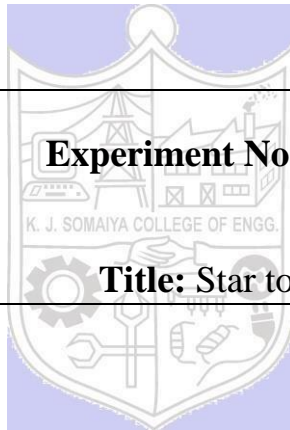


Experiment No: 06

K. J. SOMAIYA COLLEGE OF ENGG.

Title: Star topology



(Autonomous College Affiliated to University of Mumbai)

Batch: B1 Roll No.: 16010420133

Experiment No. 06

Aim: To construct Star Topology Topology

Resources Used: IIT Bombay Vlab

Theory:

Star Topology

The word physical network topology is used to explain the manner in which a network is physically connected. Devices or nodes in a network get connected to each other via communication links and all these links are related to each other in one way or the other. The geometric representation of such a relationship of links and nodes is known as the topology of that network.

These topologies can be classified into two types:-

1. Peer to peer
2. Primary - Secondary

Peer to peer is the relationship where the devices share the link equally. The examples are ring and mesh topologies.

In Primary - Secondary relationship, one device controls and the other devices have to transmit through it. For example star and tree topology.

Features of Star Topology:-

- 1) Every node has its own dedicated connection to the hub.
- 2) Hub acts as a repeater for data flow.
- 3) Can be used with twisted pair, Optical Fibre or coaxial cable.

Advantages of Star Topology:-

- 1) Fast performance with few nodes and low network traffic.
- 2) Hub can be upgraded easily.
- 3) Easy to troubleshoot.
- 4) Easy to setup and modify.

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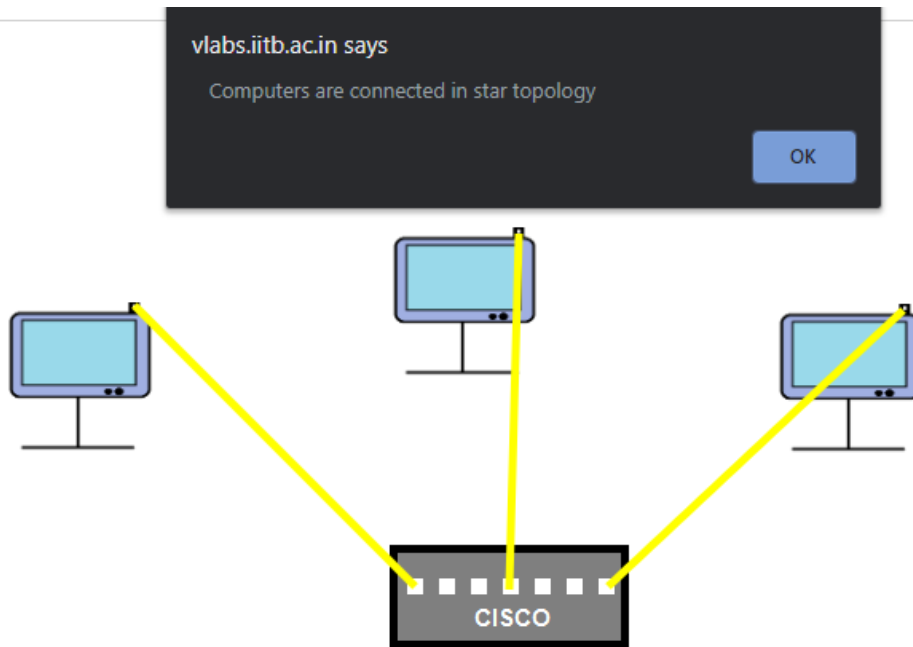
5) Only that node is affected which has failed, rest of the nodes can work smoothly.

Disadvantages of Star Topology:-

- 1) Cost of installation is high.
- 2) Expensive to use.
- 3) If the hub fails then the whole network is stopped because all the nodes depend on the hub.
- 4) Performance is based on the hub that is it depends on its capacity.

Vlab Outcomes:

Star Topology

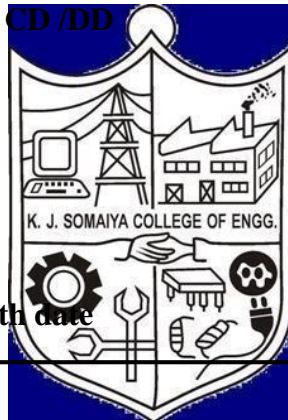


All the connections are dependent on the hub that is used to transfer data from one device to another. If the hub fails or if its performance is low then there can be a malfunction in transfer of information and no longer the devices can communicate among themselves. Here 3 computers are connected using optical fiber cabling is typically used to connect devices to the hub, though coaxial cable or Unshielded Twisted Pair (UTP) Ethernet may also be employed.

Outcomes: CO1: Understand the data communication systems, network topologies and network devices.

Conclusion: We constructed star topology and understood how star topology can be useful based on it's requirement.

Grade: AA / AB / BB / BC / CC / CD / DD



Signature of faculty in-charge with date

References:

Books/ Journals/ Websites:

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- http://vlabs.iitb.ac.in/vlabs-dev/labs_local/computer-networks/labs/explist.php