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
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