Cl **FM** *SC* **FM** *P* **1** *L* **25** # 92

Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *order*

This list does not agree in order with the January amendment number assignments by Mr. Law

SuggestedRemedy

Move de to be in the position of Amendment 6. Correct "ds" to be "cs". Either change/remove the amendment # at line 10 (either this is written as amendment 7 or you need another amendment in the list here). I would recommend removing the number but still writing the draft as amendment 7 for now even though P802.3cz has entered WG ballot.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #101

Cl **FM** *SC* **FM** *P* **1** *L* **27** # 101

Zimmerman, George CME Consulting/ADI,APL Gp,CSCO,Commscp,MRV

Comment Type **E** *Comment Status* **A** *order*

"as amended by IEEE Std 802.3dd-202x, IEEE Std 802.3de-202x, IEEE Std 802.3ds-202x, IEEE Std 802.3db-202x, IEEE Std 802.3ck-202x, and IEEE Std 802.3cw-202x." - at least 802.3cx is missing, possibly others. Additionally, the front matter has changed in 802.3dc D3.0 and the draft is out of date in several places.

SuggestedRemedy

Rather than chase the amendment order for the next few drafts, as well as possible front matter changes before 802.3dc publishes, suggest an editor's note flagging a necessary sync of the front matter prior to D2.0. :At P1 L24:
"Editor's Note (to be removed prior to initial Working Group Ballot): Front matter and Introduction text (including list and order of amendments) to be synchronized with the current draft from IEEE-SA and the revision of IEEE Std 802.3 prior to initial Working Group Ballot. "

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert the following text at P1 L24:
"Editor's Note (to be removed prior to initial Working Group Ballot): Front matter and Introduction text (including list and order of amendments) to be synchronized with the latest version per Editors' repository prior to initial Working Group Ballot."

Cl **FM** *SC* **FM** *P* **1** *L* **33** # 93

Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *bucket*

Missed one copyright year update

SuggestedRemedy

Update to 2022

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **3** *L* **9** # 94

Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *order*

This is not the current text for the legal part of front matter (i.e., second paragraph), two paragraphs missing from Patents (page 5).

SuggestedRemedy

Update to current required front matter.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #101

Cl **FM** *SC* **FM** *P* **10** *L* **39** # 95

Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *order*

Section Nine text was changed during P802.3 balloting.

SuggestedRemedy

Updat to current Section Nine description.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #101

Cl **FM** *SC* **FM** *P* **10** *L* **50** # 96

Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *order*

This amendment list does not agree in order with the January amendment number assignments by Mr. Law

SuggestedRemedy

Move de to be Amendment 6. Renumber other amendments.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #101

Cl **FM** *SC* **FM** *P* **11** *L* **3** # 97

Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *bucket*

Dhis description does not agree with the P802.3cs/D3.2.

SuggestedRemedy

Update to latest P802.3cs self description.

Response *Response Status* **C**

ACCEPT.

Cl **FM** *SC* **FM** *P* **11** *L* **28** # 98

Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *bucket*

Dhis description does not agree with the P802.3cx/D2.3.

SuggestedRemedy

Update to latest P802.3cx self description.

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4** *P* **23** *L* **10** # 103

Zimmerman, George CME Consulting/ADI,APL Gp,CSCO,Commscp,MRV

Comment Type **E** *Comment Status* **A**

Definition for PoDL PSE needs to be updated to be relevant to 25GBASE-T1. Note that this was missed in 802.3ch and the revision, but the second sentence which calls out the PHYs is not only unnecessary to the definition and leaves out MultiGBASE-T1, but is misaligned with the definition of a PoDL PD. Also, it leads to the incorrect impression that a PoDL PSE always has a PHY (A type D PoDL PSE doesn't need a PHY). A maintenance request has been filed, but I believe 802.3cy can do this as a service to humanity within scope.

SuggestedRemedy

Change: 1.4.473 PoDL PSE: A device that provides power to a PoDL PD, connected via a link section consisting of
a single twisted pair. <SO> DTE powering is intended to provide a single 100BASE-T1 or 1000BASE-T1 device
with a unified interface for both the reception and transmission of data as well as the power to operate. <SO> (See
IEEE Std 802.3, Clause 104.)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Insert the following:
1.4.473 PoDL PSE: A device that provides power to a PoDL PD, connected via a link section consisting of a single <strike>twisted</strike><underline>conductor</underline> pair. <strike>DTE powering is intended to provide a single 100BASE-T1 or 1000BASE-T1 device with a unified interface for both the reception and transmission of data as well as the power to operate.</strike> (See IEEE Std 802.3, Clause 104.)

Cl **1** *SC* **1.4** *P* **23** *L* **10** # 102

Zimmerman, George CME Consulting/ADI,APL Gp,CSCO,Commscp,MRV

Comment Type **E** *Comment Status* **A**

Definitions for 25GBASE-T1, 50GBASE-T2, and 100GBASE-T2 are missing, as well as an update to MultiGBASE-T1. 25GBASE-T1 is a member of the MultiGBASE-T1 family - an update to that definition needs to be added to the draft.

SuggestedRemedy

Add the following to the draft (as inserts in the appropriate places)
Insert 1.4.128a following definition for 25GBASE-T,
1.4.128a 25GBASE-T1: IEEE 802.3 Physical Layer specification for a 25 Gb/s Ethernet full duplex local area network over a single balanced pair of conductors. (See IEEE Std 802.3, Clause 165.)
Insert 1.4.175a following definition for 50GBASE-SR,
1.4.175a 50GBASE-T2: IEEE 802.3 Physical Layer specification for a 50 Gb/s Ethernet full duplex local area network over a two balanced pairs of conductors. (See IEEE Std 802.3, Clause 165.)
Insert 1.4.41a following definition for 100GBASE-SR,
1.4.41a 100GBASE-T4: IEEE 802.3 Physical Layer specification for a 50 Gb/s Ethernet full duplex local area network over a four balanced pairs of conductors. (See IEEE Std 802.3, Clause 165.)
Change 1.4.407 to add 25GBASE-T1 as follows:
1.4.407 MultiGBASE-T1: PHYs that belong to the set of specific BASE-T1 PHYs at speeds in excess of
1000 Mb/s, including 2.5GBASE-T1, 5GBASE-T1, <SO>and <SO>10GBASE-T1<UL>, and 25GBASET1<UL>. (See IEEE Std 802.3, Clause 149<UL> and Clause 165.)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add the following to the draft (as inserts in the appropriate places)
Insert 1.4.128a following definition for 25GBASE-T,
1.4.128a 25GBASE-T1: IEEE 802.3 Physical Layer specification for a 25 Gb/s Ethernet full duplex local area network over a single balanced pair of conductors. (See IEEE Std 802.3, Clause 165.)
Insert 1.4.175a following definition for 50GBASE-SR,
1.4.175a 50GBASE-T2: IEEE 802.3 Physical Layer specification for a 50 Gb/s Ethernet full duplex local area network over a two balanced pairs of conductors. (See IEEE Std 802.3, Clause 165.)
Insert 1.4.41a following definition for 100GBASE-SR,
1.4.41a 100GBASE-T4: IEEE 802.3 Physical Layer specification for a 50 Gb/s Ethernet full duplex local area network over a four balanced pairs of conductors. (See IEEE Std 802.3, Clause 165.)
Change 1.4.407 to add 25GBASE-T1 as follows:
1.4.407 MultiGBASE-T1: PHYs that belong to the set of specific BASE-T1 PHYs at speeds in excess of 1000 Mb/s, including 2.5GBASE-T1, 5GBASE-T1, <SO>and <SO>10GBASE-T1<UL>, and 25GBASE-T1<UL>. (See IEEE Std 802.3, Clause 149<UL> and Clause 165.)

Cl **30** *SC* **30.5.1.1.2** *P* **26** *L* **3** # 99

Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *bucket*

P802.3 sort order for aMAUTypeList was clarified to be: 1. increasing rate, 2. Alphanumeric (see P802.3/D3.0, #i-51). Looking at P802.3/D3.2, in process amendments 2 though 6, and P802.3cz/D2.0, this insert should be after 50GBASE-SR.

SuggestedRemedy

after the entry for “50GBASE-SR” as follows:

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.5.1.1.2** *P* **26** *L* **8** # 100

Grow, Robert RMG Consulting

Comment Type **E** *Comment Status* **A** *bucket*

P802.3 sort order for aMAUTypeList was clarified to be: 1. increasing rate, 2. Alphanumeric (see P802.3/D3.0, #i-51). Looking at P802.3/D3.2, in process amendments 2 though 6, and P802.3cz/D2.0, this insert should be after 100GBASE-SR10.

SuggestedRemedy

after the entry for “100GBASE-SR10” as follows:

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.5.1.1.4** *P* **26** *L* **15** # 104

Zimmerman, George CME Consulting/ADI,APL Gp,CSCO,Commscp,MRV

Comment Type **T** *Comment Status* **A** *bucket*

With the direction and decisions made on coding, it appears that the MultiGBASE-T1 high BER bits will remain the same - the editors note and the text can be deleted.

SuggestedRemedy

Delete the editor's note and text at 30.5.1.1.4

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1** *P* **28** *L* **8** # 105

Zimmerman, George CME Consulting/ADI,APL Gp,CSCO,Commscp,MRV

Comment Type **T** *Comment Status* **A** *bucket*

It appears that the MultiGBASE-T1 registers can be used as is. Bonding the PHYs at the RS level may require additions to the PCS status registers, but NOT the PMA

SuggestedRemedy

Delete the editor's note at 45.2.1

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.16** *P* **29** *L* **24** # 106

Zimmerman, George CME Consulting/ADI,APL Gp,CSCO,Commscp,MRV

Comment Type **T** *Comment Status* **A**

Given the architecture decisions, I do not believe there is a 100GBASE-T4 or 50GBASE-T2 PMA/PMD. There is only a 25GBASE-T1 PMA/PMD. While there is a 100GBASE-T4 and 50GBASE-T2 PHY Type, bonding is done above the PMA/PMD level, using the 25GBASE-T1 PMA/PMD.

SuggestedRemedy

Delete additions of 1.18.8, 1.18.9, and recover bits into reserved row. Additionally delete 45.2.1.16.a, 45.2.1.16.b and renumber 45.2.16.c as 45.2.16.a

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

No changes per comment.
Insert editorial note as in comment #83.

Cl **45** *SC* **45.2.1.214** *P* **30** *L* **23** # 107

Zimmerman, George CME Consulting/ADI,APL Gp,CSCO,Commscp,MRV

Comment Type **T** *Comment Status* **A**

Given the architecture decisions, I do not believe there is a 100GBASE-T4 or 50GBASE-T2 PMA/PMD. There is only a 25GBASE-T1 PMA/PMD. While there is a 100GBASE-T4 and 50GBASE-T2 PHY Type, bonding is done above the PMA/PMD level, using the 25GBASE-T1 PMA/PMD.

SuggestedRemedy

Delete additions for 100GBASE-T4 and 50GBASE-T2.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

No changes per comment.
Insert editorial note as in comment #83.

Cl **45** *SC* **45.2.1.242** *P* **30** *L* **49** # 108

Zimmerman, George CME Consulting/ADI,APL Gp,CSCO,Commscp,MRV

Comment Type **E** *Comment Status* **A** *bucket*

It appears that the MultiGBASE-T1 registers can be used as is. Bonding the PHYs at the RS level may require additions to the PCS status registers, but NOT the PMA

SuggestedRemedy

Delete editor's note before 45.2.1.242

Response *Response Status* **C**

ACCEPT.

Cl **45** *SC* **45.2.1.242** *P* **31** *L* **1** # 112

Zimmerman, George CME Consulting/ADI,APL Gp,CSCO,Commscp,MRV

Comment Type **T** *Comment Status* **A**

We need to consider how to address multiple 25GBASE-T1 PHYs in a package acting as a 50GBASE-T2 or 100GBASE-T4 PHY. Right now the registers would all have the same address.

SuggestedRemedy

Insert editor's note flagging this issue.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

No changes per comment.
Insert editorial note as in comment #83.

Cl **45** *SC* **45.2.1.245.1** *P* **35** *L* **13** # 111

Zimmerman, George CME Consulting/ADI,APL Gp,CSCO,Commscp,MRV

Comment Type **T** *Comment Status* **A**

Given the architecture decisions, I do not believe there is a 100GBASE-T4 or 50GBASE-T2 PMA/PMD. There is only a 25GBASE-T1 PMA/PMD. While there is a 100GBASE-T4 and 50GBASE-T2 PHY Type, bonding is done above the PMA/PMD level, using the 25GBASE-T1 PMA/PMD.

SuggestedRemedy

change "25GBASE-T1, 50GBASE-T2, and 100GBASE-T4" to "25GBASE-T1 (when used separately or in a 50GBASE-T2 or 100GBASE-T4 PHY)"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

No changes per comment.
Insert editorial note as in comment #83.

Cl **98B** *SC* **98B.3** *P* **190** *L* **25** # 90

Tu, Mike Broadcom

Comment Type **T** *Comment Status* **A** *autoneg*

Add autoneg capability bits for 25G, 50G, and 100G

SuggestedRemedy

1. Delete row at line 26 "A6 through A8 | Reserved"

2. Add the following rows to Table 98B-1:
A6 | 25GBASE-T1 ability
A7 | 50GBASE-T2 ability
A8 | 100GBASE-T4 ability

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #83

Cl **98B** *SC* **98B.3** *P* **190** *L* **26** # 83

Wienckowski, Natalie General Motors

Comment Type **T** *Comment Status* **A** *autoneg*

Add 25GBASE-T1, 50GBASE-T2, and 100GBASE-T4 to Annex 98B

SuggestedRemedy

-x- indicates to strikethrough "x"
_y_ indicates to underline "y"
| indicates the line between columns in a table

Instert new rows above "A6 through A8"
A6 | 25GBASE-T1 ability
A7 | 50GBASE-T2 ability
A8 | 100GBASE-T4 ability
Change row "A6 through A8" to -A6 through A8-
Update editor's instructions

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change per comment + insert editorial note "The use of 50GBASE-T2 and 100GBASE-T4 subject to future discussion about laning and where laning happens (below or above MII)".

Cl **98B** *SC* **98B.4** *P* **190** *L* **32** # 91

Tu, Mike Broadcom

Comment Type **T** *Comment Status* **A** *priority*

Add new entries for 802.3cy

SuggestedRemedy

1. Change line 32:
Insert the following new entries in the dashed list before the entry for 10GBASE-T1 as follows:

2. Change "-- XXX" to:
-- 100GBASE-T4
-- 50GBASE-T2
-- 25GBASE-T1

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See comment #84

Cl **98B** *SC* **98B.4** *P* **190** *L* **33** # 84

Wienckowski, Natalie General Motors

Comment Type **T** *Comment Status* **A** *priority*

Add 25GBASE-T1, 50GBASE-T2, and 100GBASE-T4 to Annex 98B

SuggestedRemedy

Change editor's instructions to be "Insert the following new entries in the dashed list before the entry for 10GBASE-T1 as follows:"
- 100GBASE-T4
- 50GBASE-T2
- 25GBASE-T1

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change per comment + insert editorial note per comment #83.

Cl **165** *SC* **165.3.2.2.17** *P* **93** *L* **35** # 85

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **A** *bucket*

SuggestedRemedy

Delete Editorial Note as this content was updated for D1.0.

Response *Response Status* **C**

ACCEPT.

Cl **165** *SC* **165.4.2.6** *P* **140** *L* **43** # 86

Tu, Mike Broadcom

Comment Type **E** *Comment Status* **A**

In Equation 165-11, the notation of the polynomial should be p_S(x).

SuggestedRemedy

Change Equation 165-11 from "p_{MS}(x)" … to "p_S(x)…"

Response *Response Status* **C**

ACCEPT.

Page was changed from 141 to 140

Cl **165** *SC* **165.4.2.6** *P* **141** *L* **1** # 87

Tu, Mike Broadcom

Comment Type **T** *Comment Status* **A**

For 25GBASE-T1, each bit should be repeated 20 times.

SuggestedRemedy

1. Delete the first 3 paragraphs on page 141 (line 1 to 8).
2. Add: "For 25GBASE-T1, the bit Sn[0] shall be mapped to the transmit symbol Tn as follows: if Sn[0] = 0 then Tn = +1 +1 … +1 (repeated 20 times), if Sn[0] = 1 then Tn = -1 -1 ... -1 (repeated 20 times)."

Response *Response Status* **C**

ACCEPT.

Page was changed form 142 to 141

Cl **165** *SC* **165.4.2.6.2** *P* **142** *L* **49** # 88

Tu, Mike Broadcom

Comment Type **T** *Comment Status* **A**

Replace "… used to TBD." with "… used to avoid overlapping of MASTER and SLAVE SEND_S signals."

SuggestedRemedy

Replace "… used to TBD." with "… used to avoid overlap of MASTER and SLAVE SEND_S signals."

Response *Response Status* **C**

ACCEPT.

Cl **165** *SC* **165.4.2.6.4** *P* **144** *L* **43** # 89

Tu, Mike Broadcom

Comment Type **T** *Comment Status* **A**

In Figure 165-31, add "force_phy_type != 25G-T1" to the entry condition into state SYNC_DISABLE.

SuggestedRemedy

Change the entry condition from:
"… force_phy_type != 5G-T1 * force_phy_type != 10G-T1)"
to
"… force_phy_type != 5G-T1 * force_phy_type != 10G-T1 * force_phy_type != 25G-T1)"

Response *Response Status* **C**

ACCEPT.

Cl **165** *SC* **165.5.3.4** *P* **156** *L* **10** # 113

Tu, Mike Broadcom

Comment Type **E** *Comment Status* **A** *LATE*

The speed is 25G

SuggestedRemedy

Change: "… for each data rate, 2.5 Gb/s, 5 Gb/s, and 10 Gb/s, are shown ..." to "… for the 25Gb/s data rate is shown ...". In the equation (165-14) and (165-15) remove S and multiply by the fixed factor 2.5.

Response *Response Status* **C**

ACCEPT.

Cl **165** *SC* **165.7.1.3.2** *P* **165** *L* **20** # 109

Zimmerman, George CME Consulting/ADI,APL Gp,CSCO,Commscp,MRV

Comment Type **T** *Comment Status* **A**

Equation 165-34 has typos. There is no "r" in the metric, which is used in the equation. Checking https://www.ieee802.org/3/cy/public/30mar21/jonsson_3cy_01a_03_30_21.pdf, as well as eqn 165-35, it appears the RE_k(k) should be RE_r(k). Also, the Pr in the description of the zero value should have a subscripted r (two places)

SuggestedRemedy

Change as per comment.

Response *Response Status* **C**

ACCEPT.

Cl **165** *SC* **165.7.1.3.3** *P* **165** *L* **38** # 110

Zimmerman, George CME Consulting/ADI,APL Gp,CSCO,Commscp,MRV

Comment Type **E** *Comment Status* **A** *bucket*

section xxx.1 should be a cross-ref to 165.7.1.3.2

SuggestedRemedy

Change as per comment.

Response *Response Status* **C**

ACCEPT.

Cl **165** *SC* **165.9** *P* **171** *L* **8** # 82

Wienckowski, Natalie General Motors

Comment Type **E** *Comment Status* **A** *bucket*

This content is correct.

SuggestedRemedy

Delete Editorial Note.

Response *Response Status* **C**

ACCEPT.