

Lecture 2

Zarin Hadika

Lecturer

Department of CSE

Sonargaon University



Components of Computer Network

3 Components

❑ 1.Nodes

❑ 2.Media

❑ 3. Services

- **2 Types of Nodes.**

End Nodes (End Devices) . Example – Computer ,Printer, Smart phone etc.

2. Intermediary Nodes(Placed between end Nodes). Example – Router, Bridge, Switches etc.

2 Types of Media.

Wired Medium(Guided Medium). Data converted into signal.

Wireless Medium(Unguided Medium).Data converted into wave.

Services : Email, Storage Device, File sharing , www, VoIP, Video, Online Gaming, Telephony.



Switch

- A **switch** in a computer network is a device that connects multiple devices (like computers, printers, and servers) within a network.
- It then forwards the data to the intended device instead of broadcasting to all devices.
- Supports full-duplex communication (devices can send and receive data simultaneously).
- Switches and Bridges work at the Data Link Layer



Hub

- A hub is a basic networking device that connects multiple devices in a network.
- The hub forwards the data to all connected devices (even if only one device needs it).
- The intended recipient accepts the data, while others ignore it.
- Hubs work at the Physical Layer

Router



- A router is a more advanced networking device connecting different networks.
- It determines the best path to send the data over the internet or another network.
- The router forwards the data to the next network until it reaches its destination.
- Routers work at the Network Layer

Bridge

- A bridge is a network device that connects two or more LANs (Local Area Networks) and helps them communicate as a single network.
- If the destination device is in the same network, the bridge ignores the data.
- If the destination is in a different network, the bridge forwards the data to the correct LAN.
- Switches and Bridges work at the Data Link Layer