



Todd Lammle's CompTIA Network+
Chapter 1: Introduction to Networks
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Chapter 1: Introduction to Networks

The Following CompTIA Network+ Exam Objectives Are Covered in This Chapter:

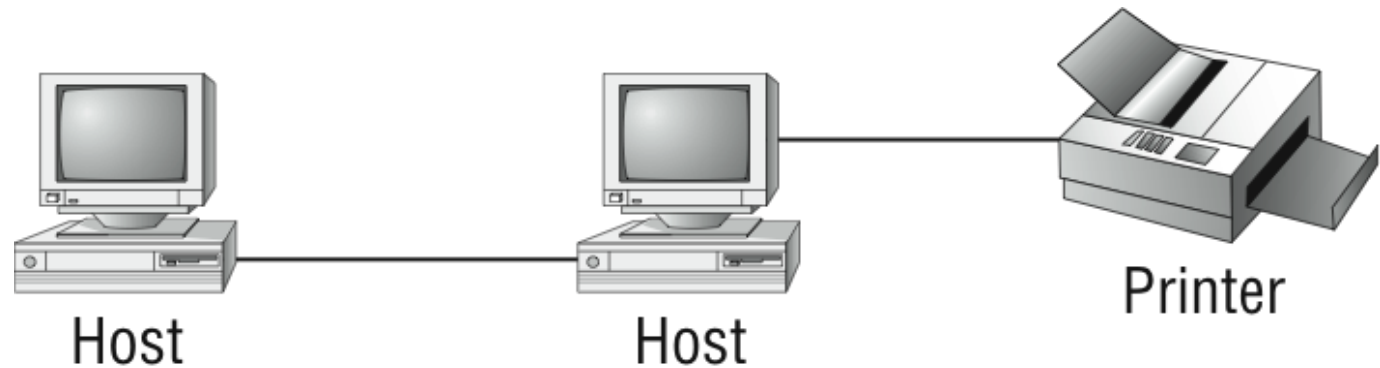
2.3 Identify common physical network topologies

- Star
- Mesh
- Bus
- Ring
- Point to point
- Point to multipoint
- Hybrid

2.7 Explain common logical network topologies and their characteristics

- Peer to peer
- Client/server
- VPN
- VLAN

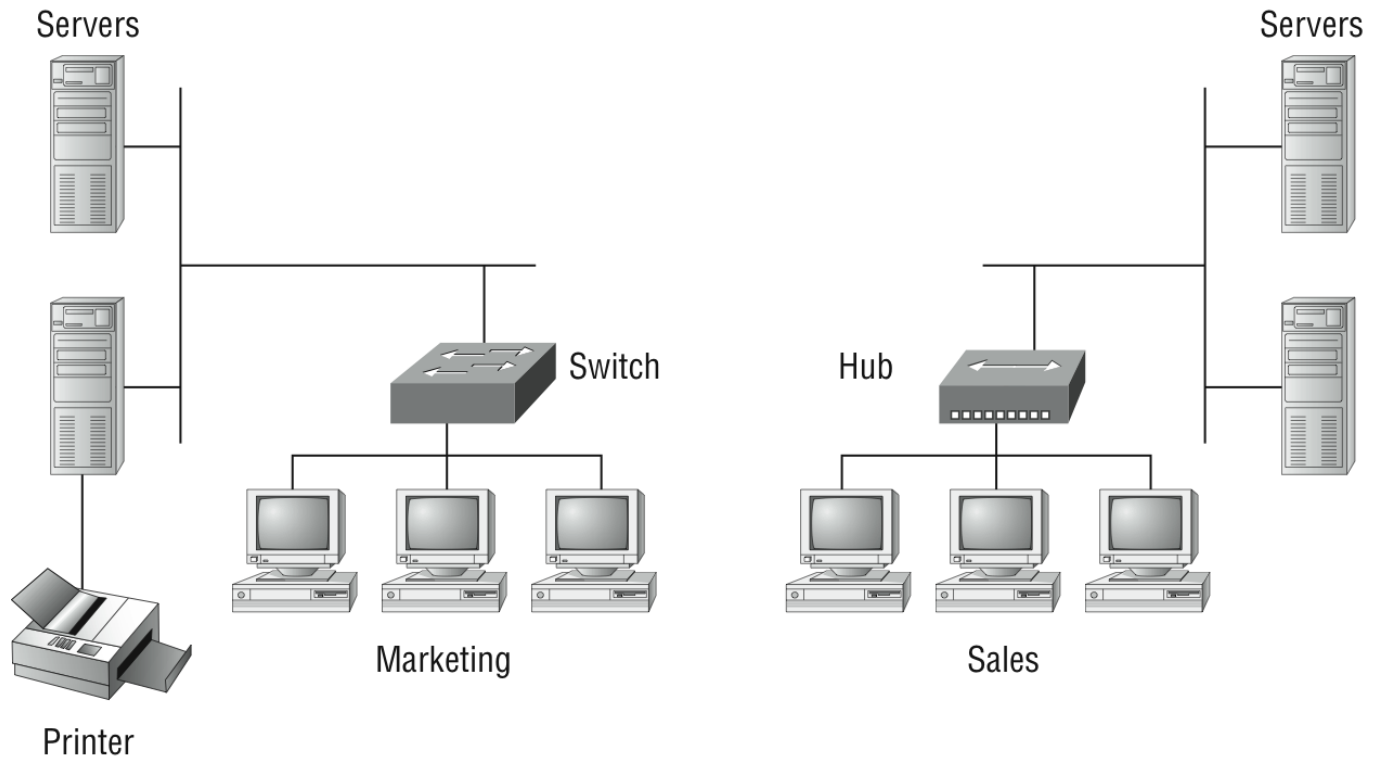
What is a Network?



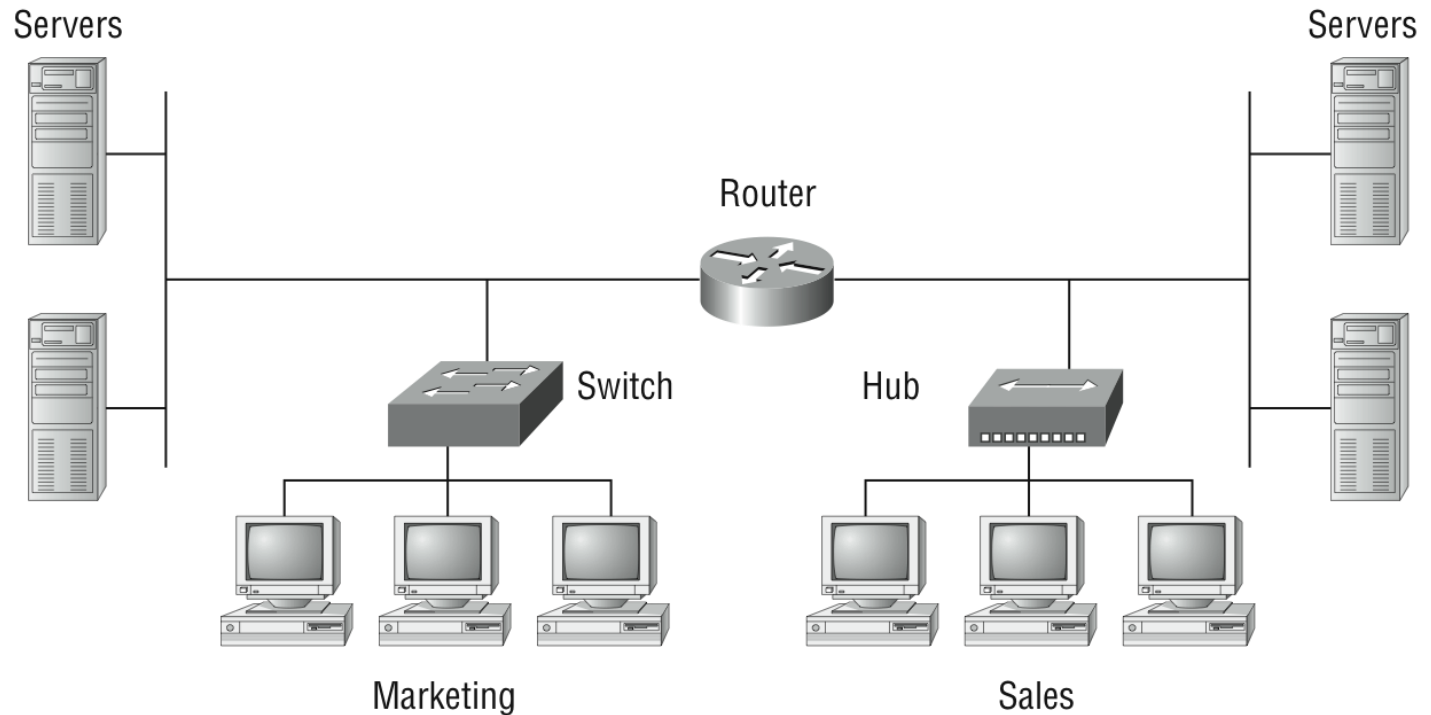
In the computer world, the term *network* means two or more connected computers that can share resources like data and applications, office machines, an Internet connection, or some combination of these.

What is a LAN?

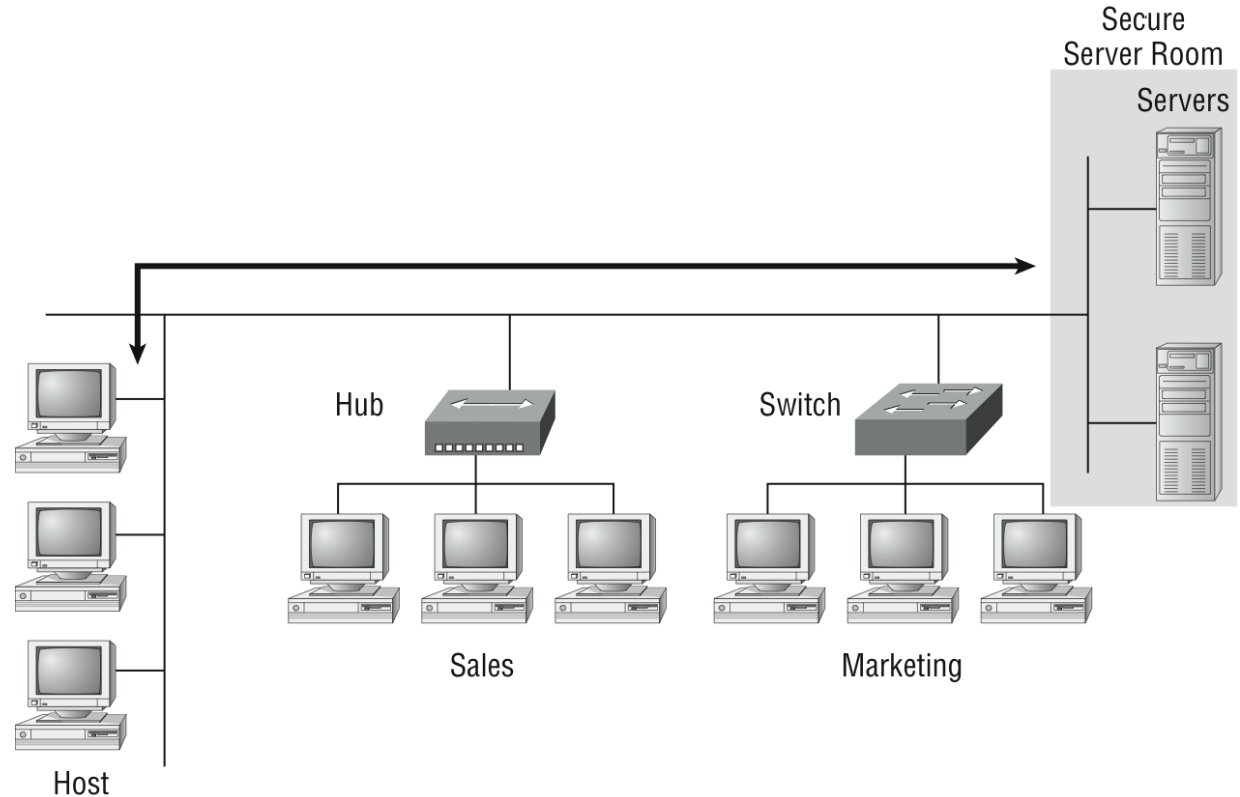
A local area network (LAN) is usually restricted to spanning a particular geographic location



Let's connect these LAN's together...

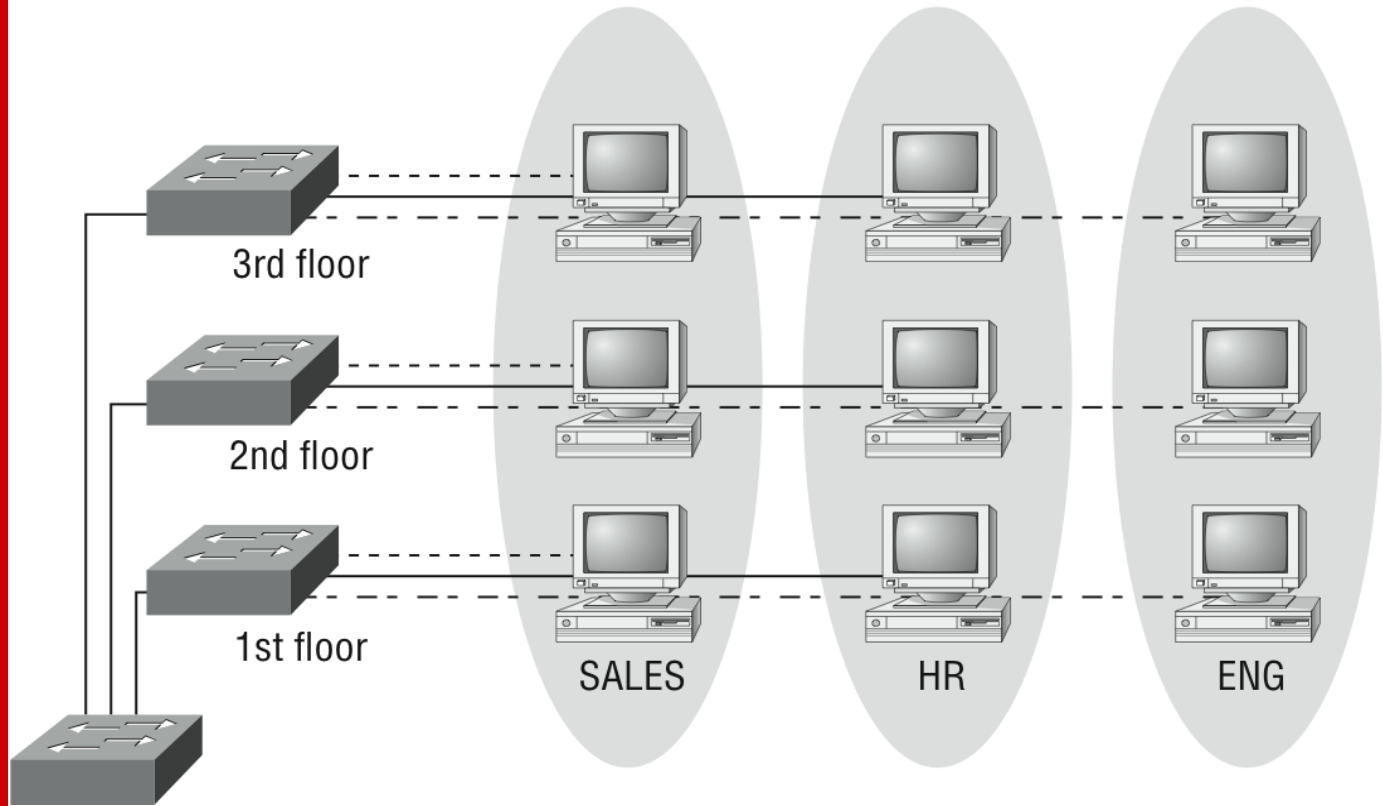


Hosts/Workstations communicate to a Server



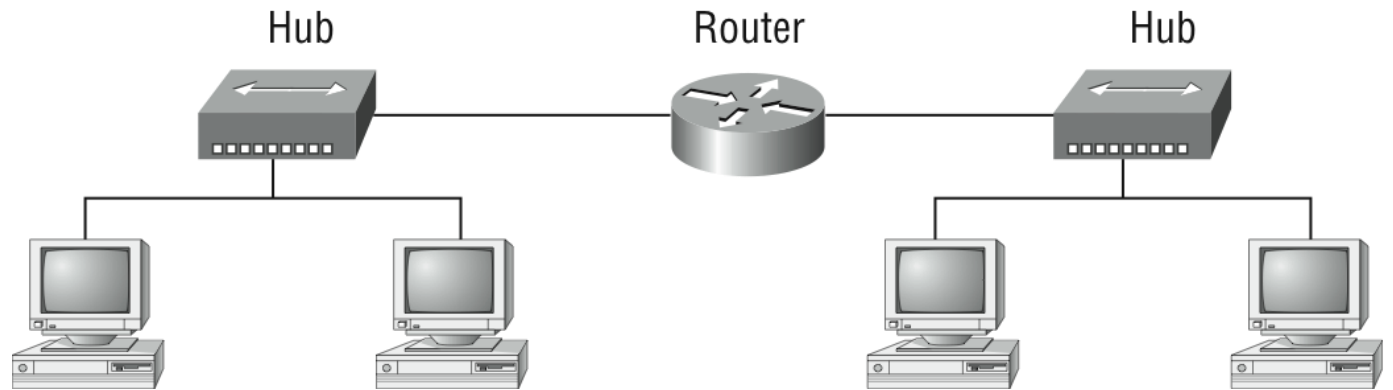
The term *host* is used to describe pretty much anything that takes an IP address. You also see that the hosts can access the servers across the network—pretty much the general idea of having a network.

What is a Virtual LAN (VLAN)?



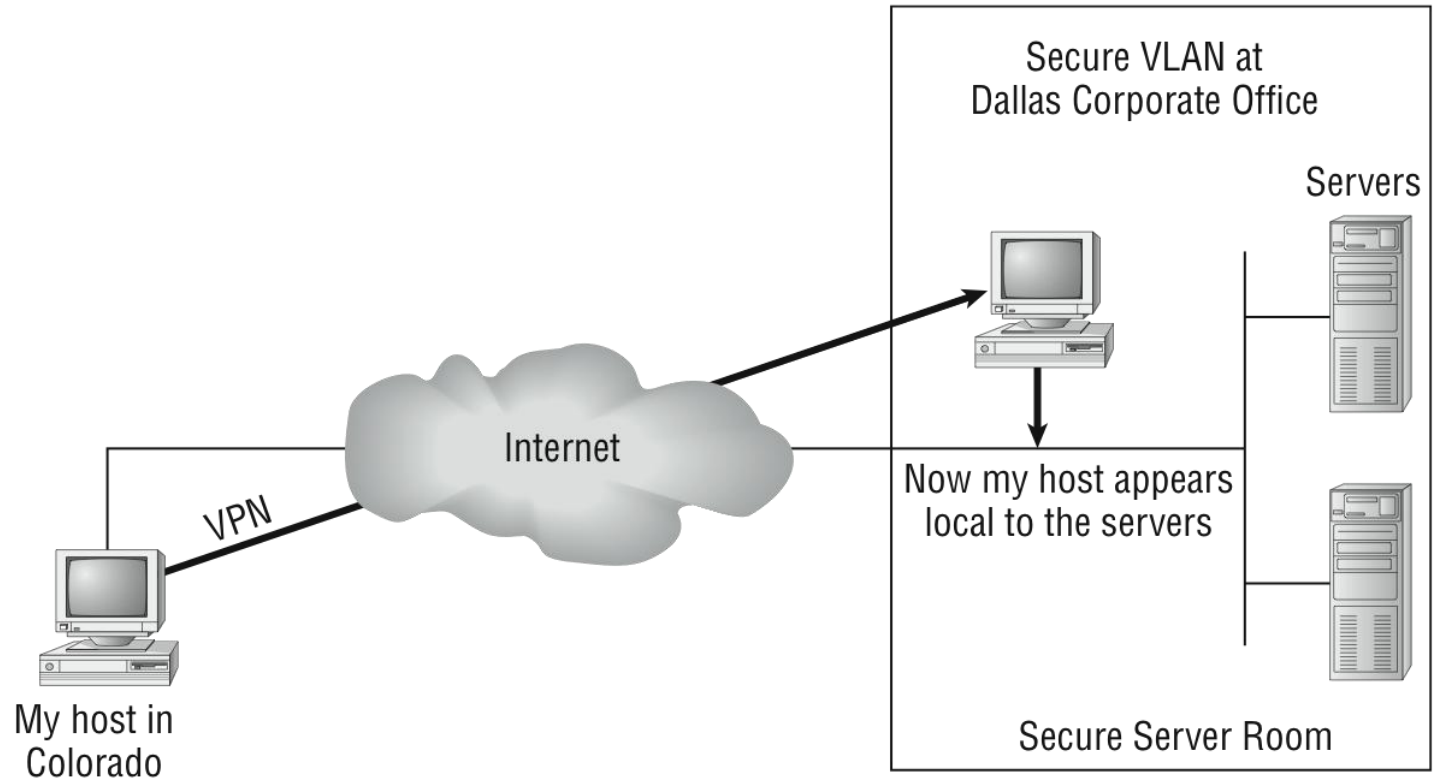
VLANs are the new workgroups, and they define the same thing: a group of users sharing network resources. The difference is that VLANs allow you to be anywhere on the physical network and still be local to the specific network resources you need.

Routers create an Internetwork



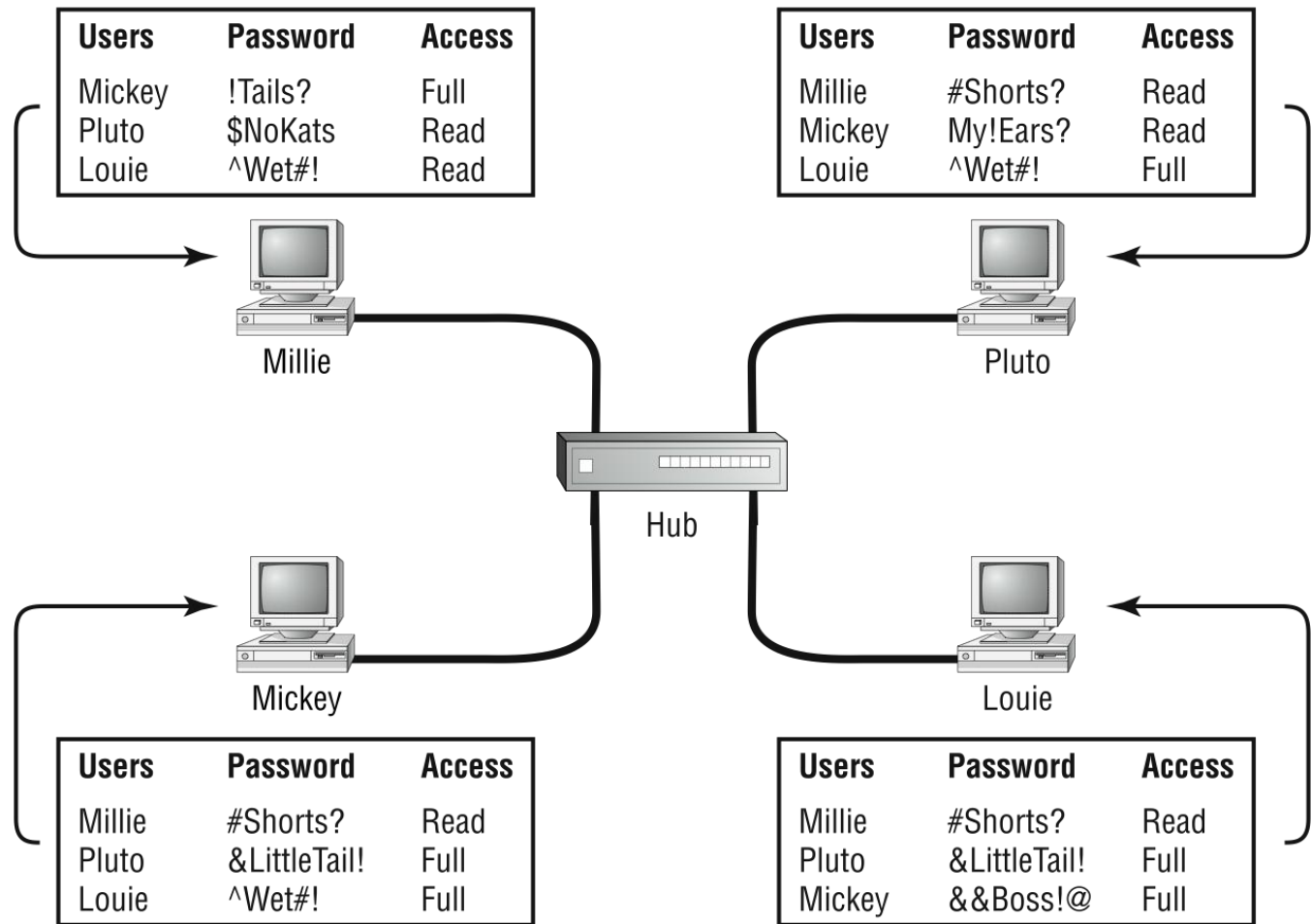
WAN networks are what we use to span large geographic areas and truly go the distance. Like the Internet, WANs usually employ both routers and public links, so that's generally the criteria used to define them.

What is a VPN?

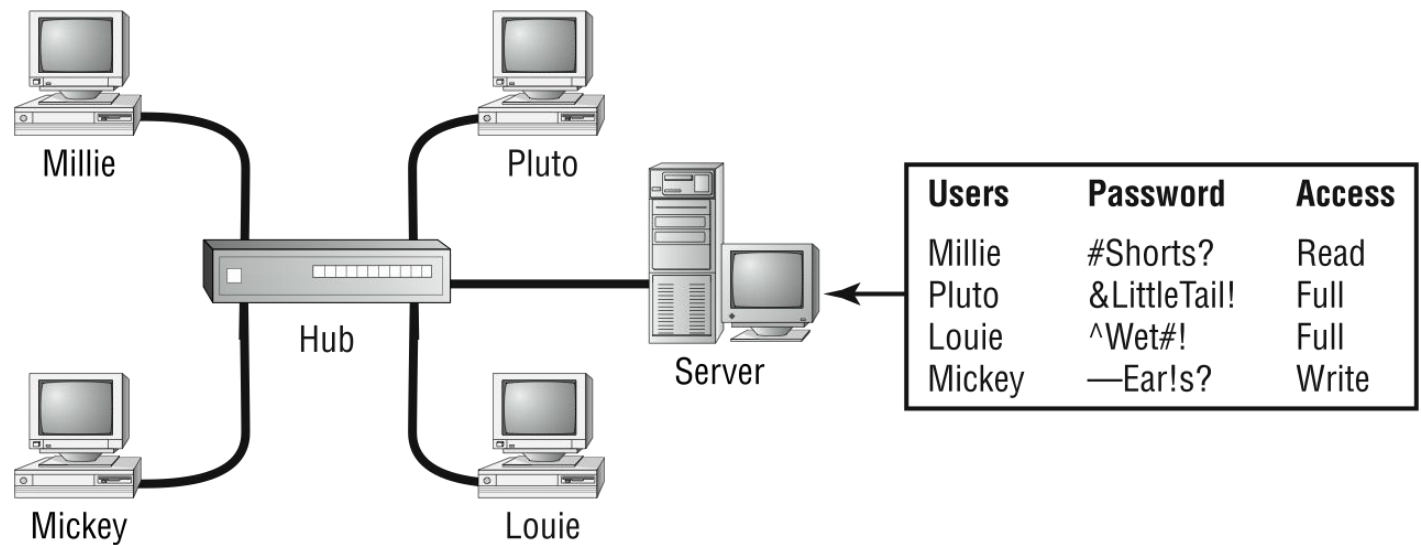


A VPN actually makes your local host part of the remote network by using the WAN link that connects you to the remote LAN. The VPN will make your host appear as though it's actually local on the remote network!

Peer-to-Peer Networking



Client Server Networks

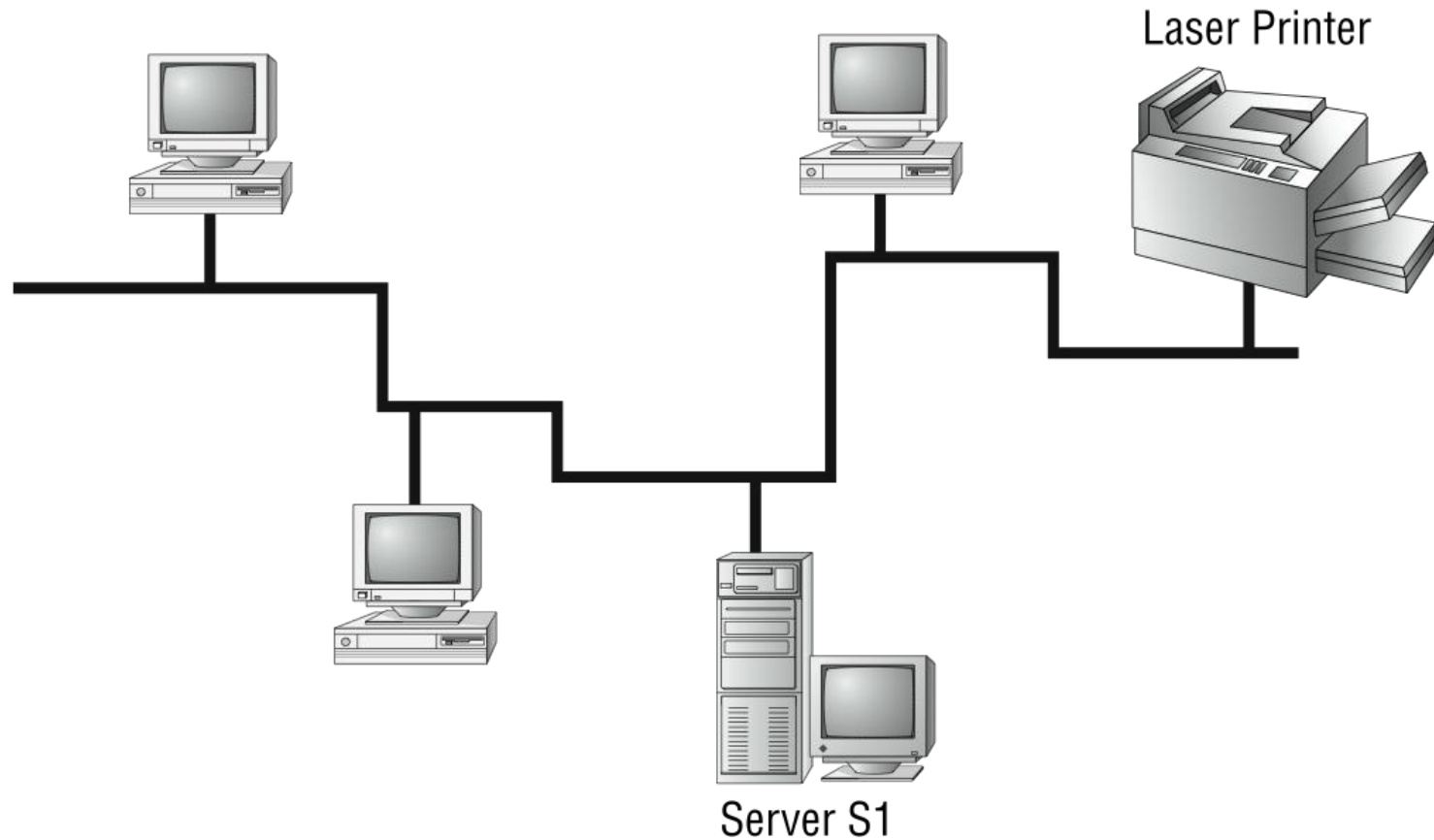


Physical Topologies

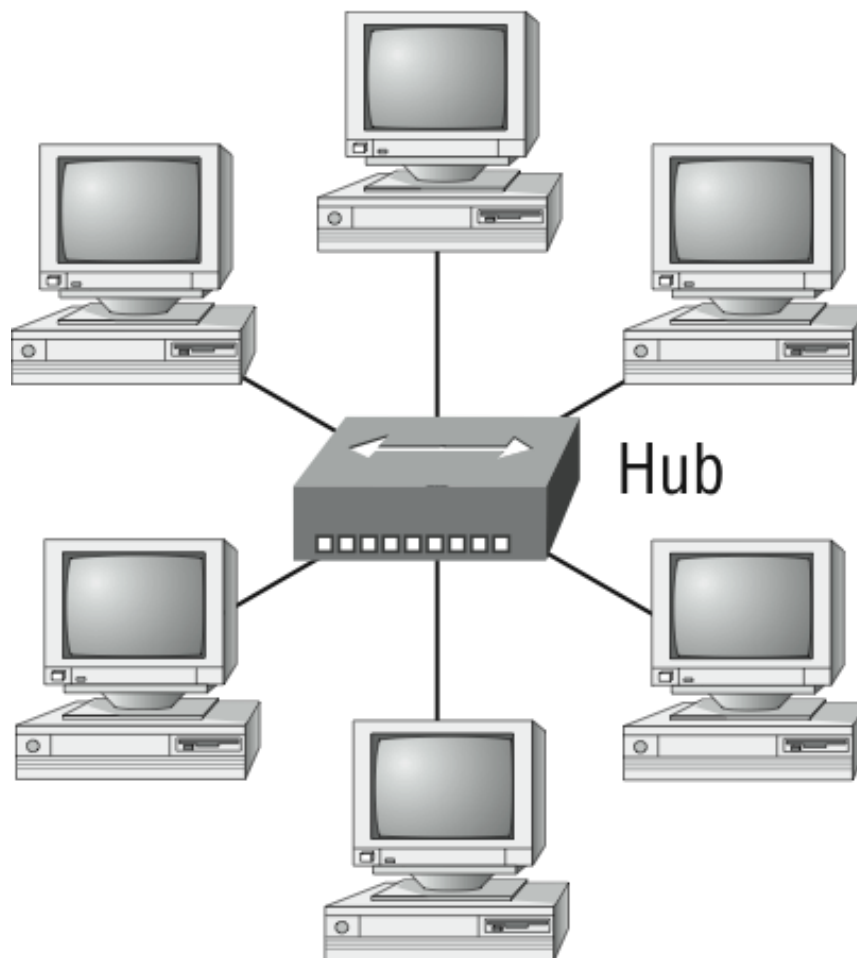
Here is a list of the various topologies you're most likely to run in to these days:

- Bus
- Star
- Ring
- Mesh
- Point-to-point
- Point-to-multipoint
- Hybrid

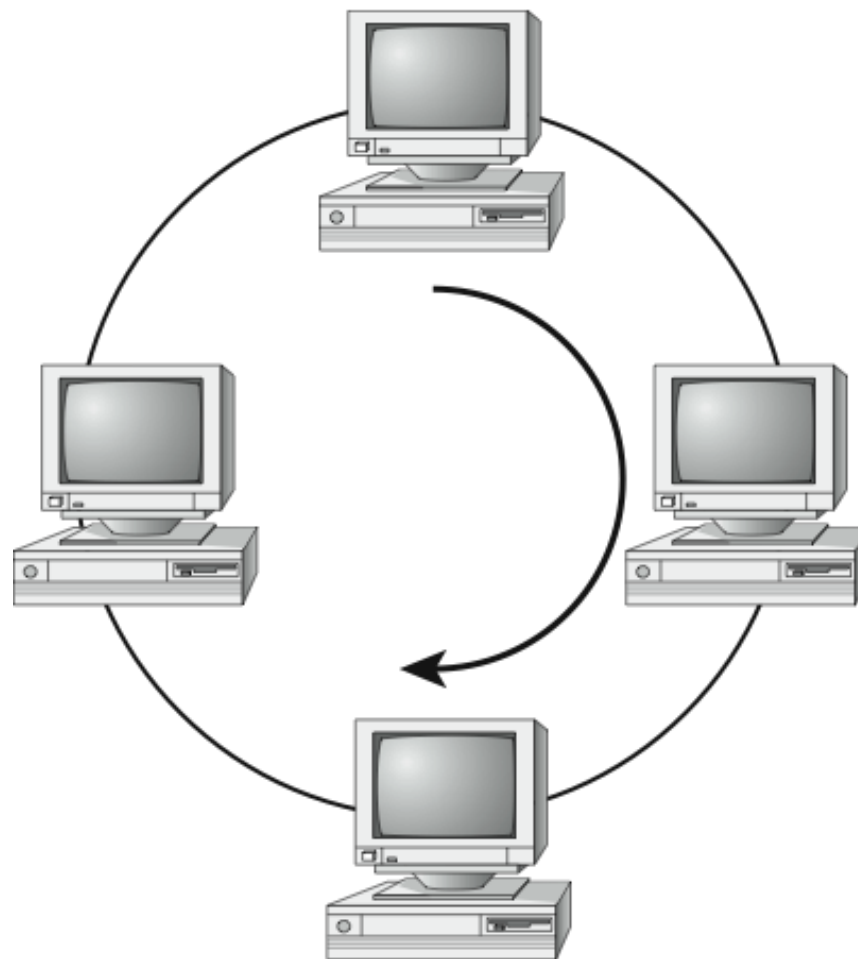
A Physical Bus Topology



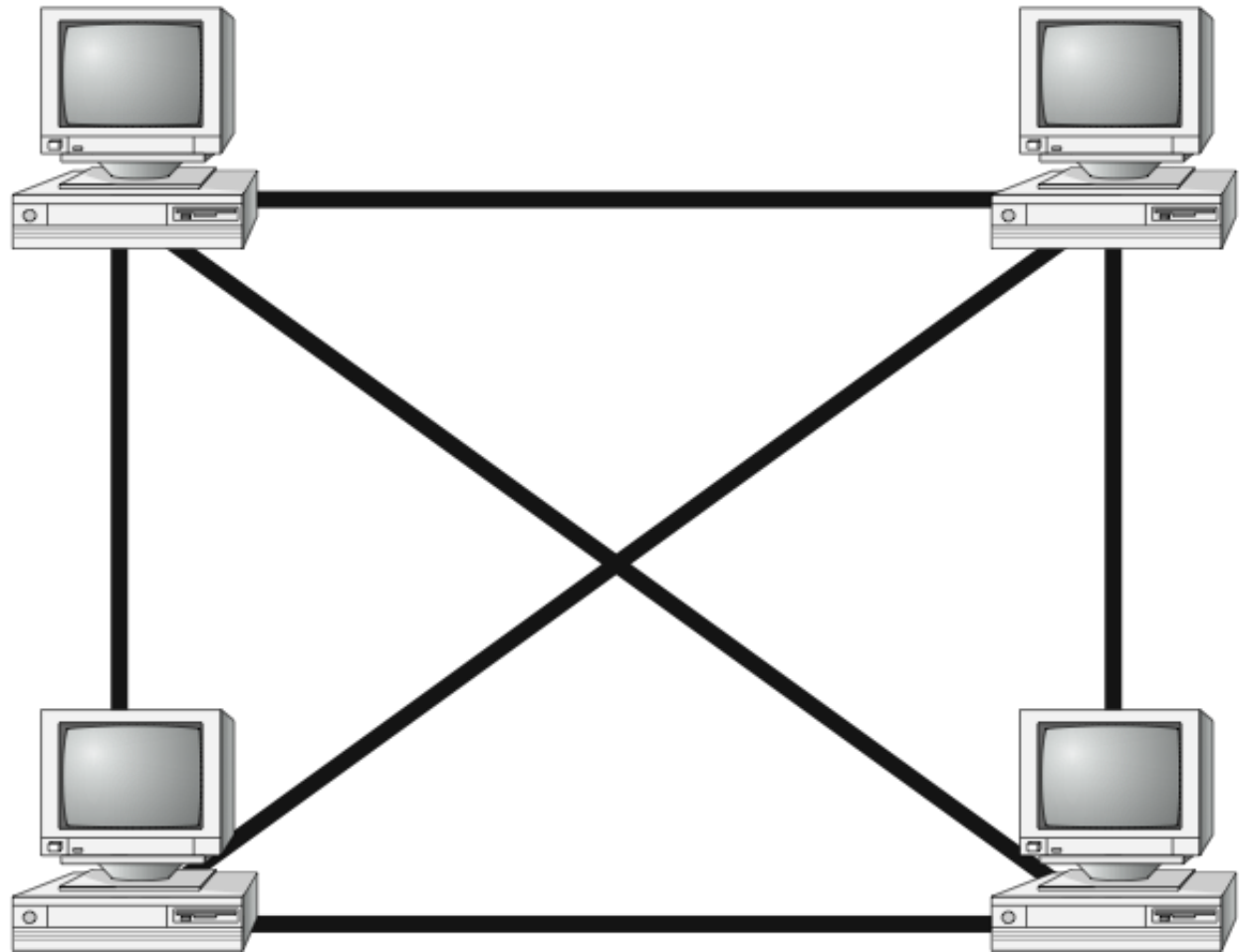
Physical Star Topology



A Physical Ring Topology



A Physical MESH Topology

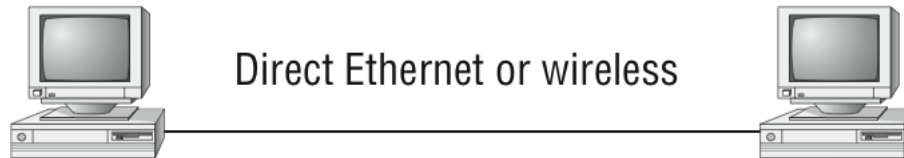


Point-to-point Topologies

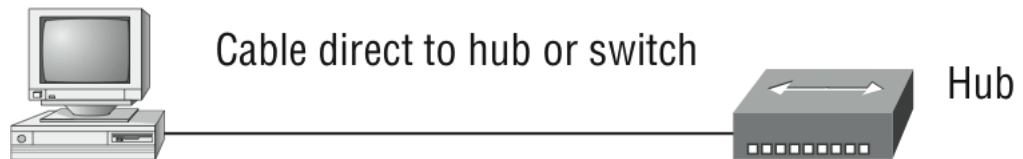
Serial connection, like a T1 between routers



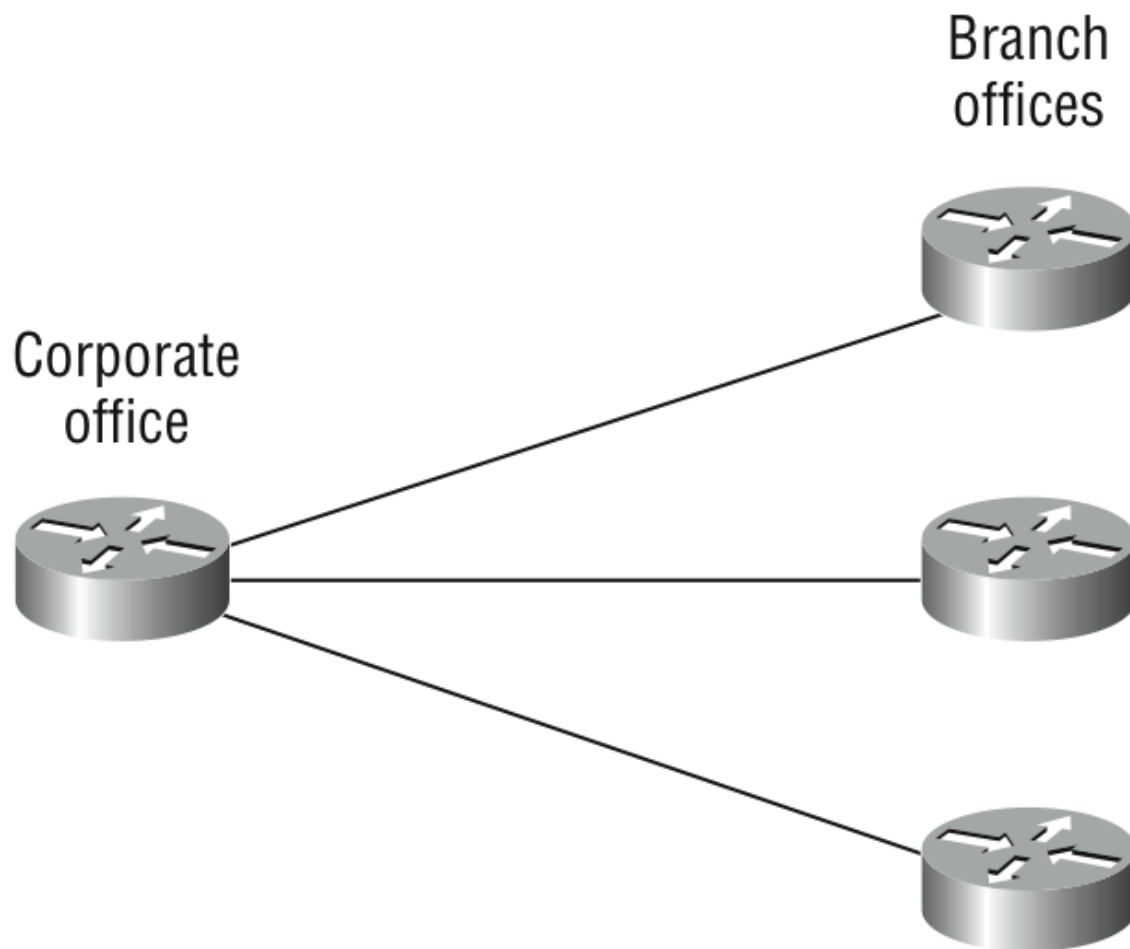
Direct Ethernet or wireless



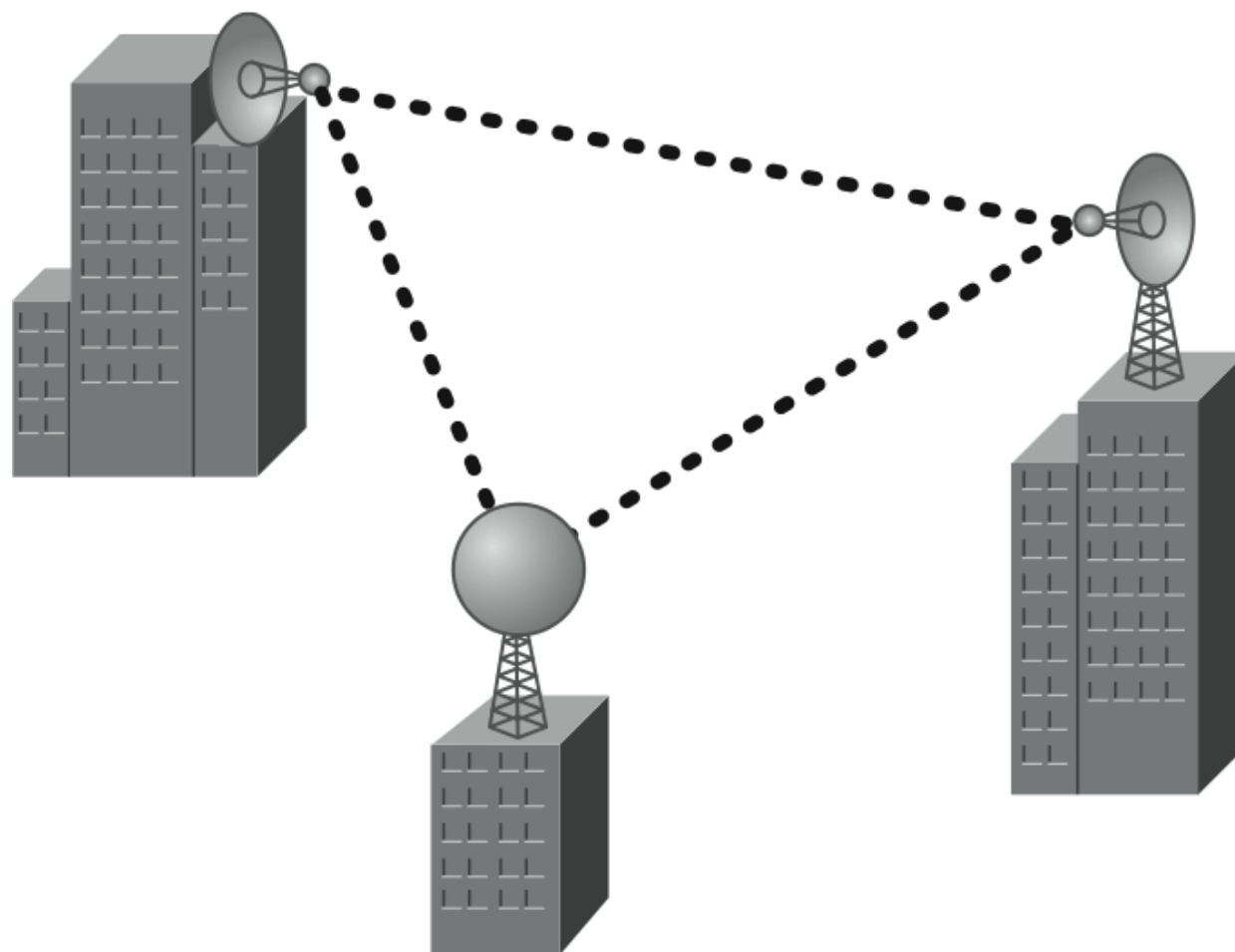
Cable direct to hub or switch



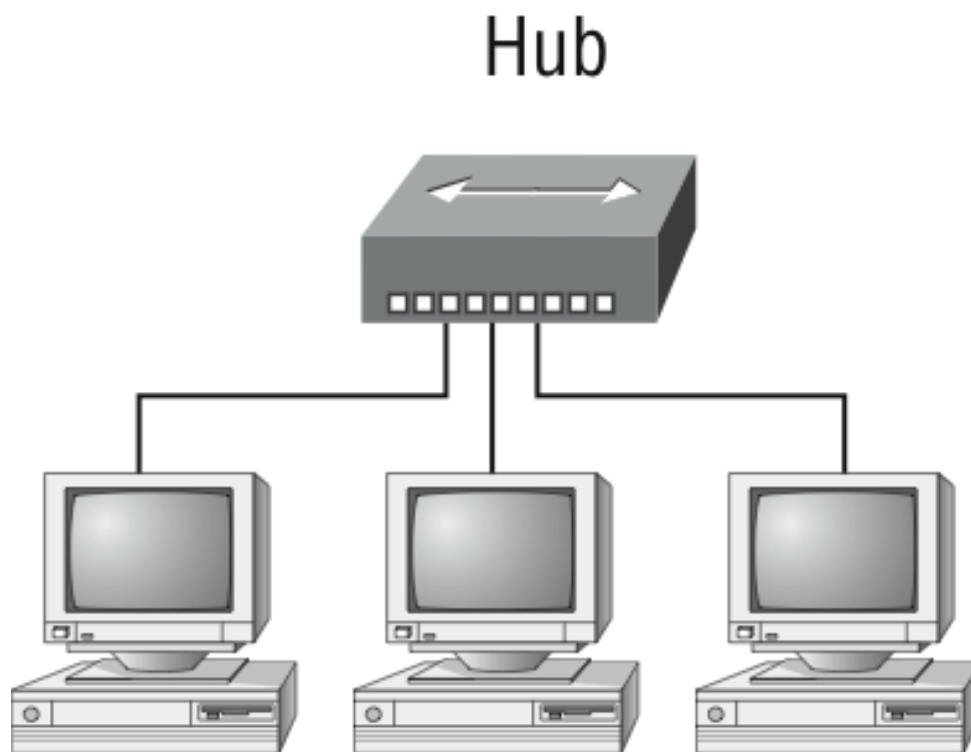
Point-to-Multipoint Topology



Point-to-Multipoint Example 2

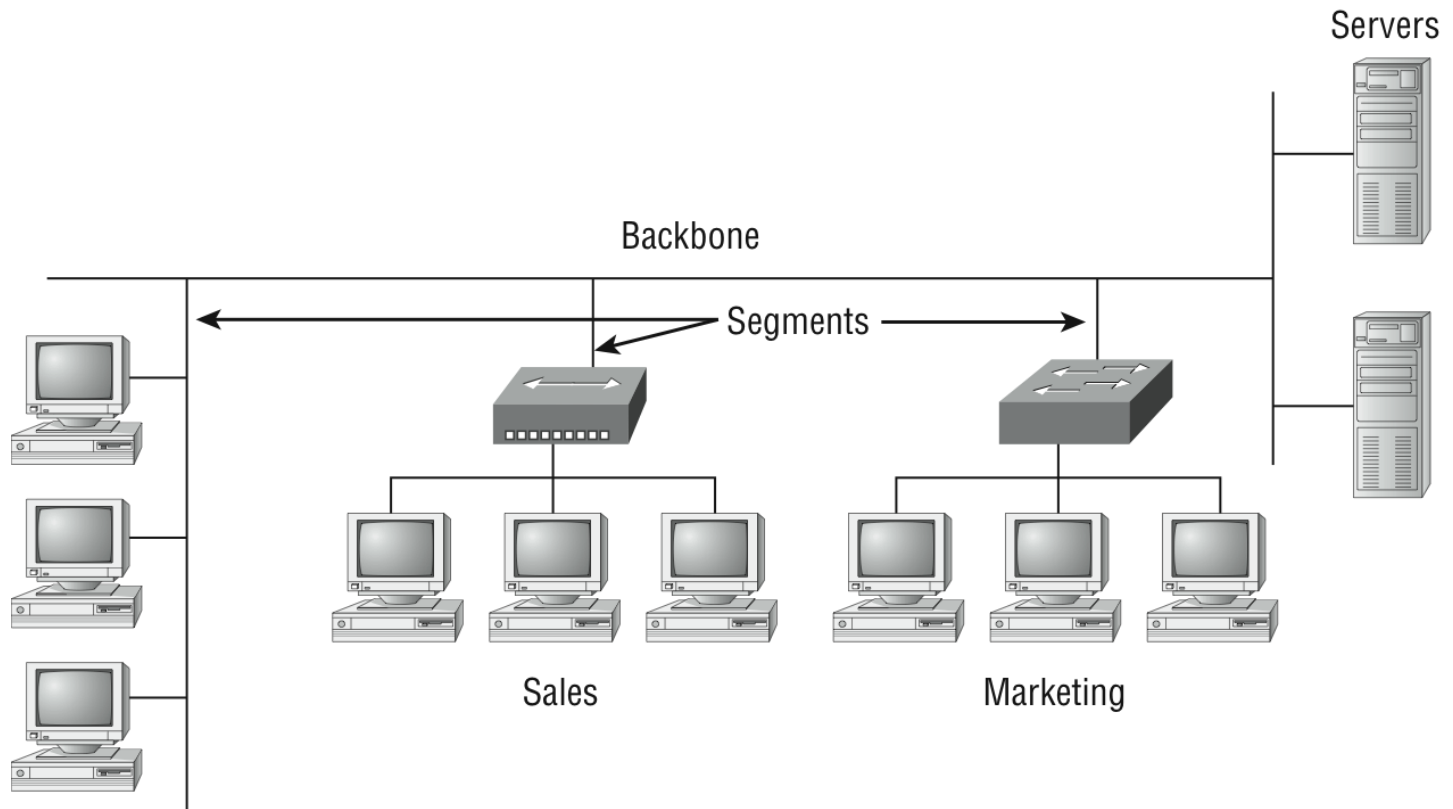


Hybrid Topology



Physical Star, Logical Bus

Backbones and Segments



Summary

- Summary
- Exam Essentials Section
- Written Labs
- Review Questions