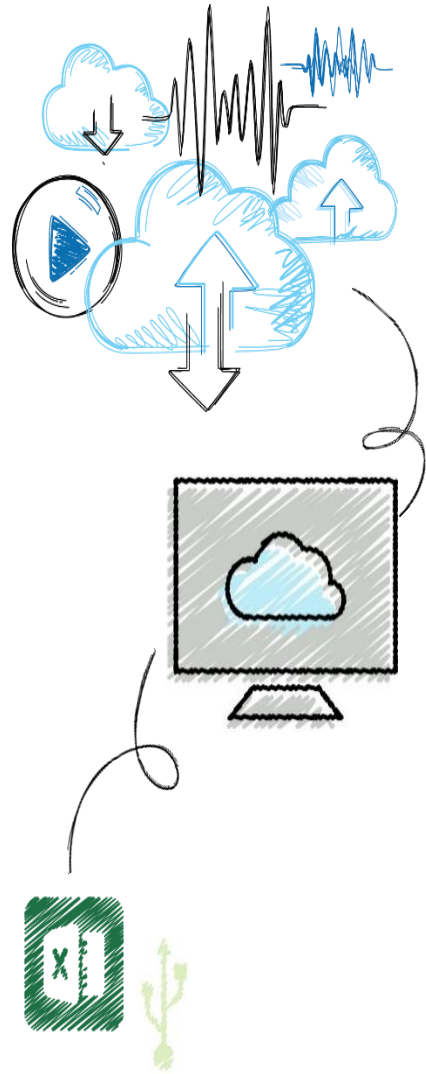


Principles of Cyber Security

Lecture 12: Traditional Ciphers_VI



Objectives

12.1 Describe the different types of networking-based attacks.

Attacks on Networks

- Threat actors place a high priority on targeting networks in their attacks
- Exploiting a single network vulnerability can expose hundreds or thousands of devices
- Attacks that target a network or a process that relies on a network include:
 - Interception attacks
 - Layer 2 attacks
 - DNS attacks
 - Distributed denial of service attacks
 - Malicious coding and scripting attacks

Attacks on Networks

- **Man-in-the-Middle (MITM)**

- In an MITM, a threat actor is positioned in a communication between two parties
- The goal of an MITM attack is to eavesdrop on the conversation or impersonate one of the parties
- A typical MITM attack has two phases:
 - The first phase is intercepting the traffic
 - The second phase is to decrypt the transmissions

Attacks on Networks

- Man-in-the-Middle (MITM).

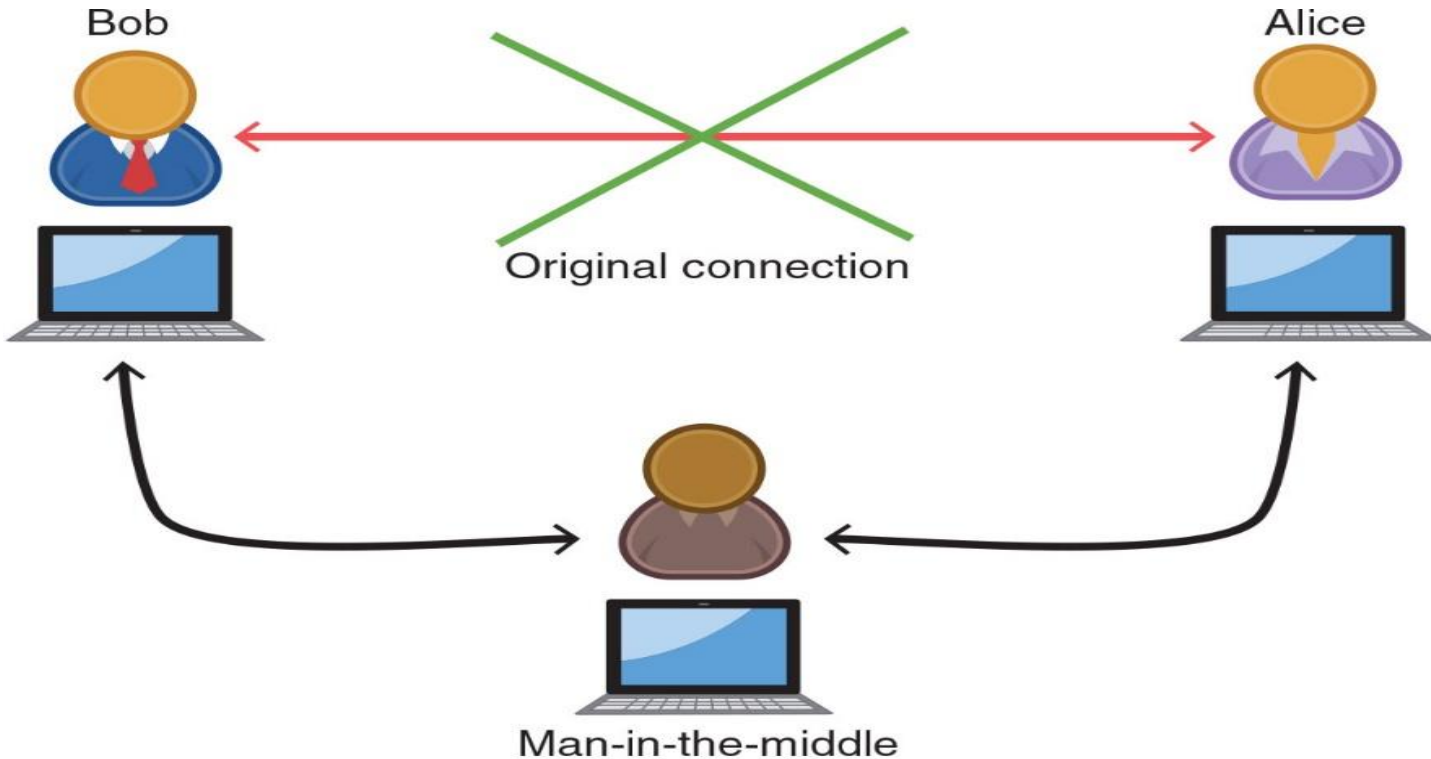


Figure 8-1 MITM attack

Attacks on Networks

- **Man-in-the-Middle (MITM)**
- **Session Replay**
 - A *replay* attack makes a copy of a legitimate transmission before sending it to the recipient
 - Attacker uses the copy at a later time
 - Example: capturing logon credentials
- Threat actors use several techniques for stealing an active session ID:
 - Network attacks (hijacks and altered communication between two users)
 - Endpoint attacks (cross-site scripting, Trojans, and malicious JavaScript coding)



Thank you