Can you call me now?

Objectives

Calculate the necessary subnet mask to accommodate a given number of hosts.

Subnetting is hierarchical and can help deliver network traffic more easily if small groups of IP addresses are designed to serve network needs.

Background/Scenario

Note: This activity may be completed individually or in small or large groups using Packet Tracer software.

- You are setting up a dedicated, computer addressing scheme for patient rooms in a hospital. The switch will be centrally located in the nurses' station, as each of the five rooms will be wired so that patients can just connect to an RJ45 port built into the wall of their room. Devise a physical and logical topology for only one of the six floors using the following addressing scheme requirements: There are six floors with five patient rooms on each floor for a total of 30 connections. Each room needs a network connection.
- Subnetting must be incorporated into your scheme.
- Use one router, one switch, and five host stations for addressing purposes.
- Validate that all PCs can connect to the hospital's in-house services.

Keep a copy of your scheme to share later with the class or learning community. Be prepared to explain how subnetting, unicasts, multicasts, and broadcasts would be incorporated, and where your addressing scheme could be used.

Required Resources

Packet Tracer software

Reflection

1. How would you change your addressing scheme if you were going to add an additional network connection to the hospital rooms with a total of 10 connections per floor or 2 ports per room?