

**EXPERIMENT NO:2****DATE:23-07-2019****NAME OF THE STUDENT: N.S.S.Hemanth****REGD NO: 5C3**

**AIM:** Familiarization with basic networking devices.

**DISCRIPTION:**

Some of the basic networking devices are:

- LAN Adapters
- Repeaters
- Hubs
- Bridge
- Switch

**LAN Adapters:**

- It is an expansion card that used to connect a computer or computer device to a network.
- Also called Network Interface Card(NIC).
- The **purpose** of the device is to transmitting and receiving the data on both wired and wireless networks.
- Network connection port, physical network address, and status indicator light are the **characteristics** of LAN adapters.
- **Working** of the device A wireless LAN adapter enables you to share files, folders, printers, and other resources.
- Wired and Wireless are the two main **types** of LAN adapters.
- USB adapter, PCI (peripheral component interconnect) adapter, Ethernet adapter, and Virtual Private Networking (VPN) adapter are some of the **examples** of LAN adapters .



USB



Ethernet



PCI

**Repeaters:**

- These are the small devices that receives and retransmits the incoming electrical, wireless and optical signals.
- Its **purpose** is to, when signal becomes weak, they copy the signal bit by bit and regenerate it at original strength.
- It is a two port device.
- Its **work** is to strengthen the signals when they become weak and spread the signal throughout the network.
- Extending the reach area signal, reduce the cost, save time, are some **characteristics** of repeaters.
- Telephone repeaters, optical communication repeaters, radio repeaters, analog repeaters, and digital repeaters are the **types** of repeaters.
- Industrial network repeaters, field bus repeaters, serial interface repeaters, are some of the **examples** of repeaters.



#### Hubs:

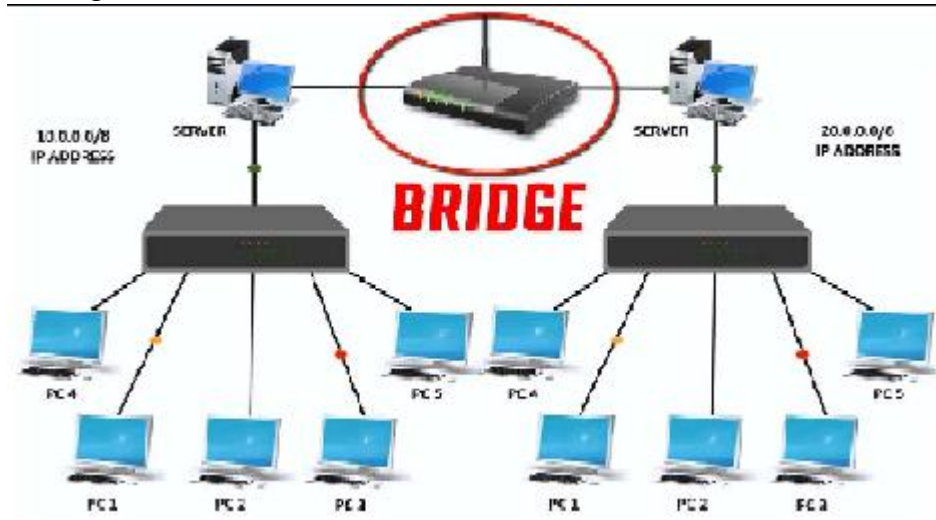
- A hub is a multiport repeater.
- Its **purpose** is to connect multiple wires coming from different branches and to form a single network segment on which all devices can communicate with each other.
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- Its **work** is to provide direct accessibility to all machine in the system comprises of series of ports and handle the data types called frames.
- There are two **types** of hubs. one is Active hub and the other is Passive hub.
- Examples are USB hub, switching hub,



#### Bridges:

- It operates at data link layer
- It creates single aggregate network from a multiple networks.
- It used to reduce the traffic.
- Its **purpose** is to connect two segments of network together or to divide the network into manageable sections.

- It filters and forward the packets.
- Its **work** is to divide a LAN into two segments and stores the MAC address of the connected machines.
- Routing tables, filtering, forwarding, learn algorithms are the **characteristics** of bridge.
- Transparent bridge, source routing bridge, and multiport bridge are the **types** of bridges.



#### Switch:

- Its **purpose** is to connects devices in a network by packet switching to receive, share, process and forward the data to the destination.
- These are the replacement of hubs, only intended nodes receive the transmission, fast and secure are some **characteristics**.
- LAN switch, managed switch, unmanaged switch, POE switch, stackable switch are the **types** of switches.
- Fixed configure switches, modular switches ect are the **examples**





**OBSERVATION:**

Purpose, functionalities, characteristics, types and examples and respective diagrams of all the above basic devices are shown in above description.

**REFERNCES:**

1. <https://www.lifewire.com › How To › Internet & Network › Key Concepts>
2. <ecomputernotes.com › Computer Networking › Comm. Networks>
3. <https://www.pearsonhighered.com/assets/samplechapter/.../0789732548.pdf>
4. <https://www.slideshare.net/rupinderj/networking-devices-12807479>

