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- Topic Name: System Hacking Phases and Attack Techniques Malware Threats
- Episode Name: Viruses and Worms

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## **Viruses and Worms**

## **Objectives:**

- Define Viruses and and Worms and explain their characteristics
- List the phases of the Virus Lifecycle
- List and define the common virus types
- List and explain how viruses and worms are able to infect computer systems
- What is the difference between viruses and worms?
  - Virus
    - Malicious software that attaches itself to host file or program
    - Self-replicating
      - It infects other programs or files
    - Requires human interaction to activate
  - Worm
    - Spreads independently through software vulnerabilities
    - Doesn't require human interaction
      - https://www.hp.com/us-en/shop/tech-takes/top-ten-worst-computer-viruses-in-history
- What are typical goals?
  - Destruction/damage of systems
  - Cyber theft
  - Chaos!
  - Hacktivism
- What are symptoms of infection?
  - Poor system performance
    - Lack of disk space
    - Memory/CPU/Network utilization is high
  - System crashes
  - Missing data
- What are the stages of the Virus Lifecycle?
  - Design
    - Virus dev designs and develops new virus
      - Programming skills
      - Construction kits
  - Replication
    - Virus is released and spreads
  - Launch
    - User downloads and executes virus
  - Detection
    - Virus is discovered and analyzed
    - Virus attributes and specifics are cataloged
  - Incorporation

- AV orgs add new virus defenses to their software
- Execution of the damage routine
  - Removing viruses with AV
- What are some common virus types?
  - Boot sector
    - Elk Cloner
    - Stoned
    - Michelangelo
  - File
  - Macro
    - Melissa
  - Polymorphic
    - Encryption Key
    - WannaCry
    - CryptoLocker
  - Metamorphic
    - No Encryption Key
  - Logic Bombs
  - Ransomware