

The Role of Compliance in Cybersecurity

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SCCE CONFERENCE OCTOBER 2018

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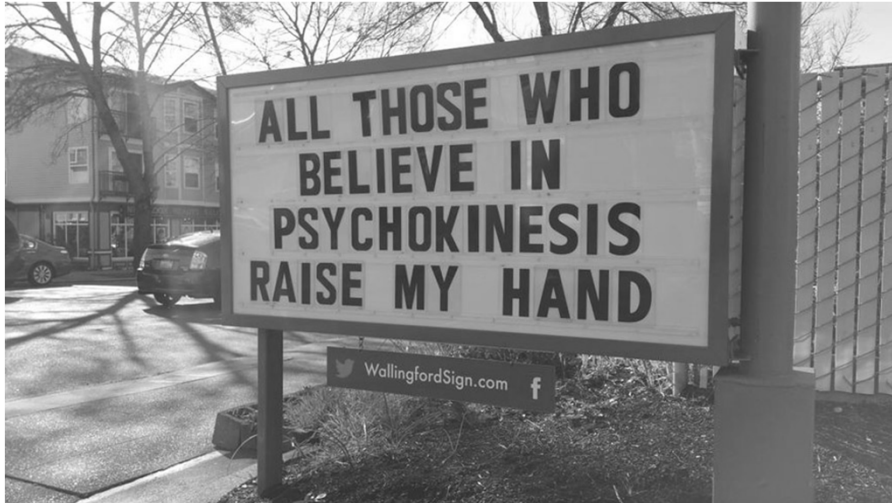
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I welcome audience participation



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COMPLIANCE:

Merriam Webster Definition

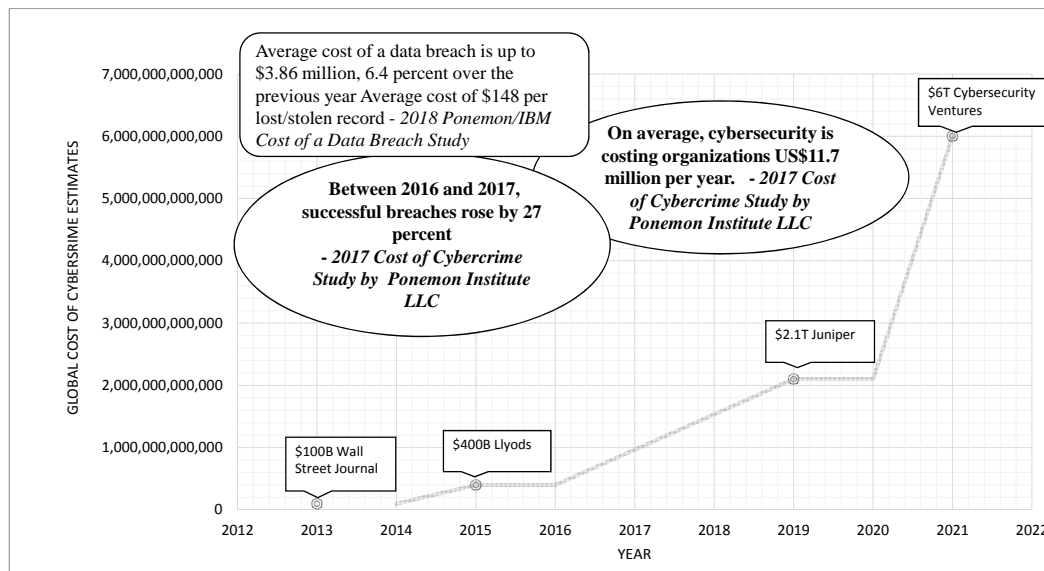
- “the act or process of complying to a desire, demand, proposal, or regimen or to coercion;
- “conformity in fulfilling official requirements;
- “a disposition to yield to others
- “the ability of an object to yield elastically when a force is applied.”

CYBERSECURITY:

Merriam Webster Definition

measures taken to protect a computer or computer system (as on the Internet) against unauthorized access or attack

Epidemic of Rising Cybercrime Costs



85%



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So what does this have to do with *me*?

The cyber regulatory environment is maturing.

PCI DSS * HIPPA * Sarbanes-Oxley * GDPR

It's our responsibility to ensure compliance with those laws, regulations, and policies.

But even total regulatory compliance does not guarantee cybersecurity.

Compliance has a continuous role to play in preparing for, responding to, and recovering from cyber incidents.

Cybersecurity Road Map for Compliance Professionals

What questions should you be asking?

- Does the organization have an Enterprise Risk Management Strategy and does it address cyber risk?
- What is the Cybersecurity Governance Structure?
- Has the organization performed a Risk Assessment and/or Business Impact Analysis for cybersecurity risks?
- Does the organization have a Crisis Management Team for cyber events?
- Does the organization have a Crisis Response Plan for cyber events?
- What third party service provider policies and governing agreements (SLAs) are in place and are they appropriately managed and adhered to?



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Enterprise Risk Management Strategy

- NIST Maturity Framework and model under NIST 800-53
- COSO *Enterprise Risk Management—Integrating with Strategy and Performance (updated 2017)* (greater emphasis on culture, business value of ERM, and role of IT)
- Cybersecurity-specific Frameworks:
 - ISO/IEC Security Control Standards (focuses on information security management systems)
 - Federal Financial Institutions Examination Council (FFICE) Cybersecurity Assessment (focuses on financial institutions)
 - SEC/OCIE Cybersecurity Initiative (focuses on Investment Firms)
 - FCC Cyber Security Planning Guide (focuses on Small Businesses)
 - NIST Cybersecurity Framework (focuses on Manufacturing)

Cybersecurity Governance Structure

- **Guidance:** ISO 27001: This is a key resource for Cybersecurity Governance processes; NIST SP 800-53 also provides a selection of controls.
- **Ways to measure meaningfulness of a Cybersecurity Governance Structure:**

- Robust Policy Framework
- Metrics (e.g. statistics on phishing email click rate, repeat offenders, intrusion attempts, training completion rates, etc.)
- Culture (transparency/ accountability)
- Budget
- Audit/Risk Committee Reporting Practices (frequency/audience)
- Internal Reporting Mechanisms (communication & escalation practices; bifurcated channels)
- Compliance Penalties/Incentives



Let's take a moment to talk about Reporting....

- How are you informed?
- Do you play any role in determining when and how to inform regulators, other government authorities, shareholders, and/or customers?

Let's take a moment to talk about Incentives....

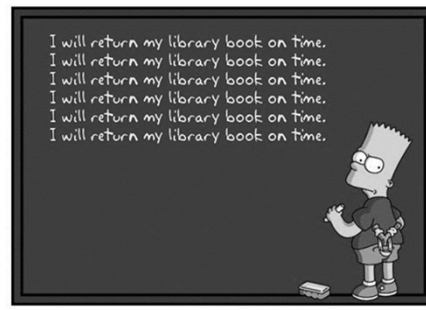
- Sentencing Guidelines (2004 amendments)
- Opportunity to build cross-functional relationships
- Compliance can provide added value to management



<https://i.pinimg.com/originals/e3/02/10/e302101374872d70e53e18019013ba03.jpg>

- Tangible Assets
- Monetary
- On the Spot
- Publication

Take the Lead



https://www.bing.com/images/search?view=detailv2&cid=12cab928&id=1145f66d0aa1f9dc2b4155c1d1a828a78e1a8c&shid=OIP.Dca0Q4BMDA9YXCXCTRQJHfKAmadur=hmp%3a%2f%2f1p.blogspot.com%26gh5f13a_YY%2f30NdcZG6Bc%2fAAAAAAlm%2f1B0GERadg%261600%2fReturn%2fBook%2fo%2fTime.gfResphs=360&expw=516&q=hart+simpson+overdue+books+chalkboard+return+cup+simpson&mid=608026699338309&osdet=1&index=1&ajshero

Risk Assessments

• Four Key Aspects

- Assets (physical assets/personnel/intellectual property/data)
- Threats (insiders/cybercriminals/competitors/nation-states)
- Vulnerabilities (lack of robust controls/poorly trained workforce)
- Impact (safety/mission/business)



U.S. Navy photo by Mass Communication Specialist Seaman William P. Gatlin 2010; Wikimedia Commons



Business Impact Analysis

NIST SP 800-34 Rev. 1 provides a BIA Template, consisting of three steps:

1. Determine mission/business processes and recovery criticality (mission/business/safety)
2. Identify Resource Requirements
3. Identify Recovery Priorities for System Resources

Cyber Event Crisis Management Team

Commitment

Strategic direction

Designated Responsibility

The Crisis Management Team

MUST

**consist of executive level
professionals beyond IT**

CEO; CIO; CISO; General Counsel; System Administrators/Application owners;

Human Resources; Public Relations



HADLEY 1978; WIKIMEDIA COMMONS

Was someone missing from that list?

Yes. You.



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CRISIS RESPONSE PLAN

- General Steps

1. Prevention
2. Preparation
3. Detection
4. Analysis
5. Containment
6. Communication
7. Eradication
8. Recovery
9. Post-Event Analysis

Proactive

Reactive



M. J. RICHARDSON 2007; WIKIMEDIA COMMONS

Prevention

Perhaps the step with which organizations are most familiar, but also most remis....

- Patching
- Anti-virus
- IDS/IPS systems
- Data minimization
- Multifactor Authentication
- Encryption
- Access Control Management

Is there a
compliance element
to prevention?

Preparation

- Draft Incident Response Plan*
- Form Incident Response Team (lower level than Crisis Response Team; Must also be multi-disciplinary; Consider several for different incident types/impacted systems)
- Prepare cyber-specific Crisis Communication Plan (specific standards of procedures for communicating internally or externally, e.g. with stakeholders, governmental authorities, regulators, press, customers, etc.)*
- Create Robust Policy*
- Create Checklists
- Conduct Training (consider incentivized war games, not just tabletop exercises)*
- Testing Regimes
- Gather Threat Intelligence
- Jumpbags (Standalone Computer Essentials, Printer, Camera, Hardcopies of Checklists, Incident Response Plan, Crisis Communication Plan, etc.)
- Outsourced monitoring, auditing, penetration testing*

See, 2016 European Union Agency For Network And Information Security document "Strategies for Incident Response and Cyber Crisis Cooperation," for additional insights.



<https://www.inspirational-quotes-short-funny-stuff.com/funny-traffic-signs.html>
Last accessed September 17, 2018

Detection

- Indicators: Logs reflecting unauthorized use of vulnerability scanners, vulnerability intelligence (public/government-issued), direct threats (Sony Entertainment), sluggish systems, unusually heavy network traffic, antivirus deactivation, bounced emails, erased logs, etc.
- Tools: Firewalls; Intrusion Detection Systems (IDSs); Intrusion Prevention Systems (IPSs); Antivirus and Anti-Spam Software; System Activity Logs; Application Activity Logs; Network Analyzers; File Integrity Check Products; System Information and Event Management Products (SIEM); and Vulnerability Scanners

Analysis

- Is it a legitimate threat (or a false positive)?
- What type of attack is it? What stage is it in?
- What impact would it have if successful?
- If it has succeeded, what systems, networks, data breached?
- What are the origins of the attack?



Attack DDoS, Joey Villa

Containment

- Isolate affected systems, hardware, etc. Shutdown not always advisable, because it may limit monitoring and attribution.



Frank Schwichtenberg



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Communication

Timely

Accurate

Honest



Rauantiques 2016; Wikimedia Commons

Note: There is no requirement for information to be complete.

Do you have your privacy officer on speed dial?

You should.

Evolution of Reporting Requirements

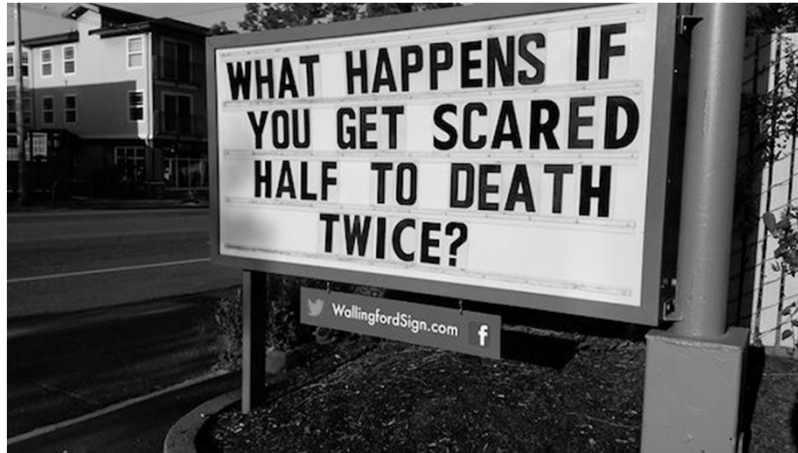
State Laws: All 50 states have reporting laws

PCI DSS: Varies based upon merchant level

HIPAA: Covered entities must provide notification of the breach to affected individuals no later than 60 days after discovery of breach

Sarbanes Oxley: Auditing IT Infrastructure

GDPR: 72 hours after discovery of CIA breach



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Feared Consequences of Reporting....

- Reputational Damage
- Loss of Business
- Decreased Value
- Legal Liability



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Actual Consequences of Non-Reporting...

- Reputational Damage
- Loss of Business
- Decreased Value
- Legal Liability



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Recovery

*Rebuilding * Restoring * Reinstalling * Patching*

It's a marathon, not a sprint

The old adage, if it's not broke don't fix it, may help budgets and bottom lines, but also helps your adversary.

- Kevin Hiltpold, Optiv



Senior Airman Laura Turner

NIST Cyber Recovery Playbook Essentials:

- Documentation
- Communication
- Practice

Recovery presents a window of opportunity for Compliance.



<http://www.pickellbuilders.com> Photography by Linda Oyama Bryan. Stone and Stucco French Provincial with Hand Hewn Window Headers and Shutters on Lake Geneva.

Don't waste it.



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Third Party Risk Management

- According to Soha Systems, *Despite Record Breaches, Secure Third Party Access Still Not an IT Priority*, June 14, 2016):
 - “Research has revealed that **third parties cause 63 percent** of all data breaches.”
 - For example: Target/HVAC breach; Reported cost to Target was \$148M (See, Rachel Abrams, *Target Puts Data Breach Costs at \$148 Million, and Forecasts Profit Drop*, Aug. 5, 2014)
 - “Deloitte, in its Global Survey 2016 of third party risk, reported that **87 percent** of respondents had **faced a disruptive incident with third parties** in the last two to three years.”
 - In May 2016, Ponemon Institute published “survey that revealed that **75 percent of IT and security professionals said the risk of a breach from a third party is serious and increasing.**”
- **2018 Examples: BestBuy/Kmart/Delta/Sears; Saks Fifth Avenue/Lord & Taylor; Applebee’s; Chili’s; UnderArmour; My Heritage**
- **Potential Mitigations Include:**
 - Perform thorough Due Diligence (with emphasis on cyber hygiene)
 - Map your data and vendors (Determine which vendors are of highest impact; Update regularly)
 - Perform active oversight (Consider creating a Third-party Management Committee)
 - Ensure robust contractual provisions (Access; Audit; Incident Reporting; Liability; Termination)

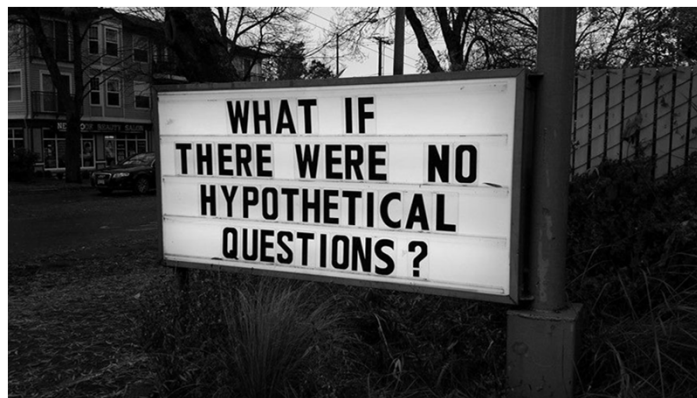


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PRIMARY TAKEAWAY:
Be engaged in your organization's cybersecurity

- **Enhances your organization's resiliency posture**
- **Builds relational ties between compliance and other verticals**
- **Demonstrates value of Compliance to organization**

QUESTIONS?



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Cybersecurity Resources

The following sites are an array of recognized sites/blogs that offer cybersecurity background and news

- <https://krebsonsecurity.com>
- <https://www.privacyrights.org>
- <https://www.csoonline.com>
- <https://www.securityforum.org>
- <https://bankinfosecurity.com>
- <http://www.lawandsecurity.org>
- <https://darkwebnews.com>
- <https://thehackernews.com>
- <https://www.tripwire.com/state-of-security/>
- <https://www.schneier.com/>
- <https://nakedsecurity.sophos.com/>
- <https://www.darkreading.com/>
- <https://taosecurity.com/>
- <https://twitter.com/threatpost>
- <http://resources.infosecinstitute.com>