

## Chapter 3 Case Study

### SCENARIO 3

To facilitate a possible upgrade to your school departmental network, the school's new network administrator has requested that you perform a brief site survey. This will help you and the new administrator understand the current situation.

Some of the more important pieces of information that can be gathered during such a site survey include:

- Maximum number of users and types of equipment
- Projected growth
- Current Internet connectivity
- Application requirements
- Existing network infrastructure and physical layout
- New services that may be required
- Security and privacy considerations
- Reliability and uptime expectations
- Budget constraints

You should attempt to obtain a floor plan, if possible. If a floor plan is not available, draw a scaled diagram indicating the size and locations of all rooms. You can then complete an inventory of existing network hardware and software to provide a baseline of requirements.

Both the physical and logical topologies of the existing network need to be documented. A technician gathers the information during the site survey to create both a physical and logical topology map of the network. A physical topology is the actual physical location of cables, computers, and other peripherals. A logical topology documents the path that data takes through a network and the location where network functions, like routing, occur.

If your school network is wired, the physical topology map consists of the wiring closet, as well as the wiring to the individual end user stations. If it is a wireless network, the physical topology consists of the wiring closet and an access point. Since there are no wires, the physical topology contains the wireless signal coverage area.

The logical topology is usually identical for both wired and wireless networks. It includes the naming and Layer 3 addressing of hosts, routers, and other network devices, regardless of their physical location. It shows the location of routing, network address translation, and firewall filtering.

Along with creating the topology maps for the existing network, it will be necessary to obtain additional information about the hosts and networking devices that are currently installed in the school (departmental) network. You should record this information on an inventory sheet. In addition to currently installed equipment, document any planned growth that you believe is

justified in the near future. This information will assist you to determine what new equipment might be required. It will also assist in determining the best way to structure the network to support the growth you might anticipate.

The inventory sheet of all network installed devices should include:

- Device name
- Location
- Brand and model
- Operating system
- Logical addressing information
- Method of connectivity
- Security information