Introduction to basic Networking Terminology

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For a specific purpose if things are connected together, are referred to as a **NETWORK**. A network can be of many types, like a telephone network, television network, computer network, or even a people network.

Similarly, a **COMPUTER NETWORK** is also a kind of setup, where it connects two or more devices to share a range of services and information in the form of **e-mails and messages**, **databases**, **documents**, **websites**, **audios and videos**, **telephone calls**, **and video conferences**, etc. among them.

A **PROTOCOL** is nothing but a set of defined **rules**, which has to be followed by every connected device across a network to communicate and share information among them. To facilitates **End to End** communication, a number of protocols worked together to form **Protocol Suites or Stacks**.

Networking terminology can be confusing, especially for those who are new to computer networking. Here are some basic terms and their definitions to help you understand the fundamentals of networking:

Network: A collection of interconnected devices, such as computers, printers, and servers, that can communicate with each other.

Node: Any device connected to a network, such as a computer, printer, or router.

Protocol: A set of rules and standards that define how devices on a network communicate with each other.

IP Address: A unique numerical identifier assigned to each device on a network, used to identify and communicate with other devices.

Router: A networking device that connects multiple networks together and forwards data packets between them.

Switch: A networking device that connects devices on a network and forwards data packets between them.

Firewall: A security device or software that monitors and controls incoming and outgoing network traffic, based on a set of predefined security rules.

DNS (Domain Name System): A system that translates domain names (such as www.example.com) into IP addresses, allowing devices to locate

and connect to websites and other network resources.

LAN (Local Area Network): A network that connects devices within a limited geographical area, such as a home, office, or building.

WAN (Wide Area Network): A network that connects devices over a large geographical area, such as multiple offices in different cities or countries.

DHCP (Dynamic Host Configuration Protocol): A protocol that automatically assigns IP addresses and network configuration settings to devices on a network.

TCP/IP (Transmission Control Protocol/Internet Protocol): A set of protocols used to communicate over the internet and other networks.

These are just a few basic networking terms, but understanding them is essential to building a strong foundation in computer networking.

Some basic Protocols are:

- **IP** : Internet Protocol
- **FTP** : File Transfer Protocol
- **SMTP** : Simple Mail Transfer Protocol
- **HTTP** : Hyper Text Transfer Protocol

The **Network reference models** were developed to allow products from different manufacturers to interoperate on a network. A network reference model serves as a blueprint, detailing standards for how protocol communication should occur.

The most widely recognized reference models are the **Open Systems Interconnect** (OSI) Model and **Department of Defense** (DoD, also known as TCP/IP) model.

- **LANs (Local Area Networks)**
- **MANs (Metropolitan Area Networks)**

- **WANs (Wide Area Networks)**

An **Internetwork** is a general term describing multiple networks connected together. The Internet is the largest and most well-known internetwork.

- **SAN (Storage Area Network)**: A SAN provides systems with high-speed, lossless access to high-capacity storage devices.
- **VPN (Virtual Private Network)**: A VPN allows for information to be securely sent across a public or unsecured network, such as the Internet. Common uses of a VPN are to connect branch offices or remote users to the main office.

- A host can act as a ***Client*** when he is requesting information.
- A host can act as a ***Server*** when he provides information.
- A host can also request and provide information, which is called ***Peer***.

Refer to Set 1: Basics of Computer Networking.

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