

MAC in 802.11

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MAC

- Multiple users share common medium.
- Important issues:
 - Collision detection
 - Delay
 - Fairness
 - Hidden terminals
 - Synchronization
 - Power management
 - Roaming
- Use 802.11 as an example to see how these issues are handled.

802.11 - MAC layer I - DFWMAC

- Traffic services
 - Asynchronous Data Service (mandatory)
 - exchange of data packets based on “best-effort”
 - support of broadcast and multicast
 - Time-Bounded Service (optional)
 - implemented using PCF (Point Coordination Function)
- Access methods
 - DFWMAC-DCF CSMA/CA (mandatory)
 - collision avoidance via randomized „back-off“ mechanism
 - minimum distance between consecutive packets
 - ACK packet for acknowledgements (not for broadcasts)
 - DFWMAC-DCF w/ RTS/CTS (optional)
 - Distributed Foundation Wireless MAC
 - avoids hidden terminal problem
 - DFWMAC- PCF (optional)
 - access point polls terminals according to a list