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Since 2018

CYBERSECURITY AWARENESS

Importance of Cybersecurity

The internet allows an attacker to work from anywhere on the planet.

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Risks caused by poor security knowledge and practice:

- IdentityTheft
- MonetaryTheft
- LegalRamifications(foryourselfandyourorganization)
- Sanctions or termination if policies are not followed

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Security is Safety

Security: We must protect our computers and data in the same way that we secure the doors to our homes.

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Security: We must protect our computers and data in the same way that we secure the doors to our homes.

Safety: We must behave in ways that protect us against risks and threats that come with technology.

Leading Threats

Viruses

Worms

- Trojan Horses
- Logic Bombs
- Rootkits

Social Engineering

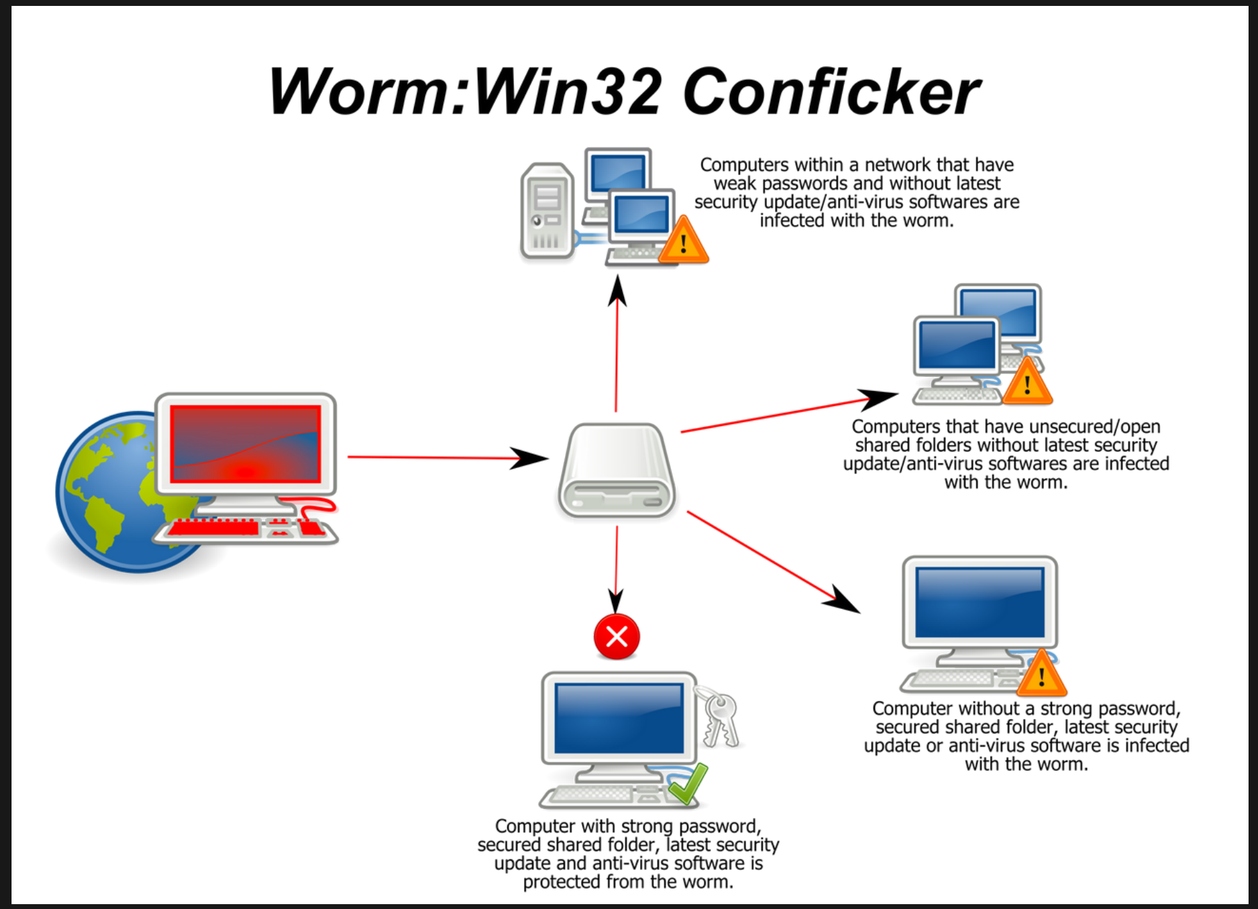
Botnets/ Zombies

Viruses

- A virus attaches itself to a program, file, or disk
- When the program is executed, the virus activates and replicates itself
- The virus may be benign or malignant but executes its payload at some point (often upon contact)
    - Viruses can cause computer crashes and loss of data

Worms

Independent program that replicates itself and sends copies from computer to computer across network connections



Logic Bomb

- **Malware logic executes upon certain conditions. The program is often used for otherwise legitimate reasons, ex-**
  - Software which malfunctions if maintenance fee is not paid
  - Employee triggers a database erase when he is fired

Trojan Horse

- **Masquerades as a benign program while quietly destroying data or damaging your system, example:**
  - *Download a game*: It may be fun but contains hidden code that gathers personal information without your knowledge.

Social Engineering

Manipulates people into performing actions or divulging confidential information. Similar to a confidence trick or simple fraud, the term applies to the use of deception to gain information, commit fraud, or access computer systems

Phishing

Counterfeit Email

A seemingly trustworthy entity asks for sensitive information such as PAN, Adhaar, credit card numbers, login IDs or passwords via e-mail

Pharming

Counterfeit Web Pages

The link provided in the e-mail leads to a counterfeit webpage which collects important information and submits it to the owner

- The counterfeit web page looks like the real thing
- Extracts account information

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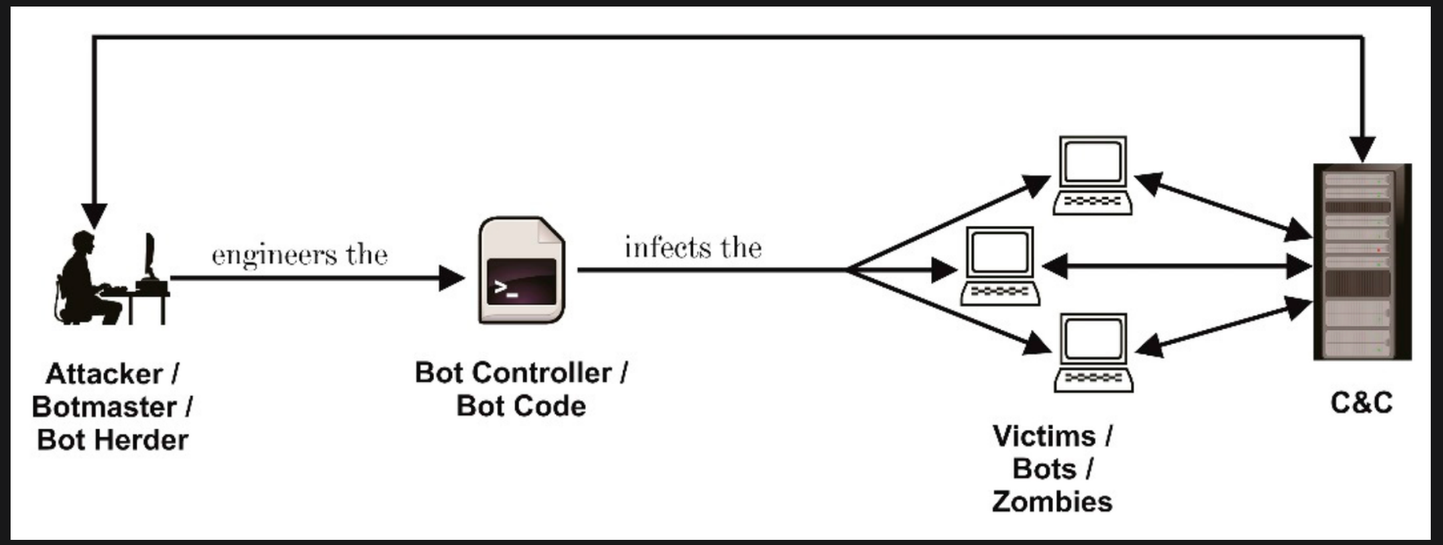
Botnet

A botnet is a number of compromised computers used to create and send spam or viruses or flood a network with messages as a denial of service attack

- The compromised computers are called zombies



Man in the middle

An attacker pretends to be your final destination on the network. When a person tries to connect to a specific destination, an attacker can mislead him to a different service and pretend to be that network access point or server

Rootkit

Upon penetrating a computer, a hacker may install a collection of programs, called a rootkit

- May enable:
  - Easy access for the hacker (and others)into the enterprise
  - Keystroke logger
- Eliminates evidence of break-in
- Modifies the operating system

Identifying Security Compromises

Symptoms

Malware Detection

- Spyware symptoms

Best Practices

- Anti- virus & spyware
- Host based firewalls
- Protect your OS
- Use Strong Passwords
- Avoid Social engineering
- Secure business transactions
- Backup important information
- Cyber Incident Reporting

Symptoms

- Antivirus software detects a problem
- Disk space disappears unexpectedly
- Pop-ups suddenly appear, sometimes selling security software
- Files or transactions appear that should not be there
- Unusual messages, sounds, or displays on your monitor
- The computer spontaneously shuts down or reboots
- Often unrecognized or ignored problems

Stolen laptop: 1 stolen every 53 seconds; 97% never recovered.

Symptoms | Spyware

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- Changes to your browser homepage/start page
- Ending up on a strange site when conducting a search
- System-based firewall is turned off automatically
- Lots of network activity while not particularly active
- Frequent firewall alerts about unknown programs when trying to access the Internet.
- Poor system performance

First ever used in 1995. Originally term denoted software used for espionage

Best Practices | Anti-Virus & Anti- Spyware

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- Anti-virus software detects certain types of malware and can destroy it before any damage is done
- Install and maintain anti-virus and anti-spyware software
- Be sure to keep anti-virus software updated
- Many free and commercial options exist
- Contact your Technology Support Professional for assistance

ILOVEYOU virus spread to over 45mn computers

Best Practices | Host-based Firewall

- A firewall acts as a barrier between your computer/private network and the internet
- Hackers may use the internet to find, use, and install applications on your computer which a firewall prevents

Best Practices | Protect your Operating System

- Microsoft regularly issues patches or updates to solve security problems in their software. If these are not applied, it leaves your computer vulnerable to hackers.
- The Windows Update feature built into Windows can be set up to automatically download and install updates.
- Avoid logging in as administrator
- Apple provides regular updates to its operating system and software applications

Best Practices | Use strong passwords

- USG standards:
  - Be at least ten characters in length
  - Must contain characters from at least two of the following four types of characters:
    - English upper or lower case (A-Z)
    - Numbers (0-9)
    - Non-alphanumeric special characters ($, !, %, ^, …)
- Must not contain easily accessible or guessable personal information about the user or user's family, such as birthdays, children's names, addresses, etc

Best Practices | Avoid Social Engineering & Malicious Software

- Do not open email attachments unless you are expecting the email with the attachment and you trust the sender
- Do not click on links in emails unless you are absolutely sure of their validity
- Only visit and/or download software from web pages you trust

Best Practices | Secure Business Transactions

- Always use secure browser to do online activities.
- Frequently delete temp files, cookies, history, saved passwords etc.

Best Practices | Backup important information

- No security measure is 100% reliable
- Even the best hardware fails.
- What information is important to you?
- Is your backup:
  - Recent? Off-site & Secure?
  - Process Documented? Encrypted? Tested?

Fraud

- Organizations lose 5-6% of revenue annually due to internal fraud = $652 Billion in U.S. (2006)
- Average scheme lasts 18 months, costs $159,000
- 25% costs exceed $1M
- Smaller companies suffer greater average dollar losses than large companies

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Thank You !

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