Cl **9** *SC* **9.4.3.3.2** *P* **56** *L* **38** # 21

Tse, Richard Microchip Technology

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

Condition for generation of Tx_num_blk_change needs to be described

SuggestedRemedy

Also need to update name of Tx_num_blk_change to Tx_num_unit_change.

Tx_num_unit_change is generated for every Tx xMII word. It indicates what the change in the Tx PHY's path data delay will be due to AM insertion, CWM insertion, and/or Idle rate adaptation insertion/removal" for the xMII word.
Tx_num_unit_change is a 16-bit signed integer, whose value ranges from -32768 to +32767.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Update name of Tx_num_blk_change to Tx_num_unit_change (global change)

Use the following text:
Tx_num_unit_change is generated for every Tx xMII word. It indicates the change in the Tx PHY's path data delay due to AM insertion, CWM insertion, and/or Idle rate adaptation insertion/removal for the xMII word.
Tx_num_unit_change is a 16-bit signed integer, with the value ranging from -32768 to +32767.

==========

Action Item for Richard to supply a comment against the next draft to replace any remaining references to "block" with "word" and consider whether finer resolution (e.g., 1/64 of xMII word) may be needed.

Cl **9** *SC* **9.4.3.4.2** *P* **57** *L* **6** # 25

Tse, Richard Microchip Technology

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

Condition for generation of Rx_num_blk_change needs to be described

SuggestedRemedy

Also need to update name of Rx_num_blk_change to Rx_num_unit_change.

Rx_num_unit_change is generated for every Rx xMII word. It indicates what the change in the Rx PHY's path data delays was due to AM inemoval, CWM removal, and/or Idle rate adaptation insertion/removal" for the Rx xMII word.
Rx_num_unit_change is a 16-bit signed integer, whose value ranges from -32768 to +32767.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Update name of Rx_num_blk_change to Rx_num_unit_change (global change)

Use the following text:
Rx_num_unit_change is generated for every Rx xMII word. It indicates the change in the Rx PHY's path data delay due to AM removal, CWM removal, and/or Idle rate adaptation insertion/removal for the Rx xMII word.
Rx_num_unit_change is a 16-bit signed integer, with the value ranging from -32768 to +32767.

Cl **45** *SC* **45.2.1.146** *P* **30** *L* **11** # 27

Lv, Jingfei Huawei

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

IEEE 802.3bf has been combined into a full version of IEEE 802.3, and when IEEE 802.3cx is published and after some time, IEEE 802.3cx could be merged into another version of 802.3.

So, it could be not suitable to use 802.3bf or 802.3cx.

SuggestedRemedy

Propose that the IEEE 802.3bf could be replaced with "the clause 90 of IEEE 802.3-2018", and IEEE 802.3cx could be replaced with "the clause 90 of IEEE 802.3-20xx"

If this is accpeted, need to do the same change for the table and other sub-clauses of Clause 45.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace IEEE 802.3bf with "IEEE Std 802.3-2018, Clause 90", and IEEE 802.3cx with "IEEE Std 802.3, Clause 90" (global change)

Cl **45** *SC* **45.2.1.147** *P* **31** *L* **8** # 28

Lv, Jingfei Huawei

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

How to confirm the sets of registers to be valid, based on table 45-110.

My understanding is, if the register 1.1800.15 is 0, the registers 1.1801, 1.1802, 1.1803 and 1.1804 are valid; otherwise if the gister 1.1800.15 is 1, these registers are invalid. If the register 1.1800.14 is 0, the registers 1.1809 and 1.1810 are valid; otherwise they are invalid.

Hope to make it more clear.

SuggestedRemedy

Propose to clarify "both sets of registers are valid (see Table 45-110)"

Response *Response Status* **C**

REJECT.

Comment position is against D0.4

Registers 1.1801, 1.1802, 1.1803 and 1.1804 are valid and always there for both versions. If .3cx is indicated as supported,1.1809 and 1.1810 and then added.

Existing text is clear IMO and does not require any additional changes

Cl **45** *SC* **45.2.1.147** *P* **31** *L* **10** # 29

Lv, Jingfei Huawei

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

Based on my understanding, the sentence means, the corresponding value is invalid, but not included.

Propose to rephrase this sentence.

SuggestedRemedy

Propose to change

"then the corresponding value is not included in the maximum PMA/PMD transmit path data delay"

as

"then the maximum PMA/PMD transmit path data delay is not provided."

If this is accepted, need to do the same change for the next paragraph and other sub-clauses of Clause 46

Response *Response Status* **C**

REJECT.

Comment position is against D0.4

Proposed change is not correct. Maximum PMA/PMD transmit path data delay is provided either way, it might just not have sub-ns portion of it. All the target sentence says is that if the encoded value does not make any sense, do not use it.

Cl **45** *SC* **45.2.2.21** *P* **33** *L* **43** # 30

Lv, Jingfei Huawei

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

The status of WIS layer should be bit 2 in Register 2.1 (see 45.2.2.2.2)

SuggestedRemedy

Propose to change

"bit 2 in Register 1.1 (see 45.2.1.2.4)"

as

"bit 2 in Register 2.1 (see 45.2.2.2.2)"

Same change for Clause 45.2.2.2.22

Response *Response Status* **C**

ACCEPT.

Comment position is against D0.4.

It is also an error in published 802.3-2018

Make link live

Cl **45** *SC* **45.2.3.66** *P* **36** *L* **15** # 31

Lv, Jingfei Huawei

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

"PCS does not support or support multi-PCS lane path data delay mechanism" are not clear.

My understanding is, this register will indicate whether PCS support the report of multi-PCS lane path data delay"

SuggestedRemedy

Propose to change as,

0 = PCS does not support the report of multi-PCS lane path data delay
1 = PCS supports the report of multi-PCS lane path data delay

Response *Response Status* **C**

ACCEPT.

Comment position is against D0.4.

Cl **45** *SC* **45.2.3.67** *P* **37** *L* **1** # 32

Lv, Jingfei Huawei

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

The status of PCS layer should be bit 2 in Register 3.1 (see 45.2.3.2.7)

SuggestedRemedy

Propose to change

"bit 2 in Register 1.1 (see 45.2.1.2.4)"

as

"bit 2 in Register 3.1 (see 45.2.3.2.7)"

Same change for Clause 45.2.3.68

Response *Response Status* **C**

ACCEPT.

Comment position is against D0.4.

It is also an error in published 802.3-2018

Make link live

Cl **45** *SC* **45.2.3.68a** *P* **38** *L* **43** # 33

Lv, Jingfei Huawei

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

The configuration of 3.1813.13 (timestamp reference point at SFD) and 3.1813.12 (timestamp reference point at the first symbol after the SFD) can not be 1 at the same time.

Propose to add a note at the end.

SuggestedRemedy

Propose to add one sentence at the end.

"Note, the configuration of Register 3.1813.12 and 3.1813.13 can not be 1 at the same time.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment position is against D0.4.

Collapse 3.1813.13 and 3.1813.12 into a single register "Message Timestamp Point", with values of
0 = PCS is configured to use the message timestamp point at the beginning of the SFD
1 = PCS is configured to use the message timestamp point at the beginning of the first symbol after at SFD

Update text in 45.2.3.68a and Table 45-237a accordingly

Cl **45** *SC* **45.2.3.68a** *P* **42** *L* **22** # 13

Tse, Richard Microchip Technology

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

"timestamp reference point" should be "message timestamp point"

SuggestedRemedy

This change also applies to the descriptions of the registers in Table 45-237a.
The register names in the Table should be changed as follows:
-from "Timestamp reference SFD" to "Message timestamp point, SFD"
-from "Timestamp reference, first symbol after SFD" to "Message timestamp point, first symbol after SFD"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #33 for changes

Cl **45** *SC* **45.2.4.29** *P* **40** *L* **6** # 34

Lv, Jingfei Huawei

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

The status of PHY XS transmit layer should be bit 2 in Register 4.1 (see 45.2.4.2.7)

SuggestedRemedy

Propose to change

"bit 2 in Register 1.1 (see 45.2.1.2.4)"

as

"bit 2 in Register 4.1 (see 45.2.4.2.7)"

Response *Response Status* **C**

ACCEPT.

Comment position is against D0.4.

It is also an error in published 802.3-2018

Make link live

Cl **45** *SC* **45.2.4.30** *P* **41** *L* **6** # 35

Lv, Jingfei Huawei

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

The status register of PHY XS receive layer is not found.

Need to double check.

SuggestedRemedy

Propose to check the status register of PHY XS receive layer.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert an editorial note to explore options for link status indication for PHY XS.

Cl **45** *SC* **45.2.5.29** *P* **42** *L* **45** # 36

Lv, Jingfei Huawei

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

The status register of DTE XS transmit layer is not found.

Need to double check.

SuggestedRemedy

Propose to check the status register of DTE XS transmit layer.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert an editorial note to explore options for link status indication for DTE XS.

Cl **45** *SC* **45.2.5.30** *P* **43** *L* **45** # 37

Lv, Jingfei Huawei

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

The status of DTE XS receive layer should be bit 2 in Register 5.1 (see 45.2.5.2.7)

SuggestedRemedy

Propose to change

"bit 2 in Register 1.1 (see 45.2.1.2.4)"

as

"bit 2 in Register 5.1 (see 45.2.5.2.7)"

Response *Response Status* **C**

ACCEPT.

Comment position is against D0.4.

It is also an error in published 802.3-2018

Make link live

Cl **45** *SC* **45.2.6.15** *P* **45** *L* **38** # 38

Lv, Jingfei Huawei

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

The status register of TC layer is not found.

Need to double check.

SuggestedRemedy

Propose to check the status register of TC layer.

Same for the Clause 45.2.6.16

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert an editorial note to explore options for link status indication for DTE XS.

Cl **90** *SC* **90.4.2** *P* **51** *L* **13** # 39

Lv, Jingfei Huawei

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

Since TX_num_blk_change and RX_num_blk_change are newly defined, these two signals may be also listed.

SuggestedRemedy

Propose to add

"TX_num_blk_change
RX_num_blk_change"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment position is against D0.4.

Add to list of primitives:
- TX_num_unit_change
- RX_num_unit_change

Cl **90** *SC* **90.4.3.1.1** *P* **51** *L* **25** # 40

Lv, Jingfei Huawei

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

Since 802.3cx includes the first symbol after SFD as a timestamp generation point. Should TS_TX.indication include the detection of the first symbol after SFD?

SuggestedRemedy

Propose to discuss this comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #14

Cl **90** *SC* **90.4.3.1.1** *P* **55** *L* **25** # 14

Tse, Richard Microchip Technology

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

SFD should be changed to MTP, which stands for message timestamp point

SuggestedRemedy

Also mention in this sub-clause that the message timestamp point selection is via the Message timestamp point register bits (SFD per register 3.1813.13 or first symbol after SFD per register 3.1813.12), which are described in 45.2.3.68a.

Note that I am using my suggested new name, "Message timestamp point", for the register bits in subclause 45.2.3.68a.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change 90.4.3.1.1 to the following. Note that I am using the suggested new name, "Message timestamp point", for the register bits in subclause 45.2.3.68a.

"The semantics of the primitive are as follows:

TS_TX.indication(SFD, MM, MTPS)

The SFD parameter can take only one possible value, DETECTED. When asserted (SFD = DETECTED),
the TimeSync Client is notified that a valid message timestamp point (MTP) was detected by the gRS sublayer TS_SFD_Detect_TX function (see 90.5.1) in the xMII transmit signals.

The message timestamp point selection (MTPS) parameter can take two possible values, SFD and FIRST_SYMBOL - see registers 3.1813.12 and 3.1813.13 in 45.2.3.68a. When set to SFD (MTPS = SFD), the beginning of the SFD is used as the message timestamp point. When set to FIRST_SYMBOL (MTPS = FIRST_SYMBOL), the beginning of the first symbol after the SFD is used as the message timestamp point.

The MM parameter is mandatory when the MAC Merge sublayer (see Clause 99) is instantiated and the SFD is chosen as the message timestamp point (see registers 3.1813.12 and 3.1813.13 in 45.2.3.68a). The MM parameter, when present, can take one of two possible values, i.e., PMAC or EMAC. The value EMAC indicates the SMD-E (SFD) value has been detected at the xMII. The value PMAC indicates that an SMD-S value has been detected at the xMII (see Table 99-1). The MM parameter is not provided when MAC Merge sublayer is not instantiated or when the SFD is not chosen as the message timestamp point."

Cl **90** *SC* **90.4.3.1.2** *P* **55** *L* **39** # 15

Tse, Richard Microchip Technology

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

SFD should be changed to MTP, which stands for message timestamp point

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change 90.4.3.1.2 to the following:

"This primitive is generated by the gRS sublayer in response to detection of a valid message timestamp point in the data stream transmitted across the xMII transmit signals. Specific conditions for generation of this primitive are described in 90.5.1."

Cl **90** *SC* **90.4.3.3** *P* **56** *L* **23** # 18

Tse, Richard Microchip Technology

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

For lower Ethernet rates, the size of an Idle is smaller than one block. Thus, the unit of delay for this primitive should be smaller than one block.

SuggestedRemedy

It appears that the smallest unit that is needed is one xMII word. So, this primitive could be renamed Tx_num_unit_change and "unit" could be described as being equal to the size of one xMII word.
The change should be propagated throughout the document and to Figures 90-1 and 90-2.

In 90.4.3.3.1, change "Tx_num_blk_change(BLK_CNT)" to "Tx_num_unit_change(UNIT_CNT)".

In 90.4.3.3.1, change

"The BLK_CNT parameter indicates how many blocks of delay change are to be performed in the Tx PHY (e.g., for AM insertion, CWM insertion, or Idle rate adaptation removal)."

to

"The UNIT_CNT parameter indicates how many units of delay change are to be performed in the Tx PHY (e.g., for AM insertion, CWM insertion, or Idle rate adaptation insertion/removal), where one unit is equivalent to the size of one word at the xMII."

Response *Response Status* **C**

ACCEPT.

Cl **90** *SC* **90.4.3.3** *P* **56** *L* **25** # 19

Tse, Richard Microchip Technology

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

"TBD" needs to be replaced and be specific regarding the direction of the transfer

SuggestedRemedy

Change

"This primitive defines the transfer of {TBD} between gRS and the TimeSync Client."

to

"This primitive defines the transfer of Tx PHY path data delay variation information from the gRS to the TimeSync Client."

Response *Response Status* **C**

ACCEPT.

Cl **90** *SC* **90.4.3.3.1** *P* **52** *L* **33** # 41

Lv, Jingfei Huawei

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

If it's required to report how many blocks of delay change are to be performend, it possibly needs to define the time slot, from when to when.

SuggestedRemedy

Propose to discuss this comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #20

Cl **90** *SC* **90.4.3.3.1** *P* **56** *L* **34** # 20

Tse, Richard Microchip Technology

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

Idle rate adaptation can cause an idle to be either inserted or removed in the Tx PHY

SuggestedRemedy

As per my earlier comment, change

"The BLK_CNT parameter indicates how many blocks of delay change are to be performed in the Tx PHY (e.g., for AM insertion, CWM insertion, or Idle rate adaptation removal)."

to

"The UNIT_CNT parameter indicates how many units of delay change are to be performed in the Tx PHY (e.g., for AM insertion, CWM insertion, or Idle rate adaptation insertion/removal), where one unit is equivalent to the size of one word at the xMII."

Response *Response Status* **C**

ACCEPT.

Cl **90** *SC* **90.4.3.4** *P* **56** *L* **44** # 22

Tse, Richard Microchip Technology

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

For lower Ethernet rates, the size of an Idle is smaller than one block. Thus, the unit of delay for this primitive should be smaller than one block.

SuggestedRemedy

It appears that the smallest unit that is needed is one xMII word. So, this primitive could be renamed Rx_num_unit_change and "unit" could be described as being equal to the size of one xMII word.
The change should be propagated throughout the document and to Figures 90-1 and 90-2.

In 90.4.3.4.1, change "Rx_num_blk_change(BLK_CNT)" to "Rx_num_unit_change(UNIT_CNT)".

In 90.4.3.4.1, change
"The BLK_CNT parameter indicates how many blocks of delay change were performed in the Rx PHY (e.g., for AM removal, CWM removal, or Idle rate adaptation insertion)."

to

"The UNIT_CNT parameter indicates how many units of delay change are to be performed in the Rx PHY (e.g., for AM removal, CWM removal, or Idle rate adaptation insertion/removal), where one unit is equivalent to the size of one word at the xMII."

Response *Response Status* **C**

ACCEPT.

Cl **90** *SC* **90.4.3.4** *P* **56** *L* **46** # 23

Tse, Richard Microchip Technology

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

"TBD" needs to be replaced and be specific regarding the direction of the transfer

SuggestedRemedy

Change

"This primitive defines the transfer of {TBD} between gRS and the TimeSync Client."

to

"This primitive defines the transfer of Rx PHY path data delay variation information from the gRS to the TimeSync Client."

Response *Response Status* **C**

ACCEPT.

Cl **90** *SC* **90.4.3.4.1** *P* **57** *L* **1** # 24

Tse, Richard Microchip Technology

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

Idle rate adaptation can cause an idle to be either inserted or removed in the Rx PHY

SuggestedRemedy

As per my earlier comment, change

"The BLK_CNT parameter indicates how many blocks of delay change were performed in the Rx PHY (e.g., for AM removal, CWM removal, or Idle rate adaptation insertion)."

to

"The UNIT_CNT parameter indicates how many units of delay change were performed in the Rx PHY (e.g., for AM removal, CWM removal, or Idle rate adaptation insertion/removal), where one unit is equivalent to the size of one word at the xMII."

Response *Response Status* **C**

ACCEPT.

Cl **90** *SC* **90.4.4.1.1** *P* **56** *L* **1** # 16

Tse, Richard Microchip Technology

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

SFD should be changed to MTP, which stands for message timestamp point

SuggestedRemedy

Also mention in this sub-clause that the message timestamp point selection is via the Timestamp reference register bits (SFD per register 3.1813.13 or first symbol after SFD per register 3.1813.12), which are described in 45.2.3.68a.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change 90.4.3.2.1 to the following. Note that I am using the suggested new name, "Message timestamp point", for the register bits in subclause 45.2.3.68a.

"The semantics of the primitive are as follows:

TS_RX.indication(SFD, MM, MTPS)

The SFD parameter can take only one possible value, DETECTED. When asserted (SFD = DETECTED),
the TimeSync Client is notified that a valid message timestamp point (MTP) was detected by the gRS sublayer TS_SFD_Detect_RX function (see 90.5.2) in the xMII receive signals.

The message timestamp point selection (MTPS) parameter can take two possible values, SFD and FIRST_SYMBOL - see registers 3.1813.12 and 3.1813.13 in 45.2.3.68a. When set to SFD (MTPS = SFD), the beginning of the SFD is used as the message timestamp point. When set to FIRST_SYMBOL (MTPS = FIRST_SYMBOL), the beginning of the first symbol after the SFD is used as the message timestamp point.

The MM parameter is mandatory when the MAC Merge sublayer (see Clause 99) is instantiated and the SFD is chosen as the message timestamp point (see registers 3.1813.12 and 3.1813.13 in 45.2.3.68a). The MM parameter, when present, can take one of two possible values, i.e., PMAC or EMAC. The value EMAC indicates the SMD-E (SFD) value has been detected at the xMII. The value PMAC indicates that an SMD-S value has been detected at the xMII (see Table 99-1). The MM parameter is not provided when MAC Merge sublayer is not instantiated or when the SFD is not chosen as the message timestamp point."

Cl **90** *SC* **90.4.4.1.2** *P* **56** *L* **15** # 17

Tse, Richard Microchip Technology

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

SFD should be changed to MTP, which stands for message timestamp point

SuggestedRemedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change 90.4.3.2.2 from

"This primitive is generated by the gRS sublayer in response to detection of a valid SFD in the data stream received across the xMII receive signals. Specific conditions for generation of this primitive are described in 90.5.2."

to the following:

"This primitive is generated by the gRS sublayer in response to detection of a valid message timestamp point in the data stream received across the xMII receive signals. Specific conditions for generation of this primitive are described in 90.5.2."

Cl **90** *SC* **90.5** *P* **57** *L* **20** # 26

Tse, Richard Microchip Technology

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

The TS_SFD_Detect_TX and TS_SFD_Detect_RX functions in all clauses and in Figure 90-2 need to be renamed to reflect the new symbol-after-SFD message timestamp point.

SuggestedRemedy

Rename TS_SFD_Detect_TX and TS_SFD_Detect_RX to TS_MTP_Detect_TX and TS_MTP_Detect_RX, where MTP stands for message timestamp point, in Figure 90-2 and throughout the document.
The "SFD=DETECTED" events also need to be renamed to "MTP=DETECTED".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Rename TS_SFD_Detect_TX and TS_SFD_Detect_RX to TS_MTP_Detect_TX and TS_MTP_Detect_RX, where MTP stands for message timestamp point, in Figure 90-2 and throughout the document.

Cl **90** *SC* **90.5.1** *P* **53** *L* **25** # 42

Lv, Jingfei Huawei

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

The output of TS_SFD_Detect_TX function also includes TX_num_blk_change. Should the clause 90.5.1 define the generation of TX_num_blk_change?

SuggestedRemedy

Propose to discuss this comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert an editorial note under Figure 90-2 indicating that the use of TX_num_blk_change / RX_num_blk_change primitives needs to be revisted due to the lack of access to PCS register data from RS layer. Changes to xMII may be needed.

Cl **90** *SC* **90.5.2** *P* **53** *L* **40** # 43

Lv, Jingfei Huawei

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

The output of TS_SFD_Detect_RX function also includes RX_num_blk_change. Should the clause 90.5.2 define the generation of RX_num_blk_change?

SuggestedRemedy

Propose to discuss this comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #42

Cl **90** *SC* **90.6** *P* **54** *L* **41** # 44

Lv, Jingfei Huawei

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

Need to add 3.1813 (TimeSync PCS configuration register)

SuggestedRemedy

Propose to add 3.1813, e.g.,

"1.1800, 2.1800, 3.1800, 3.1813, 4.1800, 5.1800 and 6.1800"

Response *Response Status* **C**

ACCEPT.

Comment location is against D0.4

Cl **90** *SC* **90.6** *P* **54** *L* **45** # 45

Lv, Jingfei Huawei

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

Need to add sub-nanosecond registers for each layer

SuggestedRemedy

Propose to add the sub-nanosecond registers of each layer

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment location is against D0.4

Add correct references to sub-ns registers for each sublayer in bullets - Table 90-1 does not need changes at this time.

Cl **90** *SC* **90.6** *P* **54** *L* **51** # 46

Lv, Jingfei Huawei

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

Need to add sub-nanosecond registers for each layer

SuggestedRemedy

Propose to add the sub-nanosecond registers of each layer

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Comment location is against D0.4

See comment #45

Cl **90** *SC* **90.7** *P* **56** *L* **38** # 47

Lv, Jingfei Huawei

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

In order to make more clear, propose to add one sentence to indicate that, the dynamic delay of AM/CWM insertion or removal is reported by the TX_num_blk_change and RX_num_blk_change events

SuggestedRemedy

Propose to add one sentence at the end.

"The dynamic delay variance is represented and reported by the event TX_num_blk_change and RX_num_blk_change."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add the following sentence: "The dynamic delay variance is reported by the TX_num_unit_change and RX_num_unit_change primitives."

Cl **90** *SC* **90.7** *P* **56** *L* **51** # 48

Lv, Jingfei Huawei

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

If the transmit skew is minimized, or ideally to zero, the effect of time error should be also minimized or ideally to zero.

Propose to add sentences about the effect of time error.

SuggestedRemedy

Propose to add a phrase after the sentence,

"Transmit skew should thus be minimized, ideally to zero, and this would be an ideal case for the accuracy of TimeSync Client".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add the following sentence at the end of the para.

"Transmit skew is expected to be minimized, ideally to zero, representing an ideal case for the accuracy of TimeSync Client".

Cl **90** *SC* **90.7** *P* **56** *L* **52** # 49

Lv, Jingfei Huawei

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

It seems that the NOTE 4 does not aim to address the case "If the transmit skew is not zero". So, it may be inappropriate to refer to NOTE 4.

SuggestedRemedy

Propose to remove (see NOTE 4)

Response *Response Status* **C**

REJECT.

It does reference to transmit skew

Cl **90** *SC* **90.7** *P* **57** *L* **33** # 52

Lv, Jingfei Huawei

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

“For example, the TimeSync Client may need to subtract the value of the delay associated with the TS_SFD_Detect_TX function from the sum of the minimum transmit data delay values reported by
individual MMD(s)”

Based on the equation described in IEEE 1588-2008 Clause 7.3.4.2, the TX side should add the egressLatency, not subtract.

SuggestedRemedy

Propose to change the sentence as,

"For example, the TimeSync Client may need to add the value of the delay associated with the TS_SFD_Detect_TX function from the sum of the minimum transmit data delay values reported by
individual MMD(s)"

If this comment is accepted, change the word "add" of Line 35 of page 57 to be "subtract".

Response *Response Status* **C**

ACCEPT.

Cl **90** *SC* **90.7** *P* **57** *L* **34** # 53

Lv, Jingfei Huawei

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

"For example, the TimeSync Client may need to subtract the value of the delay associated with the TS_SFD_Detect_TX function from the sum of the minimum transmit data delay values reported by
individual MMD(s)"

In order to reduce the effect of variable latency, my understanding is to compensate the mean of the minimum and maximum data delay instead of the minimum delay.

SuggestedRemedy

Propose to change the sentence as,

""For example, the TimeSync Client may need to subtract the value of the delay associated with the TS_SFD_Detect_TX function from the mean of the sum of the minimum transmit data delay values and the sum of the maximum transmit data delay reported by
individual MMD(s)"

If this is accepted, modify a similar way for line 36 about RX side.

Response *Response Status* **C**

ACCEPT.

Cl **90** *SC* **90.7** *P* **57** *L* **40** # 50

Lv, Jingfei Huawei

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

NOTE 4 is one specific case that the transmit skew is strictly additive to any medium skew.

Propose to move NOTE 4 at the end of the paragraph addressing the lane skew on a multilane transmitter.

SuggestedRemedy

Propose to move NOTE 4 at the end of line 2 of page 57, e.g.,

"For specific cases when transmit skew is strictly additive to any medium skew, it is appropriate to report the transmit path delay as if the message timestamp point departed the MDI output on the last-departing lane"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Move NOTE 4 at the end of line 2 of page 61.

Cl **90** *SC* **90.7** *P* **57** *L* **40** # 51

Lv, Jingfei Huawei

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

For the case of NOTE 4, if the transmit path delay is reported as if the message timestamp point departed the MDI output on the last-departing lane, whether the effect of time error will be zero?

SuggestedRemedy

Propose to discuss this comment, and add clarification based on meeting results.

Response *Response Status* **C**

REJECT.

No specific changes proposed

Cl **90** *SC* **90.7** *P* **60** *L* **23** # 56

Tse, Richard Microchip Technology

Comment Type **TR** *Comment Status* **A** *post-deadline*

Idle rate adaptation should not be limited to those corresponding to AM/CWM insertion

SuggestedRemedy

Change paragraph from

"For a PHY that inserts alignment markers or codeword markers and performs rate adaptation (e.g., removes Idles) to accommodate the AM or CWM insertion, the transmit path data delay measurement starting point (the PTP message timestamp point at the xMII input) should be adjusted to account for the AM or CWM insertion and the corresponding rate adaptation that occurs in the PHY (between the xMII input and the MDI output). Based on this adjustment, the result is a transmit path data delay measurement that appears as if the AM or CWM insertion and the corresponding rate adaptation had been performed before the Tx xMII."

to

"For a PHY that inserts alignment markers or codeword markers and/or performs rate adaptation (e.g., adds/removes Idles), the transmit path data delay measurement starting point (the PTP message timestamp point at the xMII input) should be adjusted to account for the AM or CWM insertion and any Idle addition/removal that occurs in the PHY (between the xMII input and the MDI output). Based on this adjustment, the result is a transmit path data delay measurement that appears as if the AM or CWM insertion and any Idle addition/removal had been performed before the Tx xMII."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change paragraph from

"For a PHY that inserts alignment markers or codeword markers and performs rate adaptation (e.g., removes Idles) to accommodate the AM or CWM insertion, the transmit path data delay measurement starting point (the PTP message timestamp point at the xMII input) should be adjusted to account for the AM or CWM insertion and the corresponding rate adaptation that occurs in the PHY (between the xMII input and the MDI output). Based on this adjustment, the result is a transmit path data delay measurement that appears as if the AM or CWM insertion and the corresponding rate adaptation had been performed before the Tx xMII."

to

"For a PHY that inserts alignment markers or codeword markers and/or performs rate adaptation (e.g., adds/removes Idles), the transmit path data delay measurement starting point (the PTP message timestamp point at the xMII input) should be adjusted to account for the AM or CWM insertion and any Idle insertion/removal that occurs in the PHY (between the xMII input and the MDI output). Based on this adjustment, the result is a transmit path data delay measurement that appears as if the AM or CWM insertion and any Idle insertion/removal had been performed before the Tx xMII."

Cl **90** *SC* **90.7** *P* **60** *L* **31** # 57

Tse, Richard Microchip Technology

Comment Type **TR** *Comment Status* **A** *post-deadline*

Idle rate adaptation should not be limited to those corresponding to AM/CWM removal

SuggestedRemedy

Change paragraph from

"For a PHY that removes alignment markers or codeword markers and/or performs rate adaptation (e.g., adds/removes Idles), the receive path data delay measurement ending point (the PTP message timestamp point at the xMII output) should be adjusted to account for AM or CWM removal and the corresponding rate adaptation that occurs in the PHY (between the MDI input and xMII output). Based on this adjustment, the result is a receive path data delay measurement that appears as if the AM or CWM removal and the corresponding rate adaptation had been performed after the Rx xMII."

to

"For a PHY that removes alignment markers or codeword markers and/or performs rate adaptation (e.g., adds/removes Idles), the receive path data delay measurement ending point (the PTP message timestamp point at the xMII output) should be adjusted to account for AM or CWM removal and any Idle addition/removal that occurs in the PHY (between the MDI input and xMII output). Based on this adjustment, the result is a receive path data delay measurement that appears as if the AM or CWM removal and any Idle addition/removal had been performed after the Rx xMII."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change paragraph from

"For a PHY that removes alignment markers or codeword markers and/or performs rate adaptation (e.g., adds/removes Idles), the receive path data delay measurement ending point (the PTP message timestamp point at the xMII output) should be adjusted to account for AM or CWM removal and the corresponding rate adaptation that occurs in the PHY (between the MDI input and xMII output). Based on this adjustment, the result is a receive path data delay measurement that appears as if the AM or CWM removal and the corresponding rate adaptation had been performed after the Rx xMII."

to

"For a PHY that removes alignment markers or codeword markers and/or performs rate adaptation (e.g., adds/removes Idles), the receive path data delay measurement ending point (the PTP message timestamp point at the xMII output) should be adjusted to account for AM or CWM removal and any Idle insertion/removal that occurs in the PHY (between the MDI input and xMII output). Based on this adjustment, the result is a receive path data delay measurement that appears as if the AM or CWM removal and any Idle insertion/removal had been performed after the Rx xMII."

Cl **90** *SC* **90.7** *P* **60** *L* **38** # 55

Tse, Richard Microchip Technology

Comment Type **TR** *Comment Status* **A** *post-deadline*

Idle rate adaptation should not be limited to those corresponding to AM/CWM insertion/removal

SuggestedRemedy

Change paragraph from

"The dynamic delay variance of AM or CWM insertion or removal or that of the corresponding rate adaptation is not to be included in the TimeSync PCS transmit path data delay or the TimeSync PCS receive path data delay registers."

to

"The dynamic delay variance of AM, CWM, or Idle insertion or removal is not to be included in the TimeSync PCS transmit path data delay or the TimeSync PCS receive path data delay registers."

Response *Response Status* **C**

ACCEPT.

Cl **90** *SC* **90.8.3** *P* **59** *L* **26** # 54

Lv, Jingfei Huawei

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

Should the TX_num_blk_change and RX_num_blk_change events be added in this table.

SuggestedRemedy

Propose to discuss this comment.

Response *Response Status* **C**

REJECT.

There are no requirements associated with these primitives right now