

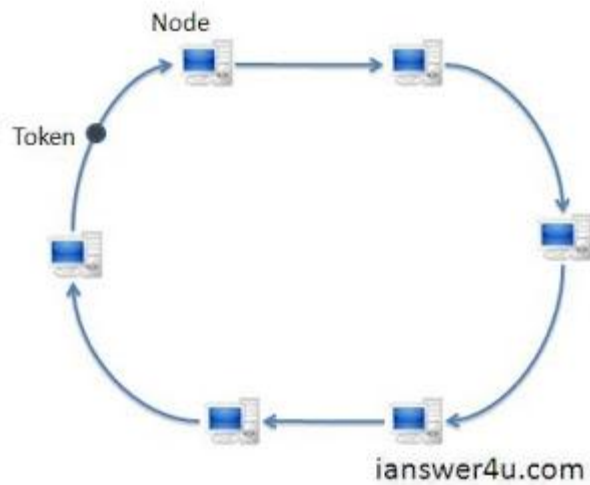
RING TOPOLOGY: ADVANTAGES AND DISADVANTAGES

What is Ring Topology?

In Ring Topology, all the nodes are connected to each-other in such a way that they make a closed loop. Each workstation is connected to two other components on either side, and it communicates with these two adjacent neighbors. Data travels around the network, in one direction. Sending and receiving of data takes place by the help of TOKEN.

Token Passing (in brief) : 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. If yes, it receives it and passes the empty to into the network, otherwise passes token along with the data to next node. This process continues until the signal reaches its intended destination.

The nodes with token are the ones only allowed to send data. Other nodes have to wait for an empty token to reach them. This network is usually found in offices, schools and small buildings.



Ring Topology & token

Advantages of Ring Topology

- 1) This type of network topology is very organized. Each node gets to send the data when it receives an empty token. This helps to reduce chances of collision. Also in ring topology all the traffic flows in only one direction at very high speed.
- 2) Even when the load on the network increases, its performance is better than that of Bus topology.
- 3) There is no need for network server to control the connectivity between workstations.
- 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. This makes it 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.
- 4) MAU's and network cards are expensive as compared to Ethernet cards and hubs.

Source: <http://www.ianswer4u.com/2011/05/ring-topology-advantages-and.html#axzz3Qs5RV0Sb>