1) Wael Diab

Add a statement at the end of 46.1.7.3 - where the deferral is first mentioned. . Management is pervasive and so specific mechanism must be specified.

"The deferral mechanism based upon the Link Interruption signal may be enabled or disabled by management."

2) Pete Anslow

P177 line 9 of clean version:

Insert new counters into 49.2.13.2.4, new timers into 49.2.13.2.5 in support of the LPI state diagrams. In each case, insert the new text at the end of the existing subclause.

Page 250 line 53 of clean version:

Change the text in section 72.6.4 to read **a** follows:

Should be

Change the text in section 72.6.4 to read **as** follows:

Page 259 line 49 of clean version:

Add an editing instruction for 74.7.4.8

3) Joseph Chou

Delete LF 10 from the draft.

Add editing instruction to change the *FEF row in 24.8.2.3 to include LPM:X in the Status column.

4) Velu Pillai

Remove extra "period" on page 253, line 21 in "72..7.1.4" .

5) Mike Grimwood – (All these changes have already been put into the draft)

Clause 45

1. 45.2.1.76a.4 (p 121 line 14) references 55.4.5.1 but this is a state variable section that doesn't describe negotiation or fast retraining. Perhaps change reference to 55.4.2.5.15 which at least presents the fast retrain function overview.

Clause 55

2. 55.3.5.2.1 change "<Link Interruption>" to "Link Interruption"
3. 55.4.5.2 For readability, add carriage return before the timers, lpi_refresh_rx_timer, link_fail_sig_timer, fr_maxwait_timer.

6) Matt Brown

i) PMA

55.4.5.1, page 222

pcs_data_mode

Generated by the PMA PHY Control function and indicates whether or not the local PHY may transition its PCS state diagrams out of their initialization states. It is passed to the PCS Transmit Control function via the PMA_PCSDATAMODE.indication primitive.

In the absence of the optional EEE and fast retrain capabilities, the PHY operates as if the value of this variable is TRUE.

pcs_data_mode is relevant to transmit and receive functions.

Change second sentence to: The current value of the pcs_data_mode is passed to the PCS via the PMA_PCSDATAMODE.indicate primitive.

ii)

55.2.2.11 PMA_PCSDATAMODE.indication

This primitive indicates whether or not the PCS state diagrams are able to transition from their initialization states. The pcs_data_mode variable is generated by the PMA PHY Control function and indicates whether or not the PCS state diagrams are able to transition from their initialization states. It is passed to the PCS Transmit Control function via the PMA_PCSDATAMODE.indication primitive.

page 197, line 15
pcs_data_mode affects receive and transmit functions
Change “PCS Transmit Control” to “PCS Control”
In second sentence, remove repeated phrase “and indicates whether or not the PCS state diagrams are able to transition from their initialization states.”

iii) Remove “b” in the “xxb”s in the text below.

The following variable is only required for PHYs that support the fast retrain capability.

fr_sigtype
If fast retrain is supported, this variable is set based on the value in 1.147.2:1 as follows:
00b IBLOCK_R
01b LBLOCK_R
10b UBLOCK_R
11b Reserved

check style guide for proper way to show binary numbers

55.3.5.2.3 Timers

iv)

Insert the following subclause after subclause 55.4.2.6

55.4.2.6a Refresh Monitor function

The Refresh is in the quired for PHYs which support the EEE capability. The Refresh monitor operates when the PHY is the LPI receive mode. The Refresh monitor shall comply with the state diagram of Figure 55–16a. The function forces a link retrain if a refresh signal is not reliably detected within a moving time window equivalent to 50 complete quiet-refresh cycles (nominally equal to 8.192 ms), when the PHY is in the lower power receive mode.

v) Recommended changes are already captured in comment #80 and will be implemented.

55.4.5.2 Timers

Insert the following timer definitions after all existing variable definitions in the existing 55.4.5.2

space

The following timer is required only for PHY comment #80 LPI receive mode ity.

lpi_refresh_rx_timer

This timer is used to monitor link quality during the low power receive mode. If the PHY does not reliably detect reliable refresh signaling before this timer expires then a full retrain is performed.

Values: The condition lpi_refresh_rx_timer_done becomes true upon timer expiration

Duration: This timer shall have a period equal to 50 complete quiet-refresh signal periods, equivalent to 8.192ms.

space

The following two timers are required only for PHYs that support the fast retrain capability:

link_fail_sig_timer

Determines the period of time the PHY sends the link failure signal.

Values: The condition link_fail_sig_timer_done becomes true upon timer expiration

Duration: This timer shall have a period equal to 4 LDPC frame periods.

space

fr_maxwait_timer

Determines the period of time the PHY has to transition its PCS Control State to PCS_Test following a fast retrain before the fast retrain is aborted and a full retrain performed.

Values: The condition fr_maxwait_timer_done becomes true upon timer expiration

Duration: This timer shall have a period equal to 30ms.

7) Oren Sela

In clause 46, page 145 in 46.3.4 we have a requirement for the RS to send remote fault when receiving Link Interruption:

“Sublayers within the PHY are capable of detecting faults that render a link unreliable for communication. Upon recognition of a fault condition a PHY sublayer indicates Local Fault status on the data path. When this Local Fault or Link Interruption status reaches an RS, the RS stops sending MAC data or LPI, and continuously generates a Remote Fault status on the transmit data path (possibly truncating a MAC frame being transmitted). When Remote Fault status is received by an RS, the RS stops sending MAC data or LPI, and continuously generates Idle control characters. When the RS no longer receives fault status messages, it returns to normal operation, sending MAC data or LPI.”

the problem is once the PHY finish the fast retrain and stop sending the Link Interruption the remote fault sent by the RS may propagate through the now available PHY to the other link partner.

Change text to:

“Sublayers within the PHY are capable of detecting faults that render a link unreliable for communication. Upon recognition of a fault condition a PHY sublayer indicates Local Fault status on the data path. When this Local Fault status reaches an RS, the RS stops sending MAC data or LPI, and continuously generates a Remote Fault status on the transmit data path (possibly truncating a MAC frame being transmitted). When Remote Fault or Link Interruption status is received by an RS, the RS stops sending MAC data or LPI, and continuously generates Idle control characters. When the RS no longer receives fault status messages, it returns to normal operation, sending MAC data or LPI.”

Also make the same change in 46.3.4.3. Change:

“b) link_fault = Local Fault or link_fault = Link Interruption
The RS shall continuously generate Remote Fault Sequence ordered_sets.
c) link_fault = Remote Fault
The RS shall continuously generate Idle control characters.”

To:

“b) link_fault = Local Fault
The RS shall continuously generate Remote Fault Sequence ordered_sets.
c) link_fault = Remote Fault or link_fault = Link Interruption

The RS shall continuously generate Idle control characters."

8) From Hugh Barrass
Add subheading titles for 46.3.4.2 and 46.3.4.3
Remove editor's note and unchanged text in 48.2.4.3

9) Jeff Slavick
Comment #19 did not get fully implemented. Missing text in 71.1.7.4
In 74.7.4.8, remove "(see Clause 78)" on line 51 as there is a similar reference earlier.