

Local Area Networks

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Context

- Recap on multiplexing
- Switching
- Network topologies
- Media access

Multiplexing

- Frequency division
- Time division
- Statistical time division

Circuit Switching

- Physical connection made between computers
- Connection maintained for the length of the call

Message Switching

- No dedicated physical connection
- Complete message transmitted
- Store and Forward

Packet Switching

- No dedicated physical connection
- Message broken down into packets
- Store and Forward

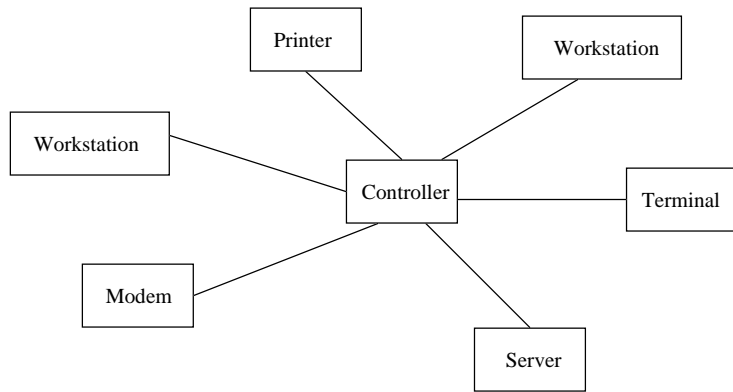
Network Topologies

- Traditional topologies:
 - Star
 - Ring
 - Bus

Star Networks

- Equipment connected centrally
- Central machine has intelligence to route traffic

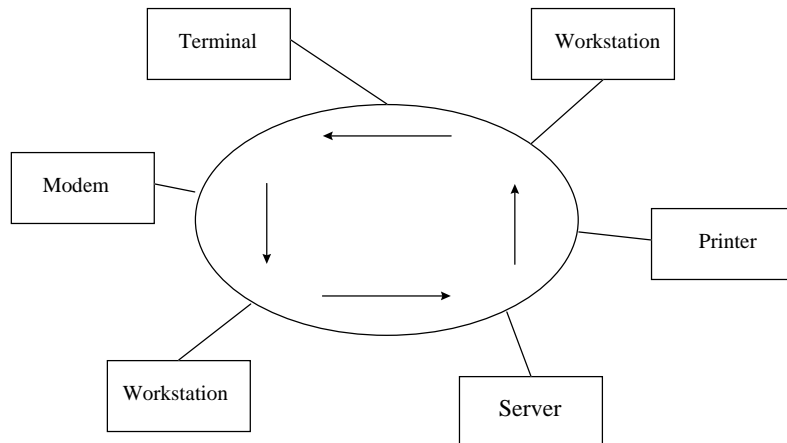
Star Network



Ring Networks

- Equipment connected in a ring
- Traffic travels around ring to its destination

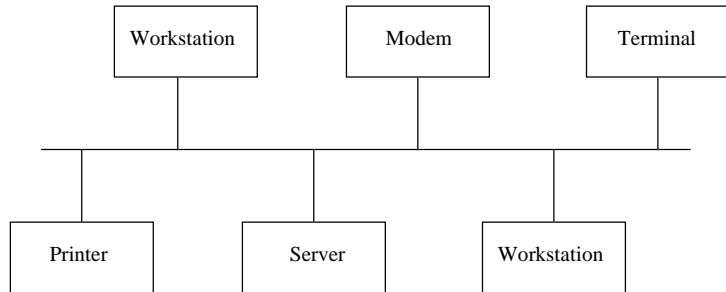
Ring Network



Bus Networks

- Equipment connected by single shared medium
- Data broadcast on medium to reach destination

Bus Network



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