Cyber Security: Best Practices

July 8, 2019

Texas Department of Information Resources

Angelo State University

Cyber Security: Best Practices

Panelists:

Texas Department of Information Resources

- John Hoffman – Chief Technology Officer
- Andy Bennett – Deputy Chief Information Security Officer

Angelo State University

- Doug Fox – Chief Information Officer
- Jason Brake – Information Security Officer
- Brian Braden – Executive Director and CTO

Cyber Security: Best Practices

ars TECHNICA

THE BUTCHER'S BILL —

Baltimore's bill for ransomware: Over $18 million, so far

Mayor says Baltimore is "open for business," but city has lost millions from slowed payments.

SEAN GALLAGHER - 6/5/2019, 11:25 AM

Richard F. Smith former Chairman and Chief Executive Officer, Equifax, gives testimony before the United State Senate Committee on Banking, Housing, and Urban Affairs as they conduct a hearing entitled 'An Examination of the Equifax Cybersecurity Breach on Oct. 4, 2017.

Rex/Shutterstock via AP

CCN

Florida City Officials Approve $600,000 Ransomware Payment of 65 Bitcoins

by Mark Emem — 24/06/2019 in Bitcoin Crime, Cryptocurrency News, News

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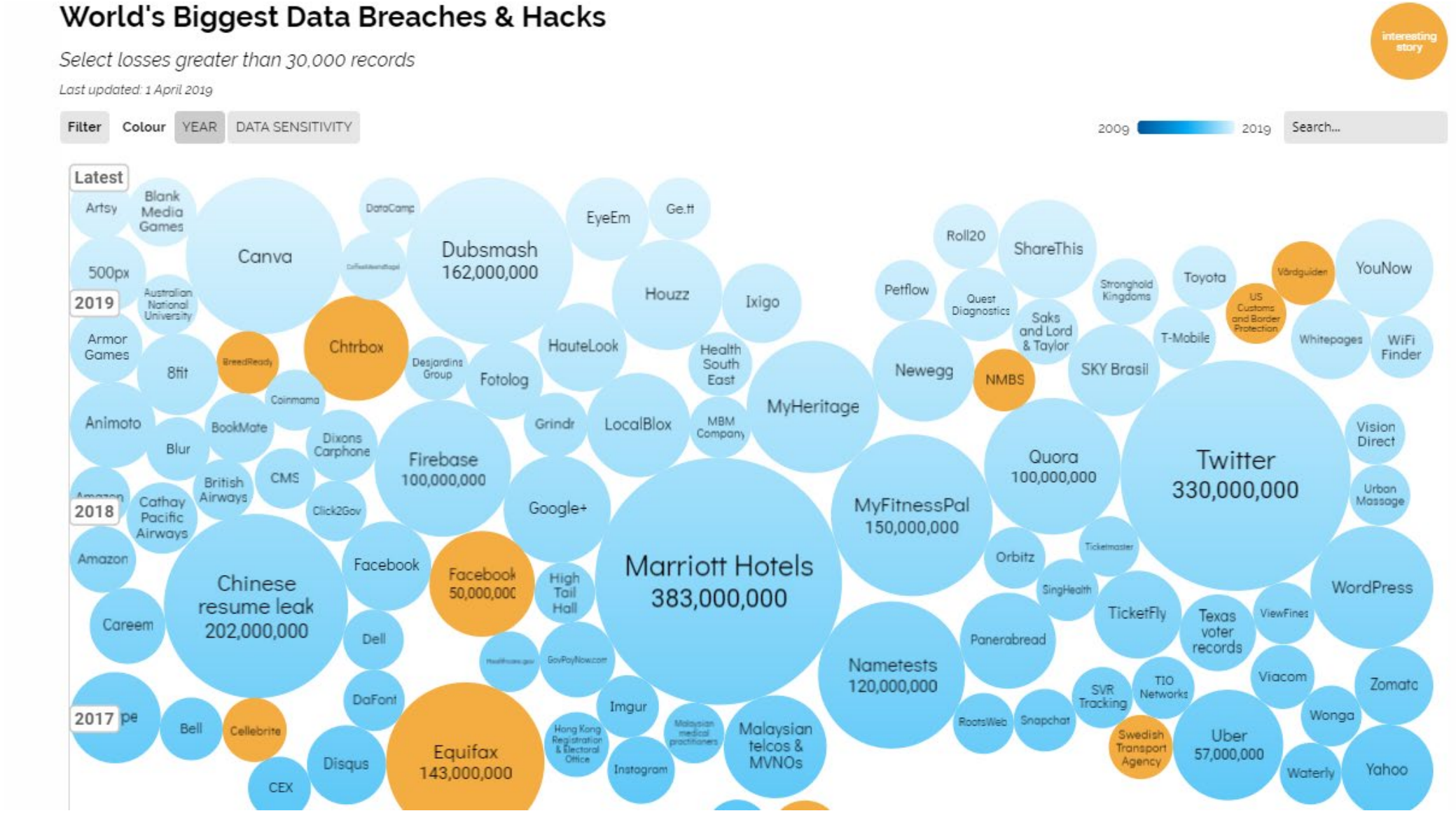
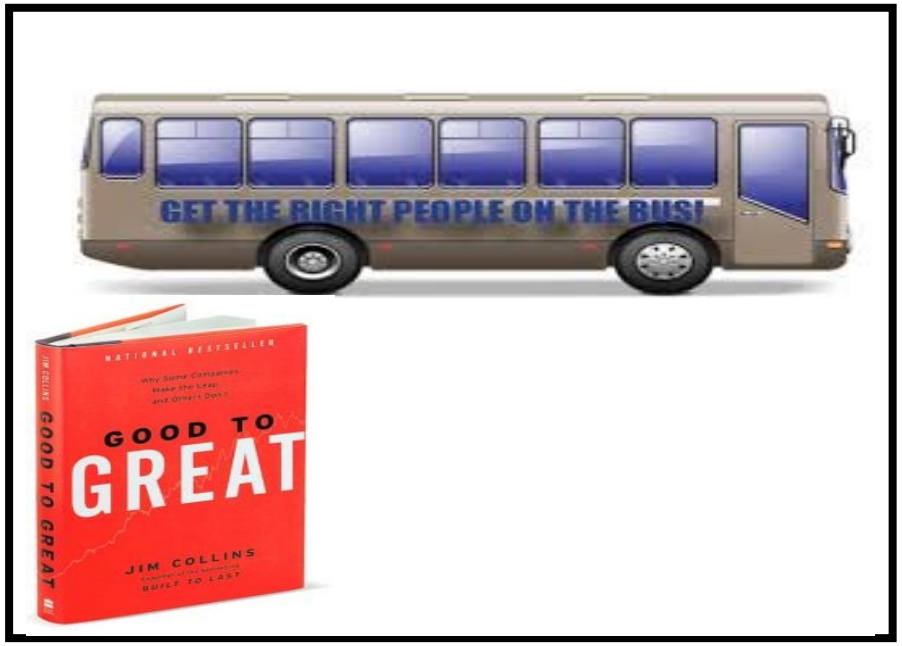


Cyber Security: Best Practices

Factors For Success:

- Make Security A Priority
- Get the Right People In the Right Roles



- Understand/Manage Risks In Your Environment
- Balance Security with “Business” Priorities
- Allocate Funds and Align People Resources

Cyber Security: Best Practices

1.76 billion records were leaked in January 2019 alone

Phishing emails are responsible for about 91% of cyber attacks

76% of cyber attacks are financially motivated

The global cost of cybercrime is expected to exceed $2 trillion in 2019

Ransomware is expected to cost businesses and organizations $11.5 billion in 2019

The global average cost of a data breach is $3.6 million —it keeps increasing every year

Cyber Security: Best Practices

Average Cost Per Record $148

Average Time To Identify A Breach 196 Days

Average Time to Contain A Breach 69 Days

The global average cost of a data breach is $3.6 million —it keeps increasing every year

Cyber Security: Best Practices

Agenda

- Let's Begin With A Few Stories…
- Terms, Threats, And Impact
- What Can An Institution Do?
- How Can The State of Texas Help?
- Questions

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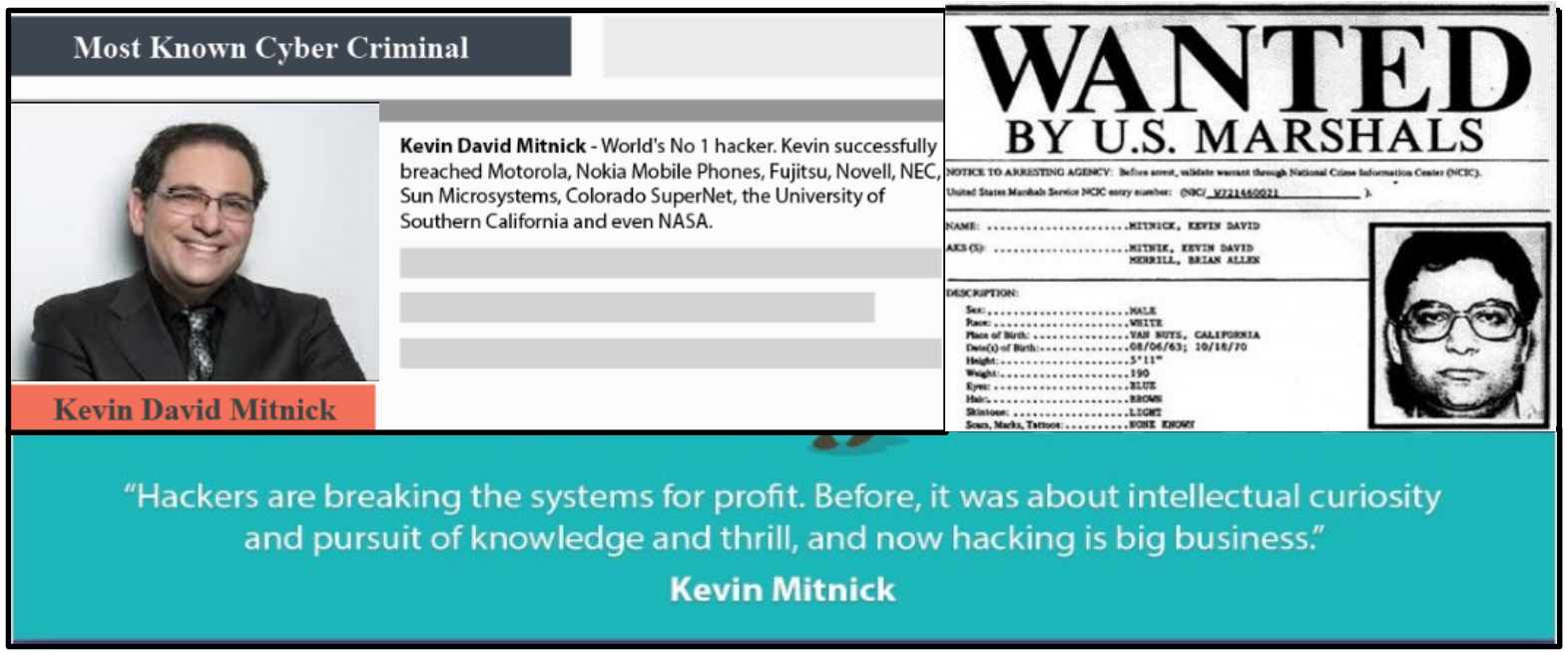

Source - https://www.everycloud.com/

He now owns a business focused on cybersecurity training.

KnowBe4


KnowBe4
Human error. Conquered.

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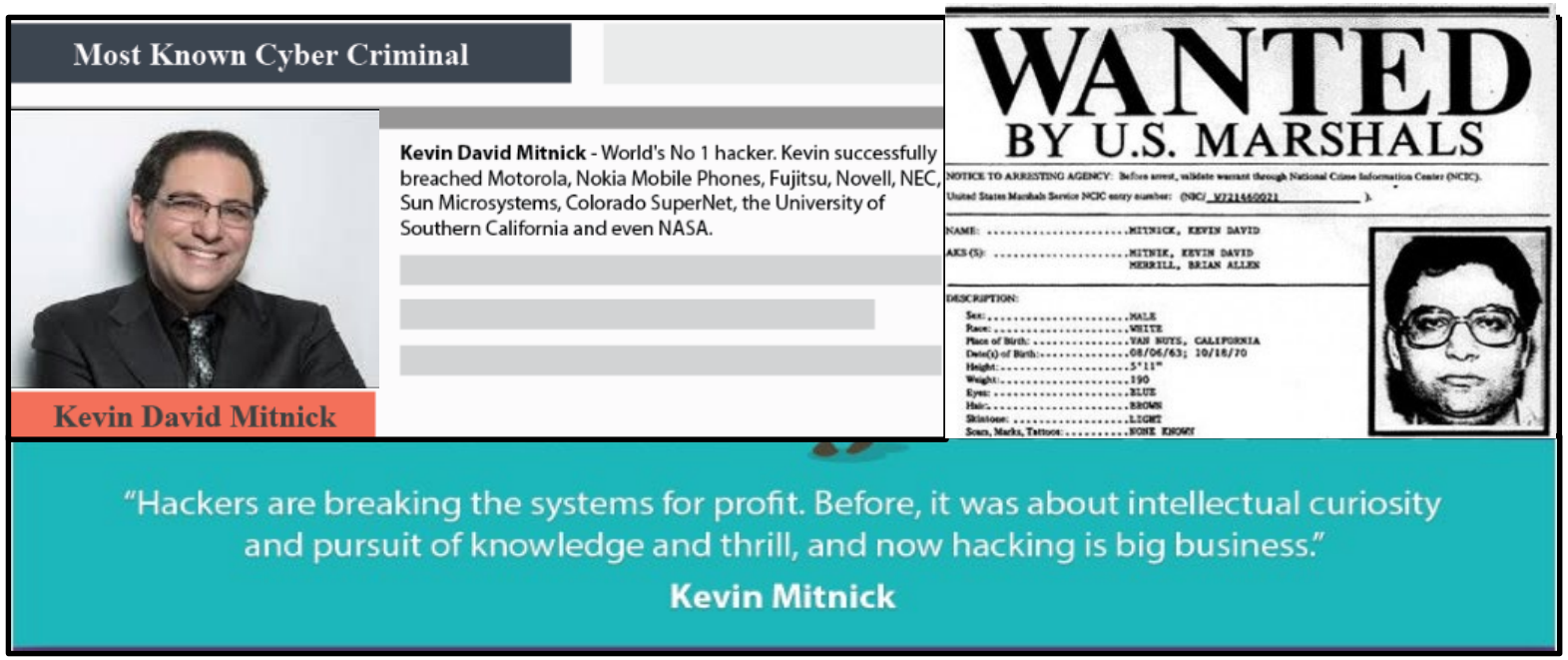

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KnowBe4

Let's Begin With A Few Stories…

- Direct Deposit Fraud
- Toll Fraud

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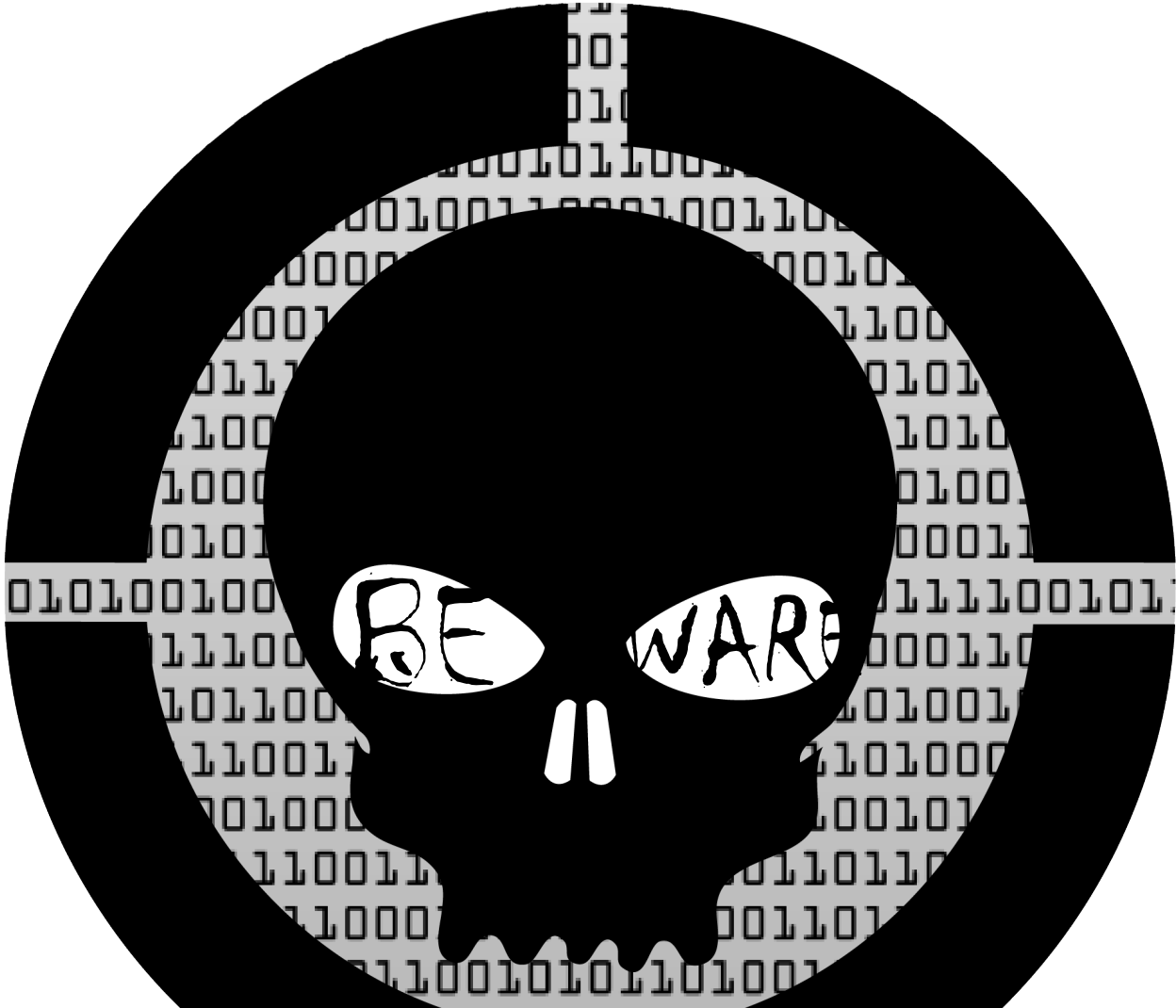
Cybersecurity Terminology

- Malware
  - Ransomware
  - Virus
  - Worm
  - Trojan Horse
  - Spyware
- **Social Engineering**
  - **Phishing**
    - **Spear Phishing**
    - **Whaling**
    - **Vishing**



Phishing

- Main vector for malware injection into a network
- Types of phishing
  - Spear Phishing
  - Whaling
  - Vishing
- Common Items to Look for to Determine Legitimacy
  - Grammar/Spelling
  - Links
  - Urgent Action Needed; Threatening Tone

Social Engineering

What is Social Engineering?

“Any act that influences a person to take an action that may or may not be in their best interest.”

“Social Engineering (SE) is a blend of science, psychology and art. While it is amazing and complex, it is also very simple.”

Data… Its always Data

- Yes, they are listening to you
  - Maybe not the way you think

It’s not exactly recording and not exactly not recording…

Ever see an add that was suspiciously accurate for what you are looking for, even though you have only ever talked to your partner about that thing?

https://www.vice.com/en_uk/article/wjbzzy/your-phone-is-listening-and-its-not-paranoia

What depends on what app

- Even our TVs can listen in today
  - Samsung Terms of Service warn against private conversations in front of your TV!
    - https://www.dailymail.co.uk/sciencetech/article-2945766/Is-TV-eavesdropping-PRIVATE-conversations-Samsung-warns-users-smart-sets-capture-word.html
- Your Phones Listen
  - SIRI
  - OK Google
  - Samsung Talk
  - Etc.
  - http://www.alphr.com/mobile-phones/1009513/phone-listening-apps-paranoid

Hold on iPhone folks… not so fast

- Earlier this month, one of the biggest hacks of all time was discovered.
  - We are talking Hollywood Spy Movie level big

Factories in China built in tiny hardware backdoors and compromised 30+ major US Companies that reach the majority of US consumers and all levels of government.

https://www.bloomberg.com/news/features/2018-10-04/the-big-hack-how-china-used-a-tiny-chip-to-infiltrate-america-s-top-companies

What Can An Institution Do?

- Think of Security in Layers

Deadbolt Lock

Fence

Dog

Security Cameras

Locked Windows

Barrier Sensors

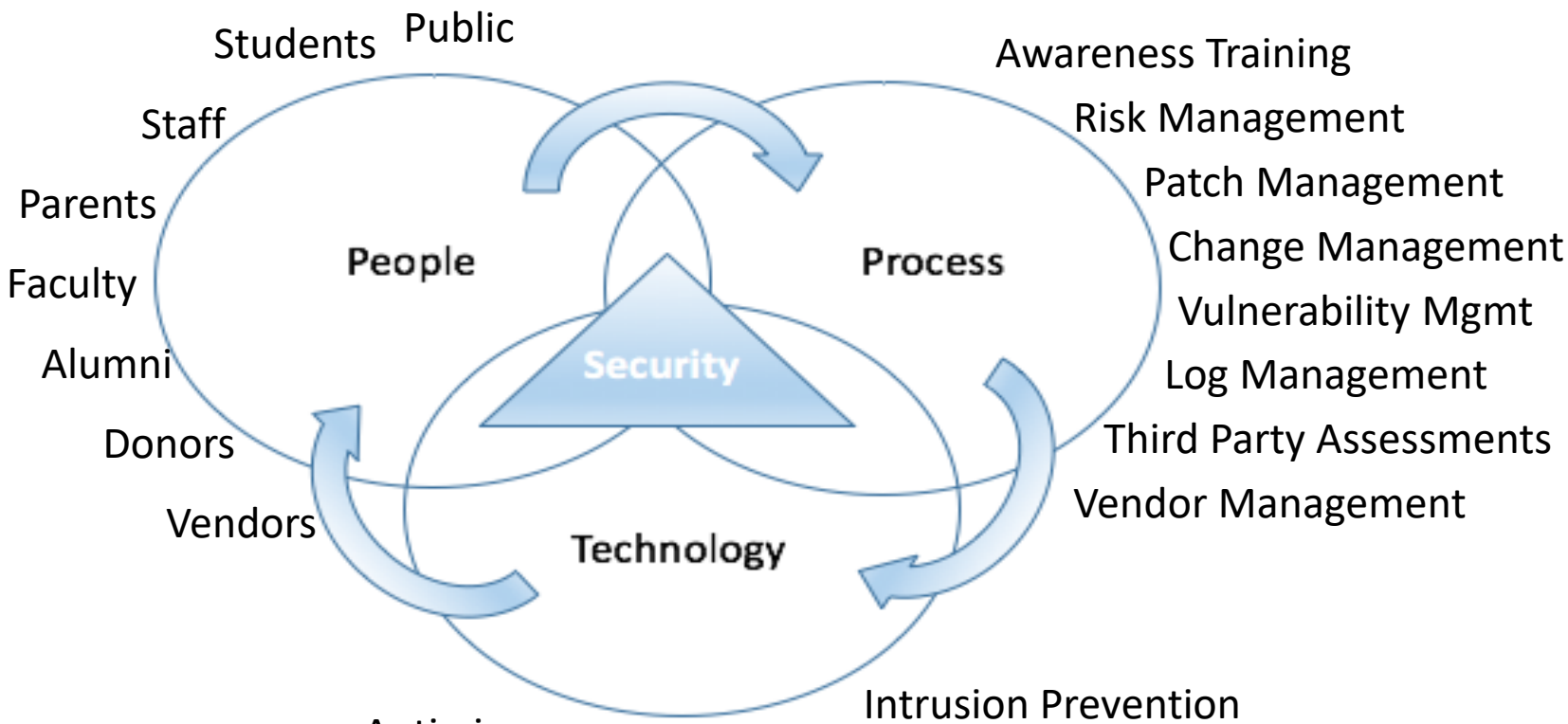
Motion Sensors

Neighborhood Watch

Armed Guards

What Can An Institution Do?

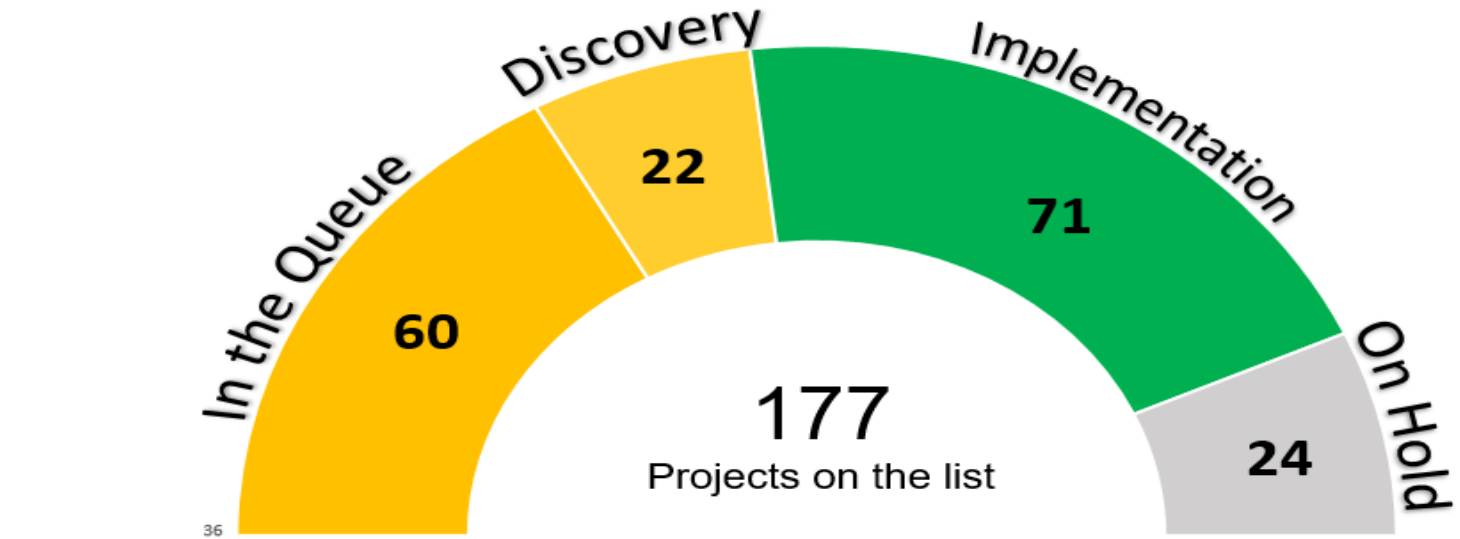
Think of Security in Layers

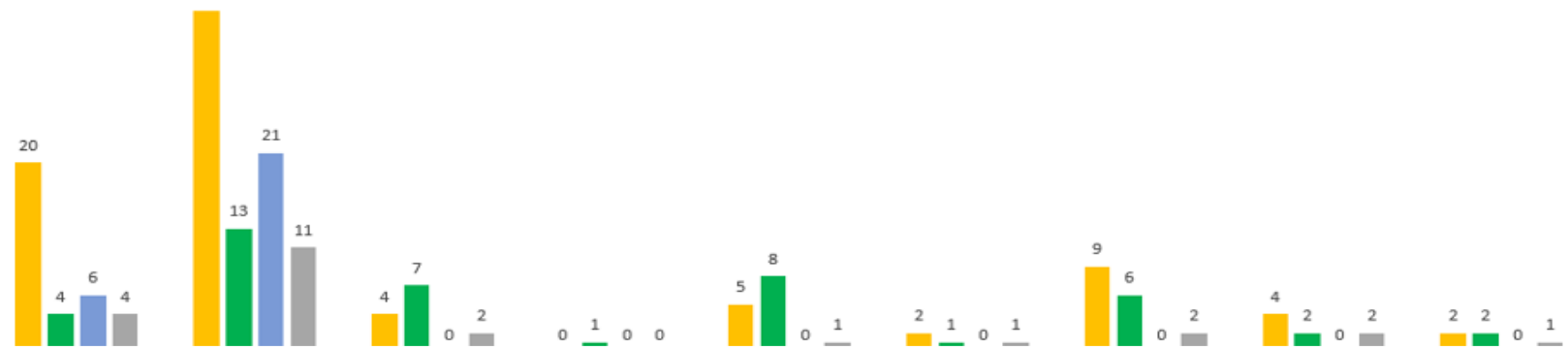



CNN Money
HACKER?

What Can An Institution Do?

ASU Technology Projects

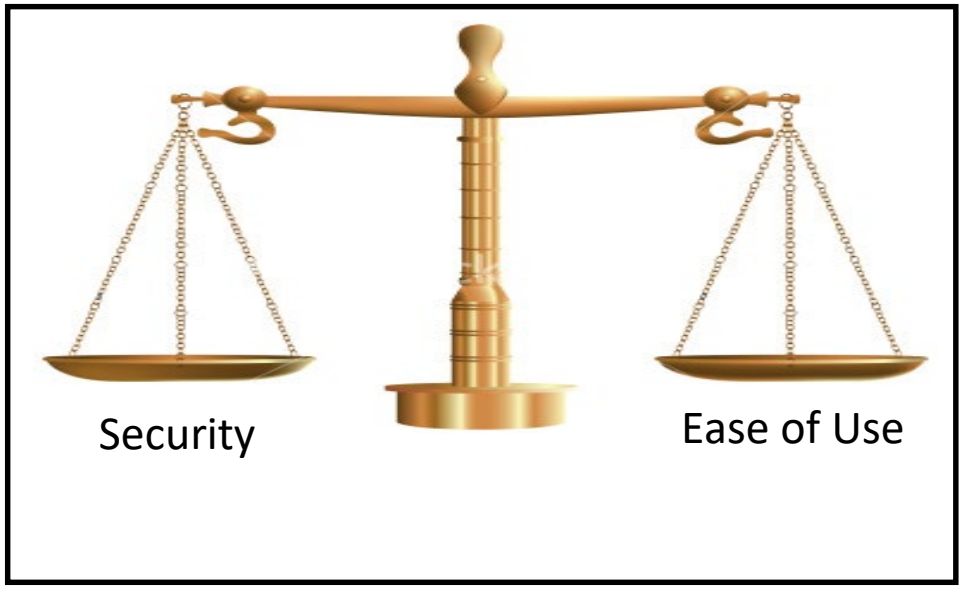


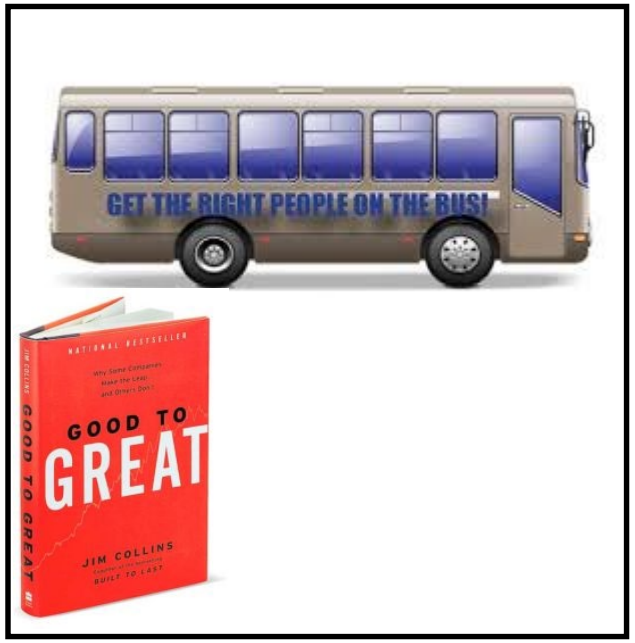


What Can An Institution Do?

Factors For Success:

- Make Security A Priority
- Get the Right People In the Right Roles
- Find the Right Balance For Your Institution:





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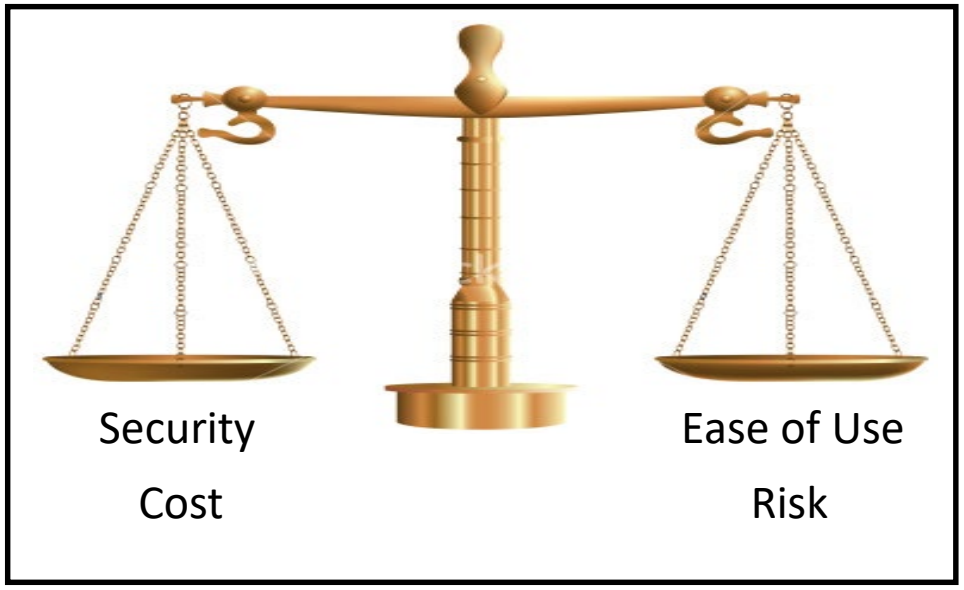

- Adopt Processes That Strengthen Your Security Posture
- Planning is Essential - Learn From Others – Both Successes and Mistakes
- Leverage Your Partners (i.e. peers, higher education organizations, DIR, vendor partners, etc…)

What Can An Institution Do?

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2019 Top 10 IT Issues Recommended Resources

1. Information Security Strategy
2. Student Success
3. Privacy
4. Student-Centered Institution
5. Digital Integrations
6. Data-Enabled Institution
7. Sustainable Funding
8. Data Management and Governance
9. Integrative CIO
10. Higher Education Affordability

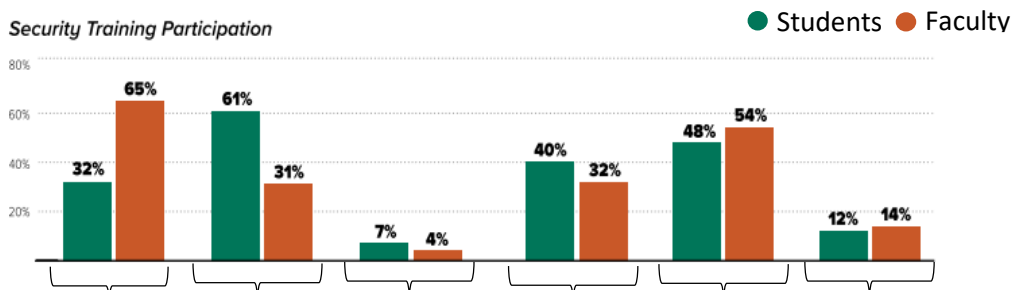
The Numbers Behind the Issues

What higher education stakeholders say about the 2019 Top 10 IT Issues

1 Information Security Strategy

What It Means Developing a risk-based security strategy that effectively detects, responds to, and prevents security threats and challenges

Security Training Participation



Have Participated in Information Security Training this Past Year

Have Not

Don't Know

Found Such Training Very/Extremely Useful

Found It Moderately Useful

Found It Not At All/Not Very Useful

https://www.educause.edu/

How Can The State of Texas Help?

Department of Information Resources (DIR) Overview

Mission

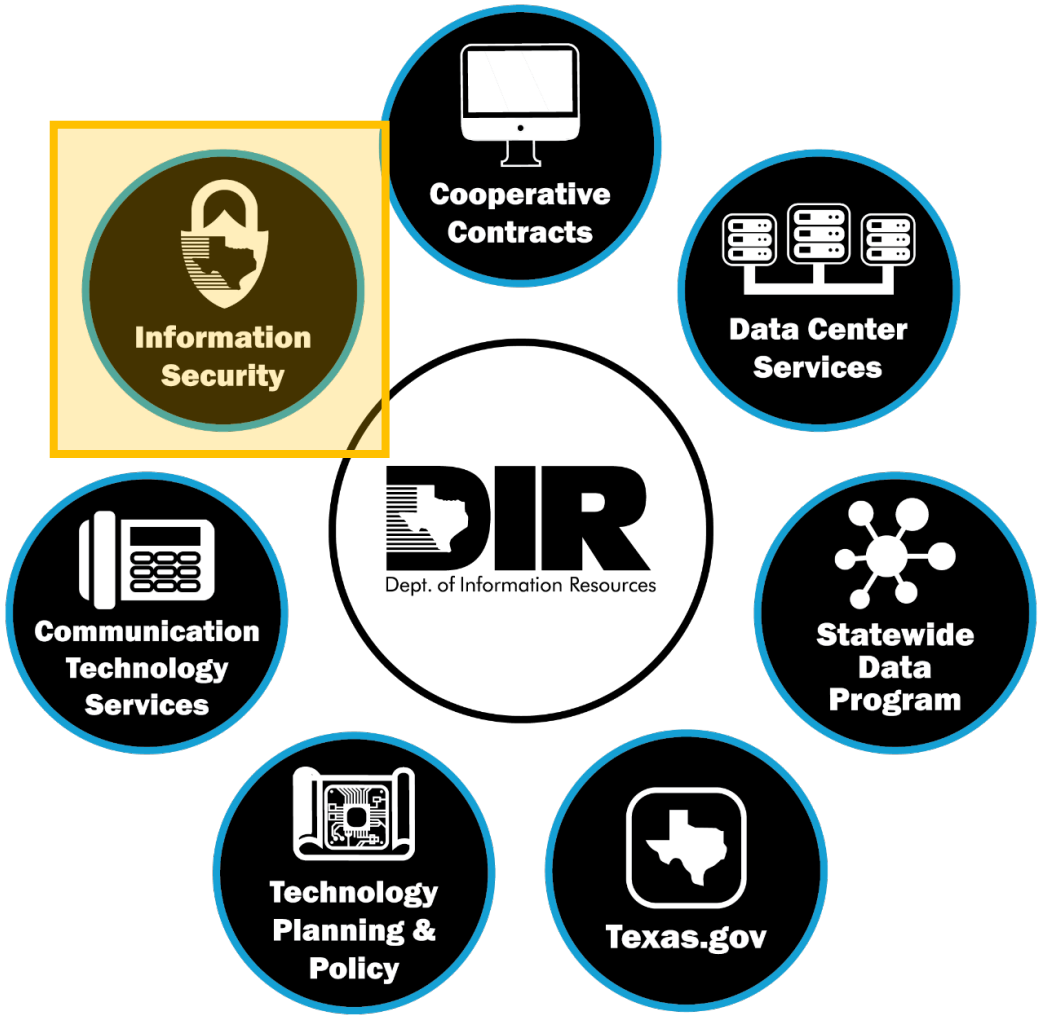
- The Texas Department of Information Resources (DIR) provides technology **leadership**, **solutions**, and **value** to Texas state government, education, and local government entities to enable and facilitate the fulfillment of their core missions.

Philosophy

- The services DIR provides to Texas state government, education, and local government entities will focus on excellence through quality of service, responsiveness, innovation, professionalism, and teamwork. We will operate in an open, ethical, efficient, and accountable manner, with high regard for all customers.

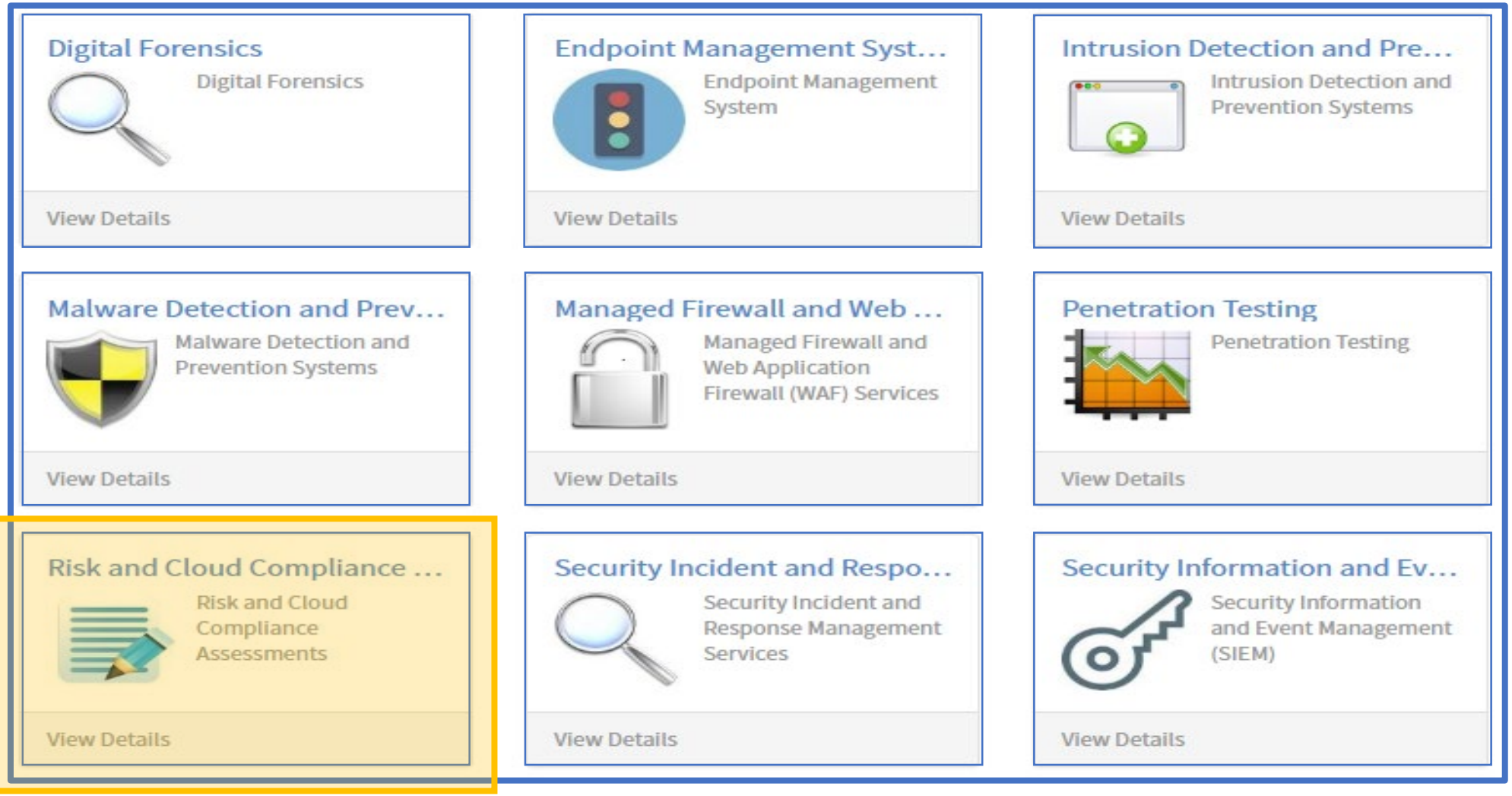
How Can The State of Texas Help?

Overview of Services



How Can The State of Texas Help?

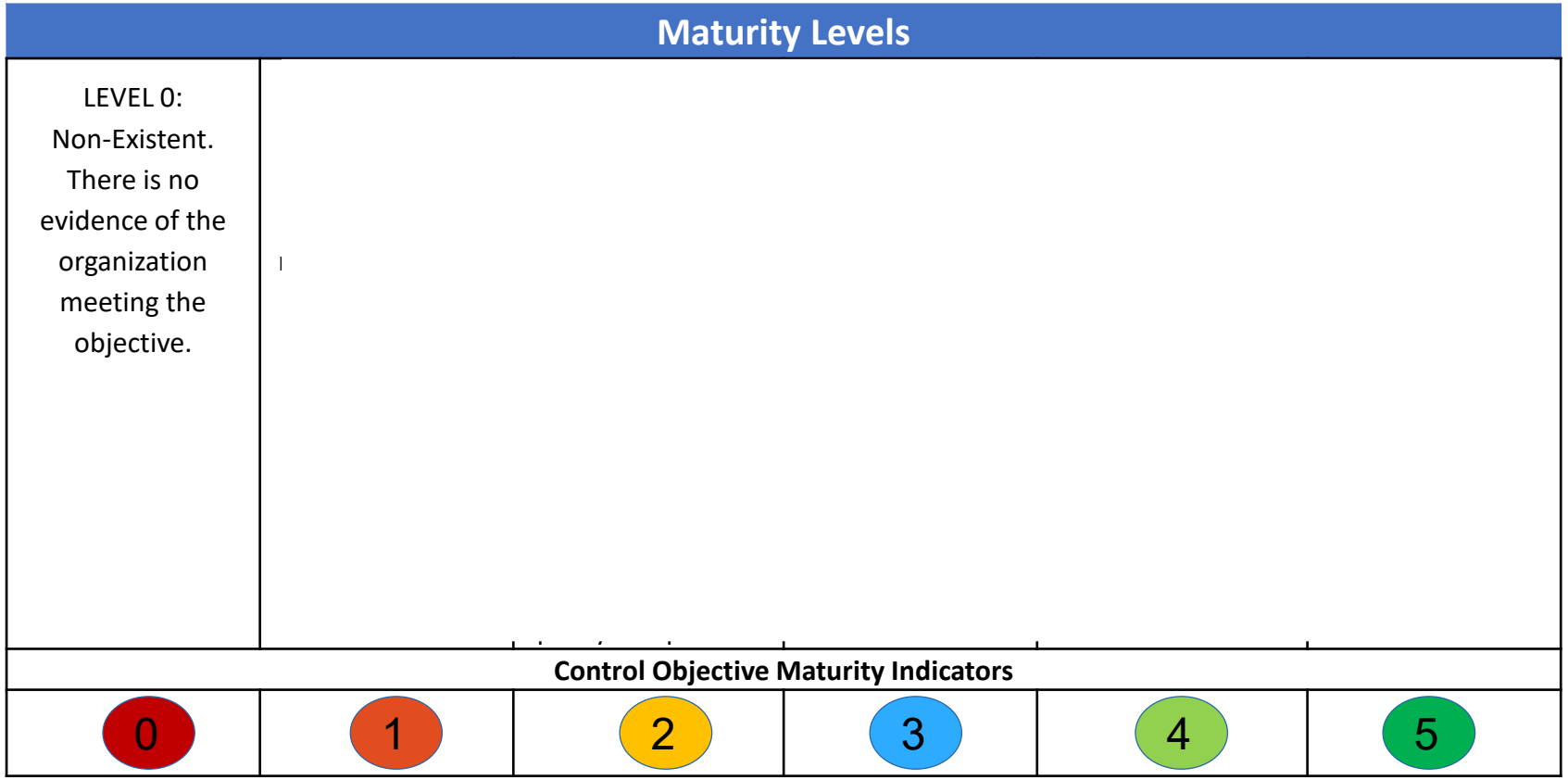
These DIR Services are referred to as Managed Security Services (MSS)



How Can The State of Texas Help?

Overview of the Security Assessment

- Focuses on assessing the maturity of 40 security related processes.
  - Examples include:
    - Security Awareness and Training
    - Cloud Usage and Security
    - Personnel Security
    - Spam Filtering



How Can The State of Texas Help?

Overview of the Security Assessment

- Focuses on assessing the maturity of 40 security related processes.
  - Examples include:
    - Security Awareness and Training
    - Cloud Usage and Security
    - Personnel Security
    - Spam Filtering
- Typical Timeline and Costs for an Assessment

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In Summary

- Be Prepared – Have a Plan
- Make Security A Priority
- Get the Right People In the Right Roles
- Adopt Processes That Strengthen Your Security Posture
- Find the Right Balance For Your Institution
- Leverage Your Partners
- Foster a Mindset of Continuous Improvement

Cyber Security: Best Practices

For More Information:

Texas Department of Information Resources

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- Andy Bennett – Deputy Chief Information Security Officer – Andy.Bennett@dir.texas.gov
- General e-mail – security@dir.texas.gov
- DIR Website: https://dir.texas.gov
- Website on Managed Security Services

Angelo State University

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- Brian Braden – Executive Director and CTO – Brian.Braden@angelo.edu

Questions