Chapter 1 Solutions

Review Questions

1. What is the name for a network that connects two or more local area networks (LANs) across a large geographic area?
   b. wide area network (WAN)

2. Which of the following operating systems supports peer-to-peer networking? (Choose all that apply.)
   a. Windows XP Professional
   b. Windows 9x
   d. Windows Server 2003

3. You work for a small company with four users who need network access. The budget is tight, so the network must be as cheap as possible. What type of network should you install?
   b. peer-to-peer network

4. The __________ is the cable or communications technology that computers must access to communicate across a network.
   a. medium

5. A ________________ is needed to attach a computer to a network.
   b. network interface card (NIC)

6. Which of the following characteristics is associated with a peer-to-peer network? (Choose all that apply.)
   a. easy to install
   b. inexpensive
   c. user-managed resources

7. A server computer shares resources for others to use. True or False?
   True

8. A device interconnects five computers and a printer in a single office so that users can share the printer. This configuration is an example of which of the following?
   a. LAN

9. The computers in two networks located in offices 1000 miles apart share a set of documents and a common database. This configuration must be which of the following?
   c. WAN

10. A business occupying two floors of an office building has two groups of 100 computers, with each group tied together by a router. This configuration is an example of which of the following? (Choose the best answer.)
    d. internetwork

11. At Clairfield Community College, the North and South campuses (two miles apart) have LANs tied together by using the services of the local phone company. This configuration is an example of which of the following? (Choose the best answer.)
    a. MAN
12. A network that permits communication among devices such as cell phones and PDAs but has limited range is which of the following?
   b. WPAN

13. Computers that can act as servers to other machines but can also request network resources are which of the following?
   d. peers

14. Server-based networks can include which of the following server types? (Choose all that apply.)
   a. fax servers
   b. communication servers
   c. file and print servers
   d. application servers

15. What are the two major types of networks?
   b. server-based
   c. peer-to-peer

16. Any two computers that communicate across a network must share a common language called a ____________.
   d. protocol

17. Of the following assertions, which is a true disadvantage of peer-to-peer networking? (Choose all that apply.)
   c. Each resource can have its own unique password.
   d. There is no centralized security.

18. The primary reason to install a network is to ______________ resources and services.
   a. share

19. Some resources shared on a network typically include ______________, such as printers, scanners, or tape drives.
   c. peripheral devices

20. A peer-to-peer network always includes at least one dedicated machine called a server. True or False?
    False

21. On a peer-to-peer network, each user must act as __________ for his or her own machine:
   a. administrator

22. Peer-to-peer networks are not suitable if ______________.
   a. tight security is required

23. Which of the following is the standard model for networks with more than 10 users?
   c. server-based

24. Servers that perform specific roles, such as fax servers, application servers, or communication servers, can best be described as which of the following?
   a. specialized servers
25. Of the following components, which component need not be as powerful on a server as on a client?
   a. graphics card

26. Which of the following is considered a directory service? (Choose all that apply.)
   a. eDirectory
   b. NIS
   d. Active Directory

27. Which of the following specialized servers is not included with Windows server operating systems?
   c. fax server

Hands-On Projects

No answers necessary.

Case Projects

Case Project 1-1

The requirements for XYZ Corporation’s network include supporting up to 18 people, maintaining file security on a per-project basis, and ensuring that the network is easy to manage and back up. All these requirements argue strongly for a server-based network, including the requirement for 10 additional users; the need for centralized, secure access to project files; and the need for centralized management and back up. These factors are among the key reasons for using server-based networks.

Case Project 1-2

Widgets Inc.’s requirements include the least expensive implementation, minimal training for employees, and a need for employees to be able to control resources on their own machines. All these requirements are hallmarks of peer-to-peer networks; therefore, Widgets should use the networking services built into Windows XP or Windows Vista to construct a peer-to-peer network.

Case Project 1-3

American Tool and Die’s requirements include factors that call for both a server-based network and a peer-to-peer network. Because both types are needed, a hybrid network is the correct answer. The factors that call for a server-based network include the need to share a single database between both locations plus requirements for network faxing and dial-up services for each location. The factor that calls for a peer-to-peer network is the need for users to have some control over resources on a per-machine basis. Taken together, all these factors mean that a hybrid network is the right solution.

Case Project 1-4

The specialized servers required at American Tool and Die, beyond a standard file and print server (which is always safe to assume as part of a server-based network), include the following:

- A database server to provide access to the single database available at both locations that managers will use to exchange work orders and monitor inventory.
- A fax server at each location to support faxing for all users on the LAN. The only reason that two fax servers might be needed, in fact, is for easier access to incoming faxes at both locations. Under the right circumstances, however, only a single fax server is required, provided that users in one office know to check a status screen for incoming faxes at the other location. In that case, they would need access only to a local printer for copies of faxes, or they could even read them on-screen and save a few trees.

- A communication server at one location, to support dial-in access to the LAN. Because it’s safe to assume that some kind of network link exists between Towson and Beltsville (so that managers can share a single database at both locations), users can traverse that link when they dial into Towson if they need access to resources in Beltsville (or vice versa, if the server is in Beltsville).

- Although it’s not specifically stated in the requirements for American Tool and Die, a savvy network administrator would also ask “What about e-mail?” In most multisite organizations, e-mail is the biggest productivity booster. Sometimes networking knowledge can help elicit requirements (and funding for servers) even when they aren’t stated initially.

**Case Project 1-5**

Bluetooth, 802.15, or WPAN are all suitable answers, but as of this writing, Bluetooth is the best answer.

**Case Project 1-6**

Answers will vary.