Cl **00** *SC* **0** *P* **1** *L* **1** # 10174

Frazier, Howard
Broadcom Corporation

Comment Type **TR** *Comment Status* **A** *doc-structure*

This is a general comment regarding the structure of the draft amendment.

As an amendment to IEEE Std 802.3, the material in this draft will eventually be folded into the base standard. When this happens, the definitions for the 100BASE-X and 1000BASE-X Physical Coding Sublayers will be substantially
changed, and the changes will be difficult to discern. The definitions for the MII and GMII will also be substantially changed.

The 100BASE-X and 1000BASE-X PCSs are used for many other port types besides 100BASE-TX and 1000BASE-KX. Among these are 100BASE-FX, 100BASE-LX10, 100BASE-BX10, 1000BASE-SX, 1000BASE-LX, 1000BASE-CX, 1000BASE-LX10, 1000BASE-BX10, 1000BASE-PX10, 1000BASE-PX20, 10G/1GBASE-PRX-D/U1, 10G/1GBASE-PRX-D/U2, and 10G/1GBASE-PRX-D/U3.

These port types are not included in the set of objectives for P802.3az, and the specifications for the PCS and MII for these port types must not be changed or effected in any way by P802.3az. Each of these port types must have a current IEEE Std 802.3 PCS and MII to reference.

SuggestedRemedy

There are many ways to solve this problem. I prefer the following approach:

1. Preserve the definitions for the MII, GMII, 100BASE-X PCS, and 1000BASE-X PCS without change.

2. Define the changes required to support EEE in a set of normative annexes, i.e. Annex 24A for Clause 24, and Annex 25A for Clause 25, etc. Example text for Annex 24A and Annex 25A have been provided by me to the task force chair.

3. Refer to these normative annexes from the body of Clause 78.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See response to Comment #410

Cl **00** *SC* **0** *P* **1** *L* **1** # 10509

Booth, Brad
AppliedMicro

Comment Type **TR** *Comment Status* **A**

In reading through the draft, I've noticed statements such as:

While RX_DV is de-asserted, the PHY may indicate that it is receiving low power idle by asserting the RX_ER signal while driving the value <01> onto RXD<7:0>.

May also implies may not. This method appears to be used multiple times throughout the draft to avoid the addition of PICS requirements associated with LPI. In the case of the statement above, the only way to indicate LPI across the GMII is to de-assert RX_DV, assert RX_ER and drive 0x01 onto RXD. The statement should be such to indicate a PHY with LPI capabilities shall use that signalling to indicate LPI detection across the GMII. And there should be a PICS entry for it.

SuggestedRemedy

This draft should be scrubbed to make sure that behaviors that differ between LPI and non-LPI have appropriate shall statements and PICS entries with an LPI capability associated with them. Otherwise, conformance testing this will be open to interpretation and confusion.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

In D2.1 in clause 22 and 46, the sentence has been changed to read "… the PHY indicates…" and no further change will be made.

In clause 35, the same change will be made.

The mandatory requirements are, and should be, in the appropriate PCS clauses.

This comment was not considered by the BRC and the above response is a proposed response.

This comment will be re-submitted for consideration at the Nov plenary along with all other comments received on D2.1.

Cl **00** *SC* **0** *P* **1** *L* **25** # 10190

ghiasi, ali Broadcom

Comment Type **TR** *Comment Status* **A** *doc-structure*

EEE is modifying some of the earlier 802.3 clauses adding optional EEE/LPI support, some of the state diagram are getting too complicated to know what is required and what is added for EEE

SuggestedRemedy

Propose to duplicate the state diagram in earlier clauses instead of changing them so it is clear what is optional EEE

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See response to comment #410

Cl **00** *SC* **0** *P* **27** *L* **50** # 10196

Grow, Robert Intel

Comment Type **ER** *Comment Status* **A** *editing instructions*

The style manual 21.2.1 isn't followed for numbering inserts, where for example, 22.2.2.6A would follow 22.2.2.6, it doesn't precede it and the draft insert instructions do not indicate a convention other than that of the style manual.

SuggestedRemedy

Don't insert a TX subclause in the middle of receive subclauses. If the style manual convention is being used, what is currently 22.2.2.6a should be 22.2.2.5A. If not following the style manual all change instructions need to be clear about the insertion point. Fix all inserts consistently.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Use explicit insert instructions. When the base text is from an approved amendment indicate the amendment in parenthesis.

Use lowercase alphabetic indication for a new subclause, table or figure to avoid disrupting the numbering of subsequent amendments.

When inserting a new subclause at a level it is x.x.0a

Coordinate numbering with 802.3ba. WG chair will help resolve any issues that arise from the coordination.

Cl **14** *SC* **14.1.1** *P* **16** *L* **21** # 10511

Booth, Brad AppliedMicro

Comment Type **TR** *Comment Status* **R**

The note is a bit confusing. It appears to be talking about implementation strategies rather than conformance issues. The critical issue the note needs to call to attention is conformance and interoperability.

SuggestedRemedy

Change note to read:
NOTE - A 10BASE-Te PHY may not support operation with a 10BASE-T PHY unless the minimum cabling requirements for 10BASE-Te are met.

Response *Response Status* **U**

REJECT.

The note was changed to clarify that support for 10BASE-T and 10BASE-Te in a single device is not expected. Interoperability between 10BASE-T and 10BASE-Te is addressed in 14.1.1.1 (i).

Cl **14** *SC* **14.1.1.1** *P* **17** *L* **15** # 10512

Booth, Brad AppliedMicro

Comment Type **TR** *Comment Status* **A** *j*

TIA/EIA-568-A is obsolete and has been superceded by 568-B. From my understanding, unlike ISO/IEC, TIA Category 5 is unchanged between 568-A and 568-B.

SuggestedRemedy

Update reference to 568-B.

Update throughout Clause 14.

Response *Response Status* **U**

ACCEPT.

Update references on
1) page 16, line 40
2) page 21, line 53
3) page 222, line 23 (clause 78)

Cl **14** *SC* **14.4.1** *P* **22** *L* **43** # 10457

Thompson, Geoff GraCaSI

Comment Type **ER** *Comment Status* **R**

I find no text added anywhere to clause 14 that states or even gives a hint of the compatibility between 10BASE-T and 10BASE-Te. How is a customer to know how to mix the two on a network?
Further, the text in 14.4.1 is not correct in the current market and proposed context.. The word "Since is inappropriate. That is, it is no longer the case that we believe that "a significant number of 10BASE-T networks are expected to be installed utilizing in-place unshielded telephone wiring" rather, the market has evolved to the extent that most telephones and networks (especially autonegotiating multi-speed adapters) are expected to utilize Category 5 or better cabling.

SuggestedRemedy

Rewrite the introductory paragraph to better reflect both the current market AND still make provision for the historical context that made use of "left-over" telephone wiring. Also, add a new subclause to clause 14 to address the topic of cross compatibility between 10BASE-T and 10BASE-Te, i. e. the two MDI can be freely mixed as long as the cabling meets the requirements for 10BASE-Te.

Response *Response Status* **U**

REJECT.

Interoperability between 10BASE-T and 10BASE-Te is addressed in 14.1.1.1 (i).

The first paragraph in 14.4.1 is text from the original standard and was not future-proof when originally written. It is not the objective of this task force to correct such text.

There changes to 14 based on resolution of comment #356

Cl **14** *SC* **14.4.1** *P* **22** *L* **48** # 10458

Thompson, Geoff GraCaSI

Comment Type **ER** *Comment Status* **R**

This new text is in the wrong place. It is not "overview" text. (I do recognize that it was "stuck" here in order to avoid the sticky issue of restructuring and renumbering sub-clauses.)

SuggestedRemedy

Move to within the context of 14.4.2. I recognize that there may be restructuring necessary in order for this to end up as a clean, well-structured clause.

Response *Response Status* **U**

REJECT.

The text is consistent with the rest of the overview clause. Also, the text was revised based on resolution of comment #356 on D2.0.

Cl **14** *SC* **14.5.2** *P* *L* # 10460

Thompson, Geoff GraCaSI

Comment Type **ER** *Comment Status* **R**

14.5.2 mandates that any port that offers MDI-X connectivity shall be marked with an "X". That mandate makes no allowance for current technology in which many PHY implementations are not of a fixed configuration with respect to the cross-over function. I expect many implementations of 10BASE-Te to have automatic MDI-X correction.

SuggestedRemedy

Revise text so that the X labeling requirement only applies to ports with fixed MDI/MDI-X configuration. It would be nice if we could all agree on a single character width symbol for auto-correction.

Response *Response Status* **U**

REJECT.

This comment requests a change to the base standard that is not impacted by the changes made for 10BASE-Te.

It should be submitted as a maintenance request to the base standard.

Cl **22** *SC* **22.2.1** *P* **25** *L* **9** # 10516

Booth, Brad AppliedMicro

Comment Type **ER** *Comment Status* **A**

Inconsistent use of the term low power idle. For example, in 22.2.1 it is all in lower case. In 22.7a, it is Low Power Idle.

SuggestedRemedy

Scrub the draft to use low power idle in a consistent manner.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Resolved by comment 260 on D2.0. It is no longer an issue in D2.1 and no additional change is required.

Cl **22** *SC* **22.2.2.6a** *P* **28** *L* **46** # 10167

Frazier, Howard Broadcom Corporation

Comment Type **TR** *Comment Status* **R**

What do the little triangles in Figure 22-6a represent? The figure presents what appears to be a timing diagram that shows the relationship between various logical signals. How does an abstract service primitive fit into a logical timing diagram, and what does a triangle indicate?

SuggestedRemedy

Remove the abstract service primitive from the timing diagram, and then implement the Suggested Remedy in my general comment concerning the structure of the draft amendment.

Response *Response Status* **U**

REJECT.

The diagram is based on the proposal "law_01_1108" that was adopted as the baseline for this section.

The representation of PLS_CARRIER.indication adds clarity to the diagram without any ambiguity.

This diagram would be present regardless of the document structure chosen.

Cl **22** *SC* **22.7a.2.3** *P* **32** *L* **15** # 10165

Frazier, Howard Broadcom Corporation

Comment Type **TR** *Comment Status* **R**

A state diagram in the MII clause. Wow. Why can't the PHY assert/deassert the CRS signal to indicate when the transmit path is in LPI?

SuggestedRemedy

Take out the state diagram. The 100BASE-TX PHY with LPI should be responsible for asserting and deasserting CRS, and then implement the Suggested Remedy in my general comment concerning the structure of the draft amendment.

Response *Response Status* **U**

REJECT.

In favor of accepting the proposed reject:
Yes: 15
No: 0
Abstain: 7

The state machine in the Reconcilliation Sublayer was the cornerstone of the baseline (law_01_1108) that was adopted by the Task Force.

It was considered advantageous to have the control of the PLS_CARRIER.indication in the RS for a number of reasons:

1. It keeps the PHY receive and transmit paths separate (the PHY considers CRS to be part of the receive path).

2. It allows the PHY to go to sleep without having to maintain state & control the wake process.

3. It keeps the "data holdback" function close to the MAC and egress buffers, where it would be implemented in most designs.

4. It frees the PHY from having to participate in the wake time negotiation process (that is controled using LLDP frames).

5. It works for PHYs that operate at speeds greater than 1Gbps, so the same mechanism can be used for all speeds.

The state diagram would be present (or deleted according to the comment) whether the proposed changes to the document are accepted or not.

Cl **24** *SC* **24.1.1** *P* **34** *L* **10** # 10462

Thompson, Geoff GraCaSI

Comment Type **TR** *Comment Status* **A** *230*

There is mention of an "LPI agent" in this clause as the active element that causes the 100BASE-X PHY to go back and forth between LPI and normal operation. I find it strange that (a) there is no definition or specification of an LPI agent nor even any mention of it anywhere else in the draft, not even in the other clauses where one would expect a parallel use of such an agent to cause the same sort of switch for the other LPI PHYs (except 10BASE-Te)

SuggestedRemedy

Fully define and specify the operation and service interfaces for the activating function for LPI (be it an "LPI agent" or other mechanism). Further, have that mechanism act on each of the LPI PHYs in a manner that is architecturally consistent across the entire standard.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

(need help to respond)

Cl **24** *SC* **24.8** *P* **50** *L* **1** # 10518

Booth, Brad AppliedMicro

Comment Type **TR** *Comment Status* **A** *114*

There is a *LPI capability that is defined. This capability has a direct impact on the functions performed by the PCS and PMA, yet the only new PICS are for the timers.

SuggestedRemedy

Shalls are needed to help define the way the PCS and PMA functions operate in LPI mode. Scrub the clause to make sure that functions modified or impacted by LPI have a corresponding PICS capability entry.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

See the response to comment #114. Multiple shalls are added

Cl **25** *SC* **25.4.11** *P* **53** *L* **41** # 10520

Booth, Brad AppliedMicro

Comment Type **ER** *Comment Status* **A** *115*

It would be better to promote the Ethernet Efficient Ethernet to its own heading2 level. The volume of information here probably should not be buried as an exception.

SuggestedRemedy

Promote 25.4.11 to be 25.5 and modify the PICS from 25.5 to 25.6.

Response *Response Status* **W**

ACCEPT.

See the response to comment #115.

Cl **25** *SC* **25.4.11** *P* **53** *L* **45** # 10521

Booth, Brad AppliedMicro

Comment Type **TR** *Comment Status* **A** *104*

Sentence calls the subclause a clause and labels as optional. Given the volume of information and the need to conform with the information in 25.4.11, there should be a PICS entry associated with this.

SuggestedRemedy

Change sentence to read: This subclause only applies to the optional low power idle is implemented. If implemented, the operation of the PMD shall comply with the requirements in this subclause.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

See the response to comment #104.

Cl **25** *SC* **25.4.6** *P* **53** *L* **31** # 10519

Booth, Brad AppliedMicro

Comment Type **TR** *Comment Status* **A** *107*

25.4.6 has three shall statements and only one PICS entry.

SuggestedRemedy

Add other PICS entries or delete unnecessary shalls.

Response *Response Status* **W**

ACCEPT.

See the response to comment #107.

Cl **28C** *SC* **28C.12** *P* **243** *L* **18** # 20192

Parnaby, Gavin Solarflare Communicat

Comment Type **TR** *Comment Status* **R**

Submitted on behalf of Todd Thompson, Solarflare.

Annex 28C and Clause 45.2.7.13a and Clause 45.2.7.14a require new EEE Next Pages and new message codes adding 1/2 second during autonegotiation. This time is largely wasted as the PHY must send bits for technologies it does not support and send many bits which are unused.

SuggestedRemedy

Use existing reserved bits in existing NP's defined in Clause 40.5 (to control EEE for 100M/1G) and XNP defined in Clause 55.6 (to control BASE-T EEE for 100M/1G/10G). Define existing reserved bits in Clause 22 (for 1000BASE-T) and Clause 45.2.7 (for 10GBASE-T) to control the advertising of BASE-T EEE and to report link partner's BASE-T EEE ability.

Response *Response Status* **U**

REJECT.

No consensus to make the change.

Proposed AIP was discussed - see below:

See parnaby_02_1109.pdf

Add three bits in 55.6 for EEE capability, make these bits mandatory for 10GBASE-T EEE

No changes in clauses 22 and 40

Straw poll
In favor of proposed response: 2
Opposed: 4
Abstain: 11

Cl **30** *SC* **30.5.1.1.21** *P* **61** *L* **6** # 10463

Thompson, Geoff GraCaSI

Comment Type **TR** *Comment Status* **A**

I don't understand what this attribute indicates. Is it the state of the standard at time of implementation? Or is it the PHYs for which the PCS and higher can support EEE operation?

SuggestedRemedy

Revise "BEHAVIOUR DEFINED AS:" text to clarify.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

"A read-only list of the possible PHY types for which the underlying system supports Energy Efficient Ethernet as defined in Clause 78."

Cl **40** *SC* **40.4.5.2** *P* **103** *L* **29** # 20109

CHOU, JOSEPH REALTEK SEMICOND

Comment Type **TR** *Comment Status* **A**

The duration of lpi_postupdate_timer has a period between 2.0us to 2.2us.
It does not have a comfortable margin for the field application.

The increase of this lpi_postupdate_timer has no impact on the wakeup time.

SuggestedRemedy

Change the duration of lpi_postupdate_timer as follows:

Duration: This timer shall have a period between 4.0 microseconds to 4.4 microseconds

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Duration: This timer shall have a period between 2 µs to 3.2 µs

---
Prior discussion:

Duration: This timer shall have a period between 2.5 µs to 3 µs

Strawpoll:
In favor: 5
Opposed: 3
Abstain: 10

Cl **45** *SC* **45.2.3** *P* **112** *L* **16** # 10183

Ganga, Ilango Intel

Comment Type **ER** *Comment Status* **A**

The table 45-83 and other tables in Clause 45 have been modified by P802.3ba. So the editing instructions should include the appropriate source document where the source is other than IEEE Std 802.3-2008. Also the table numbers should be changed to indicate the latest renumbered table numbers from previous amendment(s).

Also other PCS registers have been modified by the P802.3ba document (or other amendments e.g. P802.3av). So update the editing instructions and the change text as per the draft P802.3ba/D2.2.
For example change editing instruction as follows:
45.2.3.1 PCS control 1 register
Change Table 45-83 (IEEE P802.3ba/D2.2) for LPI clock control:
Update the table such that the base text is from the above source.

SuggestedRemedy

Update the Editing instrucitons and Table numbers to indicate appropriate source for base text and use the renumbered table number from appropriate amendment to 802.3-2008. Also update the base text as appropriate as per the source document (for example IEEE P802.3ba/D2.2).

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

See comments #39, 40, 41, 42, 43

Cl **45** *SC* **45.2.7.13a** *P* **119** *L* **32** # 20189

Parnaby, Gavin Solarflare Communicat

Comment Type **TR** *Comment Status* **R**

Submitted on behalf of Todd Thompson, Solarflare.

Clause 45.2.7.13a and 45.2.7.14a are inconsistent with the rest of the standard in that the format of NP and XNP are partially defined in this clause. In the rest of the standard, the formats of NP and XNP are separated from the control/status registers controlling and reporting the status of what's to be advertised/been advertised. (See Clause 40.5 for 1G and 55.6 for 10G). The current definition is more difficult to read/follow than the way pages have been previously defined in the standard. It is not clear from the text in 45.2.7.13a and 45.2.7.14a how many pages are being sent, whether these pages are regular next pages or extended next pages, and what the format of those pages is to be.

SuggestedRemedy

Option 1 (preferred): Use existing reserved bits for previously defined Next Pages and Extended Next Pages as defined in Clause 40.5 and 55.6 and remove this new message code/format.
Option 2: Separate the definition of the message page/unformatted page out of Clause 45.2.7.13a and 45.2.7.14a and put the format of these pages and mapping of these bits into the EEE Clause 78 to make this consistent to the way 1G and 10G has been done previously. Insert tables into Clause 78 which define the number and format of NPs and/or XNP's similar to Clause 40.5 and 55.6.

Response *Response Status* **U**

REJECT.

These registers are consistent with other registers in 45.2.7 for autonegotiation.

Cl **45** *SC* **45.2.7.13a** *P* **120** *L* **12** # 190
Parnaby, Gavin Solarflare Communicat

Comment Type **TR** *Comment Status* **A**

Submitted on behalf of Todd Thompson, Solarflare.

Tables 45-157a and 45-157b have multiple bits with the same designation without a clear indication of how the bits map to the pages. For example, in Table 45-157a there are multiple D0, D1 and D2. In Table 45-157b there are multiple U0, U1, and U2 bits. There's no indication how these bits are mapped to the individual bits in the next pages. It's not clear how many unformatted pages are being sent nor how multiple bits in the control register map to the same bits in the unformatted page/pages.

SuggestedRemedy

Option 1 (preferred): Use existing reserved bits for previously defined Next Pages and Extended Next Pages as defined in Clause 40.5 and 55.6 and remove this new message code/format.
Option 2: Separate the definition of the NP and XNP out of Clause 45.2.7.13a and 45.2.7.14a and put the format of these pages and mapping of these bits into the EEE Clause 78 to make this consistent to the way 1G and 10G has been done previously. Insert tables into Clause 78 which define the number and format of NPs and/or XNP's similar to Clause 40.5 and 55.6.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Different bit designators are used.

See response to comment #193

Cl **45** *SC* **45.2.7.13a** *P* **120** *L* **12** # 193
Parnaby, Gavin Solarflare Communicat

Comment Type **TR** *Comment Status* **A**

Submitted on behalf of Todd Thompson, Solarflare.
Also Page 122 Lines 12-33

Tables 45-157a and 45-157b use different indicators for the bits in the unformatted message page. Table 45-157b uses U0-U2 while Table 45-157a uses D0-D1.

SuggestedRemedy

Both should use U0-U2.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Both tables should use U1-U3

Change backplane bits to U4-U6

Cl **49** *SC* **49.1.6** *P* **147** *L* **22** # 125
Dawe, Piers Independent

Comment Type **ER** *Comment Status* **A**

Without the underlines it would not be sufficiently clear what "EEE only" applies to.

SuggestedRemedy

These signals should be dotted as in Figure 51-3; so should the "Data output when scrambler_bypass is true" of Figure 49-5.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Place dotted box around the signals.

Also around the "Data output." of Figure 49-5.

Cl **49** *SC* **49.2.13.3.1** *P* **148** *L* **3** # 10224
Gustlin, Mark Cisco

Comment Type **TR** *Comment Status* **A**

It would help to put in a text description of the behavior of each state machine, 49-16 and 49-17, what is each SM accomplishing at a high level.

SuggestedRemedy

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Comment #455 may satisfy this.

Cl **49** *SC* **49.2.4.7** *P* **148** *L* **7** # 187
Parnaby, Gavin Solarflare Communicat

Comment Type **TR** *Comment Status* **A**

The response to comment #466 (on Clause 55) on draft 2.0 said that the control code for /LI/ in clause 49 would be changed to 0x06.

This was missed in the draft update.

SuggestedRemedy

Change the /LI/ control code to 0x06 in clause 49 as agreed in the response to comment #466 on draft 2.0.

Response *Response Status* **W**

ACCEPT.

Cl **49** *SC* **49.2.9** *P* **150** *L* **28** # 127

Dawe, Piers Independent

Comment Type **TR** *Comment Status* **R**

The Lock state diagram, which I don't think is optional, uses the variable "rx_block_lock" where the current standard has "block_lock". Yet 49.2.13.2.2 says "The following variables are used only for the EEE capability... rx_block_lock". Problem - and there may be similar problems e.g. in Clause 36. So I'm piling on to D2.0 comment 190 and 174, we need to preserve the non-EEE material in an undamaged state, by use of annexes like 4A, duplicate state diagrams or other means. Otherwise, users will go back to 802.3-2008 for non-EEE product, and any future maintenance to affected areas will be ignored.

SuggestedRemedy

Preserve the non-EEE material in an undamaged state, by use of annexes like 4A, duplicate state diagrams or other means.

Response *Response Status* **W**

REJECT.

This was discussed at length during the resolution of comments against draft 2.0 and the task force decided against the suggested remedy.

Cl **69** *SC* **69.1.1** *P* **192** *L* **1** # 10186

Ganga, Ilango Intel

Comment Type **ER** *Comment Status* **A**

Clause 69 is also being amended by P802.3ba. Update the editing instructions and base text to indicate appropriate source (IEEE Std 802.3-2008 or P802.3ba).

SuggestedRemedy

As per comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.
There doesn't appear to be any conflicting or overlapping changes.

But editor will add editor's note to indicate P802.3ba may also affect clause 69 and, in parenthesis, and identify draft if the edit is based on a draft

Cl **69** *SC* **69.1.2** *P* **198** *L* **17** # 26

Marris, Arthur Cadence

Comment Type **TR** *Comment Status* **A**

This is a pile on to comment 118 against 2.0.

"Optionally support EEE" implies 40GBASE-KR4 can also support EEE.

SuggestedRemedy

Change:
Optionally support EEE.

To:
Optionally support EEE for 10 Gb/s rates or lower.

Response *Response Status* **W**

ACCEPT.

Also answered as an editorial comment

Cl **72** *SC* **72.6.4** *P* **207** *L* **26** # 10189

Ganga, Ilango Intel

Comment Type **TR** *Comment Status* **A**

Clause 72 supports digital signal detect mechanisms. Analog signal detect (or energy detect) was not part of this clause as it was felt that robust analog signal detect functions are difficult to define/implement in the backplane environment. (see thaler_01_0505.pdf, minutes_01_0505.pdf). Hence define a suitable digital signaling mechanism to exit from the low power idle state.

SuggestedRemedy

As per comment

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

At this point there is no clear alternative to a basic energy detect to waking up the PHY from sleep.

The receiver is just required to wake up within a certain time after detecting the electrical energy on the diff signal pair from a compliant, enabled transmitter.

The original KR signal_detect would not work for EEE because it requires that training to be complete before it could wake up the receiver. This was believed to be too long and we needed something to wake the PHY's receiver prior to that.

For EEE, the KR's transmit coefficients and receive equalization state are assumed to be saved before going quiet and quickly restored after wake so it can sync and lock much more quickly.

Changes were made to the state diagrams (see response to comment #425) to fix the observable behavior that may be caused by false detection. There is concern that the energy detect threshold level and detection circuitry could cause unnecessary activity in the receiver (due to noise and cross-talk).

Cl **74** *SC* **74.5** *P* **214** *L* **12** # 10184

Ganga, Ilango Intel

Comment Type **ER** *Comment Status* **A**

Underline new primitive defined in item e) RX_LPI_ACTIVE

Also subclause numbering and Figure numbers for functional block diagrame are incorrect. Update the numbering as per the base spec (for example 74.0.1 should be 74.4.1 and Figure 74-1 should be Figure 74-2).

SuggestedRemedy

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Please refer to comments
364 and 8

Cl **74** *SC* **74.5.1.4** *P* **216** *L* **37** # 27

Marris, Arthur Cadence

Comment Type **TR** *Comment Status* **A**

74.5.4 should really be 74.5.1.4
74.5.5 should really be 74.5.1.5
74.5.6 should really be 74.5.1.6
74.5.7 should really be 74.5.1.7

SuggestedRemedy

Change
Insert 74.5.4 through 74.5.7 as shown below after 74.5.3
To
Insert 74.5.1.4 through 74.5.1.7 as shown below after 74.5.1.3

Change paragraph numbering appropriately

Response *Response Status* **W**

ACCEPT.

Cl **74** *SC* **74.7** *P* **216** *L* **22** # 10185

Ganga, Ilango Intel

Comment Type **ER** *Comment Status* **A**

Clause 74 is also being amended by P802.3ba. So where appropriate update the editing instructions to indicate the approprate base text (IEEE Std 802.3-2008 or P802.3ba/D2.2).

SuggestedRemedy

As per comment

Response *Response Status* **W**

ACCEPT.

Cl **78** *SC* **78.1.2.1.4** *P* **228** *L* **26** # 10202

Grow, Robert Intel

Comment Type **TR** *Comment Status* **A**

Is signaling of LPI between an RS and its link partner, or between the RS and the lower parts of the PHY? If the PHY has no option to signal the request, then the language is appropriate, but it seems inconsistent with MII text describing the xMII signals. The effect of the primitive is to generate signals on the MII and that isn't specified here, but should be.

SuggestedRemedy

Assure MII clause are consistent in what layer is signaling to what peer layer, and that any additional requirements on conveying the LPI request in lower sublayers is properly represented. Add generic text that covers the three MII types -- how the assert or deassert is signaled, can probably be generic using the MII definition of assert low power idle.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

The PHY has no option to signal the request so the language is appropriate however editor will look into adding clarifying text as in the suggested remedy.

Editor to check if that this is clear in the xMII clauses.

Cl **78** *SC* **78.1.3.3.2** *P* **227** *L* **18** # 20091

Hajduczenia, Marek ZTE Corporation

Comment Type **TR** *Comment Status* **R** *sleep signal*

What is this 'sleep signal'? Where is this defined? How is it transmitted?

SuggestedRemedy

Similar comment was submitted against previous version of the draft and yet there are no changes so far.

Response *Response Status* **U**

REJECT.

The sleep signal is PHY dependent and described in individual PHY clauses.

Cl **78** *SC* **78.4.2.3** *P* **232** *L* **12** # 162

Dove, Daniel HP ProCurve Networki

Comment Type **TR** *Comment Status* **R**

separate terms tx_dll_enable, tx_dll_ready and rx_dll_enable, rx_dll_ready are not necessary.

Comment:- The TX and RX state machines uses the above conditions as an entry/exit point to the states. It is noted that both TX and RX state machine works on the transmission and reception of EEE TLV's and both conditions are need to be considered while entering/exiting to each of the state machine.

SuggestedRemedy

Search and Replace tx_dll_enable and rx_dll_enable with dll_enable and clean up tables to reflect proper definition.

Search and Replace tx_dll_ready and rx_dll_ready with dll_ready and clean up tables to reflect proper definition.

Response *Response Status* **W**

REJECT.

The comment requests a simplification to the current scheme but the current scheme is not broken. Implementing the suggested remedy would result in considerable changes to the section and could introduce errors for a very marginal benefit.