6.4 Ethernet

As you study this section, answer the following questions:

- What cable types can be used on an Ethernet network?
- What is the most common cable type and connector?
- What is the difference between a hub and a switch? Why should you choose a switch over a hub?
- When would you use a router on an Ethernet network?
- What cable type and speed are supported on a 1000BaseT network?
- What is the maximum cable length for a 100BaseTX network?

Key terms for this section include the following:

Term	Definition
Network Interface Card (NIC)	This card creates the signals sent along the networking medium.
Networking media	Ethernet supports such cable types as UTP, fiber optic, thinnet, and thicknet.
Connectivity devices	Ethernet uses such connectivity devices as hub, switch, router, bridge, patch panel, and PoE.
Ethernet standards	The standards that identify Ethernet transmission speeds and cable types.
Power over Ethernet (PoE)	PoE distributes electrical power and network data on twisted-pair CAT 5 or higher.

This section helps you prepare for the following certification exam objectives:

Exam	Objective

CompTIA 220-1001	3.1 Explain basic cable types, features, and their purposes
	- Network cables
	  - Ethernet
	  - Cat 5
	  - Cat 5e
	  - Cat 6
	  - Fiber
	  - Coaxial
	  - Unshielded twisted pair
	  - Speed and transmission limitations

CompTIA 220-1002	2.2 Compare and contrast common networking hardware devices - Routers - Repeater - Hub - Bridge

- Patch panel
- Ethernet over Power
- Power over Ethernet (PoE)
  - Switch
- Network interface card

1.8 Given a scenario, configure Microsoft Windows networking on a client/desktop

- Establish networking connections
  - WWAN (Cellular)