

Kevin Dolan, Partner & Co-Chair, Advisory Compliance, Mullen Coughlin **Sajjad Matin,** Principal Counsel, Cybersecurity and Data Protection, University of California

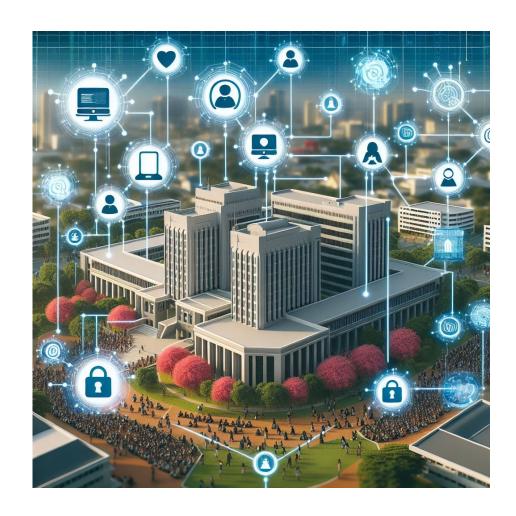
Agenda

- Welcome & Introduction
- II. Overview of Cyber Threat Landscape
- III. Compliance Framework
- IV. Q&A
- V. Practical Cybersecurity Challenges for Higher Education
- VI. Q&A
- VII. Concluding Remarks

Overview of Cyber Threat Landscape

Unique Cyber Challenges for Higher Education

- Large Attack Surface
- ▶ Third-Party Vendor Risk
- Resource Constraints
- High Turnover
- Legacy IT Systems
- Valuable Data



Valuable Data

Campus



Student Records

Title IV/PPA, GLBA – retention of student financial data

Research



Intellectual Property, Controlled Unclassified Info

Grants/Funding terms require retention of research data

Medical Center



Medical Records

HIPAA - retention of compliance documentation;
State law - retention of medical records

Threats

Malicious attack

 Hackers in network; malware and viruses; phishing scams (ransomware); physical theft of hardware and paper

Employees

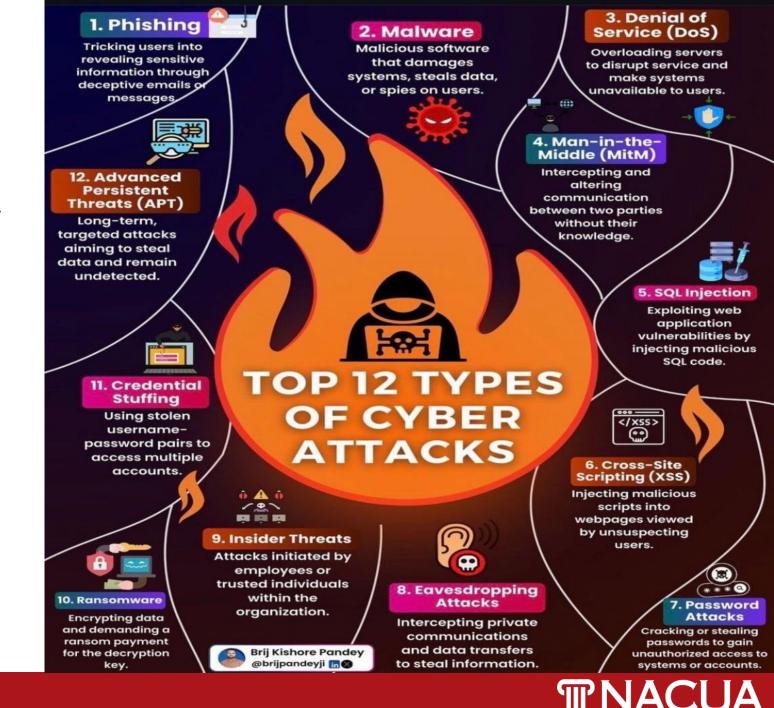
- Rogue employees
- Negligence related to the use and storage of data; failure to follow or learn policies and procedures; loss of portable devices; mismailing of paper; and/or unencrypted emails to the wrong recipient(s)

Business Partners

 Any of the above can occur to a business partner with whom data is shared

Supply Chain

Event impacting critical applications, software or infrastructure utilized by organizations



Current Case Trends

Ransomware

Triple Extortion/Harassment

Business Email Compromise

Wire Fraud/Personal Information Harvesting

Software Exploits or Vulnerabilities

- Appliance & Application Zero-Days e.g., Cisco, SolarWinds, Fortinet
- CISA Known Exploited Vulnerability Catalog

Third-Party Vendor Event

MOVEit, Change Healthcare, PowerSchool

Artificial Intelligence & Cybersecurity

- Al-Enabled Social Engineering
- Al-Enhanced Cybersecurity Attacks
- Exposure or Theft of Vast Amounts of Nonpublic Information
- Increased Vulnerabilities Due to Third-Party, Vendor, and Other Supply Chain Dependencies

Incident Type

2021

Incident Type Count 1,153 (29%) Ransomware **Business Email** 1,059 (27%) Compromise (BEC) -Total BEC - Other 698 BEC - Wire Fraud 361 **Third-Party Breach** 623 (16%) **Network Intrusion** 559 (14%) Other 367 (9%) **Inadvertent Disclosure** 209 (5%) 3,970 (100%) **Total**

2022

Incident Type	Count
Business Email Compromise (BEC) – Total	1,077 (36%)
BEC - Other	733
BEC – Wire Fraud	344
Ransomware	732 (25%)
Network Intrusion	382 (13%)
Third-Party Breach	316 (11%)
Other	245 (8%)
Inadvertent Disclosure	207 (7%)
Total	2,959 (100%)

2023

Incident Type	Count
Business Email Compromise (BEC) – Total	1,343 (34%)
BEC – Other	996
BEC – Wire Fraud	347
Ransomware	884 (23%)
Third-Party Breach	749 (19%)
Other	403 (10%)
Network Intrusion	323 (8%)
Inadvertent Disclosure	218 (6%)
Total	3,920 (100%)

2024

Incident Type	Count
Business Email Compromise (BEC) – Total	1,601 (38%)
BEC – Other	1,224
BEC – Wire Fraud	377
Ransomware	1,011 (24%)
Vendor Breach	747 (18%)
Other	346 (8%)
Network Intrusion	322 (7%)
Inadvertent Disclosure	228 (5%)
Total	4,255 (100%)



Industry Sector

Industry Sector	Count
Professional Services	1,024 (26%)
Manufacturing and Distribution	704 (18%)
Healthcare and Life Sciences	520 (13%)
Financial Services	461 (12%)
Technology	372 (9%)
Education	215 (5%)
Non-Profit	205 (5%)
Government	200 (5%)
Hospitality and Entertainment	152 (4%)
Retail/e-Commerce	73 (2%)
Energy	37 (1%)
Other	7 (<1%)
Total	3,970 (100%)

Industry Sector	Count
Professional Services	773 (26%)
Manufacturing and Distribution	448 (15%)
Healthcare and Life Sciences	376 (13%)
Financial Services	350 (12%)
Technology	333 (11%)
Non-Profit	157 (5%)
Education	<mark>142 (5%)</mark>
Hospitality and Entertainment	139 (5%)
Government	122 (4%)
Retail/e-Commerce	84 (3%)
Energy	34 (1%)
Other	1 (<1%)
Total	2,959 (100%)

Industry Sector	Count
Professional Services	928 (24%)
Financial Services	588 (15%)
Healthcare and Life Sciences	572 (15%)
Manufacturing and Distribution	538 (14%)
Technology	372 (9%)
Education	<mark>245 (6%)</mark>
Non-Profit	208 (5%)
Hospitality and Entertainment	169 (4%)
Government	138 (4%)
Retail/e-Commerce	130 (3%)
Energy	32 (1%)
Other	0 (0%)
Total	3,920 (100%)

Industry Sector	Count
Professional Services	1,241 (29%)
Healthcare and Life Sciences	656 (15%)
Manufacturing and Distribution	563 (13%)
Financial Services	488 (11%)
Technology	342 (8%)
Education	<mark>241 (6%)</mark>
Non-Profit	212 (5%)
Hospitality and Entertainment	194 (5%)
Government	155 (4%)
Retail/e-Commerce	112 (3%)
Energy	51 (1%)
Other	0 (0%)
Total	4,255 (100%)

Ransomware Incidents

2021	
Number of RW Incidents	1,153 (29%)
Number of RW Incidents Paid	314 (27%)
Ransom Payment Reason	Delete Only - 44 (14%) Key and Delete - 150 (48%) Key Only - 120 (38%)
Average Ransom Demand	\$2,126,671
Average Ransom Payment	\$500,951
Median Ransom Payment	\$216,093

2022	
Number of RW Incidents	732 (25%)
Number of RW Incidents Paid	97 (13%)
Ransom Payment Reason	Delete Only - 21 (22%) Key and Delete - 39 (40%) Key Only - 37 (38%)
Average Ransom Demand	\$2,272,682
Average Ransom Payment	\$400,791
Median Ransom Payment	\$150,000

2023	
Number of RW Incidents	884 (23%)
Number of RW Incidents Paid	138 (16%)
Ransom Payment Reason	Delete Only - 42 (30%) Key and Delete - 56 (41%) Key Only - 40 (29%)
Average Ransom Demand	\$2,243,227
Average Ransom Payment	\$937,751
Median Ransom Payment	\$200,000

2024	
Number of RW Incidents	1,011 (24%)
Number of RW Incidents Paid	133 (13%)
Average Ransom Demand	\$1,890,232
Average Ransom Payment	\$519,395
Median Ransom Payment	\$265,065
Ransom Payment Reason	Delete Only - 53 (40%) Key and Delete - 49 (37%) Key Only - 31 (23%)

Ransomware Risks and Considerations

Legal Considerations

- ☐ Can we confirm that the threat actor is not linked to a sanctioned entity (will the payment/negotiation vendor provide a clear sanctions report)?
- ☐ Has there been timely and cooperative involvement with law enforcement?



Ransomware Risks and Considerations

Operational Considerations

- Are critical data/systems fully or partially recoverable without the decryption key, i.e., will any data loss occur?
- ▶ What is the value of lost data and the risks of lost data from an operational perspective?
- What is your recovery timeline?
- ► Are funds available for payment? Consider funds necessary for other costs relating to recovery from the incident (legal, forensic investigation, notification, third party claims).
- ▶ What role does the insurance carrier have in the payment and negotiation process?
 - ► Have their required processes been filed?
 - ► Will the insurance carrier issue the funds for the ransomware payment directly to the negotiations team or is organization responsible for the costs and submit for reimbursement?
- ▶ Who internally needs to approve the ransomware payment and what information do they need to reach this decision?



Ransomware Risks and Considerations

Reputational Considerations

- Does the exfiltrated data include sensitive proprietary or personal information? How do we quantify the value of potential harm of data being published?
- If data exfiltration occurred, does the value of suppressing the data theft justify the cost of the key even if the key is not necessary for decryption purposes?
- What is the reputational cost of operational downtime?
- If the ransom payment becomes public knowledge, will there be a reputational, liability, and/or regulatory cost associated with paying the ransom?

Lawyer's Role in Incident Response

- Collaborate with Incident Response Team to identify:
 - Scope/impact of incident
 - Sensitive data or systems impacted
- Vendor breach review contracts
 - Indemnification/LOL
 - Notification requirements
- Research Data contracts/grants from funding sources
 - Notification terms
 - Terms related to Cybersecurity Controls (ACP)

Guidance on Attorney Client Privilege - Provided to InfoSec Colleagues

- The goal is to protect against disclosure (in later litigation) of sensitive legal discussions.
- 2. Attorney-Client Privilege protects:
 - **Internal** Communications;
 - With a lawyer; and
 - Seeking/Receiving legal advice.
- 3. Operational communications typically will not be protected under ACP.
- 4. Communications without a lawyer present will not be protected.
- 5. Local counsel is often a member of IRT, keep counsel in the loop (on all threads).

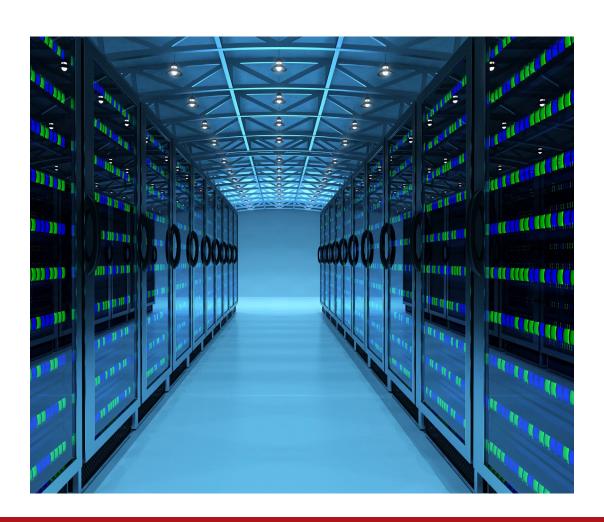
Privilege During a Cyber Incident

- Legal Advice vs. Operational Guidance
- If needed, outside counsel should retain SME/forensic firm
 - Separate engagement for Legal vs. InfoSec
 - Separate, privileged report for Legal
- Disclosure of Reports to Law Enforcement
 - Federal Rules of Evidence 502 potential waiver of other documents relating to subject matter
 - GJ subpoena documents may be Brady/Giglio

Investigation Directed by Counsel

Create guidelines for when counsel takes over investigation:

- Who makes the decision (e.g., President/Chancellor)?
- 2. What factors will be used?
 - ✓ Whether data was exfiltrated
 - ✓ Type of data impacted
 - ✓ Number of records impacted
 - ✓ Reputational harm



Cybersecurity Compliance Framework



State Regulatory Exposure

- 50 states (plus Puerto Rico, Washington D.C., the Virgin Islands and Guam) require notice to residents after unauthorized access to personally identifiable information (PII)
- Require companies to notify resident consumers of security breaches of unencrypted computerized personal information
- Over half require notification to state attorney general, state consumer protection agencies, and/or consumer reporting agencies
- Some states allow private right of action for violations

State Legislative Trends

- Expanding the definitions of "personal information" (e.g., including biometric information, email address w/password, passport number, etc.)
- Set a timeframe/shorten timeframe within which businesses must report a breach
- Require reporting of breaches to state attorney general
- Sector specific laws requiring data breach notification (e.g., education/student data vendors)
- A few states provide affirmative defense for data breaches if organization implements proactive industry recognized information security standards
- More states are becoming active in data privacy regulation and enforcement



Privacy Regulation Trends

Emerging state level patchwork

- What applies to us?
- Which types of data are afforded protection?
- Enforcement

Federal Frameworks

- FTC
 - Sources of authority
 - Section 5 of FTC Act
 - GLBA
 - Children's Online Privacy Protection Act
 - Fair Credit Reporting Act
- SEC Cybersecurity Rule
- HIPAA



Digital Risk Management

Function:

Identifying, assessing, and mitigating risks associated with digital infrastructure that impact data and IT systems that process it.

Goals:

- Data Protection (Cybersecurity + Data Privacy)
- Compliance with legal/regulatory requirements
- Manage third-party risks (including vendors, law firms, unions)
- Establish roles and responsibilities

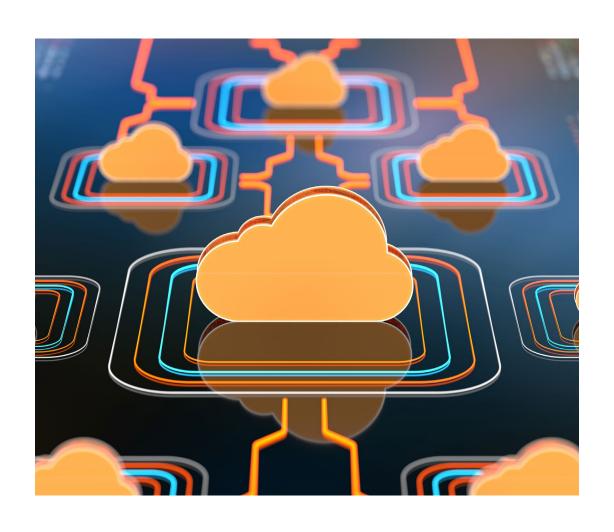


Important Cybersecurity KPIs for Lawyers

- Cybersecurity Training Completion Rate
- Phishing Test Success Rate
- Percentage of accounts behind MFA
- Vulnerability Patch Time/Percentage of Assets Unpatched
- > Vendor Compliance Rate
- Incident Metrics: Mean time to Detect, Mean time to Respond
- Cost per Incident; Cost per Breach



Vendor Risk Assessment



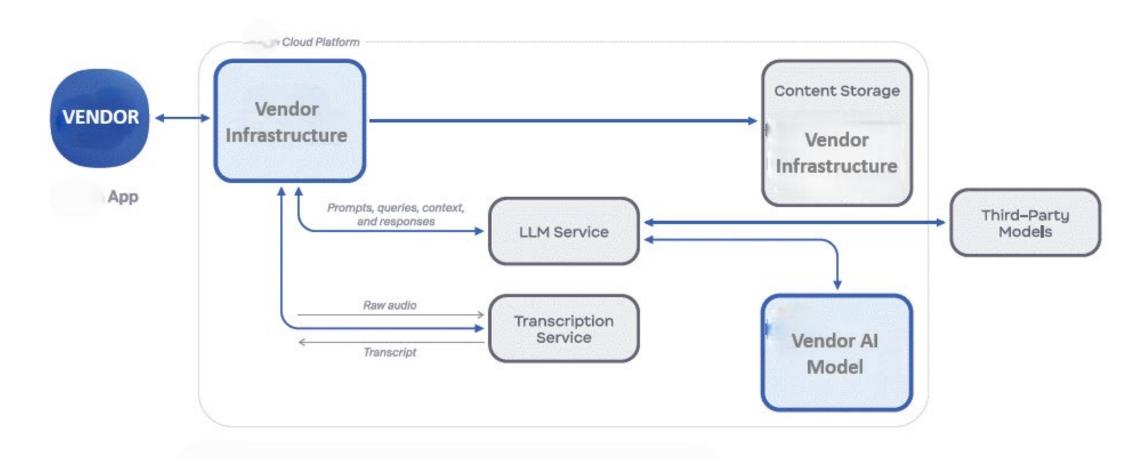
- How is customer data processed?
- How is customer data is used: Product Improvement? Training/tuning/feedback for AI models?
- Security Controls
- > Incident Response
- Business Continuity
- Reputation and Track Record

Leverage VRA for Contract Negotiation

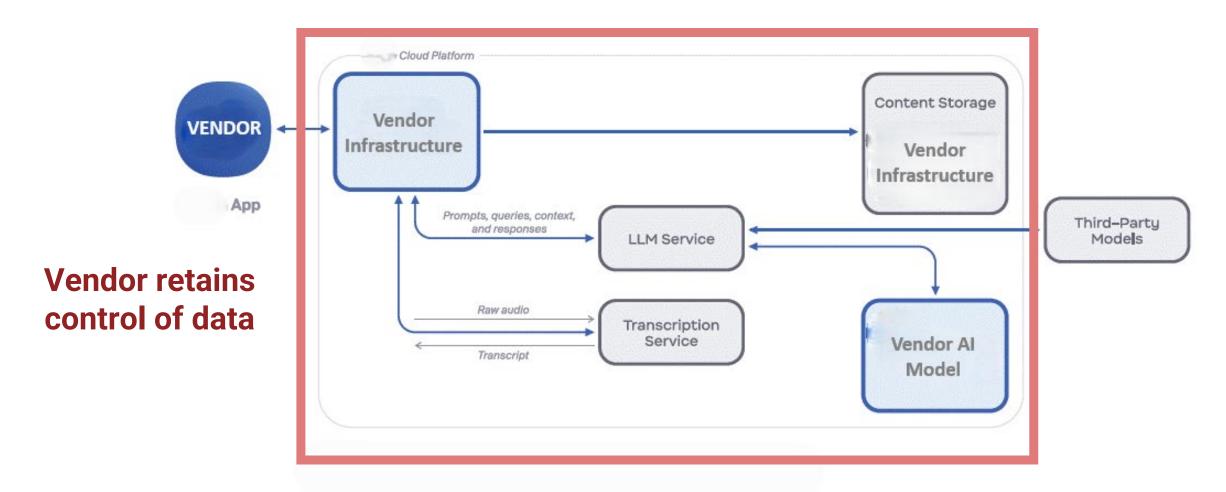
- Can you minimize data processed by vendor; Can you minimize data retention by vendor?
- Is "Customer Data" appropriately defined?
- Security Breach Indemnification
- Limitations of Liability
- Cyber Insurance



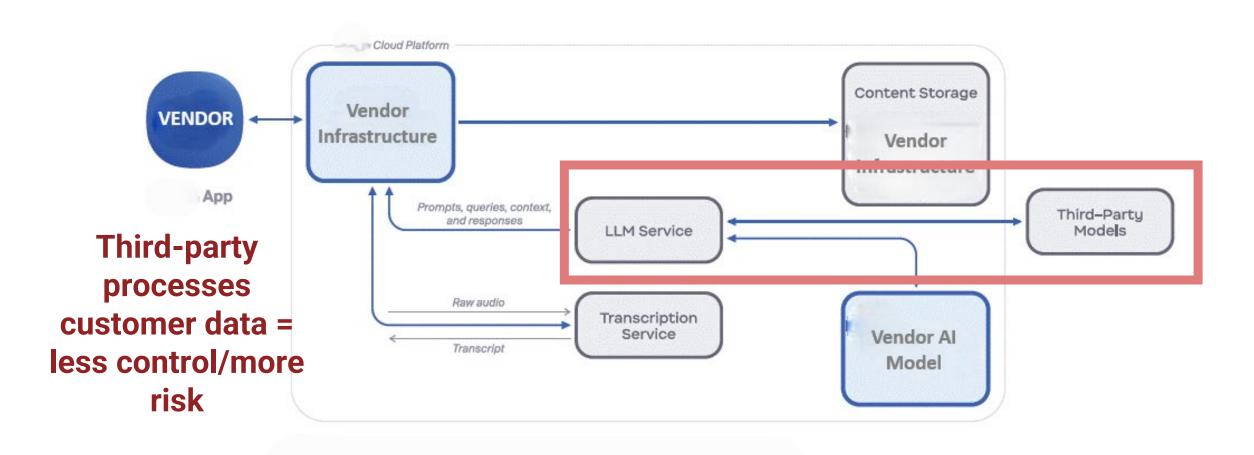
Vendor Risk Assessment – Al Example



Vendor Risk Assessment – Al Example



Vendor Risk Assessment – Al Example



Practical Cybersecurity Challenges

Understanding the Stressors Affecting the CISO



- Expanding Role/Increasing Responsibilities
- Increasing Legal Risk (Perceived and Real)
- Increasing Demands from Campus Stakeholders
- Blame following a Breach

Statements/Attestations by CISOs

- Regulatory Compliance (HIPAA, GLBA, FSA, PCI DSS)
- Contractual Agreements

 (e.g., procurement, handling research data)
- Internal Governance and Risk Management
- Third-Party Assessments
- Other (e.g., bond disclosures)



CISO – Legal Risk

In October 2021, DOJ announced the "Civil Cyber-Fraud Initiative"

The stated goal "to hold accountable entities or individuals that put U.S. information or systems at risk by knowingly providing deficient cybersecurity products or services, *knowingly misrepresenting their cybersecurity practices or protocols*, *or knowingly violating obligations to monitor and report cybersecurity incidents and breaches*."



CISO - Legal Risk (Criminal)

United States v. Sullivan

No. 3:20-cr-00337-WHO (N.D. Cal. Jan. 11, 2023)

- Joseph Sullivan was the Chief Security Officer for Uber.
- In November 2016, Uber's systems were hacked.
- Sullivan's actions in response to that cyber incident resulted in his prosecution for and conviction of obstruction of justice and misprision of a felony.
- He was sentenced to 3 years' probation in December 2023.

CISO - Legal Risk (Civil)

SEC v. SolarWinds and Brown

No. 23-civ-9518 (S.D.N.Y. filed Oct. 30, 2023)

- Timothy Brown was the CISO of SolarWinds.
- SolarWinds is a provider of IT infrastructure management software.
- Its products were subject to sophisticated cyberattack and intrusion over a two-year period (SUNBURST).
- The SEC claims the company and CISO made misleading cybersecurity disclosures in the company's Security Statement.

CISO – Legal Risk

United States ex rel. Decker v. Pennsylvania State University No. 2:22-cv-03895 (E.D. Pa.)

- Whistleblower, former CIO for Penn State's Applied Research Lab, alleged university non-compliance with contractual cybersecurity requirements for federal funding of research.
- The university settled with DOJ for \$1.25M in October 2024.
- The allegations in the complaint also named other information security officers who purportedly directed or approved inaccurate representations to the government.

CISO – Legal Risk

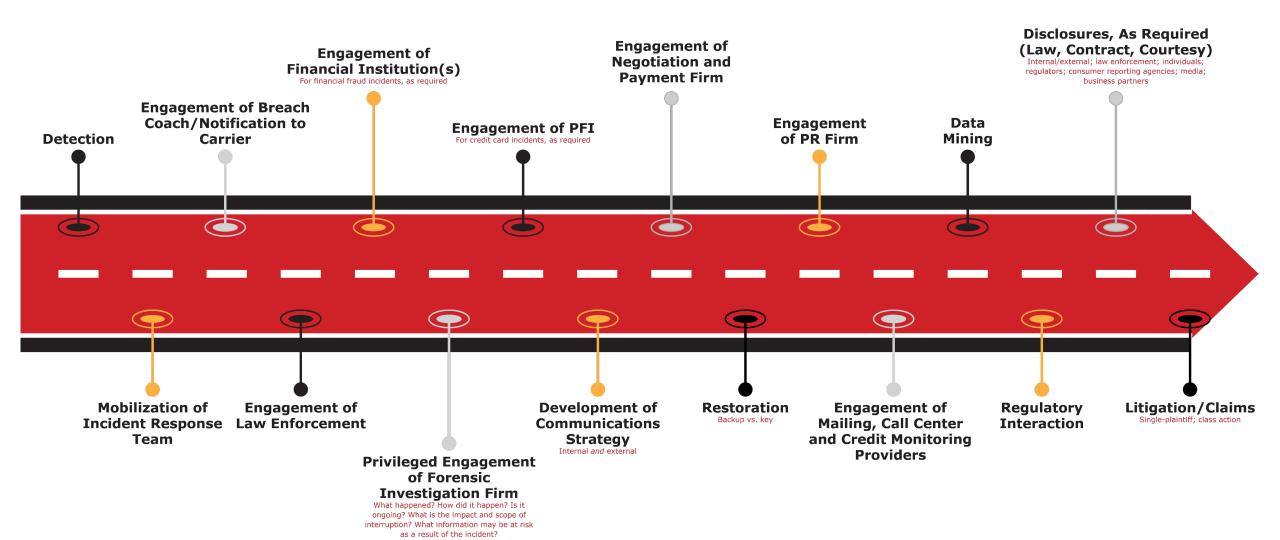
United States ex rel. Craig & Koza v. Georgia Tech Research Corp. No. 1:24-cv-01234 (N.D. Ga. Apr. 15, 2024)

- Whistleblowers, one current and one former infosec officer within GA Tech, alleged, among other claims, non-compliance with contractual cybersecurity requirements for federal funding of research.
- In August 2024, DOJ intervened in the suit.
- The allegations in the complaint also reference other staff and faculty who purportedly directed or approved non-compliant IT settings.

Take-Aways for CISOs

- 1. Criminal prosecution for decision-making that involves highly technical matters is *RARE*. Why?
 - Battle of the Experts
 - Confusing a jury with technical matters
 - ► Reliance of Counsel Defense (Affirmative Defense)
 - requires "full disclosure of all material facts" (Ninth Cir. Jury Instructions)
- 2. Communication to Partners (including Legal)
 - ► Early and Often
 - Don't "hope away" bad facts
 - ► ELI5

The (Potential) IR Roadmap





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