3.1.1 Different kinds of Networks

Topology : physical layout of a network
- Hub
  - Consist of multiple ports
  - Send data to all ports
- Switch
  - Send data to exact port
- Router
  - Join multiple networks
  - Intermediary between networks

LAN (Local Area Network)
- Small geographic area
- Tend to use private connections as opposed to leased communication lines.
- High data-transfer rate
- Client-Server mode
- Wi-Fi — Exchange data using radio waves

WLAN (Wireless Local Area Network)
- Small geographic area
- No wire

VLAN (Virtual Local Area Network)
- Logical separate networks
- Partitioning of resources
- Independent on medium and physical topology of the network

WAN (Wide Area Network)
- Large geographic area
- Uses leased communication lines.

Intranet
- A collection of private computer networks within a place
- No accessible to outside, firewall is used

Internet
- Global WAN
- WWW is a service of the Internet
- Decentralized by design
- Access must go through a commercial internet service provider (ISP)

Extranet
- Allow outside to access part of the LAN or WAN
- Firewall is used to control the access rights

VPN (Virtual Private Network)
- Secure (data often encrypted)
- Connect geographically separated offices of a business within a network with all the functionalities of a single LAN

(W)PAN ((Wireless) Personal Area Network)
- A network which consists of computers, mobile phones, iPod, headphones etc.
- USB/Bluetooth are used instead of hub/switch

P2P (Peer-to-Peer)
- Peers are equally privileged, equipotent (of the same power) participants in the application.
- Decentralized: Both client and server at the same time

GAN (Global Area Network)
- A network where the nodes are spread out globally. For example, the internet.

SAN (Storage Area Network)
- Provide access to storage
- appears as a device to the OS

Internet — A network of networks