MAKING AN IMPACT ON U.S. MANUFACTURING

NIST
National Institute of
Standards and Technology
U.S. Department of Commerce

Cybersecurity Assistance

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NIST MEP

What is Information Security?

Confidentiality
Unauthorized Access, Disclosure
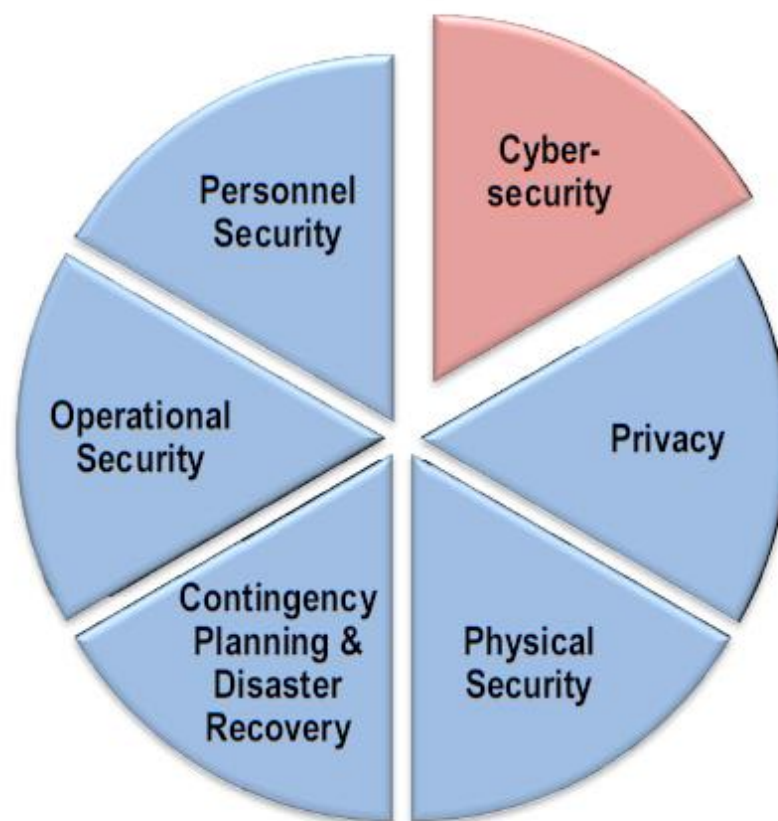
Integrity
Unauthorized Modification, Use

Availability

Disruption, Destruction

What is Information Security?

Small Business on Cybersecurity

- "That doesn't affect me"
- "I'm not a target"
- "I can't afford it" / "It costs too much"
- "It's impossible" / "We're doomed"
- "Not sure what to do"

Why Small Businesses?

- In 2015, 43 percent of all Spear-Phishing attacks targeted businesses with fewer than 250 employees*

* Symantec 2016 Threat Report

Cost of an incident

The average cost of a data breach for SMBs and Enterprises stands at $38k and $551k respectively and 60% of businesses that suffer a breach find their ability to function severely impaired.

** Kaspersky Labs, Global Corporate IT Security Risks: 2015

Which would YOU go after?

- Motion & impact sensors
- Video cameras
- 24/7/365 Professionals

- Simple lock
- Many windows
- Owners often away

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www.nist.gov/mep   mfg@nist.gov   (301) 975-5020

RISKS

Vulnerability:

Weakness in an information system, system security procedures, internal controls, or implementation that could be exploited or triggered by a threat source

What is a Threat?

Threat: a circumstance or event (source) with the potential to adversely impact business assets

Types of Threat Vectors

- Spoofing

- Snooping

- Social engineering

- Increasing the level of system privileges

- Ransomware

Types of Threat Vectors

- Identity Theft - steal & misuse your identity ($$$)

- Phishing - Email tricking YOU or your employees into giving personal or business/customer information (a form of social engineering)

- Spear Phishing - Email with specific company details and targeted at specific employees to deceive you/the target into responding

- SPAM - Unsolicited and unwanted Email

- Compromised web pages - invisible code planted on legitimate web pages which will attempt to install malware on your personal or business computer(s)

Click on me!

Malicious Attacks - What are they after?

- Access to business information / money

- Personally Identifiable Information (PII)
  - Your own
  - Your employees'
  - Your customers'

- To use your personal or business resources for their own purposes / activities

- Disrupt business operations

Disaster & Business Resource Threats

- ## Disasters
  - Fire (natural or man-made)
  - Flooding (natural or man-made, e.g, from burst pipes)
  - Hurricane, tornado, earthquake (natural, locality-based)

- ## Business Resource Threats
  - Equipment (hardware) failure
  - Network/communications failure
  - Application (software) failure
  - Supply Chain Disruption
  - Lack of protections (e.g., no fire protection in place)

Humans

- **Malicious Attack**

  - Hacking business systems to steal information

  - Theft of computer hardware

  - Website defacement

  - Installing malicious programs onto business computers

  - Destroying a system to disrupt operations

- **Human Error**

  - Destruction of data and resources

  - Disclosure of proprietary / sensitive information

Where to Start

- Identify what information your business uses

- Determine how much your information is worth

- Understand your threats and vulnerabilities

- Get help when needed

Identify

- Inventory

- Access control

- Background checks

- Individual user accounts

- Policy and procedures

Protect

- Limit employee access
- Install surge protectors and UPS
- Patch operating systems and applications
- Install and activate firewalls
- Secure wireless access points
- Set up web and email filters
- Encrypt sensitive information
- Safe disposal
- Train employees

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Detect

- Install and update anti-virus, and anti-spyware
- Maintain and monitor logs
- Train your employees

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Respond

- Develop a plan for disasters and security incidents
  - Roles and responsibilities
  - Who to call
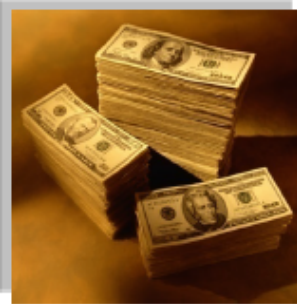 - What types of activity constitutes a security incident

Recover

- Make full backups
  - Removable media
  - Separate server isolated from the network
  - Online storage/Cloud service providers
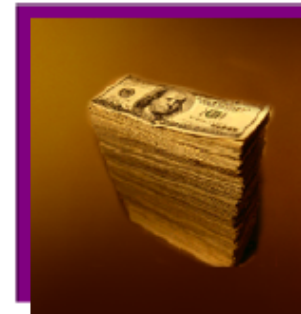- Test your backups
- Consider Cyber Insuranc

Cost Benefit/Avoidance Analysis

Potential

Loss

Protection

Costs

versus

Potential Impact (Consequences/Loss)

- Embarrassment (credibility/reputation)

- Repair costs (& down time)

- Misinformation or worse (misled customers)

- Weakened ability to innovate

- Loss of personal assets

- Loss of customers

- Out of Business!

404
ERROR

Things to do

- Train your employees
  - Phishing
  - Social Media
- Clean machines
  - Patches
  - Latest security software
  - Browsers
  - Operating Systems
- Use firewalls

Things to do

Mobile Devices

- – Passwords
- – Encrypt
- – Install Security Apps
- – Avoid Public Networks
- – Report if lost or stolen

Things to do

- Make backups
  - Automatically
  - Weekly
  - Store offsite or in the cloud
- User Accounts for each employee
  - Strong passwords
  - Admin privileges limited

Things to do

- Secure Your Wi-Fi
  - Encrypt
  - Do not broadcast network name
    - Service Set Identifier (SSID)
  - Password protect router

Things to do

- Payment Cards
  - Trusted and validated tools
  - Anti-fraud services
  - Isolate payment systems
- Limit Access
  - No one has access to all
  - Based on roles
  - SW Install needs permission

Things to do

- ## Strong Passwords

  - Change every three months
  - At least 12 characters
    - Number
    - Special character
  - Multi-factor Authentication
  - Train Employees

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More Cybersecurity Webinars Coming Soon!

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