TAXONOMY OF MAC PROTOCOLS

Unit-1

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Classification of Wireless MAC Protocols

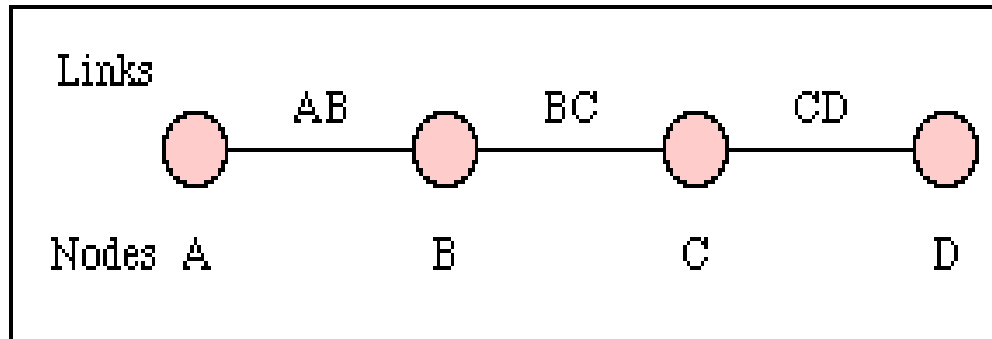▶ Large number of MAC Protocols have been proposed

▶ Classified into

1. Fixed Assignment schemes
2. Random Assignment Schemes
3. Demand-based Assignment Schemes

Fixed Assignment Schemes

▶ Fixed Assignment Schemes are called Circuit Switched Schemes

▶ In Fixed Assignment Schemes, the resources are required for a call are assigned for the entire duration of the call

▶ What is circuit switched schemes?

Circuit Switching Network

▶ **Circuit switching** is a method of implementing a telecommunications network in which two network nodes establish a dedicated communications channel (circuit) through the network before the nodes may communicate. The circuit guarantees the full bandwidth of the channel and remains connected for the duration of the communication session. The circuit functions as if the nodes were physically connected as with an electrical circuit.

▶ Circuit Switching- Only for voice calls

Random and Demand based Schemes

- Random and Demand based Schemes are called packet switched schemes

- In this, no reservations are made ,the nodes simply start to transmit as soon as they have a packet to send.

- Random based schemes are similar to connection-less packet switching

- In reservation schemes , a node makes explicit reservation of the channel for an entire call before transmitting.

- Reservation based schemes are similar to connection-based packet switching schemes.

- Reservation based schemes are suitable to handle calls with widely varying traffic characteristics.

Packet Switching Networks

▶ packet switching which divides the data to be transmitted into small units, called packets, transmitted through the network independently.

▶ Packet switching shares available network bandwidth between multiple communication sessions.