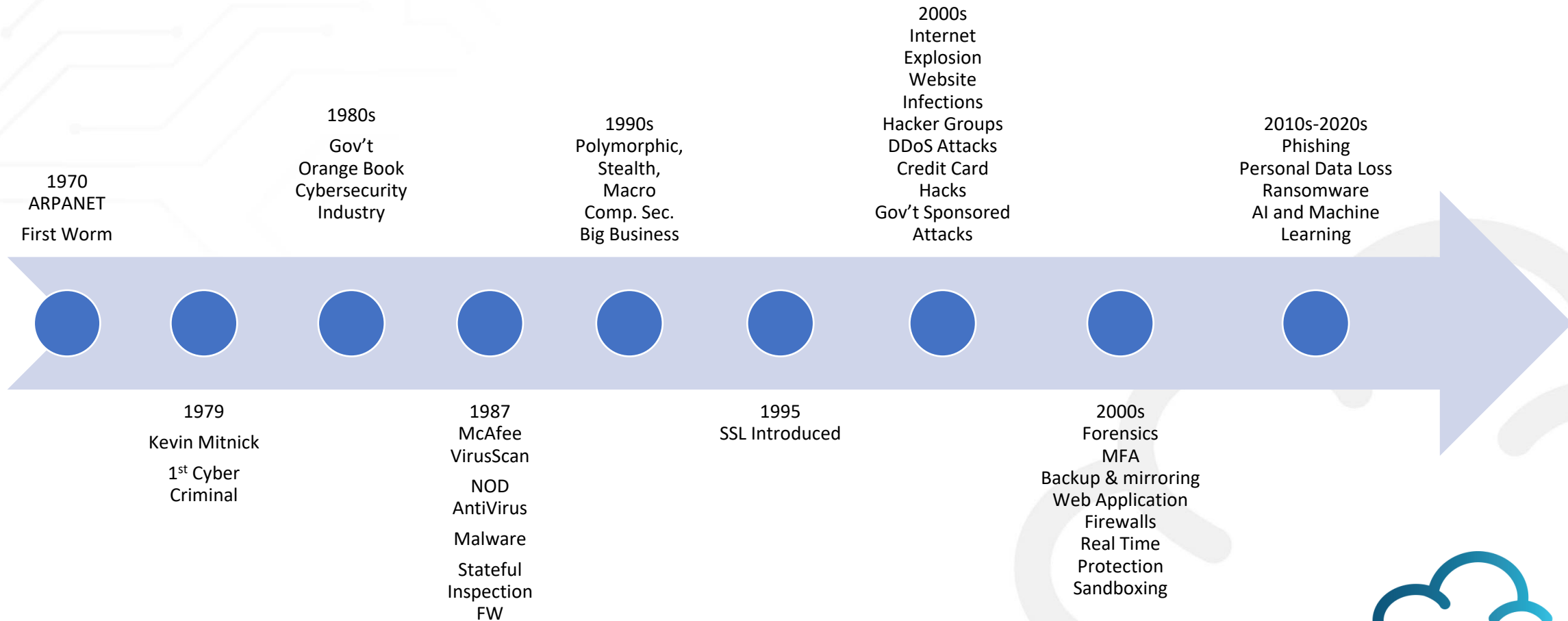




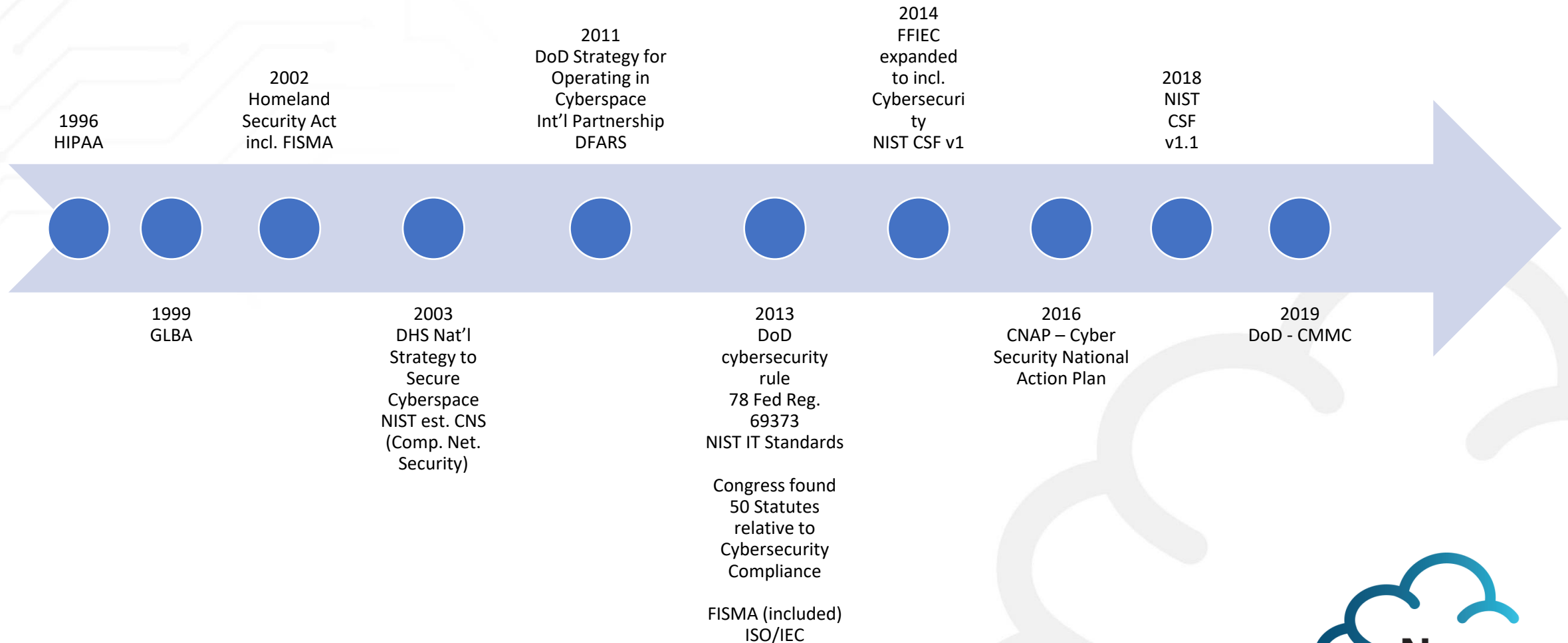
Cyber Future

Overview & Expected Future Trends

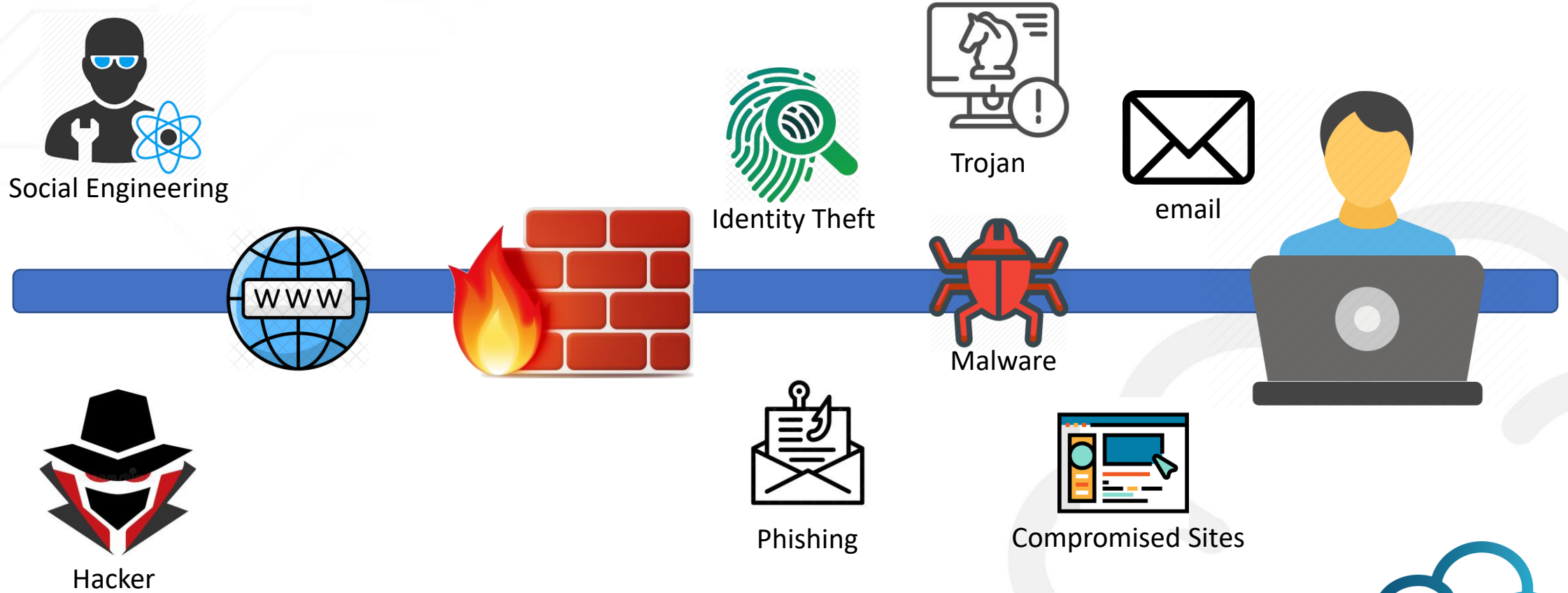
The History of Cybersecurity



The History of Security Regulation



Threat Landscape



Current State of Cybersecurity

Four Key Paths

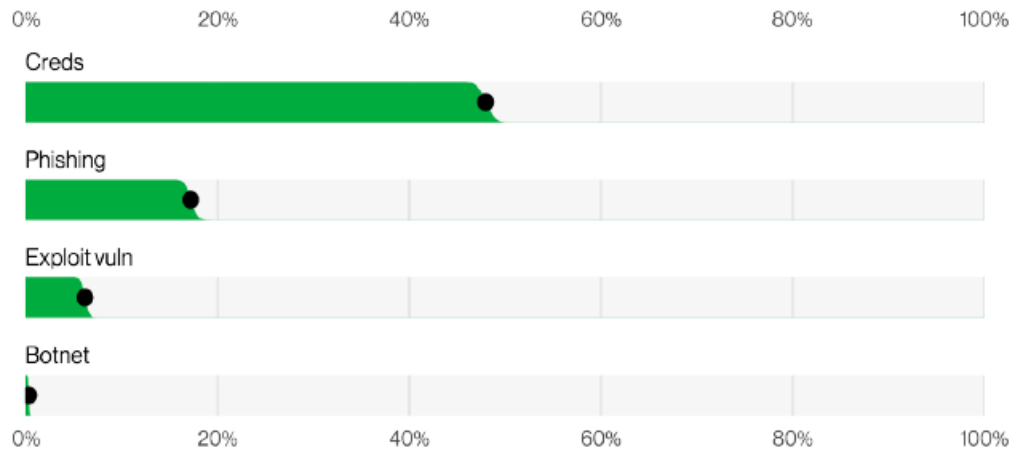


Figure 5. Select enumerations in non-Error, non-Misuse breaches (n=4,250)

Ransomware uptrend (13% = last 5 years)

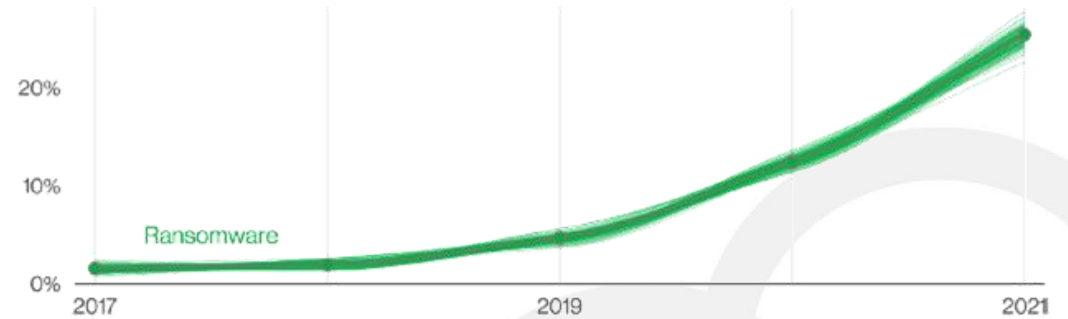


Figure 6. Ransomware over time in breaches

- “...many organizations continue to struggle with keeping an eye on their people and their systems.”
- 82% of breaches involved the human element

Economics of Cybersecurity

- Cybersecurity now a “Sector”
 - Business, Technology, Jobs, Services
- Increase cost to business to do business
- Organized Crime – Cyber-Cartels
- PII – Personal Identifiable Information
 - We all have a responsibility!

Cybersecurity is not an IT issue;

Cybersecurity is a Business Risk Issue!!

Toledo (OH) Public Schools (Sep.'20)

- Maze Ransomware Cartel
- ? Extortion Demands
- 9GB of PII records
 - (2008-2017 data)
- Less than 6 months:
 - Identity Theft
 - Credit Fraud
- Dissent Doe (September 14, 2020). "Maze attacking some of the country's largest school districts." Available online at: <https://www.databreaches.net/maze-cartel-attacking-some-of-the-countrys-largest-school-districts/>
- 7 Dissent Doe (October 15, 2020). "Privacy nightmare for Toledo Public Schools: Hackers dumped student and employee data." Available online at: <https://www.databreaches.net/privacy-nightmare-for-toledo-public-schools-hackers-dumped-student-and-employee-data/>
- 8 Shaun Hegarty (February 22, 2021). "Toledo Public School students seeing effects of massive data breach." Toledo, OH: WTVG. Available online at: <https://www.13abc.com/2021/02/22/toledo-public-school-students-seeing-effects-of-massive-data-breach/>

Toledo (OH) Public Schools (Sep.'20)

"[One parent]... learned his son's information is in the hands of people it shouldn't be. Here are some of the messages he's received about his elementary schooler:

- The first one was for denial for a credit card.
- *Another one happened when the child was denied for a car loan because it said the reason was because of his income ratio.*
- One of the last ones was to have fixed electric rates.
- *The family got a flier talking about the student's Toledo Edison account and the gift card he could get by switching suppliers.*

'They've got our children's information and they're trying to use it,' said [the parent]."

Where I see Cybersecurity next

- More Government Regulation / “Recommendations”
- Technology measures are getting better with AI/ML
 - e.g. Endpoint Detection and Response
- Business & Cyber Insurance Policies will raise the awareness & expand the requirements.
 - Because they are needed to reduce risk.
- Cybersecurity will infiltrate every aspect of our lives & businesses.
 - All aspects of business process will be thinking security
 - IoT security risks will test our homes and businesses
- Cybersecurity labor crunch will explode exponentially
- The economic impact....

What can I do?

Jim's Big Five / Six

1. Cyber-Education – Regular & Consistent w/ Phishing
2. Multi-Factor Authentication
3. Structure Backup & Data Recovery Strategy
4. Endpoint Detection & Response
5. Regular Patch Management
6. *Network Security (VPN Encryption / Next-Gen Firewall)*

Then.....take action on a Cybersecurity Standard (e.g. *NIST CSF*)

NIST Cybersecurity Framework

A Roadmap for All



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