Issues introduced by 802.3as

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Issues with current MAC Control sublayer

- No knowledge of overhead added by MAC
  - MAC inserts Preamble
  - MAC may insert CRC
- No knowledge of how long MAC takes to transmit frame
  - MAC could be deferred
  - MAC could have to retransmit after collision
- No feedback mechanism from MAC
  - No way to throttle or gate transmissions

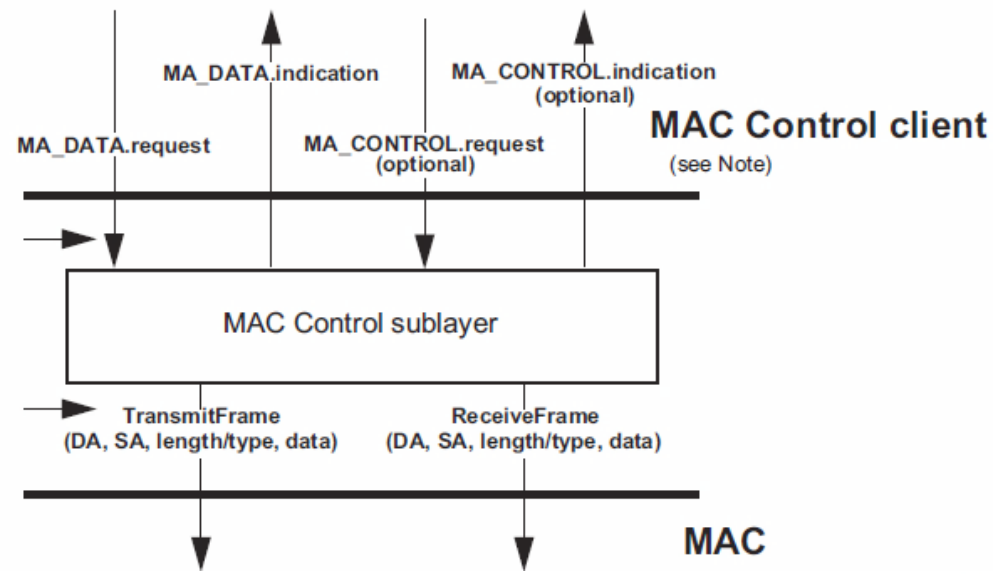
IEEE 802.3-2005 MAC Control sublayer

- MAC TransmitFrame function directly called
- MAC Control waits until function returns before trying to transmit a new frame

IEEE 802.3 REV

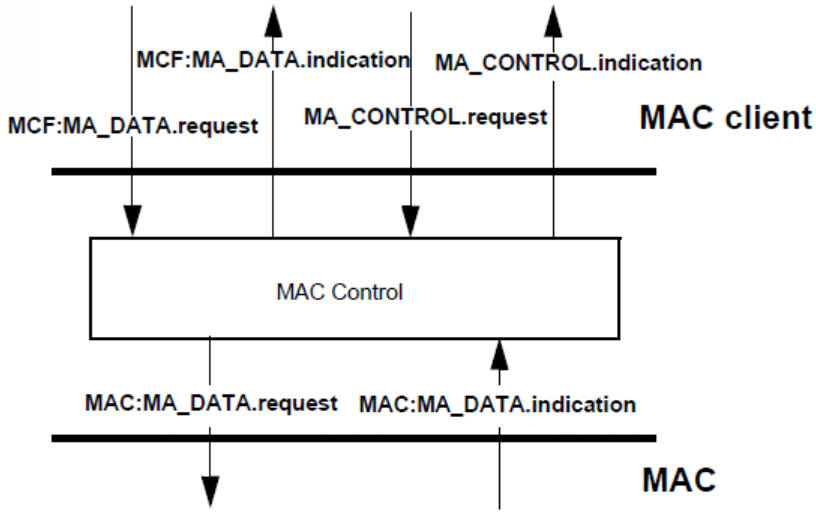
- MA_DATA.request directly called
- MAC Control does NOT wait until TransmitFrame returns

Different diagrams and behavior for interface



← IEEE 802.3 2005, MAC control directly calls TransmitFrame function

IEEE 802.3 2008, MAC → control calls MA_DATA.request primitive



Instances of MAC data service interface:
MAC=interface to subordinate sublayer
MCF=interface to MAC client

MAC State diagram

- After MA_DATA.request primitive occurs, MAC calls TransmitFrame function
- TransmitFrame function returns when frame transmission is complete
- MA_DATA.request call happens instantaneously
- Any MA_DATA.request made before TransmitFrame returns will be lost

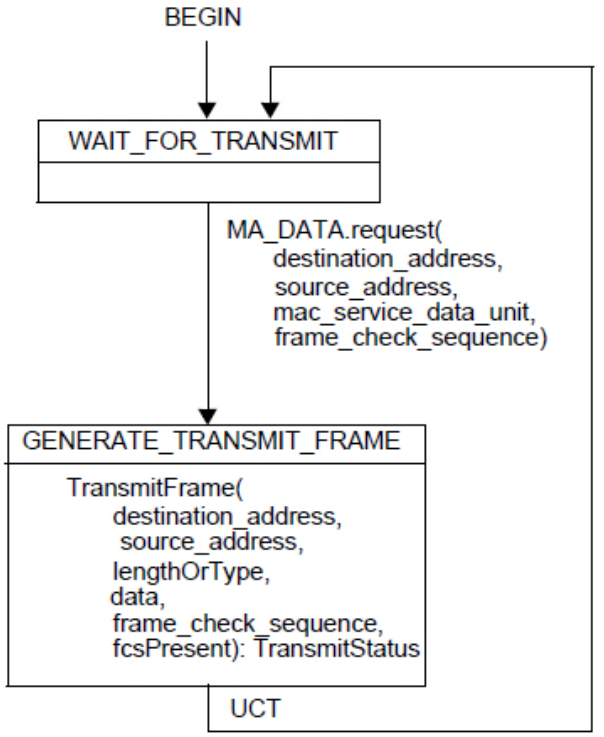


Figure 4–6— MAC client transmit interface state diagram