

CSE-2203

Data and Telecommunications

Course Introduction

Google Classroom
r2dlrxn



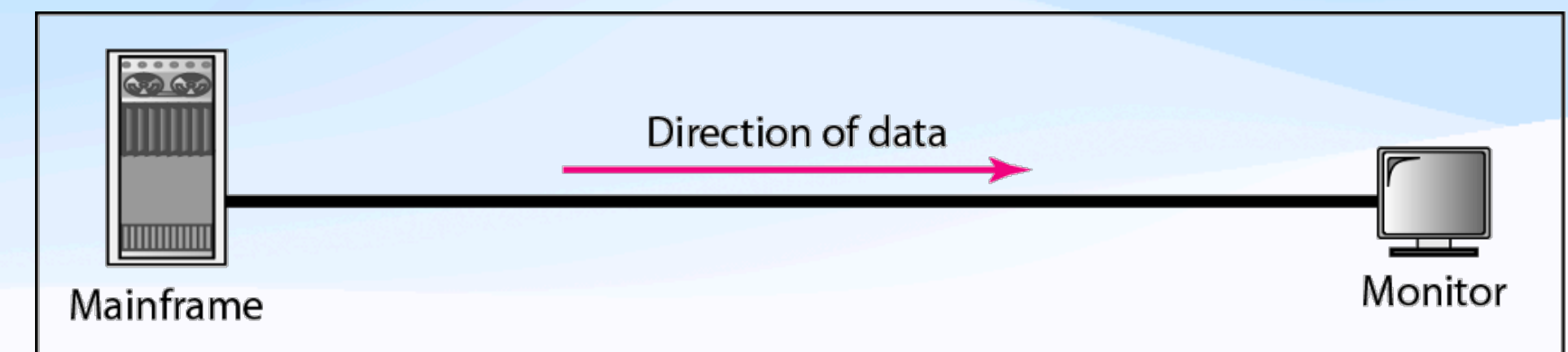
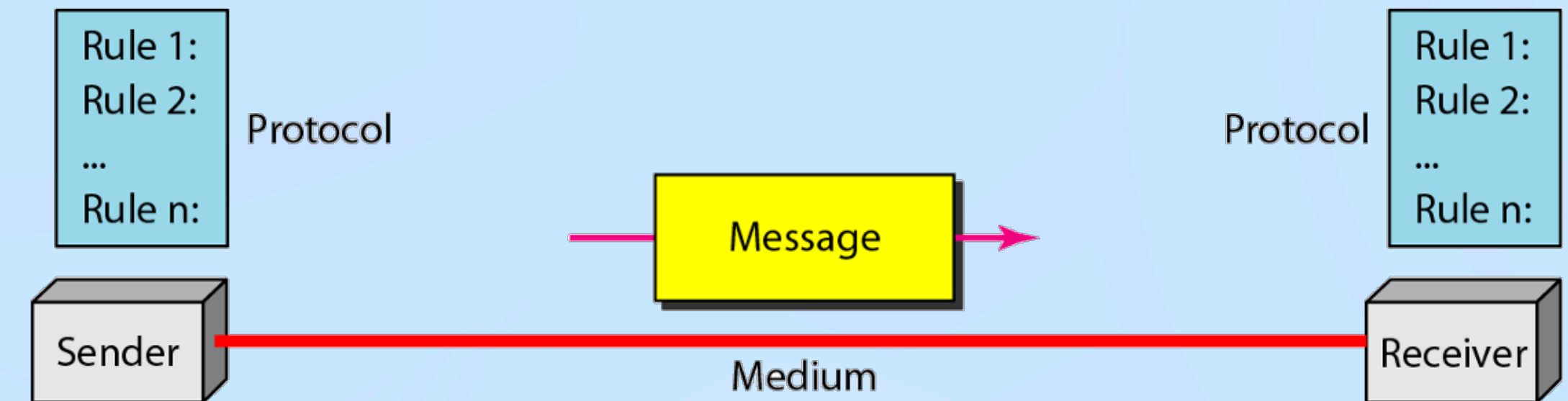
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Data Telecommunications

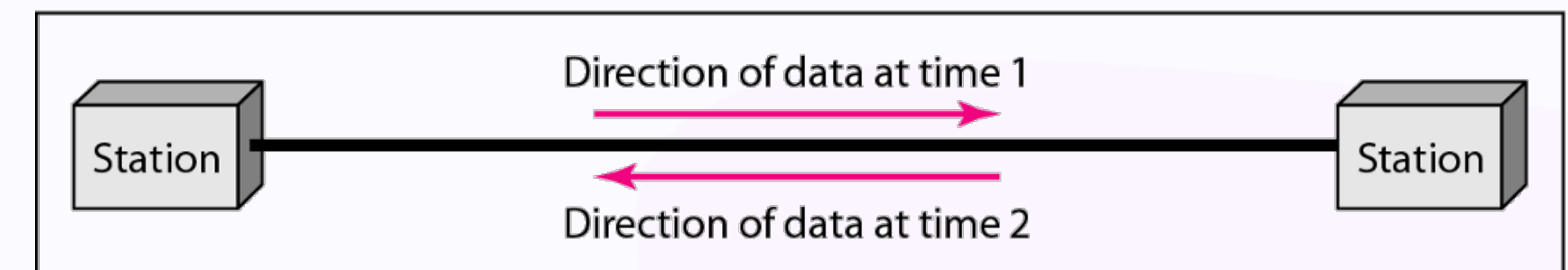
Introduction

➔ Telecommunication

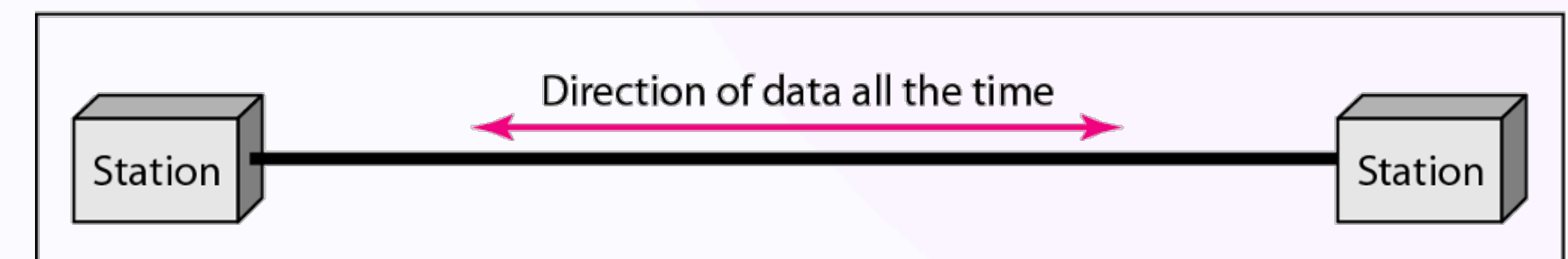
- communication at a distance.
- Data communications are the exchange of data between two devices via some form of transmission medium such as a wire cable, or wireless.
- Data refers to information presented
 - in whatever form is agreed upon by the parties creating and using the data.
- Five components: Sender, Receiver, Medium, Protocol and the Message



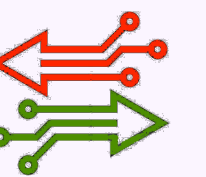
a. Simplex



b. Half-duplex



c. Full-duplex

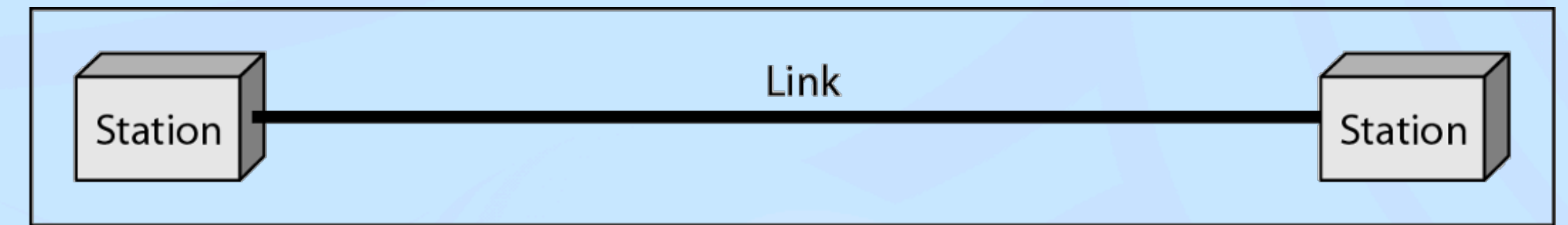


Data Telecommunications

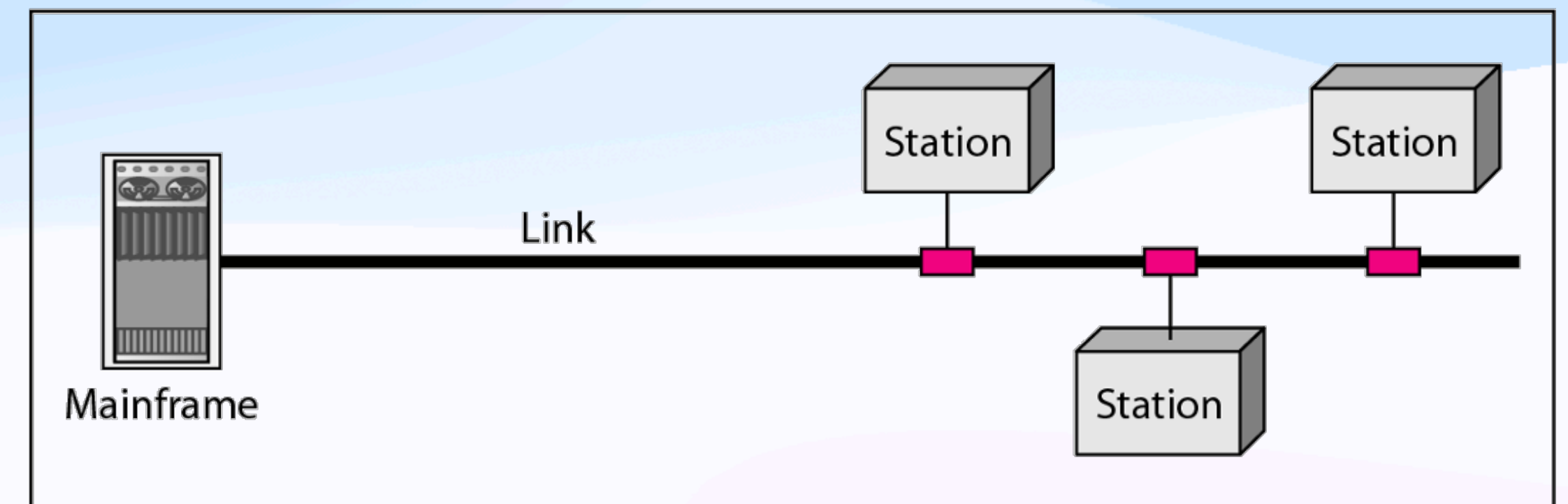
Introduction

➡ Network

- ⦿ a set of devices (often referred to as nodes) connected by communication links
- ⦿ A node can be a computer, printer, or any other device capable of sending and/or receiving data generated by other nodes on the network



a. Point-to-point



b. Multipoint

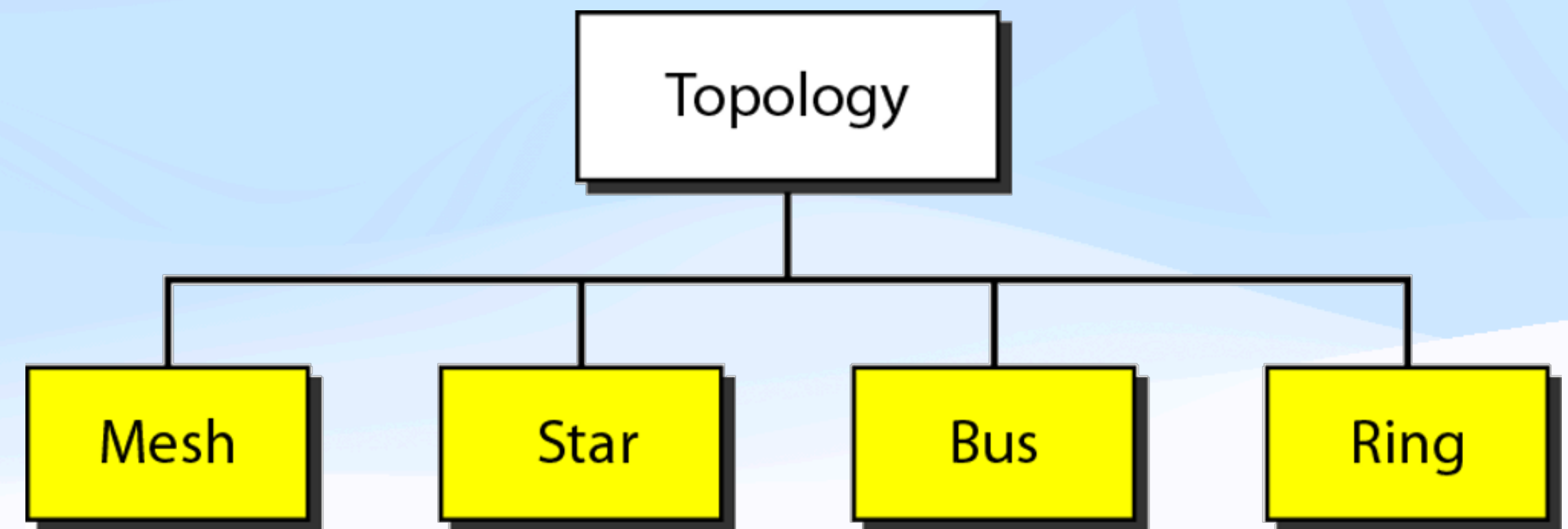
Network Topology

➔ Topology

- ⦿ How the nodes are connected
- ⦿ Different Network Devices are used for different topologies
- ⦿ Hybrid Combination is also used

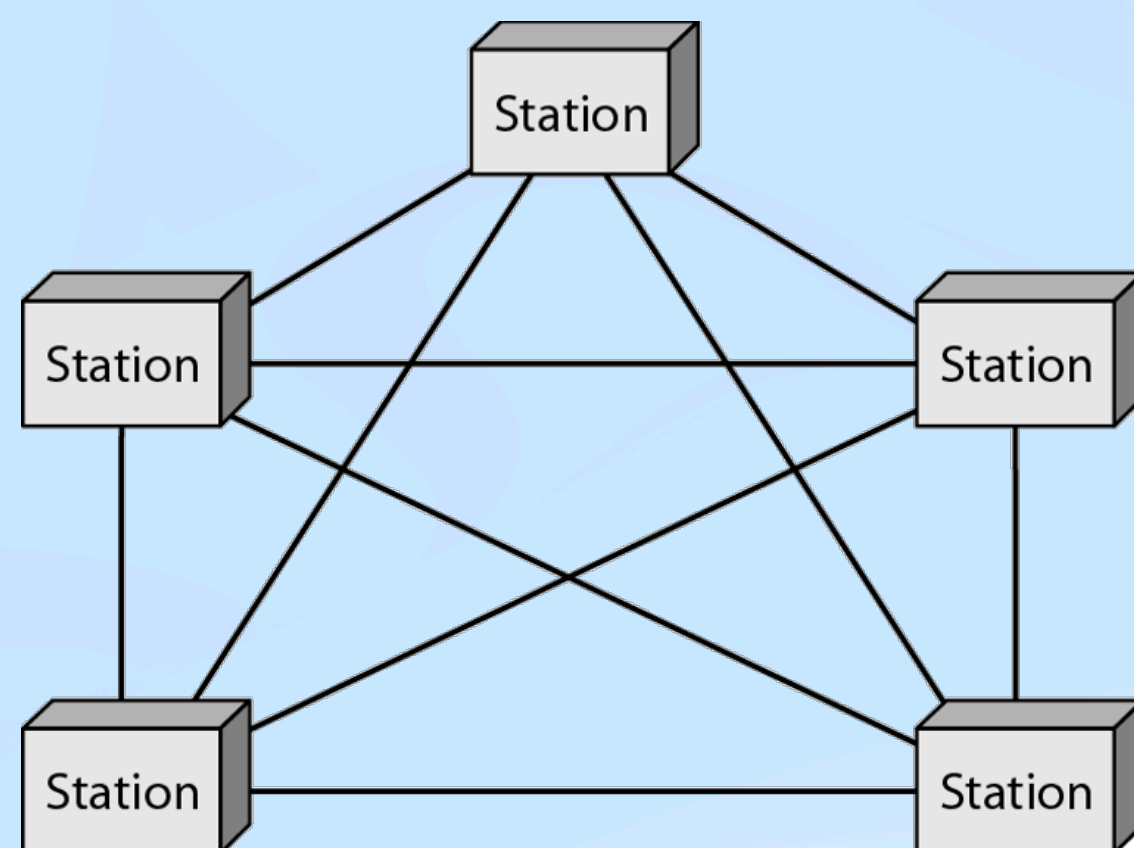
➔ internet (small i)

- ⦿ Two or more networks can be connected together
- ⦿ Different Administration

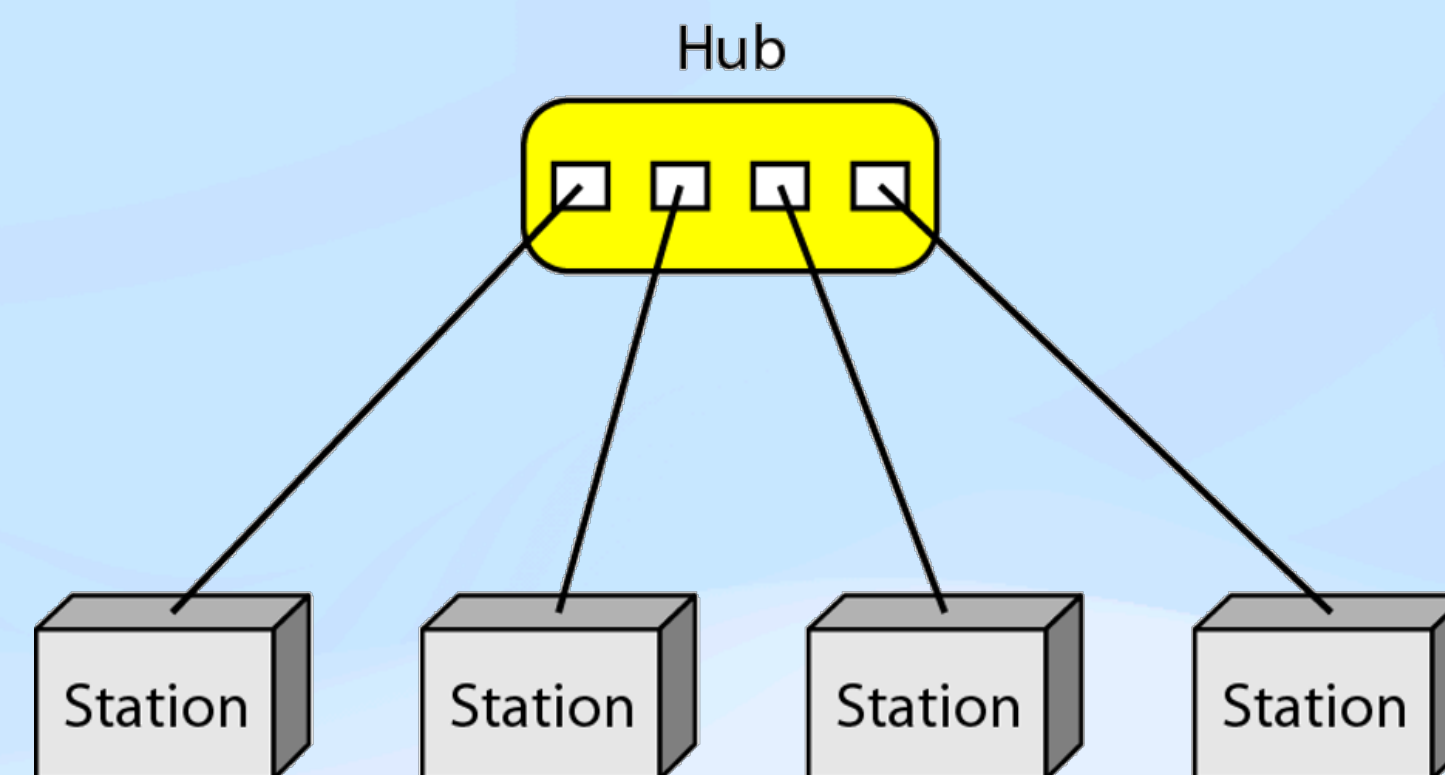


Network Topology

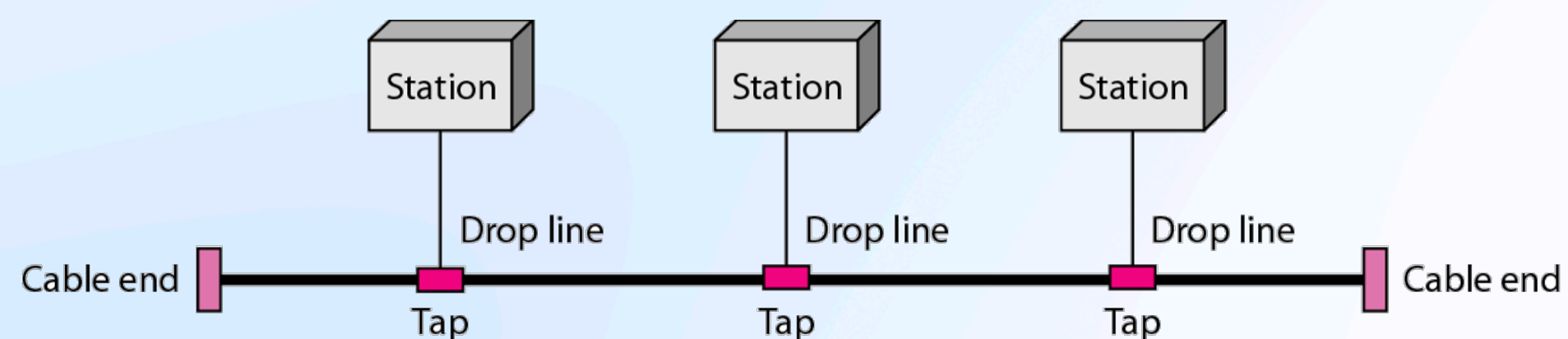
Different Types



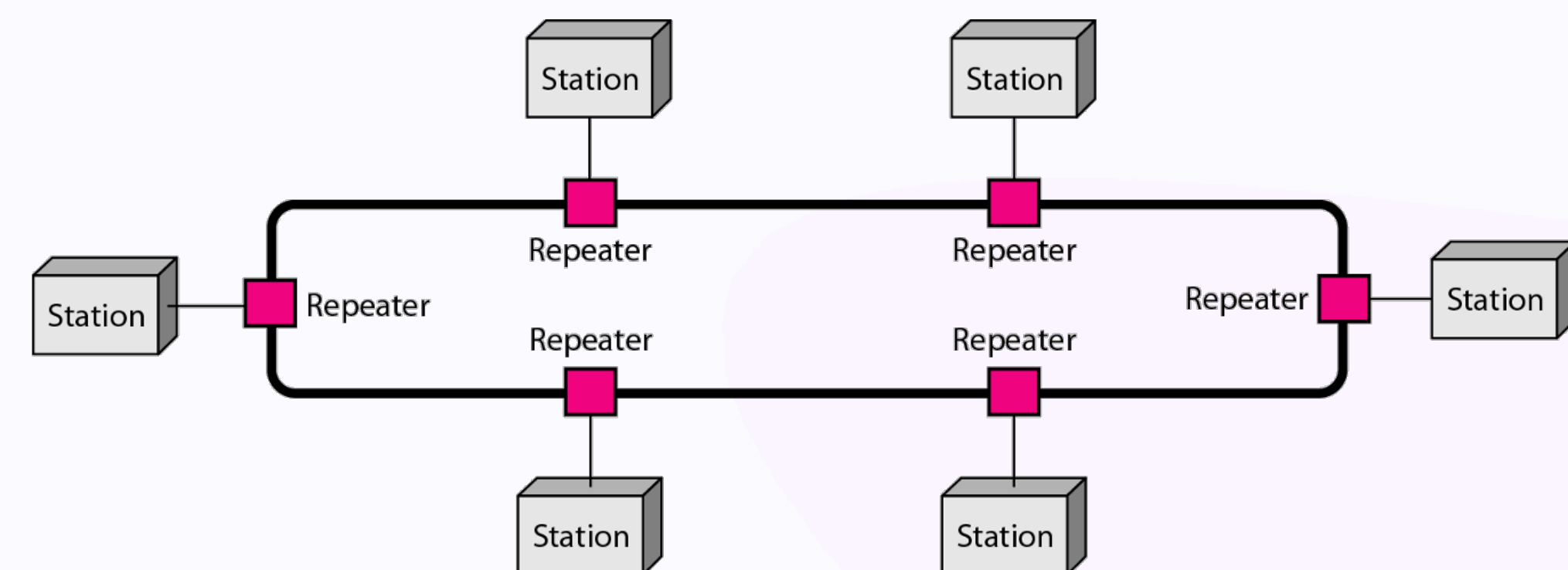
a. Mesh (Fully Connected)



b. Star (Connected to Common Point)



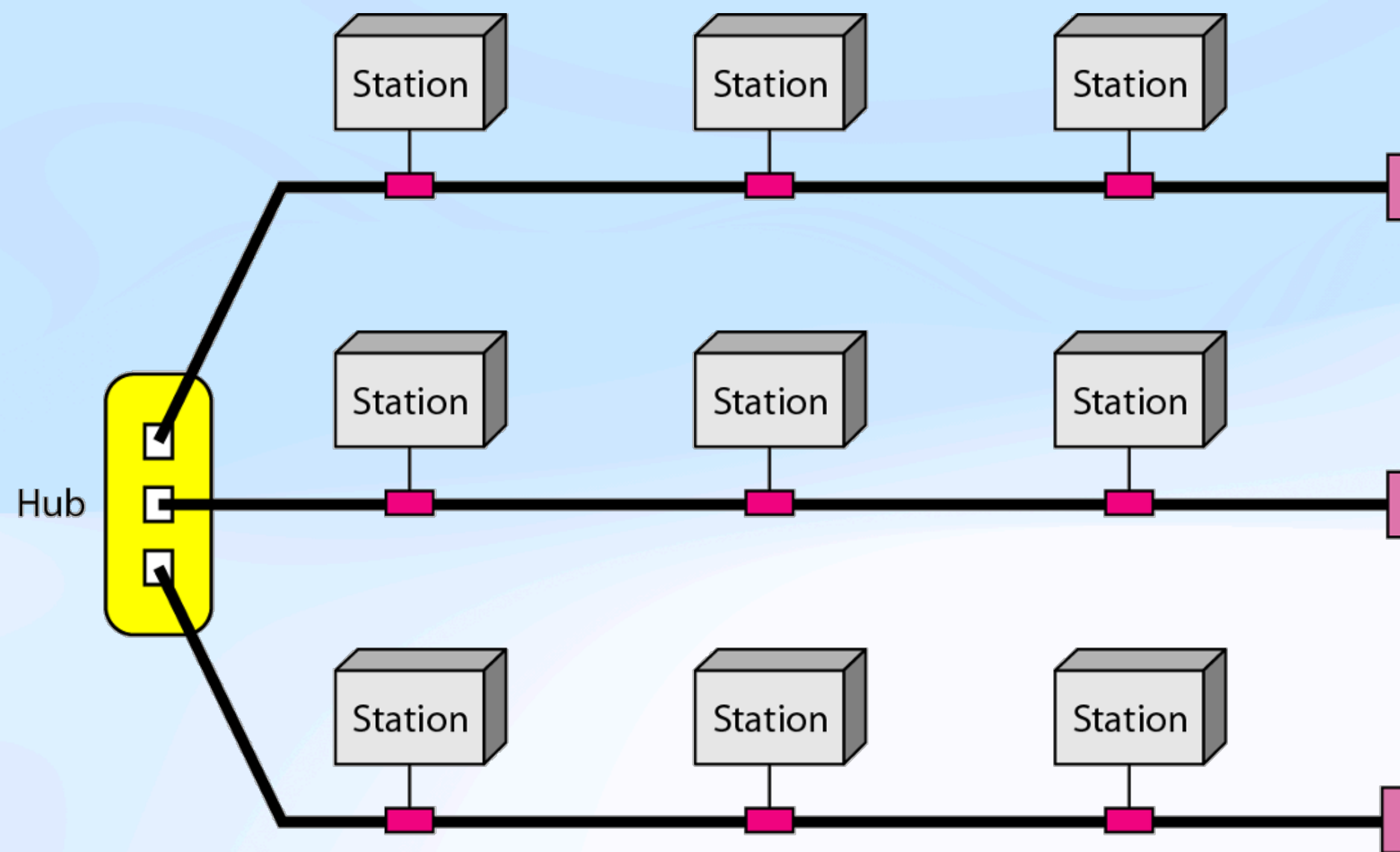
c. Bus (Connected to a Common Linear Medium)



d. Ring (Connected to a Common Looped Medium)

Network Topology

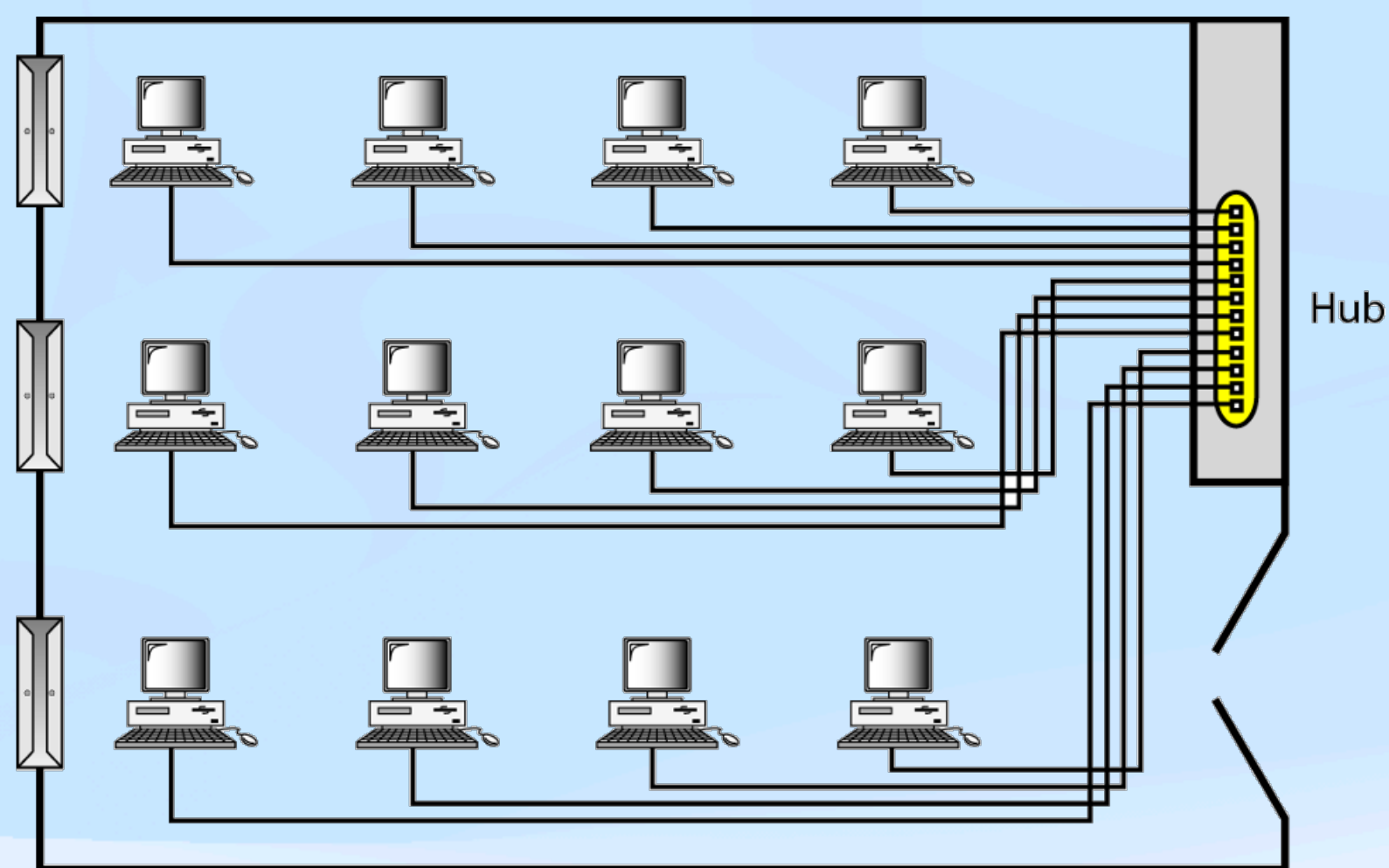
Hybrid



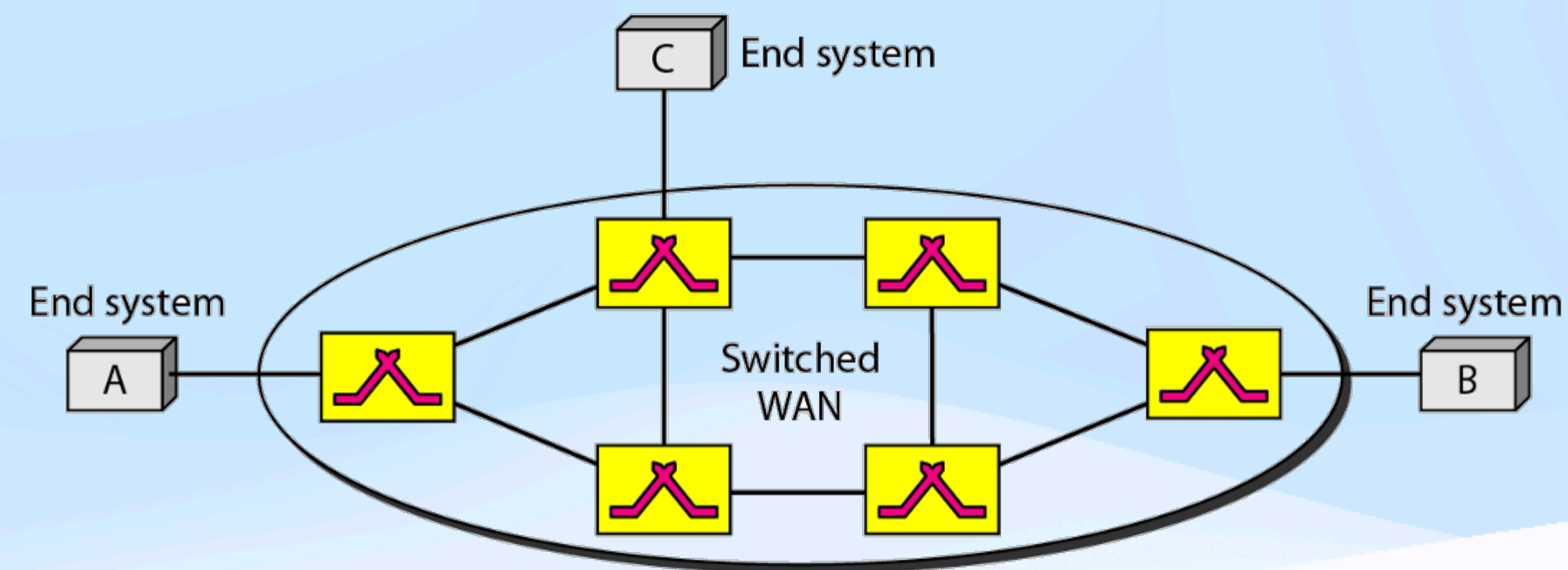
Hybrid Network: Bus and Star

Local and Wide Area Network

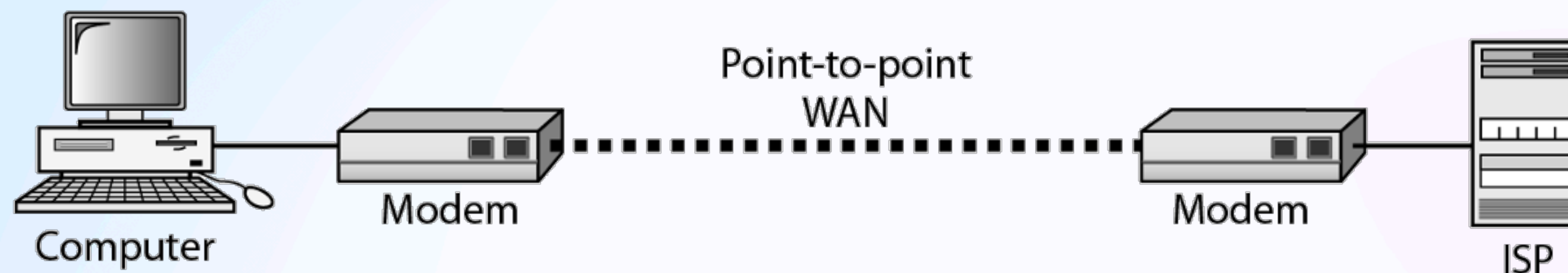
Different Types



a. Local Area Network



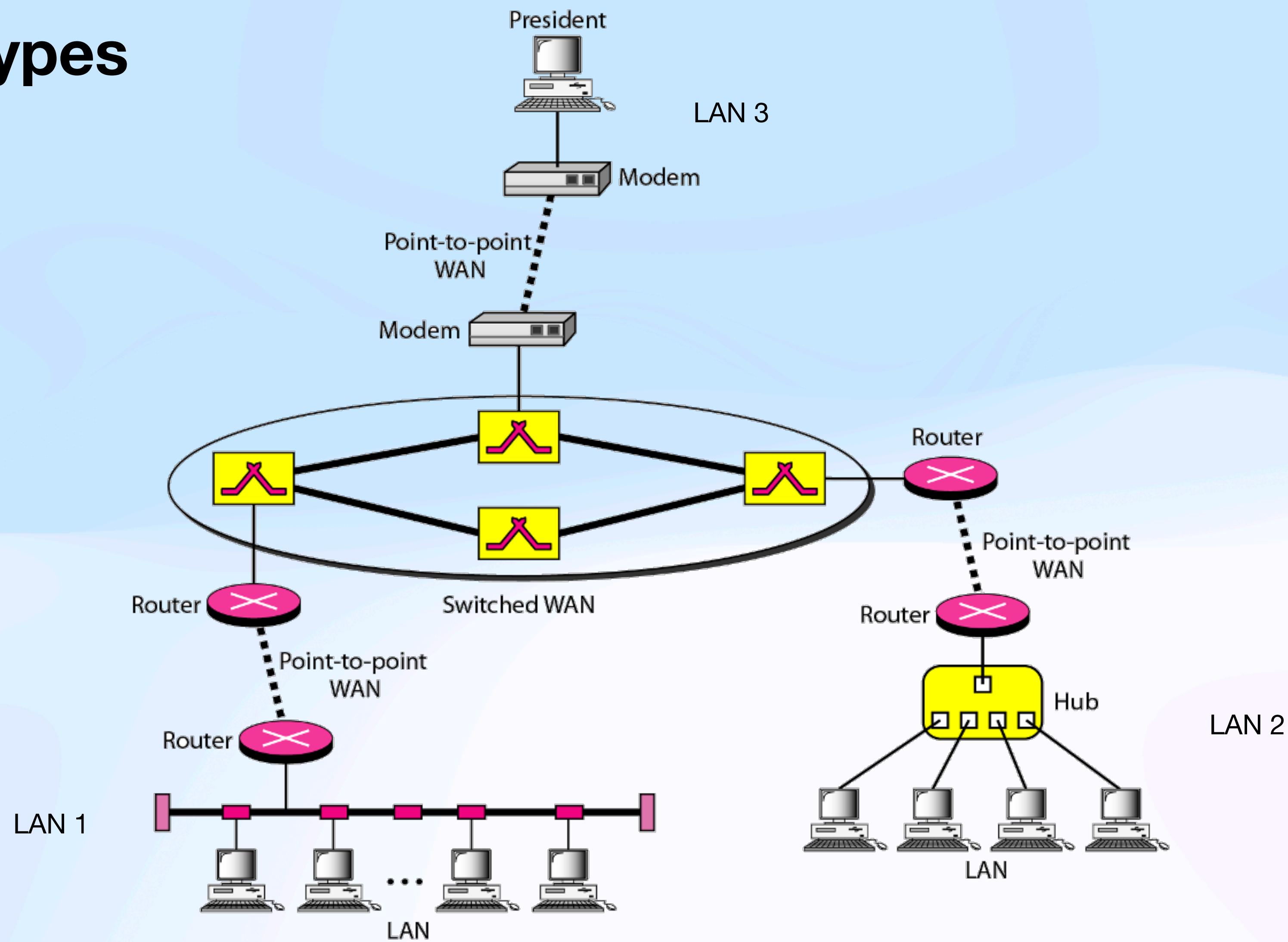
b. Multipoint (Switched) WAN



c. Point-to-Point WAN

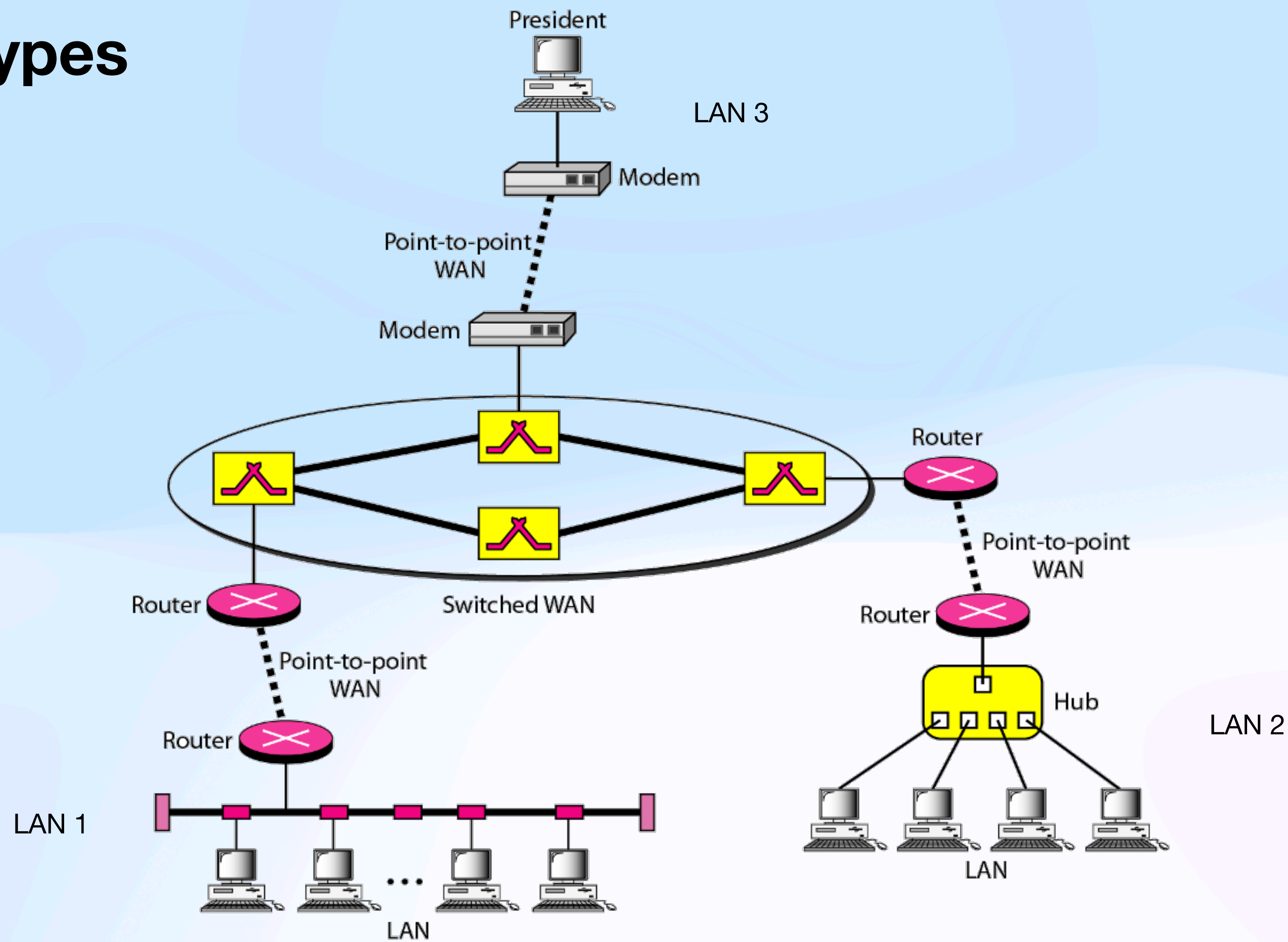
Local and Wide Area Network

Different Types



Local and Wide Area Network

Different Types



The Rules

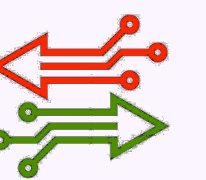
Protocol and Standard

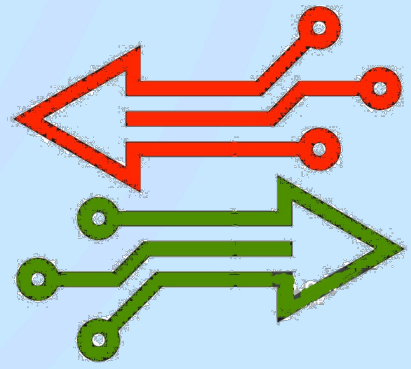
➡ Protocol

- ⦿ Data format
- ⦿ How the data is sent
- ⦿ How the data is received, etc.
- ⦿ Both sender(s) and Receiver(s) agree

➡ Standard

- ⦿ Protocol that is agreed by everyone
- ⦿ Industries can work independently
- ⦿ End users/devices can choose themselves
- ⦿ Administered by Organizations (ISO, IEEE, ITU-T, etc.)





Questions?