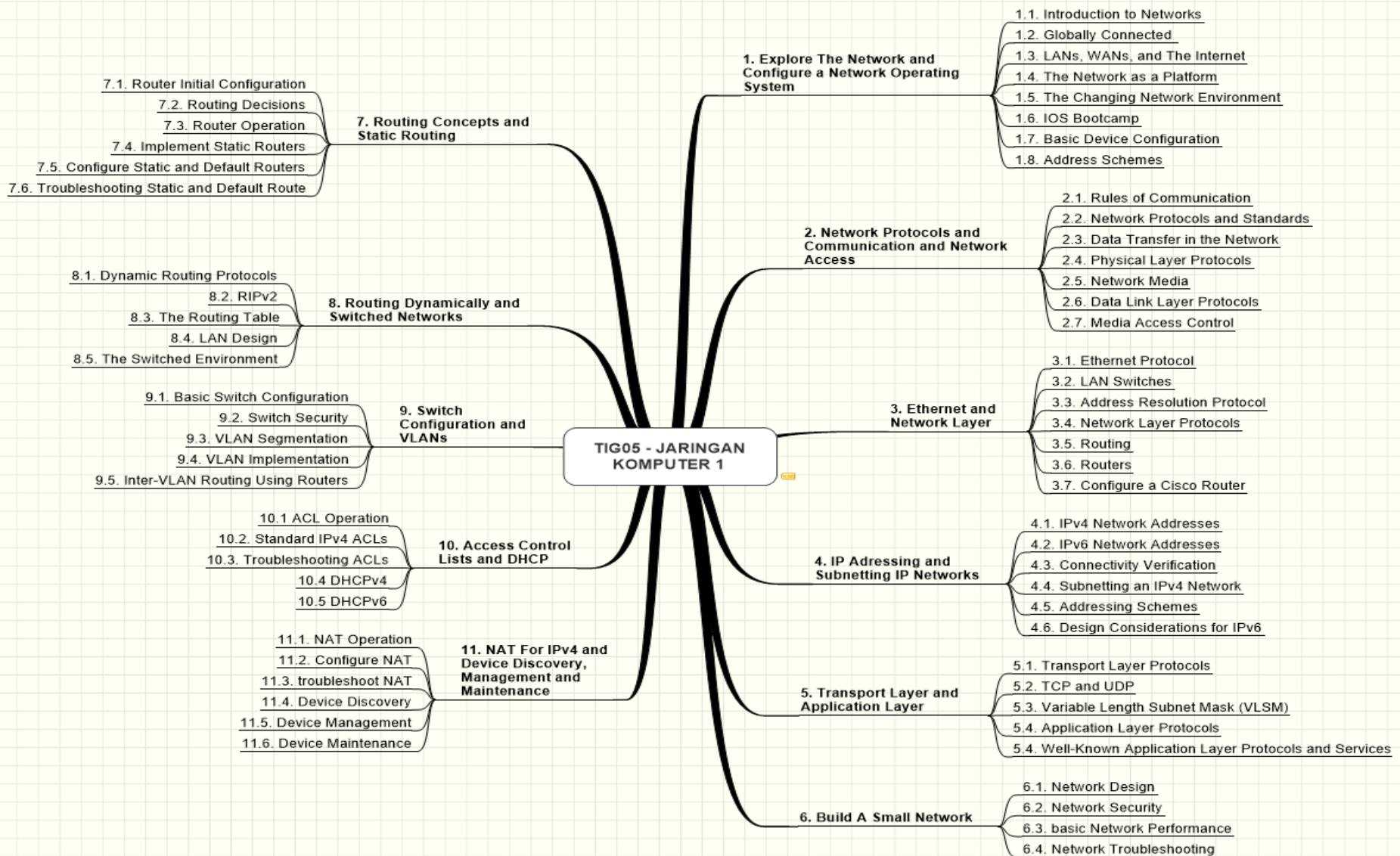


Explore The Network and Configure a Network Operating System

Introduction to Networks v6.0





Kompetensi Umum

- Mahasiswa mampu menentukan arsitektur jaringan dan konfigurasi perangkat cisco yang dibutuhkan pada suatu gedung perkantoran

Chapter 1: Explore the Network

Pertemuan ke 1

Kompetensi Khusus

- Mahasiswa menjelaskan bagaimana setiap perangkat dapat terhubung dalam jaringan komputer, dan menjelaskan tren pemanfaatan jaringan yang mempengaruhi cara kerja dan berinteraksi seperti BYOD, kolaborasi online, video, dan komputasi awan (C2)

Materi:

1. Introduction to Networks
2. Globaly Connected
3. LANs, WANs, and the Internet
4. The Network as a Platform
5. The Changing Network Environment

1. Globally Connected

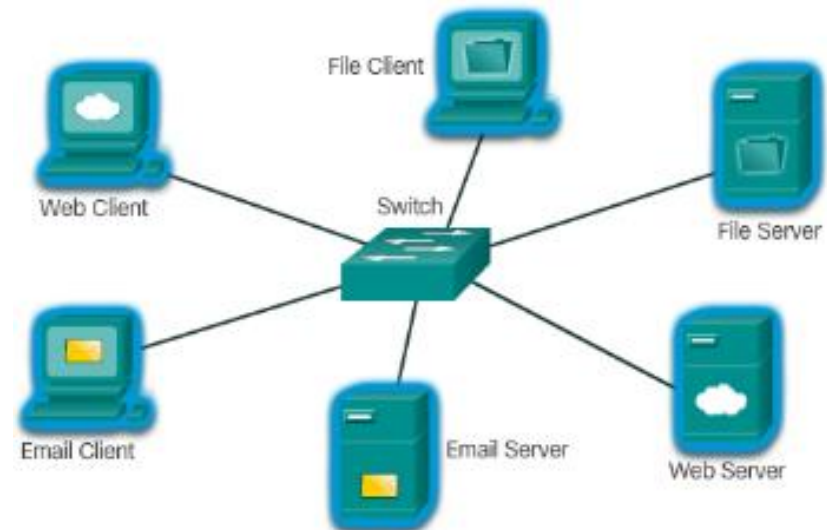
1.1 Networking Today

- Network has no boundary and supports the way we:
 - Learn
 - Communicate
 - Work
 - Play



1.2 Providing Resources in a Network

- Networks of Many Sizes
 - Small Home / Office Networks
 - Medium to Large Networks
 - World Wide Network
- Clients and Servers
 - Clients request and display information
 - Servers provide information to other devices on the network
- Peer-to-Peer
 - Computers can be both server and client at the same time.
 - What are the advantages?
 - What are the disadvantages?



2. LANs, WANs, and the Internet

2.1 Network Components

1. End Devices
 - Either the source or destination of a message
 - Name some end devices
2. Intermediary Network Devices
 - Connect multiple individual networks to form an internetwork
 - Connect the individual end devices to the network
 - Ensure data flows across the network
 - Provide connectivity
3. Network Media
 - Provide the pathway for data transmission
 - Interconnect devices
 - Name the three types of media



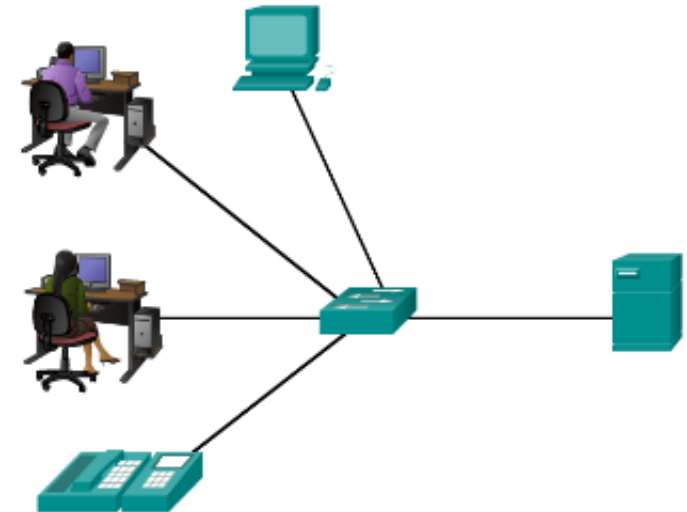
2.1 Network Components

4. Network Representations
 - What do the symbols represent?
5. Topology Diagrams
 - Physical
 - Logical



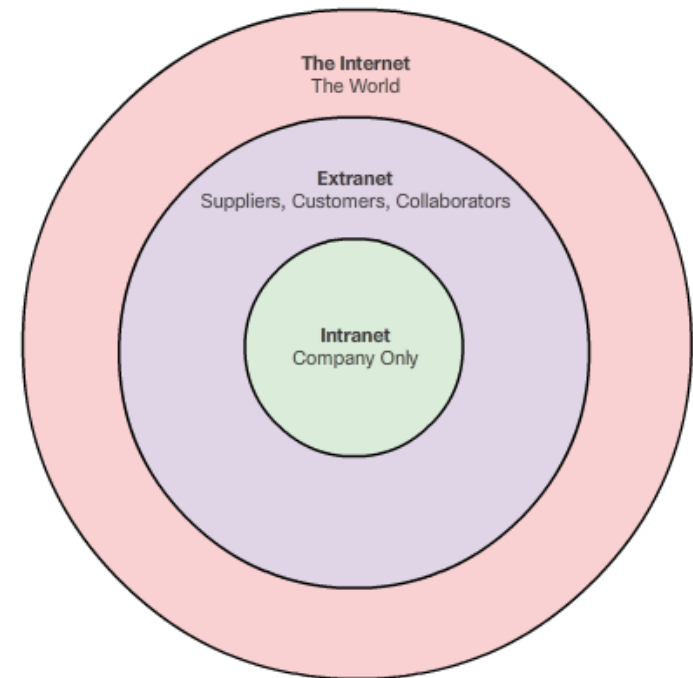
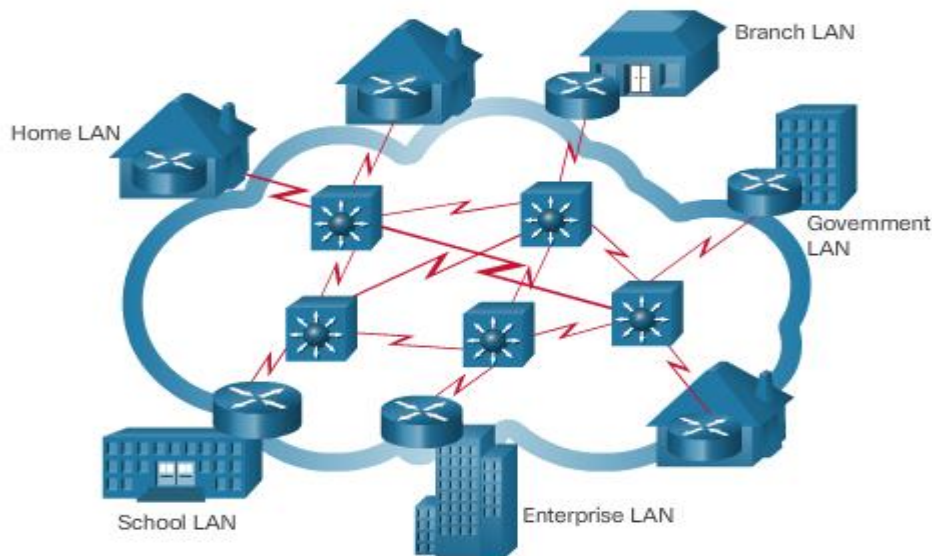
2.2 LANs and WANs

- Local Area Networks
 - Spans across small geographical area
 - Interconnects end devices
 - Administrated by a single organization
 - Provide high speed bandwidth to internal devices
- Wide Area Networks
 - Interconnects LAN
 - Administrated by multiple service providers
 - Provide slower speed links between LANS
- Can you name more network types?



2.3 The Internet, Intranets, and Extranets

- The Internet
 - Worldwide collection of interconnected networks
 - Not owned by any individual or group
- Intranets and Extranets



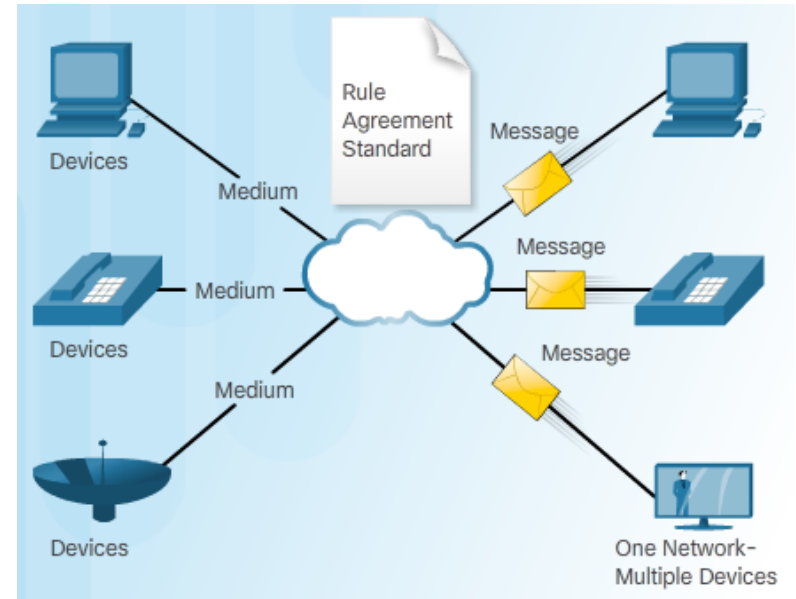
2.4 Internet Connections

- Internet Access Technologies
 - Internet Service Provider (ISP)
 - Broadband cable
 - Broadband Digital Subscriber Line (DSL)
 - Wireless WANs
 - Mobile Services
 - Business DSL
 - Leased Lines
 - Metro Ethernet
- Types of Internet Connections
 - Home and Small Office
 - Business

3. The Network as a Platform

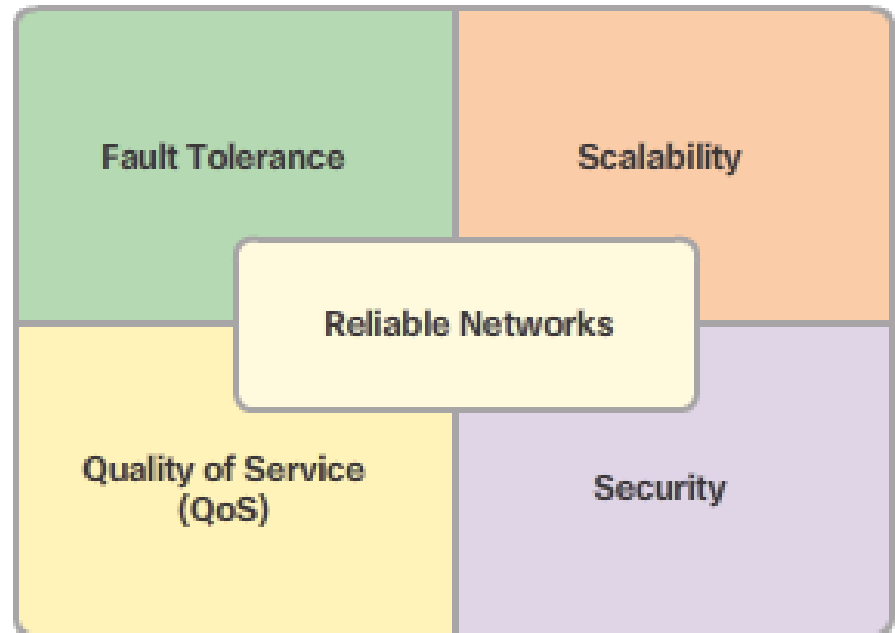
3.1 Converged Networks

- Traditional Separate Networks
 - Each network with its own rules and
- The Converging Network
 - Capable of delivering data, voice, and video over the same network infrastructure



3.2 Reliable Network

- Four Basic Characteristics of Network Architecture
 - Fault Tolerance
 - Scalability
 - Quality of Service (QoS)
 - Security



4. The Changing Network Environment

4.1 Network Trends

- Top trends include:
 - Bring Your Own Device (BYOD)
 - Online Collaboration
 - Video Communications
 - Cloud Computing



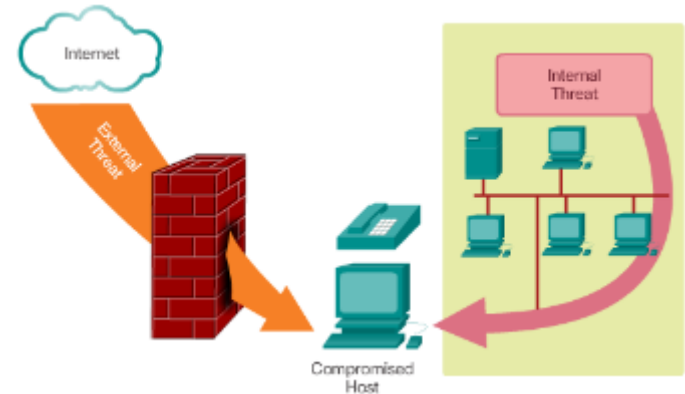
4.2 Networking Technologies for the Home

- Technology Trends in the Home
 - Smart home
- Powerline Networking
 - Uses existing electrical wiring to connect devices
- Wireless Broadband
 - Wireless Internet Service Provider (WISP)
 - Wireless Broadband Service using cellular technology



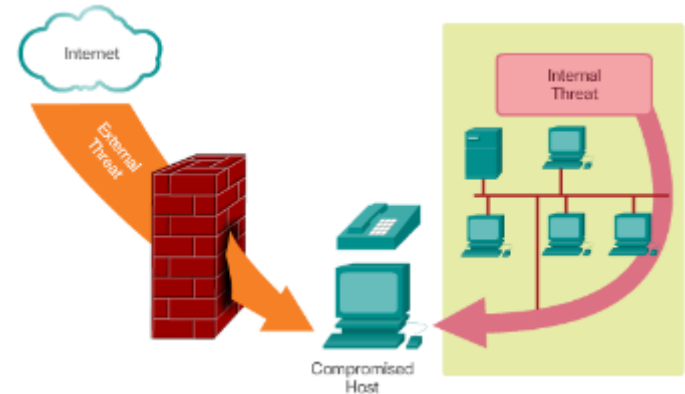
4.3 Network Security

- Security Threats
 - Viruses, worms, and Trojan horses
 - Spyware and adware
 - Zero-day attacks, also called zero-hour attacks
 - Hacker attacks
 - Denial of service attacks
 - Data interception and theft
 - Identity theft



4.3 Network Security (Cont.)

- Security Solutions
 - Antivirus and antispyware
 - Firewall filtering
 - Dedicated firewall systems
 - Access control lists (ACL)
 - Intrusion prevention systems (IPS)
 - Virtual Private Networks (VPNs)



Chapter Summary

Summary

- Explain how multiple networks are used in everyday life.
- Describe the topologies and devices used in a small to medium-sized business network.
- Explain the basic characteristics of a network that supports communication in a small to medium-sized business.
- Explain trends in networking that will affect the use of networks in small to medium-sized businesses.

Continue to Next File

TERIMA KASIH

