

Vocabulary

1. **Backward compatibility:** The accommodation of current devices being able to use previously issued software standards in addition to the current standards.
2. **Bandwidth (data transfer rate):** The maximum speed at which data can be transmitted between two nodes on a network; usually measured in megabits per second (Mbps). See also data transfer rate.
3. **Broadband:** A high-speed Internet connection such as cable, satellite, or digital subscriber line (DSL).
4. **Cat 6 cable:** A UTP cable type that provides more than 1 GB of throughput.
5. **Client:** A computer that requests information from a server in a client/server network (such as your computer when you are connected to the Internet).
6. **Client/server model:** A way of describing typical network functions. Client computers (such as your desktop PC) request services, and servers provide ("serve up") those services to the clients.
7. **Coaxial cable:** A single copper wire surrounded by layers of plastic insulation and sheathing; used mainly in cable television and cable Internet service.
8. **Data transfer rate (bandwidth):** The maximum speed at which data can be transmitted between two nodes on a network; usually measured in megabits per second (Mbps).
9. **Digital subscriber line (DSL):** A type of connection that uses telephone lines to connect to the Internet and that allows both phone and data transmissions to share the same line.
10. **Ethernet network:** A network that uses the Ethernet protocol as the means (or standard) by which the nodes on the network communicate.
11. **Fiber-optic cable:** A cable that transmits data at close to the speed of light along glass or plastic fibers.
12. **Fiber-optic service (FiOS):** Internet access that is enabled by transmitting data at the speed of light through glass or plastic fibers.
13. **Firmware:** System software that controls hardware devices.
14. **Gigabit Ethernet:** The most commonly used wired Ethernet standard deployed in devices designed for home networks which provides bandwidth of up to 1 Gbps.
15. **Hacker:** Anyone who unlawfully breaks into a computer system (whether an individual computer or a network).
16. **Home area network (HAN):** A network located in a home that is used to connect all of its digital devices.
17. **Home network server:** A device designed to store media, share media across the network, and back up files on computers connected to a home network.
18. **Internet appliance:** A device used for easy access to the Internet, social networking sites, e-mail, video, news, and entertainment. These devices fall into a category somewhere between smartphones and full-blown computers.
19. **Internet service provider (ISP):** Companies that specialize in providing Internet access. ISPs may be specialized providers, like Juno, or companies that provide other services in addition to Internet access (such as phone and cable television).
20. **Local area network (LAN) :** A network in which the nodes are located within a small geographic area.

21. Metropolitan area network (MAN): A wide area network (WAN) that links users in a specific geographic area (such as within a city or county).
22. Multiple Input Multiple Outputs (MIMO): A design in routers that provides for faster wireless data transmission by utilizing more than one antenna to transmit and receive data.
23. Network: A group of two or more computers (or nodes) that are configured to share information and resources such as printers, files, and databases.
24. Network adapter: A device that enables the computer (or peripheral) to communicate with the network using a common data communication language, or protocol.
25. Network administration: Involves tasks such as: (1) installing new computers and devices, (2) monitoring the network to ensure it is performing efficiently, (3) updating and installing new software on the network, and (4) configuring, or setting up, proper security for a network.
26. Network architecture: The design of a computer network; includes both physical and logical design.
27. Network-attached storage (NAS) device: Specialized computing devices designed to store and manage network data.
28. Network interface card (NIC): An expansion card that enables a computer to connect other computers or to a cable modem to facilitate a high-speed Internet connection.
29. Network navigation device: A device on a network such as a router, hub, and switch that moves data signals around the network.
30. Network operating system (NOS): Software that handles requests for information, Internet access, and the use of peripherals for the rest of the network nodes.
31. Network-ready device: A device (such as a printer or external hard drive) that can be attached directly to a network instead of needing to attach to a computer on the network.
32. Node: A device connected to a network such as a computer, a peripheral (such as a printer), or a communications device (such as a modem).
33. Packet (data packet): A small segment of data that is bundled for sending over transmission media. Each packet contains the address of the computer or peripheral device to which it is being sent.
34. Peer-to-peer (P2P) sharing: The process of users transferring files between computers.
35. Piggybacking: The process of connecting to a wireless network without the permission of the owner of the network.
36. Router: A device that routes packets of data between two or more networks.
37. Server: A computer that provides resources to other computers on a network.
38. Service set identifier (SSID): A network name that wireless routers use to identify themselves.
39. Switch: A device for transmitting data on a network. A switch makes decisions, based on the media access control (MAC) address of the data, as to where the data is to be sent.
40. Throughput: The actual speed of data transfer that is achieved. It is usually less than the data transfer rate and is measured in megabits per second (Mbps).

41. Transceiver: In a wireless network, a device that translates the electronic data that needs to be sent along the network into radio waves and then broadcasts these radio waves to other network nodes.
42. Transmission media: The radio waves or cable that transport data on a network.
43. Twisted pair cable: Cables made of copper wires that are twisted around each other and are surrounded by a plastic jacket (such as traditional home phone wire).
44. Unshielded twisted pair (UTP) cable: The most popular transmission media option for Ethernet networks. UTP cable is composed of four pairs of wires that are twisted around each other to reduce electrical interference.
45. Wide area network (WAN): A network made up of local area networks (LANs) connected over long distances.
46. Wireless fidelity (WiFi): The 802.11 standard for wireless data transmissions established by the Institute of Electrical and Electronics Engineers (IEEE).
47. Wireless range extender: A device that amplifies your wireless signal to get it out to parts of your home that are experiencing poor connectivity.

Chapter 7

Networking Fundamentals

- A home network is what allows a family to do all sorts of things, from downloading online to checking the weather, from separate rooms

What is a computer network?

- Two or more computers that are connected via software and hardware
- World's largest network is the Internet
- Each device connected to a network is a node
 - o Computer
 - o Peripheral device
 - o Game console
 - o Video recorder
 - o Modem
- Mainly a network is to facilitate information sharing

What are the benefits of networks?

- Facilitate resource sharing
- Share peripheral devices such as printers without having to buy separate ones

Besides peripheral and Internet connections, does networking facilitate any other types of resource sharing?

- Can transfer and share files without portable flash drives
 - o Can set properties so that you can access files from one computer using a different computer on the same network by using public folders
- Computers on same network can be running different operating systems

Are there disadvantages to setting up a network?

- Cost
- Network administration
 - o Installing
 - o Monitoring
 - o Updating
 - o Configuring