Cyber Risk: Trends, Coverage, and Risk Management
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1 Profile of Cyber Risk
2 Coverage
3 Response Tools
4 Discussion
**Cyber Threat Surface**

**Part 1 – Profile of Cyber Risk**

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**Chart 9: Increasing number of data breaches (by entity)**

Source: Jefferies, Identity Theft Resource Centre

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**Part 1 – Profile of Cyber Risk**
Sleepless in St. Louis

- Not advancing number of threats
- Not increasing sophistication of the bad guys
- Not increasing regulatory requirements and data breach focused law firms

Systemic issues across all organizations that shake things up.

Part 1 – Profile of Cyber Risk

HeartBleed

- Foundational code
- Popular open source website program
- Impacted almost two thirds of popular websites
- Required immediate action to fix
- Months until most websites were fixed
Ransomware – WannaCry

Leveraged “EternalBlue” exploit
Patch was available
Over 200,000 impacted
Including 70,000 computers and medical devices in the British health system

Part 1 – Profile of Cyber Risk

Email Compromise

1. CEO Compromise
   - Targets finance department
   - Seeks wire transfer

2. Purchase Order
   - Bogus invoice or purchase orders
   - Spoofed domains

3. W-2 Phishing Info
   - PII data breach
   - Targets finance or HR
   - Results in filing of fraudulent tax returns

4. Attorney Impersonation

Part 1 – Profile of Cyber Risk
Claims

Cyber Claims by Policy Year

<table>
<thead>
<tr>
<th>CYBER CLAIMS BY POLICY YEAR</th>
<th>CIS</th>
<th>THE TRUST</th>
<th>NYMIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>PY2016</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>PY2017</td>
<td>3</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>PY2018</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Total incurred (6) $128,000
2018 incurred (3) $110,000

Total incurred (11) $170,000
2018 incurred (2) $5,300

Total incurred (7) $1,500
2018 incurred (3) $1,500
Expectations

Cyber Related Claims Trajectory

20 percent annual growth in number of average claims

Unknown Unknowns

If you think you are not covering these risks you are mistaken.

Unknown Knowns

Known Knowns

Known Unknowns

Part 1 – Profile of Cyber Risk
Headlines

- Cities Are Facing a Deluge of Cyberattacks, And the Worst is Yet to Come  
  Forbes: April 18, 2018

- Federal Agents Investigate Attempted Hacking at Bexar County Jail  
  Fox San Antonio: January 31, 2019

- Many North Dakota Schools Don’t Have a Plan to Defend Against Cyberattacks  
  Bismarck News: February 19, 2019

Part 1 – Profile of Cyber Risk

Coverage
Coverage Evolution

2011
CIS introduces cyber liability coverage limits

2013
The Trust introduces coverage

2012
CIS trains adjuster in cyber claims management

2014
NYMIR starts developing coverage language and rating basis

2016
NYMIR introduces coverage

2017
CIS completes member cyber assessments

2017
The Trust experiences 4 member systems compromised by phishing emails

2018
One-third of NYMIR’s membership are buying optional coverage

2018
NYMIR seeks coverage expansion

2018
CIS adds impersonation fraud

2.1 Part 2 – Coverage

Typical Coverages

<table>
<thead>
<tr>
<th>Event</th>
<th>CIS</th>
<th>TRUST</th>
<th>NYMIR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee sabotage</td>
<td>Prop $250K</td>
<td>Prop</td>
<td>Power surges</td>
</tr>
<tr>
<td>Hacking software &amp; data</td>
<td>Prop $250K</td>
<td>Prop</td>
<td>Forensic expertise</td>
</tr>
<tr>
<td>Virus data loss</td>
<td>Prop $250K</td>
<td>Prop</td>
<td>Impersonation fraud</td>
</tr>
<tr>
<td>Virus software loss</td>
<td>Prop $250K</td>
<td>Prop</td>
<td>PCI Fines</td>
</tr>
<tr>
<td>Virus hardware loss</td>
<td>Prop $250K</td>
<td>Prop</td>
<td>Ransom payments</td>
</tr>
<tr>
<td>Virus business interruption</td>
<td>Prop $250K</td>
<td>Prop</td>
<td>Breach notifications</td>
</tr>
<tr>
<td>Accidental data loss</td>
<td>Prop - 1 wk</td>
<td>Prop</td>
<td>Credit monitoring services</td>
</tr>
<tr>
<td>Denial of access</td>
<td>Prop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature losses</td>
<td>Prop</td>
<td>Prop</td>
<td>Equip</td>
</tr>
<tr>
<td>Short circuit losses</td>
<td>Prop</td>
<td>Prop</td>
<td>Equip</td>
</tr>
</tbody>
</table>

2.2 Part 2 – Coverage
Key Questions

- Liability, property, or crime coverage
- Optional or blanket
- Occurrence definition (cyber event)
- Limits, excess, and aggregates
- Occurrence or claims made
- Retained risk
- Underwriting conditions

Cyber Language

- ISO (exclusions and professional liability)
- State regulators
- Reinsurers
- Market competitors
- Other pools
Role of Reinsurance

- Partners to develop policy language
- Dedicated cyber resources
- Claims handling or assistance

Also consider: Use insurance for full transfer of risk, underwriting, claims, and training
Response Tools

Claims Management
CISO Service
Forensics
Breach Notifications
Defense Litigation
Hotline Service
Workshops and Training
Network Security
User Policies, Best Practices, and Testing
Assessments and Scans

Layered Response

1. Raising awareness
2. Teach and test
3. Assessment tools
4. Breach resources
5. Directed consultation
Raising Awareness

- Newsletters
- Conferences, webinars, online training

### COMMON TRAINING COURSES OFFERED BY POOLS

<table>
<thead>
<tr>
<th>Course</th>
<th>Focus Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCI Security Standards</td>
<td>Preventing Phishing</td>
</tr>
<tr>
<td>Privacy Awareness</td>
<td>Records Management</td>
</tr>
<tr>
<td>Responsible Use of Social Media</td>
<td>Security Awareness</td>
</tr>
<tr>
<td>Shoulder Surfing</td>
<td>Malware</td>
</tr>
<tr>
<td>Password security</td>
<td>Data Privacy</td>
</tr>
<tr>
<td>Physical Security</td>
<td>Secure Browsing</td>
</tr>
</tbody>
</table>

Teach and Test

- Technology use and cyber security policies
- Onsite, specific training
- Phishing tests
Assessment Tools

- Self audits
- Risk assessment
- Tie to underwriting
**Breach Resources**

- Forensics review
- Breach coaching
- Breach notification services
- Credit monitoring
- Public relations support

**Directed Consultation**

- Cyber claim attorney hotline
- vCISO: Virtual Chief Information Security Officer
- Vulnerability scanning tools
Best in Class

- Claims Management
- CISO Service
- Forensics
- Breach Notifications
- Defense Litigation
- Hotline Service
- Workshops and Training
- Assessments and Scans
- Network Security
- User Policies, Best Practices, and Testing

Discussion
Discussion

- What have you learned about cyber risks?
- What can you do to help your members better understand and avoid cyber risks?
- What remaining questions do you have?

Be like Donald Rumsfeld. Spend time thinking about the unknown unknowns.