

BAE Systems Women in STEM Cyber Security Presentation

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2 December 2020



Introductions



- **Victoria Owens**

- ES Director, Cyber Systems Engineering, Director, Cyber Resilience Capability Group
- VP Operations, Women's Inclusive Network
 - Master of Science, Computer Information Systems Security, Boston University, a NSA-designated "National Center of Academic Excellence in Cyber Defense"
 - UCSD – Executive Perspective for Scientists and Engineers
 - MIT - Architecture and Systems Engineering: Models and Methods to Manage Complex Systems
 - CISSP, CHFI, PMP, Security +

- **Background & Experience**

- BAE Systems
 - Director, Cyber Resilience Capability Group - 15 years experience working with Cyber Systems Engineering
 - Primary focus defensive security and assessment and authorization
- Military - US Navy/US Navy Reserves
 - Retired Lieutenant Commander, 29+ year combined active and reserve service. Specialty – Radio Communications/Information Technology
- Prior Experience
 - Owner of a ^{UNCLASSIFIED} network consulting firm for 15 years


```
mirror_mod = modifier_ob.  
#set mirror object to mirror  
mirror_mod.mirror_object =  
operation == "MIRROR_X":  
mirror_mod.use_x = True  
mirror_mod.use_y = False  
mirror_mod.use_z = False  
operation == "MIRROR_Y":  
mirror_mod.use_x = False  
mirror_mod.use_y = True  
mirror_mod.use_z = False  
operation == "MIRROR_Z":  
mirror_mod.use_x = False  
mirror_mod.use_y = False  
mirror_mod.use_z = True  
  
#selection at the end -add  
mirror_ob.select= 1  
modifier_ob.select=1  
context.scene.objects.active  
("Selected" + str(modifier_ob.name))  
mirror_ob.select = 0  
= bpy.context.selected_objects  
data.objects[one.name].select  
  
print("please select exactly  
  
-- OPERATOR CLASSES ----  
  
types.Operator):  
X mirror to the selected  
object.mirror_mirror_x"  
mirror X"  
  
context):  
context.active_object is not
```

Cyber

- Why do we care?

2019- Huge Amounts of Data Stolen

1. Social Media Profiles Data Leak – **4 Billion** Records
2. Orvibo Leaked Database – **2 Billion** Records
3. TrueDialog Data Breach – More Than **1 Billion** Records
4. First American Data Breach – **885 Million** Records
5. Verifications.io Data Breach – **808 Million** Records
6. “Collection #1” Data Breach – **773 Million** Records
7. Dream Market Breach – **620 Million** Records
8. Third-Party Facebook App Data Exposure – **540 Million** Records
9. Indian Citizens MongoDB Database – **275 Million** Records
10. Chinese Job Seekers MongoDB Data Breach – **202 Million** Records
11. Canva Data Breach – **139 Million** Records
12. ElasticSearch Server Breach – **108 Million** Records

SECURITY

Home News Columns Management Physical Cyber Sectors Exclusives Events Reso

Retail/Restaurants/Convenience

The Top 12 Data Breaches of 2019



December 5, 2019

Maria Henriquez

KEYWORDS [cyber security](#) / [cybersecurity](#) / [data breaches](#) / [personally identifiable information \(PII\)](#)

Reprints

If you do a quick search on the [Have I Been Pwned](#) website, you will get a list of how many times your personally identifiable information (PII) has been found online.

The free service aggregates data breaches and is managed by Troy Hunt, a known expert cybersecurity developer. It also helps establish if your credentials, such as IP addresses, emails, passwords, usernames, geographic locations, name and social media profiles have been found in data breaches. According to my search, an old email I used has been compromised in 10 data breaches dating back to the Adobe 2013 data breach, and various education websites, shopping sites and more.

Top 5 Data Breaches in 2020...So Far

- Twitter Hack
- Marriott Data Breach
- MGM Data Dump
- Zoom Credentials Up for Sale!
- Magellan Health (Ransomware Attack and Data Breach)



October 2020

- 117 Publicly Reported Security Incidents
- Leakiest month ever recorded
- 18.4 million records breached



The screenshot shows the top of a blog post. On the left is the IT Governance logo, a black square with yellow dots forming a grid and the word 'governance' below it. To the right of the logo is the text 'Protect • Comply • Thrive' and 'IT Governance Blog'. Below this is a dark navigation bar with white text: 'Blog Home', 'Cyber Security' (with a dropdown arrow), 'Breaches and Hacks', 'Privacy' (with a dropdown arrow), 'Sectors' (with a dropdown arrow), and 'Other Blogs' (with a dropdown arrow). The main content area has a large heading: 'List of data breaches and cyber attacks in October 2020 – 18.4 million records breached'. Below the heading is the author 'Luke Irwin' and the date '2nd November 2020'. The first paragraph of the article reads: 'With 117 publicly reported security incidents, October 2020 is the leakiest month we've ever recorded.'

Why We Care About Cyber Security

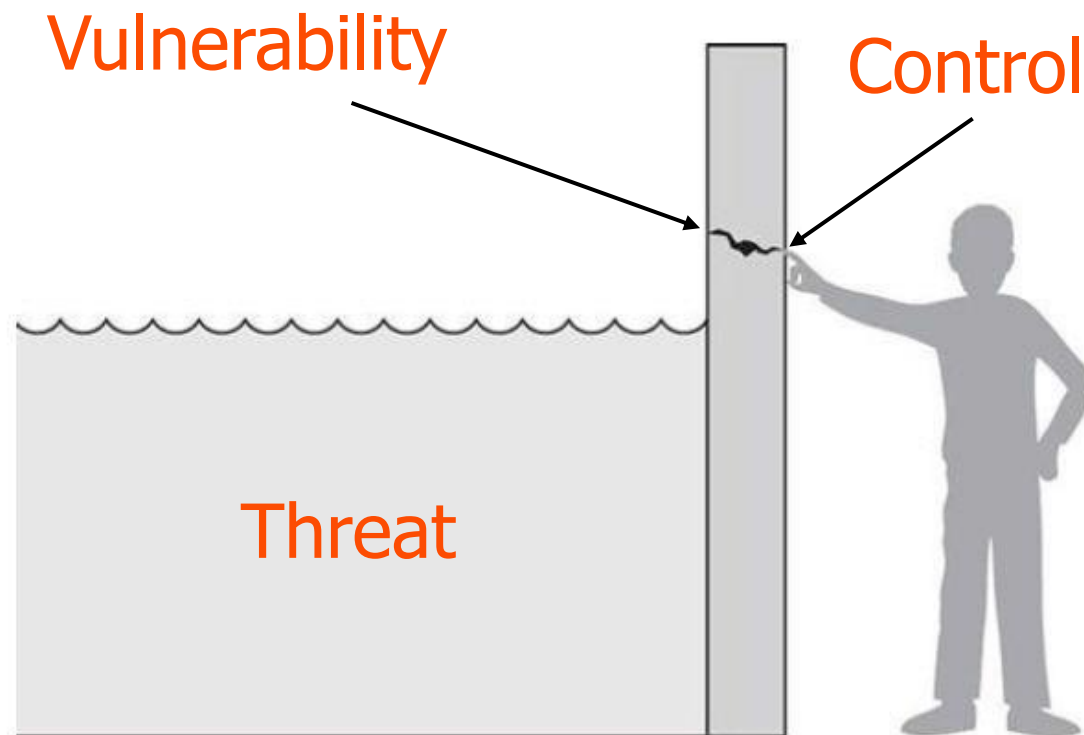
- QUESTION: What is/are the negative effects of a cyber attack?
 - A. Loss of intellectual property or valuable data
 - B. Cost to investigate and fix the system
 - C. Brand damage and loss of sales
 - D. Legal defense and fines
 - E. All of the above



What is Cyber Security



Cyber Security Terms



A threat is blocked by control of a vulnerability

The Two Sides of Cyber Security

10

Offense



Defense

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BAE SYSTEMS

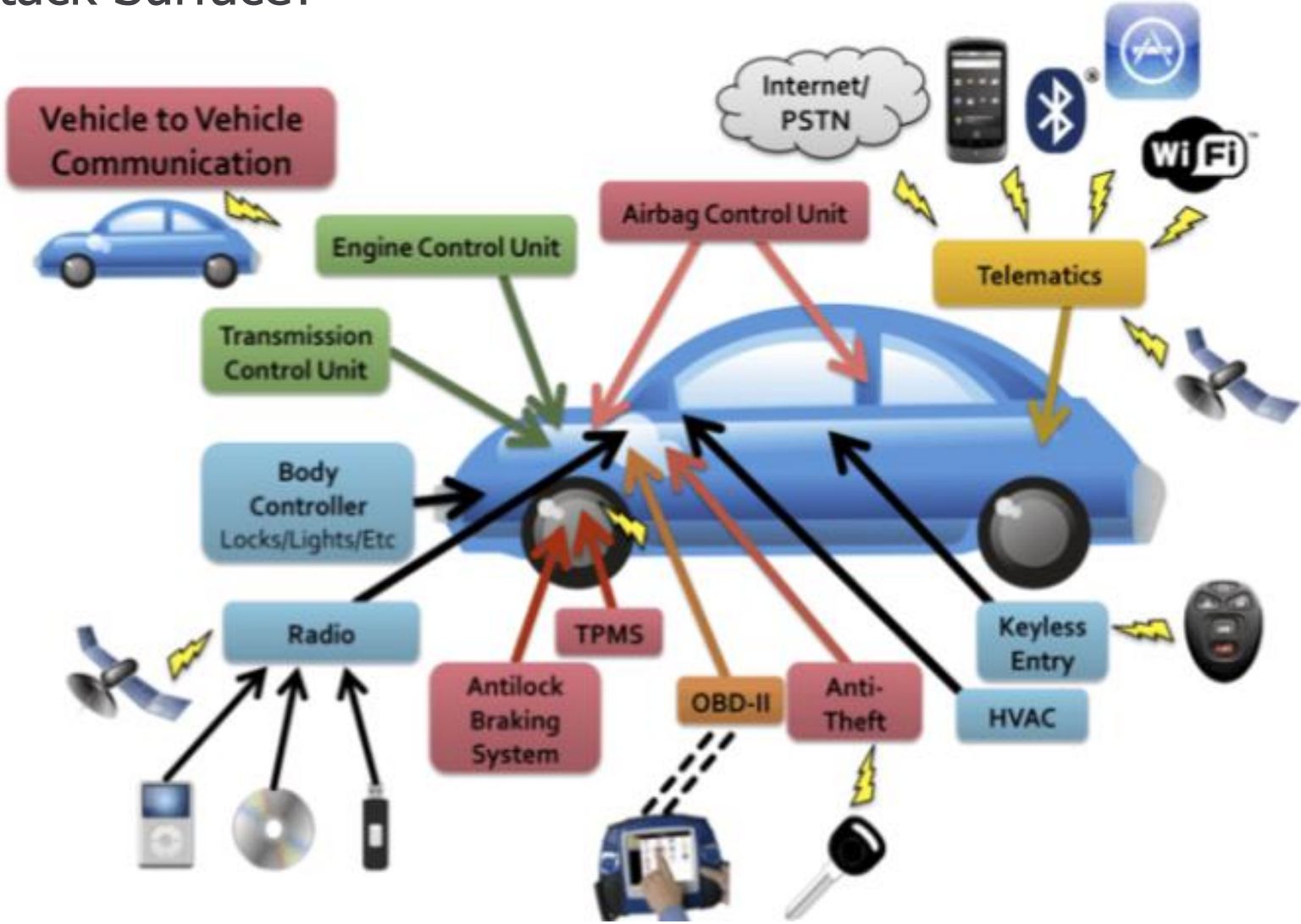
Common Cyber Protections

- Hardening
- Patching
- Encryption



- Scanning
- Monitoring
- Auditing

What's an Attack Surface?



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What's a Hacker?

A **hacker** is a person who uses computers to gain unauthorized access to data



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Common Types of Attacks

- Virus
- Trojan horse
- Worm
- Bot/Botnet
- DDoS
- Phishing or Spear Phishing
- Clickjacking
- Ransomware



Why We Care About Cyber Security

- QUESTION: How much does cyber crime and attacks cost annually?
 - \$ 600 million
 - \$ 60 billion
 - \$ 600 billion**
 - \$ 6 trillion

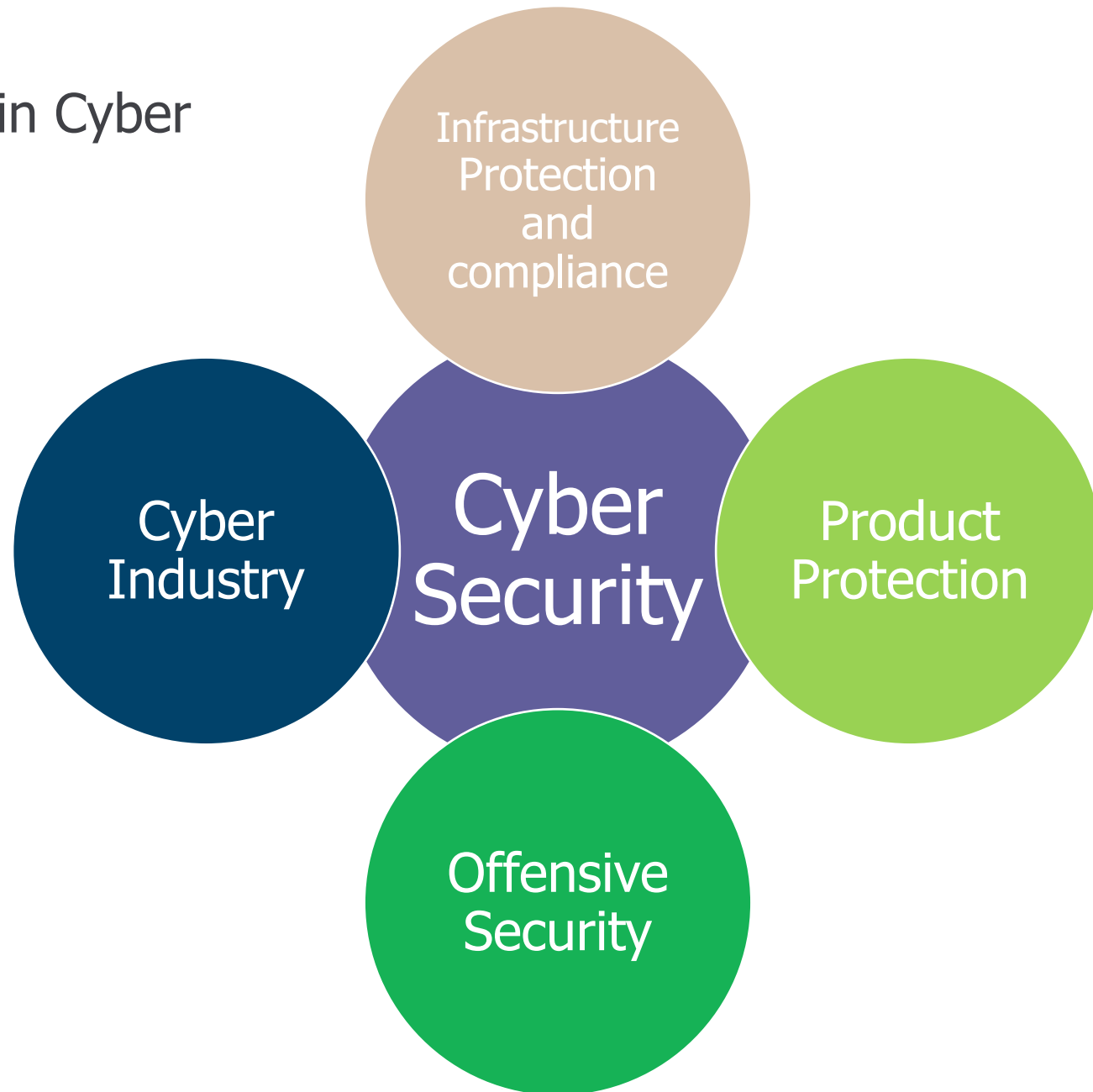


U.S F-35 and China's J-31

- 2007 Data Breach: 50 terabytes of data specific to the F-35 Joint Strike Fighter program were stolen
- Chinese espionage effort focused on F-35, radar design, engine schematics, B-2 Stealth Bomber, F22 jet, space-based lasers, missile navigation and tracking systems as well as nuclear submarine/anti-air missile designs
- J-31 and F-35 have roughly the same, weight, height and wingspan



Types of Careers in Cyber



What Does BAE Systems Do?

- <https://www.youtube.com/watch?v=h1PnoPGZCf0>



We build aircraft like the Typhoon and Hawk



BAE Systems builds armored vehicles



We even build warships



BAE Systems Fighting Vehicles

Bradley Fighting Vehicles



Paladin Armored Howitzer

- <https://www.youtube.com/watch?v=P1nLoyl6dSI>

Questions



Closing

