Overview of Network Models

A network model describes how the nodes on a network are interact. Network models vary based on how communications and processing are centralized or distributed.

The three network models we will be discussing are:

- Centralized
- Client/Server
- Peer-to-peer

These network models focus on the way the different nodes accomplish the primary objectives of the network. But they're not the only way we describe a network.

Networks have a physical topology. This describes how the nodes are physically connected. They also have a logical topology. This describes how the data flows through the network. For example, Ethernet (the most common technology used for LANs) is usually wired together in a star topology. Each device has a wire connection to a central point, usually a switch. The data in a wired Ethernet network uses a bus topology. In a bus network, all the nodes see all the traffic. Thus, we can describe Ethernet as a "physical star, logical bus."

But many professionals work their whole careers and don't have to worry about either the physical or logical topology of their networks. The roles of the nodes on the network are always important. When you enter a new network, you will almost always want to know how processing is being handled. If there's a problem, knowing the network model helps identify where to look for the solution.