

Internet network. WiFi network

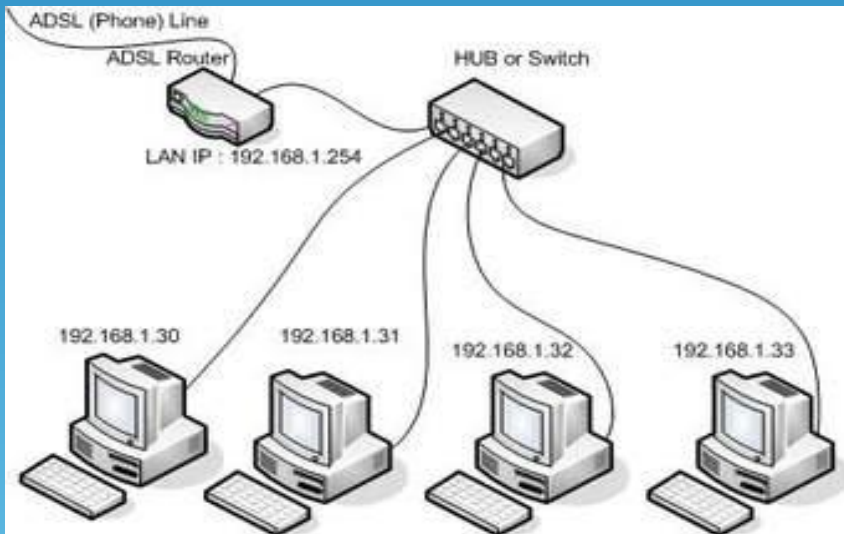
Group №3



What is a network?

- A network is a collection of computing devices connected in order to communicate and share resources (using wires or cables or wireless using radio waves or infrared signals)

Local Area Network(LAN)



Wide Area Network(WAN)



- LAN (Upto 500m): A network that connects relatively small number of machines in a relatively geographical area e.g. an office or floor of a building.
- MAN (a city or metropolitan area): The communication infrastructures that have been developed in and around large cities.
- WAN(Transcontinental or global area): A network that connects two or more local-area networks over a potentially large geographic distance. Often one particular node on a LAN is set up to serve as a gateway to handle all communication going between that LAN and other networks.



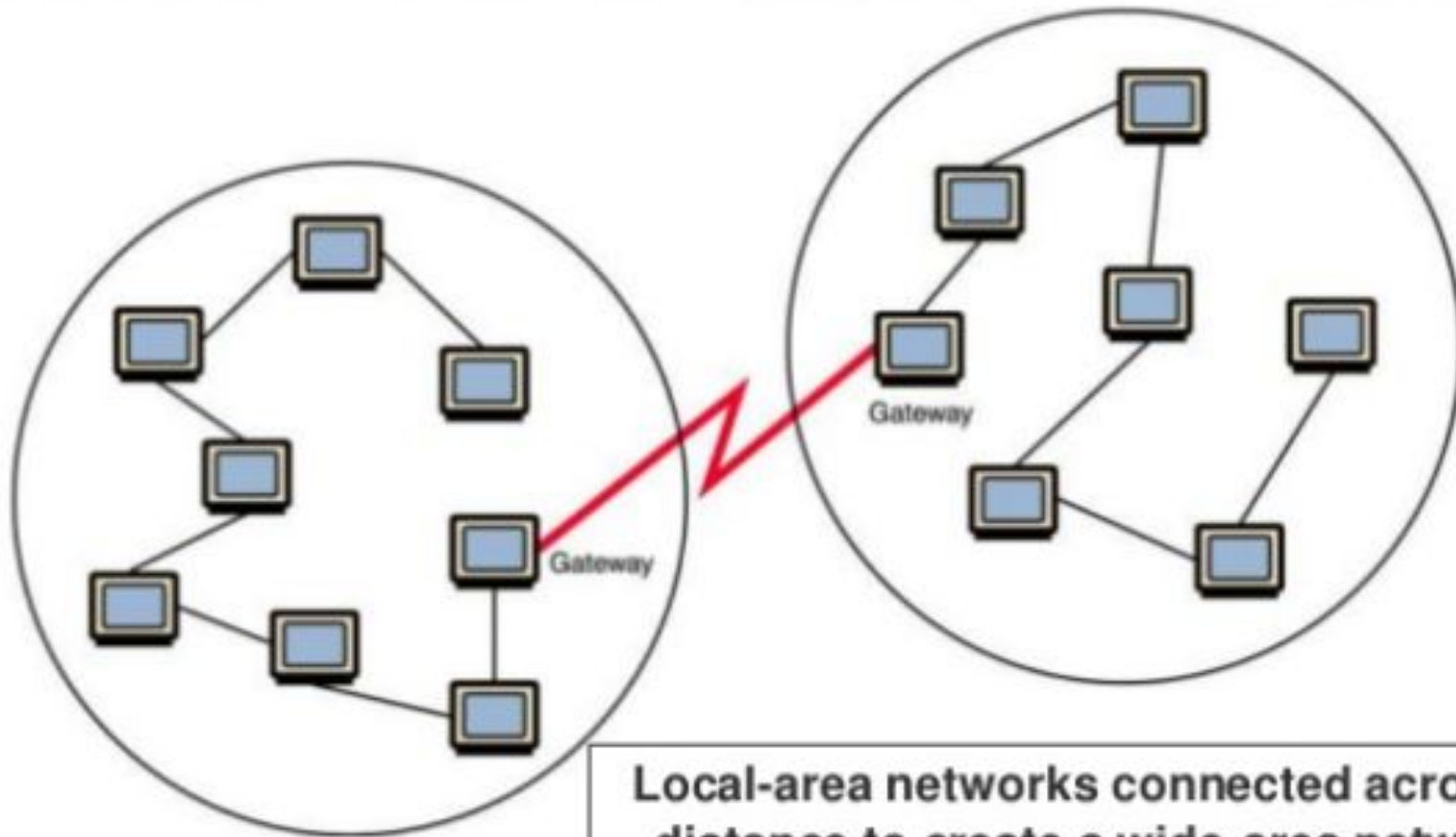
Wireless network

- A **wireless network** is any type of computer network that uses wireless data connections for connecting network nodes
- Wireless networking is a method by which homes, telecommunications networks and enterprise (business) installations avoid the costly process of introducing cables into a building, or as a connection between various equipment locations. Wireless telecommunications networks are generally implemented and administered using radio communication. This implementation takes place at the physical level (layer) of the OSI model network structure. ↓

Network terms to know

- **Server** = a computer or device on a network that manages network resources ex. file server, web root server
- **Network interface card (NIC)** = card inserted into a computer so the computer can be connected to a network
- **Firewall** = a system designed to prevent unauthorized access to or from a private network
- **Router** = a device that forwards data packets along networks and is located where a network connects
- **Modem** = a device that turns the signals from either your phone, cable line, DSL line, etc. into a format computers can understand





Local-area networks connected across a distance to create a wide-area network

TOPOLOGIES

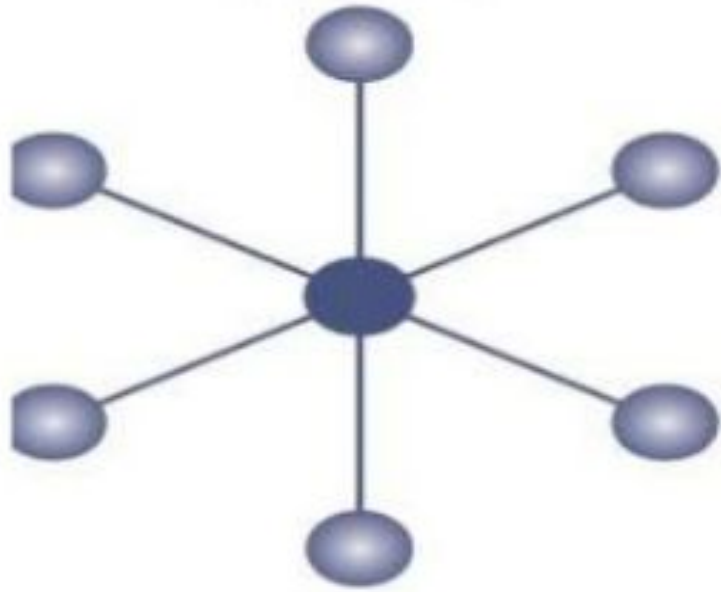


Various configurations, called topologies .

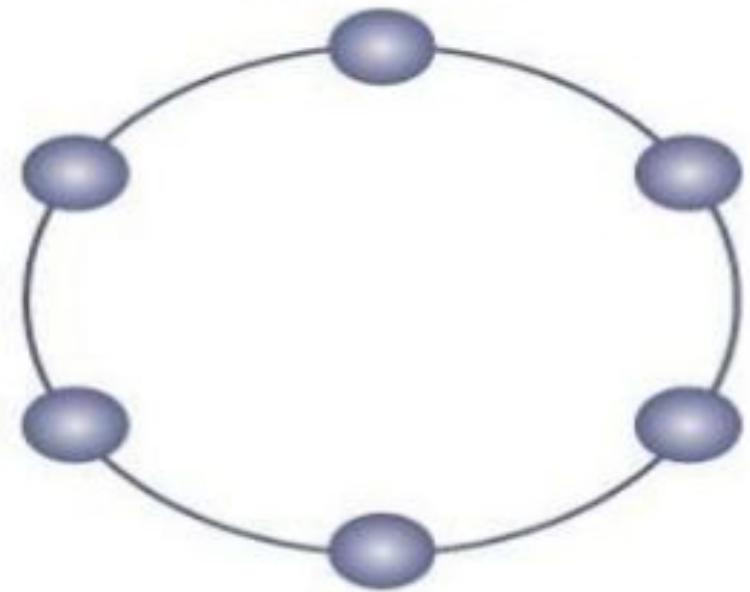
- **Ring topology** A configuration that connects all nodes in a closed loop on which messages travel in one direction.
- **Star topology** A configuration that centers around one node to which all others are connected and through which all messages are sent.
- **Bus topology** All nodes are connected to a single communication line that carries messages in both directions.



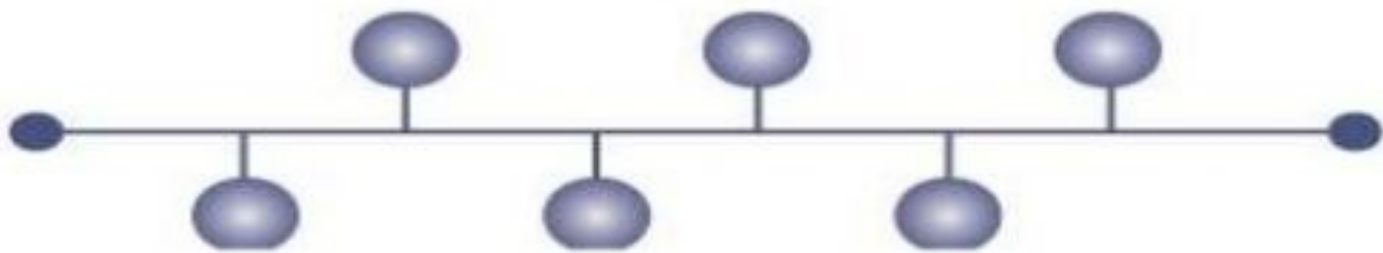
Star topology



Ring topology



Bus topology




THE INTERNET



- Global system of interconnected computer networks that use the standard Internet protocol suite (TCP/IP) to link.
- *Network of networks* that consists of millions of private, public, academic, business, and government networks, of local to global scope, that are linked.
- Carries an extensive range of information resources & services.

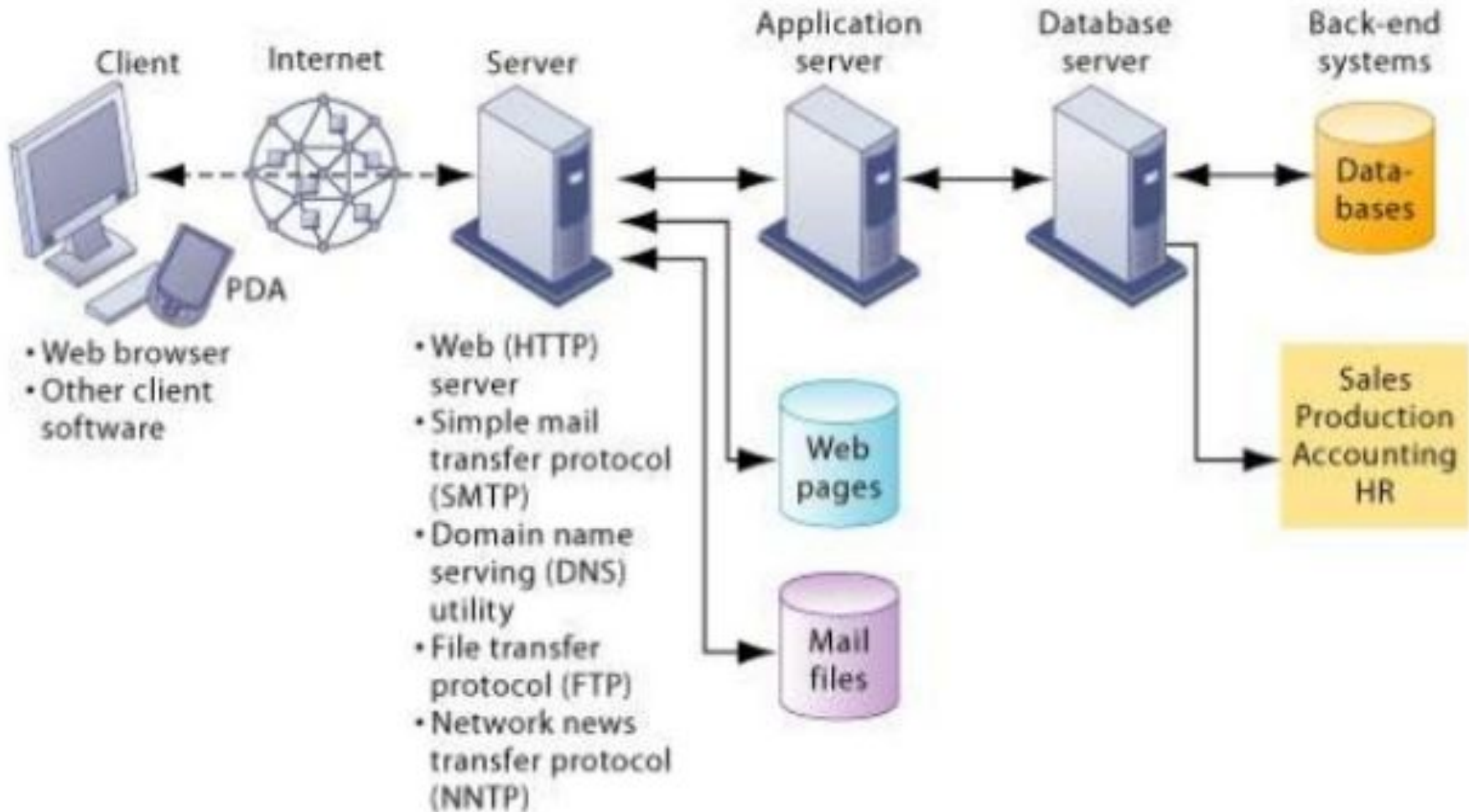


INTERNET CONNECTIONS



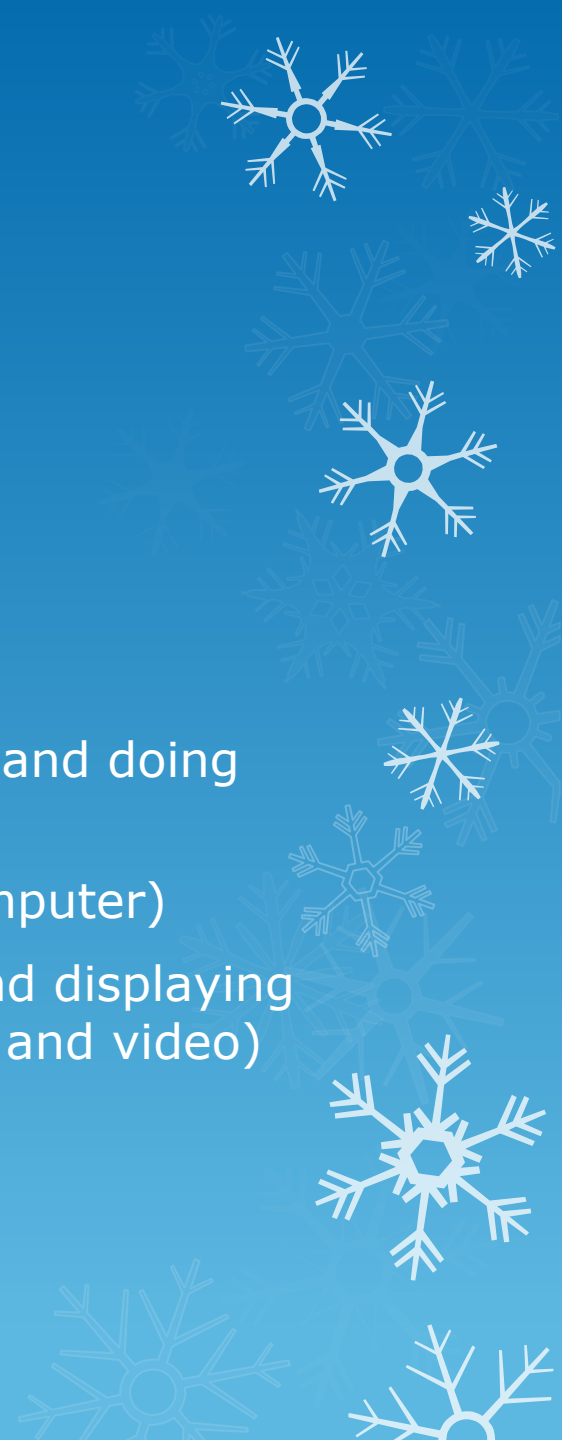
- **Internet backbone** A set of high-speed networks that carry Internet traffic. These networks are provided by companies such as AT&T, GTE, and IBM.
- **Internet service provider (ISP)** A company that provides other companies or individuals with access to the Internet.
- There are various technologies available that you can use to connect a home computer to the Internet.
 - A **phone modem** converts computer data into an analog audio signal for transfer over a telephone line, and then a modem at the destination converts it back again into data.
 - A **digital subscriber line (DSL)** uses regular copper phone lines to transfer digital data to and from the phone company's central office.

CLIENT/SERVER COMPUTING ON INTERNET



Internet services

- E-mail
- Usenet newsgroups
- Chatting and instant messaging
- Telnet(Logging on to one computer system and doing work on another)
- FTP(Transferring files from computer to computer)
- World Wide Web: Retrieving, formatting, and displaying information(including text, audio, graphics, and video) using hypertext links



Thank you

