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 **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.

Cl **00** *SC* **00** *P* *L* # 484

Geoff, Thompson — Nortel

Comment Type **TR** *Comment Status* **A** *00*

The text provided for managment 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 **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 "vigorously 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.

SuggestedRemedy

Delete or modify comments as discussed above.

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 **01** *SC* **01.1.4** *P* **13** *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** *P* **13** *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

Cl **01** *SC* **01.1.4** *P* **13** *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 **01** *SC* **01.3** *P* **13** *L* **11** # 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* **01.3** *P* **13** *L* **7** # 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 **01** *SC* **01.4** *P* **13** *L* **27** # 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

Cl **01** *SC* **01.4** *P* **13** *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** *P* **13** *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

Cl **01** *SC* **1.3** *P* **13** *L* **11** # 364

Piers Dawe — Avago Technology

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

As http://ieee802.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* **1.3** *P* **13** *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 **01** *SC* **1.3** *P* **13** *L* **11** # 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, thensubmit 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 relevants 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 **01** *SC* **1.4** *P* **13** *L* **19** # 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 **01** *SC* **1.4** *P* **13** *L* **28** # 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 **01** *SC* **1.4** *P* **13** *L* **28** # 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

Cl **01** *SC* **1.4** *P* **13** *L* **30** # 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 **01** *SC* **1.4** *P* **13** *L* **30** # 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** *P* **23** *L* **1** # 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 **33** *SC* **33.1** *P* **23** *L* **15** # 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* **33.1** *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* **33.1** *P* **23** *L* **33** # 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** *P* **23** *L* **33** # 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 editoral suggestions.

Cl **33** *SC* **33.1** *P* **25** *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

Cl **33** *SC* **33.1.1** *P* **23** *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* **33.1.1** *P* **23** *L* **44** # 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.

Cl **33** *SC* **33.1.3** *P* **24** *L* **13** # 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** *P* **24** *L* **50** # 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* **33.1.3** *P* **25** *L* **8** # 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

Cl **33** *SC* **33.1.4** *P* **25** *L* **32** # 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..."

Cl **33** *SC* **33.1.4** *P* **25** *L* **40** # 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: Icable is the maximum output current per PI in normal powering mode.

Cl **33** *SC* **33.1.4** *P* **25** *L* **41** # 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 *Response Status* **C**

REJECT.

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

355

Cl **33** *SC* **33.1.4** *P* **25** *L* **41** # 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

Cl **33** *SC* **33.1.4** *P* **25** *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

Cl **33** *SC* **33.1.4** *P* **25** *L* **43** # 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 of 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

Cl **33** *SC* **33.1.4** *P* **25** *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* **33.1.4** *P* **25** *L* **44** # 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* **33.1.4** *P* **25** *L* **44** # 500

Diab, Wael Broadcom

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

Table 33-1
The cabling type in this table is ambigious.

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* **33.1.4** *P* **25** *L* **45** # 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 (prefered for clarity, if not for wordiness).

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

OBE 518

Cl **33** *SC* **33.1.4** *P* **25** *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* **33.1.4** *P* **25** *L* **52** # 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* **33.1.4.1** *P* **25** *L* **50** # 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

Cl **33** *SC* **33.1.4.1** *P* **25** *L* **50** # 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 that 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

Cl **33** *SC* **33.1.4.1** *P* **25** *L* **50** # 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 **33** *SC* **33.1.4.1** *P* **25** *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* **33.1.4.1** *P* **25** *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** *P* **27** *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* **33.2.1** *P* **27** *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* **33.2.1** *P* **30** *L* **7** # 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 **33** *SC* **33.2.10** *P* **53** *L* **42** # 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* **33.2.11.1** *P* **54** *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.

Cl **33** *SC* **33.2.11.1.2** *P* **56** *L* **16** # 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.

Cl **33** *SC* **33.2.2** *P* **27** *L* **28** # 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 comprimise 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 identicle 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.

Cl **33** *SC* **33.2.2** *P* **27** *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* **33.2.3** *P* **32** *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.

Cl **33** *SC* **33.2.3** *P* **32** *L* **49** # 445

McCormack, Michael — Texas Instruments

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

The phrase "provided the PSE meets the contraints 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* **33.2.3** *P* **32** *L* **50** # 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* **33.2.4** *P* **33** *L* **3** # 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.

Cl **33** *SC* **33.2.4.1** *P* **33** *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** *P* **33** *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* **33.2.4.1** *P* **33** *L* **24** # 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* **33.2.4.1** *P* **33** *L* **25** # 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* **33.2.4.1** *P* **33** *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* **33.2.4.3** *P* **33** *L* **51** # 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:

Icable <= Icut <= Ilim

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* **33.2.4.4** *P* **34** *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* **33.2.4.4** *P* **34** *L* **4** # 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 *Response Status* **C**

ACCEPT IN PRINCIPLE.

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.

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

Cl **33** *SC* **33.2.4.4** *P* **34** *L* **45** # 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.

Cl **33** *SC* **33.2.4.4** *P* **34** *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.
Therfore 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."

Cl **33** *SC* **33.2.4.4** *P* **35** *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* **33.2.4.4** *P* **35** *L* **47** # 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* **33.2.4.5** *P* **35** *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* **33.2.4.5** *P* **36** *L* **47** # 302

Vetteth, Anoop Cisco

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

Referece to Table 33-9 for tpdc_timer (Tpdc). This parameter is actually defined in Table 33-8

SuggestedRemedy

Change reference to Table 33-8

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.4.6** *P* **37** *L* **2** # 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.

Cl **33** *SC* **33.2.4.6** *P* **41** *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.

Cl **33** *SC* **33.2.4.7** *P* **38** *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 **33** *SC* **33.2.4.7** *P* **39** *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)

Cl **33** *SC* **33.2.4.7** *P* **39** *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 adverised 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 interoperbility 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.

Cl **33** *SC* **33.2.4.7** *P* **39** *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.

Cl **33** *SC* **33.2.4.7** *P* **39** *L* **47** # 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* **33.2.8** *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* **33.2.8** *P* **44** *L* **25** # 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."

Cl **33** *SC* **33.2.8** *P* **44** *L* **25** # 59

Darshan, Yair — Microsemi Corporation

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

Draft D3.0

Interoggation is not defined in the standard however detecion does.

SuggestedRemedy

Replace Interoggation with detection

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

See comment 174.

Cl **33** *SC* **33.2.8** *P* **44** *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 PI...."
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 PI..."

Response *Response Status* **C**

ACCEPT.

CommentType empty, set to E as default

Cl **33** *SC* **33.2.8** *P* **44** *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 and 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.

Cl **33** *SC* **33.2.8** *P* **44** *L* **36** # 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.

Cl **33** *SC* **33.2.8** *P* **44** *L* **47** # 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.

Cl **33** *SC* **33.2.8** *P* **44** *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** *P* **45** *L* **14** # 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
N (Was N/A)
N (Was N/A)

Cl **33** *SC* **33.2.8** *P* **45** *L* **16** # 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.

Cl **33** *SC* **33.2.8** *P* **45** *L* **23** # 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

Cl **33** *SC* **33.2.8** *P* **45** *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* **33.2.8** *P* **46** *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* **33.2.8** *P* **46** *L* **44** # 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

Cl **33** *SC* **33.2.8.1** *P* **45** *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* **33.2.8.1** *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

Cl **33** *SC* **33.2.8.1** *P* **45** *L* **46** # 23

Delveaux, Bill Cisco

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

Substitue variable name for number

SuggestedRemedy

Change 51mA to Iclass_lim Min

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.8.2** *P* **46** *L* **10** # 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

Cl **33** *SC* **33.2.8.2** *P* **46** *L* **13** # 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.

Cl **33** *SC* **33.2.8.2** *P* **46** *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."

Cl **33** *SC* **33.2.8.2** *P* **46** *L* **17** # 105

Vladan, Ionel Marius — ON Semiconductor

Comment Type **T** *Comment Status* **R** *class pd*

The text suggests that all measurements of Iclass 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 Iclass measurements after 5 ms.

SuggestedRemedy

Change "All measurements of Iclass shall be taken after 6 ms to ignore initial transients." in "All measurements of Iclass 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 **33** *SC* **33.2.8.2** *P* **46** *L* **3** # 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** *P* **46** *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** *P* **46** *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 x [Vport - sqrt(Vport^2 - 2 x Rch x 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 x [Vport - sqrt(Vport^2 - 4 x Rch x Pclass_pd)] / (2*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."

Cl **33** *SC* **33.2.8.2** *P* **46** *L* **38** # 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* **33.2.8.2** *P* **46** *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* **33.2.8.2** *P* **46** *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 accomplsihed with a 2mA load for 3ms, after which Vmark can be observed with minimum and maximum load current.]

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.9** *P* **48** *L* **31** # 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 Icable. It is dependent on the class of the PD.

SuggestedRemedy

Change Icable to Pclass/Vport

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.9** *P* **48** *L* **31** # 212

Stanford, Clay — Linear Technology

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

Table 33-9, Item 5 Addtional 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 Icable is specified.)

SuggestedRemedy

Table 33-9, Item 5 Addtional 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

Cl **33** *SC* **33.2.9** *P* **48** *L* **31** # 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** *P* **48** *L* **31** # 255

Frosch, Richard — Phihong USA

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

1. Reference for Icable 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"

Cl **33** *SC* **33.2.9** *P* **48** *L* **38** # 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

Cl **33** *SC* **33.2.9** *P* **48** *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 10×10–3 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.

Cl **33** *SC* **33.2.9** *P* **48** *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** *P* **48** *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)xIcable and PSE upper bound tempelate

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 tempelate.

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.

Cl **33** *SC* **33.2.9** *P* **48** *L* **45** # 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

Cl **33** *SC* **33.2.9** *P* **48** *L* **48** # 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* **33.2.9** *P* **48** *L* **5** # 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 Icable 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* **33.2.9** *P* **48** *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** *P* **48** *L* **50** # 213

Stanford, Clay — Linear Technology

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

Table 33-9, Item 13 Addtional 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 Icable is specified.)

SuggestedRemedy

Table 33-9, Item 13 Addtional Information

IS:
See 33.1.4.2

SHOULD BE:
See 33.1.4

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.9** *P* **48** *L* **51** # 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.

Cl **33** *SC* **33.2.9** *P* **48** *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 Iport_max, item 5, line 32.

SuggestedRemedy

Reference Table 33-1 for Icable.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 213

Cl **33** *SC* **33.2.9** *P* **49** *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 Ilp1 mA 0 1 Relevant for 33.2.11.1.2. PSE removes power

d) LOW POWER state current 2 Ilp2 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 Ilp2 max. A PSE may consider the DC MPS component to be present or absent if the DC current is in the range Ilp2. A PSE shall consider the DC MPS component to be absent when it detects a DC current in the range Ilp1. 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.

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* **33.2.9.12** *P* **53** *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* **33.2.9.12** *P* **53** *L* **22** # 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.

Cl **33** *SC* **33.2.9.13** *P* **53** *L* **25** # 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 maintainence 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.

Cl **33** *SC* **33.2.9.13** *P* **53** *L* **25** # 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.

Cl **33** *SC* **33.2.9.13** *P* **53** *L* **31** # 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 Icable as specified in Table 33-9."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 192.

Cl **33** *SC* **33.2.9.2** *P* **49** *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 -> 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* **33.2.9.4** *P* **50** *L* **13** # 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

Cl **33** *SC* **33.2.9.5** *P* **50** *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" referene 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 refereces a parameter that doesn't exist.

SuggestedRemedy

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.

Cl **33** *SC* **33.2.9.5** *P* **50** *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* **33.2.9.5** *P* **50** *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 tovld.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace 50 ms with the variable Tovld.

Cl **33** *SC* **33.2.9.6** *P* **50** *L* **46** # 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.

Cl **33** *SC* **33.2.9.6** *P* **50** *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 Iinrush (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.

Cl **33** *SC* **33.2.9.6** *P* **50** *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.

Cl **33** *SC* **33.3** *P* **57** *L* **6** # 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.

Cl **33** *SC* **33.3.3.3** *P* **58** *L* **45** # 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* **33.3.3.3** *P* **58** *L* **45** # 216

Stanford, Clay — Linear Technology

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

Errounous 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* **33.3.3.5** *P* **60** *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

Cl **33** *SC* **33.3.4** *P* **61** *L* **22** # 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.

Cl **33** *SC* **33.3.4** *P* **61** *L* **34** # 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 **33** *SC* **33.3.5** *P* **63** *L* **11** # 36

Patoka, Martin — Texas Instruments

Comment Type **T** *Comment Status* **R** *class pd*

To maintian 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 unnecesary to change the text.

Cl **33** *SC* **33.3.5** *P* **63** *L* **15** # 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** *P* **63** *L* **6** # 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 equiped 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* **33.3.5.1** *P* **63** *L* **33** # 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* **33.3.5.1** *P* **63** *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 **33** *SC* **33.3.5.1** *P* **63** *L* **45** # 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.

Cl **33** *SC* **33.3.5.1** *P* **63** *L* **45** # 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 Icable

SuggestedRemedy

Replace 29.5 with 25.5W.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

OBE 43

Cl **33** *SC* **33.3.5.1** *P* **63** *L* **45** # 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

Cl **33** SC **33.3.5.1** P **63** 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 **33.3.5.1** P **63** L **45** # 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 **33.3.5.1** P **63** L **45** # 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 **33.3.5.1** P **63** 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 **33.3.5.2** 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 **33.3.5.2** P **64** L **14** # 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

Cl **33** *SC* **33.3.5.2** *P* **64** *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

Cl **33** *SC* **33.3.5.2** *P* **64** *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** *P* **64** *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.

Cl **33** *SC* **33.3.5.2** *P* **64** *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** *P* **64** *L* **36** # 210

Tziony, Noam Microsemi

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

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

We allow Imark_lim to be 5mA minimum.
So Imark can be up to <5mA.
It is possible to get PSE voltage down too 7V with Imark up to 5mA.

SuggestedRemedy

Table 33-16 Item 3:
Mark event current (IMark) 4mA maximum

Response *Response Status* **W**

ACCEPT.

Cl **33** *SC* **33.3.5.2** *P* **64** *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 stablity requriements 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.

Cl **33** *SC* **33.3.5.2** *P* **64** *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** *P* **64** *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.

Cl **33** *SC* **33.3.5.2.1** *P* **64** *L* **47** # 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 transistions into and out of the DO_CLASS_EVENT1 or DO_CLASS_EVENT2 states as shown in Figure 33-17."

Cl **33** *SC* **33.3.5.2.1** *P* **64** *L* **47** # 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* **33.3.7.4** *P* **68** *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

Cl **33** *SC* **33.3.7.4** *P* **68** *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* **33.3.7.4** *P* **68** *L* **16** # 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.

Cl **33** *SC* **33.3.7.4** *P* **68** *L* **16** # 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* **33.3.7.4** *P* **68** *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* **33.4.8.2** *P* **81** *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* **33.7** *P* **89** *L* **1** # 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 **33** *SC* **33.7** *P* **89** *L* **11** # 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.

Cl **33** *SC* **33.7** *P* **89** *L* **18** # 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.

Cl **33** *SC* **33.7** *P* **89** *L* **5** # 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."

Cl **33** *SC* **33.7.6.5** *P* **96** *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 identicle to PD with modified variable settings. Please adjust per resolutions from Ohio meeting

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 190, 191

Cl **33** *SC* **33.7.6.5** *P* **96** *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** *P* **96** *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** *P* **96** *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

Cl **33** *SC* **33.7.6.5** *P* **96** *L* **9** # 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

Cl **33** *SC* **33.7.6.5** *P* **97** *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** *P* **97** *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* **33.7.6.5** *P* **97** *L* **28** # 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

Cl **33** *SC* **33.7.6.5** *P* **97** *L* **3** # 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