

Summary of ITN Modules 1 & 2

Module 1: Networking Today This module introduces the role of networks in our daily lives, their components, and the different types of networks. Key points include:

- Networks connect people, organizations, and devices globally.
- Core components: end devices, intermediary devices (switches, routers, firewalls), and transmission media.
- Network representations use physical and logical topologies.
- Types of networks: LAN, WAN, Internet, intranets, extranets.
- Internet connection methods: DSL, cable, fiber, wireless, and business-class services.
- Converged networks combine data, voice, and video.
- Reliable network characteristics: fault tolerance, scalability, QoS, and security.
- Trends: BYOD, collaboration, video communication, cloud computing, smart homes, wireless broadband.
- Network security threats (external and internal) and solutions (antivirus, firewalls, VPNs, ACLs, IPS).
- IT professionals benefit from CCNA certification for networking careers.

Module 2: Basic Switch and End Device Configuration This module covers basic switch configuration, IOS navigation, and IP addressing. Key points include:

- Cisco IOS provides CLI access with User EXEC, Privileged EXEC, and Global Configuration modes.
- Access methods: Console, SSH (secure), Telnet (insecure).
- Command structure includes keywords and arguments; syntax must be followed.
- Help features: context-sensitive help and syntax checking.
- Basic device configuration includes setting hostnames, securing passwords, encrypting passwords, and configuring banner messages.
- Saving configurations: running-config (RAM) vs startup-config (NVRAM). Commands: `copy running-config startup-config`.
- Ports and addressing: IPv4, IPv6, subnet masks, default gateways, and network media types.
- Manual and automatic IP address configuration (DHCP).
- Switch Virtual Interface (SVI) configuration with IP and `no shutdown` command.
- Connectivity verification using ping and Packet Tracer labs.
- Module emphasizes initial switch setup, securing access, and verifying end-to-end connectivity.