

ITNET01

Physical Mediums

Wired and Wireless

Public Network Links Ex.

DITO, Globe, Smart, TNT, Star Link etc.

ISP — Internet Service Provider

Captive Portal

Topology — Like Blueprint / Map of a Network / Topology are collective of logical and physical network components

The network topology layout may be classified as:

Decentralized - has a cable that runs from one node to another through a straight line (usually)

Centralized - has a “central network device” where workstations connect

Common Types of Topologies

- BUS
- RING
- STAR
- MESS

Servers - a server acts as repository software for other workstations / “To serve”

Network — Two or more computers connected to each other, can share data “Upload and Download or Upstream and Downstream”

2 Common Network Types

Peer-to-peer - No Rules / devices communicate directly with each other without a central server

Client/Server Architecture - Has a server and clients / Have much tighter security / Where clients (devices) request services or resources from a central server

Protocol — Rule to govern the network / Refers to set of rules or standards one must abide

MAN — Metropolitan Area Network / can cover a greater range than a LAN / Covers a city or large campus

PAN — Personal Area Network / smaller than a LAN and has two forms, *Cabled PAN* and *Wireless PAN (WPAN)*.

Common Network Devices

NIC, Hub, Switch, Bridge, Router, Gateway

Other devices:

Fortinet Firewall / Repeater

Workstation - a device is considered to be a workstation if it has its own central processing unit (CPU) and an operating system that can provide support to common applications, and firm wares

Client - refers to a computer that request permission to access files from another network of computer. **Host** is the computer it wants to access

Host — A generic term for any device connected to a network

MAC — Media Access Network / Unique hardware address for network devices

CAN — Campus Area Network / falls under the *MAN sub-category*. It can link multiple LAN and can cover the same range as a MAN can reach.

EAN — Enterprise Area Network / A network within a single organization

Bridge — Similar Network Topology / Connects and filters traffic between two network segments

NIC — Network Interface Card / Expansion Card installed in computers to connect, interface to the network and to have **Internet Protocol (IP)** Address

IP - IP's main functions are: “data transmission, packet addressing, packet routing, fragmentation, detection of errors”

Two versions of IP:

IPv4 - has a 32-bit node address

IPv6 - has a 128-bit node address

LAN — Local Area Network / 185m / 600ft. — 30 computers / Network in a limited area

WAN — Wide Area Network / Uses routers / Spans a wide geographical area

Router — Dissimilar Network Topology / Different Network addresses / Multiple Functions

Gateway — Hardware and Software combinations / Translates data between different network protocols

Hub — No chipsets / can't connect all devices of their MAC / Connect all the segments of the network together