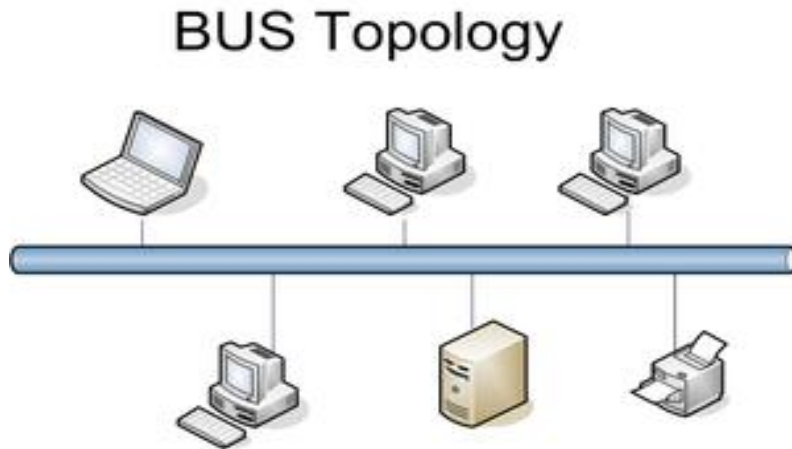


BUS TOPOLOGY

BUS/Multidrop Technology:

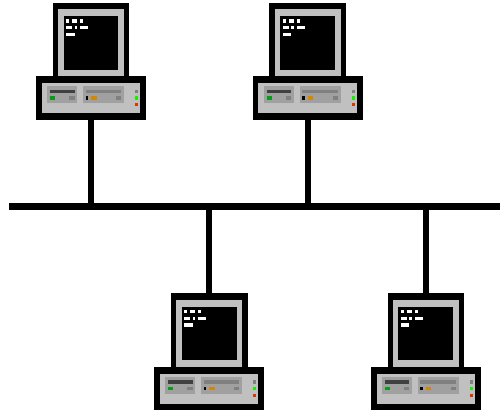


BUS Topology

Multipoint connection is used in BUS Topology. All the devices are connected to a single transmission medium, which acts as the Backbone of the connection. This links all the devices in the network. Here each node has its unique address.

When a device on BUS Topology wants to send a message to another node, it first finds out the destination address. Then it checks that whether the Communication Line is free or not! As soon as the communication line becomes free, the message is broadcasted on the line. The signal travels to the destination node by passing all the nodes that are on its way. As the message travels on the line, each node checks that whether the message is addressed to them or not. When the addressee node receives the message successfully, it sends an acknowledgement to the sender/source node. Then the transmission line becomes free. In this case, all nodes will receive the message, but the addressee node has to respond back.

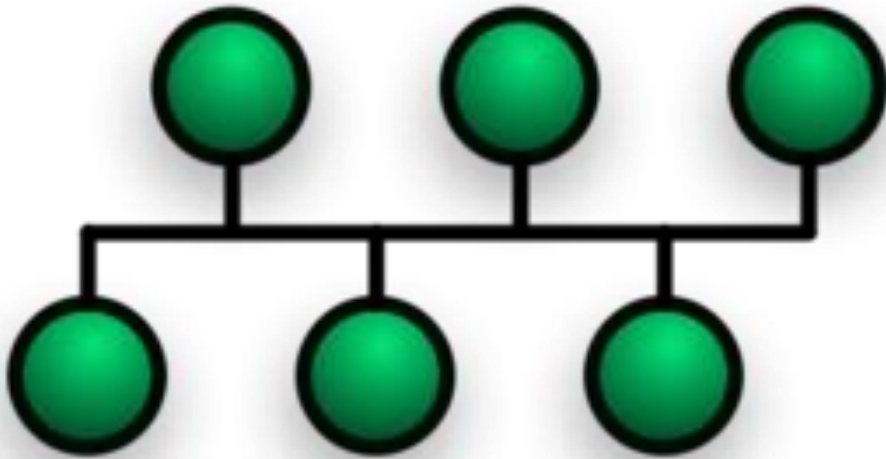
Advantages:



- Easy to install nodes.
- As all devices share a common channel, fewer wires and lines are necessary.
- Failure of single node does not affect the process of data flow.

Disadvantages:

- If shared communication link fails then the entire network fails.
- Fault isolation is complicated/difficult as compared to RING TOPOLOGY.
- Addition of new nodes requires modification or replacement of the Backbone /Communication channel.
- As signal travels along the transmission channel, some of its energy is transferred into heat. Therefore, the strength of signal becomes weaker as it travels further and further.
- For this reason, limited numbers of devices are connected in BUS Topology. Also, distance between two nodes is also limited.



Source: <http://alltech360.wordpress.com/2012/03/13/bus-topology/>