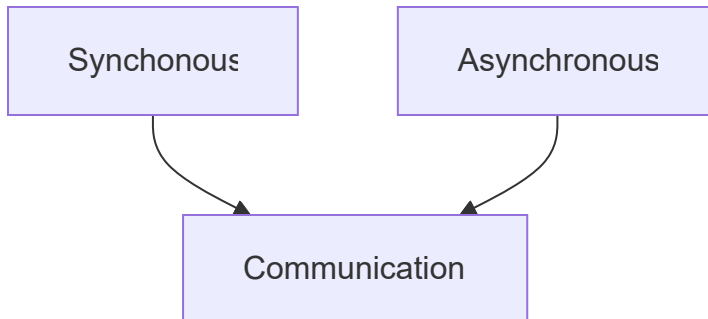


Classification of Communication, telecommunications channel and networks

Tags: Communication, Synchronous Communication, Asynchronous Communication, Queue Processing, Basic Telecommunications Channel, simplex channel, half-duplex channel, full-duplex channel, Channel Bandwidth, Broadband Communications, Circuit Switching, Packet Switching



Communication is divided into 2 parts:

Synchronous communications

- Receiver gets message instantaneously

Asynchronous communications

- Receiver gets message after some delay.
- Asynchronous processing is associated with **queueing**.

Synchronous and Asynchronous ExcaliDraw

Queue processing

- First in First Out (FIFO)
- Last in First Out (LIFO) or First in Last out (FILO)
- Random

Queue Processing ExcaliDraw

Basic Telecommunications Channel Characteristics

A simplex channel:

- transmits data in only one direction

A half-duplex channel

- transmits data in either direction but not simultaneously

A full-duplex channel

- permits data transmission in both directions at the same time

Channel Characteristics ExcaliDraw

Channel Bandwidth

*the rate at which data is exchanged, measured in **bits per second(BPS)** - the broader the bandwidth, the more information can be exchanged at one time*

Broadband communications

*a relative term; a **telecommunications system** that can transmit data very quickly*

- For wireless networks, **Broadband** lets you send data at a rate greater than **1.5 Mbps**.

Circuit Switching and Packet Switching

A circuit-switching network

sets up a circuit between the sender and receiver before any communications can occur

A packet switching network

has no fixed path created between the communicating devices.

- Data is broken into packets for sending

Circuit Switching and Packet Switching ExcaliDraw