



# SNS COLLEGE OF ENGINEERING

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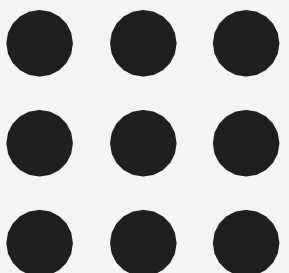
**An Autonomous Institution**

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## 19EC701 - ADHOC NETWORKS

### Unit -2 – DATALINK LAYER – MAC PROTOCOLS – GOALS AND CLASSIFICATION





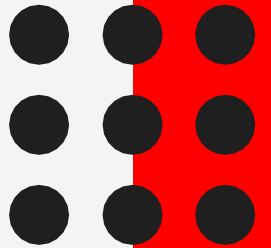
# Design goals of a MAC Protocol

Design goals of a MAC protocol for ad hoc wireless networks

- The operation of the protocol should be distributed.
- The protocol should provide QoS support for real-time traffic.
- The access delay, which refers to the average delay experienced by any packet to get transmitted, must be kept low.
- The available bandwidth must be utilized efficiently.
- The protocol should ensure fair allocation of bandwidth to nodes.
- Control overhead must be kept as low as possible.

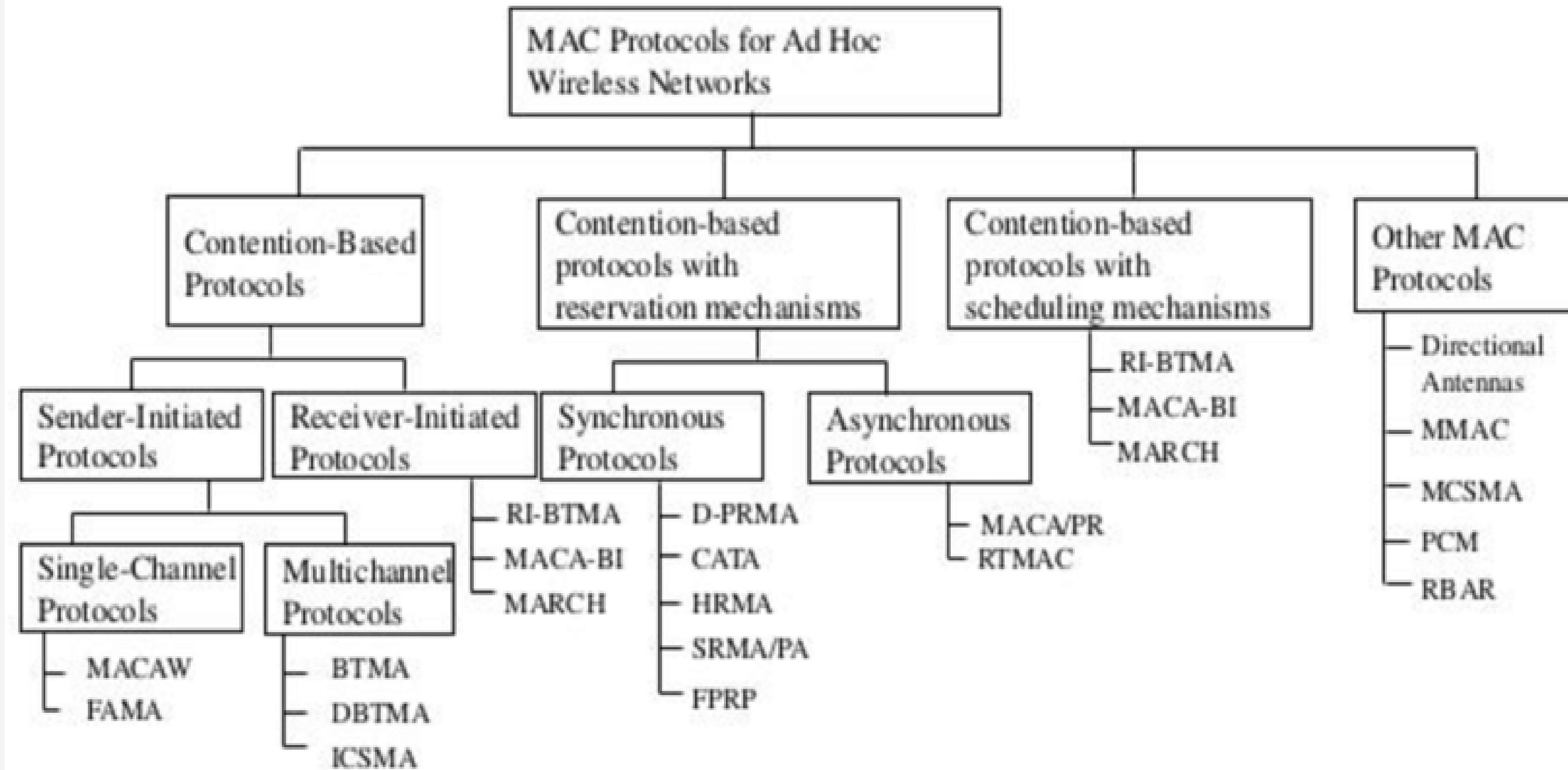


# Design goals of a MAC Protocol



- The protocol should minimize the effects of hidden and exposed terminal problems.
- The protocol must be scalable to large networks.
- It should have power control mechanisms.
- The protocol should have mechanisms for adaptive data rate control.
- It should try to use directional antennas.
- The protocol should provide synchronization among nodes.

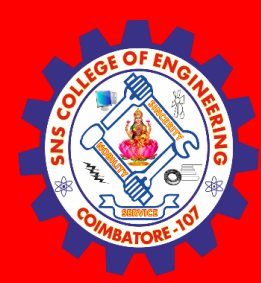
# Classification of MAC Protocol





# Classification of MAC Protocol

- **Contention-based protocols without reservation/scheduling –**
  - Bandwidth are not reserved.
  - No guarantees.
- **Contention-based protocols with reservation mechanisms –**
  - Bandwidth is reserved for transmission.
  - Guarantees can be given.
- **Contention-based protocols with scheduling mechanisms –**
  - Distributed scheduling is done between nodes.
  - Guarantees can be given.
- **Other protocols –**
  - Combine multiple features of other protocols.
  - It can also use a completely new approach.



# Assessment

List out classification of MAC Protocol?





**THANK YOU**