

CCNA 200-301, Volume 2

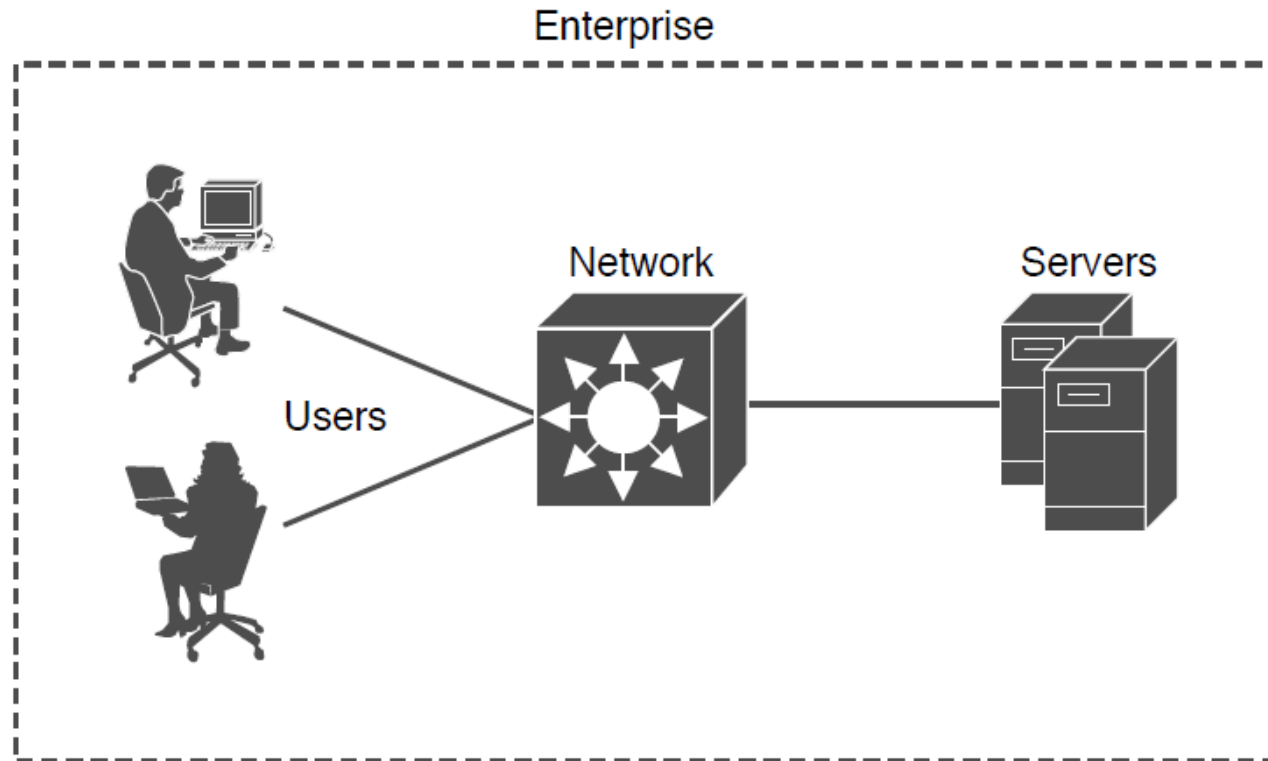


Chapter 4 **Security Architectures**

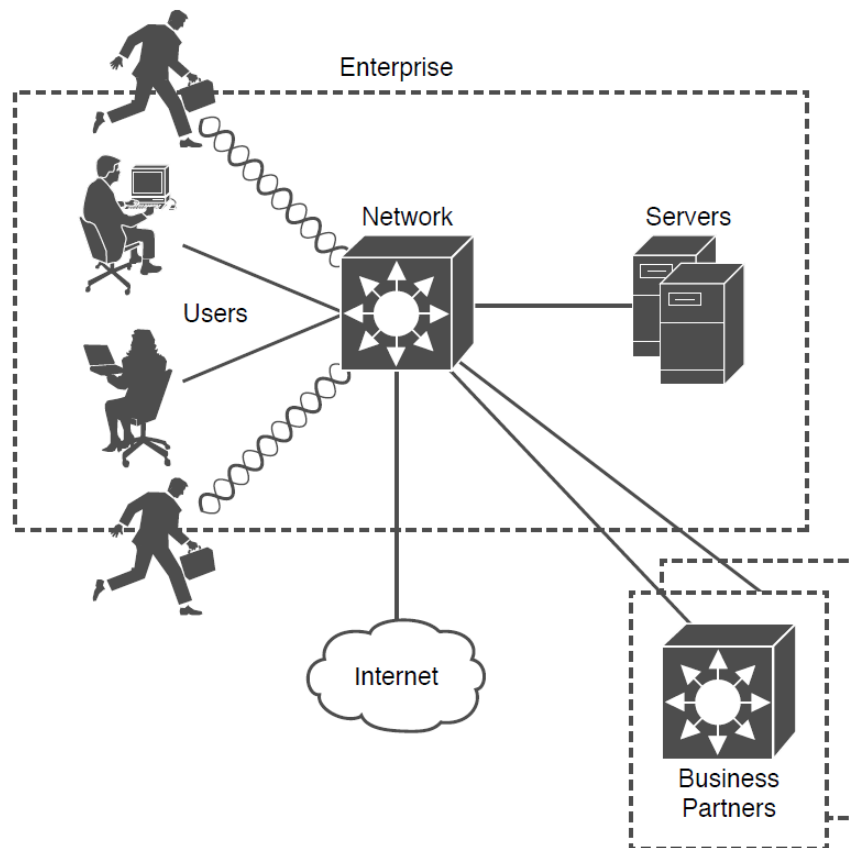
Objectives

- Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
- Describe security program elements (user awareness, training, and physical access control)
- Describe security password policies elements, such as management, complexity, and password alternatives (multifactor authentication, certificates, and biometrics)
- Differentiate authentication, authorization, and accounting concepts

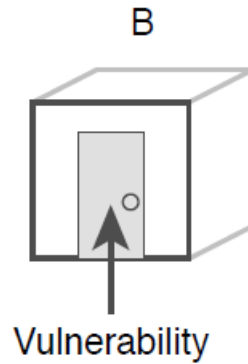
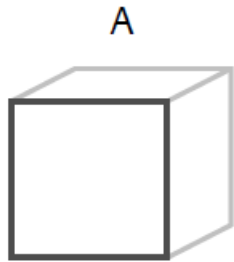
Example of an Enterprise Closed System



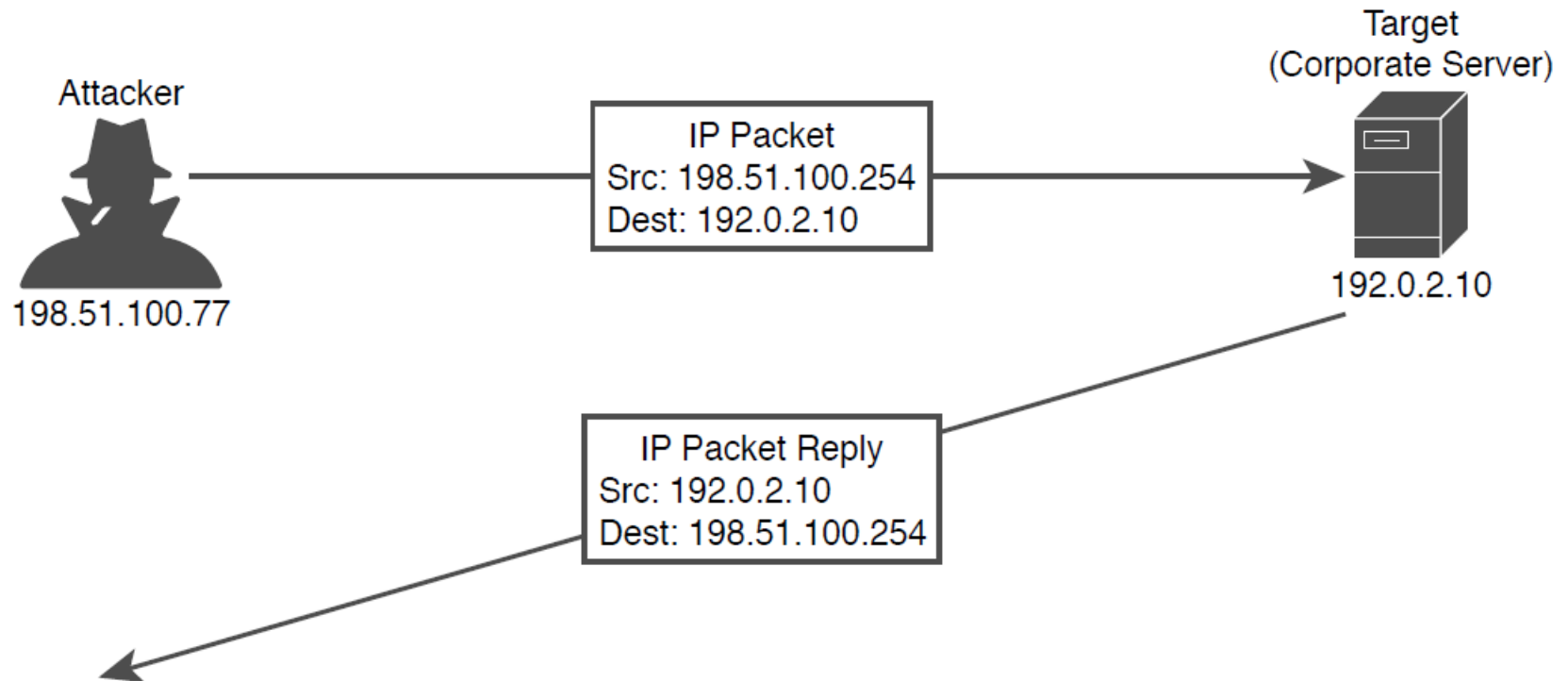
Example Enterprise Extends Beyond Its Own Boundary



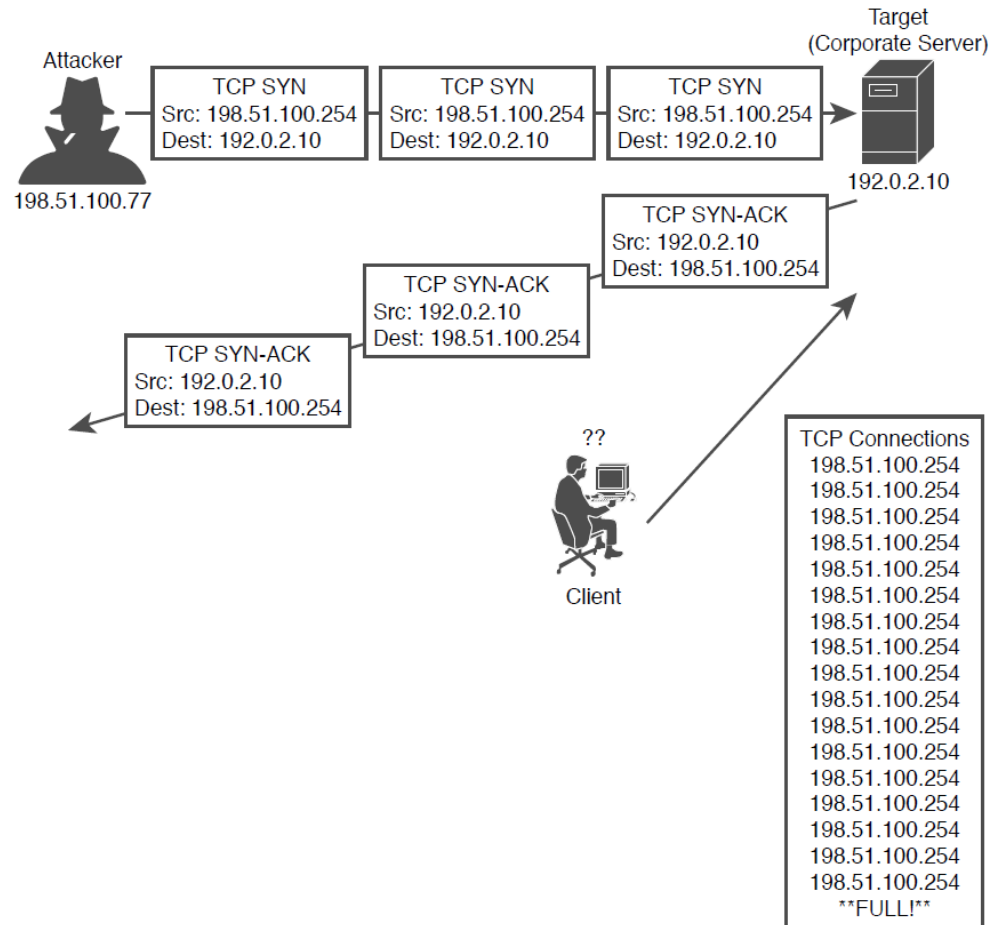
Security Terminology Illustrated



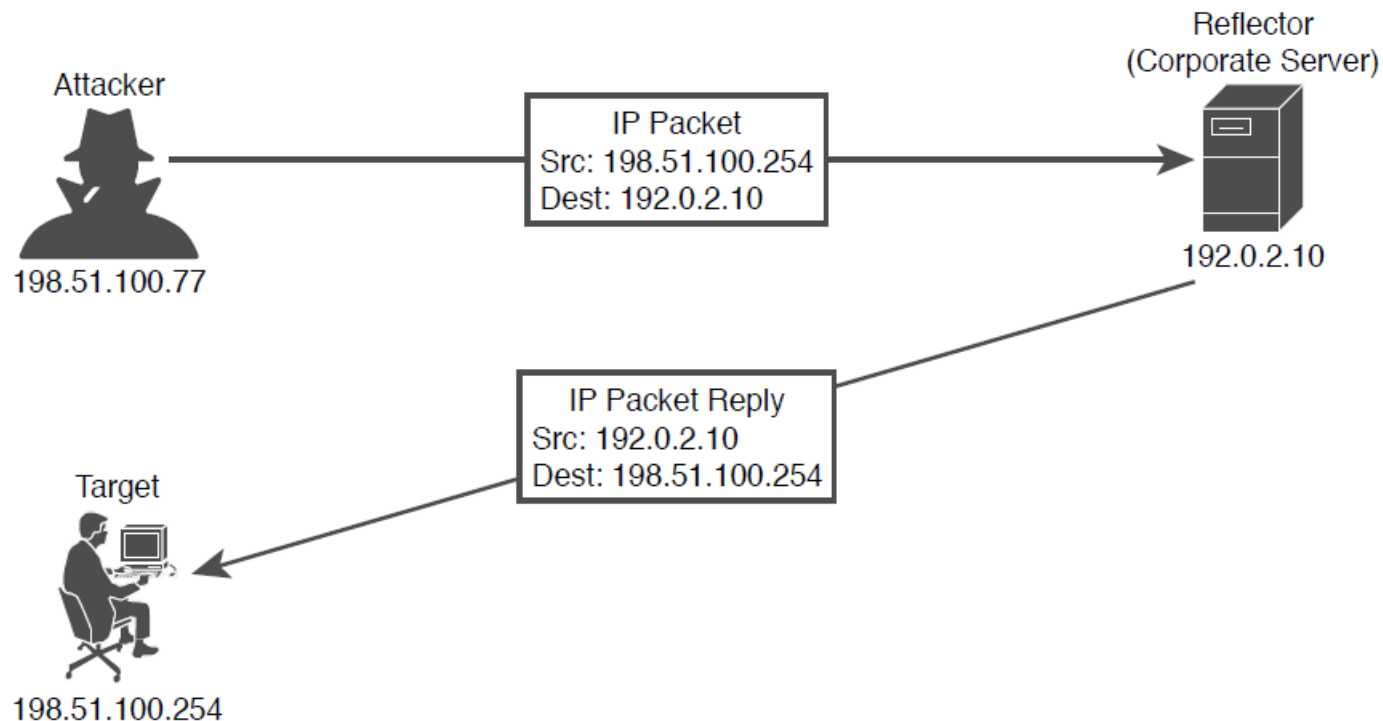
Sample Spoofing Attack



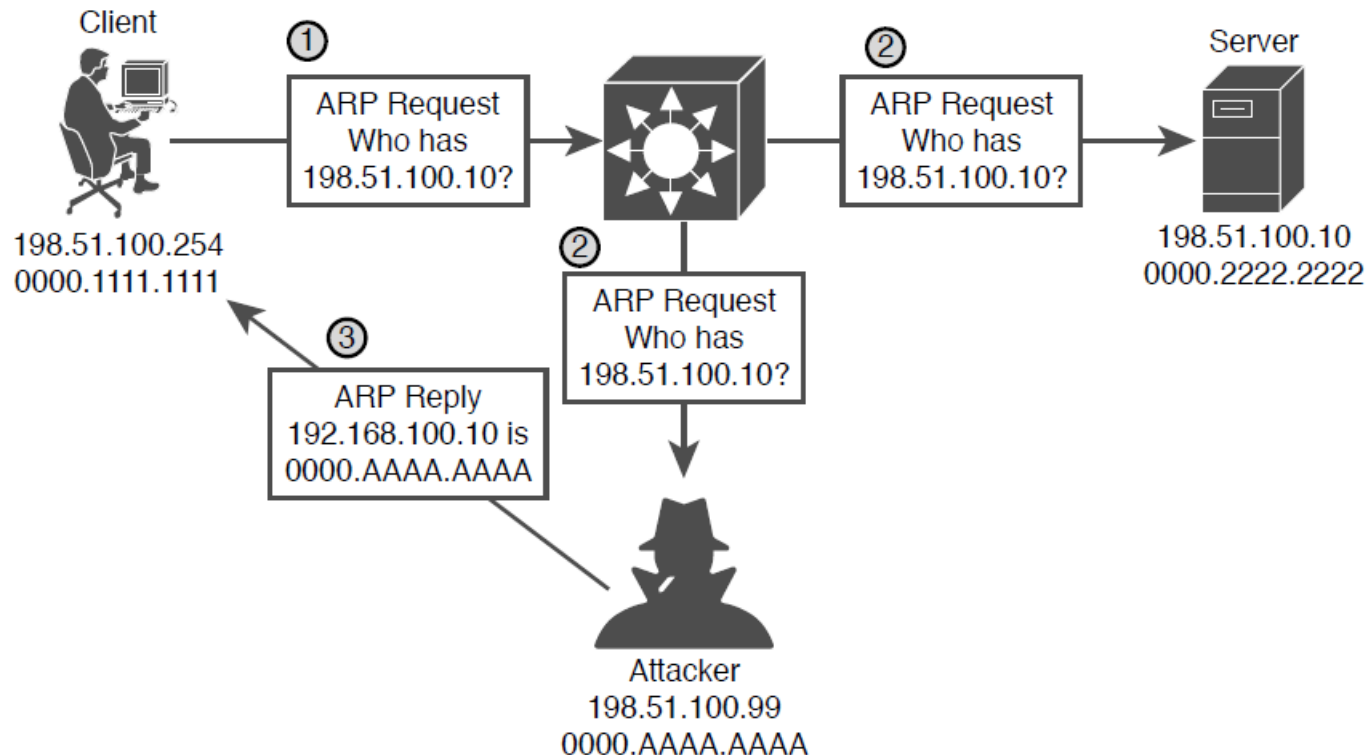
Sample Denial-of-Service Attack



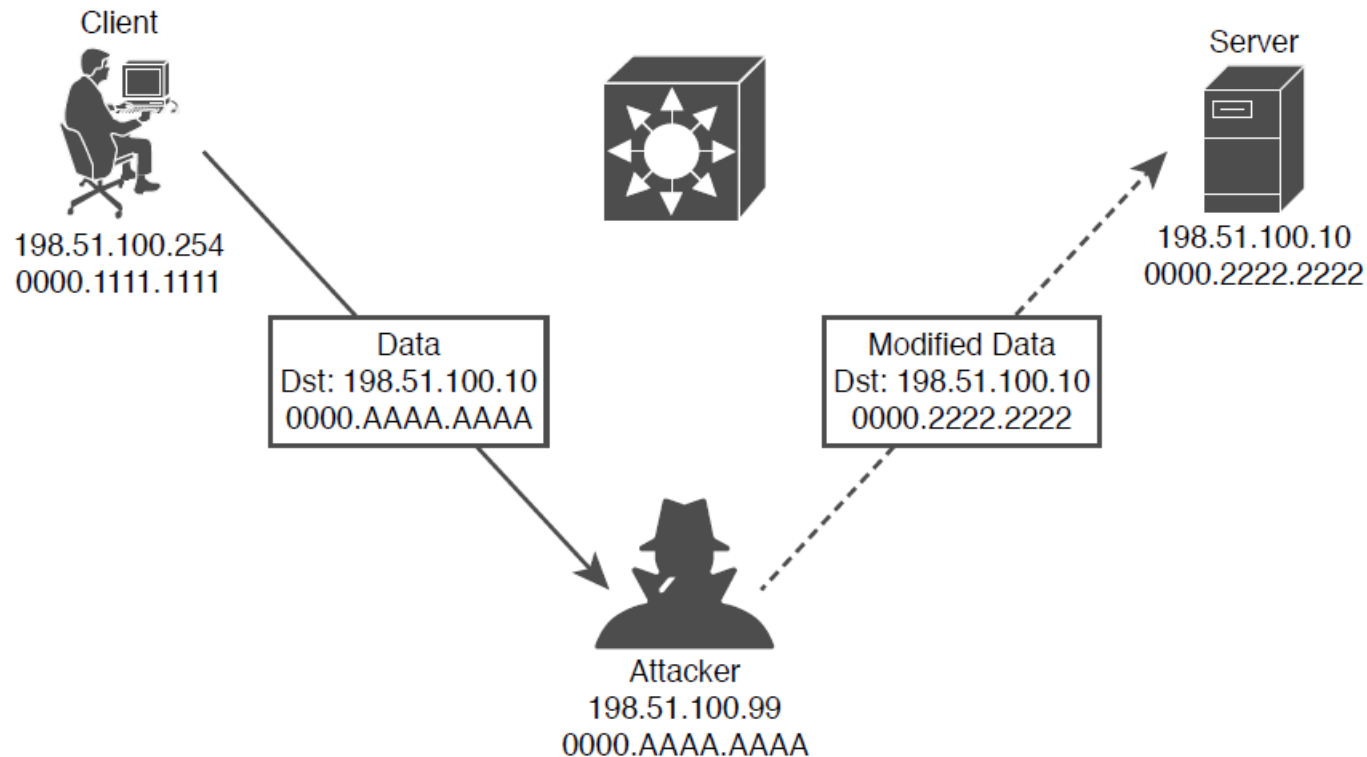
A Sample Reflection Attack



A Man-in-the-Middle Attack Begins



A Man-in-the-Middle Attack Succeeds



Summary of Address Spoofing Attacks

Goal	DoS/DDoS	Reflection	Amplification	Man-in-the-Middle
Exhaust a system service or resource; crash the target system	Yes	No	No	No
Trick an unwitting accomplice host to send traffic to target	No	Yes	Yes	No
Eavesdrop on traffic	No	No	No	Yes
Modify traffic passing through	No	No	No	Yes

Summary of Malware Types

Characteristic	Trojan Horse	Virus	Worm
Packaged inside other software	Yes	No	No
Self-injected into other software	No	Yes	No
Propagates automatically	No	No	Yes

Summary of Human Security Vulnerabilities

Attack Type	Goal
Social engineering	Exploits human trust and social behavior
Phishing	Disguises a malicious invitation as something legitimate
Spear phishing	Targets group of similar users
Whaling	Targets high-profile individuals
Vishing	Uses voice calls
Smishing	Uses SMS text messages
Pharming	Uses legitimate services to send users to a compromised site
Watering hole	Targets specific victims who visit a compromised site

Summary of Password Authentication and Alternatives

Characteristic	Password Only	Two-Factor	Digital Certificates	Biometric
Something you know	Yes	Yes		
Something you have		Yes	Yes	
Something you are				Yes

Simplified View of AAA

