2B3c
  - Length: 6 / Complexity: 0-9, a-z, A-Z allowed
  - 62^6 = 56,800,235,584
- EdV!7>tS4w$:m
  - Length: 12 / Complexity: Alpha + Special Characters
  - 72^12 = 19,408,409,961,765,342,806,016
  - Very strong…but very difficult to remember…
- startyourenginesplease
  - Length: 22 / Complexity: a-z allowed
  - 26^22 = 13,471,428,653,161,560,586,981,973,426,176
  - Even strong…much easier to remember

Passwords

- Most common digital security mechanism
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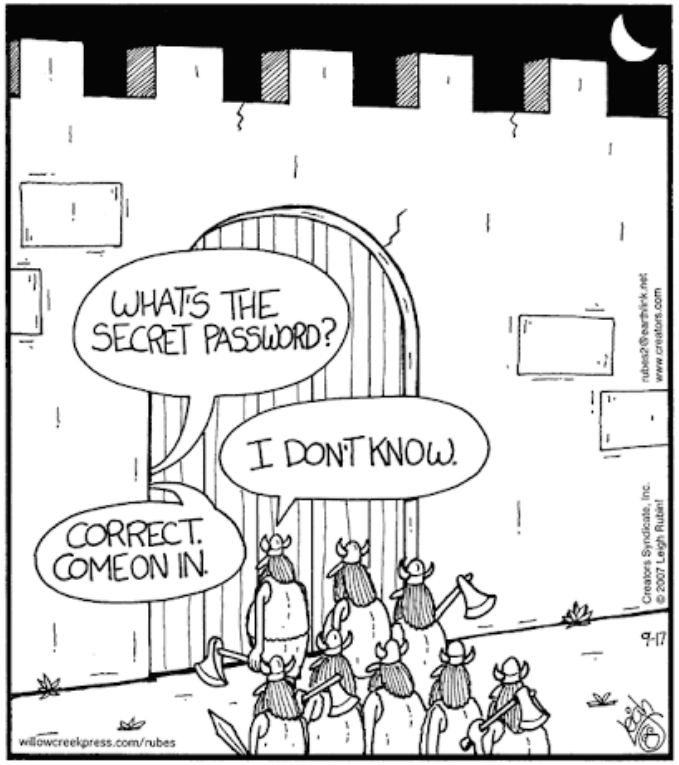
- Password Rules:
  - Shorter password = easier to remember…but also
  - Shorter password = easier to guess
  - More complex isn't necessarily better…to a point
- Password re-use…be unique!
- Password managers to the rescue
- Expirations…to change or not to change



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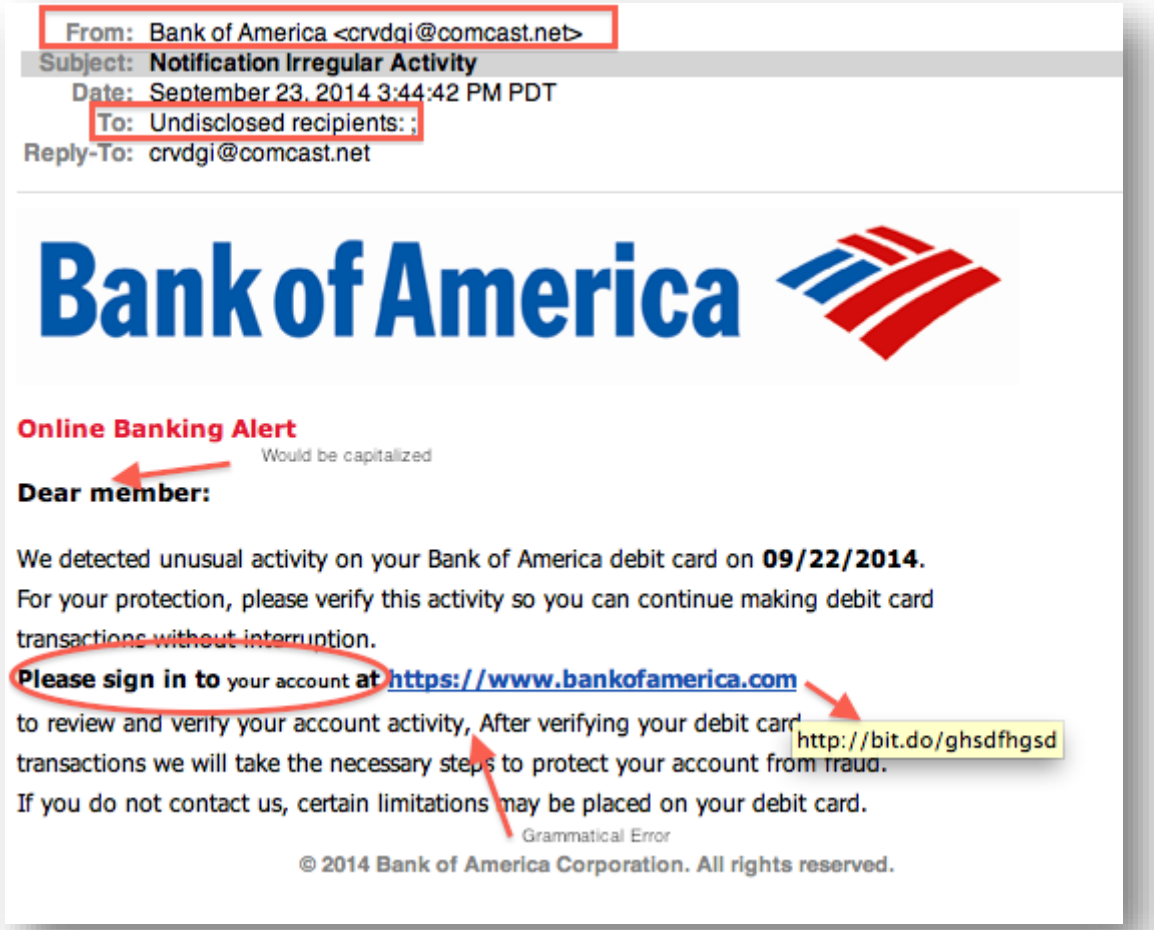
MFA - Beyond Passwords

- A password is “something you know”
  - What if someone discovers/guesses your password?
  - How would someone on the other end know it isn’t you?
  - Security questions/images?
- Multi-Factor Authentication (MFA)
  - “Something you have” – One-Time Passcode / Security Keys
  - “Something you are” – Biometrics
  - Easiest additional measure you can take to protect yourself
- MFA already at work
  - You’re probably already using MFA without realizing it

Phishing

- Think before you click
  - Who sent this email/file?
  - Is what they're asking for unexpected?
- Know the signs
  - I don't recognize that link…
  - There sure are a lot of spelling mistakes…

Phishing



From: Bank of America <crvdgi@comcast.net>
Subject: **Notification Irregular Activity**
Date: September 23, 2014 3:44:42 PM PDT
To: Undisclosed recipients: ;
Reply-To: crvdgi@comcast.net

Bank of America

Online Banking Alert

Would be capitalized

Dear member:

We detected unusual activity on your Bank of America debit card on **09/22/2014**.
For your protection, please verify this activity so you can continue making debit card transactions without interruption.
Please sign in to your account **at** https://www.bankofamerica.com
to review and verify your account activity, After verifying your debit card
http://bit.do/ghsdfhgsd
transactions we will take the necessary steps to protect your account from fraud.
If you do not contact us, certain limitations may be placed on your debit card.

Grammatical Error

Online Security

Anatomy of a Web Address (URL)

https://www.edmundsgovtech.com/edge/

- Protocol
  - How am I connecting? (http versus https)
- Domain Name
  - Where am I connecting?
- Resource
  - What am I requesting?

Online Security

HTTP and HTTPS Protocol

- The S stands for “Secure”
- Ensures a secure connection between the requester (you) and the website
  - Protects from eavesdropping (man-in-the-middle)
- Who are you “securely” communicating with…
  - Domain names are important!

Online Security

One of these things is not like the other...

- https://www.edmondsgovtech.com
- https://www.edmundsgovtech.com
- https://www.edrnundsgovtech.com

Online Security

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Online Security

Virtual Private Networks (VPNs)

- Similar principle to HTTPS…
- But encrypts all traffic from your device
  - Not just web browsing
  - Indirectly protects HTTP (non-secure) web pages
- Helps Anonymize your traffic
  - Harder for ISPs and websites to analyze patterns and form profiles on users

Backups

Why Backups are Crucial

- Sources of data loss
  - Hardware failures
  - Natural disasters
  - Human error
  - Malware/Ransomware
- Solutions
  - Cloud solutions (iCloud, Google Drive, OneDrive, BackBlaze)
  - Local backups
  - Offsite backups

Staying Current

Software Updates & Patches

- Why Update?
  - Enhancements
  - Bug Fixes
  - Security Patches
- New exploits are uncovered every day
  - Patches and security updates needed to remain safe

Q&A

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