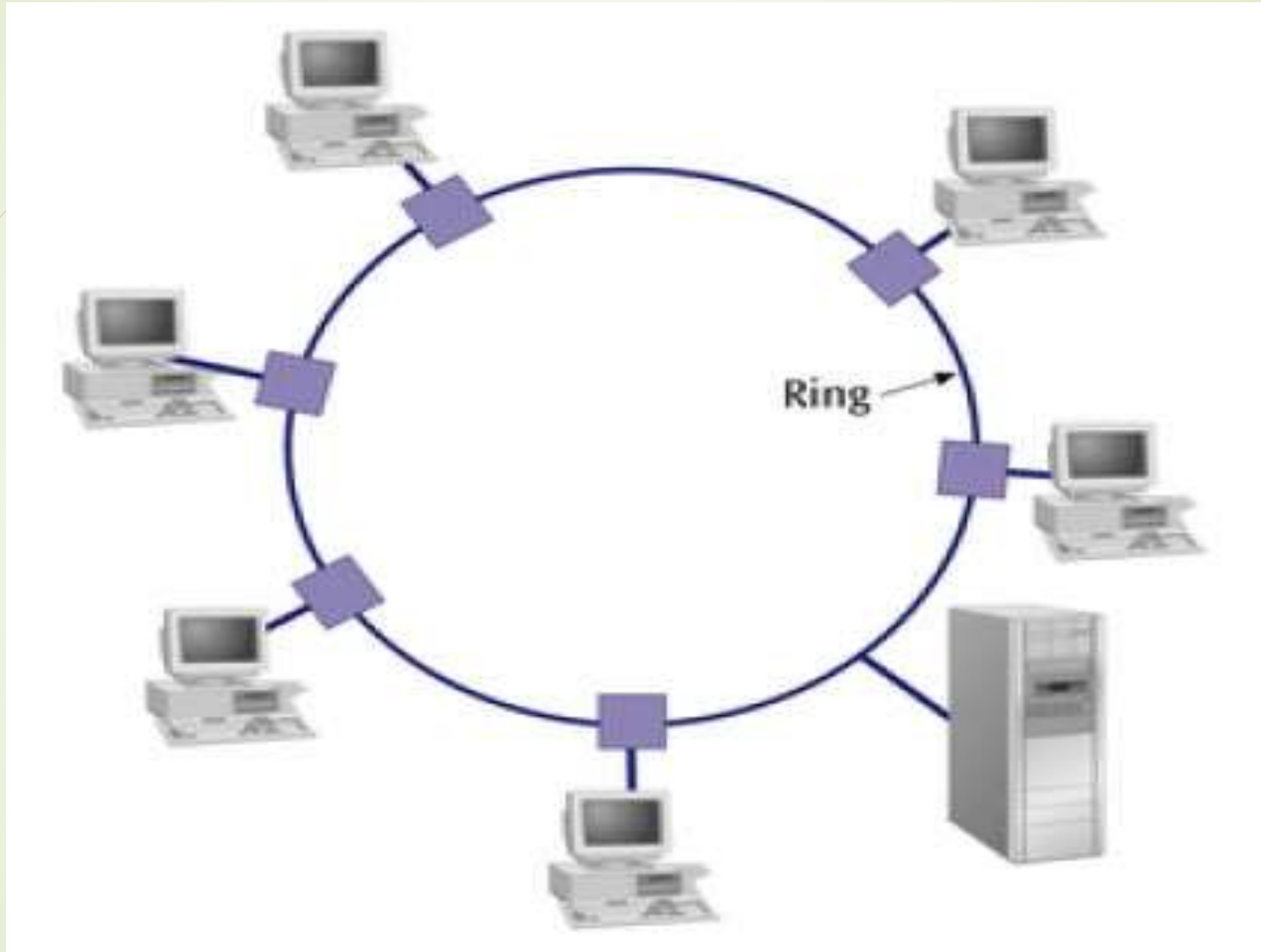


Ring topology :-

- A ring network is one where all workstations and other devices are connected in a continuous loop. There is no central server
- started out as a simple peer-to-peer LAN topology.
- Each networked workstation had two connections: one to each of its nearest neighbors
- Data was transmitted unidirectionally around the ring
- Sending and receiving of data takes place by the help of TOKEN

## Token Passing :-

- Token contains a piece of information which along with data is sent by the source computer
- This token then passes to next node, which checks if the signal is intended to it



## Advantages of Ring topology :-

- 1) This type of network topology is very organized
- 2) Performance is better than that of Bus topology
- 3) Does not require a central node to manage the connectivity between the computer.
- 4) Additional components do not affect the performance of network
- 5) Each computer has equal access to resources

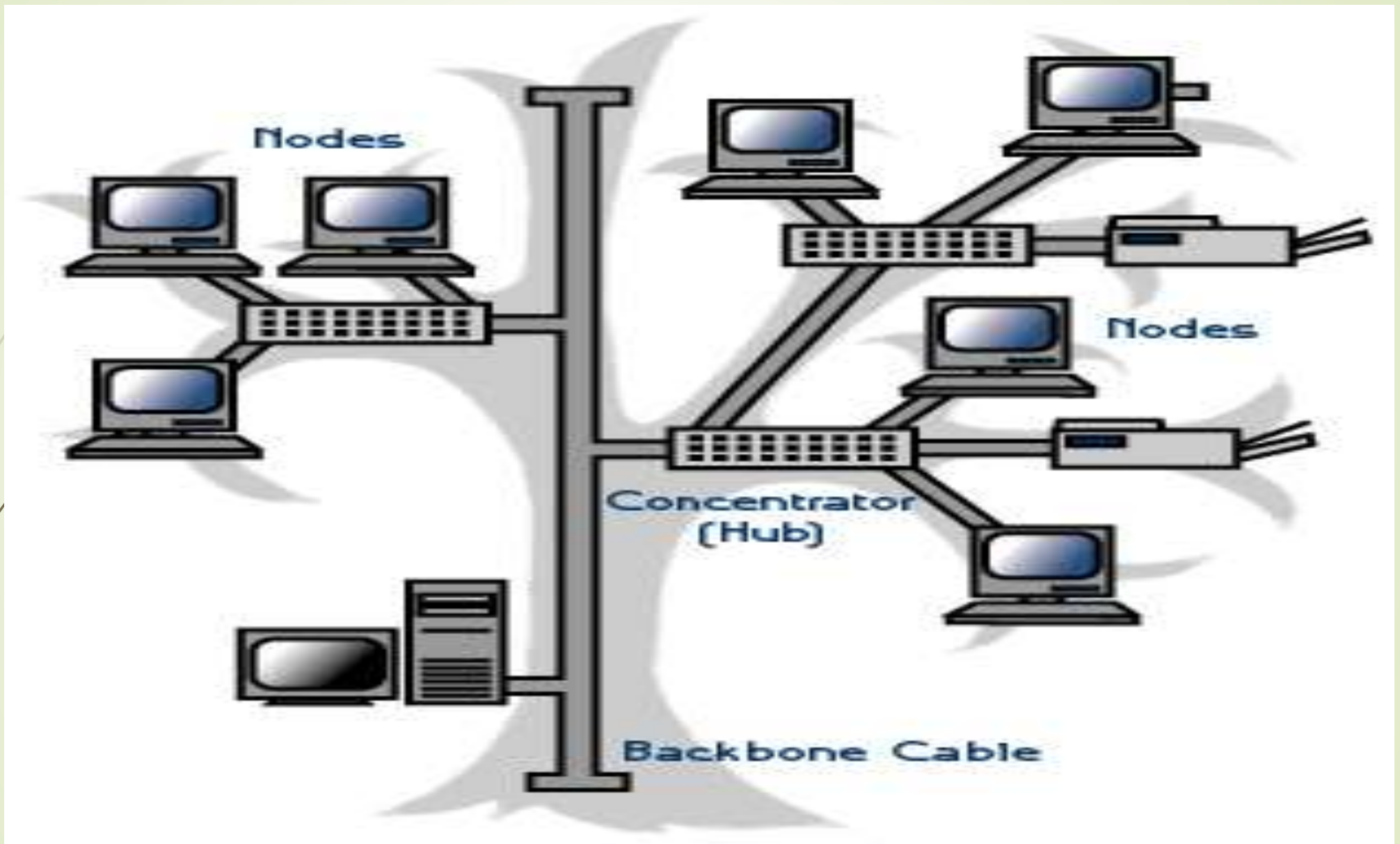
## Disadvantages of Ring topology :-

- 1) Each packet of data must pass through all the computers between source and destination, slower than star topology
- 2) If one workstation or port goes down, the entire network gets affected
- 3) Network is highly dependent on the wire which connects different components

## Tree topology :-

- ▶ Tree Topology integrates (link / add) the characteristics of Star and Bus Topology.
- ▶ computers (nodes) are connected by each other through central hub. And Bus Topology, work station devices are connected by the common cable called Bus.
- ▶ After understanding these two network configurations, we can understand tree topology better.
- ▶ In Tree Topology, the number of Star networks is connected using Bus.







# Advantages of Tree Topology :-

- 1. It is an extension of Star and bus Topologies.
- 2. Expansion (increase) of Network is possible and easy.
- 3. Here, we divide the whole network into segments (star networks), which can be easily managed and maintained.
- 4. Error detection and correction is easy.
- 5. Each segment is provided with dedicated point-to-point wiring to the central hub.
- 6. If one segment is damaged, other segments are not affected.

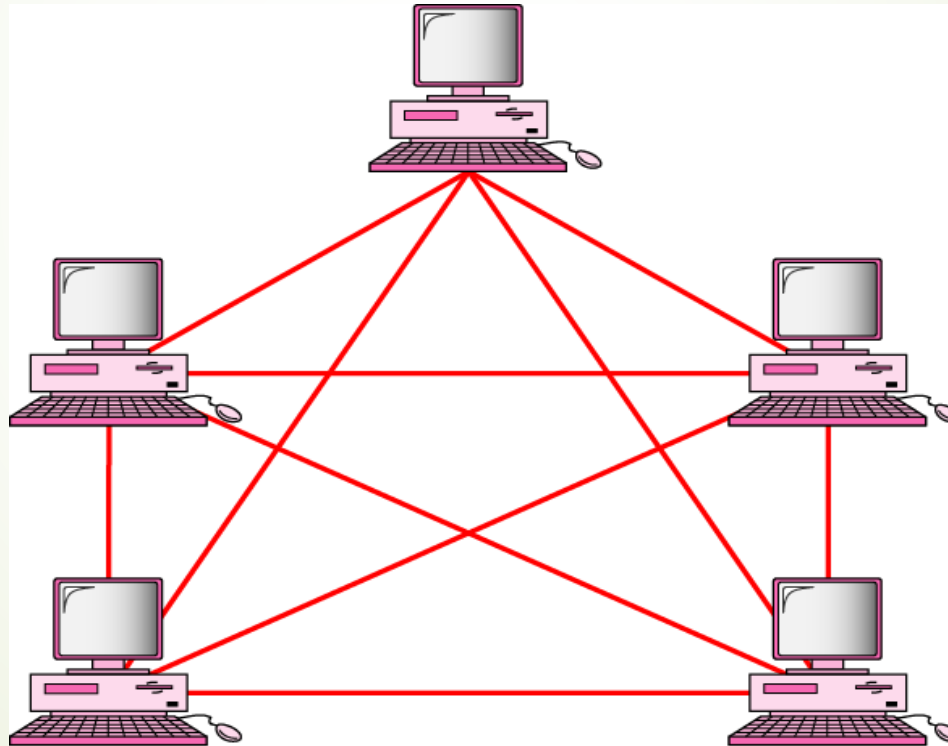
## Disadvantages of Tree Topology:-

- 1. Because of its basic structure, tree topology, relies heavily on the main bus cable, if it breaks whole network is corrupted.
- 2. As more and more nodes and segments are added, the maintenance becomes difficult.
- 3. Scalability of the network depends on the type of cable used.

## Mesh Topology:-

- • Each computer connects to every other.
- It is a point to point connection to other nodes or devices.
- All the network nodes are connected to each other.
- – Wiring is very complicated.
- – Cabling cost is high
- – Troubleshooting a failed.(cable)
- All computers connected together.
- Internet is a mesh network.

- A variation hybrid mesh – create point to point connection between specific network devices, often seen in WAN implementation.



# Mesh Advantages:-

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- Communication is very fast between two nodes.
- The network can be expanded without disruption to current use.
- Data will always be delivered.
- A failure of one device does not cause a break in the network or transmission of data.
- Adding additional devices does not disrupt(break) data transmission between other devices.
- Provide security and privacy

# Mesh Disadvantages:-

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- Requires more cable than the other LAN topologies.
- Complicated implementation.
  - Lots of cable
  - Installation and configuration is difficult. **(Hard to setup)**
- It is the more expensive network from the point of view of link cost.