The STRENGTH you need.

The PARTNERSHIP you expect.

VACORP

Cyber Security

February 2020

Risk Management | Coverage | Claims Resolution

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Internet Age

- Unprecedented access to information
- More interconnected than ever
- Brings opportunities but also challenges

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Cyber Security Challenges

Exponential growth of the internet
- The first website went live in 1991. Today there are more than 1.9 billion websites.
  - 16 million users in 1995 (0.40% of population)
  - 4.38 billion users in 2019 (56.8% of population)
- The Deep Web or Dark Web (which is not indexed or accessible by search engines) is estimated to be as much as 5,000 times larger than the surface web, and "growing at a rate that defies quantification"
- More IP traffic is projected the 32 years since the Intern

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Cyber Security Challenges

Cyber crime can be lucrative
- Total cost for cybercrime added up to over $1 trillion dollars in 2018
  - Already more profitable than the global illegal drug trade
  - Projected to cost $6 trillion by 2021

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Why Care about Cyber Security?

- Organizations of all sizes can be targeted
- Cyber criminals go for the path of least resistance
- Often take the "shotgun spread" approach

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Why Care about Cyber Security?

- Public entities are perfect targets for cyber attacks because they commonly handle personally identifiable information (PII)
  - Social security numbers
  - Addresses
  - Telephone numbers

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Cyber Attack Prevalence

- More malware is being launched than ever before, with approximately 230,000 new malware samples/day.
- There is a hacker attack every 39 seconds
- 3,809,448 records stolen from breaches every day
  - That's 44 records each second!

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Malware

- Malware or "malicious software" describes any program or code that is harmful to systems
- Designed to steal, encrypt, or delete your data, alter or hijack core computer functions, and spy on your computer activity
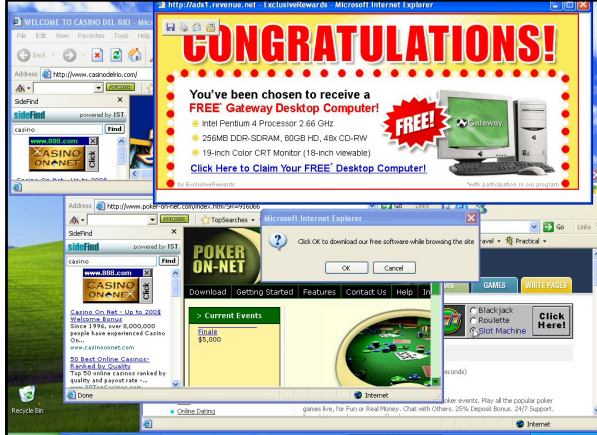
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Indicators of Malware

- Computer slow-downs or crashes
- Repeated error messages
- Computer not shutting down or restarting
- Numerous pop-ups
- Inappropriate ads
- People receiving emails that you did not send
- Changes in browser set-up (tabs, default search engine, or home page)
- Pages opening automatically

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What are the Odds?

1 in 14,600

Struck by Lightning

- If you live to be 80 years old, the National Weather Service says **your chances of being struck by lightning is roughly 1 in 14,600.**

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What are the Odds?

1 in 3,750,000

Shark Attack

- The likelihood of getting attacked by a shark is about **1 in 3.75 million.**

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2/18/20

What are the Odds?

1 in 16,000,000

Dying in a Commercial Plane Crash

- According to recent reports, the odds of dying in a commercial plane crash are **1 in 16 million.**

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What are the Odds?

1 in 175,000,000

Winning The Lottery

- The odds of winning either the Powerball or Mega Millions jackpots are **roughly 1 in 175 million.**

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What are the Odds?

1 in 9,223,372,036,854,775,808

Picking a Perfect March Madness Bracket

- With 63 total games throughout the tournament and a 50% chance of winning each game, there's a **1 in 9,223,372,036,854,775,808 chance of selecting a perfect bracket.**
- That's **9.2 quintillion!**

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What are the Odds?

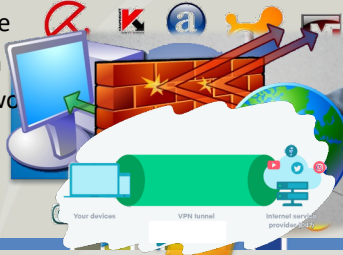**1 in 4**

Cyber Attacks

- There were an estimated **8.4 billion devices targeted by cybercriminals in 2017.**
- A report by the Ponemon Institute estimates that the chances of experiencing a data breach are **as high as 1 in 4.**

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Layers of Cyber Security

- Control physical access
- Firewall
- Antivirus software
- Operating system
- VPN for remote wo

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Layers of Cyber Security

- Cyber security is only as strong as its weakest link
- You have a very important role!

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Enact Cyber Policies

- Establish Procedures for employees using computers
  - Restrict access to particular websites
  - Require administrative credentials for downloads
- Educate employees
  - How to safely use County computers
  - What to do in the event of a breach

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Turn on Network Logging

- One of the first things forensics and attorneys will ask for
- Quickest way to confirm that constituent data is only encrypted and not exported
- Capture logs at a centralized location

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Lock Your Devices when Not in Use

- 70 million smart phones are stolen every year
  - The recovery rate is 7%
- A laptop is stolen every 53 seconds

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Deactivate Old, Unused Accounts

- Old accounts may still contain personal indentifying information
- Assess your digital footprint by entering your name in a search engine
- Delete or deactivate any old accounts that pop up

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Keep Software Up to Date

- The cyber landscape is always evolving
- Hackers become more sophisticated over time, but so does cyber security
- Software updates often contain critical security patches

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Back Up Your Data

- Certain viruses infect and destroy your data
- If you are a victim of a security incident, the only way to repair your computer may be to erase and re-install the system

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Be Careful Where You Click

- Be selective when downloading programs or apps
- Do not click on ads, search instead
- Be cautious opening emails
- Be wary of attachments
  - .zip
  - Compressed
  - Executable files

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Use Strong Passwords

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Common (AKA Bad) Passwords

- Personal info
  - Last name and birth year – Smith1970
- Password
- 123456
- 111111
- qwerty

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Importance of Strong Passwords

- One of the most common ways that hackers break into computers is by guessing passwords
- A computer can guess over 1 billion passwords per second
  - Longer is better
  - More complex is better

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Password Hacking Chart

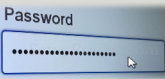| Password format	Password	Time to Crack
All lowercase	password	3.5 minutes
Add 1 uppercase letter	Password	3 hours
Replace letter with special character	P@ssword	57 days
Add numeric character	P@ssword1	12 years
Add additional character	P@ssword12	928 years

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Password Hacking Chart

number of Characters	Numbers only	Upper or lower case letters	upper or lower case letters mixed	numbers, upper and lower case letters	numbers, upper and lower case letters, symbols
3	Instantly	Instantly	Instantly	Instantly	Instantly
4	Instantly	Instantly	Instantly	Instantly	Instantly
5	Instantly	Instantly	Instantly	3 secs	10 secs
6	Instantly	Instantly	8 secs	3 mins	13 mins
7	Instantly	Instantly	5 mins	3 hours	17 hours
8	Instantly	13 mins	3 hours	10 days	57 days
9	4 secs	6 hours	4 days	1 year	12 years
10	40 secs	6 days	169 days	106 years	928 years
11	6 mins	169 days	16 years	6k years	71k years
12	1 hour	12 years	600 years	108k years	5m years
13	11 hours	314 years	21k years	25m years	423m years
14	4 days	8k years	778k years	1bn years	5bn years
15	46 days	212k years	28m years	97bn years	2tn years
16	1 year	512m years	1bn years	6tn years	193tn years
17	12 years	143m years	36bn years	374tn years	14qd years
18	126 years	3bn years	1tn years	23qd years	1qt years

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Password Dos and Don'ts

- Make it long
  - Experts now suggest 15-20 characters
- Make it complex
  - Mix upper and lowercase, numbers, and symbols
- Do not reuse passwords
- Don't have ties to personal information
- Don't write it down
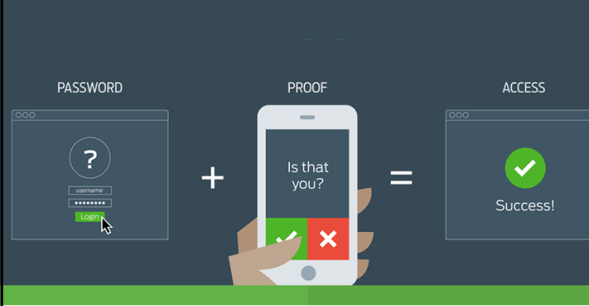- Change it often

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Password Manager

- Vault to store and manage all your passwords
- Automatically creates and changes passwords
- Not a magic bullet!
- Better than weak or reused passwords
- Paid service or free
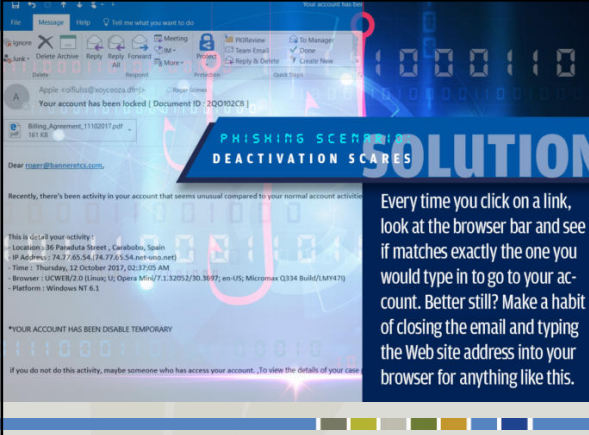- Use credible brand name

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Use Multi-Factor Authentication

PASSWORD   PROOF   ACCESS

?   +   Is that you?   =   ✓ Success!

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Phishing

- 91% of cyber attacks begin with a phishing attack
  - Seeking personal info
  - Prey on tendency to trust
    - Urgency
    - Fear
    - Curiosity

NETFLIX

We're sorry to say goodbye

Hello,

iTunes let us know that you asked to cancel your membership. We've cancelled your membership effective Tuesday, March 21st, 2017.

Obviously we'd love to have you back. If you change your mind, simply restart your membership to enjoy all the best TV shows & movies without interruption.

RESTART MEMBERSHIP

We're here to help if you need it. Visit the Help Center for more info or contact us.

~Your friends at Netflix

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PHISHING SCENARIO
DEACTIVATION SCARES

Every time you click on a link, look at the browser bar and see if matches exactly the one you would type in to go to your account. Better still? Make a habit of closing the email and typing the Web site address into your browser for anything like this.

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Phishing Example

- Targets payroll staff
  - May request a bank or direct deposit change
- Prevent this by:
  - Requiring payroll staff to confirm
    - Require in person changes
    - Reach out by phone
    - Legitimate server email

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In the Event of a Cyber Breach

- Isolate the infection
  - Disconnect affected servers to prevent the spread
- Protect your data
  - Take all machines and information offline
- Document everything
- Contact relevant parties
  - VACORP
  - IT Security Professional
  - Authorities
  - Contact Legal Counsel

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Summary

- Enact cyber polices
- Lock your devices
- Deactivate old accounts
- Keep software up to date
- Back up data
- Be careful where you click
- Use strong passwords
- Don't fall for phishing attacks
- Talk to IT staff if you are unsure
- Follow breach protocol

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YOU ARE THE TARGET!

THINK
BEFORE YOU CLICK

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Rest assured, with us, you're covered.

Reach out, we're here for you.

VACORP

THANK YOU!

www.vacorp.org
1819 Electric Road, Suite C | Roanoke, VA 24018
Phone: (888) 822-6772 | FAX: (877) 212-8599

Risk Management | Coverage | Claims Resolution

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