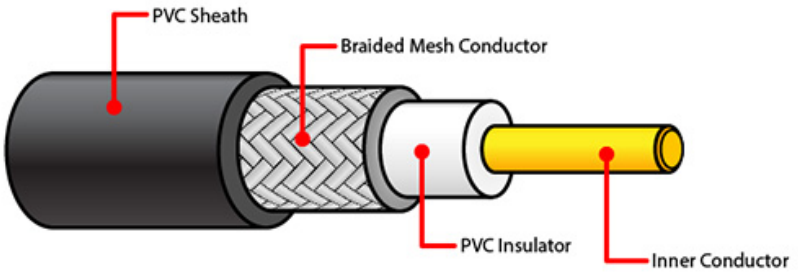
6.3.2 Coaxial Cable Facts

Coaxial cable is primarily used to carry broadband internet signals.

Coaxial cable is built with the following components:



- The inner conductor carries data signals and is made of solid copper or tin.
- The *insulator* surrounds the inner conductor and keeps the signal separated from the mesh conductor. It is made of PVC plastic.
- The *braided mesh* conductor is a second physical channel and also functions as a ground. It is made of aluminum or copper-coated tin.
- The *sheath* is made of PVC plastic and encases the cable, protecting it from external elements.

Coaxial cable has the following advantages and disadvantages:

Advantages	Disadvantages
▪ Less susceptible to electromagnetic Interference (EMI) ▪ Resistant to physical damage ▪ Large existing infrastructure	▪ Expensive ▪ Not very flexible (difficult to bend around corners) ▪ Using splitters degrades signal quality

The table below describes the different coaxial cable grades:

Type	Uses	Resistance Rating
RG-59	CCTV video systems; short cable lengths (less than 3 meters) are sometimes used for cable TV	75 ohms
RG-6	Cable TV, satellite TV, and broadband cable internet	75 ohms

Because RG-6 is able to carry a higher-quality signal with much lower signal loss than RG-59, RG-6 cabling should always be used for any coaxial cable implementation.

The following table describes the most common type of connector used with coaxial cable:

Connector	Description
BNC 	▪ Molded onto the cable ▪ Used in legacy 10Base2 Ethernet networks ▪ Used in specialized industries ▪ Used to connect composite video displays on commercial video devices.

An older connector is the DB25 connector. A DB25 connector has 25 pins arranged in two rows. The top row has 13 pins and the lower row has 12 pins. DB25 connectors are most often used for parallel, RS-232 serial, or SCSI applications. Another older connector is the DB9 connector. The DB9 connector is a 9 pin connector for a serial cable. RS-232 devices originally used the DB25, but for many applications the less common signals were omitted, allowing a DB9 to be used.