



Classification of MAC protocols



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Read

Discuss

MAC protocol is the first protocol layer above the Physical Layer in ad hoc .The primary task of any MAC protocol is to control the access of the nodes to shared medium.

Classification of MAC protocols :

These are as following below.

1. Contention-based protocols without reservation/scheduling –

- Bandwidth are not reserved.
- No guarantees.

2. Contention-based protocols with reservation mechanisms –

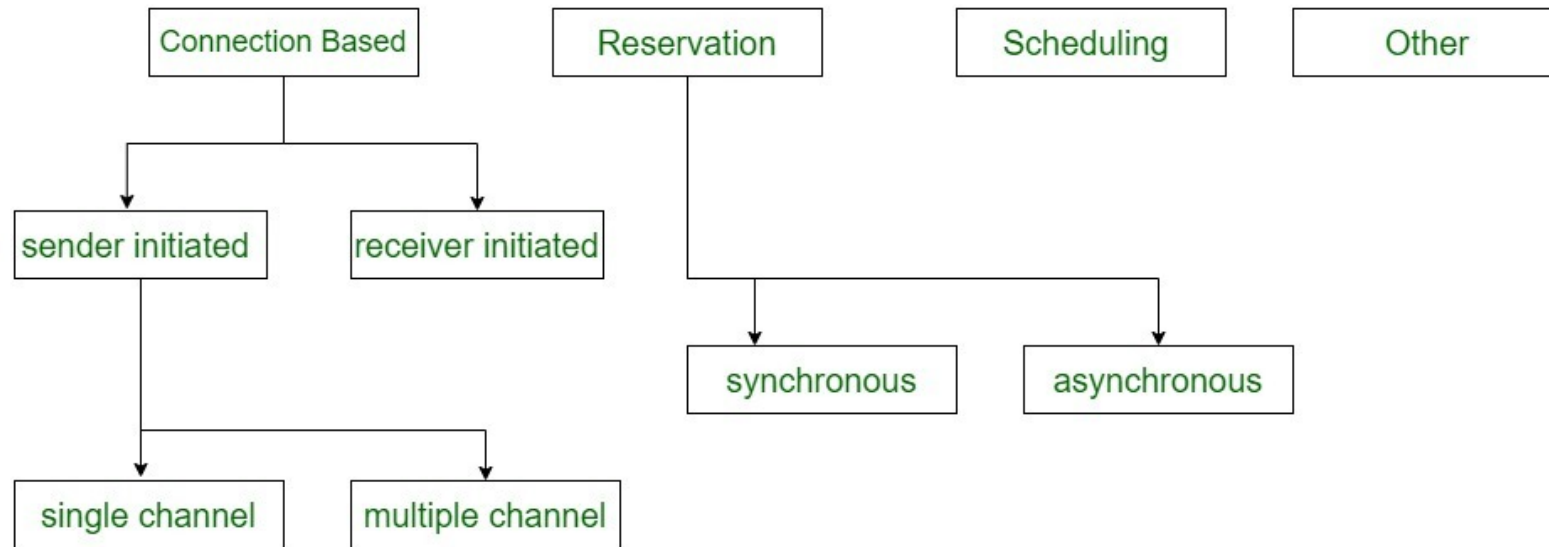
- Bandwidth is reserved for transmission.
- Guarantees can be given.

3. Contention-based protocols with scheduling mechanisms –

- Distributed scheduling is done between nodes.
- Guarantees can be given.

4. Other protocols –

- Combine multiple features of other protocols.
- It can also use a completely new approach.



1. Contention-based protocols without reservation/scheduling –

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- Sender-initiated protocols:

The transmission of packets are initiated by the sender node.

- Single-channel sender initiated. For example, MACAW, FAMA.
- Multiple-channel sender initiated protocols. For example, BTMA, DBTMA, ICSMA.

- Receiver-initiated protocols:

The connection is initiated by the receiver node. For example, RI-BTMA, MACA-BI, MARCH.

2. Contention-based protocols with reservation mechanisms –

- Synchronous protocols:

All node are kept synchronized. For example, D-PRMA, CATA, HRMA, SRMA/PA, FPRP.

- Asynchronous protocols:

Relative time information is used to achieve effecting reservations. For example, MACA/PR, RTMAC..

Contention-based protocols with scheduling mechanisms –

All the nodes are treated equally and no node is get deprived of bandwidth. For example, Eg. DPS, DWOP, DLPS.

Other protocols –

These MAC protocols do not strictly fall into any above category. For example, MMAC, MCSMA, PCM, RBAR.

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