



Cyber Risk



February 7, 2017

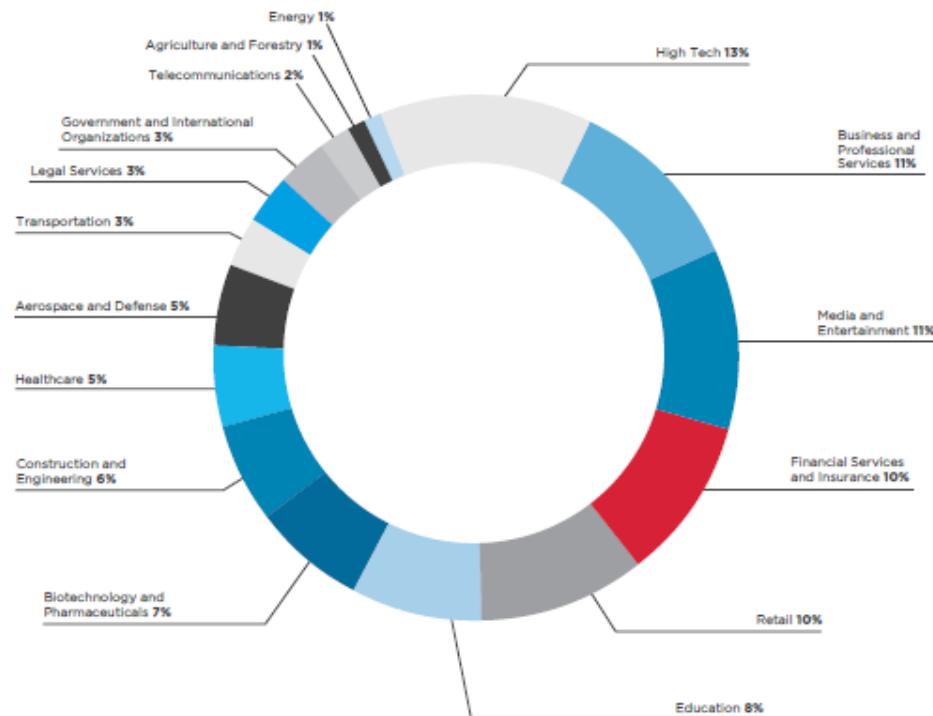
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Agenda

- Threat Landscape, Simplified
- Identify – Sensitive data and data breach costs
- Quantify the Risk- How much will it cost me
- Manage the Risk – Becoming compromise ready
- Transfer the Risk – Cyber risk insurance marketplace
- Why has data privacy insurance become so attractive to organizations?

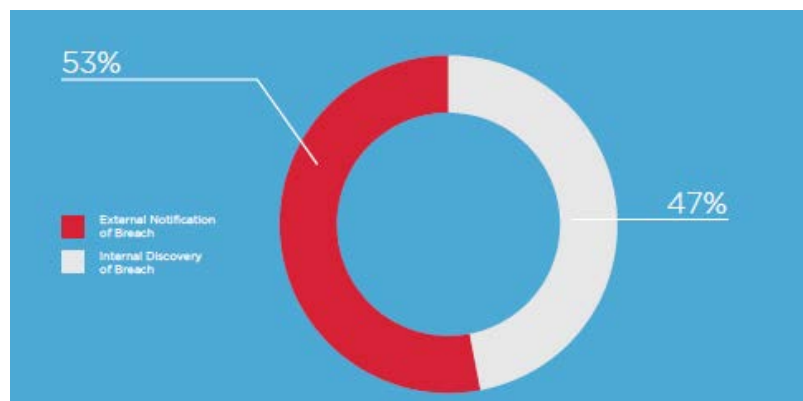
Cyber Risk Threat Landscape (M-Trends 2016)

- More INCIDENTS (not breaches) became public than at any other time in the past
- Locations and motives of the attackers were more diverse
- Industries Target: Anyone and Everyone



Cyber Risk Threat Landscape (M-Trends 2016)

- How are compromises being detected? (Internal vs External)



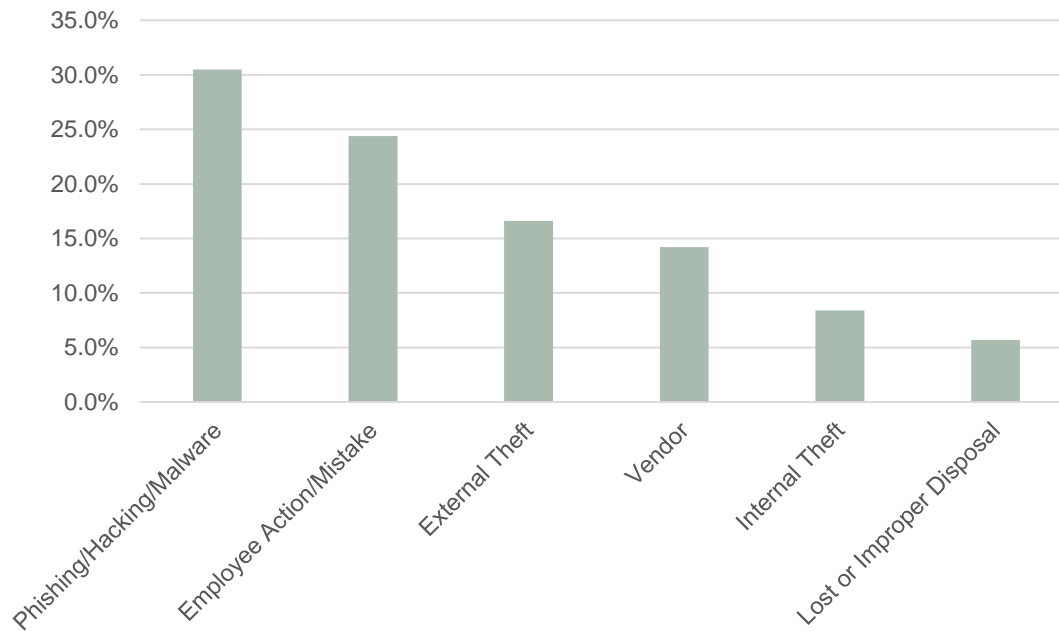
- Median Time it takes for an compromise to be discovery?

All Mandiant Investigations in 2015	External Notification	Internal Discovery
146 days	320 days	56 days

- Average Days for hacker to gain Administrator Credentials? **3**

Additional Statistics

- 70% of organizations report having been compromised by a successful cyber attack in the past 12 months
- Security Incidents grew 66% year over year
- What are the root cause of these events?



Data Privacy Costs for Social Service Providers

Breach expenses



Notification

**Credit
monitoring**

Forensics

Legal guidance

**Crisis
communication**

Liability



**Settlements w/
affected parties**

**Legal defense
costs**

Regulatory



**Regulatory
Defense / HIPAA**

**PCI Fines,
Penalties &
Assessments**

Reputational Injury



Lost Donations

**Canceled
Contacts**



Identify-Healthcare: The Holy Grail of Data

- PII Data:
 - Social Security Numbers;
 - Bank Account Information;
 - Login Credentials

- PHI Data: Protected Health Information,
 - Health Care Providers
 - Health Insurers
 - Self-Insured Benefits: Large Entities as a "Covered Entity"

- PCI Data: Credit and Debit Card Transactions

Quantify - “Be Careful”

- Ponemon Study
 - \$217 per record; \$6.5 million
 - 35% is direct costs; indirect costs-loss of customers and reputational injury
 - Typical Breach-100,000 records or less
- NetDiligence Claims Study
 - Estimates only 5% of the total number of claims handled by all markets
 - Represents Claims payouts not costs to the insured
 - Median cost per record: \$13 (claims payout only)

Quantify - “Be Careful”

- Verizon Data Breach Report
 - All forms of data

RECORDS	PREDICTION (LOWER)	AVERAGE (LOWER)	EXPECTED	AVERAGE (UPPER)	PREDICTION (UPPER)
100	\$1,170	\$18,120	\$25,450	\$35,730	\$555,660
1,000	\$3,110	\$52,260	\$67,480	\$87,140	\$1,461,730
10,000	\$8,280	\$143,360	\$178,960	\$223,400	\$3,866,400
100,000	\$21,900	\$366,500	\$474,600	\$614,600	\$10,283,200
1,000,000	\$57,600	\$892,400	\$1,258,670	\$1,775,350	\$27,500,090
10,000,000	\$150,700	\$2,125,900	\$3,338,020	\$5,241,300	\$73,943,950
100,000,000	\$392,000	\$5,016,200	\$8,852,540	\$15,622,700	\$199,895,100

Cyber & Data Privacy – Catastrophe Modeling- Social Security #s

Number of Records Lost/Stolen: 10,000
Number of Years of Credit Monitoring: 2 Year
Loss Assumptions: Loss is Based upon Fraudulent Activity/Class Action Filed

Type of Breach Expense	Estimated Expense Amounts	Estimated Total Cost
Forensics Investigation & Security Remediation	Cost Increased 50% with no cyber insurance	\$135,000
Public Relations	\$30,000 flat rate, increased 20% for no cyber insurance	\$36,000
Call Center	\$0.075 per person (5,000 minimum)	\$5,000
Attorney Legal Review	Flat Rate Estimate + 30% for no insurance	\$49,400
Notification	\$1 per person- \$3 if no insurance in purchased	\$30,000
Credit Monitoring	\$2 per affected person for 2 year	\$20,000
AG Fines & Penalties	\$1.33 per record	\$13,300
HHS-OCR	PHI Only	Nil
FTC	\$20.25 for first 5,000 then \$0.50 per	\$103,750
PCI Assessments	PCI Only	Nil
Consumer Class Action, Defense, eDiscovery	Based on NetD Claims Study	\$649,900
		Total Cost - \$1,042,350

Cyber & Data Privacy – Catastrophe Modeling-PHI

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Credit Monitoring	\$2 per affected person for 2 year	\$20,000
AG Fines & Penalties	average per-record fine assessed by State Attorneys General for PHI Breach	\$944,500
HHS-OCR	average per-record fine assessed by OCR for PHI Breach	\$1,047,500
FTC	FTC Not Active in PHI Breaches	\$0
Consumer Class Action, Defense, eDiscovery	\$8.80 per record average	\$649,900
		Total Cost - \$2,917,300

* OCR =Office of Civil Rights

Mitigate by Becoming Compromise Ready

1. Evaluate contracts with outside service providers, specifically 3rd party IT, data storage or data processing vendors
2. Require and obtain certificates of insurance for both Professional, E&O and Privacy/Cyber Liability coverage
3. Regular 3rd party security assessments
4. Updated incident response plan with experienced outside vendors:
“Align with Insurance Coverage”
5. Test the incident response plan with table top exercises
6. Insurance as a “Safety Net” to other internal and external safeguards

Transfer - What does the marketplace look like?

- 60+ insurance companies, including Lloyds of London: Continued race for market share - You have the leverage
- Lack of Cyber Risk knowledge — underwriting & brokerage - Be Careful
- Global Capacity- 3rd Party Liability: \$300M; 1st Party Business Interruption: \$250 Million
- Tell your story
- Annual global premium levels per Advisen and Betterley:

Employment Practices	Private / NP D&O	Cyber 2015	Cyber 2020	Cyber 2025
\$1.7 Billion	\$2 Billion	\$3 Billion	\$10 Billion	\$20 Billion ¹³



Risk Transfer: Why has the insurance become so attractive?

- Board Level Pressures
- Inability to completely eliminate all risks through...
 - IT security Investments
 - Indemnification Provisions with 3rd party vendors
- Regulatory Efforts, Increased Legislation, and Ever Creative Plaintiffs Bar
- Alignment with Breach Response Teams
- Proven Balance Sheet Protection...PAID CLAIMS
- Reduced Reputational Injury



Additional Insurable Cyber Risks ...if we only had more time together.

Business Interruption/Extra Expense

System Failure/Extra Expense

Reputational Injury

Data Restoration/Digital Asset Coverage

Media Liability

Cyber Extortion

eTheft and Social Engineering Crime Losses

Contact...

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