

Cybersecurity Fundamentals



NIST

The banner features a blue background with various technology-related icons: a server rack, a monitor, a globe, a laptop, and a globe with a magnifying glass. The NIST logo is prominently displayed on the right side.

Why Cybersecurity Matters for your Business



WHY HACKERS HACK

MOTIVES BEHIND CYBERATTACKS

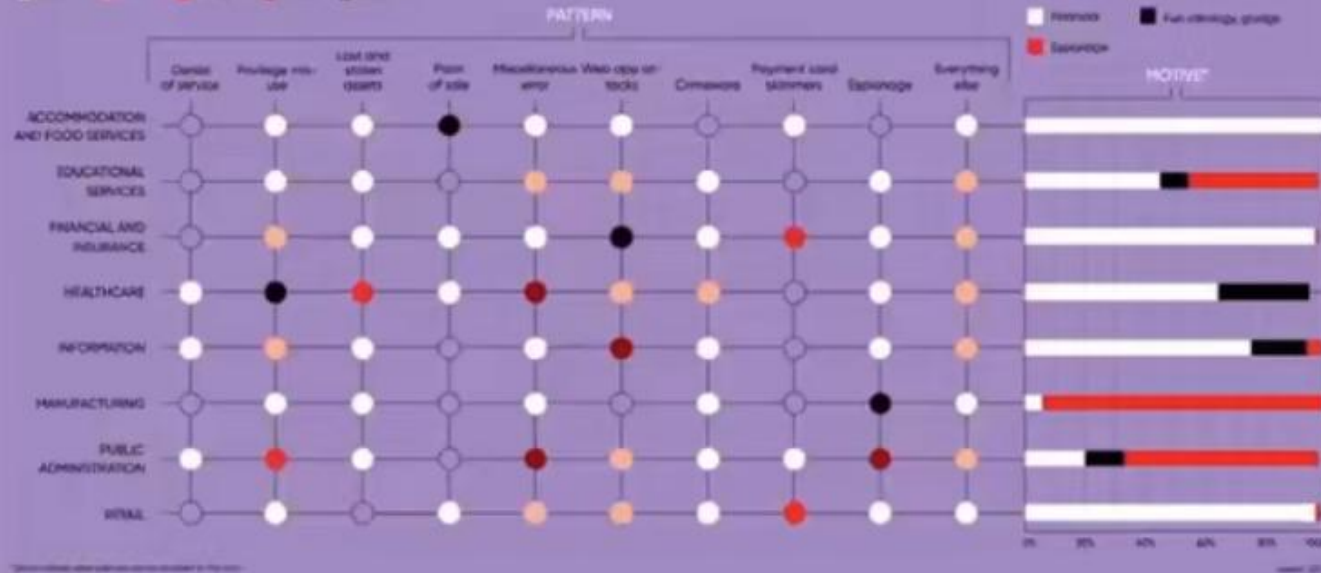
GLOBAL STUDY OF LARGE ORGANIZATIONS THAT WERE VICTIMS TO A CYBERATTACK



DATA BREACHES, BY PATTERN AND MOTIVE

GLOBAL STUDY OF ALMOST 2,000 DATA BREACHES

● 1-1E ● 1N-30 ● 31-40 ● 41-100 ● 101+



WHO'S BEHIND DATA BREACHES?

GLOBAL STUDY OF ALMOST 2,000 DATA BREACHES



RACONTEUR

NIST

What You'll Learn

- Cybersecurity basics
- Risk management
- Cybersecurity Framework
- Small business cybersecurity resources

More Information

Throughout this presentation, keep an eye out for these boxes which will direct you to publications containing definitions, examples and more related to the topic on the slide.

Cybersecurity Basics

Cybersecurity:

protecting electronic devices and associated data and information

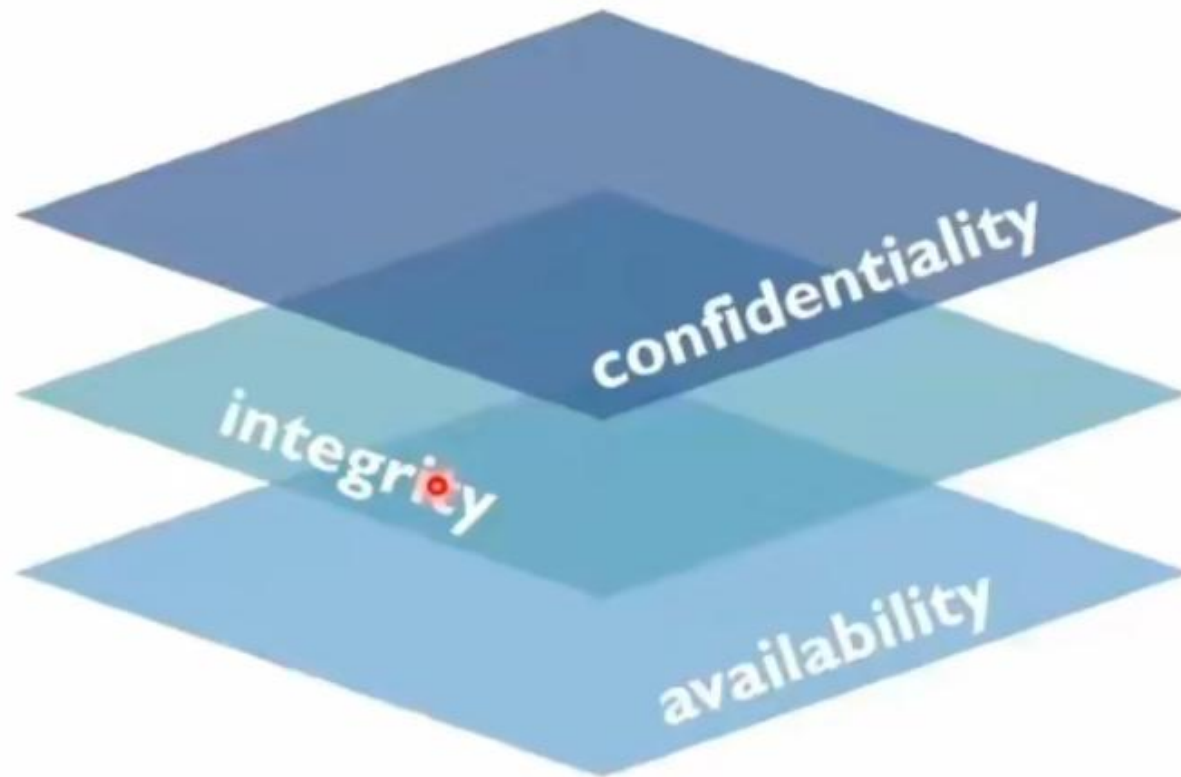


Complexity of a modern small business

- Email
- Mobile devices
- Corporate website
- Social media
- Ecommerce systems
- Online banking
- BYOD and office policy
- Network management
- Backup and remote access



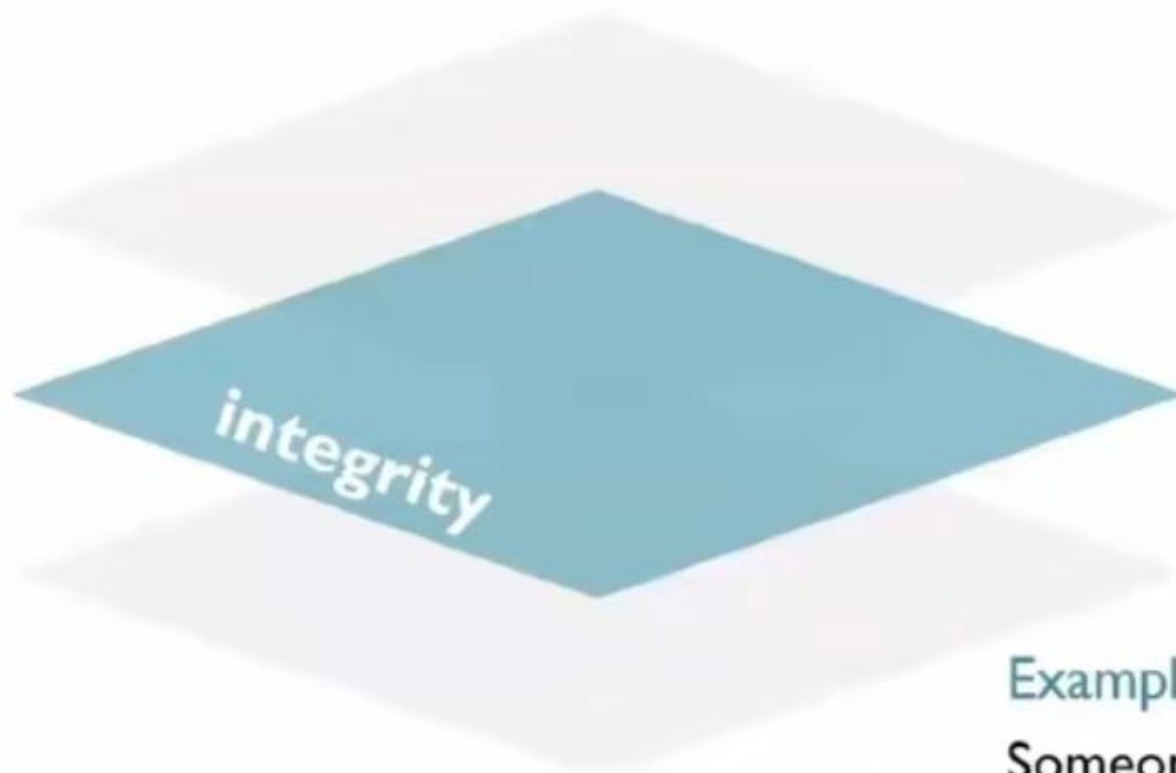
Cybersecurity Objectives



More
NIST Special
Publication
800-12,
revision 1
*An Introduction
to Information
Security*
section 1.4

Integrity

Protecting
information
from
unauthorized
modification



Example:

Someone alters payroll
information or a proposed
product design

Availability

Preventing
disruption in
how
information is
accessed



Example:
Your customers
are unable to
access your
online services

Small Business, Big Impact

Why put your already limited resources into preparing for and protecting against cybersecurity attacks?

Vulnerability

Attackers can see small businesses as easy targets

Business Costs

Attacks can be extremely costly and threaten the viability of your business

Reputation

Customers and employees expect and trust you to keep their information secure

Cybersecurity Basics Resources

Want more details?

For a primer on cybersecurity basics with a focus on small businesses, check out NISTIR 7621, revision 1.



More

NIST Interagency Report 7621, revision 1

Small Business Information Security: The Fundamentals

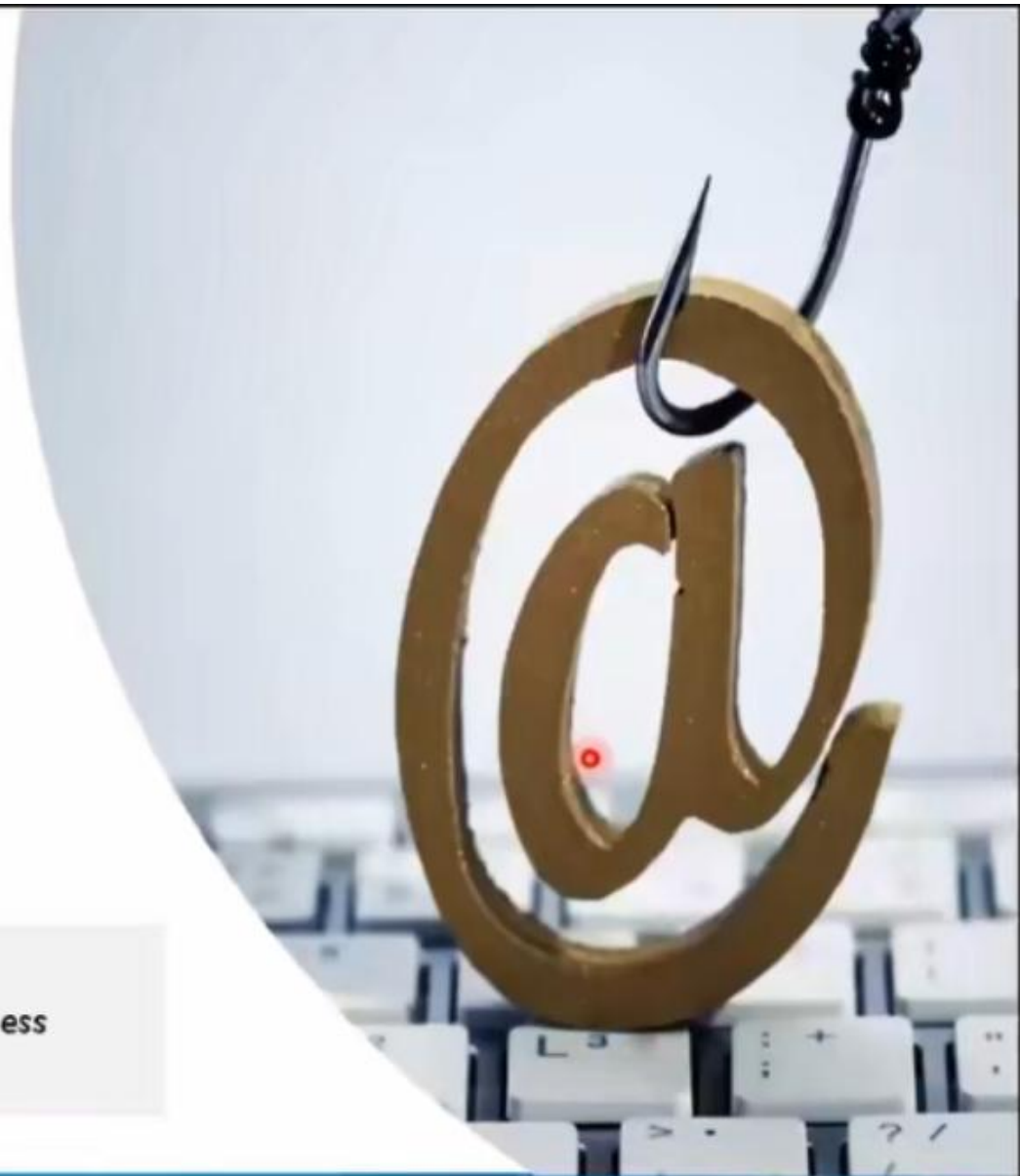
Section 1: Background: What is Information Security and Cybersecurity?

Cybersecurity Threats

- **Phishing Attacks**
- **Ransomware**
- **Hacking**
- **Imposter Scams**
- **Environmental events**

More

NIST Interagency Report 7621, revision 1 | *Small Business Information Security: The Fundamentals*, section 2.1



Phishing Attacks

- Social engineering attack involving trickery
- Designed to gain access to systems or steal data
- Targeted phishing is “spear phishing”
- Variants include “vishing” – attacks by telephone and “smishing” those using SMS or text

Example:

An email about a delayed shipment causes you to click a link and download malware to your network.

Ransomware

- Type of software with malicious intent and a threat to harm your data
- The author or distributor requires a ransom to undo the damage
- No guarantee the ransom payment will work
- Ransom often needs to be paid in cryptocurrency

Example:

WannaCry was one of the most devastating ransomware attacks in history, affecting several hundred thousand machines and crippling banks, law enforcement agencies, and other infrastructure.

Hacking

- Unauthorized access to systems and information
- Website attack such as DDOS
- Access denied to authorized users
- Stolen funds or intellectual property

Example:

Newspaper kiosk's point-of-sale system was hacked; malware installed. Every customer's credit card information was sent to criminals.

Imposter Scams



- Someone “official” calls or emails to report a crisis situation
- They represent the IRS, a bank, the lottery or technical support
- There will be a sense of urgency and a dire penalty or loss if you don’t act

Example:

IRS scams – You receive a phone call claiming to be the IRS, reporting you owe money and need to pay or else get hit with a fine.

Environmental Threats

- Natural threats such as fire, earthquake, flood can cause harm to computers or disrupt business access
- Recovery efforts attract scams such as financial fraud
- Downtime can lose customers, clients who can't wait

Example:

Ellicott City flooding wiped out businesses and their computers