CHAPTER 15 : Connecting LANs, Backbone Networks, and Virtual Networks

Solutions to Selected Review Questions

Review Questions

1. In a ***bus backbone***, the topology of the backbone is a ***bus***; in a ***star backbone***, the topology is a ***star***.

2. An ***amplifier*** amplifies the signal, as well as noise that may come with the signal, whereas a ***repeater*** regenerates the signal, bit for bit, at the original strength.

3. A ***VLAN*** creates virtual workgroups. Each workgroup member can send broadcast messages to others in the workgroup. This eliminates the need for multicasting and all the overhead messages associated with it.

4. A ***VLAN*** saves time and money because reconfiguration is done through software. Physical reconfiguration is not necessary.

5. A ***transparent bridge*** is a bridge in which the stations are completely unaware of the bridge's existence. If a bridge is added or deleted from the system, reconfiguration of the stations is unnecessary.

6. A hub is a multiport repeater.

7. ***Bridges*** have access to station ***physical addresses*** and can forward a packet to the appropriate segment of the network. In this way, they ***filter*** traffic and help control congestion.

8. A ***forwarding port*** forwards a frame that it receives; a ***blocking port*** does not.

9. Members of a ***VLAN*** can send broadcast messages with the assurance that users in other groups will not receive these messages.

10. A signal can only travel so far before it becomes corrupted. A ***repeater*** regenerates the original signal; the signal can continue to travel and the LAN length is thus extended.

11. Stations can be grouped by ***port number***, ***MAC address***, ***IP address***, or by a combination of these characteristics.