

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.8.1 P45 L46 # 23
 Delveaux, Bill Cisco
 Comment Type E Comment Status A ez
 Substitue variable name for number
 SuggestedRemedy
 Change 51mA to lclass_lim Min
 Response Response Status C
 ACCEPT.

Cl 33 SC 33.3.5.1 P63 L45 # 24
 Feldman, Daniel Microsemi
 Comment Type TR Comment Status A ez
 Table 33-14
 PD maximum power on class 4 is 29.5W. Should be 25.5W, given 600mA of I_{cable}
 SuggestedRemedy
 Replace 29.5 with 25.5W.
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 OBE 43

Cl 33 SC 33.2.4.1 P33 L25 # 26
 Patoka, Martin Texas Instruments
 Comment Type E Comment Status A
 Backoff is referred to as a cycle even though it is defined as a period.
 A PSE that is performing Alternative B detection shall not resume detection mode until at least one backoff cycle has elapsed.
 SuggestedRemedy
 A PSE that is performing Alternative B detection shall not resume detection mode until at least one backoff period has elapsed.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Comment Type blank, set to E as default.
 OBE 115

Cl 33 SC 33.2.4.3 P33 L51 # 27
 Patoka, Martin Texas Instruments
 Comment Type E Comment Status A
 Definition is confusing. Also, adding the relationship between the defined variables would be helpful.
 Current during inrush period of startup
 SuggestedRemedy
 Current during startup
 I propose adding:
 I_{cable} <= I_{cut} <= I_{lim}
 Response Response Status C
 ACCEPT IN PRINCIPLE. Comment Type blank, set to E as default.
 Change to:
 Output current during startup (See Table 33-9, Figure 33-14)

Cl 33 SC 33.1.4 P25 L44 # 28
 Patoka, Martin Texas Instruments
 Comment Type E Comment Status A cable
 Table 33-1 mixes TIA/EIA and ANSI terms for the cable type.
 SuggestedRemedy
 Suggest changine the CAT3 reference to Class C.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 518

Cl 33 SC 33.1.3 P25 L8 # 29
 Patoka, Martin Texas Instruments
 Comment Type E Comment Status A
 Figure 33-3. The drawing for the medium infers that it begins before the PHY.
 SuggestedRemedy
 Recommend squaring hte medium box off to form an elbow to the phy.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Changes shown in landry_fig33-1-fig33-3_v01.pdf

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.4.1 P33 L 13 # 30
 Patoka, Martin Texas Instruments

Comment Type E Comment Status A
 Wording is awkward

The PSE shall turn on power after a valid detection in less than Tpon as specified in Table 33-9, if power is to be applied.

SuggestedRemedy

IF the PSE decides to turn on power after a valid detection, it must occur in less than Tpon as specified in Table 33-9.

Response Response Status C
 ACCEPT IN PRINCIPLE.

If power is to be applied, the PSE shall turn on power after a valid detection in less than Tpon as specified in Table 33-9.

Cl 33 SC 33.2.4.1 P33 L 34 # 31
 Patoka, Martin Texas Instruments

Comment Type E Comment Status A

The backoff period is referred to as a fixed time rather than a variable defined in a table - we changed to the later method for other sections.

If a PSE performing detection using Alternative A detects an invalid signature, it should complete a second detection attempt within 2 seconds after the beginning of the first detection attempt.

SuggestedRemedy

If a PSE performing detection using Alternative A detects an invalid signature, it should complete a second detection in less than Tdbo (minimum) after the beginning of the first detection attempt.

Response Response Status C
 ACCEPT IN PRINCIPLE.

Change to:

If a PSE performing detection using Alternative A detects an invalid signature, it should complete a second detection in less than Tdbo min as specified in Table 33-9 after the beginning of the first detection attempt.

Cl 33 SC 33.2.4.4 P34 L 13 # 32
 Patoka, Martin Texas Instruments

Comment Type E Comment Status A
 Wording is confusing.

specifications in Table 33-9 and that require the PSE not to source power. These error conditions are not the same conditions monitored by the state diagrams in Figure 33-11.

SuggestedRemedy

specifications in Table 33-9 and that require the PSE not source power. These error conditions are different from those monitored by the state diagrams in Figure 33-11.

Response Response Status C
 ACCEPT IN PRINCIPLE.

Change to:

... specifications in Table 33-9 and that require the PSE not to source power. These error conditions are different from those monitored by the state diagrams in Figure 33-11.

Cl 33 SC 33.2.4.7 P39 L 38 # 34
 Patoka, Martin Texas Instruments

Comment Type ER Comment Status R

Term UCT is not defined. It is used in a number of subsequent diagrams.

SuggestedRemedy

Provide definition.

Response Response Status C
 REJECT.

UCT is defined in clause 1.2. We direct the reader to clause 21.5 which points to 1.2 (33.2.4.2)

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.9 P48 L 51 # 35
 Patoka, Martin Texas Instruments

Comment Type ER Comment Status A

Additional Information reference for Ptype references temperature derating table.

This also applies to lport_max, item 5, line 32.

SuggestedRemedy

Reference Table 33-1 for l cable.

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 213

Cl 33 SC 33.3.5 P63 L 11 # 36
 Patoka, Martin Texas Instruments

Comment Type T Comment Status R class pd

To maintain the ongoing compliance of existing type 1 PDs, the statement should be altered to specify the minimum of class 0 (default or no intentional signature).

A Type 1 PD may implement any of the class signatures in 33.3.5 and 33.7.

SuggestedRemedy

A minimum requirement for a type 1 PD is to present a physical layer Class 0 1-event signature. Optionally, a type 1 PD may implement any of the class signatures in 33.3.5 and 33.7.

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

Table 33-5 updated to include Type 1, Class 0. See comment 203.

The update of table 33-5 makes it unnecessary to change the text.

Cl 33 SC 33.2.9.6 P50 L 49 # 39
 Patoka, Martin Texas Instruments

Comment Type TR Comment Status R

The requirements for inrush between 0V to 10V appear to require a current of inrush (0.4 - 0.45A) by referring to Table 33-9 item 6. This is inconsistent with the desired foldback. Also, the references to the figures should be isolated from item f, as they are helpful to the requirement as a whole, but not the foldback.

SuggestedRemedy

f) During startup, for PI voltages between 0 V and 10 V, the max Iinrush requirement is 60mA.

See Figure 33C.4, Figure 33C.6, and Figure 33C.23 for additional information.

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

frs: The text in item-f was added after the legacy specification release.

It seems unlikely that a PD would draw significant current at voltages below Vvalid (detection).

I suspect this was a typo. Agree with referencing Tables at the bottom of this section.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.1 P27 L 24 # 42
 Patoka, Martin Texas Instruments

Comment Type TR Comment Status R

The following requirement from .af was removed:

While a PSE may be capable of both Alternative A and Alternative B, PSEs shall not operate both Alternative A and Alternative B on the same link segment simultaneously.

So as to not make existing market solutions seem outdated, insufficient, or incomplete, this requirement should remain for type 1 PSEs.

SuggestedRemedy

add sentence:

PSEs can be compatible with 10BASE-T, 100BASE-TX and/or 1000BASE-T. PSEs may support either Alternative A or Alternative B, or both. Type 1 PSEs shall not operate both Alternative A and Alternative B on the same link segment simultaneously.

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

frs: The text does exist on p32.

Cl 33 SC 33.3.5.1 P63 L 45 # 43
 Patoka, Martin Texas Instruments

Comment Type TR Comment Status A ez

Table 33-14

Icable went to 600mA from 720mA & 29.5W is no longer correct for Class 4.

SuggestedRemedy

I suggest that the limit be changed to: Icable * Vportmin (see table 33-17)

Response Response Status C

ACCEPT IN PRINCIPLE.

Change class 4 from 29.5W to:

Icable * Vportmin (see 33.1.4 and table 33-17)

Cl 01 SC 01.1.4 P13 L 18 # 48
 Anslow, Peter Nortel Networks

Comment Type E Comment Status A ez

"1000BASE-T midspan PSE" is defined as "A midspan that will result in a link that can support 10BASE-T, 100BASE-TX, and 1000BASE-T operation."
 What is a "midspan"? This definition is different from that in 32.2.2

SuggestedRemedy

Change to be the same as the definition in 32.2.2 making the definition: "A midspan PSE that will result in a link that can support 10BASE-T, 100BASE-TX, and 1000BASE-T operation."

Response Response Status C

ACCEPT.

See 49,365

Cl 01 SC 01.1.4 P13 L 21 # 49
 Anslow, Peter Nortel Networks

Comment Type E Comment Status A ez

"10BASE-T/100BASE-TX midspan PSE" is defined as "A midspan that will result in a link that can only support 10BASE-T and 100BASE-TX operation."
 What is a "midspan"? This definition is different from that in 32.2.2

SuggestedRemedy

Change to be the same as the definition in 32.2.2 making the definition: "A midspan PSE that will result in a link that can only support 10BASE-T and 100BASE-TX operation."

Response Response Status C

ACCEPT.

See 48, 365

IEEE P802.3at D3.0 PoEplus comments

Cl 01 SC 01.1.4 P13 L 28 # 50
 Anslow, Peter Nortel Networks

Comment Type E Comment Status A
 There are definitions for "Type 1" and "Type 2"
 When inserted in to 802.3 these definitions will appear next to
 "Type: A 2 octet value that indicates the nature of the MAC client protocol. Type values are
 assigned by the IEEE Registration Authority. (See: IEEE 802.3, 3.2.6.)" which will be
 confusing

SuggestedRemedy
 Change these to "PSE or PD Type x" to become:

- 1.4.x PSE or PD type 1: A PSE or PD that is designed for IEEE Std 802.3™-2005 power levels.
- 1.4.x PSE or PD type 2: A PSE or PD that is designed for greater than IEEE Std 802.3™-2005 power levels.

Response Response Status C
 ACCEPT IN PRINCIPLE.

We will submit a maintenance request to change Type to Ethertype throughout the rest of the document.

See 108

Cl 33 SC 33.3.7.4 P68 L 16 # 54
 Anslow, Peter Nortel Networks

Comment Type E Comment Status A Pport typo
 This subclause starts:
 At any static voltage at the PI, and any PD operating condition, the peak current shall not exceed PPort max for more than 50 ms maximum and 5% duty cycle maximum.
 It doesn't make sense to say that the peak current shall not exceed a power.

SuggestedRemedy
 Change to:
 At any static voltage at the PI, and any PD operating condition, the peak current shall not cause PPort max to be exceeded for more than 50 ms maximum and 5% duty cycle maximum.

Response Response Status C
 ACCEPT IN PRINCIPLE.

OBE 417

Cl 33 SC 33.4.8.2 P81 L 18 # 55
 Anslow, Peter Nortel Networks

Comment Type E Comment Status A
 This clause starts:
 When an Alternative A Midspan is connected to a 100BASE-TX PHY, the Midspan transfer function gain shall be greater than ...
 What is a "midspan"?

SuggestedRemedy
 Change to:
 When an Alternative A Midspan PSE is connected to a 100BASE-TX PHY, the Midspan transfer function gain shall be greater than ...

Response Response Status C
 ACCEPT.

Cl 33 SC 33.3.5.2 P64 L 14 # 58
 Darshan, Yair Microsemi Corporation

Comment Type E Comment Status A ez
 Draft D3.0:

Typo. Should be PD and not IPD

SuggestedRemedy
 Delete I

Response Response Status C
 ACCEPT IN PRINCIPLE.

See 154

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.8 P44 L 25 # 59
 Darshan, Yair Microsemi Corporation

Comment Type ER Comment Status R class pse

Draft D3.0

Interrogation is not defined in the standard however detection does.

SuggestedRemedy

Replace Interrogation with detection

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

See comment 174.

Cl 33 SC 33.3.7.4 P68 L 16 # 61
 Darshan, Yair Microsemi Corporation

Comment Type T Comment Status A Pport typo

Draft D3.0:

we change peak current to peak power

SuggestedRemedy

Change peak current to peak power

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 417

Cl 33 SC 33.2.4.4 P34 L 46 # 67
 Darshan, Yair Microsemi Corporation

Comment Type T Comment Status R

We need to synchronize between the text in "option_detect_ted" variable and the additional information for item 25 table 33-9, error delay timing.

Rational:

The purpose of Ted is to preven from consecutive startup to happen in a duty cycle that can cause heating issues.

Therefore we specified minimum time between startups of 750msec.

It is also the minimum time between consecutive detection attemps after fault.

The text in these two locations are a bit different but the end result is the same.

SuggestedRemedy

Change the text from:

"This variable indicates if detection can be performed by the PSE during the ted_timer interval."

to :

"This variable indicates if detection or consecutive startups (per Table 33-9 items 6 and 7) can be performed by the PSE during the ted_timer interval."

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

frs:

This variable was created during a maintance request to permit detection and classification by delaying power-on until Ted expires. This limits power dissipated of the pass element.

It does not permit the PSE to optionally startup (power-on).

"This variable indicates if detection or consecutive startups (per Table 33-9 items 6 and 7) can be performed by the PSE during the ted_timer interval."

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.1.4 P25 L41 # 69
 Darshan, Yair Microsemi Corporation

Comment Type T Comment Status R
 We are using "mA" units in Table 33-9 and other locations so it is better to use mA in Table 33-1 as well to prevent confusion.

SuggestedRemedy
 Change Units to mA and change numbers to 350 and 600.

Response REJECT. Response Status C

There is an effort to change all mA references to A to remove the 1000 factor from all the equations.

355

Cl 33 SC 33.2.4.4 P34 L4 # 70
 Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status A
 Draft 3.0:
 We had allowed the PSE to turn power to OFF if Vport is out of operating range per 33.2.9.1.
 Therefore the state diagram in figures 33-9 should reflect it as well.

The way to do it is to create new variable which will be optional.
 When the conditions of this variable are met, the PSE will remove power at any $t < TLIM_MIN$.

SuggestedRemedy
 Remedy steps:
 1) Add new variable option_vport_lim to 33.2.4.4. It will be an optional variable:

 "option_vport_lim
 This variable is indicating If PSE port voltage is out of operating range during normal operating mode.
 Values:
 False: Vport is within the Vport normal operating range as defined by table 33-9.
 True: Vport is above or below normal Vport operating range as defined by table 33-9."

 2) Change state diagram (figure 33-9 per the attached drawing by changing the inputs to ERROR_DELAY_SHORT state coming from POWER_ON state, from:
 tlim_timer_done

 to:
 Tlim_timer_done + !tlim_timer_done*option_vport_lim*power_applied)

 Effect on legacy equipment: None since the variable is optional.

Response ACCEPT IN PRINCIPLE. Response Status C

 Remedy steps:
 1) Add new variable option_vport_lim to 33.2.4.4.
 "option_vport_lim
 This optional variable indicates if Vport is out of operating range during normal operating mode.
 Values:
 False: Vport is within the Vport normal operating range as defined by table 33-9.
 True: Vport is above or below normal Vport operating range as defined by table 33-9."
 Editor given license to edit text to improve clarity.

IEEE P802.3at D3.0 PoEplus comments

2) change transition from POWER_ON state to ERROR_DELAY_SHORT state to:
Tlim_timer_done + option_vport_lim

Cl 33 SC 33.3.5 P63 L6 # 71
Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status A class pd

Draft D3.0:
According to the:
1. Classification base line concept and
2. Associated motions and
3. Current text in 802.3 that define that the physical layer classification information is the maximum power that the PD will ever need.
the text should explicitly note that a PD that asks more power than advertised in L1 hardware classification is specifically not compliant.

The rational for this was to prevent interoperability issues such as when a PD that advertized through its Layer 1 classification that it needs e.g. 12.95W and through L2 requires more power then 12.95W. In this scenario when it is connected to PSE that equipped with L2 the PD will fully work and when connected to a PSE that doesnt equipped with L2 it may or will not work.
As a result we mandate PD type 2 to support both L1 and L2 classification and specify that hardware classification results are max. Power values.

SuggestedRemedy

1) Add the following text right after line 19:
"PD that asks more power by using Data Link Layer classification than advertised in its physical layer classification is not compliant to this standard".

Other equivalent wording is welcomed.
2) In addition add to 33.7.6.2 page 94 ,line 18 the following text.
"The "NEW_VALUE" shall not be higher then specified in mr_pd_class_detected variable.

Response Response Status C

ACCEPT IN PRINCIPLE.

The issues in the comment are addressed in Table 33-5 and Table 33-14.

Acceptance results in no change to text.

Cl 33 SC 33.2.4 P33 L3 # 75
Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status R

Draft 3.0:
The text that was deleted from previous drafts is correct and helpful.

SuggestedRemedy

Add after line 3:
"Equivalent implementations that present the same external behaviour are allowed"

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

Covered in clause one.

frs: The state diagrams show what is required for external behavior and not the required implementation.

The text does not change the specification but adds unnecessary text. This was removed previously after a similar discussion.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.8.2 P46 L 48 # 77
 Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status R class pd

Draft 3.0:
 Add clarification that Data Link Layer takes precedence over physical layer classification only when system requires using lower power than advertised by the physical layer classification.

SuggestedRemedy

Replace
 "NOTE-Data Link Layer classification takes precedence over Physical Layer classification."

With:
 "NOTE-Data Link Layer classification takes precedence over Physical Layer classification only when system requires to use lower power than advertised by the physical layer classification."

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

Update text as follows:
 "NOTE-Data Link Layer classification takes precedence over Physical Layer classification when system requires lower power than advertised by the Physical Layer classification."

Cl 33 SC 33.2.4.7 P39 L 38 # 79
 Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status A wael

Draft D3.0:
 PD may request from PSE lower power through L2 than was advertised by its hardware classification i.e. if PD is Type 1 PD with class 3, after powerup it can request less power by using L2 but it can't ask more then class 3 and convert to Type 2...this is not interoperable behaviour (we already agree to this fact).
 If PD is type 2 which must be class 4, it can request lower power after powerup by using L2 and it can't ask for more then class 4 through L2.
 These requirement ensures interoperability between PDs and PSE with or without L2.
 This was our baseline and the results of all our discussions.

In many locations in Draft D3.0 the editing work generate the impression that all the above may be violated by bad interpretation of the current text.

Due to the fact that the state diagram determines the behaviour and not the text we need to fix the state diagram accordingly and align the text to it.

SuggestedRemedy

1. Figure 33-9: add input to the "POWER_DENIDE" state which is true when the requested power from the PD through L2 is higher then mr_pd_class power equivavlent. (equivalent solution is good too)
2. Add to 33.7 page 89 after line 10 the following text: "Type 1 PD that request more then 12.95W through data link layer classification is specifically not compliant to this standard"
3. Use the same conceptual restrictins (of step 1) in 33.7 figures 33-28 and 33-27.

Response Response Status C

ACCEPT IN PRINCIPLE.

Ask the L2 adhoc to reflect the permutations in Table 33-5 on p45 in the state diagram.

IEEE P802.3at D3.0 PoEplus comments

CI 33 SC 33.2.9.6 P50 L46 # 80
 Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status A

Draft D3.0
 We differentiated between TLIM and Tinrush.
 TLIM is for short circuit conditions and Tinrush is for startup.
 We did it all over the specification.
 See seperate comment that adress the state machine in this regard.

SuggestedRemedy

Replace TLIM with "Tinrush as specified in Table 33-9".

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace TLIM in 33.2.9.6 item-c with Tinrush.

CI 33 SC 33.2.9.12 P53 L22 # 82
 Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status R

Draft D3.0:
 The text is confusing.
 In 33.28 the relevant data is Table 33-6.
 In 33.7 Pclass value may be updated by Data Link Layer Classification.
 Pclass value must be the minimum value between these two.
 As a result, Type 1 PD that advertises L1 Class 3 Can not request more power and became Type 2 PD! It is not interoperable with PSEs that uses only L1.
 Type 2, PD may require lower power then class 4 and this is interoperable behavior therefore it is allowed.

SuggestedRemedy

Change from:
 "Pclass is the class power defined in 33.2.8 (see Table 33-6) or the results of Data Link Layer classification as defined in 33.7."

to:
 "For Type 1 PD, Pclass is the maximum value between the class power defined in Table 33-6 and the results of Data Link Layer classification as defined in 33.7."

Response Response Status C

REJECT.
 frs: This is already concisely covered by Table 33-5.

CI 33 SC 33.2.9.13 P53 L31 # 83
 Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status A

Draft D3.0:
 The 3% unbalanced current was not based on simulation.
 It was based on 3% specification of the channel.
 The simulated unbalanced current was much higher then 3% and we preferred to ignore its value and leave it to the implementer to decide how to handle it.
 The informative section supplises the basic information for that matter.

SuggestedRemedy

Change to: "The values are based on channel output current imbalance of 3% of Icabl as specified in Table 33-9."

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 192.

CI 33 SC 33.2.4.6 P37 L2 # 94
 Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status A

det_pd_type function returns multiple variables i_lim_type and i_lim_tymer.
 The values for both variables may be Type 1 or Type 2.
 We agree to allow Type 2 PSE to use Type 2 Ilim/Tlim curves for Type 1 PD too.
 This fact is not covered by the function details.

SuggestedRemedy

Add after line 8:
 "Type 2 PSE may assign Type 2 value for i_lim_type and i_lim_tymer regardles of the actual class readings"

Response Response Status C

ACCEPT IN PRINCIPLE.

A Type 2 PSE may assign a Type 2 value for i_lim_type and i_lim_timer independent of the actual class read.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.9 P48 L 50 # 96
 Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status A
 In Table 33-9 item 13, the additional information "See 33.1.4.2" is not the correct reference.

SuggestedRemedy
 Replace "See 33.1.4.2" with "See 33.1.4"

Response Response Status C
 ACCEPT IN PRINCIPLE.

OBE 213

Cl 33 SC 33.2.9.6 P50 L 50 # 97
 Darshan, Yair Microsemi Corporation

Comment Type TR Comment Status A
 Draft 3.0, Figure 33C.6

Figure 33C.6 that was in the informative section need to be deleted.
 In order to cover some of the maintainance requests, we need to add some normative text as additional information.

- The issues are:
1. During overload per 33.2.9.7 the PSE is required to stay in normal voltage operating range as defined by Table 33-9 item 1.
 2. During short circuit condition specifically when the port is current limited, The port voltage may be lower then Vport_min.

- SuggestedRemedy
1. Delete Figure 33C.6
 2. Delete "Figure 33C.6" from 33.2.9.6 item f.
 3. Add the following text after item f: "During startup Vport may be lower then Vport_min when the port is within Tinrush range"
 4. Delete "Figure 33C.6" from 33.2.9.7 line 6 and from 33.2.9.8 line 19.
 5. Add the following text at the end of 33.2.9.7: "If Iport<Icut, Vport shall be as specified in Table 33-9 item 1. If Iport>Icut for t>=Tcut, Vport may be lower then Vport_min."

Response Response Status C
 ACCEPT IN PRINCIPLE.

1. Delete Figure 33C.6
2. Delete "Figure 33C.6" from 33.2.9.6 item f.
3. not required because e, f already specifies the operating voltage.
4. Delete "Figure 33C.6" from 33.2.9.7 line 6 and from 33.2.9.8 line 19.
5. P52, L50 add:"If Iport exceeds the "PD upperbound template" as specified in Figure 33-14, the PSE output voltage may drop below Vport min." Also, add to Table 33-9 item 1, additional information "See 33.2.9.9"

frs: This is related to 39, 225.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.3.3.3 P58 L45 # 103
 Vladan, Ionel Marius ON Semiconductor

Comment Type E Comment Status A ez

Definition of TRUE and FALSE values for the variable pd_dll_capable are with a small mistake. They should be referring to PD instead of PSE.

SuggestedRemedy

Change definition for FALSE and TRUE in :
 FALSE : The PD does not implement Data Link Layer classification
 TRUE : The PD does implement Data Link Layer Classification

Response Response Status C

ACCEPT.

Cl 33 SC 33.3.5.1 P63 L45 # 104
 Vladan, Ionel Marius ON Semiconductor

Comment Type E Comment Status A ez

Since the objective 6 has changed via a passed motion, the tabel 33-14 should be changed accordingly.

SuggestedRemedy

Change 29.5 W to 24 W in tabel 33-14.

Response Response Status C

ACCEPT IN PRINCIPLE.

Note, new power level is 25.5W

OBE 43

Cl 33 SC 33.2.8.2 P46 L17 # 105
 Vladan, Ionel Marius ON Semiconductor

Comment Type T Comment Status R class pd

The text suggests that all measurements of lclass shall be taken after 6 ms to ignore initial transients, but the minimum class event timing is 6 ms. Since the PD classification time Tclass = 5ms (see table 33-17 and subclause 33.3.7.8) , would be better to recommend taking lclass measurements after 5 ms.

SuggestedRemedy

Change "All measurements of lclass shall be taken after 6 ms to ignore initial transients."
 in "All measurements of lclass shall be taken after 5 ms to ignore initial transients."

Response Response Status C

REJECT.

PD required to settle within 5ms. PSE required to start after 6ms. No problem found.

Cl 01 SC 01.3 P13 L11 # 106
 LANDRY, MATTHEW SILICON LABS

Comment Type E Comment Status A ez

The ISO/IEC TR NWIP was approved (see liaison from March 2008), so the editor's note does not need to point out that it is up for vote.

SuggestedRemedy

Strike the first sentence of the editor's note: "The vote on the NWIP for this Technical Report is currently taking place."

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 478

Cl 01 SC 01.4 P13 L27 # 108
 LANDRY, MATTHEW SILICON LABS

Comment Type E Comment Status A

The current definitions of "Type 1" and "Type 2" are rather vague and not too helpful. At best, they would encourage the reader to go look up an old, deprecated version of Clause 33 to get an idea of what the terms mean.

Tables 33-5 and 33-1 do an admirable job of capturing many of the Type 1/2 behaviors. They should be used as the basis for the definitions.

SuggestedRemedy

Replace definitions with some semblance of the following:

Type 1: A PSE or PD that meets the criteria for Type 1 in Table 33-1 and Table 33-5.

Type 2: A PSE or PD that meets the criteria for Type 2 in Table 33-1 and Table 33-5.

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 274, 275

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.1.3 P24 L13 # 112
 LANDRY, MATTHEW SILICON LABS
 Comment Type E Comment Status A ez
 The dependent clause, "as a non-data entity" should be followed by a comma.
 SuggestedRemedy
 Replace "as a non-data entity it does not ..." with "as a non-data entity, it does not ..."
 Response Response Status C
 ACCEPT.

Cl 33 SC 33.1.3 P24 L50 # 113
 LANDRY, MATTHEW SILICON LABS
 Comment Type E Comment Status A ez
 The words "endpoint" and "midspan" in the Figure 33-2 an Figure 33-3 titles, respectively, are not capitalized.
 SuggestedRemedy
 Capitalize "endpoint" in the the Figure 33-2 title and "midspan" in the Figure 33-3 title.
 Response Response Status C
 ACCEPT.

Cl 33 SC 33.2.4.1 P33 L24 # 115
 LANDRY, MATTHEW SILICON LABS
 Comment Type T Comment Status A
 The sentence, "a PSE that is performing Alternative B detection shall not resume detection mode until at least one backoff cycle has elapsed," is redundant to the first sentence of the paragraph. Worse, both sentences are normative, but use differing negative construction to stipulate the same behavior ("SHALL back off no less than" and "SHALL NOT resume ... until at least").
 SuggestedRemedy
 Strike the sentence.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Change paragraph P33, L22 to:
 A PSE performing detection using Alternative B may fail to detect a valid PD signature. When this occurs, the PSE shall back off for at least Tdbo as specified in Table 33-9 before attempting another detection. During this backoff, the PSE shall not apply a voltage greater than 2.8Vdc to the PI.

Cl 33 SC 33.2.3 P32 L50 # 126
 Frazier, Howard Broadcom
 Comment Type TR Comment Status A
 This sentence:
 Implementors are free to implement either alternative or both.
 is redundant. The freedom conveyed in this sentence is stated in the preceeding sentence, as well as in 33.2.1.
 SuggestedRemedy
 Delete the sentence.
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 OBE 331.

Cl 33 SC 33.2.8 P44 L25 # 127
 Frazier, Howard Broadcom
 Comment Type TR Comment Status A class pse
 Where is "mutual identification" defined? What constitutes mutual identification? Does it correspond to a state in a state machine?
 SuggestedRemedy
 Provide an unambiguous definition of mutual identification
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 Mutual Identification is partially defined on page 44, L 27.
 "Mutual identification is the mechanism that allows a Type 2 PD to differentiate Type 1 PSEs from Type 2 PSEs."
 Add this sentence afterward: "Additionally mutual identification allows Type 2 PSEs to differentiate between Type 1 and Type 2 PDs."

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.10 P53 L42 # 128
 Frazier, Howard Broadcom

Comment Type TR Comment Status A
 The text of the second paragraph predates L2 classification, and seems to ignore it. At the very least, there should be a forward pointer to the subclause on L2 classification.

SuggestedRemedy
 Add to the end of the second paragraph:
 See 33.7 for a description of Data Link Layer classification.

Response Response Status W
 ACCEPT.

Cl 33 SC 33.2.9 P48 L5 # 133
 Johnson, Peter Sifos Technologies

Comment Type E Comment Status A
 References in Table 33-9, Items 5 and 13, to paragraph 3.1.4.2 should actually refer to paragraph 3.1.4 where l cable is defined.

SuggestedRemedy
 Modify references in 33-9, Items 5 and 13.

Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 212, 213.

Cl 33 SC 33.2.8.2 P46 L38 # 135
 Johnson, Peter Sifos Technologies

Comment Type T Comment Status A class pd
 Table 33-6 suggests that the Minimum Power Level at the PSE Output for Class 0 would be Ptype from Table 33-9. Ptype can be 30W for Type 2. Since classification is purely a property of a PD, a class 0 PD should never draw more than 15.4 Watts at the PSE interface.

SuggestedRemedy
 Change minimum power level at the PSE to 15.4 W for Class 0.

Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 322

Cl 33 SC 33.1.4.1 P25 L50 # 138
 Alan Flatman LAN Technologies

Comment Type TR Comment Status A cable
 Type 2 operation requires Class D or better cabling as specified in ISO/IEC 11801:1995 but then Category 5e components are required. This does not make sense.

SuggestedRemedy
 Delete 2nd sentence ("When Class D ISO/IEC 11801:2002").

Response Response Status W
 ACCEPT IN PRINCIPLE.
 OBE 519
 also, 300, 474, 392

IEEE P802.3at D3.0 PoEplus comments

CI 00 SC 00 P L # 141
 Thomas Dineen Dineen Consulting

Comment Type TR Comment Status R

Delete or modify Objectives 5, 9 10, 11, and 12! Objective should be clear, crisp, and concise thus making it straight forward for the reviewer of your draft to determine if they have been met! Keep in mind here that I consider this comment to be well within the proper scope of a WG Ballot in that part of the ballot review involves a determination of whether the draft meets the objectives.

Keep in mind here that I am not opposed to you project, I am concerned however that you objective list is bloated with non specific items that should be deleted of replaced with something more specific.

By this point in the project your "research", "vigorous pursuit", and "revisiting" should be concluded with concise results that can be boiled down to proper objectives.

"Objective 5 The enhanced standard will provide the maximum power to the PD as allowed within practical limits"

Objective 5 should be deleted because it is redundant to objective 6 and yet less specific thus offering no value. Also Objective 5 is in appropriate and non specific.

"Objective 9 Research potential extension of power classification to support PoEPlus modes"

Objective 9 is an inappropriate and non specific objective and should therefor be deleted or replaced. We do not specify "research" in an objective. How is the reader of the draft to determine if the research has been completed properly and thus the objective met? You either support the extension of power classification or you do not. No research Please delete or replace with something more specific.

"Objective 10 PoE Plus will vigorously pursue supporting the operation of midspan PSEs for 1000BASE-T."

Objective 9 is an inappropriate and non specific objective and should therefor be deleted or replaced. We do not specify "vigorous pursue" in an objective. How is the reader of the draft to determine if the if the appropriate degree of vigor has been achieved and thus the objective met? You either specify operation with 1000BASE-T or you do not. No research. Please delete or replace with something more specific.

"Objective 11 Research the operations of midspan and endpoint PSEs for 10GBASE-T including providing cable heating data for evaluation by IEEE P802.3an."

Objective 11 is an inappropriate and non specific objective and should therefor be deleted or replaced. We do not specify "research" in an objective. How is the reader of the draft to determine if the research has been completed properly and thus the objective met? You either specify operation with 10GBASE-T or you do not. No research. Please delete or replace with something more specific.

"Objective 12 That IEEE 802.3af power over the MDI isolation requirements be revisited as part of the PoE Plus work"

Objective 12 is an inappropriate and non specific objective and should therefor be deleted or replaced. We do not specify "revisited" in an objective. How is the reader of the draft to determine if the revisiting has been completed properly and thus the objective met? You either specify MDI isolation requirements or you do not. No revisits. Please delete or replace with something more specific.

Suggested Remedy

Delete or modify comments as discussed above.

IEEE P802.3at D3.0 PoEplus comments

Response *Response Status* **W**

REJECT.

It is absolutely correct that it is in scope to comment on if the draft meets the objectives - it isn't in scope to comment on the objectives themselves - this is done during the adoption of the objectives by the Working Group.

The comment contents have been referred to the P802.3at TF and 802.3 WG chairs via e-mail for further disposition but as comment makes no specific recommendation for changes to the draft it is rejected.

Cl **33** *SC* **33.3.5.2** *P* **64** *L* **14** # **154**

Jetzt, John *Avaya*

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

Fix typos.

SuggestedRemedy

1. Title of 33.3.5.2: PD 2-Event . . .
2. First sentence: PDs implementing a 2-Event . . .

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.8** *P* **44** *L* **25** # **174**

Reshef, Tamir *Microsemi Corp*

Comment Type **ER** *Comment Status* **R** *class pse*

The word interrogation does not appear in any other place in the standard and therefore it is undefined, however detection is part of the mutual identification between a PSE and a PD

SuggestedRemedy

Remove the word interrogation and put detection instead

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

The intent of the word interrogation in this paragraph is to describe the probing portion of the classification mechanism. It does not mean detection.

If not defined in the standard, one should use an English dictionary as a basis for definition of a term.

Cl **33** *SC* **33.1** *P* **23** *L* **32** # **176**

Dove, Daniel *ProCurve Networking*

Comment Type **E** *Comment Status* **R** *cable*

The paragraph starting with "The detection and powering..." should have a "NOTE:" comment in front of it.

SuggestedRemedy

Insert the word "Note: "

Response *Response Status* **C**

REJECT.

This is informative introductory text. There are no 'shalls'. In essence, this text is all a note.

See 375

Cl **33** *SC* **33.2.8.1** *P* **45** *L* **44** # **179**

Dove, Daniel *ProCurve Networking*

Comment Type **ER** *Comment Status* **A** *ez*

The language "assume it is powering a Type 2 PD" is not appropriate. We have a shall statement with the word "ass-u-me" behind it. What does that mean and how do you measure it?

SuggestedRemedy

Change to "assign Class 4 classification to the PD"

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

See 196

IEEE P802.3at D3.0 PoEplus comments

CI 33 SC 33.2.11.1.2 P56 L16 # 180
 Dove, Daniel ProCurve Networking

Comment Type T Comment Status A
 Figure 33-15
 The language "Cpd_d may be located either before or after the diode bridge" is not sufficiently clear. What does before mean? What does after mean?

SuggestedRemedy
 I recommend illustrating the optional location of the capacitor so that it is clear.

Response Response Status C
 ACCEPT IN PRINCIPLE.

frs: Suggest that the text be modified as follows:

Cpd_d may be located either in parallel with Zac1 or as shown in Figure 33-15.

CI 33 SC 33.7.6.5 P96 L9 # 190
 Dove, Daniel ProCurve Networking

Comment Type TR Comment Status A STATE MACHINE
 Too many comments, it would take a lifetime to enter them one at a time

SuggestedRemedy
 See figure attached.

Response Response Status C
 ACCEPT IN PRINCIPLE.

Changes documented in Landry_DLLdiags_v02.fm

CI 33 SC 33.7.6.5 P97 L28 # 191
 Dove, Daniel ProCurve Networking

Comment Type TR Comment Status A STATE MACHINE
 Many comments on this figure, too many to enter.

SuggestedRemedy
 See attached figure.

Response Response Status C
 ACCEPT IN PRINCIPLE.

Changes documented in Landry_DLLdiags_v02.fm

CI 33 SC 33.2.9.13 P53 L25 # 192
 LANDRY, MATTHEW SILICON LABS

Comment Type E Comment Status A
 "The values are based on a simulated output current unbalance of 3%."

This statement is unnecessary, because the numbers in Table 33-9 have been replaced with an equation: 3% x ICable.

SuggestedRemedy
 Strike the sentence.

Response Response Status C
 ACCEPT.

CI 33 SC 33.2.8 P44 L47 # 195
 LANDRY, MATTHEW SILICON LABS

Comment Type TR Comment Status A ez

The normative statement, "a PSE shall meet one of the allowable classification permutations listed in Table 33-5," is sufficient for defining what a Type 1 or Type 2 PSE must implement. Further normative text, redundant in meaning to this first statement, should be moderated.

SuggestedRemedy

Replace:
 "Subsequent to successful detection, all Type 2 PSEs shall perform classification. A Type 2 PSE performs classification using ..."

With:
 "Subsequent to successful detection, all Type 2 PSEs perform classification using at least one of the following: ..."

Response Response Status C
 ACCEPT.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.8.1 P45 L 44 # 196
 LANDRY, MATTHEW SILICON LABS

Comment Type TR Comment Status A ez

The language, "a Type 2 PSE shall assume it is powering a Type 2 PD," is rather vague. Anyway, the behavior is captured in the state diagram, so this normative textual restatement is not necessary.

SuggestedRemedy

Replace:
 "a Type 2 PSE shall assume it is power a Type 2 PD."

With:
 "a Type 2 PSE will treat the PD as Type 2."

Response Response Status C

ACCEPT.

Cl 33 SC 33.2.9.2 P49 L 51 # 197
 LANDRY, MATTHEW SILICON LABS

Comment Type TR Comment Status A

The 0.44W minimum power figure comes from $44V * 10mA$.

This is the accurate minimum power subject to VPort min and IMin2 max for a Type 1 PD. It is not accurate for a Type 2 PD, which would be $50V * 10mA = 0.5W$.

This can be fixed by either changing the minimum power ($0.44W \rightarrow 0.5W$) or IMin2 ($10mA > 8.8mA$). Rather than reducing the low current design margin, it makes more sense to increase the minimum power for Type 2 PSEs.

SuggestedRemedy

Replace occurrences of 0.44W with "IMin2 max x VPort min."

Response Response Status C

ACCEPT.

Cl 33 SC 33.2.11.1 P54 L 14 # 199
 LANDRY, MATTHEW SILICON LABS

Comment Type TR Comment Status A

"The PSE may optionally monitor the AC MPS component only, the DC MPS component only or both the AC and the DC MPS components."

This statement is ambiguous, as it can be interpreted such that the PSE does not have to monitor any MPS component at all -- the whole list of options are "optional."

SuggestedRemedy

If the intent is that no MPS is needed at all, then by all means, leave it as is, but please update the PICS.

Otherwise, change the sentence so that it forces the selection of at least one MPS:

"The PSE shall monitor either the DC MPS component, the AC MPS component, or both."

Response Response Status C

ACCEPT.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.3.5.2 P64 L 34 # 200
 Tziony, Noam Microsemi

Comment Type T Comment Status R class pd

Table 33-16
 Item 2: Mark event voltage (VMark) 10V max

In order to simplify the PD front-end, Mark event maximum should be the same as the Detection voltage maximum.

SuggestedRemedy

Change to:
 Mark event voltage (VMark) 10.1V max

Response Response Status C

REJECT.

The challenging part of the PD front-end design is to land a threshold between 10 and 14.5V. Moving the Mark range to 10.1V actually makes the PD design slightly more difficult.

A secondary design requirement of the PD front-end is to maintain Mark characteristics throughout the Mark range of 7-10V. Extending this range to 10.1V actually makes the PD design slightly more difficult.

The signature range extending to 10.1V was intended to insure the PD maintains signature beyond the highest possible PSE probing voltage of 10V. (This could be argued not necessary.)

If a change were to be made to align these limits, it would make more sense to lower the PD signature range from 10.1V to 10.0V

Cl 33 SC 33.3.5.2 P64 L 38 # 201
 Tziony, Noam Microsemi

Comment Type T Comment Status R class pd

Table 33-16
 Item 4: Mark event threshold (VMark_th) 10V min

In order to simplify the PD front-end, Mark event threshold minimum should be the same as the Detection voltage maximum.

SuggestedRemedy

Mark event threshold (VMark_th) 10.1V min

Response Response Status C

REJECT.

See 200

Cl 33 SC 33.3.5.2 P64 L 41 # 202
 Tziony, Noam Microsemi

Comment Type T Comment Status A ez

Table 33-16
 Item 6: Classification reset voltage (VReset), Additional Information: "See 33.3.5.2.1"

Subsection 33.3.5.2.1 don't talk about VReset at all.

SuggestedRemedy

Change to:
 Additional Information: "See 33.3.5.2.2"

Response Response Status C

ACCEPT.

IEEE P802.3at D3.0 PoEplus comments

CI 33 SC 33.2.8 P45 L14 # 203
 Tziony, Noam Microsemi

Comment Type TR Comment Status A class pd

Table 33-5
 For the following Permutation:
 PD Type: Type-2
 Physical Layer classification: None
 Data Link Layer classification: No
 The Table says that:PD allowed?: N/A which doesnt make sense due to the fact that this is a Type 2 PD and it must support L1 and L2.

SuggestedRemedy

Change to:
 PD allowed?: No OR explain what does it mean N/A or explain how to read this Table?

Response Response Status W

ACCEPT IN PRINCIPLE.

N/A is confusing.

Change table as follows:

PD Allowed?
 N
 Y
 N
 N
 N (Was N/A)
 N (Was N/A)
 Y
 Y
 Y
 Y
 N (Was N/A)
 N (Was N/A)

CI 33 SC 33.2.8 P45 L16 # 204
 Tziony, Noam Microsemi

Comment Type TR Comment Status A class pd

Table 33-5
 For the following Permutation:
 PD Type: Type-2
 Physical Layer classification: None
 Data Link Layer classification: Yes
 The Table says that:PD allowed?: N/A which doesnt make sense due to the fact that this is a Type 2 PD and it must support L1 and L2.

SuggestedRemedy

Change to:
 PD allowed?: No OR explain what does it mean N/A or explain how to read this Table?

Response Response Status W

ACCEPT IN PRINCIPLE.

OBE 203.

CI 33 SC 33.2.8 P45 L23 # 205
 Tziony, Noam Microsemi

Comment Type TR Comment Status A class pd

Table 33-5
 For the following Permutation:
 PD Type: Type-1
 Physical Layer classification: None
 Data Link Layer classification: No
 PD allowed?: N/A

Type-1 PD without Physical Layer classification is not allowed. Class 0 is a class and PD without special classification hardware, if it presents 0 to 4mA it is class zero. So in this case PD is not allowed.

SuggestedRemedy

Change to:
 PD allowed?: No OR explain what does it mean N/A or explain how to read this Table?

Response Response Status W

ACCEPT IN PRINCIPLE.

OBE 203

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.8 P45 L 25 # 206
 Tziony, Noam Microsemi

Comment Type TR Comment Status A class pd

Table 33-5
 For the following Permutation:
 PD Type: Type-1
 Physical Layer classification: None
 Data Link Layer classification: Yes
 PD allowed?: N/A

Type-1 PD without Physical Layer classification is not allowed. Class 0 is a class and PD without special classification hardware, if it presents 0 to 4mA it is class zero. So in this case PD is not allowed.

SuggestedRemedy

Change to:
 PD allowed?: No, OR explain what does it mean N/A or explain how to read this Table?

Response Response Status W

ACCEPT IN PRINCIPLE.

OBE 203

Cl 33 SC 33.3.5.2 P64 L 36 # 207
 Tziony, Noam Microsemi

Comment Type TR Comment Status R class pd

Table 33-16
 Item 3:
 Mark event current (IMark) is 0.25mA min
 This minimum value is not require. A zero value is OK too.
 Rational:
 Until PD gets to Vmark_th, the current is 40mA which discharge the port.
 When PD detects Vmark_th, current can be zero.
 The requirement of 0.25mA limits implementations.

SuggestedRemedy

Change to:
 Mark event current (IMark) 0mA min

Response Response Status W

REJECT.

Limiting PD behavior often eases PSE design and vise versa.

The requirement for the PD to draw 0.25mA minimum reduces design requirements for the PSE. PSEs are typically designed with one-sided drivers that can assert voltage onto the port, but are unable to discharge the port. By mandating a minimum load current, the PSE can be designed without needing to implement a discharge circuit. Additionally, PSE stability requierments are eased when there is a limited range of load currents.

It can be aruged that the 0.25mA requirement limits PD implementations, however practically speaking, PDs will draw some current in order to maintain state memory. PDs are also required to present an invalid signature which can be implemented by shorting the port with a ~10Kohm resistor thereby meeting both minimum current draw and invalid signature requirments.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.3.5.2.1 P64 L47 # 208
 Tziony, Noam Microsemi

Comment Type **TR** Comment Status **A** class pd

At Table 33-16, item 4 (VMark_th), additional information "See 33.3.5.2.1".

I've looked at subsection 33.3.5.2.1 and I didn't find any explanations regarding VMark_th

SuggestedRemedy

Add the following text to 33.3.5.2.1:
 "Vmark_th is the operating range of the Mark event to be detected by the PD.
 The mark event voltage as specified in Table 33-16 item 2 is actually the PSE mark event range after worst case cable voltage loss as measured at the PD PI.
 Once the PD detects Vmark_th, it may reduce its current from Iclass to Imark.
 When PD gets to Mark event voltage range, the PD shall consume Imark"

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Insert text at the end of 33.3.5.2.1:

"Vmark_th is the PI voltage threshold at which the PD implementing 2-event classification transitions into and out of the DO_CLASS_EVENT1 or DO_CLASS_EVENT2 states as shown in Figure 33-17."

Cl 33 SC 33.3.5.2 P64 L36 # 210
 Tziony, Noam Microsemi

Comment Type **TR** Comment Status **A** class pd

Table 33-16
 Item 3:
 Mark event current (I_{Mark}) is 2mA max

We allow I_{mark_lim} to be 5mA minimum.
 So I_{mark} can be up to <5mA.
 It is possible to get PSE voltage down too 7V with I_{mark} up to 5mA.

SuggestedRemedy

Table 33-16 Item 3:
 Mark event current (I_{Mark}) 4mA maximum

Response Response Status **W**

ACCEPT.

Cl 33 SC 33.2.9 P48 L31 # 211
 Stanford, Clay Linear Technology

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

Table 33-9, Item 5 Parameter is labeled "Maximum", but the entry is a minimum. Remove Maximum from Parameter name.

SuggestedRemedy

Table 33-9, ITEM 5 PARAMETER

IS:
 Maximum output current in POWER_ON mode

SHOULD BE:
 Output current in POWER_ON mode

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Change to:
 Output current capability in POWER_ON mode

Cl 33 SC 33.2.9 P48 L31 # 212
 Stanford, Clay Linear Technology

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

Table 33-9, Item 5 Additional Information references 33.1.4.2. This references cable derating and seems in error. I think it should reference 33.1.4 Type 1 and Type 2 system paramters. (33.1.4 is were I_{cable} is specified.)

SuggestedRemedy

Table 33-9, Item 5 Additional Information

IS:
 See 33.1.4.2, 33.2.9.5

SHOULD BE:
 See 33.1.4, 33.2.9.5

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Remove 33.1.4.2 reference

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.9 P48 L 50 # 213
 Stanford, Clay Linear Technology

Comment Type E Comment Status A
 Table 33-9, Item 13 Additional Information references 33.1.4.2. This references cable derating and seems in error. I think it should reference 33.1.4 Type 1 and Type 2 system parameters. (33.1.4 is where I cable is specified.)

Suggested Remedy
 Table 33-9, Item 13 Additional Information

IS:
 See 33.1.4.2

SHOULD BE:
 See 33.1.4

Response Response Status C
 ACCEPT.

Cl 33 SC 33.2.9.5 P50 L 17 # 214
 Stanford, Clay Linear Technology

Comment Type E Comment Status A
 Paragraph 33.2.9.5 is titled "PSE Maximum output current in POWER_ON mode", however the value is a minimum. Remove "Maximum" from title. Remove "max" reference in IPort_max.

Also note that in section 33.2.9.7 (p51, line 2) we reference Iport. Unless we accept this comment, 33.2.9.7 references a parameter that doesn't exist.

Suggested Remedy
 TEXT IS:
 33.2.9.5 PSE Maximum output current in POWER_ON mode
 For VPort > VPort min, the minimum value for IPort_max in Table 33-9 shall be (PPort / VPort). The current IPort_max ensures PPort min output power.

TEXT SHOULD BE:
 33.2.9.5 PSE output current in POWER_ON mode
 For VPort > VPort min, the minimum value for IPort in Table 33-9 shall be (PPort / VPort).
 The current IPort min ensures PPort min output power.

Response Response Status C
 ACCEPT IN PRINCIPLE.

Change title to:
 Output current capability in POWER_ON mode

and delete the second sentence of 33.2.9.5 (314 deletes first sentence).

And on P51 L5, delete Table 33-9 reference.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.3.3.3 P58 L 45 # 216
 Stanford, Clay Linear Technology

Comment Type E Comment Status A ez
 Erronous reference to PSE. Should reference PD.

SuggestedRemedy

IS:
 pd_dll_capable
 This variable indicates whether the PD implements Data Link Layer classification. See 33.6.
 Values: FALSE: The PSE does not implement Data Link Layer classification.
 TRUE: The PSE does implement Data Link Layer classification.

SHOULD BE:
 IS:
 pd_dll_capable
 This variable indicates whether the PD implements Data Link Layer classification. See 33.6.
 Values: FALSE: The PD does not implement Data Link Layer classification.
 TRUE: The PD does implement Data Link Layer classification.

Response Response Status C
 ACCEPT.
 See comment 103.

Cl 33 SC 33.3.7.4 P68 L 16 # 217
 Stanford, Clay Linear Technology

Comment Type E Comment Status R Pport typo
 Paragraph on Peak Operating Current incorrectly uses term current when it should use pwoer and peak when it should use average.

SuggestedRemedy

IS:
 At any static voltage at the PI, and any PD operating condition, the peak current shall not exceed PPort max for more than 50 ms maximum and 5% duty cycle maximum. Peak operating power shall not exceed PPeak max.

SHOULD BE:
 At any static voltage at the PI, and any PD operating condition, the peak power shall not exceed PPort max for more than 50 ms maximum and 5% duty cycle maximum. Average operating power shall not exceed PPort.

Response Response Status C
 REJECT.

This comment was WITHDRAWN by the commenter.

See commetn 417

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.8.2 P46 L3 # 218
 Stanford, Clay Linear Technology

Comment Type T Comment Status A class pd
 Add requirement to wait 6ms in order to ignore startup transients.

Additions shown in [square brackets].

SuggestedRemedy

EXISTING TEXT:
 The PSE in the state CLASS_EV1 shall provide to the PI VClass as defined in Table 33-8.
 The timing specification shall be as defined by TCLE1 in Table 33-8. The PSE shall measure IClass and classify the PD based on the observed current according to Table 33-7.

APPEND TO THIS PARAGRAPH:
 [Measurement to be taken after TCLE1_MIN to ignore initial transients.]

Response Response Status C

ACCEPT.

See 105

Cl 33 SC 33.2.8.2 P46 L10 # 219
 Stanford, Clay Linear Technology

Comment Type T Comment Status A class pd
 Add requirement to wait 6ms in order to ignore startup transients.

Additions shown in [square brackets].

SuggestedRemedy

EXISTING TEXT:
 When the PSE is in the state CLASS_EV2, the PSE shall provide to the PI VClass, subject to the TCLE2 timing specification, as defined in Table 33-8. The PSE shall measure IClass and classify the PD based on the observed current according to Table 33-7.

APPEND TO THIS PARAGRAPH:
 [Measurement to be taken after TCLE2_MIN to ignore initial transients.]

Response Response Status C

ACCEPT.

See 105

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.8.2 P46 L 31 # 220
Stanford, Clay Linear Technology

Comment Type T Comment Status A ez

In table 33-8, we specify a Classification Reset (15ms minimum with Vport<2.8V). We do not however discuss it in the text. Add text.

Additions shown in [square brackets].

SuggestedRemedy

TEXT IS:
All class event voltages and mark event voltages shall have the same polarity as defined for VPort in 33.2.3. The PSE shall complete 2-Event Physical Layer classification and transition to the POWER_ON state without allowing the voltage at the PI to go below VMark min.

APPEND TO THIS PARAGRAPH:
[If the PSE returns to the IDLE state (Figure 33-9), it shall maintain the PI voltage at VReset for a period TReset before starting a new detection.]

Response Response Status C
ACCEPT.

Cl 33 SC 33.2.8.2 P46 L 6 # 223
Stanford, Clay Linear Technology

Comment Type TR Comment Status A class pd

Because of capacitance on the port, behavior during the transition from Class to Mark may be confusing to the observer. Additionally, this complicates Mark timing. Add text to clarify.

Additions shown in [square brackets].

SuggestedRemedy

TEXT IS:
When the PSE is in the state MARK_EV1, the PSE shall provide to the PI VMark as defined in Table 33-8.
The timing specification shall be as defined by TME1 in Table 33-8.

APPEND TO THIS PARAGRAPH:
[The MARK_EV1 event commences when the PI voltage falls below VClass_min and ends whe the PI voltage exceeds VClass_min.

The PI VMark requiremnet is to be met with load currents in the range of 0.25 to 2mA. In a properly operating PoE system, the port may or may not discharge to the VMark range due to the combination of channel capacitance and PD current loading. This is normal and acceptable PoE system operation. For compliance testing, it is necessary to discharge the port in order to observe the VMark voltage. Discharge can be accomplished with a 2mA load for 3ms, after which Vmark can be observed with minimum and maximum load current.]

Response Response Status C
ACCEPT.

IEEE P802.3at D3.0 PoEplus comments

CI 33 SC 33.2.8.2 P46 L13 # 224
Stanford, Clay Linear Technology

Comment Type TR Comment Status A class pd

Because of capacitance on the port, Mark timing needs clarification.

Add text to clarify.

Additions shown in [square brackets].

SuggestedRemedy

TEXT IS:
When the PSE is in the state MARK_EV2, the PSE shall provide to the PI VMark as defined in Table 33-8.
The timing specification shall be as defined by TME2 in Table 33-8.

APPEND TO THIS PARAGRAPH:
[The MARK_EV2 event commences when the PI voltage falls below VClass_min and ends whe the PI voltage exceeds VClass_min.

Response Response Status C

ACCEPT IN PRINCIPLE.

The MARK_EV2 event commences when the PI voltage falls below VClass_min and ends when the PI voltage exceeds VClass_min.

CI 33 SC 33.3.5.1 P63 L45 # 227
maggiolino, joseph broadcom

Comment Type TR Comment Status A ez

table 33-14 class 4 29.5w

SuggestedRemedy

table 33-14 class 4 25.5w

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 43

CI 33 SC 33.3 P57 L6 # 232
LANDRY, MATTHEW SILICON LABS

Comment Type E Comment Status A ez

"33" is a clause. "33.3" is a subclause.

SuggestedRemedy

Replace "clause" with "subclause."

Response Response Status C

ACCEPT.

CI 33 SC 33.3.4 P61 L22 # 233
LANDRY, MATTHEW SILICON LABS

Comment Type E Comment Status A ez

More than two voltage/current measurements may be made by the PSE during the detection process. The "slope" applies to any of an infinite number of voltage/current measurements. It is therefore incorrect to specifically refer to "the two voltage/current measurements."

SuggestedRemedy

Delete "the."

Response Response Status C

ACCEPT.

CI 33 SC 33.3.5.2 P64 L14 # 235
LANDRY, MATTHEW SILICON LABS

Comment Type E Comment Status A ez

Title of subsection is "IPD 2-Event class signature"

SuggestedRemedy

Replace "IPD" with "PD."

Response Response Status C

ACCEPT IN PRINCIPLE.

See 154

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.3.5 P63 L15 # 248
 LANDRY, MATTHEW SILICON LABS

Comment Type TR Comment Status A class pd

The classification permutation table, Table 33-5, explicitly shows that a Type 2 PD must implement both 2-Event class signature and Data Link Layer classification.

Thus, the statement that, "Type 2 PDs shall implement both ..." is redundant in the use of "shall."

SuggestedRemedy

Strike "shall."

Response Response Status C

ACCEPT.

Cl 33 SC 33.3.5.1 P63 L33 # 249
 LANDRY, MATTHEW SILICON LABS

Comment Type TR Comment Status R class pd

Table 33-14 is wrong in two regards.

First, the power for Class 4 is no longer correct, as the maximum current for a Type 2 PSE changed in March 2008.

Second, the Class 0, 3, and 4 powers should be restated in terms of "Icable * VPort min."

SuggestedRemedy

Replace the powers for Class 0, 3, and 4 with "Icable * VPort min" or "PPort max as defined in Table 33-17."

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

(Note: Correction of 29.5W to Icable*Vport performed in comment 43.)

Class 3 PD power is fixed at 12.95W regardless of cable capacity. Comment suggests to make PD power a function of Icable and Vport. This would allow a Class 3 PD to draw 25.5W, which is not the intent of the specification. Comment could be implemented if further information on port voltage and cable type was provided, but seems counter productive.

Cl 33 SC 33.3.5.2.1 P64 L47 # 250
 LANDRY, MATTHEW SILICON LABS

Comment Type TR Comment Status A ez

The VMark range overlaps with the detect range.

Thus, the statement, "when the voltage at the PI is in the range of VMark, a PD implementing 2-Event class signature shall return a non-valid detection signature ..." is imprecise. It should only present this mark event signature in certain states of the state diagram.

SuggestedRemedy

FROM:

When the voltage at the PI is in the range of VMark, a PD implementing 2-Event class signature shall return a non-valid detection signature as defined in Table 33-13.

The PD must draw IMark when voltage at the PI is in the range of VMark.

TO:

When the PD is presenting a mark event signature as shown in the state diagram of Figure 33-17, the PD shall draw IMark as defined in Table 33-16 and present a non-valid detection signature as defined in Table 33-13.

Response Response Status C

ACCEPT.

Cl 33 SC 33.2.9 P48 L31 # 255
 Frosch, Richard Phihong USA

Comment Type E Comment Status A

1. Reference for lcable in table 33-9 is incorrect. Referencing section 33.1.4.2 is incorrect.
2. Having table 33-1 values on a separate page from the values listed in Table 33-9 is confusing for the casual designer.

SuggestedRemedy

1. Section referenced should be 33.1.4 to include cable parameters, cable requirement and cable derating.
2. Move 33-1 values into table 33-9 including cable derating information and remove reference back to 33.1.4

Response Response Status C

ACCEPT IN PRINCIPLE.

1: OBE 212, 312

2: in Table 33-1, after class D add "See 33.1.4.1 and 33.1.4.2"

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.9 P48 L48 # 256
 Frosch, Richard Phihong USA
 Comment Type E Comment Status R
 need definition for max
 SuggestedRemedy
 add see info in max column
 Response Response Status C
 REJECT.
 frs: Table 33-6 provides the values that are dependent on the class negotiated. 33.2.9.12 describes averaging method and also points to Table 33-6.

Cl 33 SC 33.3.5.1 P63 L45 # 258
 Frosch, Richard Phihong USA
 Comment Type T Comment Status A ez
 Class 4 power in table 33-14 is wrong
 SuggestedRemedy
 Change 29.5W to 25.5W.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 43

Cl 33 SC 33.2.9 P48 L51 # 271
 Darshan, Yair Microsemi Corporation
 Comment Type TR Comment Status R
 Draft D3.0:
 Note to comment editor: Please delete my previous comment on this subject. This one contains improved remedy.
 The additional information should be:
 See 33.1.4, 33.1.4.1 and 33.1.4.2 due to the fact that all subclasses contain relevant information.
 SuggestedRemedy
 Change to:
 See 33.1.4, 33.1.4.1 and 33.1.4.2
 Response Response Status C
 REJECT.
 This comment was WITHDRAWN by the commenter.
 frs: related to 213, and 96.
 Is a pointer to the first section--33.1.4--enough? The all expand on the same thing. One key point should work.

IEEE P802.3at D3.0 PoEplus comments

Cl 01 SC 01.4 P13 L 28 # 274
 Barrass, Hugh Cisco
 Comment Type ER Comment Status A power levels
 "A PSE or PD that is designed for IEEE Std 802.3T-2005 power levels"
 IEEE Std 802.3-2005 will shortly be replaced by a newer revision. That revision will, in turn be replaced by another revision (probably including this amendment).
 Do not refer to a specific revision of 802.3. If you wish to specify a power level, then state the power level.
 SuggestedRemedy
 Replace
 "A PSE or PD that is designed for IEEE Std 802.3T-2005 power levels"
 with
 "
 A PSE or PD that is designed for power levels between 0.5 and 12.95W (at the PD)"
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 Replace
 "1.4.x Type 1: A PSE or PD that is designed for IEEE Std 802.3™-2005 power levels."
 with
 "1.4.x Type 1 PD: A PD that advertizes a power draw less then or equal to 12.95W (at the PD).
 1.4.x Type 1 PSE: A PSE that is designed to support a Type 1 PD."
 See 275, 404

Cl 01 SC 01.4 P13 L 30 # 275
 Barrass, Hugh Cisco
 Comment Type ER Comment Status A power levels
 "A PSE or PD that is designed for IEEE Std 802.3T-2005 power levels"
 IEEE Std 802.3-2005 will shortly be replaced by a newer revision. That revision will, in turn be replaced by another revision (probably including this amendment).
 Do not refer to a specific revision of 802.3. If you wish to specify a power level, then state the power level.
 SuggestedRemedy
 Replace
 "A PSE or PD that is designed for IEEE Std 802.3T-2005 power levels"
 with
 "A PSE or PD that is designed for power levels greater than 12.95W (at the PD)"
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 Replace
 "1.4.x Type 2: A PSE or PD that is designed for greater than IEEE Std 802.3™-2005 power levels."
 with
 "1.4.x Type 2 PD: A PD that advertizes a power draw greater than 12.95W (at the PD).
 1.4.x Type 2 PSE: A PSE that is designed to support either a Type 1 or a Type 2 PD."
 see 274, 404

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.7.6.5 P96 L 27 # 286
 Barrass, Hugh Cisco
 Comment Type T Comment Status A STATE MACHINE
 Typo.
 pd_denial_timer_done - in PSE state machine...
SuggestedRemedy
 Change to pse_denial_timer_done
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 190, 191

Cl 33 SC 33.7.6.5 P97 L 26 # 288
 Barrass, Hugh Cisco
 Comment Type T Comment Status A STATE MACHINE
 Figure 33-28
 "pd_denial_timer_not_done" doesn't make sense as a condition to transition to
 REMOTE_REQUEST
SuggestedRemedy
 Delete term "pd_denial_timer_not_done +"
 Response Response Status C
 ACCEPT.

Cl 33 SC 33.7.6.5 P96 L 26 # 289
 Barrass, Hugh Cisco
 Comment Type T Comment Status A STATE MACHINE
 Figure 33-27
 "loss_of_comms = FALSE" doesn't make sense as an "OR" condition to transition to
 REMOTE_REQUEST
SuggestedRemedy
 Change term "(loss_of_comms = FALSE) +"
 to "(loss_of_comms = FALSE) **"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 190, 191

Cl 33 SC 33.7.6.5 P97 L 26 # 290
 Barrass, Hugh Cisco
 Comment Type T Comment Status A STATE MACHINE
 Figure 33-28
 "loss_of_comms = FALSE" doesn't make sense as an "OR" condition to transition to
 REMOTE_REQUEST
SuggestedRemedy
 Change term "(loss_of_comms = FALSE) +"
 to "(loss_of_comms = FALSE) **"
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 190, 191

Cl 33 SC 33.1 P25 L 52 # 300
 Frank , Yang CommScope
 Comment Type T Comment Status A cable
 ... shall consist of Category 5e components as specified...
 This paragraph indicates that users shall cat5e cord or connectors even if the the
 horizontal cabling is cat6 or better. This isn't desirable from cabling perspectively.
SuggestedRemedy
 ... shall consist of Category 5e or better components as specified...
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 519

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.1 P23 L15 # 301
Vetteth, Anoop Cisco

Comment Type E Comment Status R

There could be a problem with the structure of this sentence. I could be wrong also.

SuggestedRemedy

Please check the structuring of this sentence.

Response Response Status C

REJECT.

It says "a single interface to both the data it requires and the power to process this data"

This was carefully worded in AF. It is a single interface to:

1. the data
- AND
2. the power to process the data.

Cl 33 SC 33.2.4.5 P36 L47 # 302
Vetteth, Anoop Cisco

Comment Type E Comment Status A

Referece to Table 33-9 for tpd timer (Tpd). This parameter is actually defined in Table 33-8

SuggestedRemedy

Change reference to Table 33-8

Response Response Status C

ACCEPT.

Cl 33 SC 33.3.7.4 P68 L16 # 307
Vetteth, Anoop Cisco

Comment Type E Comment Status A Pport typo

typo
peak current shall not exceed Pport max

SuggestedRemedy

Replace
peak current shall not exceed Pport max
with
peak power shall not exceed Pport max

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 417

Cl 33 SC 33.2.4.7 P39 L47 # 310
Vetteth, Anoop Cisco

Comment Type T Comment Status R

One of the criterion for state transition from "POWER_ON" state to "IDLE" state is (pse_enable = force_power). This means that if no timers expire and force_power is asserted when the port is already on the port goes to IDLE state and then transits to TEST_MODE. What is the rationale behind this.

SuggestedRemedy

Please check this transition. Should this be *(pse_enable = force_power)?

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

Cl 33 SC 33.2.9 P48 L31 # 312
Vetteth, Anoop Cisco

Comment Type T Comment Status A

Table 33-9 item 5
Maximum output current in POWER_ON mode Iport_max_min is not I cable. It is dependent on the class of the PD.

SuggestedRemedy

Change I cable to Pclass/Vport

Response Response Status C

ACCEPT.

Cl 33 SC 33.2.9.4 P50 L13 # 313
Vetteth, Anoop Cisco

Comment Type T Comment Status A

Iport_max min x Vport min has been defined in Table 33-9 item 13 as Ptype min.

SuggestedRemedy

Use Ptype min

Response Response Status C

ACCEPT IN PRINCIPLE.

Ptype min as defined in Table 33-9

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.9.5 P50 L 19 # 314
Vetteth, Anoop Cisco

Comment Type T Comment Status A

One of my earlier comments is to change item 5 in table 33-9 Iport_max min from Icable to Pclass/Vport. If this comment is accepted by the group then first sentence of section 33.2.9.5 does not add any value.

SuggestedRemedy

Delete first sentence.

Response Response Status C

ACCEPT.

Cl 33 SC 33.1.4 P25 L 43 # 320
Vetteth, Anoop Cisco

Comment Type TR Comment Status A cable

Table 33-1
The second row in the table shows parameter "Channel DC loop resistance".

SuggestedRemedy

This parameter should read "Maximum Channel DC loop resistance"

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 518

Cl 33 SC 33.2.8 P46 L 37 # 322
Vetteth, Anoop Cisco

Comment Type TR Comment Status A class pd

Table 33-6 shows minimum power level at output for Class 0 as Ptype.
Ptype for a type-2 PSE is 30W with 600mA of cable current. But Class 0 minimum power level is 15.4W irrespective of the type of the PSE.

SuggestedRemedy

Change Ptype for Class 0 to 15.4W

Response Response Status C

ACCEPT.

Cl 33 SC 33.2.9 P48 L 42 # 323
Vetteth, Anoop Cisco

Comment Type TR Comment Status A

Table 33-9 Item 10
ILIM_min for type 2 PSE is defined as (400/350)x(Pport/Vport). This implies that the current limit is variable. The baseline for defining the current limit uses a fixed value of ILIM_min at (400/350)xIcable

SuggestedRemedy

Change (400/350)x(Pport/Vport) to (400/350)xIcable

Response Response Status C

ACCEPT.

Current limit is not supposed to scale with Pport so Icable is the proper choice.

Cl 33 SC 33.2.9 P48 L 42 # 324
Vetteth, Anoop Cisco

Comment Type TR Comment Status A

Table 33-9 Item 11
TLIM_min is defined as 50ms irrespective of the PSE type

SuggestedRemedy

Split the item according to PSE type. Use 50ms for type 1 and 10ms for type 2

Change 10ms in Section 33.2.9.9 lines 28-29 to TLIM min

Change 10ms with TLIM min in Figure 33-14

Change 10ms with TLIM min in the inequality on page 52 line 37 and 39

Response Response Status C

ACCEPT IN PRINCIPLE.

Split the item according to PSE type. Use 50ms for type 1 and 10ms for type 2

Change 10ms in Section 33.2.9.9 lines 28-29 to "TLIM min as specified in Table 33-9"

Change 10ms with "TLIM min" in Figure 33-14

Change 10x10⁻³ with "TLIM min" in the inequality on page 52 line 37 and 39

frs: This supplies the correct values and replaces numbers with the equivalent variable.
This helps prevent specification errors.

IEEE P802.3at D3.0 PoEplus comments

CI 33 SC 33.2.9 P48 L 42 # 326
Vetteth, Anoop Cisco

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

Table 33-9 Item 10
The upper bound for Ilim is not defined. It points to "see info" in section 33.2.9.9
Section 33.2.9.9 does not differentiate between type 1 and type 2 PSEs. The section also
does not clearly state that a type 2 PSE can limit the current anywhere between
(400/350)xcable and PSE upper bound template

SuggestedRemedy

Split the Max cell for item 10 for type 1 and type 2. Type 1 value should be 0.45A as per
802.3AF specification. Use "see info" for type 2 MAX value and point to section 33.2.9.9
In 33.2.9.9 clearly state that the value maximum value of ILIM is the PSE upper bound
template.

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Add the following sentence to 33.2.9.9: The maximum value of Ilim is the PSE upper bound
template described by equation 33-2 and Figure 33-14.

frs: related to 324.

Adds need to clearly state that ILIM may extend to the PSE upperbound template of Figure
33-14.

CI 33 SC 33.2.4.7 P39 L 46 # 327
Vetteth, Anoop Cisco Systems

Comment Type **ER** Comment Status **A**

pse_enable does not exist.

SuggestedRemedy

Replace pse_enable with mr_pse_enable.

Response Response Status **C**

ACCEPT.

CI 33 SC 33.3.3.5 P60 L 2 # 330
Vetteth, Anoop Cisco Systems

Comment Type **TR** Comment Status **A** PD State Diagram

If Vport < Vreset_th is true then you are in detection.

SuggestedRemedy

This term should be ANDed with a term that ensures the system is within a mark state.

See a related comment on state NOT_REQUESTING_POWER.

Response Response Status **W**

ACCEPT IN PRINCIPLE.

Changes documented in landry_fig33-17_v01.pdf

CI 33 SC 33.2.3 P32 L 49 # 331
Young, George AT&T

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

The sentence "Implementors are free to implement either alternative or both." is
superfluous considering the preceding sentence.

SuggestedRemedy

Eliminate this sentence.

Response Response Status **C**

ACCEPT.

CI 33 SC 33.7.6.5 P96 L 8 # 348
sastry, ramesh Cisco Systems

Comment Type **TR** Comment Status **A** STATE MACHINE

Old Text
pd_dll_enabled = FALSE

SuggestedRemedy

New text
pd_dll_enabled = FALSE
pse_dll_enabled = TRUE

Response Response Status **C**

ACCEPT IN PRINCIPLE.

OBE 190, 191

IEEE P802.3at D3.0 PoEplus comments

CI 33 SC 33.7.6.5 P97 L3 # 349
 sastry, ramesh Cisco Systems
 Comment Type **TR** Comment Status **A** STATE MACHINE
 Change the text "pd_dll_enabled = FALSE"
 SuggestedRemedy
 pd_dll_enabled = TRUE
 pse_dll_enabled = FALSE
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 OBE 190, 191

CI 33 SC 33.1.4 P25 L41 # 355
 Pavlick Rimboim Microsemi corp.
 Comment Type **T** Comment Status **R**
 Table 33-1 uses "A" for maximum DC cable current, as other tables (33-9) and past standard used "mA" to describe current, it will be better to keep the same units all over the standard
 SuggestedRemedy
 Change units from "A" to "mA"
 Response Response Status **C**
 REJECT.
 There is an effort to change all mA references to A to remove the 1000 factor from all the equations.
 69

CI 33 SC 33.2.8 P46 L44 # 356
 Hopwood, Keith Phihong
 Comment Type **E** Comment Status **R** class pd
 Class 4 Power refers to a table 33-9. This is not clear
 Lets make it easy and make it 30W (600mA 50V)
 SuggestedRemedy
 Replace reference to Table 33-9 to 30W
 Response Response Status **C**
 REJECT.
 Group could not form a concensus to resolve comment.
 CommentType field empty, set to E as default
 Amend table as below:

CLASS	Pmin Type 1	Pmin Type 2
0	Pclass=15.4W	Pclass=15.4W
1	Pclass=4W	Pclass=4W
2	Pclass=7W	Pclass=7W
3	Pclass=15.4W	Pclass=15.4W
4	Pclass=15.4W	Pclass=30W
4	Pclass = Vportmin * Icable	

 see 322

CI 33 SC 33.3.5.1 P63 L45 # 357
 Hopwood, Keith Phihong
 Comment Type **E** Comment Status **A** ez
 Class 4 Power for PD can't be 29.5W with only 600mA
 SuggestedRemedy
 Change Value from 29.5W to 24.6W
 Response Response Status **C**
 ACCEPT IN PRINCIPLE.
 CommentType field empty, set to E as default
 OBE 43.

IEEE P802.3at D3.0 PoEplus comments

Cl 01 SC 1.3 P13 L11 # 364
Piers Dawe Avago Technology

Comment Type TR Comment Status A cable

As <http://iee802.org/3/at/public/mar08/3n864.pdf> says, there is an approved work item proposal (NWIP - like a PAR) for developing ISO/IEC TR 29125; the NWIP is at <http://isotc.iso.org/livelink/livelink/fetch/2000/2122/327993/755080/1054034/2541793/JTC001-N-8766.pdf?nodeid=6786149> but I could not see any sign that even a draft TR exists yet.

SuggestedRemedy

As this TR is essential for Type 2 ????CHECK****, a draft of P802.3at cannot be considered technically complete until it exists

Response Response Status W

ACCEPT IN PRINCIPLE.

OBE 478

Cl 01 SC 1.4 P13 L19 # 366
Piers Dawe Avago Technology

Comment Type E Comment Status A ez

It's standard practice to give the reader a pointer to more information

SuggestedRemedy

Please add to the end of each definition, '(See IEEE 802.3, Clause 33.)' or as appropriate

Response Response Status C

ACCEPT.

Cl 33 SC 33.1 P23 L33 # 374
Piers Dawe Avago Technology

Comment Type TR Comment Status A cable

Text says 'The detection and powering algorithms are likely to be compromised by cabling that is multipoint as opposed to point-to-point, resulting in unpredictable performance and possibly damaged equipment.' while Fig 33-1 and 33-2 shows a medium running past the MDI, shared-medium style.

SuggestedRemedy

First, is 'multipoint' the right word? Isn't that how PONs are? Second, if DTE Power should not be used on shared-medium Ethernet, show the medium coming to but not past the MDI/PI in Fig 33-1 and 33-2

Response Response Status W

ACCEPT IN PRINCIPLE.

PONs are not an issue as we don't support power over optics.

Fig 33-1, 33-2 and 33-3 need updated with 'zig-zag' lines running off to the right and by moving the left hand end of the medium line closer to the MDI.

176, 375

Cl 33 SC 33.1 P23 L33 # 375
Piers Dawe Avago Technology

Comment Type T Comment Status R cable

unpredictable performance and possibly damaged equipment': I wonder if there might be a risk of overheating also and a stronger warning, caution or whatever should be made

SuggestedRemedy

per comment

Response Response Status C

REJECT.

Insufficient detail to satisfy commenter. Need editorial suggestions.

IEEE P802.3at D3.0 PoEplus comments

CI 33 SC 33.1.1 P23 L44 # 376
 Piers Dawe Avago Technology
 Comment Type E Comment Status A ez
 A PD ... need no
 SuggestedRemedy
 A PD ... needs no
 Response Response Status C
 ACCEPT.

CI 33 SC 33.1.4 P25 L32 # 381
 Piers Dawe Avago Technology
 Comment Type TR Comment Status A
 A system? What does that mean? A switch? Or just that portion powered/powering via a single MDI?
 SuggestedRemedy
 Be clearer
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 Change
 "A system defined as either Type 1 or Type 2..."
 to
 "A power system, consisting of a single PSE, link segment and a single PD, defined as either Type 1 or Type 2..."

CI 33 SC 33.7 P89 L5 # 385
 Piers Dawe Avago Technology
 Comment Type T Comment Status A LIAISON
 We have a mix of MDI-oriented volts and amps at the bottom of the layer diagram, and now an LLDP which is above 802.3's layer stack.
 SuggestedRemedy
 Do we need a layer diagram and some words explaining how these things are related?
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 504.
 Add at beginning of TLV section: "This is an extension of the 802.3 subtype specified in IEEE 802.1AB-REV for PoEP."

CI 33 SC 33.7 P89 L18 # 387
 Piers Dawe Avago Technology
 Comment Type TR Comment Status A LIAISON
 Text says 'The information supplied by the Power Via MDI TLV defined in IEEE Std 802.1ABT Annex G.3 is superseded by the DTE Power via MDI classification TLV.' So there is a 'Power Via MDI' messaging protocol and a 'DTE Power via MDI classification'? If so, their names and functions are too similar, and this draft looks like an attempt to change 802.1AB, outside of 802.1AB, and without deprecating or obsoleting whatever is currently in 802.1AB. Is 'Power Via MDI' used for anything else?

SuggestedRemedy
 If this is 802.1AB work, get the things you want into their draft, not here.
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 OBE 504.

CI 33 SC 33.7 P89 L11 # 388
 Piers Dawe Avago Technology
 Comment Type TR Comment Status A LIAISON
 TLVs? Are these Slow Protocol TLVs?
 SuggestedRemedy
 If so, would an annex to 57 be the right place to define them (if not 802.1AB)? Anyway, a PMD-and-below clause seems the wrong place.
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 OBE 504.

CI 33 SC 33.1.4 P25 L40 # 391
 Piers Dawe Avago Technology
 Comment Type TR Comment Status A cable
 Maximum DC cable current, about half an ampere? is that per cable (bundled) as it says, or per conductor, or per MDI (two conductors each way)?
 SuggestedRemedy
 Be clearer
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 Add footnote: I_{cable} is the maximum output current per PI in normal powering mode.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.1.4.1 P25 L 52 # 392
Piers Dawe Avago Technology

Comment Type T Comment Status A cable

Normative text says 'Type 2 operation requires Class D ... the cabling system components ... shall consist of Category 5e components as specified in ANSI/TIA/EIA-568-B.2 ... while NOTE says 'ANSI/TIA/EIA-568-B.2 provides a specification (Category 5e) for cabling that meets the minimum requirements for Type 2 operation.'

SuggestedRemedy

Is this a distinction between cabling system components and cabling? Or can the NOTE be deleted?

Response Response Status C

ACCEPT IN PRINCIPLE.

Delete the note on page 26 line 1

See new text in 519

Cl 33 SC 33.2.1 P27 L 19 # 394
Piers Dawe Avago Technology

Comment Type T Comment Status R editorial

Inappropriate 'shall', I think; requiring them to apply whenever is an action on the editor, not on the implementor of a PD or PSE.

SuggestedRemedy

Delete 'shall'

Response Response Status C

REJECT. "The requirements of this document shall apply equally to Endpoint and Midspan PSEs unless the requirement contains an explicit statement that it applies to only one implementation."

frs: This statement is in the legacy text and should produce text that is concise that ensures how subsequent shalls are applied. Recommend rejecting this.

Cl 33 SC 33.2.2 P27 L 34 # 395
Piers Dawe Avago Technology

Comment Type E Comment Status A

Midspan

SuggestedRemedy

Midspan PSE (or midspan entity)

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace

"Note that this limitation is due to the presence of the Midspan regardless if it is supplying power or not."

with:

Note that this limitation is due to the presence of the Midspan PSE whether it is supplying power or not.

Cl 33 SC 33.2.8 P44 L 33 # 396
Piers Dawe Avago Technology

Comment Type E Comment Status A ez

Table 33-6 is mentioned here, before Table 33-5 and again on line 44 yet it does not appear until the end of page 46

SuggestedRemedy

Move its anchor earlier

Response Response Status C

ACCEPT.

Editor to swap table physical locations of tables 5 and 6. This will put table 6 ahead of table 5.

Editor to swap table names and references to such tables.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.3.4 P61 L34 # 397
 Piers Dawe Avago Technology
 Comment Type E Comment Status A ez
 Wasted space
 SuggestedRemedy
 Make tables 33-12, 33-13 full width and resize column widths to contents. Check the anchors are on page 61 at the references to them and Table 33-12 should fit on p61. Start 33.3.5 on p62.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Propose that we give the editor license to reformat Table 33-12 and 33-13 to reduce height as well as compact the text.

Cl 01 SC 1.4 P13 L28 # 404
 Booth, Brad AMCC
 Comment Type TR Comment Status A power levels
 Poor use of reference.
 Considering 802.3at will become part of the 802.3 standard, having a reference to a past version of the standard as a means to determine between Type 1 and Type 2 is a poor choice.
 SuggestedRemedy
 Change reference to the standard to be a reference to the actual power level in IEEE Std. 802.3af.
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 OBE 274, 275

Cl 33 SC 33.1.4.1 P25 L50 # 405
 Booth, Brad AMCC
 Comment Type TR Comment Status A cable
 Confusing conflict of references. ISO/IEC 11801:1995 Class D cabling is different than ISO/IEC 11801:2002 Class D cabling. The statement that Type 2 requires ISO/IEC 11801:1995 Class D, but that all the components of the cabling system shall comply with ISO/IEC 11801:2002 Class D cabling.
 SuggestedRemedy
 Change paragraph to read:
 Type 2 operation shall require Class D or better cabling as specified in ISO/IEC 11801:2002.
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 OBE 519

Cl 01 SC 1.4 P13 L30 # 406
 Zimmerman, George Solarflare Communicat
 Comment Type E Comment Status A power levels
 Type 2 is specified to be "greater than 802.3-2005" power levels. From this specification, I believe this should be "greater than 802.3-2005, but less than or equal to 802.3at-2xxx" power levels". Otherwise, we're classifying nonstandard devices as "Type 2".
 SuggestedRemedy
 Add ", but less than or equal to 802.3at-2xxx" power levels" to the type 2 description.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 274, 275

Cl 33 SC 33.2.4.4 P34 L45 # 408
 Zimmerman, George Solarflare Communicat
 Comment Type E Comment Status R
 option_detect_ted is likely to cause confusion verbally with the english "detected". Recommend searching for another name.
 SuggestedRemedy
 find another name - this may involve changing also the ted_timer.
 Response Response Status C
 REJECT.
 Group agrees with the sentiment but disagree that the read will be confused.

IEEE P802.3at D3.0 PoEplus comments

CI 33 SC 33.1.4 P25 L45 # 413
 Zimmerman, George Solarflare Communicat

Comment Type TR Comment Status A cable

Table 33-1, Row "cable type" should be "minimum cable type". (I assume 802.3at either Type 1 or Type 2 will work on Class E or Class Ea cabling). Note that line 50 goes on to say in the text that Type 2 works on Class D or better. The table is inconsistent AND there is no similar statement I see for Type 1.

SuggestedRemedy

Either: replace "Cable Type" row heading by "Minimum Cable Class", OR, add "or better" to the row entries (preferred for clarity, if not for wordiness).

Response Response Status W

ACCEPT IN PRINCIPLE.

OBE 518

CI 33 SC 33.2.9.13 P53 L25 # 415
 Zimmerman, George Solarflare Communicat

Comment Type TR Comment Status A

3% unbalance current may require assumptions on compatible 100BASE-TX transceivers (beyond the standard) with regards to baseline wander. Imbalance currents for this standard go beyond the OCL current specifications in the ANSI FDDI specification referenced by the 100BASE-TX MDI spec. Modification or assumption of modifications common in teh market is implied.

(also in Table 33-9, line 21)

SuggestedRemedy

Either, restrict higher currents to 100BASE-TX which meet additional requirements or (preferred) modify the MDI specification for compatible 100BASE-TX equipment to specify the signal presented at the MDI. - a parallel comment will be submitted to maintenance to work this issue by providing a specification of the 100BASE-TX signal at the MDI.

Response Response Status W

ACCEPT IN PRINCIPLE.

Recharter the 350uH adhoc and pass this information on.

CI 33 SC 33.2.9 P48 L38 # 416
 Stanford, Clay Linear Technology

Comment Type E Comment Status R

Pport and Pclass are used in spec and there is little difference between them.

It appears Pport is the Parameter (table 33-9, item 12) and Pclass is the Result of classificaiton and the minimum value of Pport.

To add additional confusion, there is yet another term Ptype, in which Pclass = Ptype.

SuggestedRemedy

Editor to search document and establish consistant usage of Pport, Pclass, and Ptype.

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

Pport min = Pclass

CI 33 SC 33.3.7.4 P68 L16 # 417
 Stanford, Clay Linear Technology

Comment Type E Comment Status A Pport typo

This comment is resubmitted and my previous comment shall be withdrawn.

Paragraph on Peak Operating Current incorrectly uses term current when it should use power.

SuggestedRemedy

IS:

At any static voltage at the PI, and any PD operating condition, the peak current shall not exceed PPort max for more than 50 ms maximum and 5% duty cycle maximum.

SHOULD BE:

At any static voltage at the PI, and any PD operating condition, the peak power shall not exceed PPort max for more than 50 ms maximum and 5% duty cycle maximum.

Response Response Status C

ACCEPT.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 **SC 33.3.5.1** **P63** **L 45** # **428**
 Stanford, Clay Linear Technology
Comment Type T **Comment Status A** ez
 Table 33-14 PD Power Classification
 Class 4 still references 29.5W
 Change to 25.5W or Icable * Vport
SuggestedRemedy
 Change 29.5W to 25.5W
Response **Response Status C**
 ACCEPT IN PRINCIPLE.
 OBE 43

Cl 33 **SC 33.2.9** **P49** **L 18** # **431**
 Barrass, Hugh Cisco
Comment Type T **Comment Status R**
 Comment reference **HB-05**
 Table 33-9
 The "duty cycle" method of minimizing the PD power (below 500mW) is impractical and may lead PoE devices to be seen as wasteful. Especially when compared with external power supplies that are required to have a standby power less than 500mW.
 It would be very useful to define a static current that allows a PD to draw much less power without using the duty cycle method.
 Other comments (reference **HB-07**) introduce the idea of a PD low power state that may be negotiated between the PD & PSE. The low static current can be defined to be valid only in the low power state. That way the PD will only be allowed to use the low static current if the PSE is capable of measuring the smaller current or using an alternative disconnect method.
SuggestedRemedy
 Add two rows, under item 18:
 c) LOW POWER state current 1 I_{lp1} mA 0 1 Relevant for 33.2.11.1.2.
 PSE removes power
 d) LOW POWER state current 2 I_{lp2} mA 1 2 Relevant for 33.2.11.1.2.
 PSE may power
 Also add the following paragraph at the end of 33.2.11.1.2
 If PD_low_power state has been negotiated then the PSE shall consider the DC MPS component to be present if the DC current is greater than or equal to I_{lp2} max. A PSE may consider the DC MPS component to be present or absent if the DC current is in the range I_{lp2}. A PSE shall consider the DC MPS component to be absent when it detects a DC current in the range I_{lp1}. Power shall be removed from the PI when DC MPS has been absent for a duration greater than TMPDO.
Response **Response Status C**
 REJECT.
 Vote to accept:
 Y: 2 N: 15 A: 9
 No support to change in the TF.

IEEE P802.3at D3.0 PoEplus comments

frs: This needs to be reviewed.

The operating range of this system would extend from 2 mA to over 600 mA. Many system use integrating ADC to eliminate AC-coupled electrical noise. Reducing the sensed signal level further will increase noise problems.

Using the "duty cycle" approach address these concerns.

We should discuss which method is better or whether multiple options of the same function is required.

Cl 33 SC 33.3.5.1 P63 L 46 # 442
Vetteth, Anoop Cisco

Comment Type TR Comment Status R ez

Table 33-14
Power corresponding to class 4 has not been updated

SuggestedRemedy
Change 29.5W to 25.5W

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

See 43

Cl 33 SC 33.2.8.2 P46 L 36 # 443
Vetteth, Anoop Cisco

Comment Type TR Comment Status A class pd discuss

Table 33-6
Pclass has fixed values for the different classes. We changed the overload current on page 50 (Ipeak) to be dependent on Ppd_peak, Vport and Rch. We should do the same here

SuggestedRemedy

Use parameter "Pclass_pd" for the values in table 33-14 page 63

Replace the table 33-6 with the following equation

$$Pclass = Vport \times [Vport - \sqrt{Vport^2 - 2 \times Rch \times Pclass_pd}] / Rch$$

A type 1 PSE can treat Class 4 as Class 0 so I don't think we need to differentiate between type 1 and type 2 PSEs for class 4

Replace Rch in eq 33-1 with Rch/2

Response Response Status C

ACCEPT IN PRINCIPLE.

Append "Pclass_pd" to the title of Table 33-14 page 63

add this equation and text :

$$Pclass = Vport \times [Vport - \sqrt{Vport^2 - 4 \times Rch \times Pclass_pd}] / (2 \times Rch)$$

"PSE implementations may optionally use Vpse = Vport_min and Rch = Rch_max to arrive at the values in Table 33-6."
before Table 33-6

Change Rch in table 33-1 to 12.5 | 20

and add note after Table 33-1:

"Note: Rch is the net result of the loop resistance of a single twisted pair."

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.3 P32 L 49 # 445
 McCormack, Michael Texas Instruments

Comment Type E Comment Status A

The phrase "provided the PSE meets the constraints of 33.2.4" is misleading, there are other PSE shall statements in the document

SuggestedRemedy
 Strike the phrase

Response Response Status C

ACCEPT.

frs: 33.2.4 references the PSE state diagrams. Removing the text does not change the need to support that clause.

A PSE shall implement Alternative A or Alternative B, or both.

Cl 33 SC 33.2.4.4 P35 L 45 # 446
 McCormack, Michael Texas Instruments

Comment Type E Comment Status A

Could we break the page and have the table start the beginning of the next page? The Table referenced is seperated by just a few lines but is entirely on another page.

SuggestedRemedy
 Reformat the text

Response Response Status C

ACCEPT.

OBE 465

Cl 33 SC 33.1.4.1 P25 L 52 # 447
 McCormack, Michael Texas Instruments

Comment Type T Comment Status A cable

Category 5e can be bettered,

SuggestedRemedy
 Catrgory 5e or better

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 519

Cl 33 SC 33.3.5.2 P64 L 14 # 453
 Jones, Chad Cisco

Comment Type E Comment Status A ez

Typo in heading:

"33.3.5.2 IPD 2-Event class signature" - stray I in front of PD.

SuggestedRemedy
 change to: "33.3.5.2 PD 2-Event class signature"

Response Response Status C

ACCEPT IN PRINCIPLE.

See 154

Cl 33 SC 33.3.5.2 P64 L 20 # 454
 Jones, Chad Cisco

Comment Type E Comment Status A ez

"The Figure 33-17 state diagram specifies the externally observable behavior of the PD."

This is a completely superfluous sentence that is already stated in the state diagram section of the document.

SuggestedRemedy
 Strike the sentence.

Response Response Status C

ACCEPT.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.8 P44 L 53 # 455
 Jones, Chad Cisco

Comment Type TR Comment Status A class pse

"If a PSE successfully completes detection of a PD, but the PSE fails to complete classification of a PD, then a Type 1 PSE shall assign the PD to Class 0; the operation of a Type 2 PSE is implementation dependent."

We are making the same mistake that we made in AF all over again. The reason we couldn't use Class 4 by itself is because we allowed the PSE to power a poorly behaved PD, and we are doing it again here. The proper way to future proof the standard is define this as a non-powered state.

Additionally, classification is no longer optional for Type 2 PSEs; you have to complete some sort of classification to complete the whole discovery process for Type 2 devices. If classification has failed, discovery has failed. We certainly don't let a device that has failed discovery get power anyway - and certainly not 30W!

SuggestedRemedy

Operation for Type 1 PSEs is grandfathered in and cannot be corrected but it can be fixed for the Type 2 PSE.

Change: "the operation of a Type 2 PSE is implementation dependent."

to: "the Type 2 PSE shall restart the Detection Cycle"

Response Response Status C

ACCEPT IN PRINCIPLE.

The proposed change aligns text with existing PSE state machine, however PSE should return to the IDLE state prior to detection.

Change: "the operation of a Type 2 PSE is implementation dependent."

to: "the Type 2 PSE shall return to the IDLE state."

Cl 33 SC 33.2.8.2 P46 L 16 # 456
 Jones, Chad Cisco

Comment Type TR Comment Status A class pd

"If any measured IClass is equal to or greater than IClass_LIM min as defined in Table 33-8, the PSE shall classify the PD as Class 4."

Same as previous comment:

We are making the same mistake that we made in AF all over again. The reason we couldn't use Class 4 by itself is because we allowed the PSE to power a poorly behaved PD, and we are doing it again here. The proper way to future proof the standard is define this as a non-powered state.

Additionally, classification is no longer optional for Type 2 PSEs; you have to complete some sort of classification to complete the whole discovery process for Type 2 devices. If classification has failed, discovery has failed.

SuggestedRemedy

Change: "If any measured IClass is equal to or greater than IClass_LIM min as defined in Table 33-8, the PSE shall classify the PD as Class 4."

to: "If any measured IClass is equal to or greater than IClass_LIM min as defined in Table 33-8, the PSE shall restart the Detection Cycle by allowing the voltage at the PI to drop below Vmarkmin."

Response Response Status C

ACCEPT IN PRINCIPLE.

Change text to:

"If any measured IClass is equal to or greater than IClass_LIM min as defined in Table 33-8, the Type 1 PSE shall classify the PD as Class 0, the Type 2 PSE shall return to the IDLE state."

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.8 P44 L 30 # 460
 Geoff, Thompson Nortel

Comment Type E Comment Status A class pse

The text:
 "Physical Layer classification occurs before power-on when the PSE asserts a voltage onto the PL..."
 is confusing as just what is powered on and what is not.

SuggestedRemedy

change text to:
 "Physical Layer classification occurs before a PSE supplies power to a PD when the PSE asserts a voltage onto the PL..."

Response Response Status C

ACCEPT.

CommentType empty, set to E as default

Cl 33 SC 33.2.4.5 P35 L 50 # 465
 Geoff, Thompson Nortel

Comment Type E Comment Status A

Frame editing and pagination problem.
 Table 33-3 should appear immediately after line 47 and before the header and text of 33.2.4.5

SuggestedRemedy

Put a page break immediately in front of heading for 33.2.4.5 or a "keep together" command that does the same thing

Response Response Status C

ACCEPT.

Same as 302 use this solution.

Cl 33 SC 33.2.4.7 P38 L 8 # 466
 Geoff, Thompson Nortel

Comment Type E Comment Status A

It looks like the size of Figure 33-9 is such that it will guarantee that the heading "33.2.4.7 State Diagrams" and Figure 33-9 will inevitably be on separate pages

SuggestedRemedy

Insert a page break immediately before: "33.2.4.7 State Diagrams"
 AND
 Reduce the size of Figure 33-9 such that the heading and the figure can fit on a single page.

Response Response Status C

ACCEPT IN PRINCIPLE.

Editor to make best effort.

Cl 00 SC 00 P L # 467
 Geoff, Thompson Nortel

Comment Type ER Comment Status A

The current ballot claims that it is referenced against P802.3ay Draft 2.1.
 As of the date of the close of this ballot, 2.1 is not longer the current draft

SuggestedRemedy

The next draft should be referenced against the draft of P802.3ay that is current at the time the next ballot is issued. Any changes to the P802.3at draft that are a result of changes to the P802.3ay since D2.1 should be marked with an editor's note saying as much.

Response Response Status C

ACCEPT.

Editor to check AY for changes that affect our draft.

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33 P23 L1 # 469
 Geoff, Thompson Nortel

Comment Type ER Comment Status A

Given the inadequacy of the compare documents referenced in the cover letter, the balloting instruction, the referenced documents which are: "...to assist in your review compare documents..."
 The balloting instruction to:
 "Please DO NOT submit comment against the above documents"
 is completely inappropriate!
 A editorial instruction that says: "Replace Clause 33:" (PDF Page 1, line 1) is of no use "to assist..."

SuggestedRemedy

Where the draft switches modes from editorial instructions to major section replacement (e.g. pg 23, line 1) insert an editorial instruction that says:
 Editorial note, to be removed prior to publication.
 The precise delete/insert instructions against what is taken as the base standard (P802.3ay/D2.1 draft of 802.3REV expected to be published as Std 802.3-2008) can be found in a compare document which can be accessed at:
http://www.ieee802.org/3/at/private/D3.0/P802d3at_D3p0-8023_33_CMP.pdf
 (This will be even more important in Sponsor Ballot where you have less control over the packaging of the ballot material.)

Response Response Status C
 ACCEPT.

Cl 01 SC 1.4 P13 L30 # 470
 Geoff, Thompson Nortel

Comment Type ER Comment Status A power levels

The text: "...for greater than IEEE Std 802.3T-2005 power levels."
 is not appropriate. It will be difficult for the normal user of the resulting standard to have access to this information. There is no need to make things that difficult for a normal user.

SuggestedRemedy

Change to:
 "for greater than the power levels specified in Table 33-6, class 3."

Response Response Status C
 ACCEPT IN PRINCIPLE.

OBE 274, 275

Cl 33 SC 33.1.4 P25 L52 # 474
 Geoff, Thompson Nortel

Comment Type ER Comment Status A cable

There is no such thing as Category 5e components specified in 11801:2002. the term "5e" is a TIA term, not an ISO/IEC term

SuggestedRemedy

Change text to read:
 "...shall consist of Category 5e components as specified in ANSI/TIA/EIA-568-B.2 and Category 5 components as specified in ISO/IEC 11801:2002.

Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 519

Cl 33 SC 33.2.8 P44 L36 # 476
 Geoff, Thompson Nortel

Comment Type ER Comment Status A ez

The text:
 "With Data Link Layer classification, the PSE and PD communicate using the Data Link Layer Protocol (see 33.7) after the PD is powered."
 ...is not technically correct because because LLDP can be established as soon as data transmission is enabled without regard to the state of the PSE/PD elements. Also powering the PD does not guarantee that LLDP can come up. See 33.2.5 para 3.

SuggestedRemedy

Change to:
 "With Data Link Layer classification, the PSE and PD communicate using the Data Link Layer Protocol (see 33.7) as soon as the data link is established."

Response Response Status C
 ACCEPT.

IEEE P802.3at D3.0 PoEplus comments

Cl 01 SC 1.3 P13 L11 # 478
 Geoff, Thompson Nortel

Comment Type TR Comment Status A cable

The text: "Draft document number ISO/IEC JTC 1/SC 25 N XXXX.X." is inappropriate and insufficiently complete for a document to go to Working Group Ballot.

SuggestedRemedy

- There are several appropriate choices to remedy this, among them are:
- Admit that the document was not complete and thus, by rule, not qualified to go to Working Group Ballot and, therefore, withdraw the draft from Working Group Ballot until it is complete, then submit it again to 802.3 for WG Ballot.
 - Provide an appropriately mature outside reference and access to copies of it so that the balloting group can judge the technical information.
 - Drop the reference, establish the relevant parameters and their validity (with appropriate documentation) within 802.3 and then use the home grown numbers.

Response Response Status C

ACCEPT IN PRINCIPLE.

Use option 3, remove the normative reference. We are not using the document as a normative reference; we are extracting information.

Cl 33 SC 33.2.1 P30 L7 # 481
 Geoff, Thompson Nortel

Comment Type TR Comment Status A

This comment relates to Figure 33-6, Alternative A. The through connections shown on the midspan on pins 4/5 and 7/8 are out of scope for this standard and are not compatible with many existing compliant implementations of legacy midspans.

SuggestedRemedy

Replace the shown through connections with boxes which are labeled "Out of Scope"

Response Response Status C

ACCEPT IN PRINCIPLE.

Make the lines in question dashed and add "OPTIONAL" label to them.

frs: A note exists on p27: "NOTE-Figure 33-4, Figure 33-5, Figure 33-6, and Figure 33-7 are for illustrative purposes only."

The figures aid the reader because they provide information on how something may be done.

Cl 00 SC 00 P L # 484
 Geoff, Thompson Nortel

Comment Type TR Comment Status A 00

The text provided for management via LLDP is not complete. I recognize that the IETF is no longer willing to do the SMNP and 802.3 will be doing that job. As far as I know this change of situation has not lead to any change in requirements for 802.3 development projects, thus for the P802.3at draft to be complete, it needs to include the management material normally included in Annex 30A (OID registration arcs) and Annex 30B (enumerated values for syntax).

SuggestedRemedy

Add appropriate material for Annex A and Annex B Since the WG Ballot was conducted (inappropriately) on an incomplete draft the Working Group Ballot should be reinitiated or (at a minimum) the recirculation should have an extended period AND open the entire draft for comment.

Response Response Status C

ACCEPT IN PRINCIPLE.

Geoff to work with Adhoc to add appropriate material for Annex A and Annex B.

WG chair to rule on recirc/reballot requirement.

Cl 01 SC 1.4 P13 L28 # 485
 Ganga, Ilango Intel

Comment Type E Comment Status A power levels

Replace "IEEE Std 802.3-2005" to "IEEE 802.3", so we do not have to change this for every revision.

SuggestedRemedy

Type 1: A PSE or PD that is designed for IEEE 802.3 power levels

Type 2: A PSE or PD that is designed for greater than IEEE 802.3 power levels

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 274, 275

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.2.4.4 P35 L47 # 490
 Ganga, Ilango Intel
 Comment Type ER Comment Status A PICS
 PICS missing for PSE shall meet at least one allowable variable..
 SuggestedRemedy
 Add corresponding PICS
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 OBE submission from Gerry Nadeau.

Cl 33 SC 33.7 P89 L1 # 492
 Ganga, Ilango Intel
 Comment Type ER Comment Status A PICS
 Missing PICS for 33.7 Data Link layer classification requirements
 Also missing PICS for requirements in 33.8
 SuggestedRemedy
 Add PICS corresponding to 33.7 and 33.8
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 OBE submission from Gerry Nadeau.
 PICS being redone for entire draft

Cl 01 SC 01.3 P13 L7 # 497
 Diab, Wael Broadcom
 Comment Type E Comment Status A ez
 The editor's note is confusing. The only thing the note should state is that the reference will be updated upon publication of the TR
 SuggestedRemedy
 Please delete the language regarding the vote on the TR. Retain language to point to the TR name
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 478

Cl 33 SC 33.1.4 P25 L44 # 500
 Diab, Wael Broadcom
 Comment Type T Comment Status A cable
 Table 33-1
 The cabling type in this table is ambiguous.
 SuggestedRemedy
 Please use the nomenclature in Clause 1 for Cat 3 (see 1.4.89). Also, pls add a footnote to Table 33-1 indicating where Cat 3 and Class D are defined so there is no ambiguity.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 518

Cl 33 SC 33.2.2 P27 L28 # 502
 Diab, Wael Broadcom
 Comment Type TR Comment Status A
 The BLW issue with 100BASE-TX was avoided in 802.3af by disallowing Alternative A solutions. I support work to allow 1000BASE-T and Alternative A 100BASE-TX to work on condition that it does not compromise the integrity of the channel or modify the characteristics of the signal that the PHY sees at its receive MDI from the link partner.
 SuggestedRemedy
 Either disallow Alternative A midspans or show that the constraints placed on an Alternative A midspan yield a channel and receive characteristics that is identical to that without a midspan for a 100BASE-TX link or a 1000BASE-T link.
 Response Response Status W
 ACCEPT IN PRINCIPLE.
 Add Note: See Section 33.4.8.2 for Alternative-A Midspans.
 frs: Suggest referencing section 33.4.8.2, p81 for alternative-A midspans.

IEEE P802.3at D3.0 PoEplus comments

Cl 00 SC 00 P L # 504
Diab, Wael Broadcom

Comment Type TR Comment Status A

Please resolve where the TLVs for 802.3at will reside. Will it be in 802.1, 802.3 at or somewhere else

SuggestedRemedy

Please see comment

Response Response Status C

ACCEPT IN PRINCIPLE.

We intend to keep it in 802.1 hence, we have requested an IEEE Std 802.1AB "IEEE 802.3 subtype" (IEEE 802.3 organizationally specific TLV) from IEEE802.1 with the intent of including LLDP TLVs in 802.3at.

Cl 33 SC 33.7.6.5 P96 L 16 # 506
Diab, Wael Broadcom

Comment Type TR Comment Status A STATE MACHINE

Looks like PSE state diagram has missing arrows

SuggestedRemedy

PSE diagram should be identical to PD with modified variable settings. Please adjust per resolutions from Ohio meeting

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 190, 191

Cl 01 SC 1.3 P13 L 11 # 510
Law, David 3Com

Comment Type E Comment Status A cable

A draft of ISO/IEC TR 29125 has been issued designated ISO/IEC JTC 1/SC 25 N 874.

SuggestedRemedy

Change ISO/IEC JTC 1/SC 25 N XXXX.X. to read ISO/IEC JTC 1/SC 25 N 874.

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 478 which removed the reference.

Cl 33 SC 33.1.1 P23 L 23 # 511
Law, David 3Com

Comment Type E Comment Status A cable

We normally say beyond the scope of the standard.

SuggestedRemedy

Change '... beyond the scope of the clause.' to read 'beyond the scope of the standard.'

Response Response Status C

ACCEPT.

Cl 33 SC 33.1.4 P25 L 43 # 517
Law, David 3Com

Comment Type TR Comment Status R cable

I believe that a Type 1 and Type 2 system are only defined by the maximum DC cable current. The two other parameter provided in Table 33-1, 'Channel DC loop resistance' and 'Cable type' don't define Type 1 and Type 2, instead they are requirements to support Type 1 and Type 2 operation.

SuggestedRemedy

Delete the 'Channel DC loop resistance' and 'Cable type' rows from Table 33-1 as these aren't parameter that define Type but are instead requirements.

If there is a desire to summarize the cabling requirements for both Type 1 and Type 2 operation please create a new Table 33-2 and include it in subclause 33.1.4.1 which would have to be changed to be titled 'Cabling requirements'. If this is done more accurate description of cable type will be required.

Response Response Status W

REJECT.

Opposite of 518, which is accept

320, 518, 28, 500, 413

IEEE P802.3at D3.0 PoEplus comments

CI 33 SC 33.1.4 P25 L43 # 518
Law, David 3Com

Comment Type TR Comment Status A cable

If my other comment to delete the rows 'Channel DC loop resistance' and 'Cable type' from Table 33-1 is not accepted the entries for 'Cable type' need to be corrected.

SuggestedRemedy

[1] Make it clear that these cable entries provide the minimum cabling requirements - since the other two rows in this table provide maximum values.

[2] Is it really correct that we require the use of Cat 3 cabling for Type 1 operation, remember that 10BASE-T operates over DIW as well as Cat-3. In addition we should fully specify Cat-3.

[3] We should fully specify what we mean by Class D since ISO/IEC 11801:1995 Class D is Cat 5 whereas ISO/IEC 11801:2002 is Cat 5e. Further even meeting ISO/IEC 11801:1995 Class D is not enough - we place an additional requirement that the loop resistance has to be 25 Ohms or less. This fact should be footnoted.

Response Response Status W

ACCEPT IN PRINCIPLE.

Change Table 33-1 to

Parameter | Symbol | Units | Type 1 value | Type 2 value

Maximum DC cable current | ICable | A | 0.35 | 0.6

Maximum Channel DC pair loop resistance | RCh | Ω | 20 | 12.5

Minimum Cable type | | UTP per Clause 14 | Class D

500, 413

CI 33 SC 33.1.4.1 P25 L50 # 519
Law, David 3Com

Comment Type TR Comment Status A cable

It is necessary, but not sufficient, to state that Type 2 operation require ISO/IEC 11801:1995 Class D cabling or better. ISO/IEC 11801:1995 Class D specifies a maximum loop resistance of 40 Ohms - see SC25/WG3 response 1 in ISO/IEC JTC 1/SC 25/WG 3 N 807 [<http://www.ieee802.org/3/at/public/nov06/3n807.pdf>]. We need to also state that we are placing an additional requirement that the loop resistance has to be less than 25 Ohms.

SuggestedRemedy

Change '. Class D or better cabling as specified in ISO/IEC 11801:1995.' to read '. Class D, or better, cabling as specified in ISO/IEC 11801:1995 with the additional requirement that channel DC loop resistance shall be 25 Ohms or less.'

Response Response Status C

ACCEPT IN PRINCIPLE.

Change: "Type 2 operation requires Class D or better cabling as specified in ISO/IEC 11801:1995. When Class D cabling is used, the cabling system components (cables, cords, and connectors) used to provide the link segment shall consist of Category 5e components as specified in ANSI/TIA/EIA-568-B.2 and ISO/IEC 11801:2002."

to: "Type 2 operation requires Class D, or better, cabling as specified in ISO/IEC 11801:1995 with the additional requirement that channel DC loop resistance shall be 25 Ohms or less. These requirements are also met by Category 5e or better cable and components as specified in ANSI/TIA/EIA-568-B.2."

Also, 405

CI 33 SC 33.2.9 P48 L45 # 523
Schindler, Fred Cisco Systems

Comment Type TR Comment Status A

The value for TLIM depends on the PSE type.

SuggestedRemedy

Replace the 50 with a type specific value or reference section 33.2.9.8.

Response Response Status W

ACCEPT IN PRINCIPLE.

OBE 324

IEEE P802.3at D3.0 PoEplus comments

Cl 33 SC 33.1.4 P25 L 45 # 526
 Schindler, Fred Cisco Systems
 Comment Type E Comment Status A cable
 The IEEE normally references international standards.
 SuggestedRemedy
 Replace CAT-3 with class C.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 OBE 518

Cl 33 SC 33.2.9.5 P50 L 25 # 527
 Schindler, Fred Cisco Systems
 Comment Type E Comment Status A
 Repeating numerical values that are already variables may lead to errors.
 SuggestedRemedy
 Scan this document for numerical values that have variables alternatives. Replace the numerical values with the appropriate variable.
 Replace 50 ms with the variable tovlid.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Replace 50 ms with the variable Tovld.

Cl 33 SC 33.2.9.12 P53 L 19 # 528
 Schindler, Fred Cisco Systems
 Comment Type ER Comment Status A
 The definition used in the PSE and PD section (page 67, line 37) should be made the same.
 SuggestedRemedy
 Replace "over 1 second" with "using and sliding window with a width of 1 second."
 Response Response Status C
 ACCEPT.

Cl 33 SC 33.2.4.1 P33 L 24 # 529
 Schindler, Fred Cisco Systems
 Comment Type ER Comment Status A
 Repeating numerical values that are already variables may lead to errors.
 SuggestedRemedy
 Scan this document for numerical values that have variables alternatives. Replace the numerical values with the appropriate variable. For 2.8Vdc replace this with Voff.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 For 2.8Vdc replace this with Voff.
 Editor given license to go find other examples and replace with variable.

Cl 33 SC 33.2.4.6 P41 L 3 # 533
 Schindler, Fred Cisco Systems
 Comment Type TR Comment Status A
 A PD is not permitted to consume ICUT for more than 5% of the time over a 1 second sliding window. A PSE does not need to provide more than what a PD may use.
 SuggestedRemedy
 An allowance for removing PI power needs to be provided without forcing a design requirement. All state diagrams shown in figure 33-11 have a concept of duty cycle. To avoid forcing design and in order to keep state diagrams simple, create a generic threshold and duty cycle monitor that can be used at any time to monitor PD allowances.
 From reset, at any time the statemachine can be used to test the PD allowance. This generic state diagram would count Tover when the system operates above the threshold. The monitoring period, Tp, starts when the threshold is exceed. If Tover/Tp exceeds the duty cycle before Tp expires, a FAULT condition exists.
 To monitor Tovld, Ton counts Tovld counts and Tp = 1 second.

Response Response Status C
 ACCEPT.