Network & Inter-Network/Internet

Network: Communication between two or more computers is called as network.

Inter-network / Internet: Communication between two or more networks is called Inter-network or Internet.

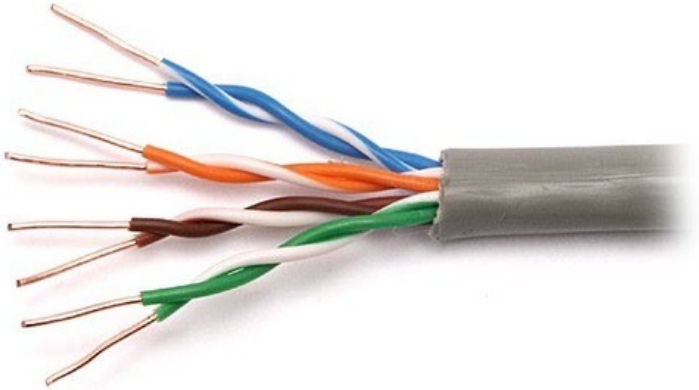
Media

- Media: An important part of designing and installing an Ethernet is selecting the appropriate Ethernet medium. There are four major types of media in use today: Thickwire for networks; thin coax for networks; unshielded twisted pair (UTP) for networks; and fiber optic for or Fiber-Optic Inter-Repeater Link (FOIRL) networks.

Different Types of Media

Thickwire Cables or Cat 5/6

Thin Coaxual Cables



Twisted Pair Cables

Fiber Optic Cables

Types Of Networks

There are three types of Networks:

1. Lan (Local Area Network).
2. Man(Mertropolitan Area Network).
3. Wan(Wide Area Network).

LAN

Local Area Networks (LANs):

A network is any collection of independent computers that exchange information with each other over a shared communication medium. Local Area Networks or LANs are usually confined to a limited geographic area, such as a single building or a college campus.

MAN

computer network on the large geographical area that include several buildings or even the entire city (metropolis). The geographical area of the **MAN** is larger than LAN, but smaller than WAN. he diameter of such a network can range from 5 to 50 kilometers.

WAN

- A WAN (wide area network) is a communications network that spans a large geographic area such as across cities, states, or countries. They can be private to connect parts of a business or they can be more public to connect smaller networks together.
- The internet is a WAN because, through the use of ISPs, it connects *lots* of smaller local area networks (LANs) or metro area networks (MANs).

WLAN

- A wireless local area network (**WLAN**) is a wireless computer network that links two or more devices using wireless communication within a limited area such as a home, school, computer laboratory, or office building.

Network Devices

- **Different networking devices:**
- Network Hub: Network Hub is a networking device which is used to connect multiple network hosts.
- Network Switch: Like a hub, a switch also works at the layer of LAN (Local Area Network).
- Modem:Internet connection through a wire for home or office from this device.
- Network Router: A router is a network device which is responsible for routing traffic from one to another network.
- Bridge: If a router connects two different types of networks, then a bridge connects two subnetworks as a part of the same network.
- Repeater:A repeater is an electronic device that amplifies the signal it receives.

Network Devices

HUB

Switch

Modem

Routers

Repeater

Bridge

IP Address

- An Internet Protocol **address** (**IP address**) is a numerical label assigned to each device connected to a computer network that uses the Internet Protocol for communication in a network.

- Protocol:In computing, a **protocol** or communication **protocol** is a set of rules in which **computers** communicate with each other. Among the most important sets of Internet **protocols** are TCP(Transmission Control Protocol)/IP, HTTP'S(Hyper Text Transfer Protocol) and DNS(Domain Name System).

Subnet Mask : A subnetwork or **subnet** is a logical subdivision of an **IP** network. For example, 255.255.255.0 is the **subnet** mask for the 192.168.1.0/24

Default Gateway : A default gateway serves as an **access** point or IP router.