Cyber Security Challenge

ISSA Symposium

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Mission One: Protect the Firm and our clients

Challenging Threat Landscape

What Do Your Devices Know About You?

- Passwords
- Fingerprint
- Credit Cards
- Recent Locations
- National ID
- Recently Visited Sites
- Phone Calls Placed
- Your Name & Address
- Current Location
- Recent Locations
- Purchase History
- Deleted Files
- Bank Account Information
- Contact Lists
- Text Messages
- Pictures of Family & Friends

The Challenge Before US

- Cyber Crime delivers a higher return on investment than the drug trade
- Low barriers to entry for criminal actors, the face little to no prospect of prosecution or punishment.
- Crime-As-Service grows with expanded tool sets and services.

- Governments globally recognize cyber as a tool of espionage, a "first strike" weapon in warfare and a unique leveler between world powers and emerging states.
- Regulations are adding a complexity to critical asset management. A lack of harmonization, conflicts in standards, global protectionist steps and government's failure to create cyber deterrent strategies are at the center of the challenge.

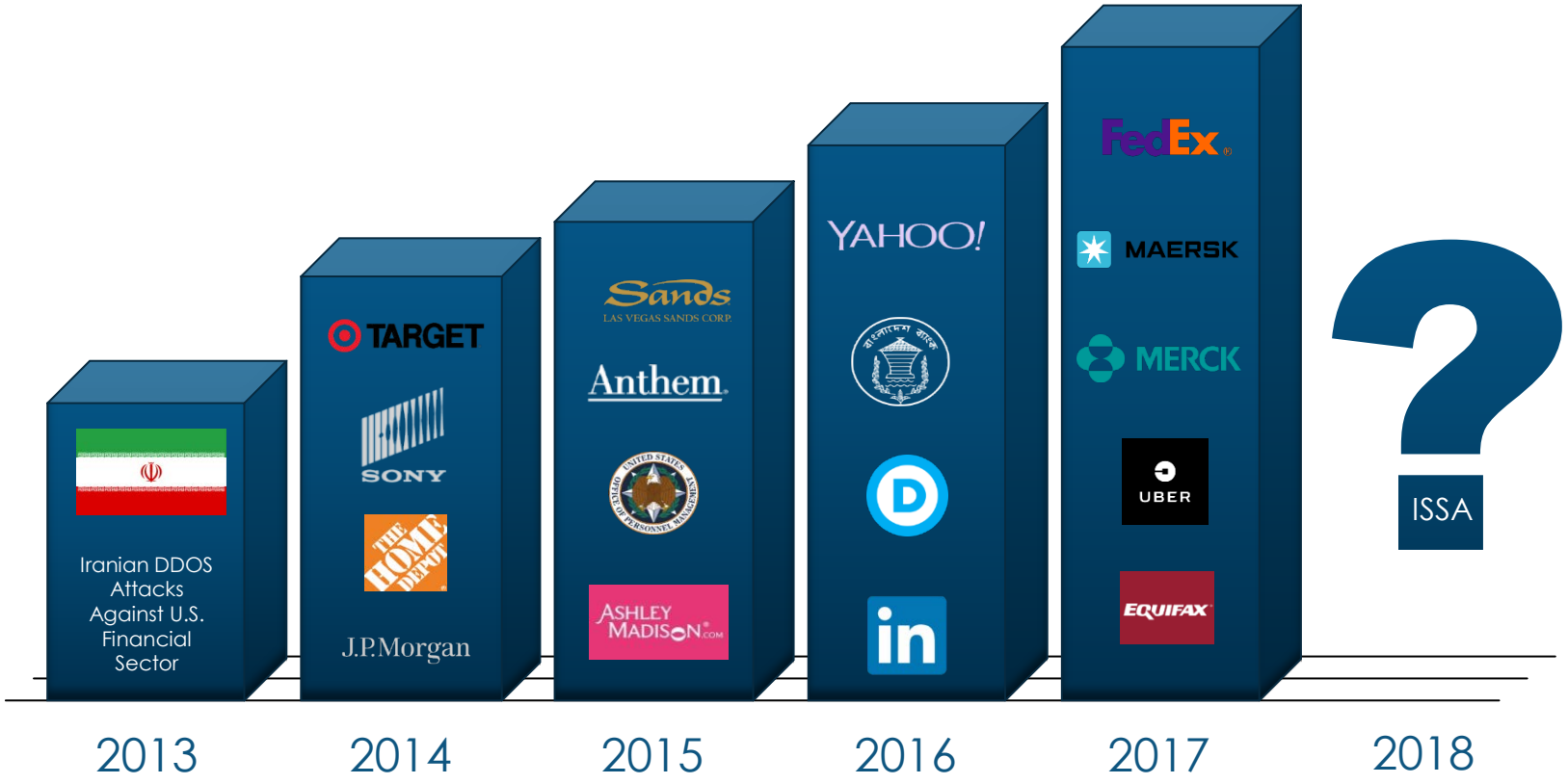
- Cyber attacks increase, so does awareness, the result is a war for talent to find a skilled workforce to build cyber defense teams.

How easy is it for the adversary to gain a foothold in your organization?

95% of Successful Attacks Begin with a Phishing Attack

So let's see how it can happen

Cyber Attacks – Historical Perspective



How Confident is your team that they are prepared for a bad day?

75% of IT Professionals responded that they did not have a formal cyber security incident response plan.

66% of those respondents were not confident in their ability to recover from an attack

Cost of a Data Breach in 2017 was $7,350,000

Source: IBM & Ponemon 2017 Survey of 2,400 IT Professionals.

Recent Major Cyber Attacks

"Wannacry": 12 May 2017 – 15 May 2017

- Global attack targeting Microsoft operating systems XP and Windows 7
- Over **300,000** computers infected in **150 countries**
- UK NHS (70k devices), Telefonica, FedEx, Deutsche Bahn, Nissan, Renault
- Most impacted countries: Russia, Ukraine, India, and Taiwan
- Cost estimates: **Hundreds of millions to $4 billion U.S. dollars**

"Petya/Not-Petya": June 2017

Global attack targeting MS Windows systems using Ukrainian tax program M.E. Doc

- Appeared to be a ransomware attack but actually destroyed data
- **80% of infections in Ukraine,** with others in Germany, France, Italy, Poland, UK, USA

Impacts include:

- Radiation monitors in Ukraine's Chernobyl nuclear power plant went offline
- Ukrainian ministries, banks, and metro systems shut down
- India's largest container port shutdown
- **Maersk reported up to $300 million U.S. dollar revenue loss**
- FedEx 10-K SEC filing reported "material impact(s)"
- W.V. Princeton Hospital completely replaced computer systems

Hybrid Threat of DPRK

The troubles of North Korea make achieving their national objectives difficult:

- Isolated
- Sanctioned
- Threatened

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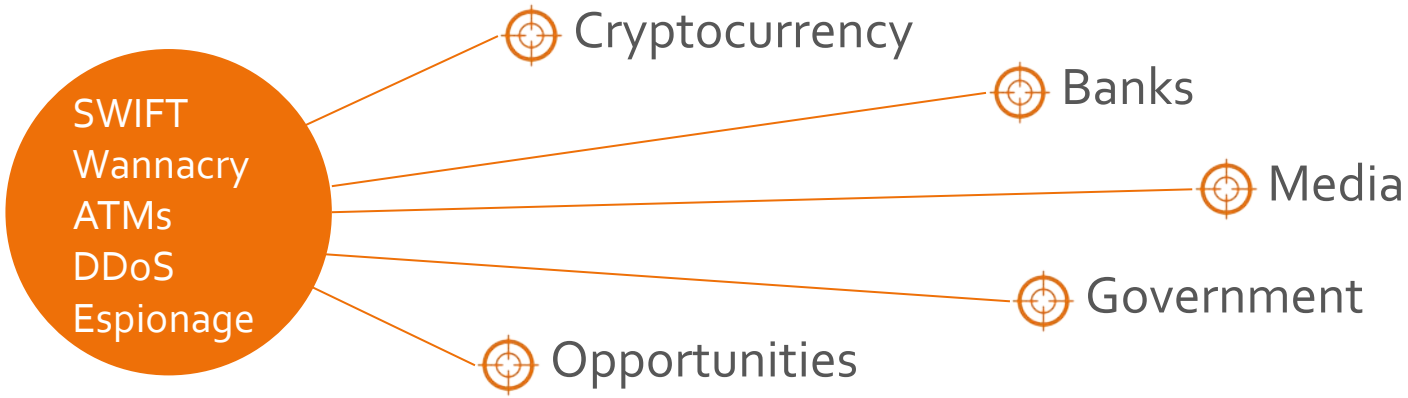
- Perpetuating the Kim regime
- Unification of the Korean peninsula
- Regaining their place as a pillar of the developing world

Cyber has become their solution

by blending Military/Criminal operations using nation-state resources:



.....but they need to monetize their take

Strategy

Today most cyber adversaries are people; people who represent a reasoning actor, one who weights means and ends, costs and benefits and makes a rational choice.

With the right strategy and successful execution you can influence the choice made by an adversary.

First Step Think Like An Attacker

Do you have a comprehensive cyber strategy?

Is your strategy built on a sound, recognized standard?

Control Defense

Hygiene Controls

--(Firewalls, Patch Mtg, Antivirus, Scanning & Monitoring)

Data Protection

Identity & Access

Third Party Management

Application Security

Privileged User Management

SIRT Management

Infrastructure

Active Defense

Intelligence Operations

Information Sharing

Deception & Denial

Honey Pots & Sandbox

Hunting

Vulnerability Assessment Team

Playbooks

War Gaming

Coordinated Disrupt Ops

Beacons on Data

Offense

Hack Back

Rescue & Recovery

Civil Law Suits

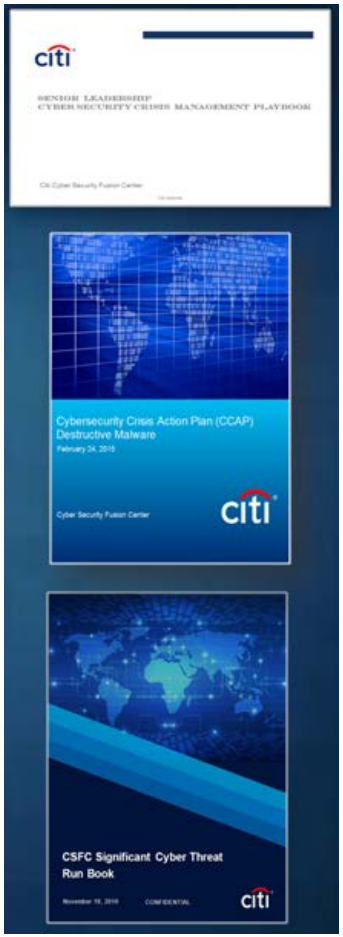
Are you prepared for a Bad Day?

- Commander's Intent Statement
- Clarity on Command & Control Functions
- Clarity on Decision Rights
- Alignment with your Crisis Management Team
- Have you practiced your response?

Cyber Crisis Management

Deliberate Plans

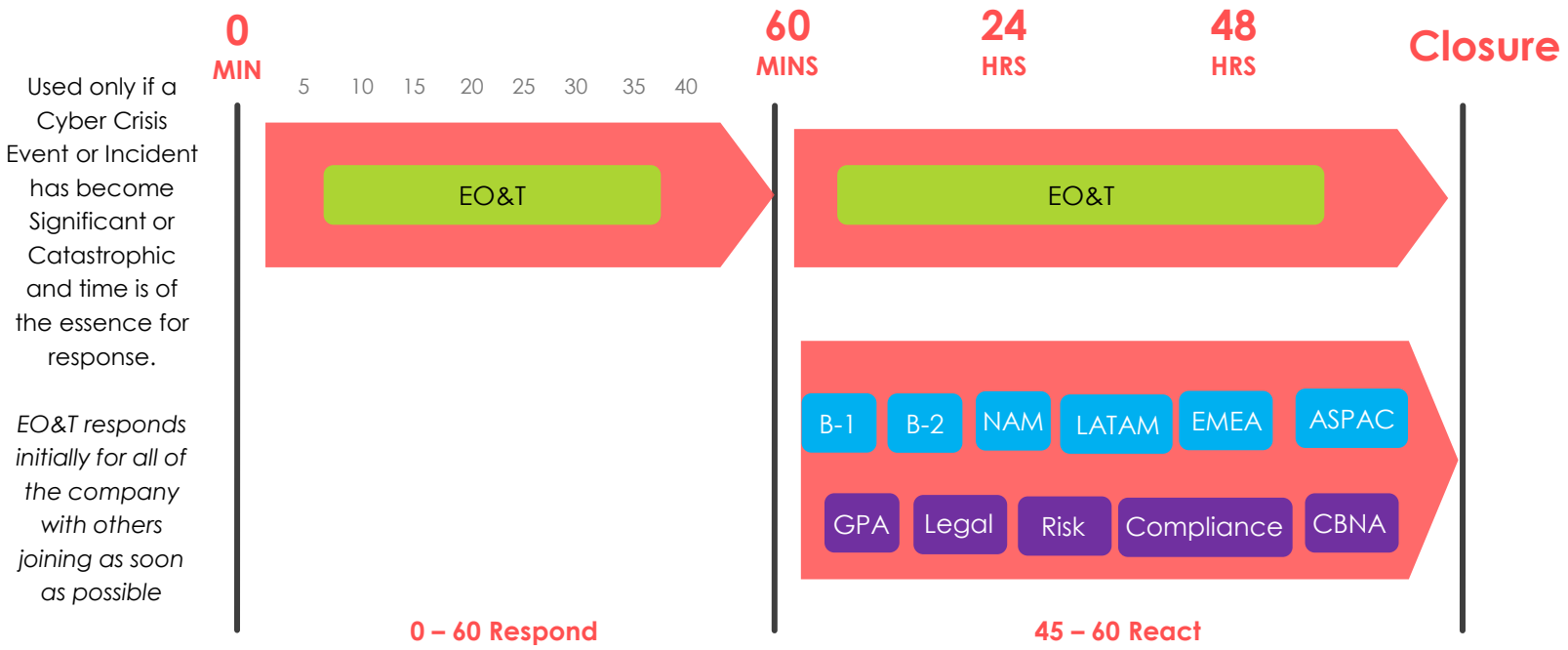
- ✓ Develop a Cyber Crisis Management Framework: provides unique role overviews for holistic response
- ✓ Integrated with your crisis communications technology and processes
- ✓ Provides pre-planned action options meant to contain cascading impacts, but may also result in business impact
- ✓ Pre-defines containment option decision makers, execution protocols and key communications considerations
- ✓ Equipped with specific checklists for all global teams to ensure intelligence gathering, analysis and operational needs are completed in a thorough and thoughtful manner



Proposed Immediate Action Model

Need to Contain in 0 – 60 Minutes

High Risk, High Consequence Cyber Attacks



Validate - Stabilize - React/Respond

Cyber Leadership Truths

Trust is built over time - it cannot be surged at a time of need

The more you sweat in practice, the less you will bleed in battle

You can predict the future if you can shape the future

Talent - Teamwork - Technology