

Network Hardware

CSE306

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Categories of Networks

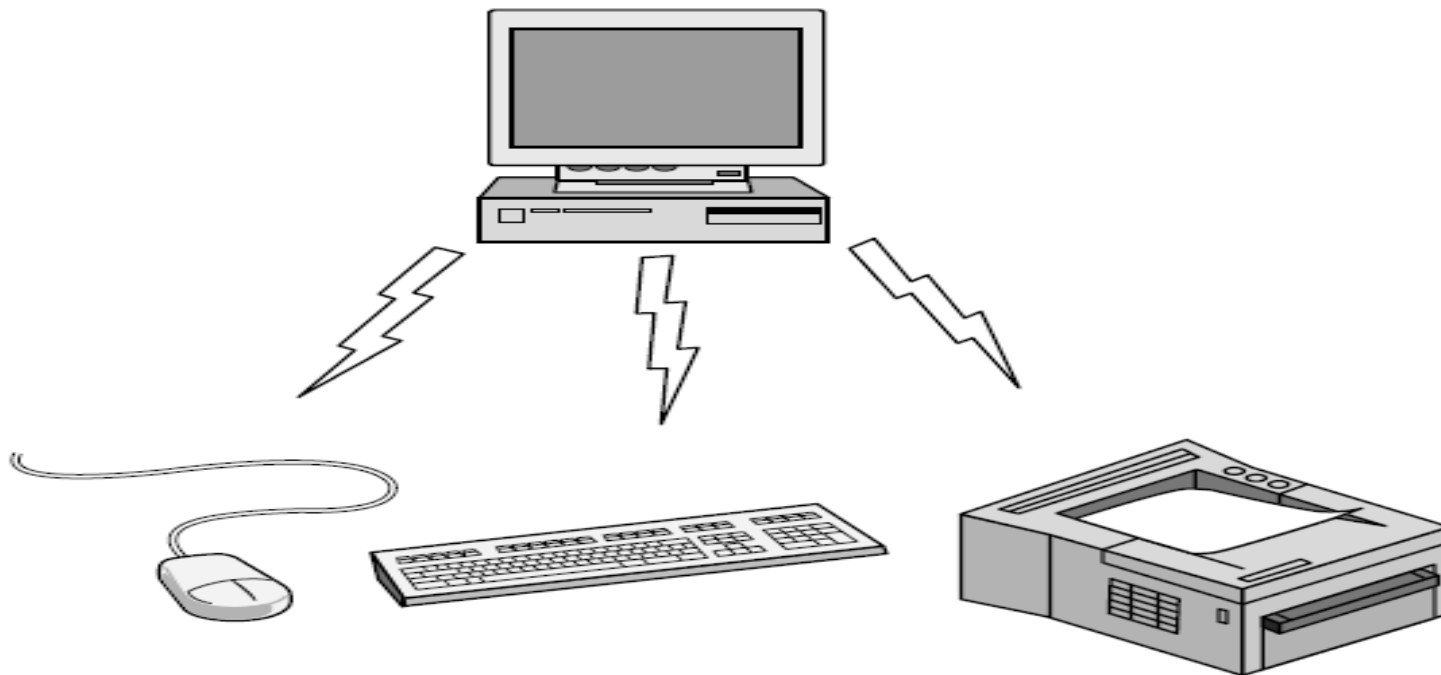
- Personal area networks
- Local Area networks
- Metropolitan Area networks
- Wide Area networks
- Wireless Networks
- Home Networks
- Internetworks- The Internet

POLL 1

Which of the following is **NOT** an example of a Network

- a) LAN
- b) MAN
- c) WAN
- d) FAN

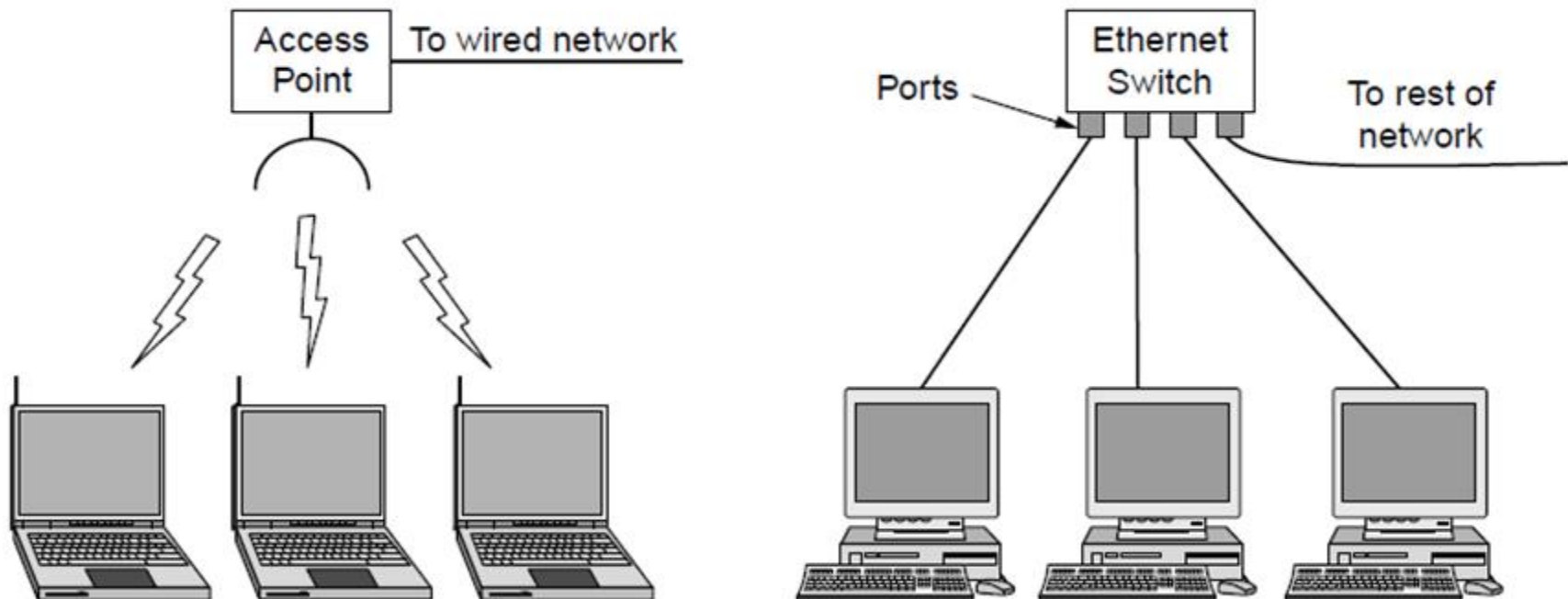
Personal Area Network



Bluetooth PAN configuration

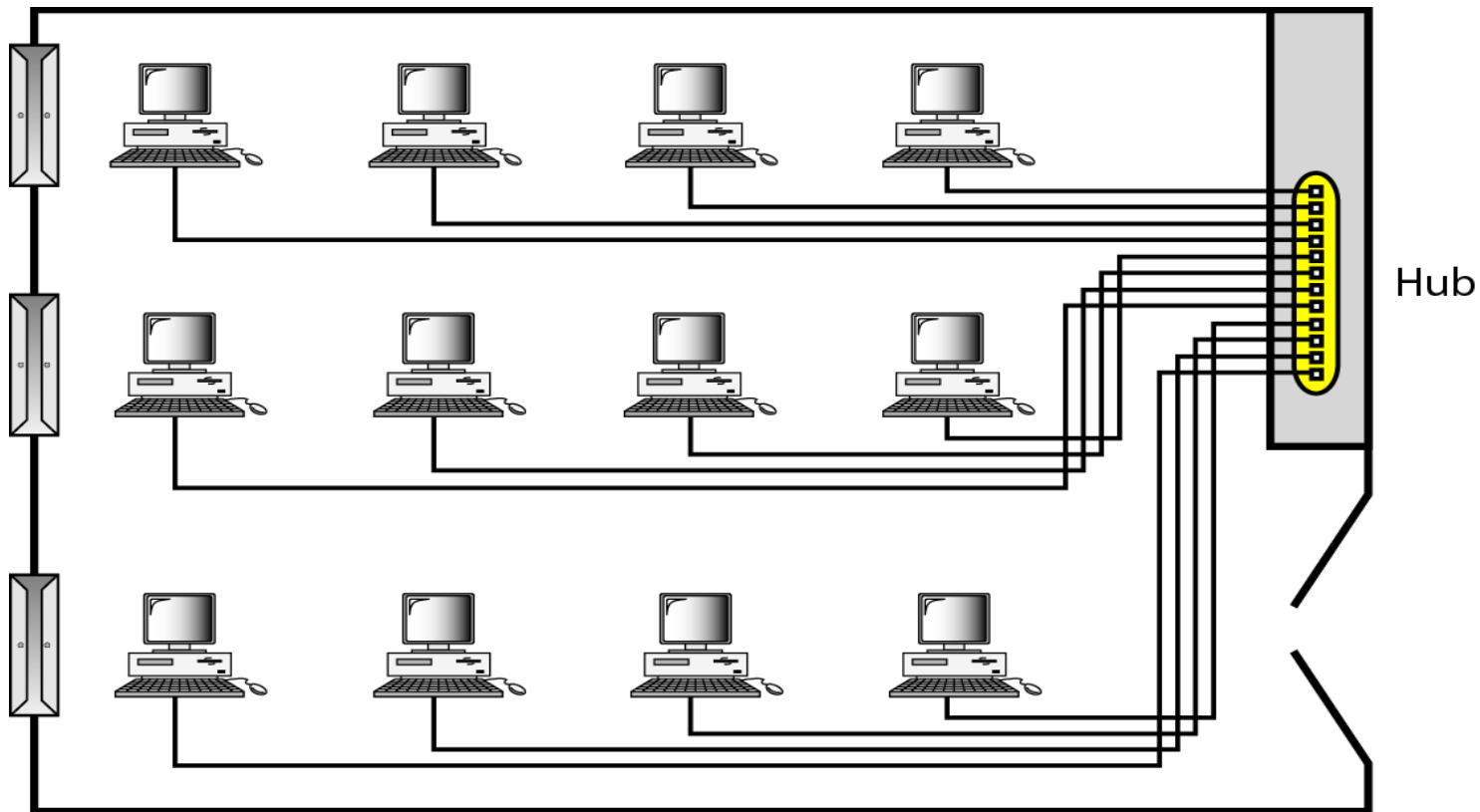
Local Area Networks (LANs)

- Short distances
- Designed to provide local interconnectivity



Wireless and wired LANs. (a) 802.11. (b) Switched Ethernet.

Isolated LAN connecting 12 computers to a hub in a closet



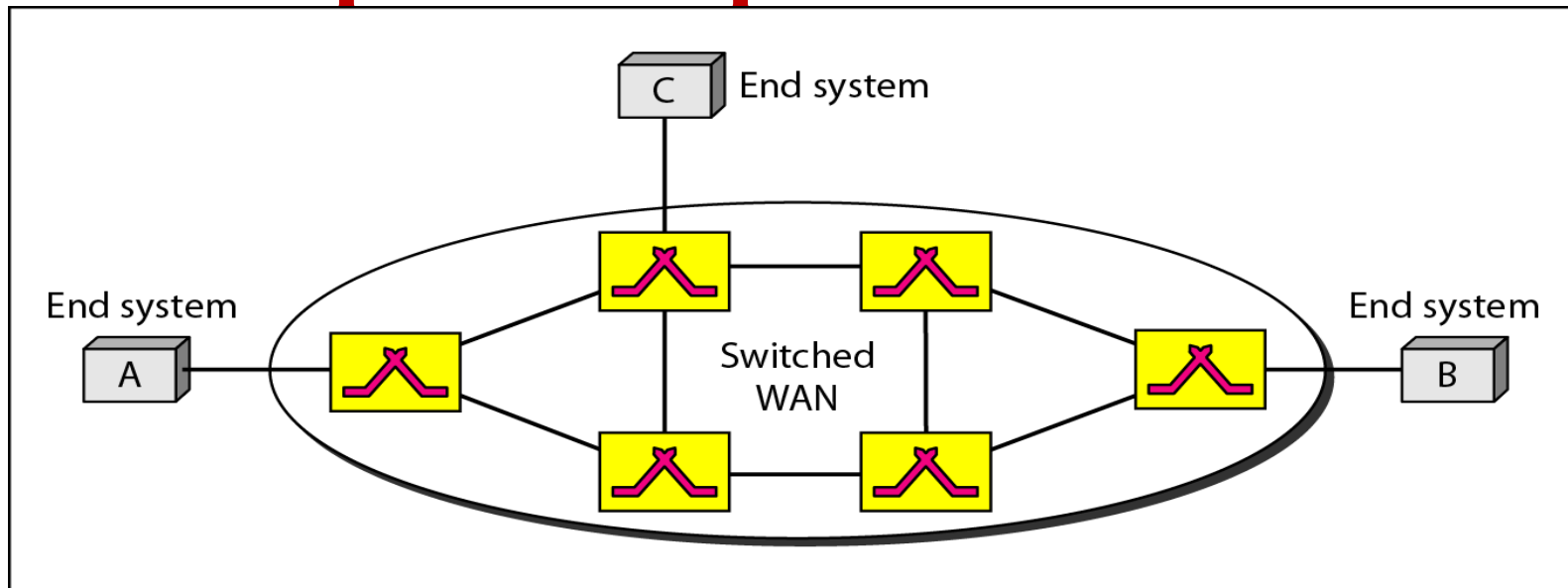
POLL 2

- Hub is a
 - a) Broad-cast device
 - b) Uni-cast device
 - c) Multi-cast device
 - d) None of the above

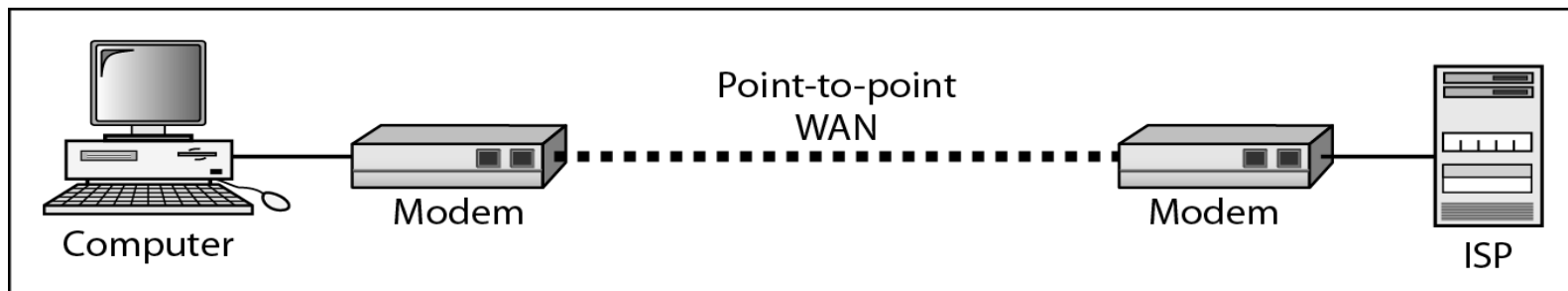
Wide Area Networks (WANs)

- Long distances
- Provide connectivity over large areas

WANs: a switched WAN and a point-to-point WAN



a. Switched WAN

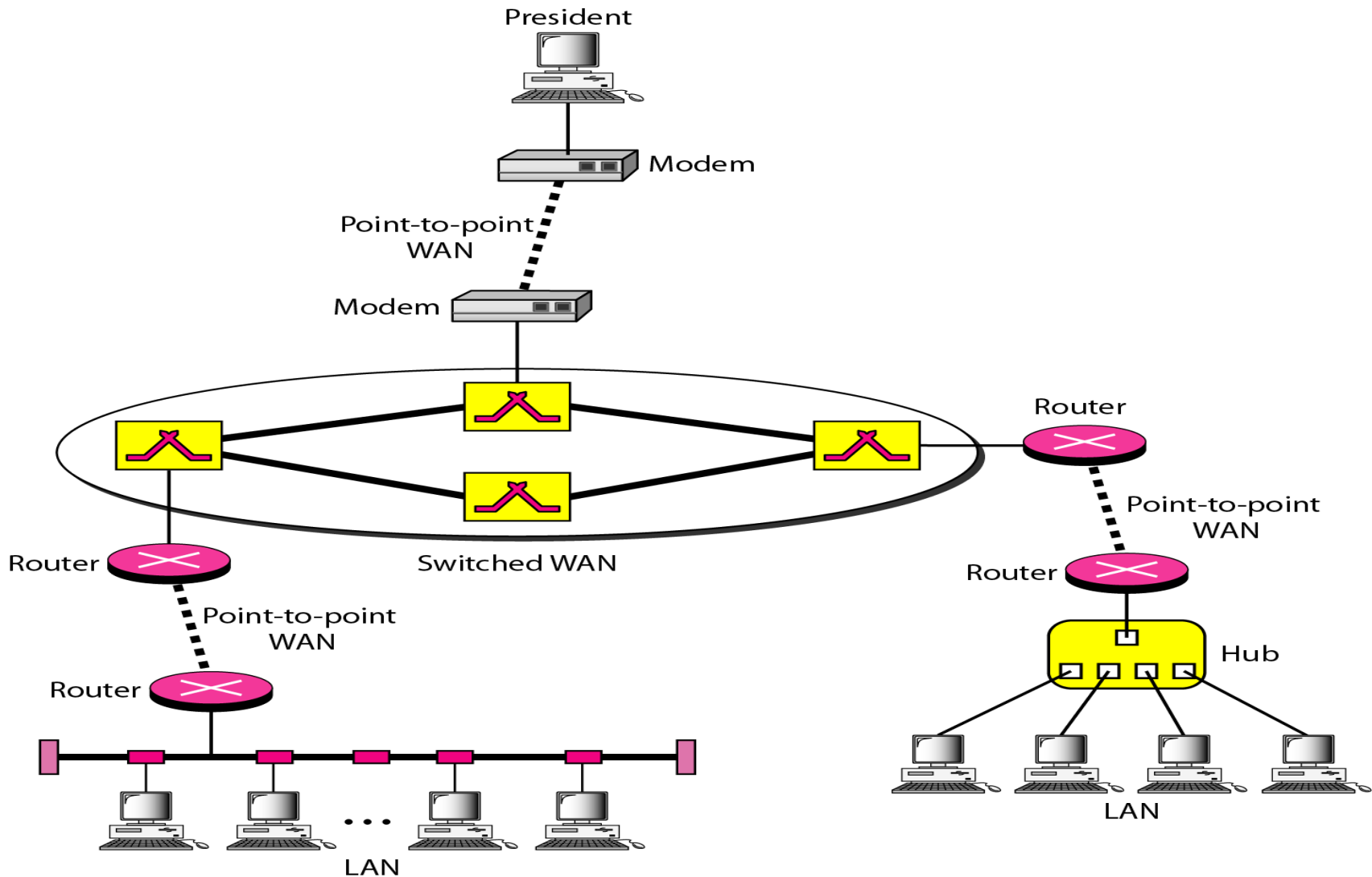


b. Point-to-point WAN

POLL 2

- Switch is a intelligent device
 - a) True
 - b) False

A heterogeneous network made of four WANs and two LAN



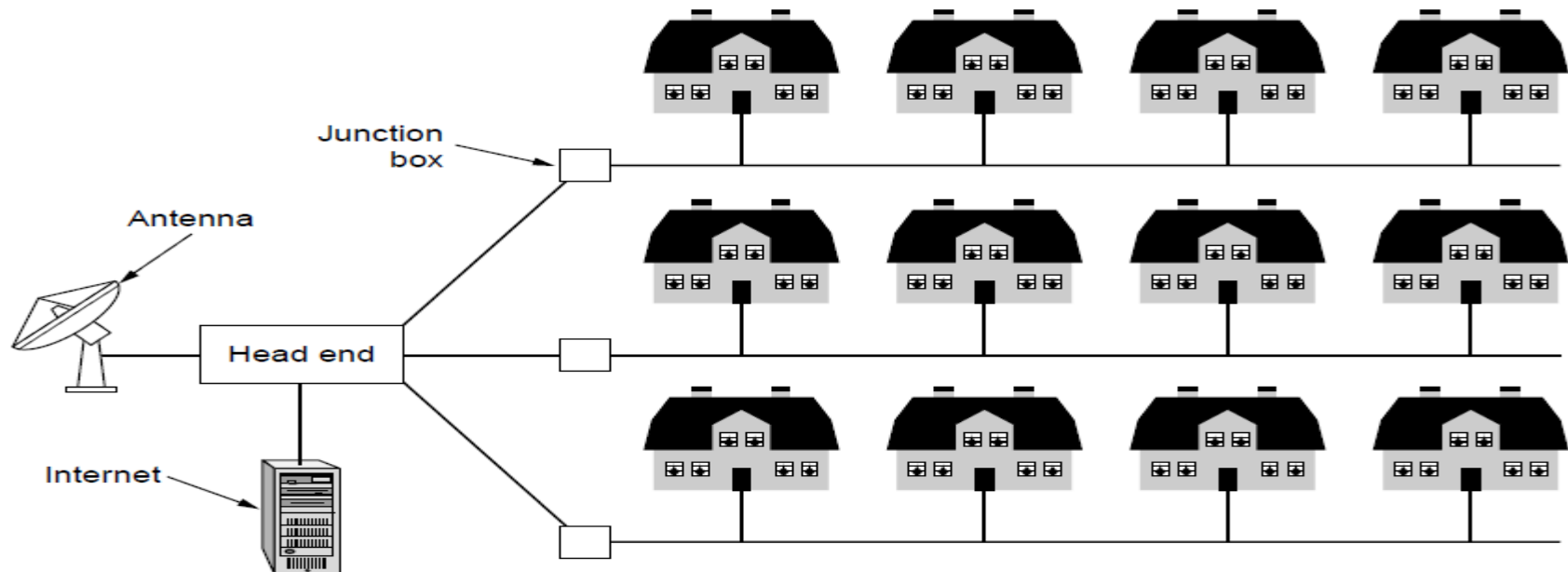
POLL 3

A heterogenous network may include

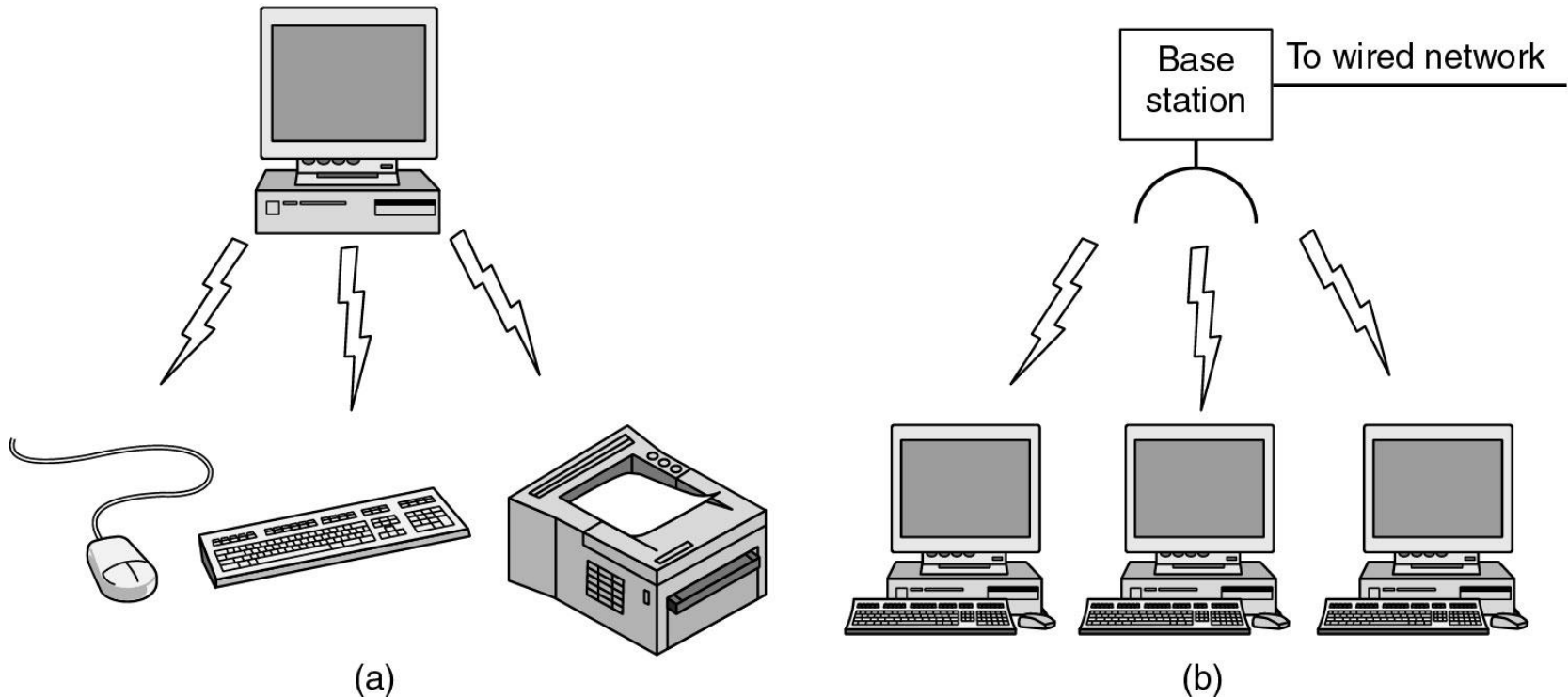
- a) Hub only
- b) Hub and Switch only
- c) Switch and Router only
- d) Hub, Switch and Router

Metropolitan Area Networks (MANs)

- Provide connectivity over areas such as a city, a campus
- A metropolitan area network based on cable TV or telephone cable using DSL

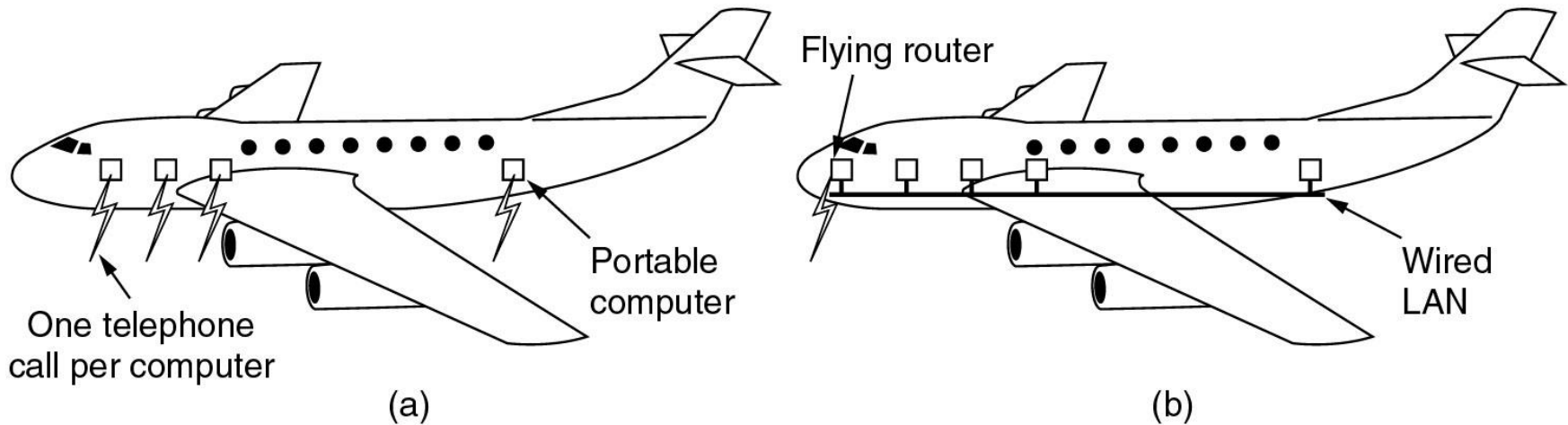


Wireless Networks



- (a) Bluetooth configuration
- (b) Wireless LAN

Wireless Networks



- (a) Individual mobile computers
- (b) A flying LAN



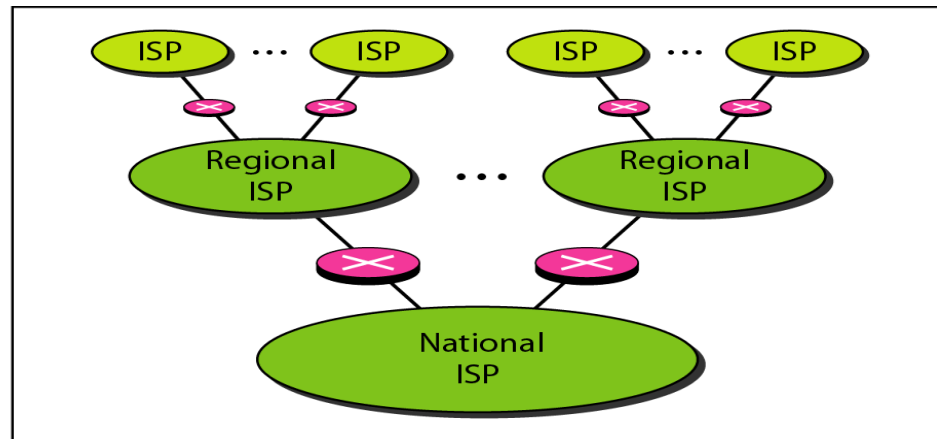
Home Network Categories

- Computers (desktop PC, PDA, shared peripherals)
- Entertainment (TV, DVD, VCR, camera, stereo, MP3)
- Telecomm (telephone, cell phone, intercom, fax)
- Appliances (microwave, fridge, clock, furnace, airco)
- Telemetry (utility meter, burglar alarm, babycam).

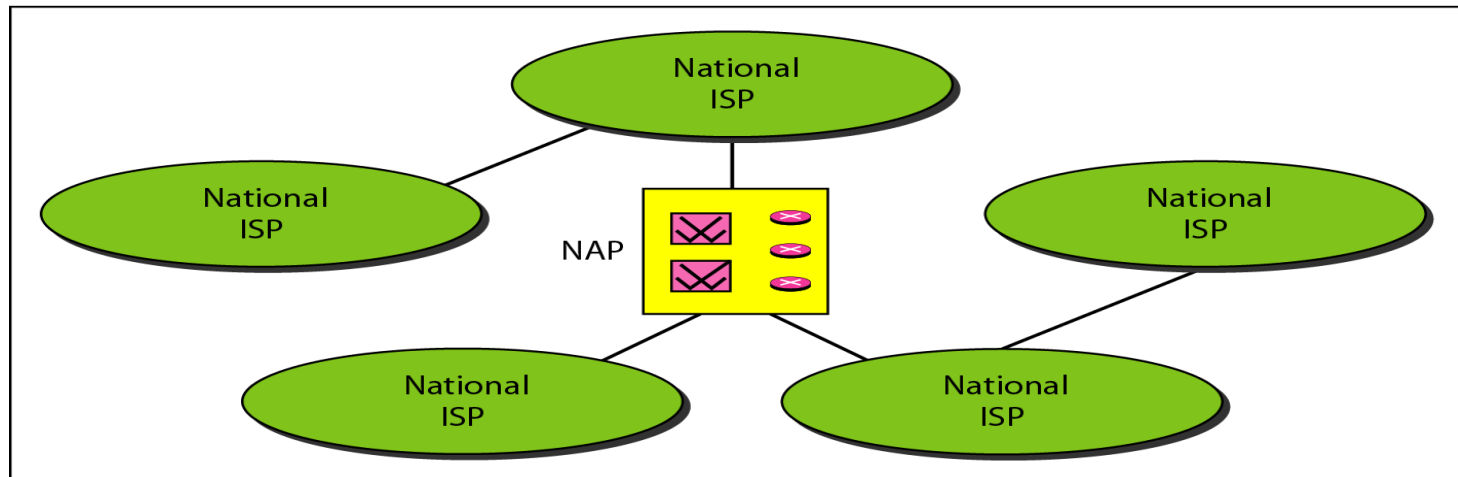
THE INTERNET

- Inter connection of two or more networks become an internet.
- The Internet has revolutionized many aspects of our daily lives. It has affected the way we do business as well as the way we spend our leisure time.
- The Internet is a communication system that has brought a wealth of information to our fingertips and organized it for our use.

Hierarchical organization of the Internet



a. Structure of a national ISP



b. Interconnection of national ISPs

Broadcast Networks

- Classification of interconnected processors 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	
1 km	Campus	
10 km	City	Metropolitan area network
100 km	Country	Wide area network
1000 km	Continent	
10,000 km	Planet	The Internet