NETWORK CATEGORIES

The computer networks are classified based on two factors
(i) Transmission Technology
(ii) Scale(Size of the Network)

Classification of Computer Networks by scale.

Interprocessor distance	Processors located in same	Example
1 m	Square meter	Personal area network
10 m	Room	Local area network
100 m	Building	Local area network
1 km	Campus	Local area network
10 km	City	Metropolitan area network
100 km	Country	Wide area network
1000 km	Continent	Wide area network
10,000 km	Planet	The Internet

Personal Area Network
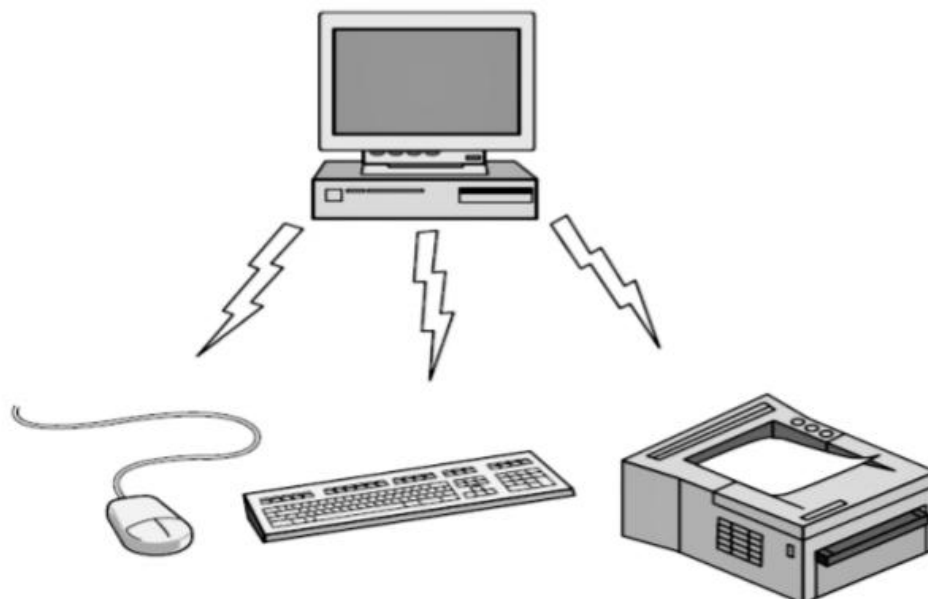

Bluetooth PAN configuration

LAN (Local Area Network)

- Privately owned and links the devices in a single office, building or campus

- LANs designed to allow resources to be shared between PCs or workstations. The resources may be H.W (e.g. printer) or S.W (applications program) or data.

- In LANs one of the computers has a large capacity drive and becomes a server to other clients.

Contd..

- S/W stored on server and used as needed by the whole group.

- LAN size determined by licensing restrictions (no of users per copy of S/W)

- LAN use only one type of transmission medium.

- The most common LAN topologies are bus, ring and star.

- Traditionally LAN have data rates in the 4 to 16 Mbps. Today Speed can reach to 100Mbps or 1000MBps(1G).
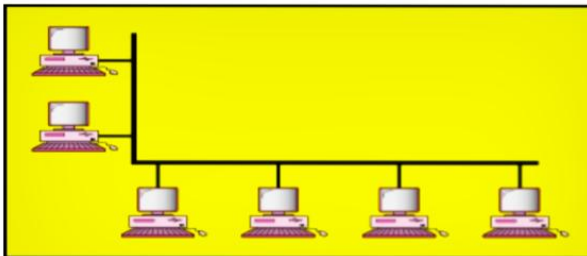
Local Area Networks
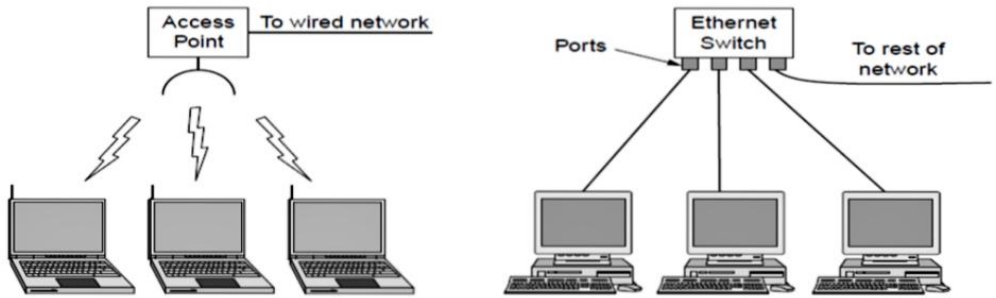
Wireless and wired LANs. (a) 802.11. (b) Switched Ethernet.

Single-Building LAN

Used in business environments, links a workgroup of task-related computer.

a. Single-building LAN

Multiple-building LAN

Backbone
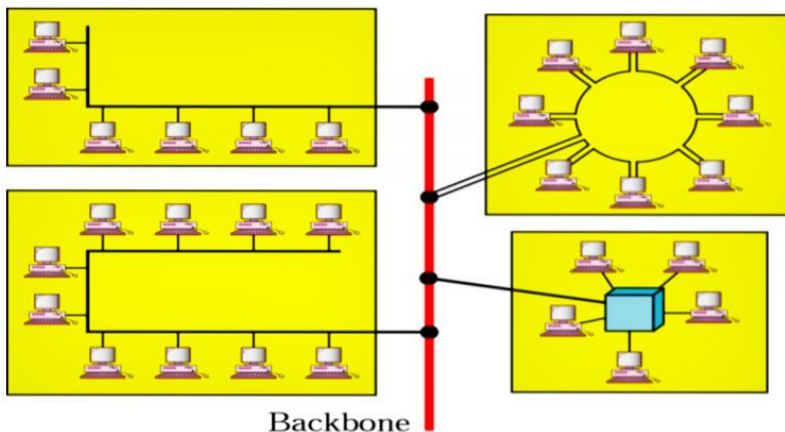
b. Multiple-building LAN

MAN (Metropolitan Area Network)

- Owned by private company or it may be a service provided by public company (such as local tel.-company)

- Extended over an entire city.

- May be single network such as a cable television network, or it may be connected number of LANs into a large network so that resources may be shared LAN-TO- LAN.
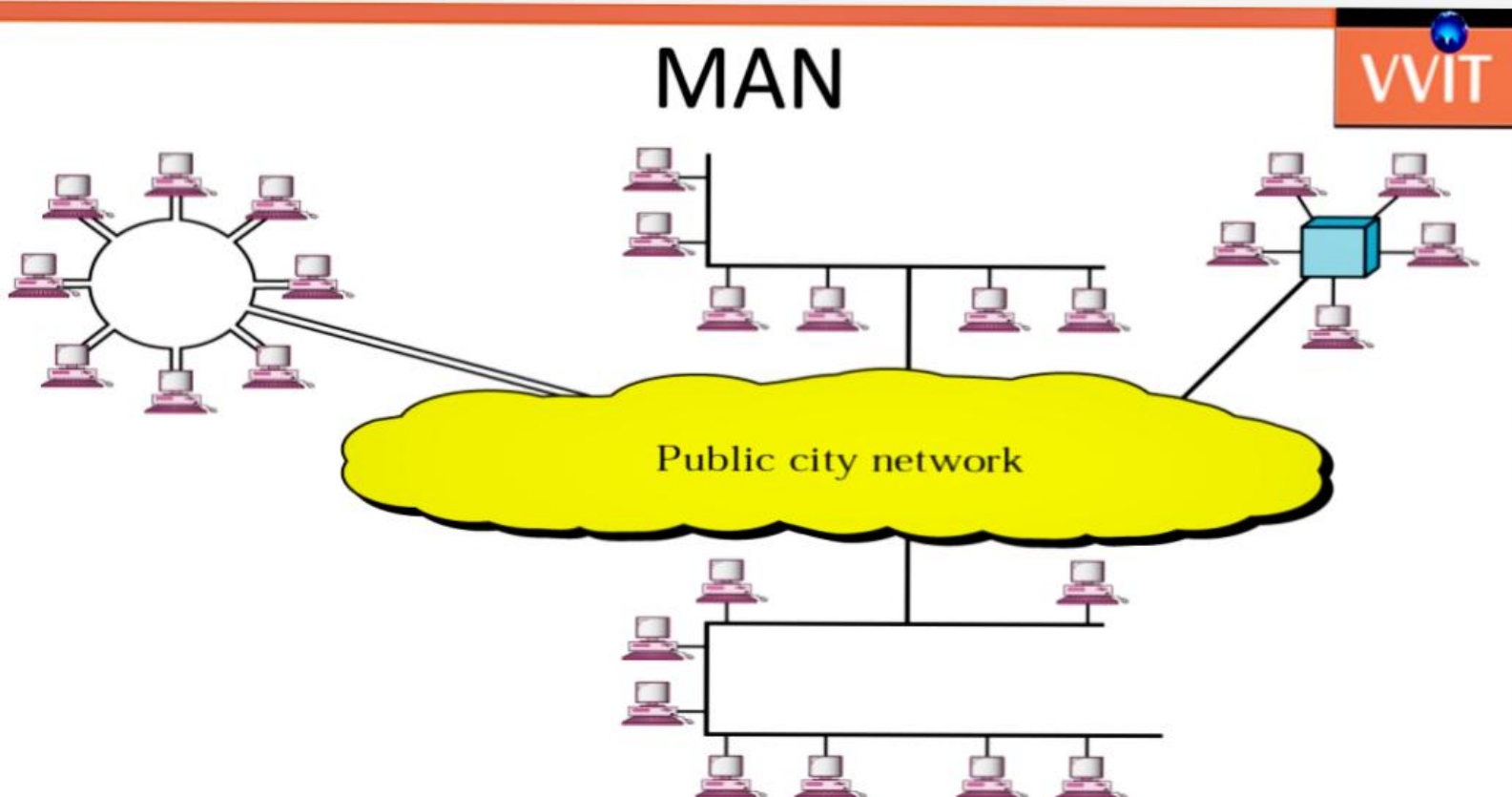
Metropolitan Area Networks
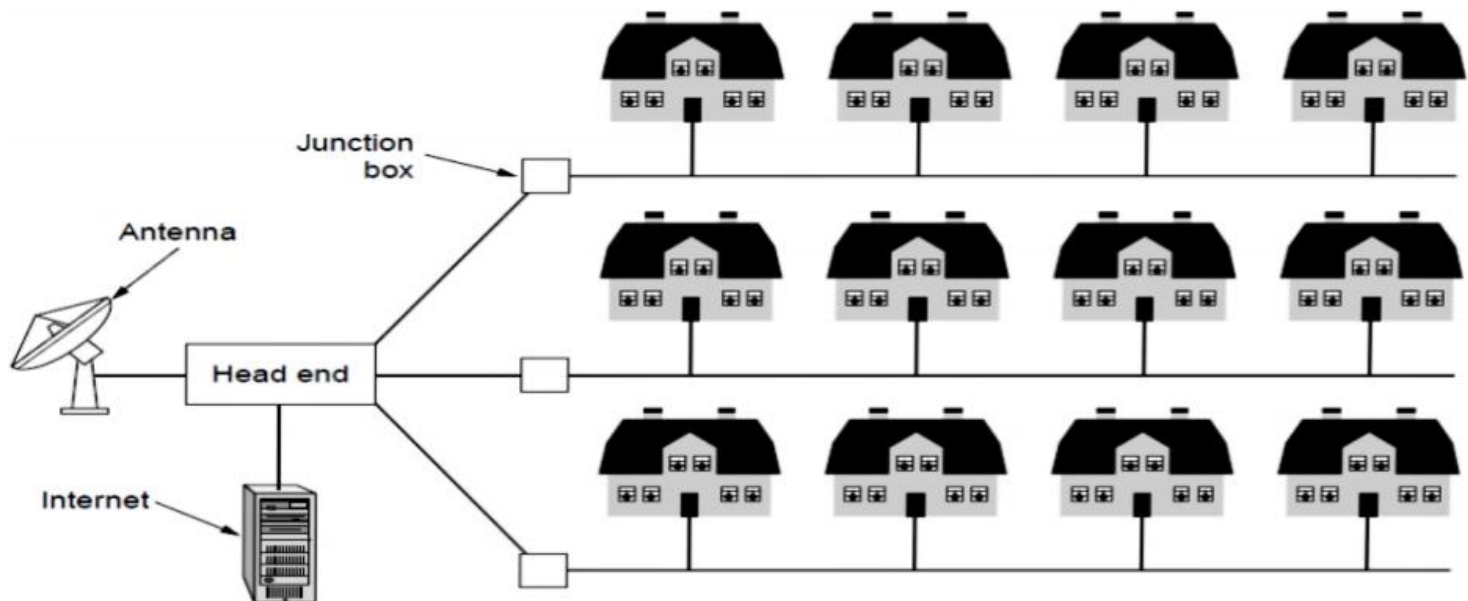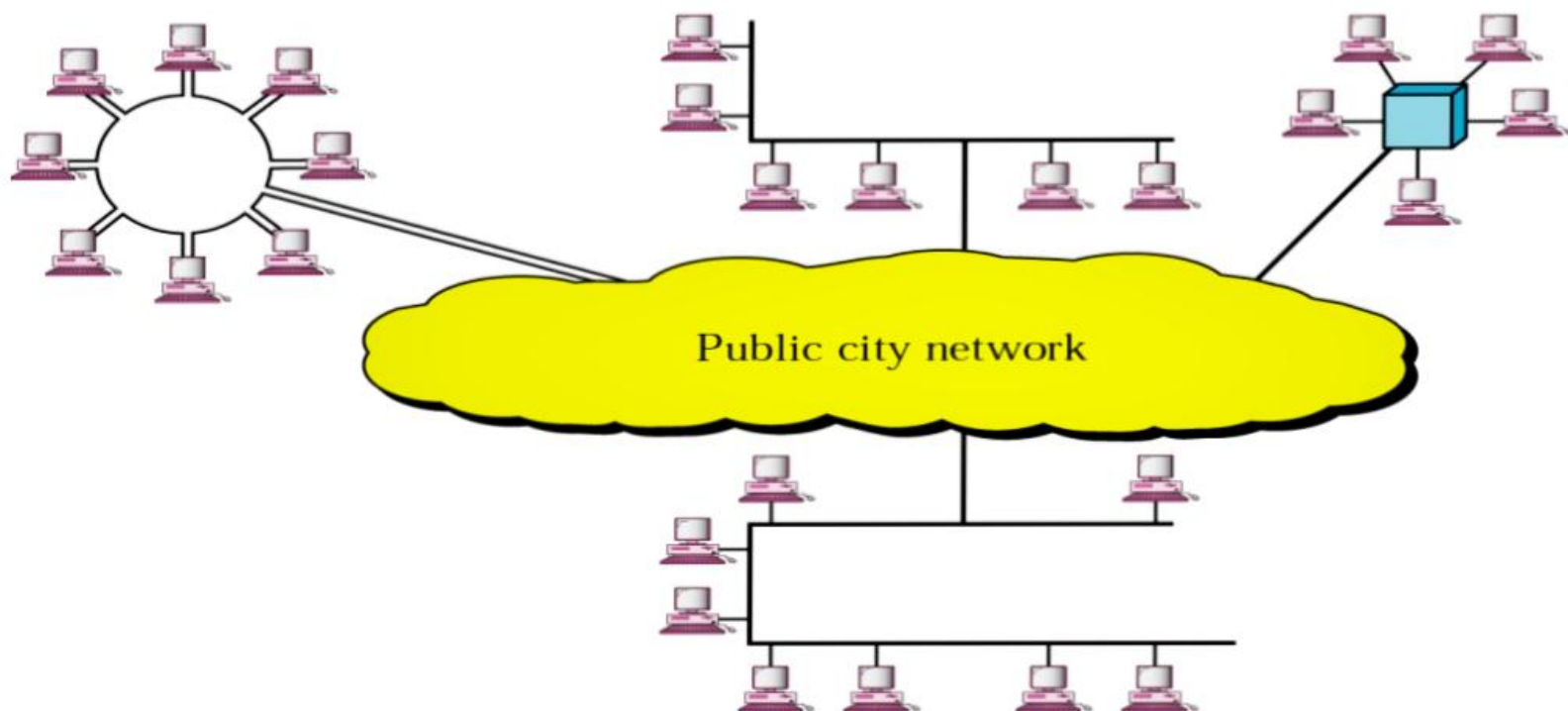

A metropolitan area network based on cable TV.

MAN (Metropolitan Area Network)

- **Examples:**

    ✓ Company can use MAN to connect the LANs in all its offices throughout the city.

    ✓ A part of the telephone line network that can provide DSL line to the customer

MAN

Public city network

MAN

Public city network

WAN (Wide Area Network)

- **Provides long distance transmission of data, voice , image and video information over large areas (country or whole world)**

- **In contrast to LAN, WAN may utilize public or private communication equipments or combination.**