

IEEE P802.3cq D2.0 2-Pair PoE Maintenance Initial Working Group ballot comments

Cl 33 SC 33.2.7 P0 L0 # 42

Yseboodt, Lennart Signify
 Comment Type TR Comment Status X

(Note: page/line number absent as this section is not currently in the draft.)

The MPS issue in Clause 33 that was discussed at the last meeting is still unresolved.
 See: http://www.ieee802.org/3/cq/public/mar19/yseboodt_01_0319.pdf
 Also: http://www.ieee802.org/3/cq/public/mar19/abramson_01_0319.pdf

After some digging through the 802.3af presentations/comments, I have some thoughts:
 - For PDs, AC MPS must be met continuously, there is no permitted duty cycle as there is for DC MPS
 - For PSEs, AC MPS uses the same Tmpdo, but Tmps does not apply. There is only a requirement to remove power when AC MPS has been absent for Tmpdo. There is no equivalent "shall not remove power" requirement.
 - There is no supporting evidence that the AF task force was aware of the "third MPS state". At first glance the chosen numbers (75/250 for PD) and (60/300-400 for PSE) seem compatible.

Without this 'third state' nonsense, the MPS spec is easy to understand: reset Tmpdo whenever MPS is present.
 If Tmpdo runs out, remove power.

Because of the "Tmpdo+Tmps windo" requirement, vendors may have implemented MPS in a way where after Tmpdo runs out, power is maintained as long as a DC pulse is in progress.
 But why would any PSE maintain power after 400ms without having seen a complete valid pulse ?
 No compliant PD (even with a lot of margin) would produce this behavior.

The change below would not make any PSE that complies to the current spec non-compliant, with the sole exception of a theoretical PSE that chose Tmpdo=300 and Tmps=60. Such PSE actually fails to interoperate with compliant PDs, which is the very issue we're trying to solve here.

SuggestedRemedy

Part I - closing the hole

- Change Tmpdo min from 300ms to 320ms
- Change in 33.2.9.1.2

"The PSE shall not remove power from the port when I Port is greater than or equal to I Hold max continuously for at least T MPS every T MPS + T MPDO , as defined in Table 33-11."

to read

"The PSE shall not remove power from the port when I Port is greater than or equal to I

Hold max continuously for at least T MPS in the T MPDO window, as defined in Table 33-11."

Part II - grandfathering (optional, I would not recommend this)

- Change Tmpdo max to ... 420ms ? or 460 ms ?

Alternatively, we can pursue Dave Abramson's approach to encode new behavior in the state diagram, where the PSE can maintain power even after Tmpdo, when a pulse is in progress. I fear however we'll end up with more complexity in the end as we try to answer more corner case questions like: if the pulse fails to complete, how fast should the PSE react then ?

Proposed Response Response Status W
 TFTD

Updated resolutions proposed on the reflector.

Cl 33 SC 33.2.7.9 P0 L0 # 43

Yseboodt, Lennart Signify
 Comment Type TR Comment Status X

See comment #8 against D1.1, which was withdrawn due to confusion about missing statements in the state diagram.
 This turned out to be a Frame formatting error, which is now resolved.

The issue stands however. The requirement: "The specification for V Off in Table 33-11 shall apply to the PI voltage in the IDLE State.", does NOT only apply in the IDLE state, but in any state where physical time is spent and where the PSE is supposed to be OFF.
 Those are: BACKOFF, DISABLED, ERROR_DELAY, TEST_ERROR, and IDLE.

SuggestedRemedy

Replace text by:

"The specification for V Off in Table 33-11 shall apply to the PI voltage in the BACKOFF, DISABLED, ERROR_DELAY, TEST_ERROR, and IDLE state."

Proposed Response Response Status W
 TFTD due to previous comment.

IEEE P802.3cq D2.0 2-Pair PoE Maintenance Initial Working Group ballot comments

Cl **FM** SC **FM** P12 L1 # 6

Nicholl, Shawn Xilinx
 Comment Type **E** Comment Status **D**

This page contains edits to the "Contents" section of the base standard, but is missing the "Contents" heading.

SuggestedRemedy

Insert a heading for "Contents" and place the text from this page under the heading.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD LY

Should be OBE by 27

Cl **FM** SC **FM** P12 L29 # 7

Nicholl, Shawn Xilinx
 Comment Type **E** Comment Status **D**

The table of contents entry for 33.8 has incorrect indenting, and is missing dots (....).

SuggestedRemedy

Fix the indenting such that "Ethernet" appears under "Protocol". Insert dots so that the page number (20) appears right-aligned.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD LY

Should be OBE by 27

Cl **FM** SC **FM** P12 L30 # 12

Zimmerman, George CME Consulting/ADI, APL Gp, Aquantia, BMW, Cisco
 Comment Type **E** Comment Status **D**

Something is wrong with formatting for table of contents for 33.8 - page number is next to text instead of right-justified

SuggestedRemedy

Align page number in ToC

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD LY

Should be OBE by 27

Cl **33** SC **33.1** P15 L11 # 1

Maguire, Valerie The Siemon Company
 Comment Type **T** Comment Status **X**

"Multipair balanced" is not a specific enough reference as it potentially allows other than 100-ohm twisted-pair cables, cables that may be constructed from other than copper conductors, and other cables that may not be suitable for PoE deployment. Be specific about the number of pairs that the application uses.

SuggestedRemedy

Replace, "for deployment over multiple pair balanced twisted-pair cabling" with "for deployment over 2 pairs of balanced twisted-pair cabling having a nominal characteristic impedance of 100 W.". Use the ohms symbol for where "W" is indicated in this remedy.

Proposed Response Response Status **W**

TFTD

should we align this with clause 145 rather than create another new description?

TFTD LY

Clause 145 does not attempt to indicate the intended type of cabling used in 145.1. No need for Clause 33 to dive into this rathol
 Change: "This clause defines the functional and electrical characteristics for providing a Power over Ethernet (PoE) system for deployment over multiple pair balanced twisted-pair cablin"
 To: "This clause defines the functional and electrical characteristics for providing a Power over Ethernet (PoE) system."

IEEE P802.3cq D2.0 2-Pair PoE Maintenance Initial Working Group ballot comments

Cl 33 SC 33.1 P15 L14 # 14

Zimmerman, George CME Consulting/ADI, APL Gp, Aquantia, BMW, Cisco

Comment Type **TR** Comment Status **D**

"for use with the MAU defined in Clause 14 and the PHYs defined in Clause 25 and Clause 40." - as amended by IEEE Std 802.3bt, clause 33 is also defined with the PHYs defined by clauses 55 and 126. (we missed the reference in first sentence of 33.1 in 802.3bt, but got the next paragraph...)

SuggestedRemedy

Change "Clause 25 and Clause 40." to "Clauses 25, 40, 55, and 126."

Proposed Response Response Status **W**

PROPOSED ACCEPT.

TFTD LY

Change "Clause 25 and Clause 40." to "Clause 25, Clause 40, Clause 55, and Clause 126."

Cl 33 SC 33.1.3 P15 L26 # 2

Maguire, Valerie The Siemon Company

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

Poor grammar makes this sentence difficult to understand.

SuggestedRemedy

Replace, "In an Endpoint PSE and in a PD the Power Interface is the MDI as defined in 1.4.324." with, "The Power Interface in both an Endpoint PSE and in a PD is the MDI defined in 1.4.324."

Proposed Response Response Status **W**

PROPOSED ACCEPT.

TFTD LY

Need to avoid conflict with comment #19. Change to: "The PI in both an Endpoint PSE and in a PD is the MDI defined in 1.4.324."

Cl 33 SC 33.1.3 P15 L27 # 19

Remein, Duane Huawei

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

If you insist on defining mnemonics then you should use them consistently.

SuggestedRemedy

Change "Power Interface" to "PI" (as defined in the previous para)

Proposed Response Response Status **W**

PROPOSED ACCEPT.

TFTD LY

OBE by #2.

Cl 33 SC 33.2.4.4 P16 L34 # 20

Remein, Duane Huawei

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

Tables do not "update" anything, they may describe how something is updated.

SuggestedRemedy

Change "updated by Table 33-6" to "updated per Table 33-6"

Proposed Response Response Status **W**

PROPOSED ACCEPT.

TFTD LY

OBE by 40

Response DNA: I want to make sure we capture the change from "updated by" to "updated per"

IEEE P802.3cq D2.0 2-Pair PoE Maintenance Initial Working Group ballot comments

Cl 33 SC 33.2.4.4 P16 L35 # 40

Carlson, Steven High Speed Design, Inc;Robert Bosch; Marvell

Comment Type TR Comment Status D

This statement, "updated by Table 33-6 that indicates the type of PD as advertised through Data Link Layer" makes no sense. Table 33-6—Invalid PD detection signature electrical characteristics, has nothing to do with the DDL classification. Is Table 33-7—Physical Layer power classifications (PClass) what is meant? That doesn't really make sense to me, either. I see no table that refers to updating the physical layer class. The same language is also used on page 17, line 41.

SuggestedRemedy

Replace the reference to Table 33-6 to whatever the correct table is and language that indicates the function and correct table that does the updating. This should also be done for page 17, line 41.

Proposed Response Response Status W

PROPOSED ACCEPT.

TFTD GT

Change from ACCEPT to AIP. The provided remedy is not fully specified.

Cl 33 SC 33.2.4.4 P16 L35 # 15

Zimmerman, George CME Consulting/ADI, APL Gp, Aquantia, BMW, Cisco

Comment Type TR Comment Status D

"updated by Table 33-6" Tables don't update, and I can't figure out what is meant because Table 33-6 is the Invalid PD detection signature electrical characteristics. (do you mean Table 33-7, the Physical layer classifications? Not sure) - honestly, I don't see a table that really applies to updating the dll classification...

Same comment applies to page 17 L41 which has the same text

SuggestedRemedy

Replace reference to Table 33-6 with appropriate reference (whatever that may be), and change "updated by" with "updated by <whatever the intended function is> according to Table 33-xx"

Same comment applies to P17 L41, which has the same text.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

OBE by 40

TFTD LY

Multiple commenters point out that Tables cannot update variables. What is happening is that the state diagram variables are being written both by: - the state diagram - a managed object (linked to an LLDPDU field) which is linked to that variable by... Table 33-23. Please put this note in the comment database so we don't get repeat comments.

Cl 33 SC 33.2.4.4 P16 L38 # 8

Nicholl, Shawn Xilinx

Comment Type E Comment Status D

The indent on value 2 is misaligned.

SuggestedRemedy

Indent the 2 so that it underneath the 1 value. After the "2:" remove the tab.

Proposed Response Response Status W

PROPOSED ACCEPT.

TFTD LY

Resolution conflicts with #34 and does not match with rest of the clause. OBE by #34.

Cl 33 SC 33.2.7 P17 L1 # 4

Abramson, David Texas Instruments

Comment Type TR Comment Status X

MPS requirements disagree with the state diagram.

SuggestedRemedy

See abramson_01_0519.pdf

Proposed Response Response Status W

TFTD

See other MPS comment

Cl 33 SC 33.3.3.3 P17 L39 # 22

Rerein, Duane Huawei

Comment Type E Comment Status D

Tables do not "update" anything, they may describe how something is updated.

SuggestedRemedy

Change "updated by Table 33-6" to "updated per Table 33-6"

Proposed Response Response Status W

PROPOSED ACCEPT.

TFTD LY

See #15. Suggest we ask David Law to check this language and possibly come up with something else (as he introduced this verbiage).

IEEE P802.3cq D2.0 2-Pair PoE Maintenance Initial Working Group ballot comments

Cl 33 SC 33.3.3.3 P17 L43 # 9

Nicholl, Shawn Xilinx
 Comment Type E Comment Status D

The indent on value 2 is misaligned.

SuggestedRemedy

Indent the 2 so that it underneath the 1 value. After the "2:" remove the tab.

Proposed Response Response Status W

PROPOSED ACCEPT.

TFTD LY

Does not match with rest of the Clause. Use same resolution as in #34.

Cl 33 SC 33.3.3.5 P18 L11 # 24

Remein, Duane Huawei
 Comment Type E Comment Status D

In Figure 33-16 the exit criteria from the IDLE state does not need parenthesis.

SuggestedRemedy

change "(VPD > VReset)" to "VPD > VReset" using proper subscripting.

Proposed Response Response Status W

PROPOSED ACCEPT.

TFTD LY

Comparisons in the Clause 33 state diagrams have parens, unless the entire statement is just a comparison. Let's not start making these kind of changes, no added value.

Cl 33 SC 33.3.7.3 P19 L8 # 16

Zimmerman, George CME Consulting/ADI, APL Gp, Aquantia, BMW, Cisco
 Comment Type E Comment Status D

Table 33-6 is the wrong table and there is no parameter Von_pd in that table or any other. It appears to be Table 33-18 which is meant, and it appears that the parameter is V_on, not V_on_PD.

SuggestedRemedy

Change "Table 33-6" to "Table 33-18", and V_On_PD to V_On.

Proposed Response Response Status W

PROPOSED ACCEPT.

TFTD LY

In Clause 145 we refer to VOn_PD which is a range 30V to 42V. This is the correct range for a PD to turn on. Clause 33 doesn't have this, it has Von=42V max and Voff=30V min.

Change to... "... when Vpd crosses the PD power supply turn on voltage, in the range of Voff to Von, as defined in Table 33-18, and ends after Tdelay."

Cl 33 SC 33.3.7.3 P19 L8 # 26

Remein, Duane Huawei
 Comment Type E Comment Status D

Tdelay is not defined or used in Clause 33 nor are the following variables: Cport, Ilnrush_PD

At least I was unable to find them with a pdf search in this amendment (or the base Std)

SuggestedRemedy

I see them in Table 33-18 but for some reason they are not searchable. It would be of benefit to the reader if they were searchable, please make them searchable.

Proposed Response Response Status W

PROPOSED ACCEPT.

TFTD...Lennart?

TFTD LY

I checked the 802.3-2018 Section 2 file and my PDF reader can find "VOn"...

IEEE P802.3cq D2.0 2-Pair PoE Maintenance Initial Working Group ballot comments

Cl 33 SC 33.5 P20 L0 # 5

Jones, Chad Cisco

Comment Type ER Comment Status D

As discussed at the March 2019 meeting in Vancouver (and as written in the minutes from that meeting so that we don't forget), we need to deprecate section 33.5.

SuggestedRemedy

Add the note to the top of section 33.5:

Note - 33.5 has been deprecated. Since May 2019, maintenance changes are no longer being considered for this subclause.

Also, delete the following PICS:

33.8.2.4 *MAN, *PCA

33.8.3.7 the whole subclause

Proposed Response Response Status W

PROPOSED ACCEPT.

TFTD GT

Forward reference to the superceding clauses is also needed.