It's About the People

A Culture of Cybersecurity

Employees are the hidden key to cyber resilience

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- Max Cybersecurity LLC

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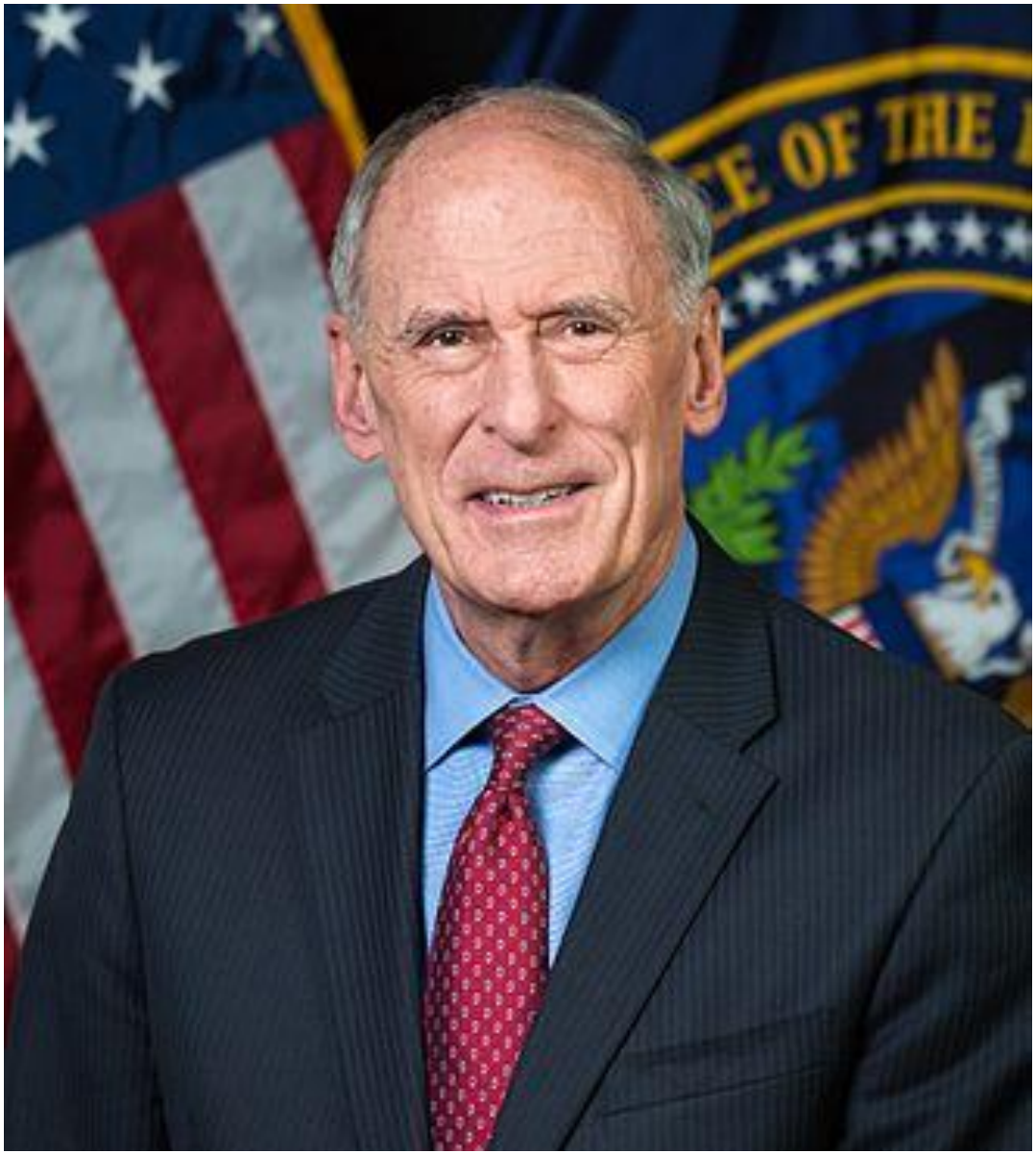
Clear and Present Danger

- Cyber attacks and security breaches are **increasing** in frequency and sophistication, with discovery after the fact, **if at all.**
- Targeting of organizations and individuals with malware and anonymization techniques that can **evade current controls.**
- Current perimeter-intrusion detection, signature-based malware, and anti-virus solutions are providing **little defense** and are rapidly becoming obsolete—Use encryption technology to avoid detection.
- Criminals are **leveraging innovation** and moving at a pace and security vendors cannot possibly match.

National Security Issue

Growing Concerns for Control Systems

"The system was blinking red. Here we are nearly two decades later and I'm here to say the warning lights are blinking red again"



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Partnership Issue

"Between government and the private sector, we have the data needed to disrupt, prevent and mitigate cyberattacks. But we aren't sharing fast enough or collaborating deeply enough to keep cyberattacks from spreading or to prevent them in the first place."

Concerns for Control Systems

Former NSA Director, Michael Rogers

Testimony to House Select Intelligence Committee –

"There shouldn't be any doubt in our minds that there are nation-states and groups out there that have the capability to enter industrial control systems and to shut down [and] forestall our ability to operate our basic infrastructure."

"All of that leads me to believe it is only a matter of the 'when,' not the 'if' that we are going to see something dramatic."

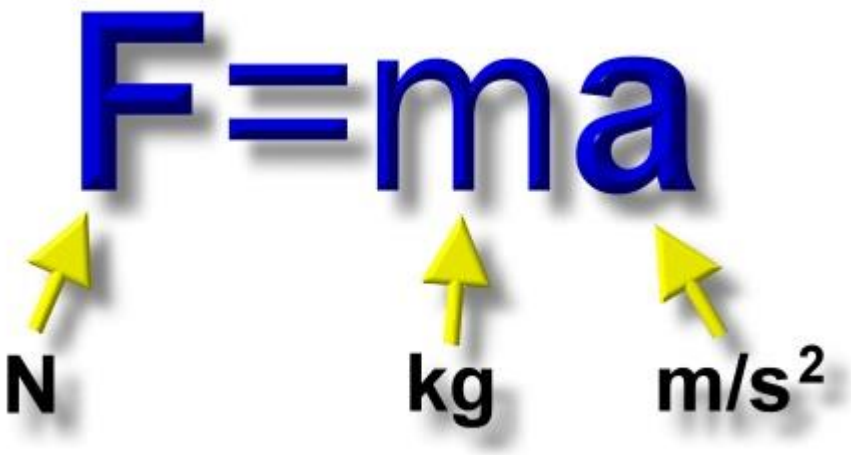
Democracy is under threat!

- Elections
- Evidence - Chain of custody
- Deep Fake Videos
- Politics

Things are so bad the Government's energy is centered on protecting itself and critical infrastructure.

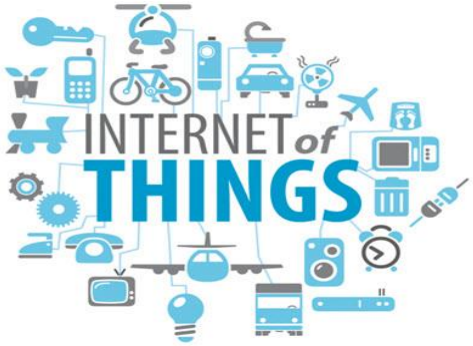
FORCE

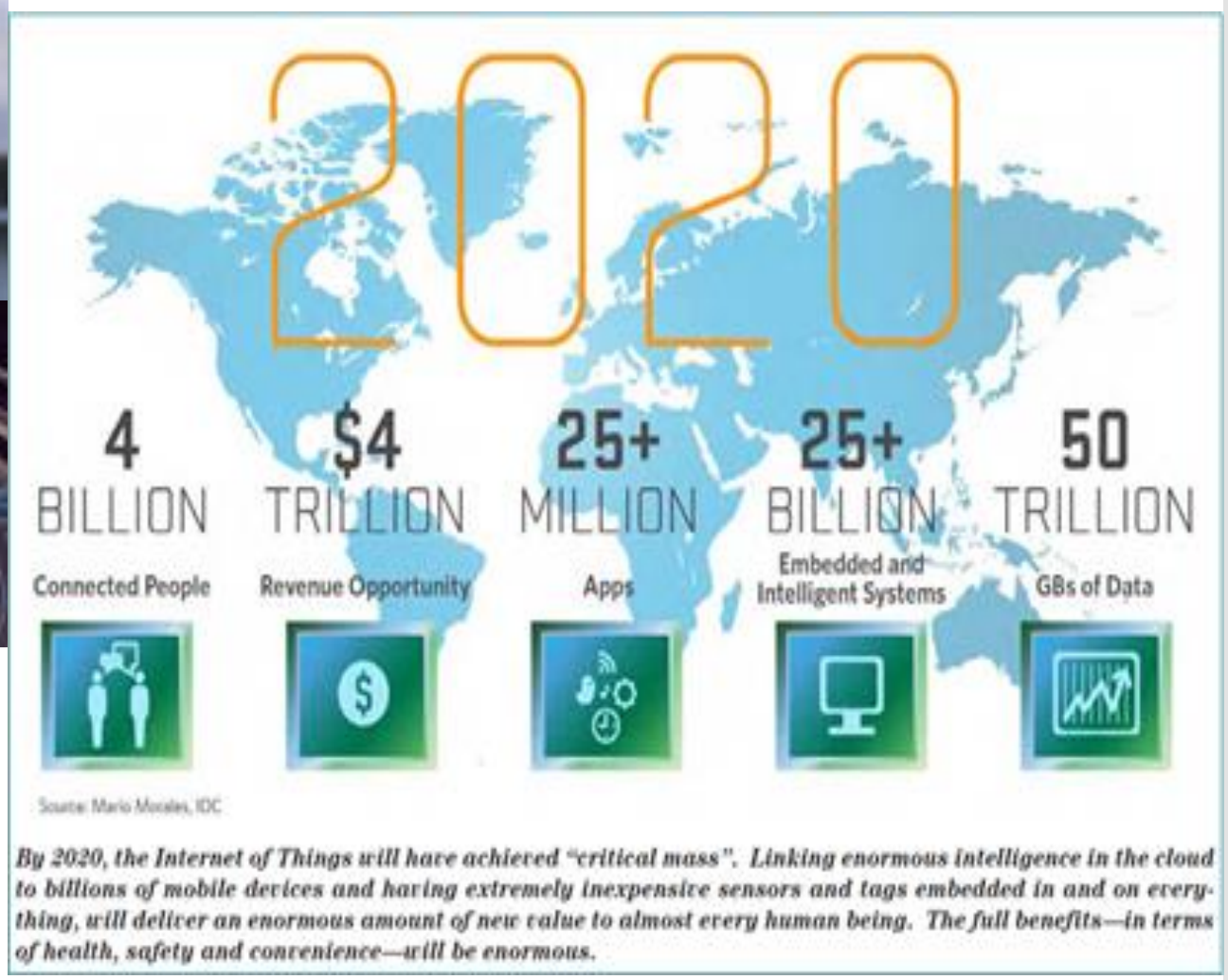
The net **force** on an object is equal to the **mass** of the object multiplied by the **acceleration** of the object.



Cybersecurity

WHO IS MANAGING THE BUILD?





Straight Forward Formula

The Path Forward

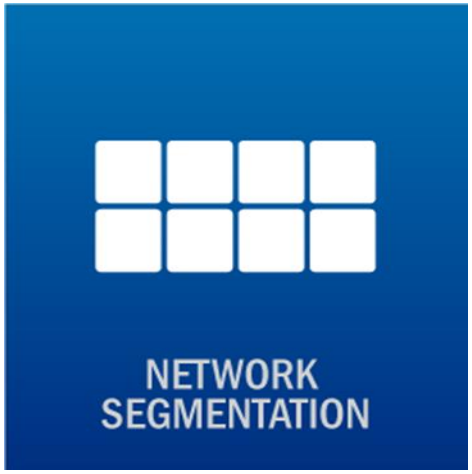
Today

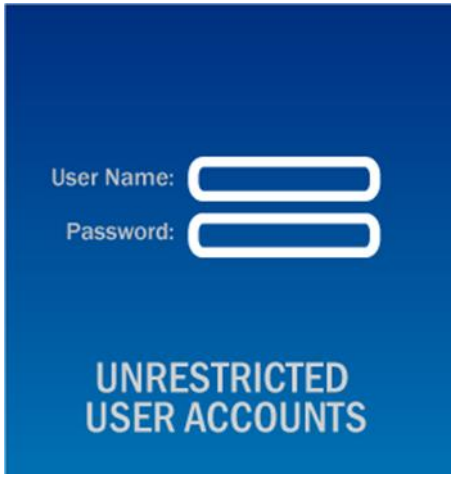
- Many unknown vulnerabilities
- Incidents spread at network speed and defenses are manual
- Many attacks are undetected
- Independently defended systems
- Inconsistent security policies
- Users do not follow best practices
- Attacks increasing in number and virulence

Future

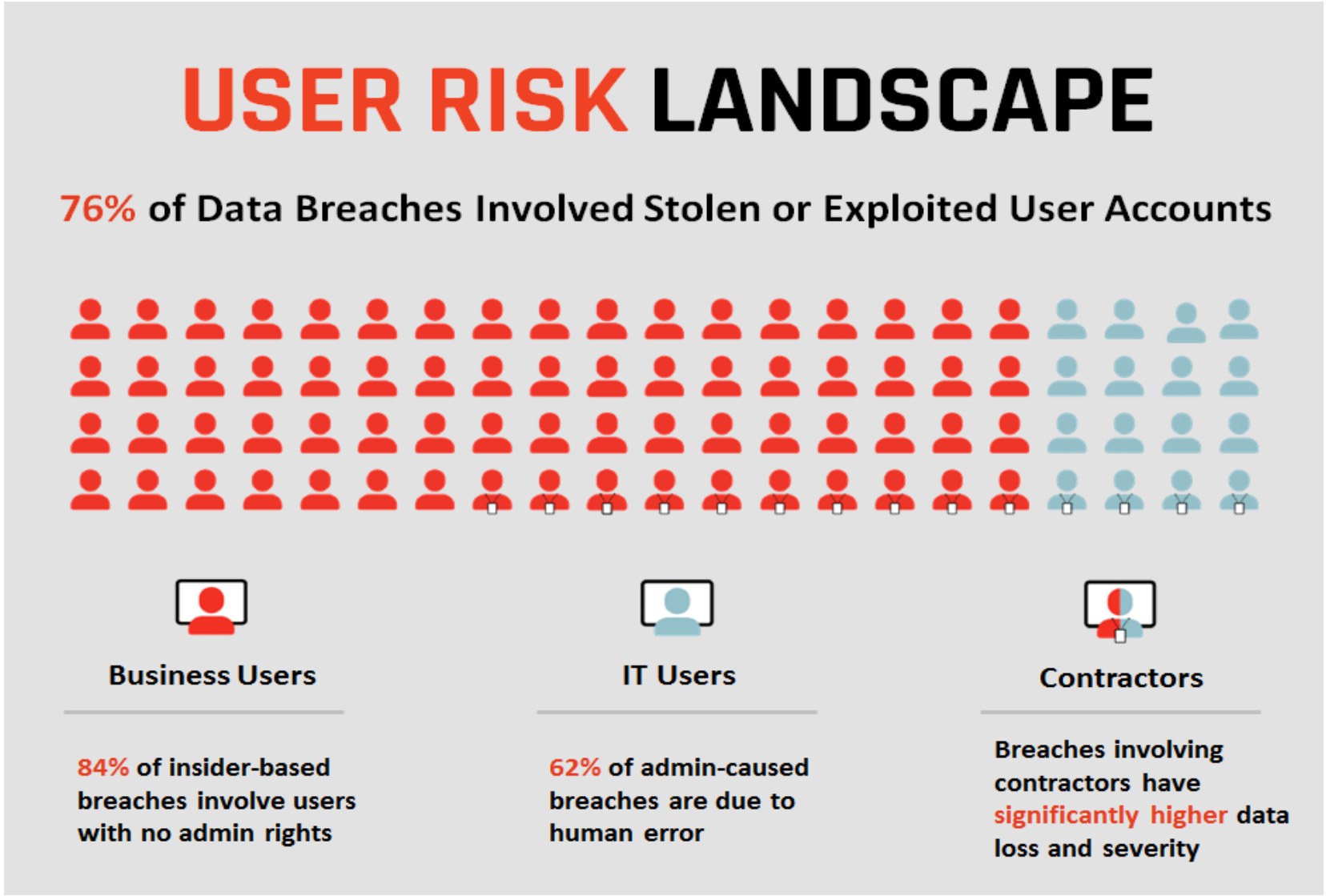
- Baked in security = fewer vulnerabilities
- Near real-time response with more automated defenses
- Many attacks, but less impact
- Information sharing and increasingly collaborative defenses
- Consistent security practices
- Unauthorized activity quickly identified
- Ability to learn and adapt defenses in near-real time

Cybersecurity



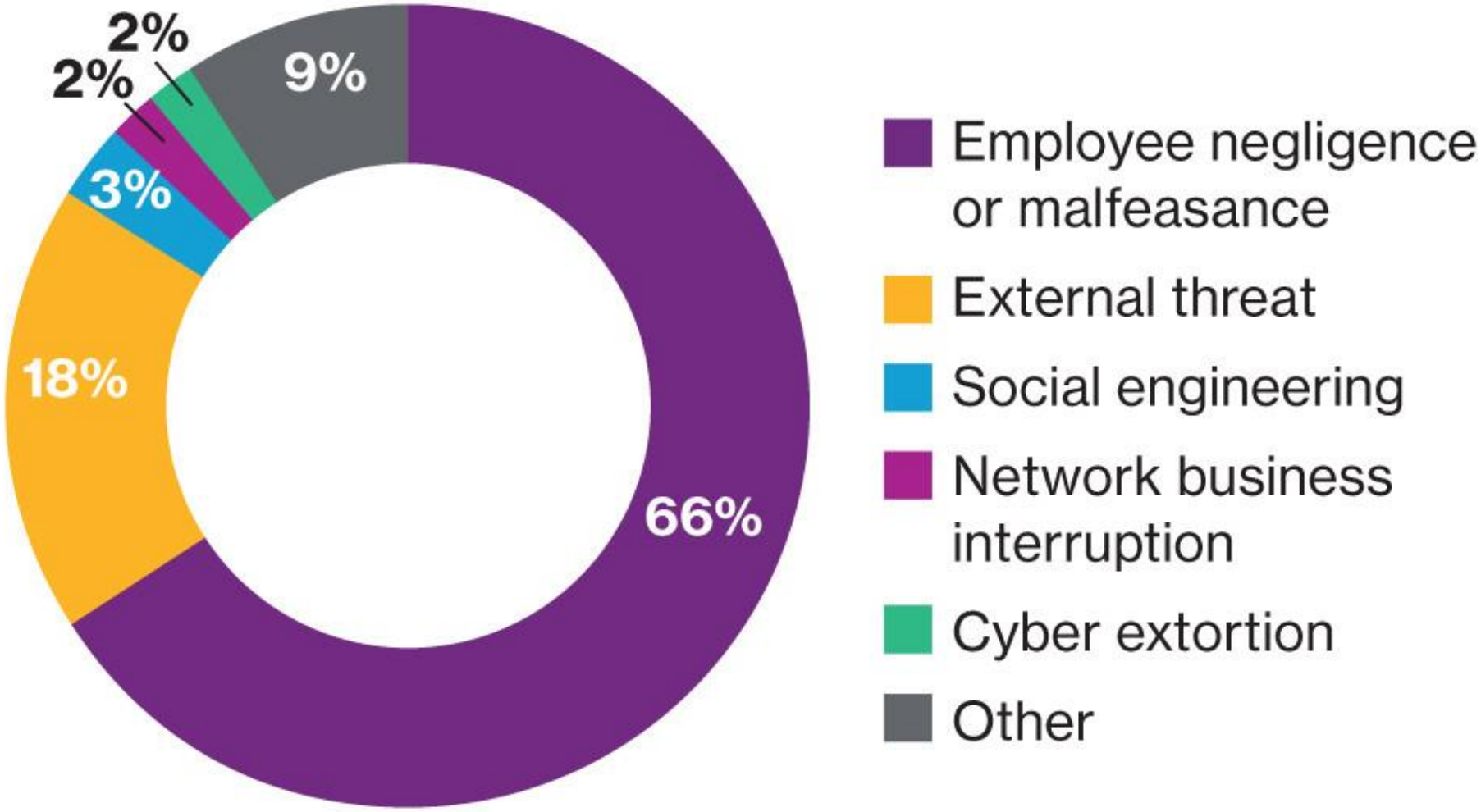


Culture Shift



Verizon DBIR

Percentage of claims by breach



Source: Willis Towers Watson cyber insurance claims data

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Top Cyber Threat Attack Vectors

- **Spear Phishing / Watering Hole**
  - Organization email, personal webmail
- Web Browsers
  - Vulnerability exploitation (Adobe, Flash, Java)
  - Application patching
- Web Servers
  - Application and system patching
- Remote Access
  - Single factor (password-based)

Culture of Cybersecurity

"It is therefore up to security professionals to help their executives become more cybersecurity literate and thereby assist in framing security considerations as an integral part of any risk/opportunity discussion, as well as a wider enterprise risk management strategy."

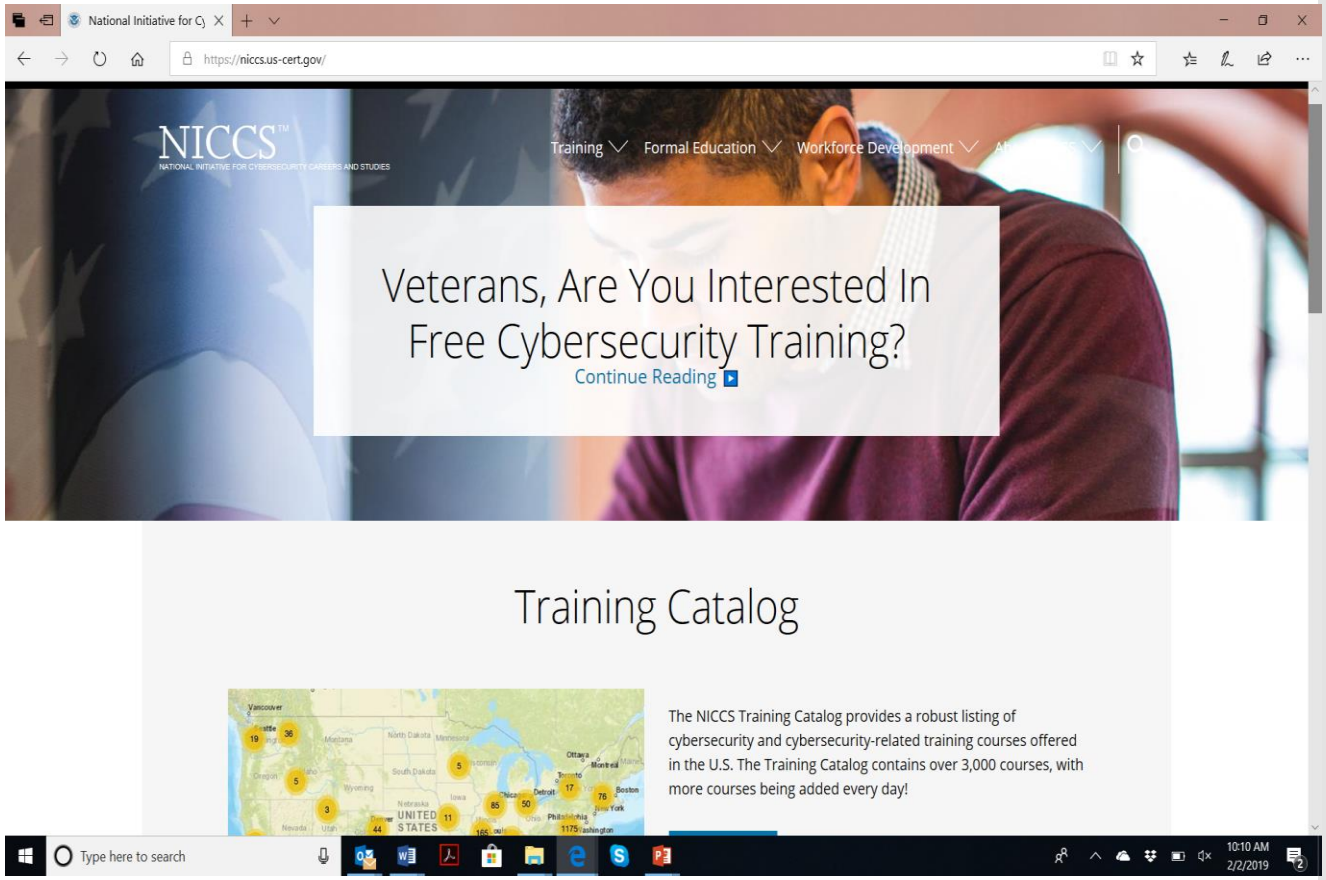
What are the expectations for cyber literacy?

Cyber Education

Resources for everyone – employees, employers, students, educators, parents, policy makers

- ✓ 5,000+ visitors per month
- ✓ 1,500+ training courses mapped to the National Cybersecurity Workforce Framework
- ✓ 100+ links to cybersecurity resources
- ✓ 15+ tools for managers
- ✓ 10+ monthly events
- ✓ 10+ links to customized job searches

Nation's One Stop Shop for Cybersecurity Careers & Studies!

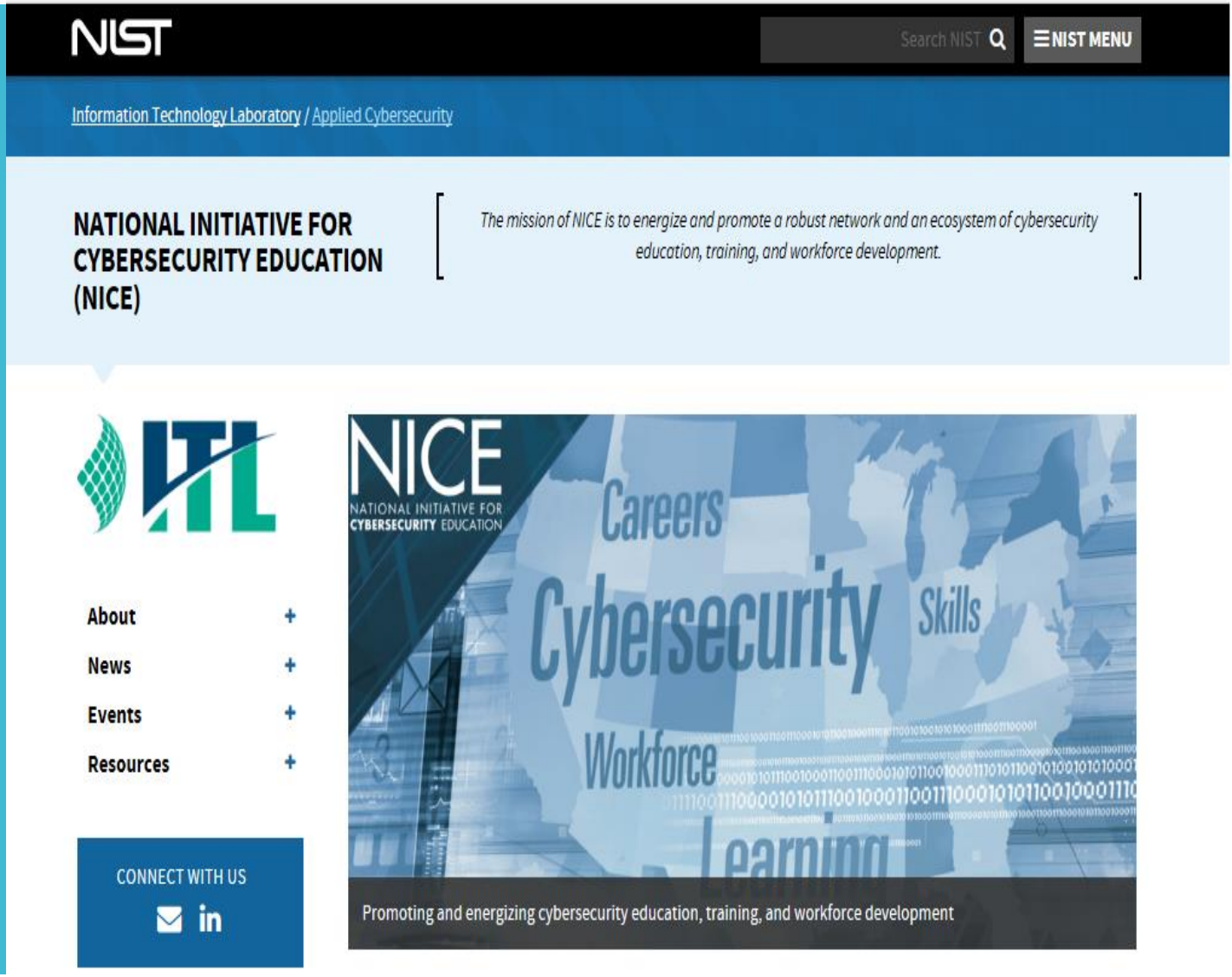


https://niccs.us-cert.gov/

National Initiative for Cybersecurity Careers and Studies (NICCS)

NIST

The mission of NICE is to energize and promote a robust network and an ecosystem of cybersecurity education, training, and workforce development



https://www.nist.gov/itl/applied-cybersecurity/nice

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QUESTIONS

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