CSE3214 Chapter 2 Additional Slides

Quiz Time!

Q1: For a communication session between a pair of processes, which process is the client and which is the server?

Q2: For a P2P file-sharing application, do you agree with the statement, "There is no notion of client and server side of a communication session"? Why or why not?

Q3: What information is used by a process running on one host to identify a process running on another host?

Q4: What is the difference between network architecture and application architecture?

Answers

Q1: The process which initiates the communication is the client; the process that waits to be contacted is the server.

Q2: No. In a P2P file-sharing application, the peer that is receiving a file is typically the client and the peer that is sending the file is typically the server.

Q3: The IP address of the destination host and the port number of the socket in the destination process.

Q4: Network architecture refers to the organization of the communication process into layers (e.g., the five-layer Internet architecture). Application architecture, on the other hand, is designed by an application developer and dictates the broad structure of the application (e.g., client-server or P2P).

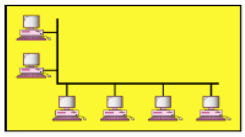
LAN, MAN, and WAN

- LAN – Local Area Network
- WLAN – Wireless Local Area Network
- MAN – Metropolitan Area Network
- WAN – Wide Area Network
- SAN – Storage Area Network

LAN

LAN – computer network concentrated in a smaller geographic area (d < 1 km), such as an office, building, or campus

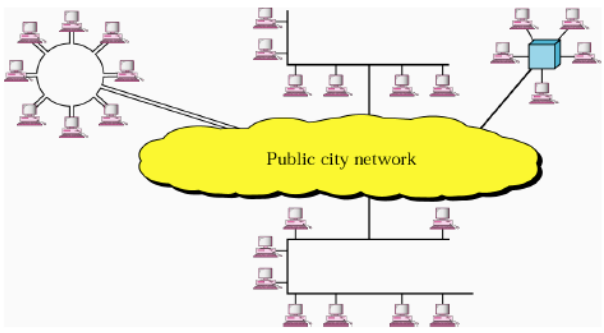
- LAN is owned by the same organization that owns the attached devices!!!
- LANs typically employ only one type of transmission medium (wired or wireless), and provides low-delay, relatively error-free communication
- internal data rates of LANs are more uniform and much greater than those of WANs (100 Mbps LANs are common, 1/10 Gbps LANs are available)
- most common LAN topologies: bus, ring, star



MAN

MAN – a number of LANs connected into a larger network so that resources can be shared

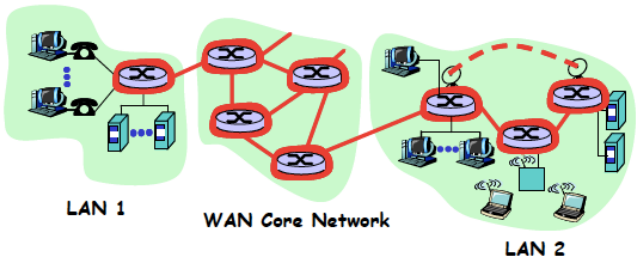
- MAN extends over a larger geographic area (5 to 50 km), e.g. entire city
- MAN can be wholly owned and operated by a private company, or it may include point-to-point links provided by a public company (e.g. local telephone company) to connect its remote sites



WAN

WAN – computer network that extends over large geographic area (>100 km), such as a country, continent, or even the whole world

- can be thought of as a collection of LANs interconnected via 'core network' (set of switching stations)
- in contrast to LANs, WAN may utilize public or leased communication equipment to span an unlimited number of miles



Switching Station – connecting devices whose purpose is to route (i.e switch) data to their final destination

P2P file distribution: BitTorrent