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Connect to Protect

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End Island Hopping Hackers' Vacation in Your Information Supply Chain

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Introductions

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TREND MICRO

Supply Chain and Third Party Risk

Information Supply Chain Risk

2015 Supply Chain Data Breaches

OPM

"22 Million Affected by OPM Hack"

- Attackers gained access to LAN May 7, 2014
  - Stolen Credentials
  - Dropping Malware
  - Creating Back Door
- First data exfiltration by attackers on July 3, 2014
- Attackers pivot to Interior Department systems in October 2014
- Attackers exfiltration data on December 15, 2014
  - SSL traffic
- Signs of a compromise were discovered on April 15, 2015

OPM

Attack Analysis

- Point of Entry - May 7, 2014 (2013?)
  - Stolen Credentials (KeyPoint) - **Undetected**
  - Dropping Malware – **Undetected**
  - Creating Back Door - **Undetected**
- C&C - **Undetected**
- Lateral Movement – **Undetected**
- First data exfiltration – **Partially Detected**
- Island Hop to DOI – **Undetected**
- Second data exfiltration via SSL - **Undetected**
- Breach discovered on April 15, 2015

News Wire Breaches

“Marketwired, Business Wire, PRN Hacked in $30 Million in illicit Trade Scheme”

- 2010 – 2012 Hackers Breached News Wire Cos
  - 390 SQL injections Attacks (Marketwired)
  - 219 stolen credentials (Business Wire)
  - Reverse Shell / Dropped Malware (All) (39)
- 2012 Malware detected and removed (PRN)
- 2012 – 2013 40,000 Press Releases Exfilled out of 150,000 (PRN)
- 2015 Phishing Attack thwarted (Marketwired)

News Wire Breaches

Attack Analysis

- Point of Entry – 2010 -2012
  - SQL Injection Attacks - **Undetected**
  - Stolen Credentials - **Undetected**
  - Dropping Malware – **Partially detected**
  - Reverse Shell - **Undetected**
- C&C - **Undetected**
- Lateral Movement – **Undetected**
- Data exfiltration 2012 – 2013 – **Undetected**
- Point of Entry – 2015
  - Spear Phishing - **Detected**

Ukrainian Energy Supply Chain

Pawn Storm Campaign

Stages of Attack

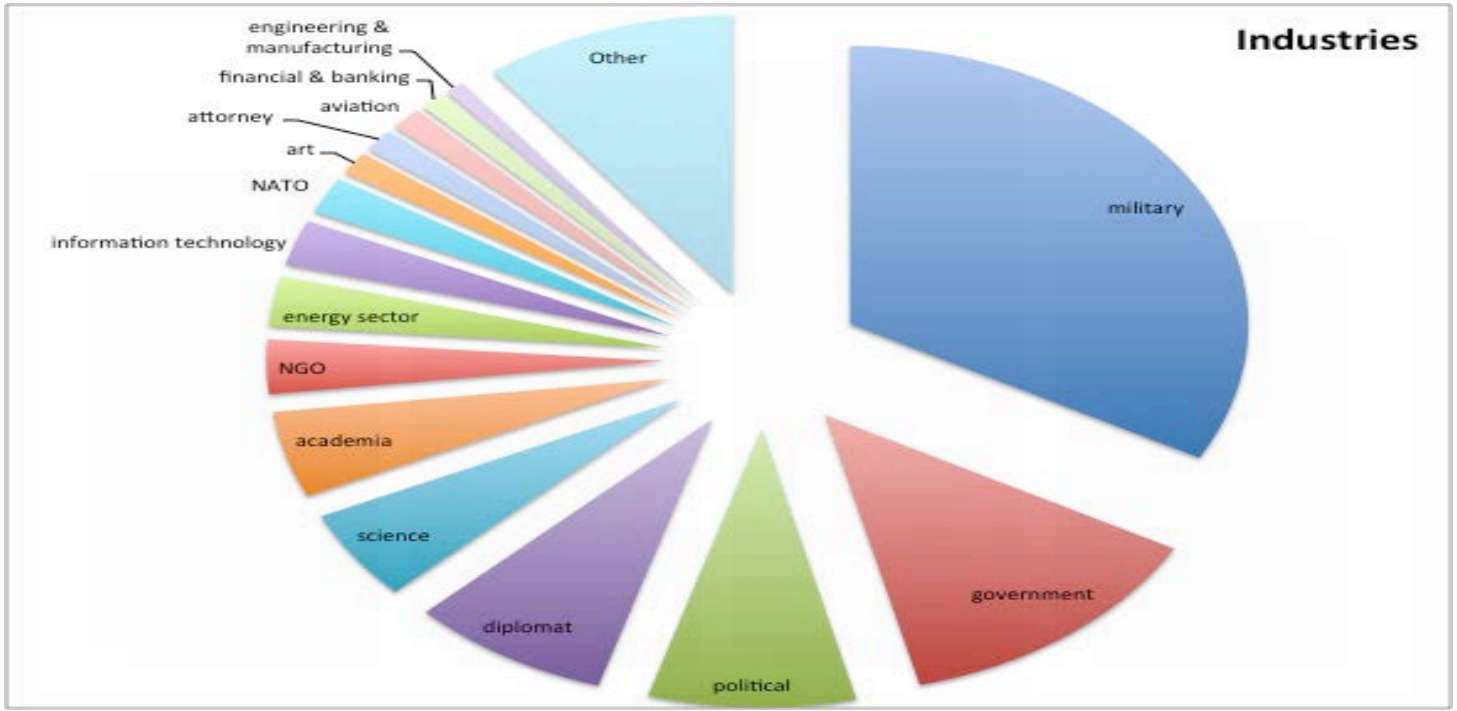
Point of Entry:

- Spearphish (Sednit infected)
- Watering Holes
- IOS Malware/proximity attacks
- File-less Malware
- Lateral Movement
- Island Hopping

Locations of Targets

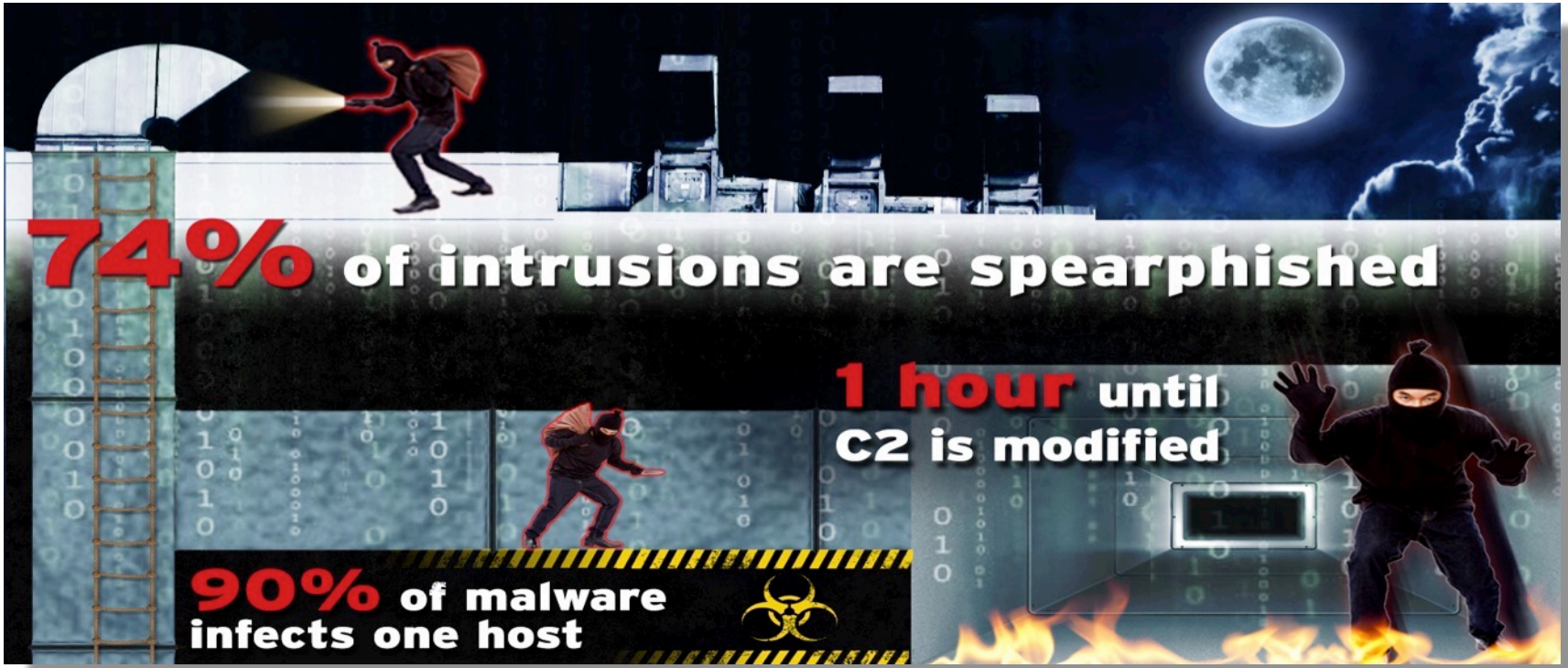
Ukraine	25%
United States	19%
United Kingdom	6%
Russia	6%
Georgia	4%
Hungary	3%
Romania	2%
Belgium	2%
Kazakhstan	2%
Sweden	2%
Others	29%

Attacks by Target Industry



2016 Stratagems of Elite Hackers

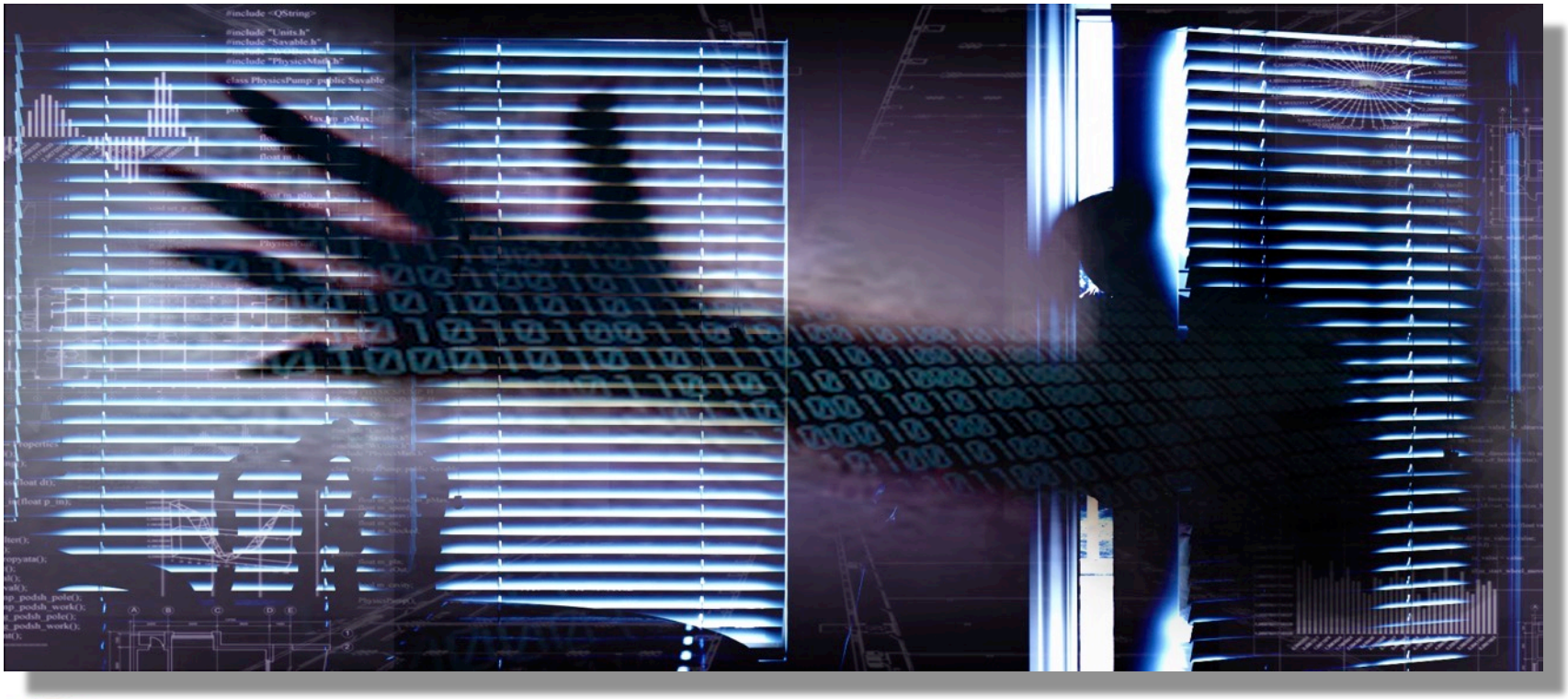
Shifts in M.O.


74% of intrusions are spearphished
1 hour until C2 is modified
90% of malware infects one host

Stages Of Attack

Lateral Movement

Backdoors and Remote Access Trojans



Steganography: Living Modern Art

Secondary Infections Occur within an Hour: Supply Chain Risk

Destroy the Forensics

Crypto-Conspiracy

The Future of Cybersecurity

Intrusion Suppression

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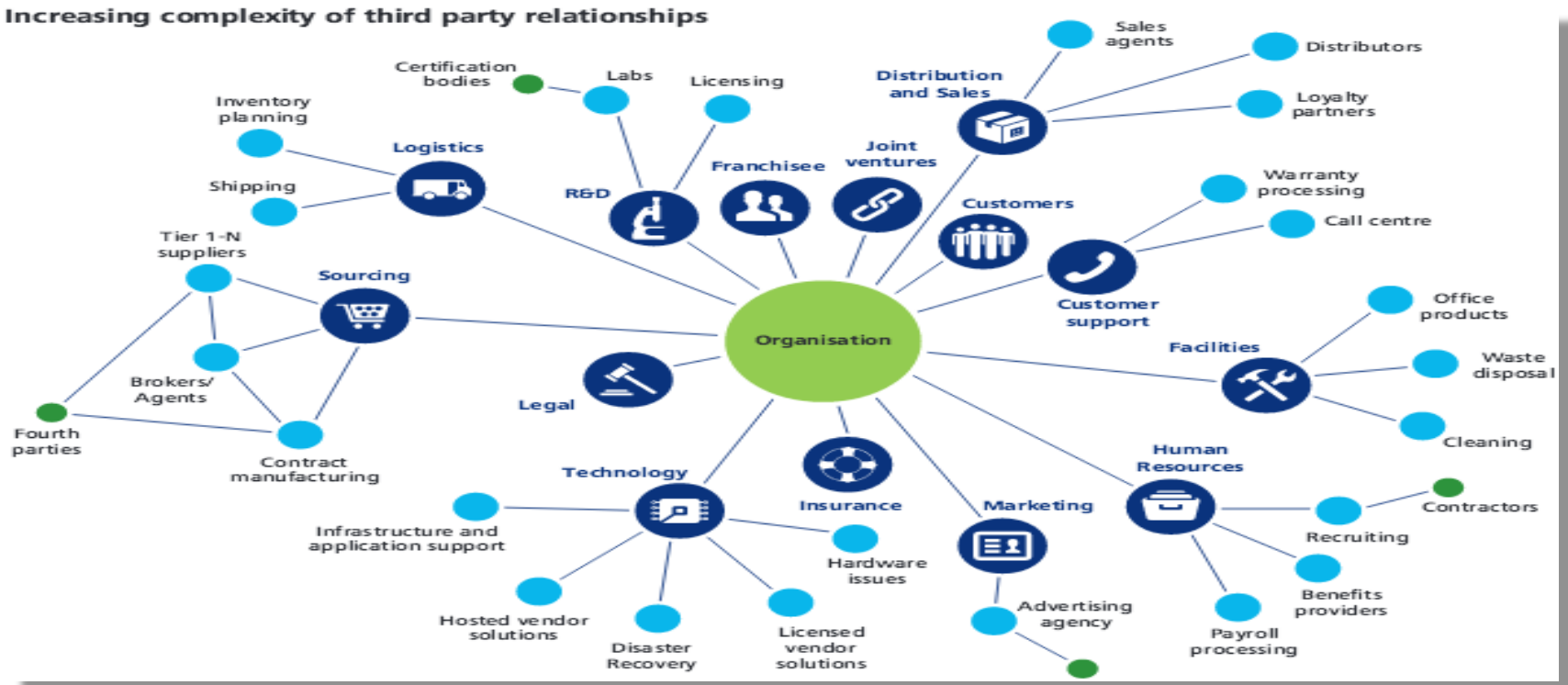
Systemic and Technical Risk Mitigation



Systemic…

- Develop or improve your third party risk management program
  - **Organize** the relevant parties together internally (IT, legal, and procurement)
  - **Identify** your third parties and prioritize them based on risk
  - **Evaluate** your third parties' security posture
  - **Communicate** your security expectations to third parties through contract and contact
  - **Continuously monitor** critical third party performance

Technical Specifications for the SuperMax

- Enforce Third Party Policy with thorough risk & compromise assessments
- Enforce Network Segmentation
- Utilize Two-Factor Authentication for privileged and unprivileged users
- Sandbox your cloud apps
- Conduct file integrity monitoring
- Implement virtual shielding for zero day exploits.
- Deploy integrated Breach Detection and Intrusion Protection Systems

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What Next…

- **Next week you should:**
  - Begin to assess or develop your supply chain and third party risk management program
  - Begin to assess or develop a threat focused enterprise risk management program
- **In the first three months following this presentation you should:**
  - Identify your third parties and prioritize them based on risk
  - Develop and/or deploy intrusion suppression strategies, policies, and technology
- **Within six months you should:**
  - Evaluate your third parties' security posture by conducting continuous risk & compromise assessments
  - Continuously monitor threats and vulnerabilities through integrated Breach Detection / Intrusion Protection Systems to you and your third parties