

BUS TOPOLOGY: ADVANTAGES AND DISADVANTAGES

What is Bus topology?

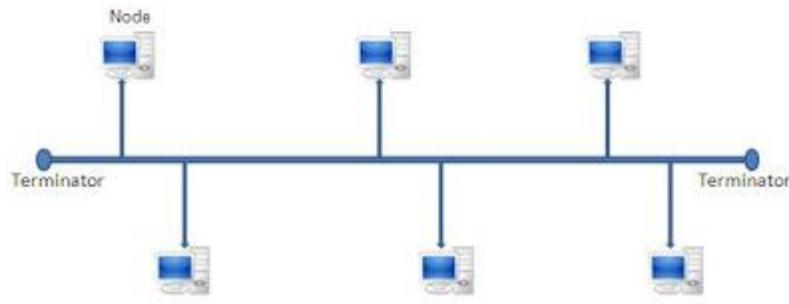
Bus Topology is the simplest of network topologies. In this type of topology, all the nodes (computers as well as servers) are connected to the single cable (called bus), by the help of interface connectors. This central cable is the backbone of the network and is known as Bus (thus the name). Every workstation communicates with the other device through this Bus.

A signal from the source is broadcasted and it travels to all workstations connected to bus cable. Although the message is broadcasted but only the intended recipient, whose MAC address or IP address matches, accepts it. If the MAC /IP address of machine doesn't match with the intended address, machine discards the signal.

A terminator is added at ends of the central cable, to prevent bouncing of signals.

A barrel connector can be used to extend it. Below I have given a basic diagram of a bus topology and then have discussed advantages and disadvantages of Bus

Network Topology



Bus topology diagram

Advantages (benefits) of Linear Bus Topology

- 1) It is easy to set-up and extend bus network.
- 2) Cable length required for this topology is the least compared to other networks.
- 3) Bus topology costs very less.
- 4) Linear Bus network is mostly used in small networks. Good for LAN.

Disadvantages (Drawbacks) of Linear Bus Topology

- 1) There is a limit on central cable length and number of nodes that can be connected.
- 2) Dependency on central cable in this topology has its disadvantages. If the main cable (i.e. bus) encounters some problem, whole network breaks down.
- 3) Proper termination is required to dump signals. Use of terminators is must.
- 4) It is difficult to detect and troubleshoot fault at individual station.

- 5) Maintenance costs can get higher with time.
- 6) Efficiency of Bus network reduces, as the number of devices connected to it increases.
- 7) It is not suitable for networks with heavy traffic.
- 8) Security is very low because all the computers receive the sent signal from the source.

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