Cl **00** *SC* **0** *P* **I** *L* **30** # 69

Marris, Arthur Cadence

Comment Type **T** *Comment Status* **D**

"It provides an accurate indication of the transmission and reception initiation times of certain packets as required to support IEEE Std P802.1AS-201X."

is not an entirely accurate description of what the amendment is doing.

SuggestedRemedy

Change:
"It provides an accurate indication of the transmission and reception initiation times of certain packets as required to support IEEE Std P802.1AS-201X."

To:
"It defines the Time Synchronization service interface to indicate when frames cross the medium independent interface and PHY management objects to report the latency in passing frames between the MDI and medium indenpent interface. This is required to support IEEE Std P802.1AS-201X."

Also change 'abstract' on page II.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change the indicated text as presented below:
"It defines the Time Synchronization Service Interface (TSSI) to indicate the time when Ethernet frames cross the generic Medium Independent Interface (gMII), together with management objects indicating transmission latency between the MDI and gMII for the given PHY. Both features are required to support IEEE Std P802.1AS-201X."
Make the same changes in the abstract

Cl **00** *SC* **0** *P* **VII** *L* **2** # 64

Marris, Arthur Cadence

Comment Type **ER** *Comment Status* **D**

This should be referring to the IEEE 802.3 working group ballot. P802.3bf is a task force.

SuggestedRemedy

Change:
"The following individuals were members of the IEEE 802.3 working group at the beginning of the P802.3bf working group ballot."

To:
"The following individuals were officers and members of the IEEE 802.3 working group at the beginning of the working group ballot."

Also make Valerie Maguire the treasurer.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Valerie Maguire will be indicated as the 802.3 WG Treasurer.

The text suggested by the commenter to be changed will not be modified. It is part of the template front matter and will be filled in with respective names when the Working Group ballot for 802.3bf is initiated.

Cl **00** *SC* **0** *P* **X** *L* **16** # 60

Marris, Arthur Cadence

Comment Type **E** *Comment Status* **D**

Make date a placeholder

SuggestedRemedy

Change:
"15 September 200X"
To:
"XX XXXX 201X"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
The text is part of the template front matter and will be filled in with respective data along the progress of the project.

Cl **45** *SC* **45.2.1.100** *P* **5** *L* **38** # 61
Marris, Arthur Cadence

Comment Type **E** *Comment Status* **D**

Mention latency here.

SuggestedRemedy

Change:
"identifies the capability of the given PHY to provide the transmit and receive paths"
To:
"indicates the capability of the PHY to report the transmit and receive latency between the MII and MDI"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
"indicates the capability of the PHY to report the transmit and receive latency between the xMII and MDI"

Cl **45** *SC* **45.2.1.101** *P* **6** *L* **6** # 70
Marris, Arthur Cadence

Comment Type **T** *Comment Status* **D**

It might help to define 'link is estabilished' as when bit 2 in PMA/PMD status register 1 is high.

SuggestedRemedy

Consider changing:
"The values contained in these registers are valid when the link is established."

To:
"The values contained in these registers are valid when the link is established as indicated by bit 2 in register 1.1 (see 45.2.1.2.2)."

make similar change for the receive latency registers.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change
"The values contained in these registers are valid when the link is established."

To:
"The values contained in these registers are valid when the link is established, as indicated by bit 2 in Register 1.1 (see 45.2.1.2.2)."

Mark link as external

Make similar change for the receive latency registers i.e. 45.2.1.102

Cl **90** *SC* **90.4.1** *P* **9** *L* **44** # 71
Marris, Arthur Cadence

Comment Type **T** *Comment Status* **D**

Isn't the MAC control layer defined in Clause 31 a client of the MAC?

SuggestedRemedy

Delete:
"definition of the MAC Client is outside of scope of IEEE Std 802.3"

Proposed Response *Response Status* **W**

PROPOSED REJECT.

Clause 31 is a MAC Control sublayer, which manipulates the behaviour of a MAC, rather than using MAC to deliver services. Similarly, Clause 64 and Clause 77 MPCP is a multipoint MAC Control sublayer example rather than an example of a MAC Client.

The indicated text remains in the draft.

Cl **90** *SC* **90.4.1** *P* **9** *L* **52** # 56
Anslow, Peter Ciena

Comment Type **E** *Comment Status* **D**

In "any type of IEEE Std 802.3 media independent interfaces", "interfaces" should be "interface"

SuggestedRemedy

Change "interfaces" to "interface"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **90** *SC* **90.4.2.3** *P* **11** *L* **15** # 57
Anslow, Peter Ciena

Comment Type **E** *Comment Status* **D**

In "The TS service interface support the exchange" "support" should be "supports"

SuggestedRemedy

Change "support" to "supports"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **90** *SC* **90.4.3.1** *P* **11** *L* **24** # 72

Marris, Arthur Cadence

Comment Type **T** *Comment Status* **D** *.1 TS_TX.indication primitive*

This does not read right.

SuggestedRemedy

Change:
"This primitive defines the transfer of a indication of an event between gRS and the TimeSync Client."
To:
"This primitive is used to indicate the event of a transmit frame passing through the gRS."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **90** *SC* **90.4.3.1** *P* **11** *L* **24** # 58

Anslow, Peter Ciena

Comment Type **E** *Comment Status* **D** *.1 TS_TX.indication primitive*

In "This primitive defines the transfer of a indication of an event" "a indication" should be "the indication"
Same in 90.4.3.2

SuggestedRemedy

Change "a indication" to "the indication" here and in 90.4.3.2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See comment #72.

Cl **90** *SC* **90.4.3.1.1** *P* **11** *L* **32** # 65

Anslow, Peter Ciena

Comment Type **T** *Comment Status* **D** *UNDETECTED or undefined*

Since in 90.5.1 we have: "The service primitive across the TS service interface i.e. TS_TX.indication is generated only when the SFD sequence is detected on the transmit signals. Otherwise, the status of TS_TX.indication is undefined." what is the purpose of defining the SFD parameter value of UNDETECTED?
Same issue for TS_RX.indication(SFD)

SuggestedRemedy

Remove the value "UNDETECTED" or use it for something
Same in 90.4.3.2.1

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change 90.4.3.1.1 to read

The SFD parameter can take either of the following two values: DETECTED or undefined. When asserted (SFD = DETECTED), the TimeSync Client is notified that a valid SFD was detected by the gRS sublayer TS_SFD_Detect_TX function (see 90.5.1) in the xMII transmit signals. Otherwise, the value of SFD parameter is undefined.

Change 90.4.3.2.1 to read

The SFD parameter can take either of the following two values: DETECTED or undefined. When asserted (SFD = DETECTED), the TimeSync Client is notified that a valid SFD was detected by the gRS sublayer TS_SFD_Detect_RX function (see 90.5.2) in the xMII transmit signals. Otherwise, the value of SFD parameter is undefined.

Cl **90** *SC* **90.4.3.1.1** *P* **11** *L* **32** # 73

Marris, Arthur Cadence

Comment Type **T** *Comment Status* **D** *UNDETECTED or undefined*

Please use 'NOT DETECTED' as was agreed in the resolution to comment 31 against the last draft.

SuggestedRemedy

Change:
"UNDETECTED"
To:
"NOT DETECTED"

and elsewhere in the document.

Also change:
"any of the following two values"
To:
"either of the following two values"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
[line number correct, was 24, is 32]
See comment #65 - "UNDETECTED" was replaced with "undefined"

Cl **90** *SC* **90.4.3.2** *P* **11** *L* **50** # 74

Marris, Arthur Cadence

Comment Type **T** *Comment Status* **D**

This could be worded better.

SuggestedRemedy

Change:
"This primitive defines the transfer of a indication of an event between gRS and the TimeSync Client."
To:
"This primitive is used to indicate the event of a receive frame passing through the gRS."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **90** *SC* **90.4.3.2.1** *P* **12** *L* **3** # 62

Marris, Arthur Cadence

Comment Type **E** *Comment Status* **D** *UNDETECTED or undefined*

Change 'any' to 'either'

SuggestedRemedy

Change 'any' to 'either'

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
See comment #65

Cl **90** *SC* **90.5** *P* **12** *L* **32** # 63

Marris, Arthur Cadence

Comment Type **E** *Comment Status* **D**

Change:
"responsible for generation of the TS_TX.indication and TS_RX.indication service primitives, respectively, across the TS service interface defined in 90.4"
To:
"which are responsible for generation of the TS_TX.indication and TS_RX.indication service primitives defined in 90.4"

SuggestedRemedy

Change:
"responsible for generation of the TS_TX.indication and TS_RX.indication service primitives, respectively, across the TS service interface defined in 90.4"
To:
"which are responsible for generation of the TS_TX.indication and TS_RX.indication service primitives defined in 90.4"

Proposed Response *Response Status* **W**

PROPOSED REJECT.
The original text reads fine.

Cl **90** *SC* **90.5.1** *P* **12** *L* **40** # 59

Anslow, Peter Ciena

Comment Type **E** *Comment Status* **D**

"instantied" isn't a word
same in 90.5.2

SuggestedRemedy

Change "instantied" to "instantiated" and also in 90.5.2

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **90** *SC* **90.5.1** *P* **12** *L* **44** # 75

Marris, Arthur Cadence

Comment Type **T** *Comment Status* **D** *UNDETECTED or undefined*

TS_TX.indication is not undefined otherwise.

SuggestedRemedy

Change:
"The service primitive across the TS service interface i.e. TS_TX.indication is generated only when the SFD sequence is detected on the transmit signals. Otherwise, the status of TS_TX.indication is undefined."
To:
"On detection of SFD by the TS_SFD_Detect_TX function TS_TX.indication(SFD) signals DETECTED otherwise it signals NOT DETECTED."

Make similar change in 90.5.2.

Proposed Response *Response Status* **W**

PROPOSED REJECT.
See comment #65.

Cl **90** *SC* **90.6** *P* **13** *L* **31** # 55

Anslow, Peter Ciena

Comment Type **E** *Comment Status* **D**

The two references to "Clause 30" should be black and links since Clause 30 is included in the draft.

Same for Clause 45 in 90.7

SuggestedRemedy

Change the two instances of "Clause 30" to black font and make them links.
Change the two instances of "Clause 45" in 90.7 to black font and make them links.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **90** *SC* **90.6** *P* **13** *L* **31** # 77

Marris, Arthur Cadence

Comment Type **T** *Comment Status* **D**

Should not say changes as this will be meaningless once the standard is published.

SuggestedRemedy

Change:
"Changes to Clause 30 for the optional support of TimeSync capability are summarized below:"
To:
"Objects defined in Clause 30 for the optional support of TimeSync capability are summarized below:"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **90** *SC* **90.7** *P* **13** *L* **45** # 78

Marris, Arthur Cadence

Comment Type **T** *Comment Status* **D** *Clause 45 changes summary*

Put a table in here and remove the word changes.

SuggestedRemedy

Change:
"Clause 45 describes the Management Data Input/Output (MDIO) Interface for any of the IEEE Std 802.3 compliant PHYs. Changes to Clause 45 for the optional support of TimeSync capability are summarized below:"
To:
"The optional MDIO capability described in Clause 45 defines several variables that provide TimeSync status information for the PMD. If MDIO is implemented, it will map MDIO TimeSync status variables to PMD status variables as shown in Table 90-X."

Insert table called "MDIO/PMD status variable mapping" and delete 90.8.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change:
"Clause 45 describes the Management Data Input/Output (MDIO) Interface for any of the IEEE Std 802.3 compliant PHYs. Changes to Clause 45 for the optional support of TimeSync capability are summarized below:"

To:
"The optional MDIO capability described in Clause 45 defines several variables that provide TimeSync status information for the PMD, as summarized below:".

At this time, there are no PMD status variables to which MDIO TimeSync status variables could map to. We agreed that we would not add anything to PMDs. We need further discussion on how to solve it. At the last meeting, we decided that MDIO would map to registers which is already described in the respective MIDO objects. Mapping to specific PMD status variables might be ommited.

Cl **90** *SC* **90.8** *P* **14** *L* **4** # 76

Marris, Arthur Cadence

Comment Type **T** *Comment Status* **D** *Clause 45 changes summary*

Delete 90.8

SuggestedRemedy

Delete 90.8 and add a table called "MDIO/PMD status variable mapping" to 90.7.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See comment #78

Cl **90** *SC* **90.9** *P* **14** *L* **16** # 80

Marris, Arthur Cadence

Comment Type **T** *Comment Status* **D**

Why not just call MP2 the MDI?

SuggestedRemedy

Delete the note at the top of page 15 as it is confusing and unnecessary. Replace the note with :
"MP2 is at the MDI."

Also change:
"namely a minimum and a maximum PHY latency values, observed over the number of conducted PHY latency measurements"
To:
"namely a minimum and a maximum PHY latency value"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

(1) change the first sentence in the note to read "MP2 is located at the MDI, hence the measured PHY latency in either transmit or receive direction should not include delay resulting from any length of the medium, regardless of the type of the medium used by the given PHY."

(2) as suggested by the commenter

Cl **90** *SC* **90.9** *P* **14** *L* **17** # 68

Anslow, Peter Ciena

Comment Type **T** *Comment Status* **D** *Measurement precision*

This says "The measurement of the PHY latency shall be conducted with 1 ns precision" To achieve this level of precision (0.1 UI for 100 Mbit/s), the definition of the two events needs to be much more precise than currently defined.

Presumably one event is the assertion of TS_TX.indication or TS_RX.indication by the gRS. What is the definition of the other event? This must define which edge passing the MDI starts or stops the delay measurement

SuggestedRemedy

Define the two times precisely. At MP1 this is the assertion of TS_TX.indication or TS_RX.indication. At MP2 define which edge passing the MDI defines the start or stop time.
Also, in Figure 90-3 it would be better to show MP1 at the TS service interface since this is where the event of the assertion of TS_TX.indication or TS_RX.indication is observable.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
See comment #79

"Also, in Figure 90-3 it would be better to show MP1 at the TS service interface since this is where the event of the assertion of TS_TX.indication or TS_RX.indication is observable." - it is not possible since the TSSI is not accessible in any way and hence does not allow to measure the transfer delay between this interface and the MDI. Suggest to leave the measurement between xMII and MDI.

Subject to further discussion, precise condition for current definition of MP1 could be provided on per MII type basis i.e. for MII, GMII and XGMII e.g. assertion of TX_EN for MII. That would allow people to measure the time it takes preamble to pass through the MII and PCS onto MDI. The only problem is that at the MDI interface, data is transmitted in the form of bit sequence, hence correlation would be needed.

Topic requires further discussion at the TF level.

Cl **90** *SC* **90.9** *P* **14** *L* **17** # 79

Marris, Arthur Cadence

Comment Type **T** *Comment Status* **D** *Measurement precision*

Just because the register can report 1 ns precision does not mean the PHY has to.

SuggestedRemedy

Delete "measurement of the PHY latency shall be conducted with 1 ns precision, while the"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Needs further discussion on what measurement precision is required (if any). We could skip that altogether and let the supplier provide specific measurement precision values.

Cl **90** *SC* **90.9** *P* **14** *L* **51** # 66

Anslow, Peter Ciena

Comment Type **T** *Comment Status* **D**

Since "the method used for the PHY latency measurement is outside the scope of this specification" the title of Figure 90-3 should not be "PHY latency measurement methodology"

SuggestedRemedy

Change the title to "PHY latency measurement points"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **90** *SC* **90.9** *P* **15** *L* **1** # 67

Anslow, Peter Ciena

Comment Type **T** *Comment Status* **D** *MP2 location*

This says "MP2 is located at the bottom of the MDI," but the MDI does not have a top and bottom, it is an interface point. See for instance Figure 52-2.

SuggestedRemedy

Change this to "MP2 is located at the MDI,"
Also, in Figure 90-3 show the dotted line for MP2 going through the centre of the MDI box to bring it in to line with the architecture diagrams such as Figures 21-1, 34-1, 44-1 etc.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **90** *SC* **99.10** *P* **16** *L* **1** # 54

Anslow, Peter Ciena

Comment Type **E** *Comment Status* **D**

The numbering still changes to 99 part way through clause 90.
See comment 52 against D 0.21

SuggestedRemedy

99.10 onwards should be re-numbered 90.10 etc.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.