Cyber Storm Warnings

A Cybersecurity Simulation for County Government Leaders

THE COUNTY OF BEACHSIDE FLORIDA

CYBER FLORIDA at the UNIVERSITY OF SOUTH FLORIDA

FAC All About Florida FLORIDA ASSOCIATION OF COUNTIES

Simulation Learning Objectives

- **Get to know enough to be dangerous!**
  - **Realize that cyber has mission implications**
  - **And that challenges are not just technical ones**
- **Know that ultimately you are accountable!**
  - **Identify cost-effective things you can do**
  - **As well as where you need cyber expertise**
  - **And where/how to get it**

Basic Netiquette

- **During Plenary Sessions:**

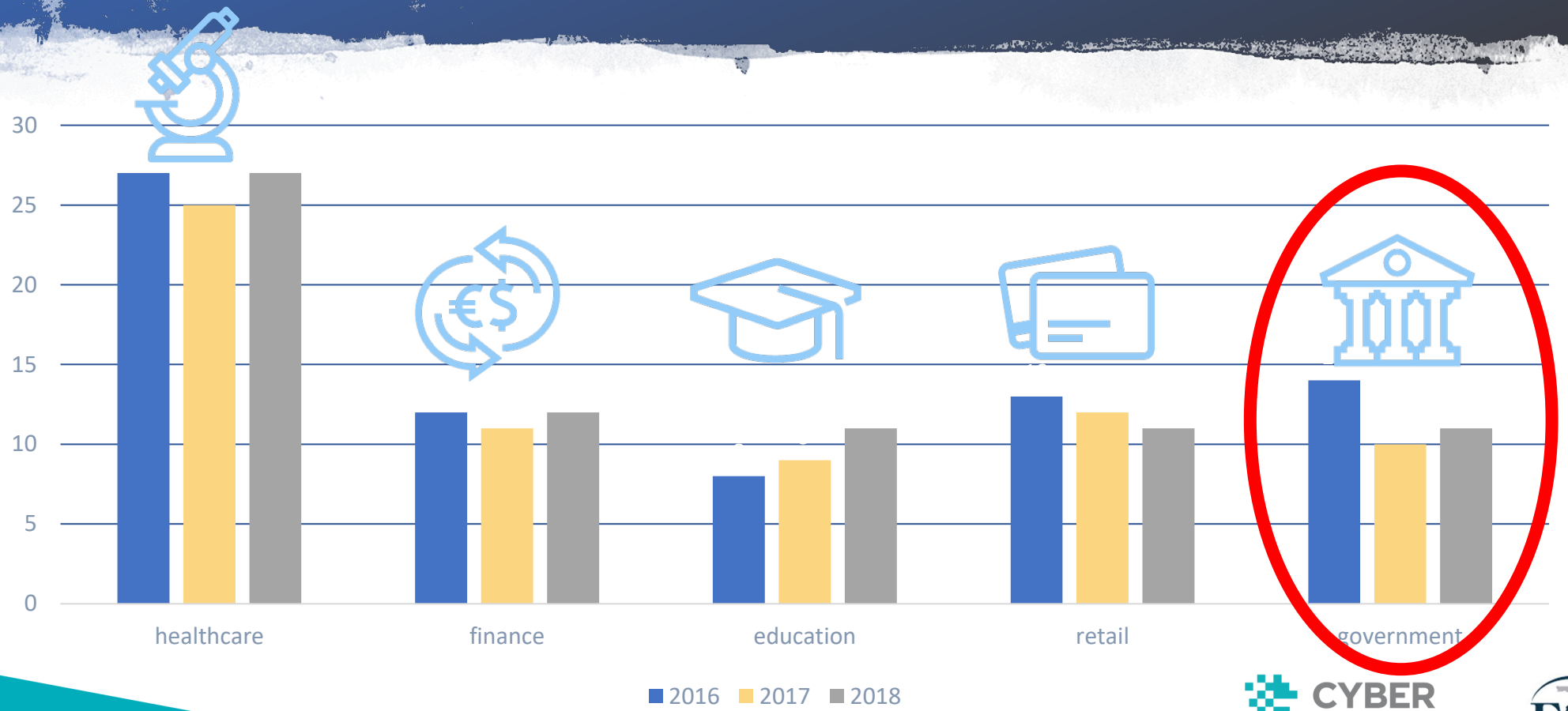
  Keep your **mic muted** unless recognized to speak; keep your **video link open**

- **To Be Recognized to Speak**

  In the “Participants” box, click the Raise Hand icon to the right of your name

- **To Ask Questions, Use Your ‘Chat’ button**

Why Worry About Cybersecurity?



Why Worry About Cybersecurity?

Financial Systems:	**JP Morgan (RUS)**
Fraud/ID Theft	**IRS (UNK)**
Education:	**Dade-County Schools**
Industrial Controls:	**Estonia, ARAMCO, Iran[2]**
All of the above:	**Sony (PRK)**
Local Government:	**Atlanta, Baltimore**

Why Worry About Cybersecurity?

Supply Chain:	**Home Depot (CCs)**
Insider Threat/HR:	**OPM (PRC), NSA (Snowden)**
Intellectual Property:	**Lockheed (PRC), NYC Lawyers**
Physical Security:	**Buckshot Yankee (UNK)**
e-Commerce:	**Bank of America DDOS (IRN)**
Public Policy	**Ft. Lauderdale (Anonymous)**

Why Worry About Cybersecurity?

Pensacola

Collier County

Volusia County

Riviera Beach

FL Division of EM

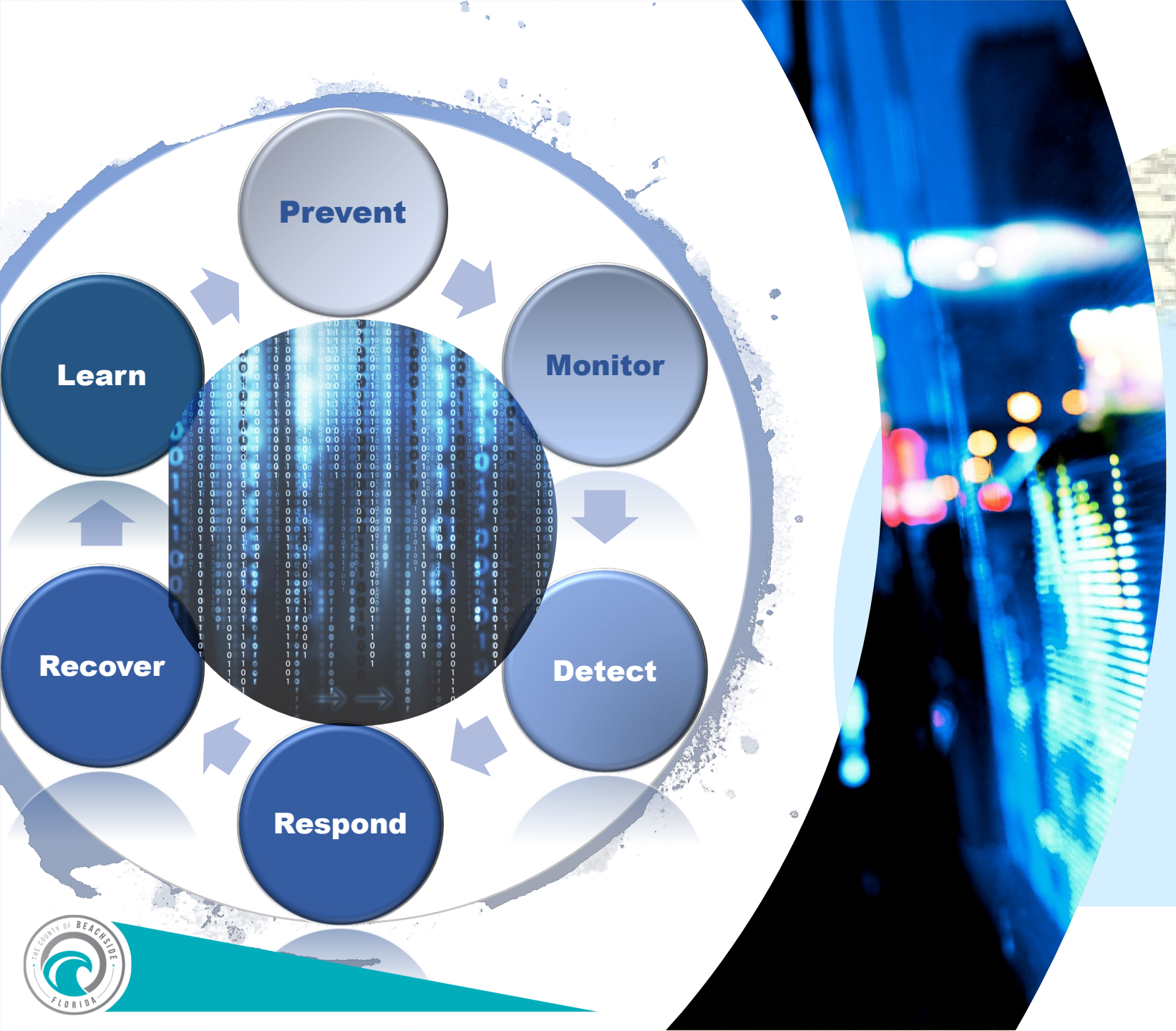
Data Loss

Disruption

Destruction

Disinformation

Deception



Anatomy of a Cyber Attack

- ✓ Prevent
- ✓ Monitor
- ✓ Detect
- ✓ Respond
- ✓ Recover
- ✓ Learn

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Cyber Storm Warnings:
The Set-Up

Our scenarios are based on the 'real-life' experiences of various public/private sector organizations and takes place in two Acts

- ✓ Act 1: Storm Warnings (a week before the Storm)
- ✓ Act 2:Category 5…the Storm Hits (the first 8 hours)
- ✓ Played out on a compressed time scale

Each team member should be assigned a role that may not necessarily equate to your position or experience

- ✓ But don't let your assigned role inhibit your input
- ✓ Pay attention to your equities and motivations
- ✓ Observe how you set priorities, make decisions

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Ground Rules and Assumptions

- Don’t fight the scenarios; they’re real, but…
- No ‘book’ answers, just challenges
- Unpredictable things happen…work with them
- Be ready to make decisions with imperfect info
- Don’t worry about struggling…safe to practice, fail
- Play your role…nothing you say/do is ‘personal’
- Nor is anything for attribution!

Welcome to

Beachside, FL

A Growing Gulf Coast County

Population: 70,000

- Fixed income retirees…Snow Birds and Boomers
- Established African-American community
- Growing number of Latino refugees from Maria

Stagnant but diversifying economy

- Near major state university
- Tourism, tech start-ups, ‘work from home’ professionals

County Commission form of government

- Mayor and five-person Council are part-time
- CM terminated for cause several months ago
- HR Director named as Acting while litigation, search proceed

Meet Beachside's Senior Leadership Team...

HR Director/Acting CA

Chief Administrative Officer

Chief Financial Officer

Director of Info Tech

Director of Public Safety

Public Information Officer

County Administrator/
Deputy CA (Vacant)

Director of Economic Development

Director of Public Works

Act 1 – Storm Warnings: 3:30 PM August 20, 2024

Chapter 1: An Anonymous Insider

An EAP Counselor has identified potential ‘insider threat’

- A County IT employee has contacted EAP contractor confidentially
- Has admitted to severe gambling, indebtedness problems
- Has ‘all access’ pass to County’s PII, systems but no evidence of criminal intent
- EAP Counselor refuses to reveal identity

What (if anything) do you do?

Act 1 – Storm Warnings: 3:30 PM August 20, 2021

15 Minutes to Discuss

Potential Insider Threat

Billing Breach

Ransomware, Part 1

Counselor IDs potential insider threat

- A County IT employee contacts EAP contractor
- Confidentially admits to gambling, indebtedness

  Has ‘all access’ pass to County’s PII, systems
- EAP Counselor refuses to reveal identity

What are your options?

Act 1 – Storm Warnings: 2:25 PM August 22, 2024

Chapter 2: Beachside Billing Breach

County's Billing and Payment System is Compromised

- Beachside contracts with EZ Collect, Inc. to bill, collect fees
- EZ runs proprietary software on its servers, with citizen access via portal
- As far as citizens know, this is Beachside's system…and their PII has been stolen
- And one of the victims also happens to be the Commission Chairman's elderly mother!

What (if anything) do you do?

Act 1 – Storm Warnings: 2:25 PM, August 22, 2024

15 Minutes to Discuss

Potential Insider Threat

Billing Breach

Ransomware, Part 1

Billing/Payment System is Compromised

- Beachside contractor EZ Collect bills, collect fees
- EZ runs on its servers, citizens access via portal
- As far as citizens know, their PII has been stolen
- And one of the victims: The Mayor's elderly mother!

What are your options?

Act 1 – Storm Warnings: 8:57 PM, August 23, 2024

Chapter 3: Ransomware, Part 1

County's outsourced water treatment plant hit by 'ransomware'

- Administrative, SCADA systems have been shut down
- Hacker wants 'just' $50,000 in Bitcoin to restart
- No impact on treatment operation
- Contractor wants County financial, other assistance

What (if anything) do you do?

Act 1 – Storm Warnings: 8:57 PM August 23, 2-24

15 Minutes to Discuss

Potential Insider Threat

Billing Breach

Ransomware, Part 1

Water treatment plant hit by ‘ransomware’

- Administrative, SCADA systems have been shut down
- Hacker wants ‘just’ $50,000 to restart
- No impact on treatment operation
- Contractor wants County financial, other assistance

What are your options?

Storm Warnings: August 2024

Intermission

Fast-Forward to August 29, 2024

Act 2 – The Storm Hits: 6:30 PM August 29, 2024

Chapter 4: Dark Web Fire Sale

Citizen PII is up ‘For Sale’ on the Dark Web

- County’s internal systems have been breached by malware
- Hacker has stolen citizen bank accounts, credit cards, SSN’s, passwords, etc.
- Sample posted on Dark Web verifies theft…for sale to the highest bidder
- Breach traced to ‘click’ on seemingly innocuous electronic Public Records request

What (if anything) do you do?

Act 2 – The Storm Hits: 6:30 PM, August 29, 2024

15 Minutes to Discuss

Dark Web Fire Sale

Email Infection

Public Records Penetration

PII 'For Sale' on the Dark Web

- County's internal systems breached by malware
- Bank accounts, credit cards, SSN's, passwords stolen
- Sample verifies theft…for sale to the highest bidder
- Breach traced to 'click' on Public Records request

What are your options?

Act 2 – The Storm Hits: 4:48 PM August 30, 2024

Chapter 5: They're in Our Email!

Employees Report Interrupted/Corrupted Emails

- Using County-issued (and regulated) 'smart phones'
- Plus spear-phishing attacks that appear to come from Help Desk
- External, 'transactional' Web sites are also blocked as a result of DDOS attack
- Irate citizens are threatening consequences 'at the ballot box'

What (if anything) do you do?

Act 2 – The Storm Hits: 4:48 PM August 30, 2024

15 Minutes to Discuss

Dark Web Fire Sale

Email Infection

Ransomware, Part 2

Employees Report Corrupted Emails

- Using County-issued devices
- Plus spear-phishing attacks ‘from’ Help Desk
- External also blocked by DDOS attack
- Irate citizens: Consequences ‘at the ballot box’

What are your options?

Act 2 – The Storm Hits: 9:00 AM September 2, 2024

Chapter 6: Ransomware, Part 2

Hackers Claim to Possess Highly Sensitive/Confidential Info

- Embarrassing ‘personal’ emails from government servers
- Confidential home addresses of County’s law enforcement officers and dependents
- And control of the County’s Emergency Operations Center
- All held for ransom for $1.0M in Bitcoin

What (if anything) do you do?

Act 2 – The Storm Hits: 9:00 AM, September 2, 2024

15 Minutes to Discuss

SCADA Attack

↓

Dark Web Fire Sale

↓

Ransomware, Part 2

Hackers have Confidential Info

- Embarrassing ‘personal’ emails
- Home addresses of County’s LEOs, dependents
- Control of the County’s EOC
- All held for ransom for $1.0M in Bitcoin

What are your options?

Epilogue:
8:38 AM, September 6, 2024

Back to the Future

If We Went Back, What Would We Do?

- Defense ‘Skunk Works’ has proposition
- Send team back in time (pre-attack)
- Have a chance to start over
- And for some, ‘get out of jail’

…What Have We Learned?

Creating a Cyber-Secure Culture…Why?

80%+ cyberattacks are self-inflicted

- Witting: Disgruntled employees, off-duty misconduct
- Unwitting: Data spills, spear-phishing, poor cyber ‘hygiene’

And your ‘Attack Surface’ is vast…

- Citizens, customers, PIGs and Public Record requests
- Employees, contractors, vendors
- Mobile devices, laptops, Web sites, emails/attachments, etc.

It’s all about the ‘Wetware’

Creating a Cyber-Secure Culture…What?

- ✓What's valued, important, second nature
- ✓Who and what gets attention
- ✓Spoken and unspoken understandings
- ✓What we talk about and how
- ✓The rules we observe, and don't
- ✓What gets rewarded, sanctioned

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Creating a Cyber-Secure Culture…How?

What you and your senior leadership team can do

- ✓Training and education + practice, practice, practice
- ✓Reward policies, practices…and informal recognition
- ✓Peer champions, self-report amnesty, etc.
- ✓Performance measures (what gets measured gets done)
- ✓Staff meetings, communications, consequences
- ✓Gamification, ‘reverse’ social engineering