Cl **168** *SC* **168.8.1** *P* **74** *L* **3** # 1

Maguire, Valerie — Copperopolis; CME Consulting

Comment Type **E** *Comment Status* **X** *Editorial*

No need to be redundant by mentioning interfaces after TCI. Remove reference to return loss from the insertion loss clause. Language could be improved.

SuggestedRemedy

Replace, "The mixing segment insertion loss is specified including any through-path insertion loss for the TCIs. See 168.9.1 for specification of the insertion loss and return loss (reflections) at the TCI interfaces." with "Mixing segment insertion loss includes any TCI insertion loss. See 168.9.1.1 for specification of TCI insertion loss."

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **3** *L* **5** # 2

Maguire, Valerie — Copperopolis; CME Consulting

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

Consider capitalization here as Powered Device is written as a proper noun elsewhere in the document.

SuggestedRemedy

Replace, "multiple powered devices" with "multiple Powered Devices".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **168** *SC* **168.4.2.1** *P* **51** *L* **48** # 3

Maguire, Valerie — Copperopolis; CME Consulting

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

Pin assignments are generally associated with conductors (e.g., see Table 169-2), not wires. For transmission, "balanced pair of conductors" is more descriptiove and meaningful than "wire pair".

SuggestedRemedy

Grant Editorial license to do a global search and replace of existing "wire" references with an appropriate "conductor" reference. E.g., Replace "wire pair" with "conductor pair" on p51 L48, replace "two-wire" with "two-conductor" on p73 L12, replace "two-wire" with "two-conductor" on p75 L22, replace "2 wires" with "2 conductors" in Figure 168-18, replace "two-wire" with "two-conductor" on p75 L51, replace "any wire to the other wire" with "any conductor to the other conductor" on p76 L33 and in PICS TC16, replace "2-wire" with "2-conductor" on p88 L23 (Editor's Note), and replace "two-wire" with "two-conductor" on p90 L9.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **168** *SC* **168.6.3** *P* **69** *L* **36** # 4

Maguire, Valerie — Copperopolis; CME Consulting

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

Easy is too subjective here… Improve language.

SuggestedRemedy

Replace, "To allow an easy synchronization of the measurement equipment," with "To facilitate synchronization of the measurement equipment,".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **168** *SC* **168.8.2** *P* **74** *L* **20** # 5

Maguire, Valerie — Copperopolis; CME Consulting

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

Align structure with clause 168.8.1.

SuggestedRemedy

Insert the following two sentences as a new paragraph before the mixing segment return loss specification, "Mixing segment return loss includes any TCI return loss. See 168.9.1.2 for specification of TCI return loss."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **168** *SC* **168.9.1.1** *P* **76** *L* **11** # 6

Maguire, Valerie — Copperopolis; CME Consulting

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

Insertion loss is not a proper noun.

SuggestedRemedy

Replace, "168.9.1.1 TCI Insertion Loss" with "168.9.1.1 TCI insertion loss"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **168** SC **168.9.1.2** P **76** L **17** # 7

Maguire, Valerie — Copperopolis; CME Consulting

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

Return loss is not a proper noun.

SuggestedRemedy

Replace, "168.9.1.2 TCI Return Loss" with "168.9.1.2 TCI return loss"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** SC **169.4.6** P **97** L **39** # 8

Maguire, Valerie — Copperopolis; CME Consulting

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

Delete column with no information.

SuggestedRemedy

Delete the "Additional Information" column in Table 169.4.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** SC **169.4.7** P **98** L **13** # 9

Maguire, Valerie — Copperopolis; CME Consulting

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

Remove unecessary parameter capitalizations in Table 169-5.

SuggestedRemedy

Replace, "Output Slew Rate" with "Output slew rate" (Item 3). Replace, "MPD Maintain power" with "MPD maintain power" (Item 7).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** SC **169.4.7** P **98** L **3** # 10

Maguire, Valerie — Copperopolis; CME Consulting

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

Delete column with no information.

SuggestedRemedy

Delete the "Additional Information" column in Table 169.5.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** SC **169.5.3** P **100** L **41** # 11

Maguire, Valerie — Copperopolis; CME Consulting

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

Follow Style guidelines.

SuggestedRemedy

Replace, "MPD State Diagram" with "MPD state diagram".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** SC **169.5.3.3** P **102** L **2** # 12

Maguire, Valerie — Copperopolis; CME Consulting

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

MPS is not capitalized in 169.4.11.1

SuggestedRemedy

Replace, "Maintain Power Signature" with "maintain power signature".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** SC **169.5.4** P **105** L **31** # 13

Maguire, Valerie — Copperopolis; CME Consulting

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

Follow Style guidelines.

SuggestedRemedy

Replace, "MPD Discovery." with "MPD discovery".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** SC **169.5.3.6** P **105** L **24** # 14

Maguire, Valerie — Copperopolis; CME Consulting

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

Follow Style guidelines.

SuggestedRemedy

Replace, "Top Level MPD state diagram" with "Top level MPD state diagram".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** SC **169.5.5** P **106** L **2** # 15

Maguire, Valerie — Copperopolis; CME Consulting

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

Follow Style guidelines.

SuggestedRemedy

Replace, "MPD Power" with "MPD power".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** SC **169.5.5.1** P **106** L **45** # 16

Maguire, Valerie — Copperopolis; CME Consulting

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

Follow Style guidelines.

SuggestedRemedy

Replace, "MPD Inrush" with "MPD inrush".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** SC **169.6** P **107** L **22** # 17

Maguire, Valerie — Copperopolis; CME Consulting

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

Follow Style guidelines.

SuggestedRemedy

Replace, "Additional Electrical Specifications" with "Additional electrical specifications".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** SC **169.6.2** P **107** L **31** # 18

Maguire, Valerie — Copperopolis; CME Consulting

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

Follow Style guidelines.

SuggestedRemedy

Replace, "Fault Tolerance" with "Fault tolerance".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** SC **169.5.5.2** P **107** L **5** # 19

Maguire, Valerie — Copperopolis; CME Consulting

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

Clause 169.5.5 is already named "MPD power". Consider a more descriptive clause header.

SuggestedRemedy

Replace, "MPD Power" with "MPD unit load".

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **FM** SC **FM** P **1** L **1** # 20

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

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

Editor to check that frontmatter is current per template

SuggestedRemedy

Check and update as necessary

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **FM** SC **FM** P **12** L **28** # 21

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

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

Missing description for 802.3da amendement

SuggestedRemedy

Change "This amendment includes [complete]" to "Amendment X- This amendment includes changes to IEEE Std 802.3-2022 and adds Clauses 168 and 169. This amendment adds Physical Layer Specifications and management parameters for enhancement of 10 Mb/s operation and optional provision of power over Single Balanced Pair Multidrop Segments, based on the 10BASE-T1S PHY specified in IEEE Std 802.3-2022 Clause 147."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD

Cl **22** SC **22** P **20** L **1** # 22

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **E** *Comment Status* **D** *Unfilled Clauses*

It appears there are no changes necessary to clause 22 - delete from the draft

SuggestedRemedy

See comment.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD

Cl **30** SC **30.16.1.1.8** P **21** L **48** # 23

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

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

SOFT_AGING_CYCLES (and HARD_AGING_CYCLES) has been changed to lower case in clause 148. Need to do the same here.

SuggestedRemedy

Change SOFT_AGING_CYCLES and HARD_AGING_CYCLES to lower case globally. (P21 L48, P22 L5, P43 L19, P43 P25, at least)

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** SC **45.2** P **24** L **5** # 24

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Management*

The 10BASE-T1M PHY is the same as the 10BASE-T1S PHY, therefore it does not need new management registers, only edits to 10BASE-T1S. Change note to reflect this.

SuggestedRemedy

Change editor's note at line 7, "The 10BASE-T1M PHY is the same as the 10BASE-T1S PHY, except that it only uses multidrop mode. Proposed text is needed to adjust the 10BASE-T1S registers (1.2297, 1.2298, and 1.2299) to include 10BASE_T1M".

Add 1.2297, 1.2298, and 1.2299 to Table 45-3, changing the names from 10BASET-T1S to 10BASE-T1S/M, e.g., "10BASE-T1S/M PMA control" (or status, or test mode control, as appropriate).

Proposed Response *Response Status* **O**

Cl **45** SC **45.2.1.93a** P **24** L **31** # 25

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

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

Template is not needed for draft

SuggestedRemedy

delete P24 L31 - P25 L49

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **45** SC **45.2.1.234** P **24** L **31** # 26

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Management*

Need to add 10BASE-T1S registers to the draft

SuggestedRemedy

Add 45.2.1.234, 45.2.1.235, and 45.2.1.236 to the draft, changing the name of the register to "10BASE-T1S/M" (PMA control, PMA status or test mode control)

Proposed Response *Response Status* **O**

Cl **45** SC **45.2.1.16** P **24** L **31** # 27

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Management*

Need to add 10BASE-T1M to BASE-T1 PMA/PMD registers, but as a subset of the 10BASE-T1S PHY.

SuggestedRemedy

Add 45.2.1.16 to the draft, including Table 45-19, showing change of 1.18.3 "10BASE-T1S ability" to "10BASE-T1S/M ability". Change Description similarly.

Proposed Response *Response Status* **O**

Cl **45** SC **45.2.1.16.4** P **24** L **31** # 28

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Management*

Need to update the text of the 10BASE-T1S ability to reflect 10BASE-T1M as well.

SuggestedRemedy

Add text of 45.2.1.16.4 to the draft, changing "10BASE-T1S" to "10BASE-T1S/M" everywhere (header & both sentences). Add new final sentence, "NOTE - 10BASE-T1S and 10BASE-T1M use the same PMA type, registers, and control, except that 10BASE-T1M only supports the multidrop mode of operation, and is defined in clause 168."

Proposed Response *Response Status* **O**

Cl **45** SC **45.2.1.214** P **24** L **31** # 29

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Management*

Need to add BASE-T1 PMA/PMD control register with 10BASE-T1M

SuggestedRemedy

Add 45.2.1.214, Table 45-178, and 45.2.1.214.2 to the draft, changing 10BASE-T1S to 10BASE-T1S/M in Table 45-178. In 45.2.1.214.2, change "the mode of operation is 10BASE-T1S" to "the mode of operation is 10BASE-T1S or 10BASE-T1M. Note that 10BASE-T1S and 10BASE-T1M use the same PMA type, registers, and control, except that 10BASE-T1M only supports the multidrop mode of operation, and is defined in clause 168."

Proposed Response *Response Status* **O**

Cl **45** SC **45.2.1.234** P **24** L **31** # 30

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Management*

Need to add 10BASE-T1M to the 10BASE-T1S PMA Control register.

SuggestedRemedy

Add 45.2.1.234 t (and subclauses) to the draft. Change "10BASE-T1S" to "10BASE-T1S/M" in the headers of each, and in the titles of Tables 45-196 and globally in the text.
Change 45.2.1.234.4 to read:
"<UL>For the 10BASE-T1S PMA, w<UL><SO>W<SO>hen Auto-Negotiation is implemented and enabled, writing to this bit shall have no effect on the PHY, and
the PCS multidrop variable shall be set to FALSE. If multidrop mode is not supported according to bit
1.2298.10, then writing to bit 1.2297.10 shall have no effect, and the multidrop variable shall be set to
FALSE. Otherwise, if bit 1.2297.10 is set to one, the 10BASE-T1S PMA shall operate in multidrop mode,
and the multidrop variable is set to TRUE; and if bit 1.2297.10 is set to zero, the multidrop variable is set to
FALSE. If multidrop mode is supported according to bit 1.2298.10, then the default value of bit 1.2297.10
should be one.<new paragraph>
<UL> For the 10BASE-T1M PMA, bit 1.2297.10 shall be read only set to one and writing to bit 1.2297.10 shall have no effect. <UL>"

In 168.6.6, Delete TBD at P72 L38 next to "1.2297.13", and replace (external x-ref) "45.2.1.186d.5 (TBD)" with (active x-ref) "45.2.1.234.5" (no TBD). (Including similar changes in PICS PMAE18)

Proposed Response *Response Status* **O**

Cl **45** SC **45.2.1.235** P **24** L **31** # 31

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Management*

Need to add 10BASE-T1M to the 10BASE=T1S PMA status register.

SuggestedRemedy

Add 45.2.1.235 (and subclauses) to the draft. Change "10BASE-T1S" to "10BASE-T1S/M" in the headers of each, and in the titles of Tables 45-197 and globally in the text.
Change 45.2.1.235.3 to read:
"<UL>For the 10BASE-T1S PMA, w<UL><SO>W<SO>hen read as a one, bit 1.2298.10 indicates that the 10BASE-T1S PMA supports multidrop mode
(see Clause 147). When read as a zero, bit 1.2298.10 indicates that the 10BASE-T1S PMA does not support
multidrop mode. If the 10BASE-T1S PMA supports multidrop mode, then it is controlled using
bit 1.2297.10; otherwise, bit 1.2297.10 has no effect.<new paragraph>
<UL> For the 10BASE-T1M PMA, bit 1.2298.10 shall be set to one and writing to bit 1.2297.10 has no effect. <UL>"

Proposed Response *Response Status* **O**

Cl **45** SC **45.2.1.236** P **24** L **31** # 32

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Management*

Need to add 10BASE-T1M to the 10BASE-T1S test mode control register

SuggestedRemedy

Add 45.2.1.236 and Table 45-198 to the draft, changing "10BASE-T1S test mode control register" to "10BASE-T1S/M test mode control register" (3 instances)
Also, in 168.6.2, delete TBD next to register number (P68 L4), and change external x-ref of "45.2.1.186f.1 (TBD)" to "45.2.1.236" (no tbd, active x-ref) on P68 L5 (including similar changes in PICS PMAE2)

Proposed Response *Response Status* **O**

Cl **147** SC **147.1** P **29** L **7** # 33

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **E** *Comment Status* **X** *10BASE-T1S*

Probably a good idea to say something in the overview of clause 147 about clause 168.

SuggestedRemedy

Add 147.1 to the draft, inserting a new third paragraph reading "The PMA and PCS specifications of the 10BASE-T1S PHY when operating in multidrop mode are refined in the 10BASE-T1M Clause 168 PHY, which only supports multidrop mode. 10BASE-T1S and 10BASE-T1M PHYs use the same PMA and PCS control, status, and test registers."

Proposed Response *Response Status* **O**

Cl **148** SC **148.2** P **30** L **5** # 34

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **E** *Comment Status* **X** *Editorial*

The text has now survived several cycles of review, it can be considered stable.

SuggestedRemedy

Delete the editors note P30 L5-9 at the start of 148.2.

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.4.6** P **34** L **31** # 35

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

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

Arrow from "BURST" into "TRANSMIT" state overshoots the boundary…

SuggestedRemedy

Redraw state transition from BURST aligning arrowheads

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **168** SC **168** P **46** L **1** # 36

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

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

There are no annexes yet, but editorial instruction mentions them.

SuggestedRemedy

Delete "(see later in this amendment of the addition of corresponding annexes)" from editing instruction.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **30** SC **30.17** P **23** L **11** # 37

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Management*

Multidrop power is going to need management parameters. (power is not connected to MDIO, so it is managed through clause 30, see 30.15 and 30.9)

SuggestedRemedy

Insert new subclause 30.17 Layer management for Multidrop Power over Ethernet (MPoE), with editor's note - management objects for clause 169 goes here

Proposed Response *Response Status* **O**

Cl **168** SC **168** P **46** L **33** # 38

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **E** *Comment Status* **X** *Editorial*

The changes to align with PHY in 802.3-2022 have been announced for several drafts now. The note is no longer needed.

SuggestedRemedy

Delete editor's note at line P46 L33.

Proposed Response *Response Status* **O**

Cl **168** SC **168.1** P **46** L **54** # 39

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *10BASE-T1S*

Add text explaining the relationship of clause 168 and clause 147 PHYs to the end of the 3rd paragraph of 168.1 (explaining 10BASE-T1S aand 10BASE-T1M interoperability)

SuggestedRemedy

Insert new final sentence on 3rd paragaph of 168.1: " "The PMA and PCS specifications of the 10BASE-T1S PHY when operating in multidrop mode are refined in the 10BASE-T1M Clause 168 PHY, which only supports multidrop mode. 10BASE-T1S and 10BASE-T1M PHYs use the same PMA and PCS control, status, and test registers."

Proposed Response *Response Status* **O**

Cl **78** SC **78** P **26** L **1** # 40

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **E** *Comment Status* **D** *Unfilled Clauses*

There have been no proposals for EEE, and it is expected to be similar to 10BASE-T1S. Clause 78 is therefore not needed.

SuggestedRemedy

Delete clause 78 from the draft.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD

Cl **168** SC **168.8** P **73** L **8** # 41

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

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

No need for highlight on lines 8 to 12

SuggestedRemedy

Remove highlight lines 8 to 12

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **168** *SC* **168.8** *P* **73** *L* **28** # 42

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Mixing Segment*

Replace TBD with objective length - it is just an example anyways, and not even expected to be worst case, only something that can be made within the specifications. Simulations have shown 50meters can meet the specifications.

SuggestedRemedy

Replace TBD with 50 m.

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.8** *P* **73** *L* **48** # 43

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **E** *Comment Status* **X** *Mixing Segment*

Make it clear that the figure is an example

SuggestedRemedy

Change title of Figure 168-17 to "Example mixing segment and reference points"

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.8** *P* **73** *L* **30** # 44

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **E** *Comment Status* **X** *Mixing Segment*

It needs to be abundantly clear that the lengths and gauges of wiring are simply an example.

SuggestedRemedy

Add the following NOTE after 4th paragraph of 168.8 "NOTE - Dimensions such as length and gauge of cabling in the example given are merely examples of a what a mixing segment compliant with the specifications of 168.8 (including TCIs compliant with 168.9) could be comprised of. They are not to be confused with normative specifications or a statement that all mixing segments constructed within that length and gauge of wiring would result in compliance with 168.8 and 168.9."

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.5** *P* **65** *L* **35** # 45

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **E** *Comment Status* **X** *Editorial*

Editor's note has been in place for sveral drafts now. It has served its purpose

SuggestedRemedy

Delete editor's note at P65 L35

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.5.2** *P* **66** *L* **21** # 46

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

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

Editor's note was accomplished in changes to draft 1.1, no longer needed.

SuggestedRemedy

Delete editor's note at P66 L21

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **168** *SC* **168.12.4.6** *P* **85** *L* **3** # 47

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **E** *Comment Status* **X** *Editorial*

Editor's note has been in place for sveral drafts now. It has served its purpose

SuggestedRemedy

Delete editor's note at P85 L3

Proposed Response *Response Status* **O**

Cl **45** SC **45.2.3.72** P **24** L **31** # 48

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Management*

Need to add 10BASE-T1M to 10BASE-T1S PCS control register definitions

SuggestedRemedy

Add 45.2.3.72 and subclauses to draft, changing "10BASE-T1S" to "10BASE-T1S/M" everywhere (headings, table captions, and text)
Change external x-ref to 45.2.3.68c.1 in 168.4.1 to 45.2.3.72 (active x-ref), and remove TBD.

Proposed Response *Response Status* **O**

Cl **45** SC **45.2.3.73** P **24** L **31** # 49

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Management*

Need to add 10BASE-T1M to 10BASE-T1S PCS status register definitions

SuggestedRemedy

Add 45.2.3.73 and subclauses to draft, changing "10BASE-T1S" to "10BASE-T1S/M" everywhere (headings, table captions, and text)
Add new final sentence to 45.2.3.73.2 full-duplex capability: "10BASE-T1M PHYs are not capable of full-duplex capability."

Proposed Response *Response Status* **O**

Cl **45** SC **45.2.3.74** P **24** L **31** # 50

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *Management*

Need to add 10BASE-T1M to 10BASE-T1S PCS diagnostic 1 & 2 register definitions

SuggestedRemedy

Add 45.2.3.74 and 45.2.3.75 and subclauses to draft, changing "10BASE-T1S" to "10BASE-T1S/M" everywhere (headings, table captions, and text)

Proposed Response *Response Status* **O**

Cl **168** SC **168.8** P **73** L **9** # 51

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **E** *Comment Status* **X** *TCI nomenclature*

We call out the TCI "Trunk connection interface" and then it has TC1, TC2, TC3 which are called out as just "TCx", "TCx interface", "TCx interface planes", or "TCx interface points". It gets confusing. Pick one. Suggest we remove the word "interface" in connection with TC1, TC2, or TC3 as well as "point", "plane", etc. This will make it simpler, hopefully without confusing the text.

SuggestedRemedy

P73 L8: Change "The mixing segment shall be a linear topology, with DTE attached at a TCI, where each TCI has two interfaces on the mixing segment, one interface facing in the direction of left edge termination of the mixing segment (TC1), and one facing in the direction of the right edge termination of the mixing segment (TC2), and a two-wire interface facing the PMA (and any associated stub or service loop) (TC3)"
to
"The mixing segment shall be a linear topology, with DTE attached at a TCI, where each TCI has two connections along the mixing segment, one facing in the direction of left edge termination of the mixing segment (TC1), and one facing in the direction of the right edge termination of the mixing segment (TC2), and a two-wire connection facing the PMA (and any associated stub or service loop) (TC3)"

P73 L45 - (NOTE in Figure 168-17), change "the TC1 and TC2 interface points" to "TC1 and TC2"
P75 L18 - change "the TCI has two interfaces" to "the TCI has two connections"
P76 L20 - change "the other trunk interface" to "the other TC"
P75 L22 "Each TCI has one interface" to "Each TCI has one connection" and change, "and a two-wire interface" to "and a two-wire connection"
P75 L26 (Figure 168-18) delete the word "interface" from TC1, TC2 and TC3 labels
P90 L27, P90 L29, - change "interface" to "connection" (4 instances)
P100 L2, P100 L5, - change "interface" to "connection" (4 instances)
P71 L45 - change "across the TC3 (see Figure 168-17) interface of the TCI" to "across TC3 (see Figure 168-17" (note this is unnecessary if TC3 has been written out of this text by another comment)

Proposed Response *Response Status* **O**

Cl **168** *SC* **168.6.4.5** *P* **71** *L* **45** # 52

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **D** *Test Modes*

We fixed the reference to transmitter impedance in 168.5.2, but forgot to make a similar change in the test mode text. The text in 168.5.2 (which specifies what happens when 'I' is presented to the PMA), is now all about what is presented at TC1 and TC2, saying - "Meet the insertion loss specified from TC1 to TC2 in 168.9.1.1 and the return loss specified in 168.9.1.2 at TC1 and TC2. This shall happen within 40 ns after the additional DME encoded 0 has been transmitted."
Additionally, this section is a duplicate 'shall' on the PMA, where it should really just be a way to test the electrical characteristics presented when there is no data to transmit.

SuggestedRemedy

Change "In test mode 4, a transmitter shall present at least the minimum parallel impedance across the TC3 (see Figure 168–17) interface of the TCI to enable meeting the electrical specifications for the TCI with a DTE in place as specified in 168.9.1."
to
"In test mode 4, the PCS shall continuously present the special 5B symbol 'I' to the PMA (see 168.5.2)."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD
Consider with comment 60 which also modifies this text.

Cl **168** *SC* **168.9.1.2** *P* **76** *L* **23** # 53

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

Comment Type **T** *Comment Status* **X** *TCI*

We need to specify the TCI return loss (TC1/TC2). Several presentations have shown examples of possible implementations, others have shown analysis that gets us close, but we need a specific proposal for the text.

SuggestedRemedy

Replace Equation 168-5 with an RL mask - see presentation zimmerman_3da_01_052024

Proposed Response *Response Status* **O**

Cl **FM** *SC* **FM** *P* **1** *L* **29** # 54

Zimmerman, George — CME Consulting/ADI, APL Gp, Cisco, Marvell, OnSem

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

Editor needs to get with 802 leadership and determine order of the da amendment assuming WG ballot out of either July or September

SuggestedRemedy

Update editor's note P1 L28-34, and test P1 L35-38, and introduction P12 to include other amendments as necessary.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD - need to consider with timeline

Cl **79** *SC* **79** *P* **27** *L* **1** # 55

Jones, Chad — Cisco Systems

Comment Type **E** *Comment Status* **D** *Unfilled clauses*

There are no changes in clause 79. Do we foresee changes? If not delete this clause from the draft. Otherwise, reject this comment and assign someone to lead the changes for D1.2. Need this completed ASAP so we can move to WG ballot.

SuggestedRemedy

delete clause 79 if no changes are needed.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD

Cl **148** *SC* **148.2** *P* **30** *L* **14** # 56

Jones, Chad — Cisco Systems

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

"The method of determination of to_timer by the management entity is beyond the scope of this standard." Modified this sentence last cycle to remove "the node ID and", leaving the sentence a little awkward. I think we needed to keep "the" in front of "to_timer"

SuggestedRemedy

add the in front of to_timer: "The method of determination of the to_timer by the management entity is beyond the scope of this standard."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **148** *SC* **148.4.4.6** *P* **34** *L* **31** # 57

Jones, Chad — Cisco Systems

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

arrows from TRANSMIT to BURST and from BURST to TRANSMIT overshoots the boundary.

SuggestedRemedy

redraw such that arrowheads align to the top of the box.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **148** *SC* **148.4.7.1** *P* **38** *L* **26** # 58

Jones, Chad — Cisco Systems

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

"hard-aging-cycles and soft-aging-cycles can be configured to optimize convergence time and stability over time in different situations." Sentence isn't capitalized.

SuggestedRemedy

change hard to Hard. If the coice to not capitalize the sentence is bacuase the variable is named in lower case, then recraft the sentence to not have the varaible as the first word. Perhaps: "Convergence time and stability over time in different situations can be optimized by configuring hard-aging-cycles and soft-aging-cycles."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Insert "The variables " before "hard-aging-cycles" in the above

Cl **168** *SC* **168** *P* **46** *L* **4** # 59

Jones, Chad — Cisco Systems

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

was going to say "delete the editors note" as it's been here since at least D0.6, but I see there is some useful stuff in there at line 24. The stuff prior to the list of items needing work can be deleted.

SuggestedRemedy

reduce editors note to just the last paragraph.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **168** *SC* **168.6.4.5** *P* **71** *L* **45** # 60

Jones, Chad — Cisco Systems

Comment Type **E** *Comment Status* **D** *Test Modes*

"…parallel impedance across the TC3 (see Figure 168–17) interface of the TCI..." TC3 is part of the TCI. TCI is the interface, TC3 is not an interface. Also, are we presenting impedance ACROSS TC3 or AT TC3? Lastly, do we need to say TC3 of the TCI?

SuggestedRemedy

change "…parallel impedance across the TC3 (see Figure 168–17) interface of the TCI..." to "…parallel impedance at TC3 (see Figure 168–17) ..."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD - discuss with comment 52 which writes this text out of the draft.

Cl **168** *SC* **168.6.4.5** *P* **71** *L* **44** # 61

Jones, Chad — Cisco Systems

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

do we still need the highlighter?

SuggestedRemedy

delete highlight

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Remove all highlights in the document

Cl **168** *SC* **168.8** *P* **73** *L* **45** # 62

Jones, Chad — Cisco Systems

Comment Type **E** *Comment Status* **D** *TCI nomenclature*

The note in fig 168-17 says TC1 and TC2 interface points. These are connection points.

SuggestedRemedy

Change note to: "…TC1 and TC2 connection points…"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD, suggest change the note to read:
"NOTE - PMA transmit and receive specifications are met at TC1 and TC2. This applies whether or not an external stub is present."
Discuss with comment 51 (slightly different)

Cl **168** *SC* **168.8.1** *P* **74** *L* **15** # 63

Jones, Chad — Cisco Systems

Comment Type **T** *Comment Status* **D** *Mixing Segment*

Take the suggestion from the Editors note and copy 147-3 as the starting point for EQ 168-3

SuggestedRemedy

copy EQ 147-3 to EQ 168-3

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD
(suggestion is reasonable, but might limit reach unnecessarily)

Cl **168** *SC* **168.8.2** *P* **74** *L* **30** # 64

Jones, Chad — Cisco Systems

Comment Type **T** *Comment Status* **D** *Mixing Segment*

Take the suggestion from the Editors note and copy 147-4 as the starting point for EQ 168-4

SuggestedRemedy

copy EQ 147-4 to EQ 168-4

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD
(may need some analysis, especially with loads that are powered)

Cl **168** *SC* **168.9** *P* **75** *L* **22** # 65

Jones, Chad — Cisco Systems

Comment Type **E** *Comment Status* **D** *TCI nomenclature*

"Each TCI has one interface facing each direction of the mixing segment (TC1 and TC2), and a two-wire interface facing the PMA (and any associated stub or service loop) (TC3) as shown in Figure 168–18." confusing interface with connections. TCI is the interface the TCs are connections.

SuggestedRemedy

Change the text to: "Each TCI has one connection facing each direction of the mixing segment (TC1 and TC2), and a two-wire connection facing the PMA (and any associated stub or service loop) (TC3) as shown in Figure 168–18."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD - need to resolve whether to write out TC3. Also needs editorial correction of removing the comma.
See comment 51 (same remedy)

Cl **168** *SC* **168.9** *P* **75** *L* **25** # 66

Jones, Chad — Cisco Systems

Comment Type **E** *Comment Status* **D** *TCI nomenclature*

Figure 168-18 has TC1,2,3 interface. TCI is the interface, TC1,2,3 are connects of this interface. Delete the word interface

SuggestedRemedy

Delete interface in three spots.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.
Discuss with comment 51 (same remedy)

Cl **168** *SC* **168.9.1.2** *P* **76** *L* **20** # 67

Jones, Chad — Cisco Systems

Comment Type **E** *Comment Status* **D** *TCI nomenclature*

"...with the other trunk interface (i.e., TC2 or TC1, respectively)…" another use of interface when it should be connection

SuggestedRemedy

change to: "...with the other trunk connection (i.e., TC2 or TC1, respectively)…"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD with comment 51 (slightly different)

Cl **168** *SC* **168.9.2** *P* **76** *L* **27** # 68

Jones, Chad — Cisco Systems

Comment Type **E** *Comment Status* **D** *TC3*

"The DTE shall withstand without damage the application of any voltages between 0 V dc and 60 V dc with the source current limited to 2000 mA, applied across TC1 or TC2's BI_DA+ and BI_DA– in either polarity, under all operating conditions indefinitely." This statement implies that power can only be applies at TC1 or TC2. I've heard some state the desire to have the PSE connected at TC3. Need to add TC3 to the requirement.

SuggestedRemedy

Change to: "The DTE shall withstand without damage the application of any voltages between 0 V dc and 60 V dc with the source current limited to 2000 mA, applied across TC1, TC2, or TC3's BI_DA+ and BI_DA– in either polarity, under all operating conditions indefinitely."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD - this adds a new TC3 requirement. TC3 may not be accessible, and we were on a path to writing TC3 out of the spec.

Cl **168** *SC* **168.10** *P* **77** *L* **16** # 69

Jones, Chad — Cisco Systems

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

The editors note asks to consider whether 168.10 is aligned with 802.3cr-2021. Reviewing 802.3cr-2021 and comparing to 168.10, 168.10 goes much further than what's found in CR or annex J. The one thing missing is compliance to J.1, but I don't find that requirement in clause 146 or 147 of CR. Therefore, i think we can delete the editor's note.

SuggestedRemedy

delete editor's note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** *SC* **169.1.2** *P* **88** *L* **1** # 70

Jones, Chad — Cisco Systems

Comment Type **T** *Comment Status* **D** *Power - General*

Need to replace Fig 169-1. replace with submission from comment author.

SuggestedRemedy

replace Fig 169-1 with submitted figure

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD with figure

Cl **169** *SC* **169.2** *P* **88** *L* **30** # 71

Jones, Chad — Cisco Systems

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

We should include a pointer to 168.8 for those that only come to read the PoE section so they can see the mixing segment specifications.

SuggestedRemedy

Add new sentence: "See 168-8 for a discussion of the mixing segment characteristics."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
(fixed typo of - for intended .)
Add new sentence: "See 168.8 for a discussion of the mixing segment characteristics."

Cl **169** *SC* **169.3** *P* **89** *L* **1** # 72

Jones, Chad — Cisco Systems

Comment Type **T** *Comment Status* **X**

I propose a refinement of the unit load concept. With 1U = 1W for Type 0 and 2W for Type 1 but a limit of 16U on any mixing segment, we are not able to use all the available PSE power. A markup of 169.3 will be submitted as a presentation for TF review.

SuggestedRemedy

accept changes as shown in presentation.

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.3** *P* **89** *L* **16** # 73

Jones, Chad — Cisco Systems

Comment Type **E** *Comment Status* **D** *Power - General*

Editors note regarding 24V systems. The 24V systems I'm aware of are capable of operating to at least 28V, therefore a 26V Vmin for the PSE doesn't preclude support of "24V" systems.

SuggestedRemedy

delete the editor's note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
TFTD. I think the meaning of the note relates to whether such systems will meet the market needs of known "24 V" systems, and the comment suggests that the defined PSEs won't work with systems that are capable of operating to "at least 28V" since the V_MPSE(max) is 30V…

Cl **169** *SC* **169.4** *P* **89** *L* **48** # 74

Jones, Chad — Cisco Systems

Comment Type **T** *Comment Status* **D** *Power - General*

This list doesn't include a statement about policing power, i.e. removing power from an overloaded mixing segment. It only says to monitor power or to remove power when no longer needed. An overloaded system still requires power, so f) doesn't apply.
"e) To sense and recover from system faults." is a possible place to address. This is the minimum required addition. I'm happy if the TF wants to go further.

SuggestedRemedy

change to: "e) To sense, react, and recover from system faults."

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Include suggested additions, and Task Force to Discuss.

Cl **169** *SC* **169.4** *P* **90** *L* **1** # 75

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X** *PI*

"An MPSE is specified by its electrical and logical behavior as seen at the MPSE TCI" - TCI is part of the mixing segment. Did we not bring forward the concept of the PI to 169? This is probably partnered with the comment against P89 L1 for a new fig 169-1. This figure must include the PI.

SuggestedRemedy

change sentence to: "An MPSE is specified by its electrical and logical behavior as seen at the MPSE PI."

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.3** *P* **90** *L* **27** # 76

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **D** *TCI nomenclature*

four more occurences of TC1, 2 interface. (also on line 30).

SuggestedRemedy

change interface to connector in four spots. For the second occurance in each sentence ("...of the same interface TC1 or TC2,..."), the sentence reads better if connector is moved after TC1,2 (i.e. change to "...of the same TC1 or TC2 connector,…").

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** *SC* **169.4.3** *P* **90** *L* **32** # 77

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

the sentence "For compliance, MPSE current is measured as the sum of TCI currents, TC1+TC2." seems broken to me. For example if I have 1A on TC1 and the MPD draws 100mA, that means TC2 has 900mA. And TC1+TC2 is 1.9A. Or am I missing a subtlety that the current on TC2 is negative and what I really have it 1A + (-0.9A) = 0.1A? If that later part is the case, then we may want some descriptive text to make that obvious.

SuggestedRemedy

I don't know the answer as I not sure what exactly we are trying to say, but I wanted the comment so we can find an answer and fix the text.

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.3** *P* **91** *L* **22** # 78

Jones, Chad Cisco Systems

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

Editor's note to convert 169-2 to Frame at least one draft before WG ballot. That time is now. Can we get a volunteer to draw in Frame?

SuggestedRemedy

replace Figure with a Frame drawing and delete the editor's note.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** *SC* **169.4.4.5** *P* **94** *L* **6** # 79

Jones, Chad Cisco Systems

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

Editor's note to convert 169-3, 169-4, and 169-5 to Frame at least one draft before WG ballot. That time is now. Can we get a volunteer to draw in Frame?

SuggestedRemedy

replace Figures with a Frame drawing and delete the editor's notes (three places).

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **169** *SC* **169.4.5** *P* **96** *L* **35** # 80

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **D** *Power - State diagrams*

this is the MPSE overview - do we want SHALLS in this section? I'd expect an overview to have no requirements. Also, I would fully expect the two shalls (on L36 and L38) to be covered in the MPSE requirements.
If we do want shalls in this section, then the last sentence on this section should be mandatory (that would be L43, replace "and removes power" with "and shall remove power"

SuggestedRemedy

replace shall with may in two places.
OR replace "and removes power" with "and shall remove power"

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.
Suggest replace shall with "and removes power"

Cl **148** *SC* **148.4.7.5** *P* **42** *L* **10** # 81

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **X**

D-PLCA Control will lockup in the WAIT_BEACON state when coordinator_role_allowed=FALSE. Details are presented in mcclellan_3da_01_031324.pdf slide 3.

SuggestedRemedy

adopt the proposal on slide 3 of mcclellan_3da_01_031324.pdf: 1- use dplca_en to prevent forcing PLCA Control to DISABLE
when local_nodeID = 255,
2 – use dplca_en to exit DISABLE to RESYNC when local_nodeID ≠ 0

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.5** *P* **42** *L* **22** # 82

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **X**

D-PLCA Control is intended to transition from COORDINATOR to LEARNING upon BEACON
detection from another node, however BEACON doesn't trigger a transition. Details are presented in mcclellan_3da_01_031324.pdf slide 6.

SuggestedRemedy

adopt the proposal on slide 6 of mcclellan_3da_01_031324.pdf: modify D-PLCA Control to allow transition to LEARNING upon BEACON detection

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.5** *P* **42** *L* **49** # 83

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **X**

D-PLCA Control transition from FOLLOWER to FOLLOWER is intended to pick a new local_nodeID if ID is greater than plca_node_count, however the transition condition doesn't trigger a the selection of a new local_nodeID. Details are presented in mcclellan_3da_01_031324.pdf slide 10.

SuggestedRemedy

adopt the proposal on slide 10 of mcclellan_3da_01_031324.pdf to modify PLCA control and D-PLCA control state diagrams

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.5** *P* **42** *L* **45** # 84

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **X**

D-PLCA Control can lock up in FOLLOWER state when two nodes with the same local_nodeID continue to send packets at the same time. Details are presented in mcclellan_3da_01_031324.pdf slide 14.

SuggestedRemedy

adopt the proposal on slide 14 of mcclellan_3da_01_031324.pdf to modify PLCA Control:
1- Apply a SOFT claim on collision during transmission in COMMIT or TRANSMIT
2 – Add a return transition to COMMIT with condition: COL & ~TX_EN & packetPending
3 – Add a return transition to TRANSMIT with condition: COL & (TX_EN | CRS)

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.5** *P* **42** *L* **36** # 85

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **X**

D-PLCA Control transition from COORDINATOR to INCREASE_NODE_COUNT transition is missing condition of dplca_new_age
used on alternate paths. Details are presented in mcclellan_3da_01_031324.pdf slide 16.

SuggestedRemedy

add condition: * dplca_new_age, see mcclellan_3da_01_031324.pdf slide 16.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.2** *P* **38** *L* **36** # 86

McClellan, Brett Marvell

Comment Type **T** *Comment Status* **X**

curID is used in D-PLCA Control state diagram but is missing a definition in 148.4.7.2

SuggestedRemedy

add definition: "curID
See 148.4.4.2"

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.6** *P* **97** *L* **5** # 87

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

duplicate shall as this is covered in the second sentence of the preceding paragraph.
"If discovery is not completed before the TDiscovery timer expires, the current discovery cycle shall be aborted and the MPSE shall return to BACKOFF."
delete the second shall of the sentence and change return to returns

SuggestedRemedy

Change to: "If discovery is not completed before the TDiscovery timer expires, the current discovery cycle shall be aborted and the MPSE returns to BACKOFF."

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.3** *P* **90** *L* **32** # 88

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

the sentence "For compliance, MPSE current is measured as the sum of TCI currents, TC1+TC2." seems broken to me.
Figured out this is because the PSE is always attached to TC3, but we don't state that.
Therefore, I'm suggesting that we modify the sentence on line 23 and add text to Fig 169-2.

SuggestedRemedy

line 23, through TC3: "MPSEs supply power to the mixing segment through TC3. See Figure 169–2."
Modify Fig 169-2 adding labels for TC1, TC2, TC3.

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.6** *P* **97** *L* **9** # 89

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

Table 169-3, there are several TBD that we need to fill in DURING THIS CYCLE. Chair suggests forming an ad hoc to bring back initial numbers Wednesday morning for TF review.

SuggestedRemedy

replace TBDs with numbers provided by the ad hoc.

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.7** *P* **97** *L* **42** # 90

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

item 1, Ibad, in Table 169-4 has a min of 30mA and a max of 0mA. I'm no mathematician, but 0 is lower than 30 so I don't understand how 0 can be the max. was that supposed to be something like 40 or 50 instead of 0?

SuggestedRemedy

replace the max of 0mA with the appropriate number. Or perhaps the numbers need flipped, 0mA min and 30mA max.

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.7** *P* **97** *L* **51** # 91

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

the sentence "Under all conditions, an MPSE shall present an invalid MPD discovery signature with one of the attributes as specified in Table 169–4." belongs in 169.4.6.

SuggestedRemedy

move the sentence "Under all conditions, an MPSE shall present an invalid MPD discovery signature with one of the attributes as specified in Table 169–4." to a new paragraph just before Table 169-3.

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.7** *P* **98** *L* **2** # 92

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

Table 169-5 has MANY TBDs. These need to fill in DURING THIS CYCLE. Chair suggests forming an ad hoc to bring back initial numbers Wednesday morning for TF review.

SuggestedRemedy

replace TBDs with numbers provided by the ad hoc.

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.8** *P* **98** *L* **38** # 93

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

"TBD is the minimum continuous power that the MPSE shall be capable of supplying as defined in Table 169–5."
The TBD needs replaced with what ever number the ad hoc decides for Table 169-5.
Further, this comment intends to spur discussion of putting 100W max in Table 169-5. I feel the T169-5 should have em-dashes as the max number. The max power a PSE can deliver is not required for interoperability, only the min is required. The max power delivered is an artifact of external safety standards and desired safety classifications of PSEs and PDs. We should state that a PSE shouldn't be capable of more than 100W, but I don't think it's mandatory text (i.e. no shall).

SuggestedRemedy

replaced TBD on line 38 with the numbers the ad hoc decides for T169-5. It will likely need broken into two sentences: X W is the min power for Type 0; Y W is the min power for Type 1…
replace the max number in item 2 with an em-dash. (delete 100 in two places)
add these sentences to the end of 169.4.8: "External safety requirements limit the power an MPSE can supply. Often this value is 100 W max, but an MPSE designer is encouraged to refer to the safety standards that will govern the desired installation (i.e. the target market for a given MPSE)."

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.9** *P* **98** *L* **43** # 94

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

"The cumulative duration of TCUT is measured using a sliding window of at least 1 second width."
"At least" implies the window can be longer than 1 second. If one vendor implements a 1 sec window and another implements a 5 second window, we could get different behaviors between two supposed equivalent parts. This difference in behavior leads to customer dissatisfaction and phone calls to the system vendor.

SuggestedRemedy

delete "at least: from the sentence on P98 L44, making it say "using a sliding window of 1 second width."

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.11.1** *P* **99** *L* **9** # 95

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

"MPS shall be defined as being present in the POWER_ON state when IMPSE is greater than or equal to IHold max for a minimum of TMPS." This sentence is missing a table reference. "as defined in Table 169-5."
Also, I note the text says "as defined" and "as specified". We need to pick one and be consistent. I suggest "as defined"

SuggestedRemedy

add "as defined in Table 169-5." to the end of the sentence.
Editors given guidance to search text for "as specified" and replace with as defined when referring back to a Table. Editorial license granted to modify all locations of "as specified" as needed.

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.11.1** *P* **99** *L* **15** # 96

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

"The MPSE shall not remove power from the port when IMPD is greater than…" IMPD is not a defined variable. I assume this was meant to be Isubcript(MPD), meaning MPD current, let's just say that.

SuggestedRemedy

change to: "The MPSE shall not remove power from the port when the MPD current is greater than…"

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4** *P* **19** *L* **11** # 97

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

Definitions are needed for MPSE and MPD. Are there any others needed?

SuggestedRemedy

insert two new definitions:
1.4.x Multidrop Powered Device (MPD): A device that is either drawing power or requesting power from an MPSE (see IEEE Std 802.3, Clause 169).
1.4.x Multidrop Power Sourcing Equipment (MPSE): A DTE device that provides power to a mixing segment which may also carry data (see IEEE Std 802.3, Clause 169).

Proposed Response *Response Status* **O**

Cl **196** SC **196.5** P **99** L **27** # 98

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

If we decide to use the concept of PI (as suggested in an earlier comment), then it should be added here.

SuggestedRemedy

Replace MPD TCI with MPD PI on L28.

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.2** P **99** L **52** # 99

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

"MPDs draw power from the mixing segment. MPDs are current sinks. See Figure 169–6." Like the MPSE, we do not state that MPDs are only connected to TC3, and Fig 169-6 lacks TCx labels.

SuggestedRemedy

add "from TC3" to the sentence: "MPDs draw power from the mixing segment from TC3." Add labels for TC1,2,3 to Fig 169-6.

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.2** P **100** L **2** # 100

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

four more occurrences of "TCx interface". Replace interface with connection in 4 places, in sentences on P100 L1 and L4.

SuggestedRemedy

change interface to connector in four spots. For the second occurrence in each sentence ("...of the same interface TC1 or TC2,..."), the sentence reads better if connector is moved after TC1,2 (i.e. change to "...of the same TC1 or TC2 connector,…").

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.2** P **100** L **7** # 101

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

This is related to the MPSE comment made on this subject earlier, but this time the concern is valid. One of the currents on TC1 or TC2 will be a negative value, meaning the "sum" will actually be a difference. Let's be kind and add a sentence to let the reader know this.

SuggestedRemedy

add these sentences to the end of the paragraph on P100 L7: "It should be noted that one of the currents on TC1 or TC2 will be positive and one will be negative, making this "sum" a difference. This should make sense as the current used by the MPD will lower the current supplied to the output TC feeding the rest of the MPDs that follow in the mixing segment."

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.2** P **100** L **10** # 102

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

"For compliance, voltage specifications shall be met at both TC1 and TC2 independently." Does this sentence make sense for the MPD? The PD has no control over the voltage at ANY of the TC points.

SuggestedRemedy

delete the sentence.

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.2** P **100** L **31** # 103

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

Table 169-6 requires the PD to be polarity insensitive, resolving this editor's note. Therefore, we can delete it.

SuggestedRemedy

Delete the editor's note.

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.2** P **100** L **37** # 104

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

Editor's note to convert 169-6 to Frame at least one draft before WG ballot. That time is now. Can we get a volunteer to draw in Frame?

SuggestedRemedy

replace Figure with a Frame drawing and delete the editor's note.

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.3.2** P **100** L **52** # 105

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

Lots of TBDs in the constants section. Some of them would point to Table 169-7, but not all. Some should come from and ad hoc that should have been formed by an earlier comment. Assign defining these TBDs to that same ad hoc.

SuggestedRemedy

replace TBDs with values determined by ad hoc.

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.3.3** P **101** L **44** # 106

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

more Table TBDs (I count at least 8) that need defined by the ad hoc.

SuggestedRemedy

replace TBDs with values determined by ad hoc.

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.3.4** P **102** L **33** # 107

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

Vmpd should be VMPD.

SuggestedRemedy

capitalize the subscript text. Editors given editorial license to fix any other subscript capitalization errors they notice.

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.3.5** P **103** L **1** # 108

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

No text for MPD functions. Need volunteers to write this section.

SuggestedRemedy

Assign the effort to volunteers, charter ad hoc if needed.

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.3.6** P **103** L **33** # 109

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

Editor's note to convert 169-7, 169-8, and 169-9 to Frame at least one draft before WG ballot. That time is now. Can we get a volunteer to draw in Frame?

SuggestedRemedy

replace Figures with a Frame drawing and delete the editor's notes (three places).

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.4** P **105** L **33** # 110

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

No text for MPD Discovery. Need volunteers to write this section.

SuggestedRemedy

Assign the effort to volunteers, charter ad hoc if needed.

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.5** P **106** L **9** # 111

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

Five TBDs in T169-7. assign definition the ad hoc.

SuggestedRemedy

replace TBDs with numbers provided by the ad hoc.

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.5.1** P **106** L **49** # 112

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

at least three occurrences of Vmpd, replace with VMPD

SuggestedRemedy

Replace Vmpd with VMPD.

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.5.1** P **107** L **3** # 113

Jones, Chad Cisco Systems

Comment Type **E** *Comment Status* **X**

We should give guidance on what is meant by active indication.

SuggestedRemedy

Add this text to the end of the paragraph at P100 L3: "The method of active indication is left to the MPD implementor. Two examples would be a flashing LED or a message from a console port."

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.5.2** P **107** L **9** # 114

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

this section will need aligned with changes made to the MPSE section, if accepted.

SuggestedRemedy

comment author volunteers to submit text based on the decisions made on the comments against the MPSE section.

Proposed Response *Response Status* **O**

Cl **169** SC **169.6.1** P **107** L **26** # 115

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

No text for the Isolation section. Need volunteers to write this section.

SuggestedRemedy

Assign the effort to volunteers, charter ad hoc if needed.

Proposed Response *Response Status* **O**

Cl **169** SC **169.7** P **107** L **40** # 116

Jones, Chad Cisco Systems

Comment Type **T** *Comment Status* **X**

No text for the Environmental section. Need volunteers to write this section.

SuggestedRemedy

Assign the effort to volunteers, charter ad hoc if needed.

Proposed Response *Response Status* **O**

Cl **22** SC **22** P **20** L **8** # 117

Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**

Change 802.3-2022 Figure 22(MII relationship to the ISO/IEC Open Systems Interconnection (OSI) reference model and the IEEE 802.3 CSMA/CD LAN model) to include 10BASE-T1M.

SuggestedRemedy

Replace “10BASE-T1L, 10BASE-T1S, 100 Mb/s, 1 Gb/s” with “10BASE-T1L, 10BASE-T1S, 10BASE-T1M, 100 Mb/s, 1 Gb/s”

Proposed Response *Response Status* **O**

Cl **30** SC **30** P **21** L **1** # 118

Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**

Miscellaneous changes to clause 30 to support 10BASE-T1M.

SuggestedRemedy

Implement proposed text for for 10BASE-T1M PHY Management definitions as shown in attached file "8023da_D1p1_peter jones clause 30 text.docx"

Proposed Response *Response Status* **O**

Cl **30** SC **30.16.1.1.8** P **21** L **47** # 119

Jones, Peter Cisco

Comment Type **ER** *Comment Status* **X**

Variable names are in lower case in 148.4.7.2.

SuggestedRemedy

Change "SOFT_AGING_CYCLES" to "soft_aging_cycle"

Proposed Response *Response Status* **O**

Cl **30** SC **30.16.1.1.9** P **22** L **5** # 120

Jones, Peter Cisco

Comment Type **ER** *Comment Status* **X**

Variable names are in lower case in 148.4.7.2.

SuggestedRemedy

Change "HARD_AGING_CYCLES" to "hard_aging_cycle".

Proposed Response *Response Status* **O**

Cl **45** SC **45.2** P **24** L **4** # 121

Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**

Editors note requests contributions to add MDIO definitions for clause 168 PHY to clause 45.

SuggestedRemedy

Implement proposed text for for 10BASE-T1M PHY MDIO definitions as shown in attached file "8023da_D1p1_peter jones clause 45 text.docx"

Proposed Response *Response Status* **O**

Cl **45** *SC* **45.2.3.1.2** *P* **25** *L* **46** # 122

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

Rewrite paragraph(s) for clarity/brevity.

SuggestedRemedy

Replace
When the 100BASE-T1, any MultiGBASE-T, or the 5/10GBASE-R mode of operation is selected for the
PCS using the PCS type selection field (3.7.3:0), the PCS shall be placed in a loopback mode of operation when bit 3.0.14 is set to a one. When bit 3.0.14 is set to a one, the 100BASE-T1, 5/10GBASE-R, or any PCS in the MultiGBASE-T set shall accept data on the transmit path and return it on the receive path. The speed of the loopback is selected by the PCS control 1 (register 3.0) defined in 45.2.3.1. The specific behavior of the 100BASE-T1 PCS during loopback is specified in 96.3.5. The specific behavior of the 5/10GBASE-R PCS during loopback is specified in 49.2. The specific behavior for the 10GBASE-T PCS during loopback is specified in 55.3.7.3. The specific behavior for the 25GBASE-T and 40GBASE-T PCS during loopback is specified in 113.3.7.3. The specific behavior for the 2.5GBASE-T or 5GBASE-T PCS during loopback is specified in 126.3.7.3. For all other port types, the PCS loopback functionality is not applicable and writes to this bit shall be ignored and reads from this bit shall return a value of zero.
With
Setting bit 3.0.14 to one for any of the following PCSs, 100BASE-T1, MultiGBASE-T, 5/10GBASE-R; places the PCS into. The PCS accepts data on the transmit path and returns it on the receive path. The speed of the loopback is selected by the PCS control 1 (register 3.0) defined in 45.2.3.1.

PCS specific behavior during loopback is defined in:
- 96.3.5 for 100BASE-T1.
- 49.2 for 5/10GBASE-R.
- 55.3.7.3 for 10GBASE-T PCS.
- 113.3.7.3 for 25GBASE-T and 40GBASE-T.
- 126.3.7.3 for 2.5GBASE-T or 5GBASE-T.

For all other PCSs, this functionality is not applicable. Writes to this bit shall be ignored and reads from this bit shall return a value of zero.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.8** *P* **27** *L* **6** # 123

Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**

LLDP TLVs were proposed and adopted in Berlin 2023.

SuggestedRemedy

Please implement changes as proposed and accepted in https://www.ieee802.org/3/da/public/0723/jones_3da_01_061223.pdf and https://www.ieee802.org/3/da/public/0723/jones_3da_02_061223.pdf.

Proposed Response *Response Status* **O**

Cl **90** *SC* **90.1** *P* **28** *L* **7** # 124

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

Rewrite paragraph(s) for clarity/brevity.

SuggestedRemedy

Replace
The TSSI is defined for the full-duplex mode of operation only. It supports MAC operation at various data
rates. The MII (Clause 22), GMII (Clause 35), XGMII (Clause 46), 25GMII (Clause 106), XLGMII
(Clause 81), CGMII (Clause 81), 50GMII (Clause 132), 200GMII (Clause 117), and 400GMII (Clause 117)
specifications are all compatible with the generic Reconciliation Sublayer (gRS) defined in 90.5.
With
The TSSI supports MAC operation at various data rates and is defined for:
- 10BASE-T1S/T1M (Clause 147) in point-to-point half-duplex mode
- 10BASE-T1M (Clause 168) in half-duplex operation
- other PHY types in full-duplex mode.

The following are compatible with the generic Reconciliation Sublayer (gRS) defined in 90.5:
- MII (Clause 22)
- GMII (Clause 35)
- XGMII (Clause 46)
- 25GMII (Clause 106)
- XLGMII (Clause 81)
- CGMII (Clause 81)
- 50GMII (Clause 132)
- 200GMII (Clause 117)
- 400GMII (Clause 117)

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.2** *P* **30** *L* **12** # 125

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

Rewrite paragraph(s) for clarity/brevity.

SuggestedRemedy

Replace
The working principle of PLCA is that transmit opportunities on a mixing segment are granted in sequence based on a node ID unique to the local collision domain (set by the management entity). The method of determination of the node ID and to_timer by the management entity is beyond the scope of this standard. Node ID may be optionally allocated by the Dynamic PLCA (D-PLCA) control state diagram in 148.4.7.6. If the D-PLCA functionality is not implemented or is not enabled, node ID is allocated by the management entity using methods beyond the scope of this standard. When not using D-PLCA, proper Proper operation of the Clause 148 functionality assumes that the assigned node ID is unique in the local collision domain.
The node ID assignment value does not appear externally or in the payload packet format. The node ID
assignment value is fully contained within the local collision domain.
With
PLCA grants transmit opportunities on a mixing segment in sequence based on a node ID unique to the local collision domain. This enables the mixing segment to operate collision free enabling full utilization of the media and enforces as defined worst-case access time to the media for each node. The node ID is not contained within the frames on the media. The node ID may be set by management or allocated using Dynamic PLCA (D-PLCA, 148.4.7).

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7** *P* **38** *L* **3** # 126

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

Rewrite for clarity.

SuggestedRemedy

Replace "D-PLCA" with "Dynamic PLCA (D-PLCA)"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.1** *P* **38** *L* **7** # 127

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

Rewrite paragraph(s) for clarity/brevity.

SuggestedRemedy

Replace
Implementations supporting the PLCA RS may optionally support D-PLCA as described in this subclause. If the D-PLCA option is implemented, it shall comply with the state diagrams in Figure 148–8 (D-PLCA Control State Diagram) and Figure 148–9 (D-PLCA Aging State Diagram). D-PLCA allows plug & play operation compared to statically configured PLCA, trading off some latency and throughput due to an increased number of collisions. D-PLCA allows nodes to start with a possibly non-unique PLCA node ID and autonomously select a unique node ID. Additionally, D-PLCA defines a method to designate a single node with ID = 0 (coordinator).
With
D-PLCA is an optional feature of the PLCA RS that reduces the amount of configuration required to use PLCA. D-PLCA enables node to select a unique node ID automatically and defines a method to designate a single node with ID = 0 (coordinator).

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.1** *P* **38** *L* **17** # 128

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

Rewrite paragraph(s) for clarity/brevity.

SuggestedRemedy

Replace
If enabled, D-PLCA constantly adapts the parameters aPLCANodeCount and aPLCALocalNodeID to accommodate the current state of activity (transmit opportunity claims) of the nodes on a mixing segment. When mixing D-PLCA capable nodes with statically configured PLCA nodes, the D-PLCA capable nodes select IDs outside the space of the statically assigned ones. When D-PLCA is used, PHYs detect collisions which can occur until every node selects a unique ID.
With
D-PLCA adjusts aPLCANodeCount and aPLCALocalNodeID based on activity (transmit opportunity claims) of the nodes on a mixing segment. When a mixing segment contains a mixture of nodes with D-PLCA active and not active, the D-PLCA nodes select IDs outside the space of the statically assigned IDs. When D-PLCA is active, PHYs may detect collisions as part of the nodeId assignment process.

Proposed Response *Response Status* **O**

Cl **148** SC **148.4.7.3** P **40** L **27** # 129

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

Extra blank line.

SuggestedRemedy

remove blank line.

Proposed Response *Response Status* **O**

Cl **168** SC **168.1.2.1** P **47** L **47** # 130

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

The "168.1.2.1 State diagram notation" text seems to be identical to that in "146.1.3.1 State diagram notation".

SuggestedRemedy

Move this to 21.5.5 or 21.6.

Proposed Response *Response Status* **O**

Cl **168** SC **168.1** P **47** L **48** # 131

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

Rewrite for clarity/brevity.

SuggestedRemedy

Replace “mixing segment, defined in 168.8” with “mixing segment as defined in 168.8”.

Proposed Response *Response Status* **O**

Cl **168** SC **168.1** P **47** L **48** # 132

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

Rewrite for clarity/brevity.

SuggestedRemedy

Replace “The medium supporting the operation of the” with “the mixing segment for the”.

Proposed Response *Response Status* **O**

Cl **168** SC **168.1** P **47** L **50** # 133

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

Rewrite for clarity/brevity.

SuggestedRemedy

Replace “own media to operate the” with “own media for the” or “own media to use with the”

Proposed Response *Response Status* **O**

Cl **168** SC **168.2** P **48** L **11** # 134

Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**

Provide text for clause 168.2

SuggestedRemedy

168.2 Operation of 10BASE-T1M
The 10BASE-T1M PHY builds on the operation on the 10BASE-T1S/T1M PHY (see 148) when running half-duplex in multidrop mode. It uses half-duplex communications on a single balanced pair of conductors mixing segment, interconnecting up to at least 16 PHYs to a trunk up to at least 50m. PHYs are attached to the mixing segment using the Trunk Connection Interface (TCI) specified in 168.9. An overall effective data rate of 10 Mb/s is shared among the nodes. Larger PHY count and reach may be achieved provided the mixing segment specifications in 168.8 are met.
The 10BASE-T1M PHY utilizes two level Differential Manchester Encoding (DME). A 17-bit self-synchronizing scrambler is used to improve the EMC performance. Following scrambling of the data, 4B/5B encoding is performed (see 168.4.2.4). DME is a self-clocked and intrinsically balanced line coding that guaranteeing very low DC baseline wander and allowing for robust clock and data recovery in noisy environments. The 4B/5B mapping and the scrambler are contained within the PCS (see 168.4) while the DME encoder/decoder is contained in the PMA (see 168.5).

Proposed Response *Response Status* **O**

Cl **168** SC **168.4** P **51** L **19** # 135

Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**

Several of the sub-clauses in Clause 168 must align with the equivalent clauses in Clause 148 to enable interoperability as stated in 168.1 Overview – "The 10BASE-T1M PHY is interoperable with the Clause 147 10BASE-T1S PHY when the 10BASE-T1S PHY is in multidrop mode and the mixing segment is compliant with 147.8 and 168.8."
Copying the text between the clauses creates risk that the two clauses will unintentionally "drift apart".

SuggestedRemedy

Change the sub-clauses that repeat clause 148 text to referring to equivalent sub-clauses, with exceptions noted. Sub-clauses to be considered include:
147.3.1 PCS Reset function and 168.4.1 PCS Reset function
147.3.2 PCS Transmit and 168.4.2 PCS Transmit
147.3.3 PCS Receive and 146.3.4 PCS Receive
147.3.5 Collision detection and 168.4.5 Collision detection
147.3.6 Carrier sense and 168.4.6 Carrier sense
147.4.2 PMA Transmit function and 168.5.2 PMA Transmit function
147.4.3 PMA Receive function and 168.5.3 PMA Receive function
147.5.4 Transmitter electrical specification and 168.6.4 Transmitter electrical specification
147.5.5 Receiver electrical specifications and 168.6.5 Receiver electrical specifications

Proposed Response *Response Status* **O**

Cl **168** SC **168.6.6** P **72** L **38** # 136

Jones, Peter Cisco

Comment Type **TR** *Comment Status* **X**

Replace TBDs.
The proposed resolution assumes my proposed text for clause 45 is accepted.

SuggestedRemedy

Replace "MDIO register 1.2297.13 (TBD), defined in 45.2.1.186d.5 (TBD)," with "MDIO register 1.2297.13, defined in 45.2.1.186d.5".

Proposed Response *Response Status* **O**

Cl **168** SC **168.8** P **73** L **4** # 137

Jones, Peter Cisco

Comment Type **ER** *Comment Status* **X**

Fix incorrect reference.

SuggestedRemedy

Replace "The 10BASE-T1M mixing segment (1.4.331)" with "The 10BASE-T1M mixing segment (1.4.403)".

Proposed Response *Response Status* **O**

Cl **168** SC **168.8** P **73** L **12** # 138

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

Rewrite for clarity/brevity.

SuggestedRemedy

Replace "The TCI is part of the mixing segment, and the requirements of 168.8 are met with TCIs in place with or without attached DTEs as specified for the particular specification."
with
"The TCI is part of the mixing segment, and the requirements of the mixing segment are met with TCIs in place with or without attached DTEs".

Proposed Response *Response Status* **O**

Cl **168** SC **168.9** P **73** L **16** # 139

Jones, Peter Cisco

Comment Type **E** *Comment Status* **X**

add reference.

SuggestedRemedy

Replace "(TCI)" with "(TCI, 1.4.558a)"

Proposed Response *Response Status* **O**

Cl **168** SC **168.8** P **73** L **17** # 140

Jones, Peter Cisco

Comment Type **ER** *Comment Status* **X**

Fix reference to TCI sub-clause.

SuggestedRemedy

Replace “The TCI is specified in 168.8” with “The TCI is specified in 168.9”.

Proposed Response *Response Status* **O**

Cl **168** SC **168.8.1** P **74** L **11** # 141

DiMinico, Christopher PHY-SI/SenTekse/MC Communications

Comment Type **TR** *Comment Status* **X**

168.8.1 Mixing Segment Insertion loss Equation (168–3)is TBD.

SuggestedRemedy

See diminico_3da_01_051524.pdf

Proposed Response *Response Status* **O**

Cl **168** SC **168.8.2** P **74** L **26** # 142

DiMinico, Christopher PHY-SI/SenTekse/MC Communications

Comment Type **TR** *Comment Status* **X**

168.8.2 Mixing Segment Return loss Equation (168–4)is TBD.

SuggestedRemedy

See diminico_3da_01_051524.pdf

Proposed Response *Response Status* **O**

Cl **168** SC **168.9.1.1** P **76** L **15** # 143

DiMinico, Christopher PHY-SI/SenTekse/MC Communications

Comment Type **TR** *Comment Status* **X**

168.9.1.1 TCI Insertion Loss is TBD

SuggestedRemedy

See diminico_3da_01_051524.pdf

Proposed Response *Response Status* **O**

Cl **168** SC **168.9.1.2** P **76** L **17** # 144

DiMinico, Christopher PHY-SI/SenTekse/MC Communications

Comment Type **TR** *Comment Status* **X**

168.9.1.2 TCI Return Loss is TBD

SuggestedRemedy

See diminico_3da_01_051524.pdf

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.4** P **105** L **33** # 145

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

MPD discovery details missing.

SuggestedRemedy

See presentation paul_da_01_20240514

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.5** P **106** L **26** # 146

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Item 6 is TBD

SuggestedRemedy

See presentation paul_da_01_20240514. TBD value is the same threshold as V_{MPD_mark}

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.5** P **106** L **33** # 147

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Item 9 is TBD

SuggestedRemedy

This should be known…make sure label is consistent with state machine, look for data from Paul_da_01_20240124.pdf and discovery model. See presentation paul_da_01_20240514

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.4** P **105** L **33** # 148

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Define Cpd during discovery as 10nF nominal.

SuggestedRemedy

Add another item in Table 169-7. See presentation paul_da_01_20240514,

Proposed Response *Response Status* **O**

Cl **169** SC **169.5.5** P **107** L **22** # 149

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Need MPD MPS text description section

SuggestedRemedy

See presetntation paul_da_03_20240514

Proposed Response *Response Status* **O**

Cl **169** SC **169.3** P **89** L **31** # 150

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Typo in table 169-1, V_{MPD,min} should be 16V

SuggestedRemedy

Change 18V to 16V

Proposed Response *Response Status* **O**

Cl **169** SC **169.3** P **89** L **33** # 151

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Inconsistent values in table 169-1. 16U*1W = 16W, V_MPD,min = 16V, 16W/16V = 1A. So Type 0 I_{TCI_MPSE(min)} must be > 1A, Currently set to 866mA

SuggestedRemedy

Set I_{TCI_MPSE(min)} > 1A, Show exact value and work in presentation paul_da_04_20240514

Proposed Response *Response Status* **O**

Cl **169** SC **169.3** P **89** L **34** # 152

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Inconsistent values in Table 169-1. 1A * 26V = 26W, P_{MPSE_16U(min)} should be greater than 26W

SuggestedRemedy

Set P_{MPSE_16U(min)} greater than 26W, show work in presentation paul_da_04_20240514

Proposed Response *Response Status* **O**

Cl **169** SC **169.1.2** P **87** L **42** # 153

Paul, Michael Analog Devices

Comment Type **E** *Comment Status* **X**

Need new 169-2 Picture

SuggestedRemedy

Create new figure. Were new figures presented at Denver '24?

Proposed Response *Response Status* **O**

Cl **169** SC **169.3** P **89** L **16** # 154

Paul, Michael Analog Devices

Comment Type **E** *Comment Status* **X**

Editor's note is OBE

SuggestedRemedy

Remove editor's note

Proposed Response *Response Status* **O**

Cl **169** SC **169.4.6** P **96** L **46** # 155

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Discovery details need to be filled in along with descriptive text. Detailed material was presented in Paul_da_03_20240313_v0.pdf and Paul_da_01_20240124.pdf, but there were no comments filed against the sections so it has not been adopted.

SuggestedRemedy

See presentation paul_da_01_20240514

Proposed Response *Response Status* **O**

Cl **169** SC **169.4.7** P **98** L **9** # 156

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

What's up with item 2 units and values? 100mA max doesn't make sense

SuggestedRemedy

See presentation paul_da_02_20240514

Proposed Response *Response Status* **O**

Cl **169** SC **169.4.7** P **98** L **14** # 157

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Fill TBD for item 4 in table 169-6

SuggestedRemedy

See presentation paul_da_02_20240514

Proposed Response *Response Status* **O**

Cl **169** SC **169.4.7** P **98** L **22** # 158

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

T_MPDDO TBD can be filled in for item 7 in table 169-6

SuggestedRemedy

See presentation paul_da_03_20240514

Proposed Response *Response Status* **O**

Cl **169** SC **169.4.7** P **98** L **30** # 159

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Fill in item 11 in table 169-6

SuggestedRemedy

See presentation paul_da_02_20240514

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.4.8** *P* **98** *L* **38** # 160

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

TBD in text block

SuggestedRemedy

TBD in text section needs to link to a table symbol in Table 169-5 and have the symbol's value defined. See presentation paul_da_02_20240514

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.5.3.2** *P* **101** *L* **100** # 161

Paul, Michael Analog Devices

Comment Type **E** *Comment Status* **X**

TBDs in Constants section, some need to be linked to table of MPD Power Supply Limits Table, some need to be linked to MPD Discovery Table.

SuggestedRemedy

Link relevant values to MPD Power Supply Limits table (presently Table 169-7, probably Table 169-8 in next draft). Make sure table symbols and state machine names are consistent

Proposed Response *Response Status* **O**

Cl **169** *SC* **169.5.3.2** *P* **101** *L* **100** # 162

Paul, Michael Analog Devices

Comment Type **E** *Comment Status* **X**

TBDs in Constants section, some need to be linked to table of MPD Power Supply Limits Table, some need to be linked to MPD Discovery Table.

SuggestedRemedy

Link relevant values to MPD Discovery table from presentation paul_da_01_20240514. (Probably Table 169-7 in next draft). Make sure table symbols and state machine names are consistent

Proposed Response *Response Status* **O**