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Agenda

• Trends
• Update
• Emerging Cyber risk
• Best in Class Controls
  – Separating the Good from the Bad
• Data Security Strategy
• Risk Management
• Cyber Insurance Coverage
Trends

- Cyber Events of 2015\(^1\)
  - 79,790 confirmed security incidents
  - 2,122 confirmed data breaches

- Security Incident = Any event that compromises the confidentiality, integrity, or availability or an information asset.

- Data breach = An incident that resulted in confirmed disclosure to an unauthorized party.

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Top causes of Data Breaches – CNA Claim Data (2003-2013)

% Total for All Causes

- disclosure:theft:data
  - Severity: 21%
  - Frequency: 27%

- disclosure:theft:mediadevice
  - Severity: 20%
  - Frequency: 74%

- disclosure:accidental:data
  - Severity: <1%
  - Frequency: 14%

- disclosure:accidental:document
  - Severity: 1%
  - Frequency: 12%

- disclosure:unknown
  - Severity: 1%
  - Frequency: 9%

- use:fraud
  - Severity: 1%
  - Frequency: 0%
Trends

• Top Threats: Phishing
  – 50% of recipients open email and click on link within the first hour
  – Median time-to-first-click: one minute, 22 seconds
  – Campaign of 10 emails have a greater than 90% chance of success

• How to Minimize Phishing
  – Better email filtering
  – Improved detection capabilities
  – Thorough security awareness program

Update

• Top Threats: Vulnerabilities
  – 99.9% of vulnerabilities compromised more than a year after first discovered
  – 10 vulnerabilities represent 97% of exploits in 2014
  – More than 7 million exploited vulnerabilities

• How to Minimize Vulnerabilities
  – Patch
  – Remove unnecessary services (web, database, remote administration)
    • Part of the larger “hardening” efforts: http://csrc.nist.gov/publications/nistpubs/800-123/SP800-123.pdf
Emerging areas of risk

- Embedded Devices
  - Heating and Ventilation
  - Medical Devices
  - Personal Fitness Trackers
- Automobiles
  - Current vs future
- Airplanes
- Commonalities?

- Why do “they” do it?
  - Competitive advantage
  - Skip Research and Development
  - Espionage
Who are the attackers?

- Where do they “lurk”?
  - Deep web
  - Underground market places
  - Utilizing TOR

- Who are they?
  - All walks of life
  - Disgruntled unemployed “coders”
  - Teenagers sitting in mom’s basement
  - Nation state sponsored paramilitary groups

- How do they do it?
  - What you see in TV and the Movies isn’t real
  - Some traditional hacking
  - Social engineering with increasing frequency
Cost of an incident

• $154¹ vs. $0.58⁴ Who’s right?

• Many factors go into the cost

• “The forecasted average loss for a breach of 1,000 records is between $52,000 and $87,000”²

• Forensics – Paid like lawyers

Best in Class Controls

- Full disk encryption on all laptops, desktops, mobile devices, and external storage
- Segmentation of network – example: Target
- Controls extending to embedded devices
- Documented and tested DR/BC and Incident Response plans
- Formal Data Retention Policy – including secure deletion of data
- Two Factor authentication
- Physical Security
- Robust Cloud/Vendor management system
- Security awareness training
- Understanding the additional controls necessary for PCI and HIPAA
- Conducting annual penetration tests, and remediating issues
Separating the Good from the Bad

- **Varies depending on the company size**
- Having a disaster recovery plan that it 5 years old and has never been tested
- Unencrypted laptops – “But we have a policy!”
- Unencrypted credit card data
- “We retain everything forever” as a retention policy
- “But we’re PCI compliant”
- “I’ve outsourced that function so we don’t need to worry about it”
- “That’s on our roadmap for 2016…”
- Who is the most senior person responsible for Information Security?
Data Security Strategy

• Don’t reinvent the wheel
  – Classify data and identify it’s location
Risk Management

- Acceptance
  - Active versus Passive
- Avoidance
  - Location of a datacenter
- Mitigation
  - Compensating controls
- Transference
  - Insurance
What is and isn’t covered?

- Type of Coverage
  - Errors and Omissions
  - Media
  - Network Security
  - Privacy
- First Party vs. Third Party
- Sub-Limits and Deductibles
- Not covered:
  - Future revenue
  - Business Reputation
  - Improvements
  - Intellectual Property
Closing thoughts

• Think outside the box
  – Other internet connected devices may present risk to your organization
• Security awareness training of employees is crucial
• Leverage tools from NIST (and others) to create a mature security program
• Have a thorough understanding of what is and isn't covered by insurance
Thanks!

Questions? Comments?