Supporting Materials
for comment #140

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November 1, 2016

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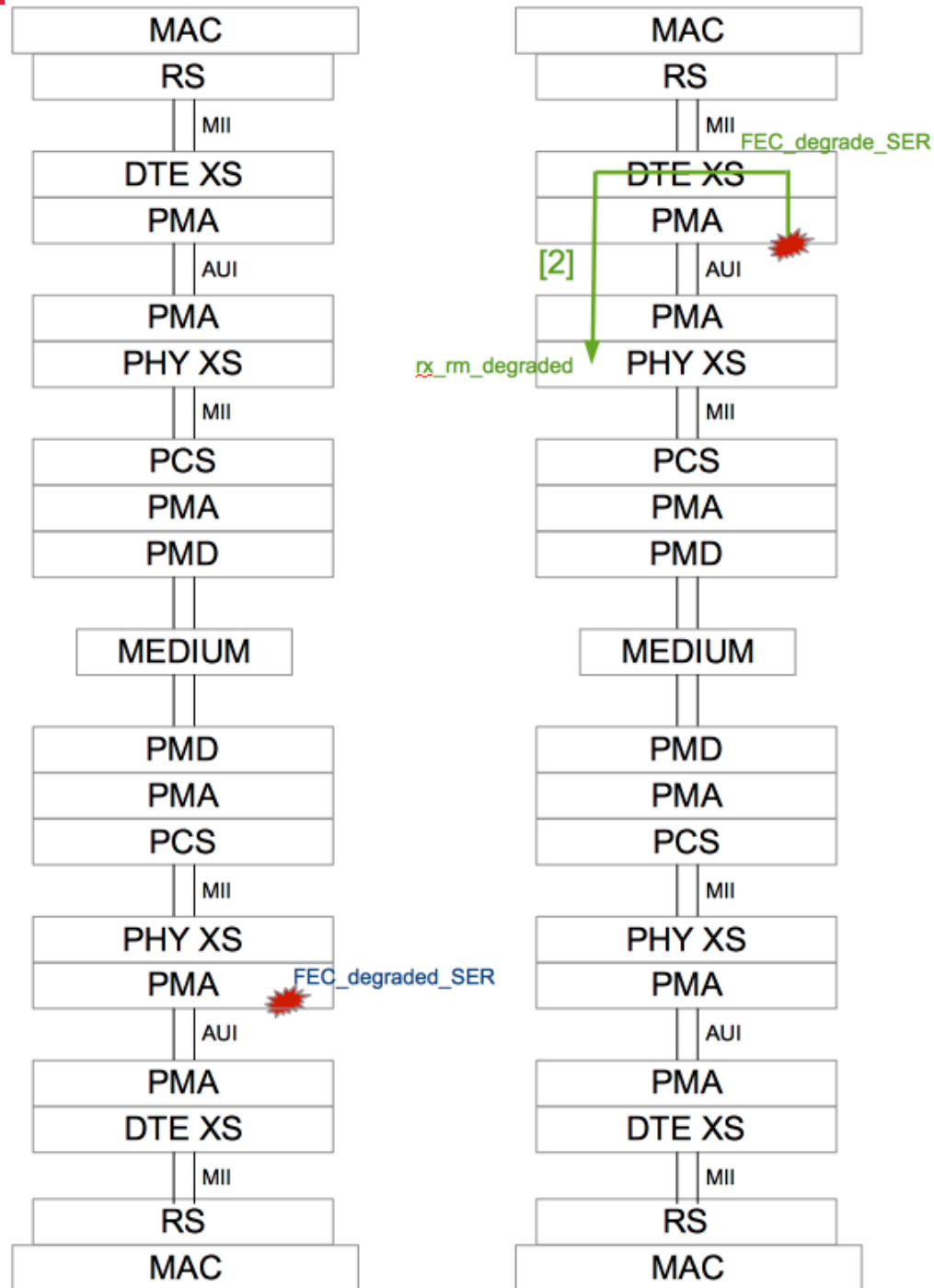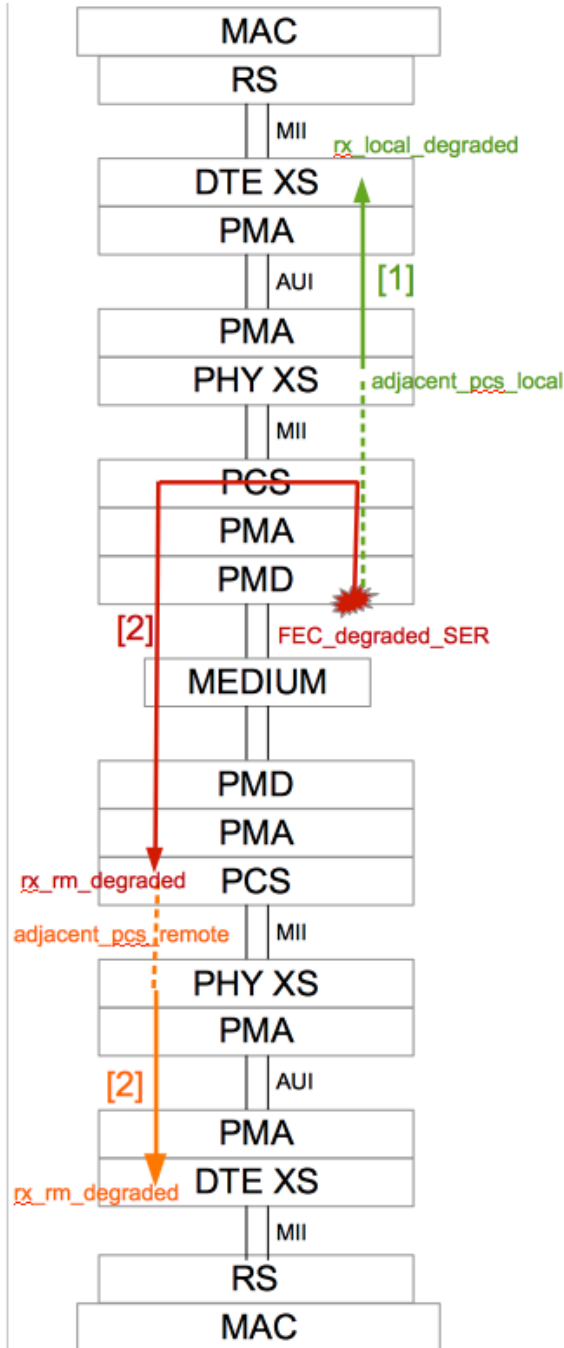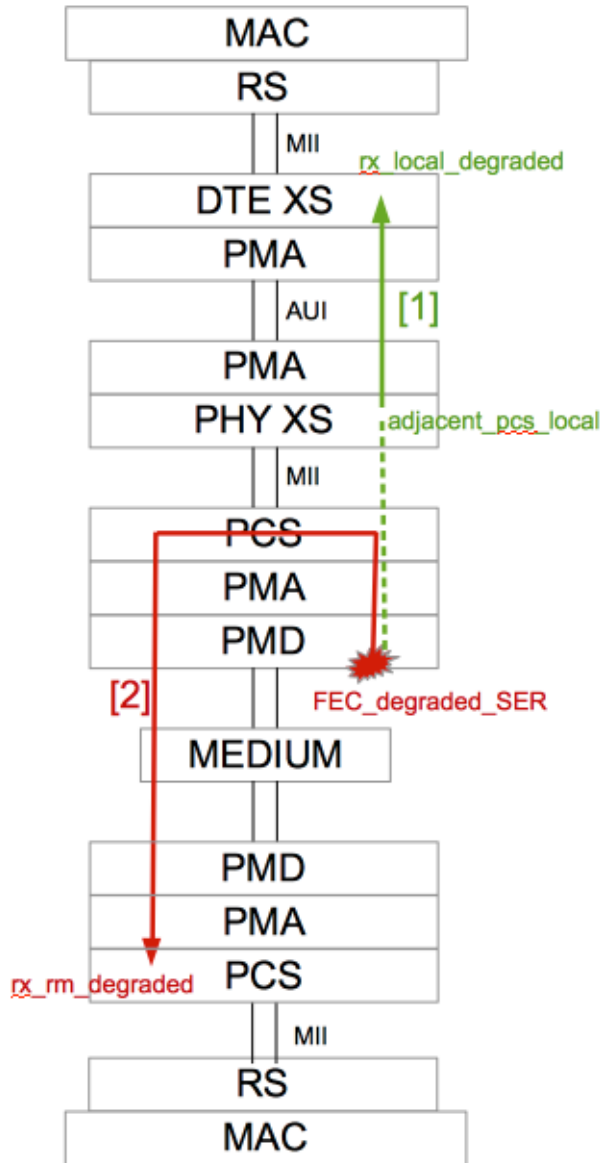
Comment #140

- The Clause 119 PCS does not forward a XS degraded signal. Clause 118 PHY XS also does not send a degrade indication across the AUI to the DTE XS.

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D2.1 Signalling

D2.1 Signaling cont.

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Proposed changes

Change: Removed setting of tx_am_sf[2] by DTE XS when rx_am_sf[1] is received.

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Proposed Changes cont.

Change: Added repeating of degraded signaling across MII interface.

Change: Added PHY XS transmission of FEC_degraded_SER back to host.

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How to implement this

- **Clause 119**
  - **tx_am_sf<2:0>** = {FEC_degraded_SER + adjacent_degraded, 0, 0}
  - Delete MDIO mapping in the definition of **rx_rm_degraded**, rely on Table 119-5 to map it
  - Add **adjacent_degraded** variable
    - Boolean variable which is asserted when an adjacent XS layer (across the MII interface) has set either FEC_degraded_SER or rx_rm_degraded. When an XS layer is not adjacent to the PCS this variable is set to false.
  - Alternate definition which is less restrictive on who the adjacent layer is
    - Boolean variable which is set to false when the MII interface is connected to the RS. Otherwise it set to true when either FEC_degraded_SER or rx_rm_degraded is set on the adjacent sub-layer (across the MII interface).

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How to implement this

- **Clause 118**
  - *DTE XS*
    - Delete the change in behavior **tx_am_sf** (acts the same as Clause 119)
    - Leave **rx_local_degraded** as-is. But remove the requirement of SER_enable, monitoring and reporting of rx_am_sf[1] is always done.
  - *PHY XS*
    - Change **tx_am_sf** to be:
      - **tx_am_sf<2:0>** = {adjacent_degraded, adjacent_pcs_degraded + FEC_degraded_SER, 0}
    - Delete "When **FEC_degraded_SER_enable …"** sentence
    - Delete **rx_rm_degraded** definition and rely on PCS definition and Table 118-2 to map it to right MDIO variable.
    - Delete **adjacent_pcs_local_degraded** and **adjacent_pcs_rm_degraded**
    - Add **adjacent_degraded** variable
      - Boolean variable that is asserted when the adjacent PCS sublayer has it's rx_rm_degraded variable asserted.
    - Add **adjacent_pcs_degraded** variable
      - Boolean variable that is asserted true when the adjacent PCS sublayer has it's FEC_degraded_SER is asserted.

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Updated diagrams to follow Remote/Local Fault signaling

Updated text based on previous diagrams

- ## Make the following changes to clause 119

- ## tx_am_sf = {adjacent_remote_degraded, adjacent_local_degraded, 0}

- ## rx_rm_degraded
  - Delete the last sentence that maps the MDIO register (rely on Table 119-5)

- ## Add variable rx_local_degraded
  - Boolean variable that is asserted true when the receiver detects rx_am_sf<1> asserted true for two consecutive alignment marker periods or FEC_degraded_SER is asserted. It is deasserted when both rx_am_sf<1> is deasserted for two consecutive alignment marker periods and FEC_degraded_SER is low.

- ## Add variable adjacent_remote_degraded
  - Boolean variable mapped to rx_local_degraded when the sub-layer across the MII interface is the RS. Otherwise it's mapped to the rx_rm_degraded variable of the sub-layer across the MII interface.

- ## Add variable adjacent_local_degraded
  - Boolean variable that is FALSE when the sub-layer across the MII interface is the RS. Otherwise it's mapped to the rx_local_degraded variable of the sub-layer across the MII interface.

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Updated text based on previous diagrams

- Make the following changes to clause 118.2.1

- tx_am_sf = {adjacent_remote_degraded, adjacent_local_degraded, 0}

- change rx_local_degraded to read
  - Boolean variable that is asserted true when the receiver detects rx_am_sf<1> asserted true for two consecutive alignment marker periods or FEC_degraded_SER is asserted. It is deasserted when both rx_am_sf<1> is deasserted for two consecutive alignment marker periods and FEC_degraded_SER is low.

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Updated text based on previous diagrams

- ## Make the following changes to clause 118.2.2

- ## tx_am_sf = {adjacent_remote_degraded, adjacent_local_degraded, 0}

- ## rx_rm_degraded
  - Delete the last sentence that maps the MDIO register (rely on Table 119-5)

- ## Add variable rx_local_degraded
  - Boolean variable that is asserted true when the receiver detects rx_am_sf<1> asserted true for two consecutive alignment marker periods or FEC_degraded_SER is asserted. It is deasserted when both rx_am_sf<1> is deasserted for two consecutive alignment marker periods and FEC_degraded_SER is low.

- ## Change adjacent_pcs_remote_degraded variable to adjacent_remote_degraded
  - Boolean variable that is mapped to the rx_rm_degraded variable of the PCS sub-layer across the MII interface.

- ## Change adjacent_pcs_local_degraded variable to adjacent_local_degraded
  - Boolean variable that is mapped to the rx_local_degraded variable of the PCS sub-layer across the MII interface.

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Thank You

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