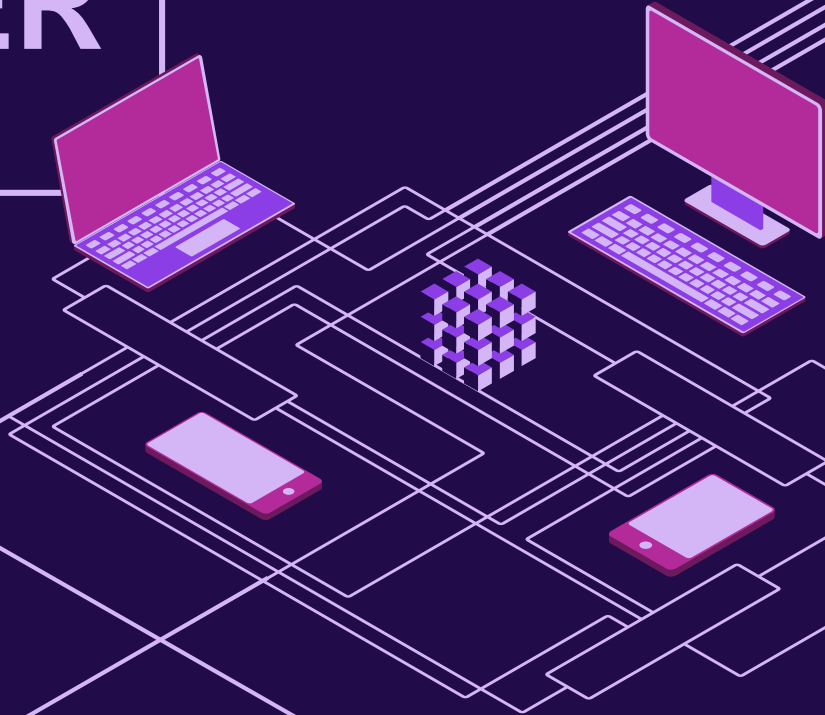
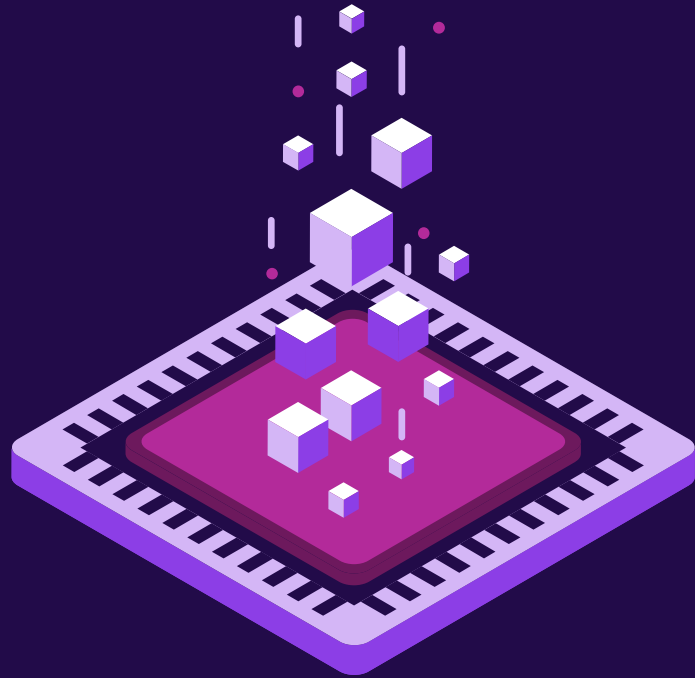


# COMPUTER NETWORK

Does it connected ?





# NETWORK ?

A network is a group  
of two or more  
computer systems  
linked together to  
exchange  
data and share  
resources

# ADVANTAGES & DISADVANTAGES OF NETWORKING

## Advantages:

- **Reduced hardware costs.** Networks reduce costs because users can share expensive equipment.
- **Application sharing.** Networks enable users to share software. Network versions of applications installed on a file server can be used by more than one user at a time
- **Sharing information resources.** Organizations can use networks to create common pools of data that employees can access.
- **Centralized data management.** Data stored on a network can be accessed by multiple users. Organizations can ensure the security and integrity of the data on the network with security software and password protection. Centralized storage also makes it easier to maintain consistent backup procedures and develop disaster recovery strategies
- **Connecting people.** Networks create powerful

## disadvantages:

- **Loss of autonomy.** When you become a part of a network, you become a part of a community of users. Sometimes this means that you have to give up personal freedoms for the good of the group.
- **Lack of privacy.** Network membership can threaten your privacy. Network administrators can access your files and may monitor your network and Internet activities.
- **Security threats.** Because some personal and corporate information is inevitably stored on network servers, it is possible that others may gain unauthorized access to files, user names, and even passwords.
- **Loss of productivity.** As powerful as networks are, they can still fail. Access to resources is sometimes restricted or unavailable because of viruses, hacking, sabotage, or a simple breakdown

# DISTINGUISH BETWEEN NETWORKS

01

## LAN(Local Area Network)

Serve a building or an equivalent region

02

## WAN(Wide Area Network)

Span multiple buildings, states, and nations; actually, a WAN can be viewed as a geographically dispersed collection of LANs.

03

## MAN(Metropolitan Area Network)

Service a city or town

04

## CAN (Campus Area Network)

Designed for college campuses and business parks

05

## HAN (Home Area Network)

Are used to provide connectivity between users and devices located in or near a single residence

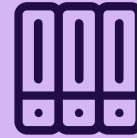
06

## PAN (Personal Area Network)

Connect an individual's communication devices located within 32 feet of each other

## DISTINGUISH BETWEEN PEER-TO-PEER, CLIENT/SERVER, VIRTUAL PRIVATE NETWORK

A peer-to-peer LAN doesn't use a file server. It is most appropriate for small networks of fewer than 10 computers. Client/server networks include one or more file servers as well as clients such as desktops, notebooks, and handheld devices. The client/server model works with any size or physical layout of LAN and doesn't slow down with heavy use. A home network can be set up as either type of network. A VPN operates as a private network over a public network, usually the Internet, making data accessible to authorized users in remote locations through the use of secure, encrypted connections and special software



NETWORK

# 3 LAN TOPOLOGIES



## BUS

Single Connections To A  
Central Line



## STAR

All Connections to a Central  
Switch



## RING

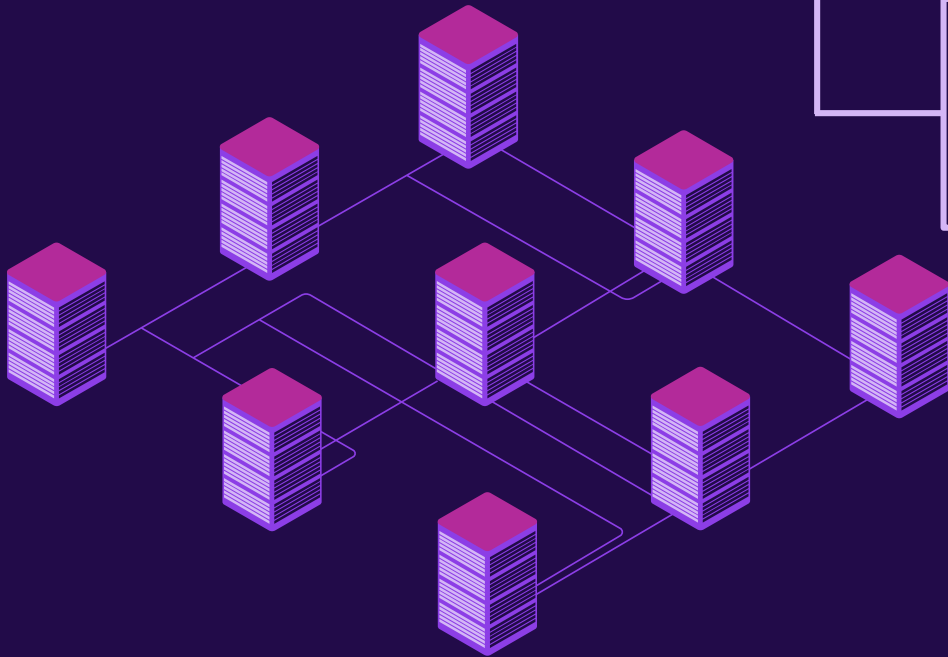
Tokens Carry messages  
around a ring

# LAN & WAN COMPONENTS

WANs and LANs have all the same basic components—cabling, protocols, and routing devices. But a WAN is different in that it has a backbone, highcapacity transmission lines, and points of presence, connection points that enable users to access the network.

## Circuit Switching And Packet Switching

Circuit switching creates a permanent end-to-end circuit that is optimal for voice and realtime data. Circuit switching is not as efficient or reliable as packet switching; it is also more expensive. Packet switching does not require a permanent switched circuit. A packet-switched network can funnel more data through a medium with a given data transfer capacity. However, packet switching introduces slight delays that make the technology less than optimal for voice or real-time data.



# PROTOCOLS ?

Protocols are the rules that define how network devices can communicate with each other.



## WIRED

The most widely used LAN protocol for wired networks is Ethernet. Popular versions include Ethernet (10Base-t), Fast Ethernet (100Base-T), Gigabyte Ethernet, and 10 Gigabyte Ethernet

## WIRELESS

The most commonly used wireless protocol is 802.11g. Additional wireless protocols are 802.11n, 802.11r, 802.15, 802.16, and the new 802.20.



#WE ARE DONE

# THANKS!

Do you have any questions?

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REFERENCE:

- Computers Are Your Future| Catherine LaBerta.