Cl **00** *SC* **0** *P* *L* # 248

Finn, Norman Cisco Systems

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

The PDF document's properties do not contain proper values for the document's title or author. (On the other hand, thanks to the editor for making the romand and arabic page numbers match correctly, and for the quantity of cross-references, often including variable names.)

SuggestedRemedy

This can be remedied using FrameMaker's File, Properties pull-down menu item in the .book file, after selecting top-level book, itself, in the window.

Response *Response Status* **C**

ACCEPT.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

Cl **00** *SC* **0** *P* *L* # 259

Finn, Norman Cisco Systems

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

The method of interoperability between "new power TLV" implementations and "old power TLV" implementations is completely lacking, except for the "don't transmit both" injunction in 33.6. As mentioned in another comment, this is a serious flaw in the draft.

At present, the draft demands either a forklift upgrade of all systems, configuration in one system of the old/new capabilities of the neighboring system, or non-standard, unspecified, and therefore non-interoperable actions by the different implementations.

At a minimum, the interoperability scenarios between 802.3at-capable and 802.1AB-2004-capable systems must be defined, if 802.3at is to be successful. A non-normative appendix describing how 802.3at relates to the extremely limited capabilities of the widely-deployed TIA TR41 LLDP-MED standard would be very useful, and relatively easy to generate.

SuggestedRemedy

Given the suggestion for combining the 802.1AB power TLV and the 802.3at power TLV contained in my comment #1, .3at power can be combined fairly easily with .1AB power. When an 802.3at PSE implementation is receiving only the 802.1AB-2004 power TLV from the PD, it uses the power class field from the old TLV and Table 33-10 of 802.3af, instead of the (new) PD requested power value field, to determine the value for aMirroredDLLPDRequestedPowerValue, and otherwise uses the new state machines. Similarly, a PD uses the (old) power class field and 802.3af Table 33-10 to determine aMirroredDLLPSEAllocatedPowerValue. aMirroredLostCommunication is never set.

(There may be other ways to remedy this issue.)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

see 251

Cl **00** *SC* **0** *P* *L* # 249

Finn, Norman Cisco Systems

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

All of my comments with regard to the use of the PD requested power value, PSE allocated power value, and reduced operation PD power value reduce to a lack of clarity of what this protocol can and cannot do, along with the assumption of request/ACK operation, which is not needed. Following are the fundamental facts that must be understood about *any* power negotiation protocol in this environment. These must be understood before looking at the protocol details, and very much need to be stated explicitly in the document, so that the reader understands the goals of the protocol.

1. The PSE has the final say-so about how much power the PD *SHOULD BE* using, because it (or the management protocol that drives it) has the overall view of the network and understands the operators' intentions.

2. The PSE has the final say-so about how much power it *IS* using.

3. If the PSE's final say-so on what the PD should be using disagrees with the PD's actual use, then:

a. If the PSE doesn't like how much power the PD is using, the PSE must choose whether to live with the situation or shut down the power to the PD entirely. (It is not at all clear that taking this drastic step is something that this protocol should define, e.g. by a time out. One can argue that it is sufficient to report the situation to the network administrator, and leave the shut-off to management action, whether programmatic or manual.)

b. If the PD doesn't like its allocation from the PSE, there is nothing it can do except complain to the network administrator (if its power allocation permits!).

4. The PSE's initial state must be that which was negotiated by the hardware.

5. The only reason for the PSE to initiate a change in the power level a PD is using is that it wants the PD to use *LESS* power. Unless the PD is asking for more power, there is no point in offering it.

6. The PD may ask for more power, to serve a user's desire, or for less power, to be a good citizen.

7. In order to protect against a hardware failure affecting multiple PDs, a PSE can cut power to any PD that either claims (threatens) to, or actually does, draw more than its allocated power.

SuggestedRemedy

Include the basic facts of negotiation, points 1-7, in the text, of course subject to adjustment by the editor.

Response *Response Status* **C**

REJECT.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

This comment was WITHDRAWN by the commenter.

Cl **00** *SC* **00** *P* *L* # 169

Thompson, Geoff Nortel

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

This set of comments is against
P802.3at/D3.1 WG Ballot 1st recirculation

SuggestedRemedy

None. for document control purposes of this comment file only

Response *Response Status* **C**

REJECT.

Bogus comment.

Cl **00** *SC* **00** *P* *L* # 195

Thompson, Geoff Nortel

Comment Type **TR** *Comment Status* **R**

PD equipment that is covered in the Code of Conduct on Energy Consumption of Broadband Equipment (from the EUROPEAN COMMISSION DIRECTORATE-GENERAL, JOINT RESEARCH CENTRE, Institute for the Environment and Sustainability, Renewable Energies Unit) will need to stay within the bounds of Type 1 power limits.

SuggestedRemedy

Remove all specifications for Type 2 devices and reformulate the standard to only support devices which meet the EC Code of Conduct on Energy Consumption of Broadband Equipment.

Response *Response Status* **U**

REJECT.

Although some Ethernet equipment is covered under the Code of Conduct on Energy Consumption of Broadband Equipment, it is by no means comprehensive and many types of Ethernet equipment fall outside of the scope of that specific Code of Conduct. For example, equipment covered by the Code of Conduct on Data Centres, published by the same body is not expected to be covered by the Broadband Code of Conduct.

Furthermore, if the commenter examines the Code of Conduct on Energy Consumption of Broadband Equipment he will find that power delivered by the PSE is specifically excluded by section A.5 ("Power delivered to other equipment (e.g. over USB or PoE) shall not be included in power consumption assessment").

Lastly, the Code of Conduct on Energy Consumption of Broadband Equipment specifies ONU equipment that exceeds 12.95W (e.g. 10Gb/s point-to-point or point-to-multipoint interfaces). It may be expected that some implementations of such devices will include power supplied over Ethernet from the home gateway device to the optical interface at the demarcation point. As such, this is a prime application of PoE that helps justify the broad market potential for the project.

Cl **00** *SC* **00** *P* *L* # 182

Thompson, Geoff Nortel

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

The response to my comment #467 against D3.0 is unsatisfactory.
There is no indication in the current draft as to whether the work was implemented or not

SuggestedRemedy

Provide positive indication within the draft as to which version of 802.3Rev this draft is calculated against.
That is, there should be either a cover page note or an opening editors note that indicates that this draft version "provides specific changes to P802.3Rev (expected to become IEEE Std 802.3-2008) as calculated against P802.3Rev/D?.?"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Page 1, Line 30, replace first sentence.
This draft is an amendment of IEEE Std 802.3™ (expected to become IEEE Std 802.3™-2008) drafted as changes to P802.3Rev (expected to become IEEE Std 802.3-2008) as calculated against IEEE P802.3 (IEEE 802.3ay) Draft D2.3

Cl **00** *SC* **00** *P* *L* # 16

Claseman, George Micrel

Comment Type **TR** *Comment Status* **R** *4P*

4P operation is not described. If this is not specifed in 802.3at, an industry standard or proprietary scheme could emerge displacing this amendment. It is undesirable to make another revision on PoE (PoE ++) to repair this.

SuggestedRemedy

Send this back to the TF to complete the work on 4P. This has impact on the PSE, PD, management and L2 power management. Let's do it right this time.

Response *Response Status* **W**

REJECT.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB. This is how we handled the 4P comments in D3.0:

REJECT.
The group feels that finishing 2P is the priority and 4P will be address after that time, since the concept is that 4P = 2 x 2P.

Cl **00** *SC* **00** *P* *L* # 204

Diab, Wael — Broadcom

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

The GDMO definitions are missing. I would request that we complete this prior to completing WG Ballot and launching SA Ballot

SuggestedRemedy

Include Annex 30A and 30B

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE by 200, 201

Cl **00** *SC* **00** *P* *L* # 62

Beia, Christian — STMicroelectronics

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

The current unbalance requirements should be described in subclause 33.3.1 or 33.3.2 instead of 33.3.5 (PD Classifications).

SuggestedRemedy

Move the sentence:
"Type 2 PDs shall meet the requirements of 25.4.4a in the presence of (Iunbal / 2)." to the end of paragraph 33.3.2 (PD Types).
Replace "Iunbal" with "Iunb".

Response *Response Status* **C**

ACCEPT.

Ed note: improperly labeled for Clause and Page, should be against 33.3.5 pg76, ln31.

Cl **00** *SC* **00** *P* *L* # 205

Diab, Wael — Broadcom

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

LLDP requires SNMP definitions.

SuggestedRemedy

Introduce SNMP defs

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Request the TF chair work with the maintenance task force to understand from 802.1 if a completed SNMP MIB is required for functional LLDP mechanism in 802.3.

Cl **00** *SC* **00** *P* *L* # 242

Rannow, Randy k — Tyco Electronics

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

Multiple instances of behaviour vs behavior

SuggestedRemedy

Make the document consistent using the British variant or the evolved Middle English wording.

Response *Response Status* **C**

REJECT.

Use of the spelling 'behaviour'

In IEEE Std 802.3 the spelling 'behaviour' is used throughout MIB clauses and their associated Annexes, and in any references to the behaviours defined there. Since ISO/IEC 10165-4:1991 is and ISO standard it uses the spelling 'behaviour' and to meet this externally defined template we need to use the same spelling. In all other instances the spelling 'behavior' is used.

http://grouper.ieee.org/groups/802/3/tools/editorial/requirements/words.html

Cl **00** *SC* **00** *P* **18** *L* **10** # 243

Rannow, Randy k — Tyco Electronics

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

Comment against 25.4, set to 00 to facilitate import
During the Plenary mtg in Denver, I understood from the Task Force that the OCL will remain a "shall" statement and that the worst case transformer droop statement would be optional or an alternative metric. Grammtically it appears the equivalent system time constant is a shall statement:

A PHY in a Type 2 Endpoint PSE or Type 2 PD shall meet the Open Circuit Inductance (OCL) requirement in 9.1.7 of TP-PMD or have an equivalent system time constant that exceeds 2.4 usecs (for the PSE) or 7.0 usecs (for the PD) when transmitting the Data Dependent Jitter (DDJ) packet of TP-PMD A.2.

SuggestedRemedy

A PHY in a Type 2 Endpoint PSE or Type 2 PD shall meet the Open Circuit Inductance (OCL) requirement specified in 9.1.7 of TP-PMD. Alternatively, a PHY in a Type 2 Endpoint PSE or Type 2 PD may posses an equivalent system time constant that exceeds 2.4 us (for the PSE) or 7.0 us (for the PD) when transmitting the Data Dependent Jitter (DDJ) packet of TP-PMD A.2.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

OBE 112

A PHY in a Type 2 Endpoint PSE or Type 2 PD shall EITHER meet the Open Circuit Inductance (OCL) requirement in 9.1.7 of TP-PMD or have an equivalent system time constant that exceeds 2.4 usecs (for the PSE) or 7.0 usecs (for the PD) when transmitting the Data Dependent Jitter (DDJ) packet of TP-PMD A.2.

Additionally, the transformer and channel adhoc has been working on this text so there may be more changes that we want to incorporate into this comment response.

Changed Clause to 00 to facilitate import. 25 is not allowed by the tool yet and the comment editor needs to look into how to allow this for the future.

Also, comment is against page 19, Ln 11.

Cl **00** *SC* **00** *P* **19** *L* **10** # 112

Schindler, Fred — Cisco

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

Clause 25 subclause 4.4a, changed to 00 to facilitate import
The PD time constant was set to 7.0 us in order to ensure interoperability with legacy PHYs when midspans are used.

More PD ports are expected to ship than midspan ports. Requiring PDs to add cost to support midspans is the incorrect tradeoff.

SuggestedRemedy

1) Change the text in this clause to:
A PHY in a Type 2 Endpoint PSE or Type 2 PD shall meet the Open Circuit Inductance (OCL) requirement in 9.1.7 of TP-PMD or have an equivalent system time constant that exceeds 2.4 us when transmitting the Data Dependent Jitter (DDJ) packet of TP-PMD A.2.

2) Ensure interoperability by:
a) Using the work of the Transformer and Channel ad hoc to show that interoperability concerns are not probable and therefore can be ignored.

If this solution is accepted then no additional text is required.

b) Require midspans to reduce the current unbalance to legacy levels (3% of 350 mA).

If this solution is required, the Editor should insert the following text in the appropriate place:
Midspans shall regulate channel unabalance currents to less than or equal to 10.5 mA.

c) Use a combination of a and b above. This would permit higher unbalance currents and lower than OCL.
If this solution is required, the Editor should insert the following text in the appropriate place:
Midspans shall regulate channel unabalance currents to less than or equal to TBD mA.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Accept resolution from schindler_1_0809.pdf
pages 25, 26, 27, 28, 29

Cl **00** *SC* **00** *P* **19** *L* **13** # 167

Thompson, Geoff — Nortel

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

Comment against 25.4.4a, set to 00 to facilitate import

Although the term "TP-PMD" is heavily used and properly referenced in cl 25 of the main standard, the term does not appear in the abbreviations.

SuggestedRemedy

Add "TP-PMD Twisted Pair, Physical Media Dependent (ANSI X3.263-1995)" to the 802.3 main definitions sub-clause (Service to humanity).

Response *Response Status* **C**

ACCEPT.

Changed Clause to 00 to facilitate import. 25 is not allowed by the tool yet and the comment editor needs to look into how to allow this for the future.
Comment Type empty, set to E by default

Cl **01** *SC* **1.4** *P* **17** *L* **11** # 171

Thompson, Geoff — Nortel

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

Change Name of this defined device so that the various old & new definitions of midspans are grouped together in the definitions section

SuggestedRemedy

Change from:
"10BASE-T/100BASE-TX Midspan PSE"
To:
"Midspan, Alt B"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

How about:

"Midspan PSE, 10BASE-T/100BASE-TX:"
and
"Midspan PSE, 1000BASE-T:" for Line 8

Cl **01** *SC* **1.4** *P* **17** *L* **13** # 207

Law, David — 3Com

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

The definitions for 1-Event and 2-Event signatures reference 1-Event and 2-Event classification respectively. Since 1-Event and 2-Event classification isn't defined these definitions are really very helpful.

SuggestedRemedy

Either provide complete definitions or delete.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add:
1.4.x 1-Event Classification: the application of a single class event during PI probing as described in Clause 33.2.8.
1.4.x 2-Event Classification: the application of two class events during PI probing as described in Clause 33.2.8.

Cl **01** *SC* **1.4** *P* **17** *L* **21** # 79

LANDRY, MATTHEW — SILICON LABS

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

Definition:
1.4.x Type 1 PSE: A PSE that is designed to support a Type 1 PD. (See Clause 33)

This is not precise, as a Type 2 PSE clearly meets this definition. Furthermore, the reference to design intent is not really appropriate; the standard specifies externally observable behavior.

SuggestedRemedy

Restrict scope of definition:
1.4.x Type 1 PSE: A PSE that supports only Type 1 PDs. See Clause 33.

Similar adjustments can be made to the Type 2 PSE definition.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

1.4.x Type 1 PSE: A PSE that supports only Type 1 PDs. See Clause 33.

1.4.x Type 2 PSE: A PSE that is designed to support both a Type 1 and a Type 2 PD. (See Clause 33)

Cl **01** *SC* **1.4** *P* **17** *L* **8** # 170

Thompson, Geoff — Nortel

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

Change Name of this defined device so that the various old & new definitions of midspans are grouped together in the definitions section

SuggestedRemedy

Change from:
"1000BASE-T Midspan PSE"
To:
"Midspan, Alt A"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 171

Cl **01** *SC* **1.5** *P* **17** *L* **31** # 206

Law, David — 3Com

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

Please use same format as existing VLAN reference in IEEE Std 802.3-2005 subclause 1.5, also don't need to date the reference, I doubt that the definition of LLPD will change with new editions of IEEE Std 802.1AB.

SuggestedRemedy

Change the text 'Link Layer Discovery Protocol from IEEE Std 802.1ABT-2005' to read 'Link Layer Discovery Protocol (see IEEE Std 802.1ABT)'.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the text 'Link Layer Discovery Protocol from IEEE Std 802.1AB-2005' to read 'Link Layer Discovery Protocol (see IEEE Std 802.1AB)'.

Cl **30** *SC* **30** *P* *L* # 166

Vetteth, Anoop — Cisco

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

Please consider this comment after all other L2 comments have been resolved. This is because this comment affects the entire document and hence if this comment is accepted it should be incorporated into the new draft only after all other changes have been incorporated

When we defined the new mirroring scheme in Denver, we did not use the naming convention that was followed by all the other variables. Some senior members pointed out that "mirrored" nomenclature is used to reflect change on a local system to the remote system. We need to fix the naming so as to be consistent with this nomenclature.

SuggestedRemedy

Make the following changes throughout the document including figures and tables:

aReceivedDLLPSEAllocatedPowerValue => aMirroredDLLPSEAllocatedPowerValue
ReceivedPSEAllocatedPowerValue => MirroredPSEAllocatedPowerValue

aMirroredDLLPSEAllocatedPowerValue => aDLLPSEAllocatedPowerValueFromPD
MirroredPSEAllocatedPowerValue => PSEAllocatedPowerValueFromPD

aEchoedDLLPSEAllocatedPowerValue => aMirroredDLLPSEAllocatedPowerValueFromPD
EchoedPSEAllocatedPowerValue => MirroredPSEAllocatedPowerValueFromPD

aReceivedDLLPDRequestedPowerValue => aMirroredDLLPDRequestedPowerValue
ReceivedPDRequestedPowerValue => MirroredPDRequestedPowerValue

aMirroredDLLPDRequestedPowerValue => aDLLPDRequestedPowerValueFromPD
MirroredPDRequestedPowerValue => PDRequestedPowerValueFromPD

aEchoedDLLPDRequestedPowerValue => aMirroredDLLPDRequestedPowerValueFromPD
EchoedPDRequestedPowerValue => MirroredPDRequestedPowerValueFromPD

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Note to Editor: Perform this change after all other changes to clauses 30 and 33.6 are made. Diab Vetteth to put together informative annex text to explain the convention/syntax.

Make the following changes throughout the document including figures and tables:

aReceivedDLLPSEAllocatedPowerValue => aMirroredDLLPSEAllocatedPowerValue
ReceivedPSEAllocatedPowerValue => MirroredPSEAllocatedPowerValue

aMirroredDLLPSEAllocatedPowerValue => aDLLPSEAllocatedPowerValueEcho
MirroredPSEAllocatedPowerValue => PSEAllocatedPowerValueEcho

aEchoedDLLPSEAllocatedPowerValue => aMirroredDLLPSEAllocatedPowerValueEcho
EchoedPSEAllocatedPowerValue => MirroredPSEAllocatedPowerValueEcho

aReceivedDLLPDRequestedPowerValue => aMirroredDLLPDRequestedPowerValue
ReceivedPDRequestedPowerValue => MirroredPDRequestedPowerValue

aMirroredDLLPDRequestedPowerValue => aDLLPDRequestedPowerValueEcho
MirroredPDRequestedPowerValue => PDRequestedPowerValueEcho

aEchoedDLLPDRequestedPowerValue => aMirroredDLLPDRequestedPowerValueEcho
EchoedPDRequestedPowerValue => MirroredPDRequestedPowerValueEcho

---

Cl **30** *SC* **30.2.2.1** *P* **21** *L* **4** # 186

Thompson, Geoff — Nortel

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

Current text for oPSE description in 30.2.2.1 "Text description of managed objects" is incorrect

SuggestedRemedy

Change text "oPSE" in 30.2.2.1 to read
oPSE
The managed object of that portion of the containment trees shown in Figure 30-3, Figure 30-4, and Figure 30-5. The attributes actions and notifications defined support the status detection, provisioning and management of power supplied to connected PDs.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.2.2.1** *P* **21** *L* **4** # 185

Thompson, Geoff — Nortel

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

We need to add a new text description in 30.2.2.1 "Text description of managed objects"

SuggestedRemedy

Add text to go after "oPAF" in 30.2.2.1 that says
oPD
The managed object of that portion of the containment trees shown in Figure 30-3, Figure 30-4, and Figure 30-5. The attributes contained within the oPD managed object support power management for Type 2 PDs and, optionally, for Type 1 PDs.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.2.3** *P* **22** *L* **10** # 63

LANDRY, MATTHEW — SILICON LABS

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

There is a mixture of Times and Arial fonts in the diagrams clause references.

SuggestedRemedy

Make all fonts agree. Pick Times or Arial.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

802.3at Editor resquested to provide preference on font

Cl **30** *SC* **30.2.3** *P* **22** *L* **33** # 183

Thompson, Geoff — Nortel

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

Figure 30-3
The containment relationship line for the new oPD object should come out of the bottom of the containing object, oPHYEntity, not the side

SuggestedRemedy

Please fix, there is plenty of room to do it correctly.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.2.3** *P* **24** *L* **3** # 209

Law, David — 3Com

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

I don't see any change to Figure 30-5 and don't see any need for a change.

SuggestedRemedy

Remove from draft.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.2.4** *P* **24** *L* **6** # 184

Thompson, Geoff Nortel

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

Figure 30-5
I am unclear as to why this figure is in the draft as it seems to be unchanged from what is in the present standard.

SuggestedRemedy

Remove or make more clear why it is included in the draft.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE #209

Cl **30** *SC* **30.2.4** *P* **24** *L* **6** # 172

Thompson, Geoff Nortel

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

Figure 30-5
(We have not discussed this in comment resolution but I believe we have a new situation which is not shown here.)
It is now (arguably) legitimate to have a midspan powered by a Type 2 PD which, in turn then powers (one or more) Type 1 PDs

SuggestedRemedy

Also show an oPD object as (optionally) contained within the oMidSpan.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Need to discuss this scenario

Cl **30** *SC* **30.2.5** *P* **24** *L* **37** # 168

Thompson, Geoff Nortel

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

All of paragraph 2
There is no cross dependency of the packages between PSE and PD since they are implemented separately. At best this paragraph is confusiing and at worst wrong.

SuggestedRemedy

Separate into two paragraphs, one that has the package requirements for PSEs and another that has the (entirely separate) package requirements for PDs.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. Comment Type empty, set to E by default

OBE #210

Cl **30** *SC* **30.2.5** *P* **24** *L* **37** # 210

Law, David 3Com

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

This text states that 'For managed PSEs and PDs, the PSE Basic Package is mandatory, and the PSE Recommended Package is optional, and the PD Basic Package is mandatory.'

For a managed PD why would the PSE Basic Package be mandatory, and the PSE Recommended Package be optional. Likewise why would the PD Basic Package be mandatory for a managed PSE.

SuggestedRemedy

Change the text to read 'For managed PSEs, the PSE Basic Package is mandatory, and the PSE Recommended Package is optional. For managed PDs, the PD Basic Package is mandatory.'.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the text to read
'For managed PSEs, the PSE Basic Package is mandatory, and the PSE Recommended Package is optional.

For managed PDs, the PD Basic Package is mandatory.'.

Cl **30** *SC* **30.2.5** *P* **24** *L* **44** # 211

Law, David 3Com

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

The DLL Power Classification packages are only conditional for managed PDs and PSEs.

SuggestedRemedy

Replace lines 44 to 48 with: 'If a managed PD implements DLL then the conditional DLL PD Power Classification Basic Package shall be implemented. If a managed PSE implements DLL then the conditional DLL PSE Power Classification Basic Package shall be implemented.'

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace lines 44 to 48 with: 'If a managed PD implements DLL then the conditional DLL PD Power Classification Basic Package shall be implemented. If a managed PSE implements DLL then the conditional DLL PSE Power Classification Basic Package shall be implemented.'

Also, remove 'X' from DLL column for aPDID, aDLLPowerType, aDLLPDPowerPriority, APDModelNumber on page 26.

Cl **30** *SC* **30.2.5** *P* **24** *L* **45** # 191

Thompson, Geoff Nortel

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

The text of paragrah 3 does not reflect the long standing consensus of the group. That is, all Type 2 PDs shall implement "DLL". I believe that this is required in order to fulfil the requirements of the 3rd option on pg 57, lines 51-54.

SuggestedRemedy

Change to read:
"The DLL Power Classification Packages for PSEs and PDs are conditional. For a Type 1 or Type 2 PSE that implements DLL to be conformant to this standard, it shall fully implement the DLL PSE Power Classification Basic Package. For a Type 1 that implements DLL or for a Type 2 PD to be conformant to this standard, it shall fully implement the DLL PD Power Classification Basic Package.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 211

Cl **30** *SC* **30.2.5** *P* **25** *L* **29** # 64

LANDRY, MATTHEW SILICON LABS

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

"MidSpan managed object class" and "PSEGroup managed object class" do not apply to PDs, even though the fields are not greyed out in the table.

SuggestedRemedy

Grey out the PD Basic Package column and the DLL PD Power Classification Basic Package column in the "MidSpan managed object class" and "PSEGroup managed object class."

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.2.5** *P* **25** *L* **3** # 208

Law, David 3Com

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

We do not use the term PoE anywhere in Clause 33 and therefore we should not be using it in the Management clause realted to Clause 33.

SuggestedRemedy

Page 25, line 3 - Change 'PoE Capabilities' to read 'DTE Power via MDI Capabilities'.
Page 27, line 3 - Change 'Management for Power over Ethernet (PoE)' to read 'Management for DTE Power via MDI'.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.2.5** *P* **25** *L* **6** # 212

Law, David 3Com

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

The DLL PSE Power Classification Basic Package and the DLL PD Power Classification Basic Package are part of the PSE and PD objects respectively.

SuggestedRemedy

[1] Change 'DLL PSE Power Classification Basic Package' to read 'PSE DLL Power Classification Package'.
[2] Change 'DLL PD Power Classification Basic Package' to read 'PD DLL Power Classification Package'.
[3] In Table 30-4 move the 'PSE DLL Power Classification Package' column to be beside the 'PSE Recommended Package' column with a thin line in-between.
[4] In Table 30-4 move the 'PD DLL Power Classification Package' column to be beside the 'PD Recommended Package' column with a thin line in-between.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.2.5** *P* **26** *L* **32** # 213

Law, David 3Com

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

aPDID, aDLLPowerType, aDLLPDPowerPriority and aPDModelNumber appear in both the PD Basic Package and the DLL PD Power Classification Basic Package.

SuggestedRemedy

Remove aPDID, aDLLPowerType, aDLLPDPowerPriority and aPDModelNumber from the DLL PD Power Classification Basic Package and order them to be the first four attributes in the table for the PD.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 211

Cl **30** *SC* **30.9** *P* **26** *L* **23** # 133

Vetteth, Anoop Cisco

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

The behavior of power priority MIB variable was changed during the last commenting cycle. Section 30.9 has not been updated to reflect this.

SuggestedRemedy

Split up aMirroredDLLPDPowerPriority into two MIB variables: aDLLPDPowerPriority (GET-SET) and aMirroredDLLPowerPriority (GET).

aDLLPDPowerPriority
A GET operation returns the priority of the PD system that is assigned by the PSE.
A SET operation changes the priority of the PD system that is assigned by the PSE to the indicated value.

aMirroredDLLPowerPriority
A GET operation returns the priority of the PD system that is requested by the PD.

Split up aDLLPDPowerPriority into two MIB variables: aDLLPDPowerPriority (GET-SET) and aMirroredDLLPowerPriority (GET).

aDLLPDPowerPriority
A GET operation returns the priority of the PD system that is requested by the PD.
A SET operation changes the priority of the PD system that is requested by the PD to the indicated value.

aMirroredDLLPowerPriority
A GET operation returns the priority of the PD system that is assigned by the PSE.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.9** *P* **27** *L* **13** # 192

Thompson, Geoff — Nortel

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

And all subsequent instances of the same sort of thing (this will apply to all newly defined or amended objects and attributes associated with PoE)
There is none of the required supporting text for any of the attributes defined in 30.9.1 and 30.9.2 as is normally provided as augmentations to Annex 30A and 30B. (The 802.3 SNMP motion of 11/07 does not lift the well established and normal project requirement for including this text.)

SuggestedRemedy

Provide additional required text in the well established format.
AND
Provide the new or additional ASN.1 encoding values for each attribute as required.
-Note that OID final ARC values are not normally added to the otherwise complete text until the initial Sponsor Ballot Draft.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 200, 201

Cl **30** *SC* **30.9** *P* **28** *L* # 122

Vetteth, Anoop — Cisco

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

The behavior definitions for the different power values need to be consistent

SuggestedRemedy

aDLLPDRequestedPowerValue
A GET attribute that returns the PD requested power value that the local system has currently requested from the remote system. PD requested power value is the maximum input average power that the PD will ever draw under this power allocation if accepted. The requested PD power value is encoded according to Equation (33-17), where X is the decimal value of aDLLPDRequestedPowerValue.

aReceivedDLLPDRequestedPowerValue
A GET attribute that returns the PD requested power value received from the remote system. Definition and encoding of PD requested power value is same as described in 30.9.2.1.7

aMirroredDLLPDRequestedPowerValue
A GET attribute that returns the PD requested power value that the local system mirrors back to the remote system. This is the PD requested power value that was used by the local system to compute the power that it has currently allocated to the remote system. The definition and encoding of PD requested power value is same as described in 30.9.2.1.7.

aEchoedDLLPDRequestedPowerValue
A GET attribute that returns the PD requested power value received from the remote system. This is the PD requested power value that was used by the remote system to compute the power value that it has currently allocated to the local system. The definition and encoding of PD requested power value is same as described in 30.9.2.1.7.

aDLLPSEAllocatedPowerValue
A GET attribute that returns the PSE allocated power value that the local system has currently allocated to the remote system. The PSE allocated power value is the maximum input average power that the PSE wants the PD to ever draw under this allocation if it is accepted. The power value is encoded according to equation Equation (33-18), where X is the decimal value of aDLLPSEAllocatedPowerValue.

aReceivedDLLPSEAllocatedPowerValue
A GET attribute that returns the PSE allocated power value received from the remote system. The definition and encoding of PSE allocated power value is same as described in 30.9.1.1.19.

aMirroredDLLPSEAllocatedPowerValue
A GET attribute that returns the PSE allocated power value that the local system mirrors back to the remote system. This is the PSE allocated power value that was used by the local system to compute the power that it has currently requested from the remote system. The definition and encoding of PSE allocated power value is same as described in

30.9.1.1.19.

aEchoedDLLPSEAllocatedPowerValue
A GET attribute that returns the PSE allocated power value received from the remote system. This is the PSE allocated power value that was used by the remote system to compute the power value that it has currently requested from the local system. The definition and encoding of PSE allocated power value is same as described in 30.9.1.1.19.

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.9.1** *P* **27** *L* **6** # 173

Thompson, Geoff Nortel

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

By established convention, managed object class headings in clause 30 are supposed to have descriptive text.

SuggestedRemedy

Add the following text at line 6:
"This subclause formally defines the behaviours for the oPSE managed object class attributes and actions."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add the following text at line 6:
"This subclause formally defines the behaviors for the oPSE managed object class attributes and actions."

Cl **30** *SC* **30.9.1.1.21** *P* **29** *L* **24** # 80

LANDRY, MATTHEW SILICON LABS

Comment Type **TR** *Comment Status* **R**

There is only a place holder defining the increment rate of aLostCommunication counter.

SuggestedRemedy

Determine what the rate should be, and replace the 'X' placeholder on lines 24 and 34

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Discuss acceptable count rate in the TF

Cl **30** *SC* **30.9.1.1.23** *P* **30** *L* **6** # 187

Thompson, Geoff Nortel

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

Tables and actual encoding values do not belong in Clause 30.9
The information, i.e. the actual values returned, the value type and the value range are information that belong in Annex30B in line with my earlier comment

SuggestedRemedy

Delete last sentence of behavior and Table 30-6 and put the equivalent information in the appropriate form (not a table, rather a register definition) into Annex30B

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.9.2** *P* **30** *L* **15** # 174

Thompson, Geoff Nortel

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

By established convention, managed object class headings in clause 30 are supposed to have descriptive text.

SuggestedRemedy

Add the following text at line 15:
"This subclause formally defines the behaviours for the oPD managed object class attributes."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add the following text at line 15:
"This subclause formally defines the behaviors for the oPD managed object class attributes."

Cl **30** *SC* **30.9.2.1.1** *P* **30** *L* **26** # 65

LANDRY, MATTHEW SILICON LABS

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

Reference to "PDID" should be a reference to "aPDID."

SuggestedRemedy

Replace "PDID" with "aPDID."

Response *Response Status* **C**

ACCEPT.

Cl **30** *SC* **30.9.2.1.11** *P* **32** *L* **42** # 81

LANDRY, MATTHEW SILICON LABS

Comment Type **TR** *Comment Status* **R**

There is only a place holder defining the increment rate of aLostCommunication counter.

SuggestedRemedy

Determine what the rate should be, and replace the 'X' placeholder on lines 42 and 53

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Discuss acceptable count rate in the TF

Cl **30** *SC* **30.9.2.1.13** *P* **33** *L* **12** # 262

Finn, Norman Cisco Systems

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

The definition of aDLLPDResponseTime states that aDLLPDRequestedPowerValue (the transmnitted PD requested power value field) is updated from the received aReceivedDLLPSEAllocatedPowerValue (the received PSE allocated power value). This is unnecessary, it denies a useful feature, and can lead to an infinite loop.

It is unnecessary, because the number transmitted by the PD in the PSE allocated power value properly reflects the PD's understanding of what the PSE wants it to do.

It denies a useful feature, and complicates the protocol, as follows. The fact that the PSE cannot or will not allocate what the PD wants does *not* change what the PD wants. It changes what the PD *gets*. If the PD changes its "want" to match the "allocated", then it raises the question of when to ask again for more power, how often it can ask, how many times it should ask to make sure the PSE knows it has asked, etc., etc. The protocol is much simpler, more useful, and the timer aDLLPDResponseTime can be eliminated, if the PD's wants do not reflect the allocated power.

It can lead to an infinite loop, because the protocol, as defined, has a circular chain of causality, which is a very fundamental flaw in any protocol. For example, if the PD requests a higher value for power at the same time the PSE informs it that it should change to a lower value. If the PSE and PD both respond (as the state machines say they can), then they flip-flop back and forth, wasting time and resources. This requires Yet Another Timer and/or random delay to resolve. Again, you are setting yourself a problem and having to solve it.

SuggestedRemedy

See the slide presentation from Anoop Vitteth.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

make sure that the text matches the state diagram which was fixed in D3.1

Cl **30** *SC* **30A** *P* **34** *L* **1** # 200

Thompson, Geoff Nortel

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

The managment portion of the draft has imporved significantly this round but it is incomplete and still needs work. Specifically, there has been no text whatsoever provided for the required normative material in Annex 30A (and there has been no action by 802.3 to relieve a project of its requirement to provide this material as an integral portion of a complete draft)

SuggestedRemedy

Add appropriate text to Annex 30A to support the new and revised text that supports PoE+ in clause 30.
(I expect to be able to provide at least a start on such text by the time of the meeting in Seoul.)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Take red underline text from "8023-30a_b_c (2).doc" and add into 30A.

Take contents of "oPD Cl30A-scratch.doc" and append to the end of 30A.

Cl **30** *SC* **30B** *P* **34** *L* **2** # 201

Thompson, Geoff Nortel

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

The managment portion of the draft has imporved significantly this round but it is incomplete and still needs work. Specifically, there has been no text whatsoever provided for the required normative material in Annex 30B (and there has been no action by 802.3 to relieve a project of its requirement to provide this material as an integral portion of a complete draft)

SuggestedRemedy

Add appropriate text to Annex 30B to support the new and revised text that supports PoE+ in clause 30 and Annex 30A.
(I expect to be able to provide at least a start on such text by the time of the meeting in Seoul.)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

insert text from "PoEPlus Cl30B-scratch (2).doc" into appropriate spots in 30B.

Fix POWERWHICHEND enumeration when it is fixed in Clause 30 so they match.,

Cl **33** *SC* **33.1** *P* **35** *L* **12** # 175

Thompson, Geoff Nortel

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

The sense of the term "supply/draw power" is inverted from the rest of the paragraph. That is, in the first sentence the PD goes before the PSE.
Please align.

SuggestedRemedy

Change: "supply/draw power"
To: "draw/supply power"

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.1** *P* **35** *L* **20** # 176

Thompson, Geoff Nortel

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

Item "c" is incorrect. The issue is not whether or not a device "requires" power. Rather, it is whether or not it "requests" power from the host system.

SuggestedRemedy

Change "c" to read:
"A protocol allowing the detection of a device that requests power from a PSE."

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.1** *P* **35** *L* **30** # 177

Thompson, Geoff Nortel

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

The text here is incorrect. It is not the consequences of "powering" such devices. We don't even know whether or not "other" devices can be powered. The issue is whether or not it is appropriate to apply power (especially "DTE Power") at all.

SuggestedRemedy

Change text from: "...consequences of powering such devices,"
To: "...consequences of applying power to such devices,"

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.1.1** *P* **35** *L* **48** # 229

Law, David 3Com

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

This line states that 'The use of other IEEE 802.3 MDIs is beyond the scope of thisstandard.' Since 10GBASE-T is likely to be the last PHY that supports UTP structured wiring, and we already support all cabling types that 10GBASE-T uses, rather than leave it for yet another project to come back and re-visit, can we please state either if we do or do not support 10GBASE-T links.

SuggestedRemedy

State if DTE Power via MDI does or does not support 10GBASE-T links.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Resolved by motion

The clause does not address the operation of 10GBASE-T. For 10GBASE-T operation, the channel model specified in the 10GBASE-T clause (number needs to go here) needs to be met without regard to DTE power via MDI presence or operation.

Cl **33** *SC* **33.1.3** *P* **36** *L* **19** # 178

Thompson, Geoff Nortel

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

Now that we have a "closed end" one way medium hooked to the MDI/PI it might be agood idea to have one of the turned around so that they can hook together at their SS point.

SuggestedRemedy

Flip the medium over in this diagram so that the SS is on the left
(to conceptually "hook up" to the other handed medium depeictions in 33-2 & 33-2)

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.1.3** *P* **36** *L* **19** # 216

Law, David 3Com

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

The left side of the medium box in Figures 33-1, 33-2 and 33-3 aren't consistent with the existing figures - see IEEE Std 802.3-2005 Figure 21-1 as an example.

SuggestedRemedy

The left edge of the medium should be offset from the MDI box, not aligned as it is at the moment.

Response *Response Status* **C**

ACCEPT.

Show Fig21-1.jpg as an example.

Cl **33** *SC* **33.1.3** *P* **36** *L* **28** # 218

Law, David 3Com

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

I don't think the term permitted is the best, we can't stop anybody from building anything, what we do however get to define is what is, and what is not, conformant to the standard. Further the statement seems to read that only the MDIs listed AND a PD or PSE is permitted - which implies that a Midspan PSE which does not contain a MDI - is not permitted - and we seem to be mixing terms here - the PoE equivalent of MDI is PI.

SuggestedRemedy

I suspect what we ant to say is that PD and Endspan PSE PIs need to be associated with a 10/100/1000BASE-T MDI. Based on this delete page 36 lines 28 to 30 and change page 37 line 21 from 'In an Endpoint PSE and in a PD the PI is encompassed within the MDI.' to read 'In an Endpoint PSE and in a PD the PI shall be encompassed within a 10BASE-T, 100BASE-T or 1000BASE-T MDI.'.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

strike the sentence: "Any device that contains an MDI compliant with Clause 14, Clause 25, and/or Clause 40, and sinks and/or sources power in accordance with the specifications of this clause is permitted."

Cl **33** *SC* **33.1.4** *P* **37** *L* **39** # 193

Thompson, Geoff — Nortel

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

Table 33-1
"Maximum DC Cable Current" is not the actual maximum cable current nor the actual maximum "System Parameter", rather it is the maximum DC Cable Current that is permitted to be requested by the PD and the nominal current of the system. Rathern it is the minimum guaranteed current required to be supplied by the PSE (at minimum voltage) to meet the specification. In order to actaully meet this specification, there must be some allowance for tolerances. this table has no allowance for tolerances and seems to actually impose zero tolerance limits.

SuggestedRemedy

Change "Maximum DC Cable Current" to "Nominal highest DC cable current".
Change "Channel DC pair loop resistance" to "Channel maximum DC pair loop resistance"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "Maximum DC Cable Current" to "Nominal highest DC current per pair".
Change "Channel DC pair loop resistance" to "Channel maximum DC pair loop resistance"

Cl **33** *SC* **33.1.4** *P* **37** *L* **39** # 19

Darshan, Yair — Microsemi Corporation

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

The first parameter in Table 33-1 should be "Maximum DC current and not "Maximum DC cable current" due to the fact that there are cables with 50 and more pairs.

SuggestedRemedy

Change parameter name for item 1 from:
"Maximum DC cable current"

To

"Maximum DC current"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 193

Cl **33** *SC* **33.1.4** *P* **37** *L* **40** # 82

LANDRY, MATTHEW — SILICON LABS

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

Units are "W" when they should be Ohms.

SuggestedRemedy

Fix units.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.1.4** *P* **37** *L* **42** # 179

Thompson, Geoff — Nortel

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

Table 33-1
Make the reference to the specified cabling more specific.

SuggestedRemedy

Change from: "UTP per Clause 14"
To: "UTP per 14.4 & 14.5"
Also, I think it would be a good idea and not out of line with our goals (especially considering work going on in P802.3az) to add a note reference, e.g. "UTP per 14.4 & 14.5*" <=note asterisk added

And then footnote the table to say: "*Class D recommended"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

"UTP per 14.4 & 14.5*" <=note asterisk added

Add footnote the table to say: "*Class D recommended"

delete note 1 and replace with note above.

Cl **33** *SC* **33.1.4** *P* **37** *L* **44** # 18

Darshan, Yair — Microsemi Corporation

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

Note 1 shoul be coherent with Note 2 i.e. in note 2, Rch is the net resistance of a single twisted pair and so Icable is the maximum output current allowed trough Rch.
In addition Note 1 contains error. The net current through a PI is zero....

SuggestedRemedy

Replace the current text of Note 1 and Note 2 with:

Note: Rch is the net result of the loop resistance of a single twisted pair. Icable is the maximum current allowed through Rch in normal powering mode.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

It says maximum output current, not maximum net current.

Cl **33** *SC* **33.1.4.1** *P* **37** *L* **49** # 66

LANDRY, MATTHEW — SILICON LABS

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

Sections 33.1.4.1 and 33.1.4.2 could be combined into a single section, as they both describe specific cable considerations for Type 2 systems.

SuggestedRemedy

Rename 33.1.4.1 to "Type 2 system cabling" and delete the 33.1.4.2 section title.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Perform suggested remedy.
Delete 33.1.4.2 on line 43
scan text for references to 33.1.4.2 and replace with 33.1.4.1

Cl **33** *SC* **33.1.4.1** *P* **37** *L* **53** # 215

Law, David — 3Com

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

In respect to my comment #520 on the initial ballot, while I agree with the response that the note that my comment was against has been deleted I belive the issue addressed by the comment still exists.

I believe that ISO/IEC 11801:1995 Class D cabling, including a channel DC loop resistance of 25 Ohms, is equivalent the Cat 5 cabling, not Cat 5e. I'm not sure why we seem to be precluding the use of Cat 5 when it is sufficient to support Type 2 operation.

SuggestedRemedy

Change the text 'These requirements are also met by Category 5e or better cable and components as specified in ANSI/TIA/EIA-568-B.2.' to read 'These requirements are also met by Category 5 or better cable and components as specified in ANSI/TIA/EIA-568.'.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

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 Ω or less. These requirements are also met by Category 5e or better cable and components as specified in ANSI/TIA/EIA-568-B.2, ANSI/TIA/EIA-568-B.2-1 and ANSI/TIA/EIA-568-B.2-10 or Category 5 cable and components as specified in ANSI/TIA/EIA-568-A-1995.

FYI:

The IEEE references for Category 5 cabling are
>>ANSI/TIA/EIA-568-A-1995
>>ISO/IEC 11801:1995 (Class D).

Cl **33** *SC* **33.1.4.1** *P* **37** *L* **54** # 221

Law, David 3Com

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

[1] We use 'DC pair loop resistance' in Table 33-1 yet just 'DC loop resistance' in subclause 33.1.4.1. Also the is no definition of DC loop resistance in the standard, remember that 'A note to a table is not an official part of the standard ..' (see IEEE-SA Style manual subclause 15.5).

SuggestedRemedy

[1] I understand the term used by ISO/IEC 11801 is 'Direct current (d.c.) loop resistance' so suggest we should use 'DC loop resistance' by changing Table 33-1.
[2] Note 2 of Table 33-1 should be moved 33.1.4.1.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

[1]: we want Rch to be the loop resistance as it removes a factor of 2 from our equations.

How about adding clarification after ln 46; "It should be noted that the cable references use DC loop resistance while this standard uses DC PAIR loop resistance resulting in a factor of 2 reduction of Rch in this Clause."
then add text of Note 2 after this sentence. This removes the note.

see 19, 19, 193

Cl **33** *SC* **33.1.4.2** *P* **38** *L* **3** # 105

Schindler, Fred Cisco

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

The August 2008 TIA42 meeting discussed reducing the cable derating for cables using 2-pairs out of the 4-pairs in a cat 5e cable. A lower derating would significantly benefit most PoE applications. See http://ftp.tiaonline.org/tr-42/tr427/Public/2008/08-08%20San%20Francisco/.

SuggestedRemedy

Modify the text of section 33.1.4.2 as shown below:
Under worst case conditions, Type 2 operation requires a 10°C reduction in the maximum ambient operating temperature of the cable when all cable pairs are energized at the maximum DC cable current specified in Table 33-1, or a 5°C reduction in the maximum ambient operating temperature of the cable when half of the cable pairs are energized at the maximum DC cable current specified in Table 33-1." Additional guidelines ...

The 5°C reduction, can be used as a placeholder until ISO and TIA details are provided. At that time the task force could removed the details for derating and just reference these standards.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Modify the text of section 33.1.4.2 as shown below:
Under worst case conditions, Type 2 operation requires a 10°C reduction in the maximum ambient operating temperature of the cable when all cable pairs are energized at the maximum DC cable current specified in Table 33-1, or a 5°C reduction in the maximum ambient operating temperature of the cable when half of the cable pairs are energized at the maximum DC cable current specified in Table 33-1." Additional guidelines …

Cl **33** *SC* **33.1.4.2** *P* **38** *L* **5** # 180

Thompson, Geoff Nortel

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

Requested change to track proposed change to Table 33-1, page 37,line 39.

SuggestedRemedy

Change "Maximum DC Cable Current" to "highest DC cable current".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change Maximum DC Cable Current
to:
Nominal highest DC current per pair

Cl **33** *SC* **33.1.4.2** *P* **38** *L* **6** # 214

Law, David 3Com

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

I assume that ISO/IEC TR 29125 was removed from the normative references subclause since it isn't normatively referenced. If that is the case it needs to appear in the bibliography found in Annex A as described on subclause 10.4.1 'Citation as a normative reference' which states 'If a reference is not specifically cited in the normative text of the document, then it shall not be listed in the normative references clause. In such cases, it shall be listed in the first or final informative annex, entitled Bibliography [see item h) below].'

SuggestedRemedy

Add the following to a new set of changes to Annex A 'Bibliography':

[BX] ISO/IEC TR 29125 (draft), Information technology-Telecommunications cabling guidelines for remote powering of data terminal equipment. Draft document number ISO/IEC JTC 1/SC 25 N 874.

[BY] TIA/EIA-TSBXXX (draft), Guidelines for Supporting Power Delivery over Balance Twisted-Pair Cabling. Draft document number TIA/EIA-TSBXXX

Change 'ISO/IEC TR 29125' to read 'ISO/IEC TR 29125 [BX]' and 'TIA/EIA-TSBXX, "Guidelines for Supporting Power Delivery over Balance Twisted-Pair Cabling." to read 'TIA/EIA-TSBXX [BY]'.

Response *Response Status* **C**

ACCEPT.

Note: this 802.3 Annex A and not 33A.

Cl **33** *SC* **33.1.4.2** *P* **38** *L* **6** # 217

Law, David 3Com

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

We shouldn't be referring to 802.3at as this designation will become a superseded standard once it is consolidated into the base standard at some future Revison. In addition there is not such thing as a 'Type 2 cable'.

SuggestedRemedy

Change the text 'Additional guidelines for the ambient operating temperature of Type 2 cables for 802.3at applications are addressed in ISO/IEC TR 29125 ..' to read 'Additional cable ambient operating temperature guidelines for Type 2 operation are provided in ISO/IEC TR 29125 ..'.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.1.4.2** *P* **38** *L* **7** # 188

Thompson, Geoff Nortel

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

The terms "ISO/IEC TR 29125" and "EIA-TSB-XX" are a complete mystery unless they show up in either the references (1.3) or the bibliography (Annex A).

SuggestedRemedy

I suggest that the body text is satisfactory as it is but that entries need to be put into the bibliography, Annex A.
As the TSB number is evidently not yet available, an editor's note should be added to the bibliography entry to indicate that the number will be added as soon as it is available.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 214

an editor's note should be added to the bibliography entry to indicate that the number will be added as soon as it is available. See the style guide for guidance.

Cl **33** *SC* **33.2** *P* **39** *L* **3** # 223

Law, David 3Com

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

The text use to read 'PSE, as the name implies ..' however it was changed in the last draft to read 'PSE, as the abbreviation implies ..' however I don't see how the abbreviation implies anything, it is the unabbreviated name that implies something.

SuggestedRemedy

Either change to read 'Power sourcing equipment, as the name implies ..' or to read 'PSE, as the unabbreviated name implies ..'.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 67

Cl **33** *SC* **33.2** *P* **39** *L* **3** # 222

Law, David 3Com

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

Line 3 states the PSE '.. provides the power to a single link section.' yet line 4 states that a PSEs main function is to '.. supply power to the detected PD through the link section ..'.

SuggestedRemedy

Change line 3 to read '.. provides the power to a single PD.'.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2** *P* **39** *L* **3** # 189

Thompson, Geoff Nortel

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

The text "PSE, as the abbreviation implies, is the equipment that provides the power to a single link section." is not sufficiently precise to accurately define the portion of the system under discussion.

SuggestedRemedy

Change text from:
"PSE, as the abbreviation implies, is the equipment that provides the power to a single link section."
To: "PSE, as the abbreviation implies, is the portion of the end station or midspan equipment that provides the power to a single link section."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change text from:
"is the equipment that provides the power to a single link section."
To: "is the portion of the end station or midspan equipment that provides the power to a single link section."

Also P71 L3
change: "A PD is a device that…"
to: "A PD is the portion of a device that…."

Cl **33** *SC* **33.2** *P* **39** *L* **3** # 67

LANDRY, MATTHEW SILICON LABS

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

Quit hunting for the right descriptive term (name? acronym? abbreviation?). Remove the extraneous clause.

SuggestedRemedy

Replace:
PSE, as the abbreviation implies, is the equipment that ...

With:
The PSE is the equipment that ...

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.11.1** *P* **67** *L* **45** # 95

LANDRY, MATTHEW SILICON LABS

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

The names Zac1 and Zac2 are a bit obscure for describing valid AC MPS signatures and invalid MPS signatures.

SuggestedRemedy

Rename Zac1 as Zvalid and Zac2 as Zinvalid.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **33** *SC* **33.2.11.1** *P* **67** *L* **51** # 96

LANDRY, MATTHEW SILICON LABS

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

Zac1 is a range, as is Zac2. It is imprecise to define a gray region between two gray regions:
"A PSE may consider the AC MPS component to be either present or absent when it detects a AC impedance between the values Zac1 and Zac2 as defined in Table 33-12."

SuggestedRemedy

Replace:
A PSE may consider the AC MPS component to be either present or absent when it detects a AC impedance between the values Zac1 and Zac2 as defined in Table 33-12.
with:
A PSE may consider the AC MPS component to be either present or absent when it detects an AC impedance between Zac1 max and Zac2 min.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

A PSE may consider the AC MPS component to be either present or absent when it detects an AC impedance between Zac1 max and Zac2 min [as defined in Table 33-12.]

Cl **33** *SC* **33.2.11.1.2** *P* **68** *L* **1** # 97

LANDRY, MATTHEW SILICON LABS

Comment Type **TR** *Comment Status* **R**

There really isn't a need for both IMin1 and IMin2, as the key values can be combined into a single parameter.

SuggestedRemedy

Replace IMin1 and IMin2 with a new parameter, IMin, 5mA min, 10 mA max.

Replace the first 3 sentences of the section with the following:
A PSE shall consider the DC MPS component to be present if IPort is greater than or equal to IMin max for a minimum of TMPS. A PSE shall consider the DC MPS component to be absent if IPort is less than or equal to IMin min. A PSE may consider the DC MPS component to be either present or absent if IPort is in the range of IMin.

Response *Response Status* **U**

REJECT.

This is an effort to make the specification read better, which we appreciate. However, we could not come to concensus on a solution and the current specificaiton is not broken. Therefore we reject the comment.

Cl **33** *SC* **33.2.11.1.2** *P* **68** *L* **3** # 48

Darshan, Yair Microsemi Corporation

Comment Type **TR** *Comment Status* **R**

The content of the text regarding the MPS requirements in Table 33-11 item 18 and items 19 and 20 is not well synchorinized with the text of 33.2.11.1.1.
See attached possible interpretation permutaion table attached "MPS 33.2.11.1.2."

SuggestedRemedy

Replace 33.2.11.1.2 with the following text:

33.2.11.1.2 .1 □MPS Component is present

A PSE shall consider the DC MPS component to be present and shall not remove power from the port in the following cases:

a) if the DC current is greater than or equal to IMin2 max or
b) if the DC current is greater than or equal to IMin2 max for at least TMPS every TMPS + TMPDO, as defined in Table 33-11.
The current level during TMPDO may be lower than IMIN2.
This allows a PD to minimize its power consumption.

33.2.11.1.2 .2 □MPS Component is present or absent

A PSE shall consider the DC MPS component to be present or absent and may not remove power from the port in the following cases:

c) if the DC current is within IMin2 range or
d) if the DC current is within IMin2 for any t=Tx value, every Tx + TMPDO.
The current level during TMPDO may be lower than IMIN2.

33.2.11.1.2 .2 □MPS Component is absent:

A PSE shall consider the DC MPS component to be absent and shall remove power from the port if the DC current is within the range of IMin1 for t>TMPDO

Response *Response Status* **C**

REJECT.

we could not come to concensus on a solution and the current specificaiton is not broken. Therefore we reject the comment.

Cl **33** *SC* **33.2.3** *P* **44** *L* **50** # 34

Darshan, Yair — Microsemi Corporation

Comment Type **TR** *Comment Status* **R** *4P*

Draft 3.1

The standard should not preclude implementations that are using both alternative A and B due to the following reasons:

a) It is out of scope of the standard to limit implementations that meets standard requirements.
b) There are no interoperability issues if PD gets power from 2x 2 pairs power source if all pairs are comming from the same port/segment/PSE type 2. It is the load responsibility (PD) to meet the 2P specification for each 2P.
(4P ad hoc recomendations)

SuggestedRemedy

Change from:

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

To:
"A PSE shall implement Alternative A or Alternative B, or both.
While a PSE may be capable of both Alternative A and Alternative B, PSEs shall not deliver power on both Alternative A and Alternative B simultaneously on the same segment If Alternative A and Alternative B are operated from different link segments or different power systems or from Type 1 PSE.
For Type 2 PSEs, simultaneous operation of Alternative A and Alternative B on the same link segment is out of scope of the standard."

In addition, in 33.3.1 page 50 line 42 modify the text to be:
"NOTE-PDs that implement only Mode A or Mode B are specifically not allowed by this standard. PDs that may simultaneously receive power from both Mode A and Mode B are out of scope of this standard."

Response *Response Status* **U**

REJECT.

Cl **33** *SC* **33.2.4.1** *P* **45** *L* **11** # 181

Thompson, Geoff — Nortel

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

Lines 11 & 12
The phrase "If power is to be applied" appears twice in one sentence. Once should be sufficient.

SuggestedRemedy

Remove one instance of "If power is to be applied"

Response *Response Status* **C**

ACCEPT.

If power is to be applied, the PSE shall turn on power after a valid detection in less than Tpon as specified in
Table 33-11.

See 68

Cl **33** *SC* **33.2.4.1** *P* **45** *L* **12** # 68

LANDRY, MATTHEW — SILICON LABS

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

Redundant "if power is to be applied" phrase.

SuggestedRemedy

Redundant "if power is to be applied" phrase.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
OBE 181

Cl **33** *SC* **33.2.4.1** *P* **45** *L* **30** # 83

LANDRY, MATTHEW SILICON LABS

Comment Type **TR** *Comment Status* **R**

It is commendable to try to point the reader to tables or sections wherein he will find details on a referenced variable or concept. But we do it ad nauseum.

For example, the first paragraph introducing the concept of backoff timing (Tdbo) and the possibility of AltA/AltB detect collision gives a pointer to the table containing the definition of Tdbo. Very nice.

But then no more than a few lines later, in the same section, we do it again. This is a waste of space and an unnecessary interruption to the flow of the document.

SuggestedRemedy

By all means, add forward references when appropriate. Add backward references if there is a reasonable expectation that the reader may have skipped the previous sections.

But do not continue adding pointers willy-nilly every time a term, variable, or opportunity to point out where a section may be found.

Delete these extraneous references to improve readability.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

frs

This needs to be discussed. The reference text appear below. The cross references are to the same table but for different parameters. The number of reference could be reduces as shown below. After task force agreement the Editor should be authorized to apply the same approach throughout this clause.

related to 21, 20.

Tdbo min as specified in Table 33-11 after the beginning of the first detection attempt. This ensures that an Alternative A PSE will complete a successful detection cycle prior to an Alternative B PSE present on the same link section that may have caused the invalid signature.

33.2.4.2 Conventions
The notation used in the state diagrams follows the conventions of state diagrams as described in 21.5.

33.2.4.3 Constants
The PSE state diagrams use the following constants (see Table 33-11):
ICUT
Overload current detection range [remove (see Table 33-11)]
ILIM
Output current at short circuit condition [remove (see Table 33-11)]
IInrush
Output current during startup (see [remove Table 33-11 and] Figure 33-15)

Cl **33** *SC* **33.2.4.2** *P* **45** *L* **48** # 21

Darshan, Yair Microsemi Corporation

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

Startup is related to Figure 33-14 and not Figure 33-15

SuggestedRemedy

Change line 2 from .."and Figure 33-15" to ".. and Figure 33-14"

Response *Response Status* **C**

ACCEPT. frs

Cl **33** *SC* **33.2.4.3** *P* **45** *L* **46** # 69

LANDRY, MATTHEW SILICON LABS

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

The Iinrush variable references Figure 33-15, when in fact ILIM should reference that figure.

SuggestedRemedy

Move the "see Figure 33-15" reference from Iinrush to ILIM.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 20

Cl **33** *SC* **33.2.4.3** *P* **45** *L* **46** # 20

Darshan, Yair Microsemi Corporation

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

Update the definition for ILIM by adding figure 33-15 as well

SuggestedRemedy

Change ILIM definition from:

"output current at short circuit condition (see Table 33-11)

To:
"output current at short circuit condition (see Table 33-11 and Figure 33-15)

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.4.4** *P* **46** *L* **3** # 231

Law, David 3Com

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

Suggest that 'PSE does not perform 1-Event or 2-Event Physical Layer classification.' should read 'PSE does not perform Physical Layer classification.'.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT. frs

Cl **33** *SC* **33.2.4.4** *P* **47** *L* **30** # 228

Law, David 3Com

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

'power_not_available' is not in correct alphabetical position in variable list.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT. frs

Cl **33** *SC* **33.2.4.4** *P* **47** *L* **31** # 227

Law, David 3Com

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

The variable power_not_available states that it is asserted when the PSE is no longer capable of supplying the power required as defined by the PD Class. While this was okay in IEEE Std 802.3af-2003 I think this variable is now in conflict with the addition of Data Link Layer Classification

Consider a PD that is initially classified through Physical Layer classification as a Class 0 and the PSE allocates it 15.4W. Later, through Data Link Layer Classification, the PD negotiates down its requirement so the PSE would only ever need to allocate it 10W.

The definition of this variable however requires that it be asserted TRUE (forcing an exit from the POWER_ON state) if the 'PSE is no longer capable of sourcing sufficient power to support the PD Class of the attached PD' which in this case would be 15.4W and not 10W. This would seem to defeat the point of Data Link Layer Classification which should allow power shed by a PD to be allocated by the PSE elsewhere.

There is a similar problem when the PD request more power through Data Link Layer Classification since the PSE can treat the lower PD Class power requirement as the minimum it need allocate.

SuggestedRemedy

Change the text '.. power to support the PD Class of the attached PD.' to read '.. power to support attached PD. Sufficient power is defined either by the PD Class of the attached PD, or by Data Link Layer classification which takes precedent.'.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the text '.. power to support the PD Class of the attached PD.' to read '.. power to support attached PD. Sufficient power is defined by classification--see 33.2.8.

[This points to the overview section for classification which also states precedence.]

Cl **33** *SC* **33.2.4.4** *P* **47** *L* **6** # 40

Darshan, Yair Microsemi Corporation

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

Draft D3.1

The defintion of power_applied is not covering all cases for setting power_ applied=True.

SuggestedRemedy

Change line 18 from":
"..completed the ramp of voltage and is operating ...."

To:
"..completed the ramp of voltage or Tinrush Timer is done and is operating ...."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In the PSE state machine-

Create new variable definitions:
legacy_powerup
This variable is provided to support PSE power up operation that monitors the PSE voltage output at its PI and uses this value as the completion of PD inrush. It has been shown that using only this information may be insufficient to determine the true end of PD inrush in all cases and that use of a fixed TINRUSH period is preferable. The values of this variable are:
TRUE – The PSE supports legacy power up, this value is not recommended
FALSE – The PSE does not supports legacy power up. It is highly recommended that new equipment use this value.

current_limiting
A variable indicating that the PSE is in current limit.
Values:
TRUE: The PSE is limiting the current provided to the PD
FALSE: The PSE is not limiting the current to the PD

Vectors exiting the “POWER UP” state should consist of:

“tinrush_timer_done * legacy_powerup + tinrush_timer_done * current_limiting” This vector should go to the ERROR_DELAY state

“power_applied * tpon_timer_not_done * legacy_powerup + tinrush_timer_done * !current_limiting” This vector should go to POWER_ON.

Insert as second sentence as shown.
33.2.9.6 Output current in startup mode
Startup mode occurs between the PSE transition to the POWER_UP state and the lesser of TInrush or the conclusion of PD inrush currents. However, startup exists for the complete duration of TInrush as a practical matter as the PSE may not truly ascertain the conclusion of PD inrush.

Cl **33** *SC* **33.2.4.4** *P* **48** *L* **8** # 232

Law, David 3Com

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

The performs_classification variable has been removed from the state diagram (it's function has been replaced by class_num_events) and no longer appears in the variable definition subclause other than in this table (33-3).

SuggestedRemedy

Remove the performs_classification column from Table 33-3.

Response *Response Status* **C**

ACCEPT. frs

Cl **33** *SC* **33.2.4.6** *P* **49** *L* **26** # 84

LANDRY, MATTHEW SILICON LABS

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

do_classification as a separate function is unnecessary. do_classification2 is adequate, if provision is made for Type 1 PSEs to assign Class 4 to Class 0.

SuggestedRemedy

Delete existing do_classification definition, rename do_classification2 as do_classification. Add a sentence to pd_requested_power description: "A Type 1 PSE that measures a Class 4 signature may assign that PD to Class 0."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete existing do_classification definition, rename do_classification2 as do_classification. Add a sentence to pd_requested_power description: "A Type 1 PSE that measures a Class 4 signature assigns that PD to Class 0. See 33.2.8"

Cl **33** *SC* **33.2.4.7** *P* **51** *L* **10** # 230

Law, David 3Com

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

The addition of power_not_available to the exit conditions of TEST_MODE causes two problems.

[1] It could make existing implementation that are conformant to IEEE Std 802.3af-2003 non-conformant to IEEE Std 802.3at. While it may not be the best thing to do, IEEE Std 802.3af does permit a PSE to be in the TEST_MODE state even when it hasn't got sufficient power to supply a CLASS 0 PD - which is the only value a PD has to be assumed to be since classification doesn't occur prior to entry into the TEST_MODE state.

[2] Strictly speaking since classification doesn't occur prior to entry into the TEST_MODE state - and there is no assignment of a CLASS anywhere prior to entry to the state - the pervious calcification value - if any - should be used. This doesn't seem to be correct.

SuggestedRemedy

Remove this additional reason for exit or provide additional logic that will grandfather in existing implementations while recommended the new option.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove the new condition

Cl **33** *SC* **33.2.4.7** *P* **51** *L* **2** # 224

Law, David 3Com

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

If mr_pse_enable = disable AND removePower = true it is not clear from the state diagram if the PSE should enter the DISABLED or IDLE state. In additonion it is not clear what value removePower will be at a Type 1 PSE that doesn't support DLL classifcation.

SuggestedRemedy

Change 'remove_power' to read 'remove_power * mr_pse_enable = enable * pse_dll_capable'.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

'removePower * (mr_pse_enable = enable) * pse_dll_capable'

Cl **33** *SC* **33.2.4.7** *P* **51** *L* **20** # 150

Vetteth, Anoop Cisco

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

The transition condition from DETECT_EVAL to POWER_UP is satisfied only if pse is not dll capable (* !pse_dll_capable). This is in conflict with table 33-8 that allows Type-1 PSE with no classification to perform DLL classification

SuggestedRemedy

Remove the condition * !pse_dll_capable from the transition. Table 33-3 prevents Type-2 PSE from using no classification

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.4.7** *P* **51** *L* **3** # 25

Darshan, Yair Microsemi Corporation

Comment Type **T** *Comment Status* **R**

It is not clear what is "E" at the input of the IDLE state

SuggestedRemedy

Clarify what is "E"

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

frs

See page 52 L20.

Cl **33** *SC* **33.2.4.7** *P* **51** *L* **3** # 85

LANDRY, MATTHEW SILICON LABS

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

"removePower" variable is undefined.

SuggestedRemedy

Copy definition from 33.6.6.2, adding reference, "see 33.6.6.2."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 225

Cl **33** *SC* **33.2.4.7** *P* **51** *L* **3** # 225

Law, David 3Com

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

The variable removePower doesn't seem to be defined in subclause 33.2.4.4 Variables.

SuggestedRemedy

Add the following to subclause 33.2.4.4:

removePower

Interprocess variable supplied by the PSE power control state diagram (Figure 33-30) to indicate that the PSE must remove power from the PD due to loss of communications with the PD.

Values: FALSE: Power should not be removed from PD.
TRUE: Power to be removed by PSE.

Change the definition of removePower found in 33.6.6.2 (page 106, line 1) to mirror this, the new definition will read:

removePower
Interprocess variable supplied to the PSE state diagram (Figure 33-9) to indicate that the PSE must remove power from the PD due to loss of communications with the PD.

Values: FALSE: Power should not be removed from PD.
TRUE: Power to be removed by PSE.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The variable defined is removePower. Figure 33-30 should replace removePower with remove_power. Then perform the suggested remedy.

Interprocess variable supplied by the PSE power control state diagram (Figure 33-30) to indicate that the PSE must remove power from the PD due to loss of communications with the PD.

Values: FALSE: Power should not be removed from PD.
TRUE: Power to be removed by PSE.

Change the definition of remove_power found in 33.6.6.2 (page 106, line 1) to mirror this, the new definition will read:

remove_power
Interprocess variable supplied to the PSE state diagram (Figure 33-9) to indicate that the PSE must remove power from the PD due to loss of communications with the PD.

Values: FALSE: Power should not be removed from PD.
TRUE: Power to be removed by PSE.

Cl **33** *SC* **33.2.4.7** *P* **51** *L* **33** # 233

Law, David 3Com

Comment Type **TR** *Comment Status* **A** *not clear*

In IEEE Std 802.3af the path from DETECT_EVAL to POWER_DENIED was on taken IF the available power was less than 15.4W [pd_requested_power <= 2 in START_DETECTION and (pd_requested_power > pse_available_power) on transition] AND the PSE didn't do classification [* !performs_classification] AND the signature is valid [* (signature = valid)].

Since the transition condition now reads [(pd_requested_power > pse_available_power) + ..] the last two conditions, no classification and valid signature, have been removed.

This causes a number of conflicts:

[1] If there is a valid signature while the power available is less than 15.4 W it is not clear where to go to from the DETECT_EVAL states since the conditions to transition to POWER_DENIED and either CLASS_EV1 (if class_num_events = 2) or 1-EVENT_CLASS (if class_num_events = 1) will both be true.

[2] If there is an invalid or open circuit signature while the power available is less than 15.4 W it is not clear where to go to from the DETECT_EVAL states since the conditions to transition to SIGNATURE_INVALID and POWER_DENIED will both be true.

SuggestedRemedy

Change the condition '(pd_requested_power > pse_available_power)' to read '((pd_requested_power > pse_available_power) * (class_num_events = 0) * (signature = valid))'.

Response *Response Status* **C**

ACCEPT.

FYI:

The condition checked to move from DETECT_EVAL to POWER_DENIED changed after AF but before D3.0.

This request is not clear to me and the remedy may be incomplete.

The same operation as AF is achieved by replacing the D3.1 statement with: "((pd_requested_power > pse_available_power) * (class_num_events = 0) * (signature = valid))"

The group should discuss why the variable ted_timer_not_done is checked. If this timer is done when the condition is tested, there is no exit path for the system. Therefore, a system with a (valid detection)* (no class)* (not enough power for the PD) is stuck in state DET_EVAL.

Cl **33** *SC* **33.2.4.7** *P* **51** *L* **45** # 53

Darshan, Yair — Microsemi Corporation

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

Due to the fact that our policy in many issues was to not incurage mis behaviour we need to disallow in the state diagramof the PSE and of the PD the possibility that Type 1 PD will request more power than 12.95 by using L2 classification when PD is connected to Type 2 PSE.

The fact that Type 1 PD that required more than 12.95W is not compliant to the standard doesnt help much due to the fact that the state machines takes precidence over text hence it will be interpreted as allowed by user.

SuggestedRemedy

Add exit from DLL_ENABLE state to POWER_DENIED state which will be activated when (mr_pd_class_detected<4)*pd_requested_power>12.95) or equivalent solution.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Create a new constant:

PD_DLLMAX_POWER: This value is derived from pd_max_power (33.3.3.3) variable described in the PD state diagram (Figure 33–4) as follows:

pd_max_power	PD_DLLMAX_VALUE
0	130
1	39
2	65
3	130
4	255

Change 255 to PD_DLLMAX_VALUE in section 33.6.6.2 (recall another comment that replaced 295 with 255, this overrides that comment.)

see comment 140 for the new section for constants.

Cl **33** *SC* **33.2.4.7** *P* **51** *L* **47** # 149

Vetteth, Anoop — Cisco

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

The transition condition from POWER_ON to IDLE is missing logical AND with !option_vport_lim

SuggestedRemedy

Add the follwing to the transition condition * !option_vport_lim

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.4.7** *P* **51** *L* **49** # 44

Darshan, Yair — Microsemi Corporation

Comment Type **TR** *Comment Status* **R** *inrush*

Tinrush_timer_done is missing from the POWER_ON state to the ERROR_DELAY state. (In the previous draft TLIM was used for Iinrush and ILIM. Now we seperate those two functions hence we need to update this location too)

SuggestedRemedy

Add "Tinrush_timer_done" to the exit from POWER_ON state to the ERROR_DELAY state.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

frs

This needs to be discussed.

Variable power_applied is TRUE after Tstartup has expired at which point steady state operation is assumed (see comment 40). Figure 33-11 only moves from state MONITOR_INRUSH to IDLE_INRUSH when power_applied is TRUE. Therefore, Tstartup will be done ~before it is reset.
=> A test for Tinrush_timer_done will cause an undesirable ERROR_DELAY.

Add the following condition to the POWER_ON to ERROR_DELAY path:
"+ Tinrush_timer_done * (Iport < Iinrush)".

Note that this prevents a PD from using its surge allowance until just after Tinrush has expired.

see 40, 46

Cl **33** *SC* **33.2.4.7** *P* **51** *L* **6** # 151

Vetteth, Anoop Cisco

Comment Type **TR** *Comment Status* **A** *review2*

The behavior of powercycling the PD when you set mr_pse_enable = force power in the POWER_UP state is counter-intutive. I do not think this behavior is correct.

SuggestedRemedy

If the force power state is set while in the POWER_UP state then the PD should continue to remain powered. Anyhow we cannot change legacy behavior. I would like to keep the behavior undefined in the case where power is forced when the port is already ON

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove "mr_pse_enable = force_power" from the test condition exiting state POWER_ON. This change should permit legacy behavior and enable moving from POWER_ON to TEST_MODE with the power remaining on.

Make the entrance into TEST_MODE and open arrow.

Cl **33** *SC* **33.2.4.7** *P* **52** *L* **1** # 152

Vetteth, Anoop Cisco

Comment Type **TR** *Comment Status* **A** *2fsd*

Figure 33-10
State Machine mandates that the PSE omits the second finger of the 2-finger classification if the first finger returns a value that is not equal to 4. This contradicts the text.

Also, the 1-EVENT_CLASS is exited only when the tpdc_timer expires.

SuggestedRemedy

Suggested remedy is shown in the attachment avetteth_classification_SM.pdf

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Use remedy is shown in the attachment avetteth_classification_SM.pdf

Modify the proposed state diagram exit from CLASS_EV1 to read:
tcle1_timer_done * !pse_skips_event

See 38, 86, 87

Cl **33** *SC* **33.2.4.7** *P* **52** *L* **10** # 38

Darshan, Yair Microsemi Corporation

Comment Type **TR** *Comment Status* **A** *2fsd*

Draft D3.1
The following case is not covered by the state machine or by the text:

A type 2 PSE is connected to Type 1 PD
The PSE is doing 2 fingers.
(PSE can do:
a) 2 fingers (covered by the state machine) or
b) 1 finger + DLL (covered by the state machine) or
c) 2 fingers + DLL (NOT covered by the state machine)

The first reading is 0,1,2 or 3 (it is Type 1 PD) but the 2nd reading is something else (it could be different due to the fact that the PD type 1 was not required to return the same class when it gets concecutive classification events)
So what to do in this case?
The logical thing to do is to ignore 2nd reading result so we are backward compatible with PD type 1.

SuggestedRemedy

Duplicate the state machine from A to C and make the relevant changes as described in the "revised figure 33-10"

In addition add the following text after line 35 page 35:

"A Type 2 PSE that is using two event classification and detects Type 1 PD, may classifiy the PD according to the result of the first class event only."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 152

Cl **33** *SC* **33.2.4.7** *P* **52** *L* **11** # 86

LANDRY, MATTHEW SILICON LABS

Comment Type **TR** *Comment Status* **A** *2fsd*

The branch out of CLASS_EV1 that moves into MARK_EV1 requires that the PSE observes a Class 4 signature. It was not the intent, however, of the Task Force to force a PSE to not present the second class event if the PD is a Type 1 PD.

SuggestedRemedy

Change branch condition from:
tcle1_timer_done * (mr_pd_class_detected = 4)
to:
tcle1_timer_done * !pse_skips_event2

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 152

Cl **33** *SC* **33.2.4.7** *P* **52** *L* **19** # 87

LANDRY, MATTHEW SILICON LABS

Comment Type **TR** *Comment Status* **A** *2fsd*

The branch out of CLASS_EV2 back to the IDLE state is trying to capture the situation wherein the two class signatures don't match. The way this is done presently requires that the PSE only does a 2-Event classification if the first class result is Class 4. A PSE can do 2-Event classification, though, no matter the signature. Thus, this diagram needs memory.

SuggestedRemedy

Add to the beginning of CLASS_EV2 state:
first_class_result <= mr_pd_class_detected

Change exit condition from:
tcle2_timer_done * (mr_pd_class_detected < 4)
to:
tcle2_timer_done * (mr_pd_class_detected != first_class_result)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 152

Cl **33** *SC* **33.2.4.7** *P* **53** *L* **1** # 106

Schindler, Fred Cisco

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

The concerns made in D3.0 comment #533 were accepted but not addressed in D3.1.

------ Comment 533 is repeated below.------
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.

This comment is also related to comment on page 39.

Technical
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.

SuggestedRemedy

See comment and the attached figure "tovld.pdf." The figure shows one method to provide a sliding window of 1 second while monitoring the 5% duty cycle allowance for ICUT.

The ILIM diagram can stay as is because the new ICUT diargam covers most ILIM fault cases. The MPS diagram needs to be modified in order to support a duty cycle Tmps/(Tmps + Tmpdo). This state diagram can be provided at the Interim for discussion.

The goal here is to to ensure that a PSE can monitor duty cycle specifications without forcing design requirements

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Adopt changes of mccormack_1_0809.pdf

Cl **33** *SC* **33.2.4.7** *P* **53** *L* **1** # 88

LANDRY, MATTHEW SILICON LABS

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

Comment #533 of D3.0 was not implemented in D3.1. This addresses the 5% duty cycle timer for Tovld.

SuggestedRemedy

Implement the state diagram and textual changes in landry_dutycycletimer.pdf. Replace tovld_timer_done variable with tovld_fault in Figure 33-9.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 106.

Cl **33** *SC* **33.2.4.7** *P* **53** *L* **41** # 70

LANDRY, MATTHEW SILICON LABS

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

Figure title does not mention the monitor inrush function.

SuggestedRemedy

Add "monitor inrush" to figure title.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. frs

Cl **33** *SC* **33.2.4.7** *P* **53** *L* **42** # 22

Darshan, Yair Microsemi Corporation

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

The title of Figure 33-11 is not complete

SuggestedRemedy

Change from:

"Figure 33-11-PSE monitor overload, monitor short, and monitor MPS state diagrams"

To:

"Figure 33-11-PSE monitor overload, monitor short, monitor MPS and moitor inrush state diagrams"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE. frs

OBE 70

Cl **33** *SC* **33.2.47** *P* **53** *L* **38** # 43

Darshan, Yair Microsemi Corporation

Comment Type **TR** *Comment Status* **R**

It looks that the Iinrush state machine contain a potential problem.
There is no exit from MONITOR_INRUSH state to IDLe STATE in case of a short at the output due to the fact that the MONITOR_SHORT is only activated when power_applied is true.

SuggestedRemedy

Add an exit from MONITOR_INRUSH state to IDLE state.
This exit is activated when error_condition variable is true.

Response *Response Status* **C**

REJECT.

The open arrow entrance to IDLE with the condition pse_reset + error_condition * (mr_pse_enable = enable) provides this state transistion.

Cl **33** *SC* **33.2.5** *P* **53** *L* **47** # 71

LANDRY, MATTHEW SILICON LABS

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

"In an operational mode" sounds vague.

SuggestedRemedy

From:
In an operational mode, the PSE ...
To:
In any operational mode, the PSE ...

Response *Response Status* **C**

ACCEPT. frs

Cl **33** *SC* **33.2.5** *P* **53** *L* **53** # 47

Darshan, Yair — Microsemi Corporation

Comment Type **TR** *Comment Status* **R**

The PSE operation may not be dependent of data link status

SuggestedRemedy

Restore the text from 802.3af with the following modifications and locate it after line 52:
"The PSE operation may not be dependent of data link status"

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

frs

This text was removed because end span PSE may use LLDP and type 2 PD shall use LLDP. Therefore, operation is dependent on link status.

Cl **33** *SC* **33.2.6** *P* **54** *L* **43** # 107

Schindler, Fred — Cisco

Comment Type **ER** *Comment Status* **R** *hard*

Several improvements were made to the PSE validation circuit text. System designers will benefit by explicitly calling out something that is already implicitly required in section 33.4.1 Isolation.

SuggestedRemedy

The editor should selected the best location for the following proposed text for clause 33.

"The power source for the PSE that provides the detection voltage or current and power to the PD after detection of a valid PD detection signature shall be separate and electrically isolated from the power source(s) for the switch/hub or other port device."

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

"The power source for the PSE shall be separate and electrically isolated from the power source(s) for the switch/hub or other port device."

"The power source for the PSE that provides the detection voltage or current and power to the PD after detection of a valid PD detection signature shall be separate and electrically isolated from the power source(s) for the switch/hub or other port device."

Cl **33** *SC* **33.2.6** *P* **54** *L* **8** # 72

LANDRY, MATTHEW — SILICON LABS

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

The figure has voltage terminals "Vdetect+" and "Vdetect-" even though Vdetect is clearly indicated as a voltage source on the other side of some circuitry. This figure seems to be showing the terminals as the PI, which will develop a voltage of Vvalid when a PD is attached.

SuggestedRemedy

Change "Vdetect+" and "Vdetect-" to "VPort+" and "VPort-" respectively. Also, add a differential arrow indicating where the Vvalid voltage is developing.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Text within this section reference Vdetect.

Task the editor to modify the figures and text to ensure that the original text "Vdetect" is the Vport during detection.

Cl **33** *SC* **33.2.6** *P* **59** *L* **32** # 24

Darshan, Yair — Microsemi Corporation

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

Annex 33A was deleted. Delete the text in additional information column in item 3 Table 33-5.

SuggestedRemedy

See above

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Assume this refers to p55, l34, Table 33-5 item 3.

Remove Annex 33A reference in item 3 of Table 33-5.

Cl **33** *SC* **33.2.6.1** *P* **54** *L* **47** # 263

Jeff Heath

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

Draft 3.1 changed definition of "valid PD detection signature" in section 33.2.6.1 pg. 54 line 47
Was: 23.75k ohms to 26.25k ohms
Is: 19k ohms to 26.5k ohms
This makes some existing PSE implementations of 802.3-2005 now non-compliant because current probing for Detection may validate Vvalid (if there are no bridge diodes in the PD during detection)

SuggestedRemedy

Change:
The detection voltage Vdetect shall be within the Vvalid voltage range at the PSE PI as specified in
Table 33-4 with a valid detection signature as defined in Table 33-5 connected.

To:
The detection voltage Vdetect shall be within the Vvalid voltage range at the PSE PI as specified in
Table 33-4 with a valid detection signature as defined in Table 33-14 connected.

Response *Response Status* **C**

ACCEPT.

Comment taken from the floor by a motion.

Cl **33** *SC* **33.2.6.1** *P* **54** *L* **48** # 59

Beia, Christian STMicroelectronics

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

The sentence reads with some difficulties

SuggestedRemedy

Move the references do the tables to the end of the sentence.
Replace the sentence with:
The detection voltage Vdetect shall be within the Vvalid voltage range at the PSE PI with a valid PD detection signature connected, as specified in Table 33-4 and Table 33-5

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The detection voltage Vport shall be within the Vvalid voltage range at the PSE PI with a valid PD detection signature connected, as specified in Table 33-4 and Table 33-5

Cl **33** *SC* **33.2.6.1** *P* **55** *L* **21** # 89

LANDRY, MATTHEW SILICON LABS

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

Table 33-4, item 5 is labeled "Time between any two test points." The definition of the two test points are those points used for the dV/dI measurement that are at least 1V apart.

But this label subtly implies that the timing between any voltage measurements should be 2ms, when really we are only trying to restrict the timing of those specific test points made for the dV/dI calculation.

SuggestedRemedy

From:
Time between any two test points
To:
Time between test points

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete item 5 Tbp from T33-4.

This needs to be discussed. Some detection algorithms use multiple points. Therefore, different intepretations may be used for compliance testing.

A<--- 2ms --->B<--- 2ms --->C
ex/ A and C are 2 ms apart.
A and B are less than 2 ms apart.
All point may be used to confirm a valid Rdet.

Cl **33** *SC* **33.2.6.1** *P* **55** *L* **35** # 17

Reshef, Tamir Microsemi Corp

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

Vos and Ios are not well specified.
How do you measure it at the PD?

SuggestedRemedy

See the definitions for Ios and Vos as illustrated in Figure 33C-17 in draft d3.0 and generate new drawing that illustrate only the location and definition of Voffset and Ioffset.

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

OBE 41

Cl **33** *SC* **33.2.6.1** *P* **55** *L* **35** # 153

Vetteth, Anoop Cisco

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

Annex 33A was removed

SuggestedRemedy

Remove reference

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 24

Cl **33** *SC* **33.2.6.1** *P* **55** *L* **35** # 244

Pavlick Rimboim Microsemi corp.

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

Vos and Ios are not specified anywhere

SuggestedRemedy

Specify what are Vos and Ios and how to measure it

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 41

Cl **33** *SC* **33.2.7.1** *P* **55** *L* **35** # 41

Darshan, Yair Microsemi Corporation

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

Were Vos and Ios are defined?

SuggestedRemedy

Define Vos and Ios in Table 33-5 items 3 and 4 per the attached drawing.
Attached "Vos and Ios definitions"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Accept page 5 of Darshan_5_0809.pdf with the following changes:

remove Ioffset label and dashed line.

Minimum value for Voffset to be 0.

Minimum value for Ioffset is not specified.

Add this figure into 33.3.4

Cl **33** *SC* **33.2.8** *P* **56** *L* **53** # 154

Vetteth, Anoop Cisco

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

The sentence "The Physical Layer Classifications are listed in Table 33-7" is not valid anymore since the equation takes precedence over the table.

SuggestedRemedy

Change the sentence to:
Based on the response of the PD, the minimum power level at the output of the PSE is Pclass as shown in Eq 33-1

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.8** *P* **57** *L* **1** # 76

LANDRY, MATTHEW SILICON LABS

Comment Type **ER** *Comment Status* **R**

This line is a great example of the unnecessary profusion of references. Is it really necessary to point the reader to a subsection of the section he is currently reading? Especially when he will get there as soon as he finishes reading this introductory text?

Line 12 provides a forward refernce for the location of PClass_PD in Table 33-18. This is an example of a GOOD reference, as it is far away and not obvious from immediate context.

SuggestedRemedy

Eliminate the unnecessary references.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **33** *SC* **33.2.8** *P* **57** *L* **23** # 77

LANDRY, MATTHEW SILICON LABS

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

There is a significant digit problem with the values in Table 33-7. If one uses the values of RChan = RCh = 20 and VPSE = VPort min = 44, the result can have at most 1 significant digit because RCh has only one significant digit.

If, instead, one uses RChan = RCh = 12.5 and VPSE = VPort min = 50, the result still should have one sig. dig. because VPSE now only has one sig. dig.

Adding a decimal after '50' and '20' will bring the sig. dig. count up to two, which makes the 7.0W and 4.0W numbers okay. But now 15.4W still has too many significant digits.

Adding a trailing decimal (viz., 50.0 and 20.0) will get us to three sig. digits, making 15.4W okay. But now 7.0W and 4.0W need to be upgraded to 7.00W and 4.00W.

SuggestedRemedy

The Task Force should come to some agreement on how to make the significant digits throughout the standard agree. Right now they are of arbitrary precision, which cannot be justified.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Editor to set the number of significant digits to 3 and scan draft to change numbers.

Cl **33** *SC* **33.2.8** *P* **57** *L* **4** # 134

Vetteth, Anoop Cisco

Comment Type **ER** *Comment Status* **R**

Equation 33-1 and 33-2 use new variable named VPSE. This is actually the Vport variable for the PSE as shown in Table 33-11.

SuggestedRemedy

Change VPSE in Eq 33-1 and 33-2 with Vport and reference the variable from Table 33-11

Change Vport for the PD in section, Table 33-18 to Vport_PD. Change all references to Vport in the PD section to Vport_PD

Change Rchan in Eq 33-1 to Rch as defined in Table 33-1

Response *Response Status* **C**

REJECT.

This equation was intended to be generic. Specific vaules are referenced in Line 14.

Cl **33** *SC* **33.2.8** *P* **57** *L* **44** # 78

LANDRY, MATTHEW SILICON LABS

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

This sentence about meeting the 25.4.4a requirement seems entirely out of place.

SuggestedRemedy

Move the sentence somewhere more appropriate, such as 33.2 or one of its subclauses.

And fix the spelling mistake and add a reference to the previously unencountered Iunbal. And is Iunbal supposed to be Iunb from Table 33-11?

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 135

Cl **33** *SC* **33.2.8** *P* **57** *L* **44** # 60

Beia, Christian STMicroelectronics

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

I don't see the reason why this sentence is in the classification section. Maybe it is better to move it to paragraph 33.2.9.13. Moreover the symbol Iunbal is incorrect, it is called Iunb.

SuggestedRemedy

Strike the sentence in 33.2.8 and paste the following in 33.2.9.13:
Type 2 Endpoint PSEs shall meet the requirements of sublause 25.4.4a in the presence of (Iunb / 2).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 135

Cl **33** *SC* **33.2.8** *P* **57** *L* **44** # 234

Law, David 3Com

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

The 'PSE Classification of PSE' seems to be an odd place to put the requirement that subclause 25.4.4.a has to be met - and due to this may be missed. The same is true for the last paragraph of subclause 33.3.5 (page 76, line 31).

SuggestedRemedy

Suggest this information be moved to a new subclause of 33.4 'Additional electrical specifications'. To do this:

[1] Delete page 57, line 44.

[2] Delete page 76, line 31.

[3] Add a new subclause as follows:

33.4.X 100BASE-TX transformer droop

100BASE-TX Type 2 Endpoint PSEs and 100BASE-TX Type 2 PDs that shall meet the requirements of subclause 25.4.4a in the presence of (Iunbal / 2).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

[1] OBE 135
[2] OBE 62
[3] Add a new subclause as follows:

33.4.X 100BASE-TX transformer droop

100BASE-TX Type 2 Endpoint PSEs and 100BASE-TX Type 2 PDs shall meet the requirements of clause 25 in the presence of (Iunb / 2).

Cl **33** *SC* **33.2.8** *P* **57** *L* **44** # 135

Vetteth, Anoop Cisco

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

This is not the right place for line mandating requirements of 25.4.4a in presence of Iunbal/2.

SuggestedRemedy

Move this line to Section 33.2.9.13

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Move this line to Section 33.2.9.13.

Change 'Iunbal' to 'Iunb'

234, 60, 78

Cl **33** *SC* **33.2.8** *P* **57** *L* **5** # 73

LANDRY, MATTHEW SILICON LABS

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

This equation for calculating PClass is a bit of a non sequitur, occurring as it does without any explanation or preamble.

SuggestedRemedy

Add some introductory text:
The minimum power output by the PSE for a particular PD class is defined by Equation (33-1) and Table 33-7. PSE implementations may use VPSE=VPort min and RChan=RCh max to arrive at the values in Table 33-7. Otherwise, actual system parameters used in conjunction with Equation (33-1) may result in less over-margined PClass values.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Perform change and delete paragraph at line 14.

Cl **33** *SC* **33.2.8** *P* **57** *L* **5** # 119

Jones, Chad Cisco

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

This is the first appearance of Pclass and it is unintroduced.

SuggestedRemedy

Provide a formal introduction of Pclass before EQ 33-1.

Add '(Pclass_PD)' after 'Physical Layer classifications' on Page 56 Line 53.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 73

Cl **33** *SC* **33.2.8** *P* **57** *L* **5** # 120

Jones, Chad Cisco

Comment Type **ER** *Comment Status* **R**

Pclass should be Pclass_PD as defined below in line 11.

SuggestedRemedy

Change Pclass to Pclass_PD

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

This comment was WITHDRAWN by the commenter.

Cl **33** *SC* **33.2.8** *P* **58** *L* **27** # 155

Vetteth, Anoop Cisco

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

Type 1 PSE is mandated to assign the PD to Class 0 if classification fails whereas Type-2 PSE is mandated to return to IDLE state

SuggestedRemedy

In order to ensure similar behavior for Type-1 and Type-2 PSE towards a non-compliant PD; a Type-1 PSE should be allowed to optionally return to IDLE state when Classification fails.

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 either return to the IDLE state or assign the PD to Class 0; the Type 2 PSE shall return to the IDLE state.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.8** *P* **58** *L* **30** # 74

LANDRY, MATTHEW SILICON LABS

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

This note about stability is unnecessary. If the PSE oscillates, then it doesn't meet the specification. Or does this imply that oscillation can only happen during classification, and not detection and power up? Or should we add an exhaustive note mentioning all of the states in which the PSE should not oscillate?

It's a well intentioned note, but ranks up there with statements like "the PSE shall meet all applicable subclauses."

SuggestedRemedy

Strike the note.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.8.1** *P* **58** *L* **44** # 42

Darshan, Yair Microsemi Corporation

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

We need to specify from when we start to measure the 6msec time delay

SuggestedRemedy

1. Change line 12 from:
"Measurement of IClass shall be taken after 6 ms to ignore initial transients."

To:
"Measurement of IClass shall be taken 6 ms from the application of Vclass_min to ignore initial transients."

2. The same in page 59 line 32.

Response *Response Status* **C**

ACCEPT.

54

Cl **33** *SC* **33.2.8.1** *P* **58** *L* **44** # 54

Feldman, Daniel Microsemi

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

Draft 3.1 needs to be scanned and checked to see if all timing parameters' measurement methods are clearly specified.
For example: the measurement of of iclas shall be taken after 6ms. This is not clear enough for compliance tests.

SuggestedRemedy

1. Change from:

"Measurement of IClass shall be taken after 6 ms to ignore initial transients."
To:
"Measurement of IClass shall be taken 6 ms after the application of Vclass_min to ignore initial transients."

2. Scan the draft for time parameters that are not well specified for the purpose of compliance tests

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

[1] OBE 42

[2] too vague of a remedy to expect the editor to thoroughly complete. If you have specific timing issues, please enumerate.

Cl **33** *SC* **33.2.8.1** *P* **58** *L* **46** # 156

Vetteth, Anoop Cisco

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

The last sentence on the page "A Type 2 PSE that has failed to complete mutual identification may provide Class 0 power" should be linked to the sentence on line 46-47

SuggestedRemedy

Append to line 46-47

..... will treat the PD as a Type 2 PD but may provide Class 0 power until mutual identification is complete.

Remove last sentence on page 58

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.8.1** *P* **58** *L* **49** # 157

Vetteth, Anoop Cisco

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

Type 1 PSE is mandated to assign the PD to Class 0 if Iclass > Iclass_LIM whereas Type-2 PSE is mandated to return to IDLE state

SuggestedRemedy

Change line on line 49 to:

If the measured IClass is greater than or equal to IClass_LIM min as defined in Table 33-10, a Type 1 PSE shall either return to IDLE state or classify the PD as Class 0; a type 2 PSE shall return to IDLE state.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.8.1** *P* **59** *L* **41** # 136

Vetteth, Anoop Cisco

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

The two sentences on lines 41-42 are linked.

SuggestedRemedy

Combine to one sentence:

In this case a Type-2 PSE will treat the PD as a Type 2 PD but may provide Class 0 power until mutual identification is established.

Response *Response Status* **C**

ACCEPT.

The difference is subtle but emphasizes that mutual ID has not been completed if two fingers have not been presented to the PD. I like it.

Cl **33** *SC* **33.2.8.2** *P* **59** *L* **22** # 75

LANDRY, MATTHEW SILICON LABS

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

VMark should be properly subscripted.

SuggestedRemedy

Subscript 'Mark.'

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.8.2** *P* **59** *L* **29** # 158

Vetteth, Anoop Cisco

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

This section speaks on what Type 1 PSE needs to do under fault condition. Only Type 2 PSE is supposed to do 2 Finger Classification.

Type 1 PSE is mandated to assign the PD to Class 0 if Iclass > Iclass_LIM whereas Type-2 PSE is mandated to return to IDLE state

SuggestedRemedy

Remove reference to Type 1 PSE from this section.

Change line on line 29 to:

If the measured IClass is greater than or equal to IClass_LIM min as defined in Table 33-10, a type 2 PSE shall return to IDLE state.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The Type 1 operation is describe in the 1-event section on pg58 ln49 (albiet without the "as defined in Table 33-10" that we have in this section).

Change line on Pg 59 line 29 to:
If the measured IClass is greater than or equal to IClass_LIM min as defined in Table 33-10, a type 2 PSE shall return to IDLE state.

Add "as defined in Table 33-10" after Iclass_lim on pg58 ln49.

Cl **33** *SC* **33.2.8.2** *P* **59** *L* **44** # 26

Darshan, Yair Microsemi Corporation

Comment Type **T** *Comment Status* **R**

The results of the 2nd class event of a Type 2 PSE when it detects Type 1 PD may be be ignored.
This is not clear from the text.
The text allow to skip the 2nd class event but it also permit two fingers + L2 for Type 2 PSE

SuggestedRemedy

Replace the following text:
"If the result of the first class event is any of Classes 0, 1, 2, or 3, the PSE assumes the PD is a Type 1 PD and may omit the subsequent mark and class events and classify the PD according to the result of the first class event."

with:

"If the result of the first class event is any of Classes 0, 1, 2, or 3, the PSE assumes the PD is a Type 1 PD and may omit the subsequent mark and class events or may ignore the results of the 2nd class and mark events and classify the PD according to the result of the first class event."

Response *Response Status* **C**

REJECT.

Suggested remedy is overly verbose and conveys the same idea. Less text is better. "May omit the subsequent mark and class events" implies that they can be ignored.

Cl **33** *SC* **33.2.8.2** *P* **60** *L* **27** # 27

Darshan, Yair Microsemi Corporation

Comment Type **T** *Comment Status* **R**

Class event voltage should be tested for all class current ranges

SuggestedRemedy

Add to the additional Information column for item 1 Table 33-10 the following text:
"For Iclass_1 min to Iclass_4 max"
or other current range that will be decided by the group.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

duplicate of 37 from same commentor.

Cl **33** *SC* **33.2.8.2** *P* **60** *L* **27** # 37

Darshan, Yair — Microsemi Corporation

Comment Type **TR** *Comment Status* **R**

Draft D3.1

The classification voltage range shoud be tested for compliance under the entire classification current range.

SuggestedRemedy

Add to the additinal column of item 1 in Tble 33-8 the following text:

"when loaded with Iclass1_min to Iclass4_max"

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

For any current in Table 33-9.

Cl **33** *SC* **33.2.9** *P* **61** *L* **16** # 198

Thompson, Geoff — Nortel

Comment Type **TR** *Comment Status* **R** *battery*

Also line 20
It makes no sense to require different voltage ranges for Type 1 vs. Type 2 PSE supplys except to the extent required to maintain far end voltage at the supplied (larger) current. That design freedom shuld be left to the implementor. See also next comment

SuggestedRemedy

Change item 1 Vmin from "50" to "37 + (Rch + Icable)"
Change item 2 Vmin from "50" to "37 + (Rch + Icable)"

Response *Response Status* **W**

REJECT.

Accepting the comment has the (perhaps) unintended effect of lowering the PD power to 22W.

Straw poll taken from room:
are you in favor to lowering the PD power to 22W
20 people opposed to lowering the power to 22W
zero people in favor of lowering the power to 22W

rationalization follows:

The remedy appears to have errors in it. I assume the proposer wants PSEs to provide a PSE voltage (lower than present values) that the PDs need, that is dependent on system parameters (cable length, cable quality, Ipd, PD type).

This would be very difficult to test. I suggest the task force vote to determine if they want to give the proposer time to correct their text, or reject this because these changes may significantly complicate this specification.

-------- Here is what I believe was intended ------

The proposed remedy adds a voltage to a resistance and a current. Assume the remedy should be:
Vmin = 37 + Rch * Icable

Here 37 is suppose to be the Vpd. The proposal would be incorrect for type 2 PDs.

Type 1 PD Vpd = 37

Type 2 PD Vpd = 50 - Rch * Icable

A minimum voltage could be calculated for a type 2 PD (Vpd = 50 - 12.5*0.6 = 42.5 V) and then the formula used could become:

Vmin = Vpd_min + Rch * Icable.

This formula is only valid during average power demand. Different values would result when PD Ipeak was drawn.
Type 1 PD Vpd = 44 - 0.4*20 = 36 V

Type 2 PD Vpd = 50 - 0.6*400/350*12.5 = 41.4 V

This gets more complicated when Ipeak changes and a quadratic formula needs to be used to calculate currents.

Cl **33** *SC* **33.2.9** *P* **61** *L* **16** # 58

Anslow, Peter — Nortel Networks

Comment Type **TR** *Comment Status* **R** *battery*

Requiring 50 V minimum from a Type 2 PSE means that it cannot be operated from commonly available 48 V supplies. See Thompson comment #482

SuggestedRemedy

Change the following:
Table 33-11, Item 1 Vport min PSE Type 2 to 44 volts
Table 33-11, Item 2 min value, PSE Type 2 to 44 volts
Table 33-18, Item 1 Vport min PSE Type 2 "50" value to "44" becoming "44-(RCh×ICable)"
Table 33-18, Item 3 Voverload min PSE Type 2 "50" value to "44" becoming "44-(RCh×ICable×400/350)"

In addition, it makes no sense to have different voltage ranges for Type 1 vs. Type 2 PDs as each has to be able to operate with the both types of PSEs during start-up. In particular a Type 2 PSD has to operate at the low voltage of a Type 1 during start-up while establishing the Data Link Layer communication

Response *Response Status* **W**

REJECT.

See 198 for lack of support to lower the PD power. This proposal lowers the power even further than comment 198.

show of hands for people in favor of lowering power of the PD to slightly lower than 22W:
for: 0
against: 20

You are also missing a subtle point that when a type 2 is behaving as a type 1 at boot up, it has to operate over the type 1 range; therefore there are no difference in the operating ranges of a PD.

Additionally, the same resolution to D3.0 comment 482 applies.

During the May 2006 Interim, the IEEE 802.3at task force voted to adopt 50 V as the minimum Vport.
Y: 37 N:0 A: 1
This was done after extensive evaluation of the system tradeoffs. One result of the discussions was the revelation that battery back up systems have only supplied about 10% of their available power when the voltage has reach 44V, therefore a boost system would be required to best utilize the available power fomr the battery backup system. It was determined that boosting to 50V was no more of a burden than boosting to 44V.

Multual identification of the PSE and PD type is possible. A Type 2 PD may provide useful functionality on a legacy system or it may indicate that it is under powered.

A type 2 PD range fits within a type 1 PD operating voltage range. Therefore, a type 1 (legacy) PD can be powered by a type 2 PSE.

A PSE normally would not change its voltage range when it provides power to different PD types.

Cl **33** *SC* **33.2.9** *P* **61** *L* **34** # 108

Schindler, Fred Cisco

Comment Type **ER** *Comment Status* **A** *33-14*

Some readers may see Figure 33-14 conflicting with Iinrush_max of table 33-11, item-6 (0.45 A).

SuggestedRemedy

Remove table 33-11 item-6 maximum value. This is already covered by 33.2.9.6.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change 0.45 to See info.

Add to additional info:
Max value defined by Figure 33–14.

Cl **33** *SC* **33.2.9** *P* **62** *L* **7** # 90

LANDRY, MATTHEW SILICON LABS

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

TRise units were incorrectly noted as ms when restoring this spec from 802.3af.

SuggestedRemedy

Change 'ms' to 'us.'

Response *Response Status* **C**

ACCEPT.
OBE 45

Cl **33** *SC* **33.2.9** *P* **62** *L* **7** # 45

Darshan, Yair Microsemi Corporation

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

Item 15 should be usec and not msec

SuggestedRemedy

Change to usec

Response *Response Status* **C**

ACCEPT. frs

Cl **33** *SC* **33.2.9.12** *P* **66** *L* **36** # 190

Thompson, Geoff Nortel

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

The sub-clause heading is "Continuous output power"
There is no definition or discussion of Continuous output power rather, it talks about class power and Pport

SuggestedRemedy

Either put in a precise definition and specification for "Continuous output power" or supply text to precisely define the relationship between "Continuous output power" and the parameters dscussed here

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Suggest that the title become:
POWER_ON mode output power

Cl **33** *SC* **33.2.9.12** *P* **66** *L* **38** # 110

Schindler, Fred Cisco

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

The Pclass in 33.6 represents the PD power demand and not the PSE power requirement.

SuggestedRemedy

The Editor should use their discretion to meet the following remedy. Add statement to 33.6:

The value of Pclass used in 33.2.9.12 is equal to the PD requested power added to the channel power loss.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

replace:"PClass is the class power defined in 33.2.8 (see Table 33–7) or the result of Data Link Layer classification, as defined in 33.6."

with:"PClass is the class power defined in 33.2.8 (see Table 33–7) or PSE allocated power (as defined in 33.6.2.3) added to the channel power loss."

Cl **33** *SC* **33.2.9.5** *P* **63** *L* **25** # 91

LANDRY, MATTHEW SILICON LABS

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

This equation is very similar to Equation (33-1), in that it allows for variation of parameters based on actual port voltage and channel resistance.

Except it actually doesn't allow for channel resistance variation. Where Equation (33-1) uses a factor of RChan, which MAY BE RCh, this equation uses only RCh (which will be worst case).

Also, a forward reference to PPeak_PD would be useful.

SuggestedRemedy

Replace RCh with RChan, where RChan is the channel resistance, whose worst case value is RCh.

PPeak_PD is the peak power a PD may draw for its class; see Table 33-17.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.9.6** *P* **63** *L* **36** # 46

Darshan, Yair Microsemi Corporation

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

The text says:
"Startup mode occurs between the PSE transition to the POWER_UP state and the lesser of TInrush or the conclusion of PD inrush currents."

may lead to a confusion regarding the definition.

What we meant to say are:
1. Startup mode occures between the transition to POWER_UP state and Tinrush. (Tinrush is a range between 50msec to 75msec so Tinrush is any number within this range and includes Tinrush_min as well so the "lesser of Tinrush" is redundant.
2. In addition we want to say that STARTUP MODE occures also between the transition to POWER_UP state and conclusion of PD inrush currents.

SuggestedRemedy

Change from:

"Startup mode occurs between .....and the lesser of TInrush or the conclusion of PD inrush currents."

To:

"Startup mode occurs between the PSE transition to the POWER_UP state and a) when TInrush timer is done or b) the conclusion of PD inrush currents."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 40

Cl **33** *SC* **33.2.9.6** *P* **63** *L* **41** # 28

Darshan, Yair — Microsemi Corporation

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

In item b: It is startup and not POWER_ON state. It should be Figure 33-14 and not 33-15

SuggestedRemedy

1. Replace item b) with:

b) During the first 1 ms, current shall not exceed the PSE upperbound template for startup in Figure 33-14.

2. Add the following Figure 33-14 template equation below Figure 33-14:

Iinrush(t) max =
50 for (0<=t<= 10usec)
f(t) = TBD for (10usec<t <=1msec)
Iinrush for (1msec <t <=75msec)

f(t) will be presented at the meeting

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

1. Replace item b) with:

b) During the first 1 ms, current shall not exceed the PSE Inrush template in Figure 33-14.

POWER_ON state label was replaced with the correct one , POWER_UP

Then OBE 109

Cl **33** *SC* **33.2.9.6** *P* **63** *L* **43** # 92

LANDRY, MATTHEW — SILICON LABS

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

Item (c) is entirely redundant. The lead-in sentence to this itemized list, inconjunction with item (a) says:

The specification for IInrush in Table 33-11 shall be met under the following conditions: for duration of TInrush as specified in Table 33-11.

Ignoring the excessive use of "Table 33-11" references, item (c) simply reiterates the IInrush for TInrush duration.

SuggestedRemedy

Strike line item (c).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Strike a, move c to a and resequence the conditions.

Cl **33** *SC* **33.2.9.6** *P* **64** *L* **1** # 93

LANDRY, MATTHEW — SILICON LABS

Comment Type **TR** *Comment Status* **R**

Figure 33-14 appears without any explanation and without any apparent use.

SuggestedRemedy

(1) Find appropriate text to give meaning to the figure; or
(2) Strike Figure 33-14

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

frs

Task the editor to provide appropreate introductory text and use text provided in 109 in the new section

Cl **33** *SC* **33.2.9.6** *P* **64** *L* **1** # 109

Schindler, Fred — Cisco

Comment Type **TR** *Comment Status* **A** *33-14*

Key points and descriptions are missing from Figure 33-14.

SuggestedRemedy

1) Label Figure 33-14 time 0.

2) The Editor should describe the the curve in an appropriate place. The curve below describes the upper bound of Iinrush.

Iinrush =
50 A, 0 us <= t < 10 us
50 - (t - 10)(50 - 0.45)/(1000 - 10) A, 10 us <= t < 1000 us
0.45 A, 1000 us <= t < Tinrush
Iport, t >= Tinrush, see Figure 33-15.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

1) Label Figure 33-14 time 0.

2) The Editor should describe the the curve in an appropriate place. The curve below describes the upper bound of Iinrush.

Iinrush =
50 A, 0 us <= t < 10 us
50 - (t - 10)(50 - 0.45)/(1000 - 10) A, 10 us <= t < 1000 us
0.45 A, 1000 us <= t < Tinrush

Tinrush starts at power_up.

Cl **33** *SC* **33.2.9.8** *P* **64** *L* **29** # 94

LANDRY, MATTHEW — SILICON LABS

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

This section is supposed to be explaining the use of Tovld, except Tovld has already been introduced in 33.2.9.7. Also, the 5% duty cycle concept is absent, as is the 1 second window measurement.

SuggestedRemedy

Replace 33.2.9.7 and 33.2.9.8 with the following:

33.2.9.7 Overload current

If IPort, the current supplied by the PSE to the PI, exceeds ICUT for longer than Tovld, the PSE may remove power from the PI. The cumulative duration of Tovld is measured with a sliding window of 1 second width.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace 33.2.9.7 and 33.2.9.8 with the following:

33.2.9.7 Overload current

If IPort, the current supplied by the PSE to the PI, exceeds ICUT for longer than Tovld, the PSE may remove power from the PI. The cumulative duration of Tovld is measured with a sliding window of at least 1 second width.

Cl **33** *SC* **33.2.9.9** *P* **65** *L* **30** # 29

Darshan, Yair — Microsemi Corporation

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

The title of Figure 33-15 should reflect that fact that it adress POWER_ON state

SuggestedRemedy

Change the title of figure 33-15 to:
"Figure 33-15- PI operating current templates during POWER_ON state"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the title of figure 33-15 to:
"Figure 33-15- POWER_ON state PI operating current templates"

Cl **33** *SC* **33.2.9.9** *P* **65** *L* **37** # 55

Anslow, Peter — Nortel Networks

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

In response to comment #53 (802.3at D3.0) you asserted "The equation conforms to the style manual which we use for guidance."
This is not true.
The IEEE style manual (2007) clause 17.1 (Letter symbols and units) contains: "All terms shall be defined, including both quantities and units,"
In equation 33-3 the units for t are not defined. Is this seconds, minutes, hours, days, years, ...?

SuggestedRemedy

change the text "t is the duration that the PSE sources IPort" to "t is the duration that the PSE sources IPort in seconds"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The 2007 style guide has an example equation on page 30 to which our usage conforms.

However, we will accept the comment.

change the text "t is the duration that the PSE sources IPort" to "t is the duration in seconds that the PSE sources IPort "

Cl **33** *SC* **33.2.9.9** *P* **65** *L* **38** # 159

Vetteth, Anoop — Cisco

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

Eq 33-3
The current fot t > Tovldmax is shown to be Ipeak. This is incorrect

SuggestedRemedy

Change this to 400/350xIcable
Reflect the same in the figure

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

PSE upper bound template beyond Toverload max should be Ilim_min

Cl **33** *SC* **33.2.9.9** *P* **65** *L* **51** # 36

Darshan, Yair — Microsemi Corporation

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

Draft D3.1

It is true that the PSE and not the PD, is responsible for limiting the current during transient lasting less then 10msec however it is important to add text to clarify that this transient is caused by PSE dv/dt.

SuggestedRemedy

Change the text from :
"....in order to acount for transients at the PI."

With
"....in order to acount for PSE dv/dt transients at the PI."

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.2.9.9** *P* **66** *L* **20** # 61

Beia, Christian — STMicroelectronics

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

The PD upperbound template is no more defined. Now it is called PSE lowerbound template.

SuggestedRemedy

Replace "PD upperbound template" with "PSE lowerbound template"

Response *Response Status* **C**

ACCEPT. frs

OBE 160

Cl **33** *SC* **33.2.9.9** *P* **66** *L* **20** # 160

Vetteth, Anoop — Cisco

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

The reference to PD upper bound template is obsolete since we changed the nomenclature to PSE lower bound template

SuggestedRemedy

Change PD upper bound template to PSE lower bound template

Response *Response Status* **C**

ACCEPT. frs

Cl **33** *SC* **33.2.9.9** *P* **66** *L* **22** # 39

Darshan, Yair — Microsemi Corporation

Comment Type **TR** *Comment Status* **R**

Draft D3.1

Add a drawing that explains the dependence between Voltage and current at the PSE PI durint POWER_ON state.

(Figure 33-15 covers only current vs time templates.)

SuggestedRemedy

See attached example "PI operating Voltage vs Current"
that should be discussed in the group.

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Defered to Friday pending submission of drawing.

The attachment was not provided to me.

The fold-back region should be large in order to accommodate different designs.

Cl **33** *SC* **33.3.1** *P* **71** *L* **42** # 35

Darshan, Yair — Microsemi Corporation

Comment Type **TR** *Comment Status* **R** *PD A&B*

Draft D3.1:

The note in line 42 precludes the ability to reduce power loss over the cable and increase overall system efficiency.
Rational:
Using a Type 2 PD that requires a total of 24W (example) on a 2P can also take a toatal of 24W over all 4 pairs with simple PD implementation.
In this case this PD can work on 2P PSE or on 2x2P PSEs with the same PD behaviour which is transparent to the user.

In addition let's assume that in this case both pairs are comming from the same box and the same power supply. This is a classical case in which by using all pairs we effectively reduce the channel power loss and allows interoperable and relaible operation.

If Icable meet the specification of 2P then I<Icable certaily meets the same specification so preventing feeding the current all over the 4 pairs doesnt make sense.

This is implementation that is inline with the global effort for reducing power loss and in my opinion we are not authrized to preclude implementations that meet the numbers and state machines of this standard.

SuggestedRemedy

Change from:

"NOTE-PDs that implement only Mode A or Mode B are specifically not allowed by this standard. PDs that simultaneously require power from both Mode A and Mode B are specifically not allowed by this standard."

to:
"NOTE-PDs that implement only Mode A or Mode B are specifically not allowed by this standard. PDs that simultaneously may recieve power from both Mode A and Mode B is out of scope of the standard"

Response *Response Status* **U**

REJECT.
1) Comment is technically incorrect. This sentence does not preclude 24W over 4 pairs.
2) The rest of the comment glosses over a set of complex issues involving how the PSE would determine it was acceptable to power all four pairs.
3) The comment glosses over the special considerations needed in the PD to accommodate this new mode of operation.
4) The Task Force has specifically made it clear that 2 separate PDs per four pair cable must be accomodated.
5) Recommended solution does not address 2, 3, 4 and is not possible to implement in the context of a standard.

Cl **33** *SC* **33.3.2** *P* **51** *L* **3** # 49

Darshan, Yair — Microsemi Corporation

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

There is an error in this line. Table 33-18 specify maximum power.
It looks that we allow PD to consume more than 25.5W. I am OK with it.. but I guess it was not our intention when we reduce the current from 720mA to 600mA.
So let's be consistent with other parts of the draft.

SuggestedRemedy

Change "may" to "shall"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Page 72 ln 3

The maximum power a PD expects to draw from a PSE is PClass_PD max as defined in Table 33–18.

Cl **33** *SC* **33.3.3.5** *P* **74** *L* **1** # 161

Vetteth, Anoop — Cisco

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

We got rid of the state NOT_REQUESTING_POWER from figure 33-18 during the last commenting cycle. This was removed because of a comment from a member asking the TF to explain the reason for the existence of that state. We ultimately decided to get rid of that state since we could not think of the importance of that state

This state is required so that the PD waits till the power is removed after an invalid mps is presented when !mdi_power_required is asserted. If the PD is hooked ot a faulty PSE that does not power down the PD, then the PD needs to wait in this state.

SuggestedRemedy

Reinstate the State NOT_REQUESTING POWER from previous draft.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the name of NOT_MDI_POWERED to IDLE

Cl **33** *SC* **33.3.3.5** *P* **74** *L* **23** # 148

Vetteth, Anoop — Cisco

Comment Type **T** *Comment Status* **A** *PD State D*

The transition from DO_CLASS_EVENT1 to MDI_POWER1 has the condition * mdi_power_required. This is not required here since when !mdi_power_required condition is true you automatically go into NOT_MDI_POWERED state. You do not have to check mdi_power_required anywhere else in the state machine

SuggestedRemedy

Remove mdi_power_required from the transition from DO_CLASS_EVENT1 to MDI_POWER1

Response *Response Status* **C**

ACCEPT.

Original is not incorrect. Accept based on the "simpler is better" principal.

Cl **33** *SC* **33.3.3.5** *P* **74** *L* **23** # 99

LANDRY, MATTHEW — SILICON LABS

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

The branch out the the CLASS_EVENT states to the MDI_POWER1 state currently has an "mdi_power_required" qualifier.

This is unnecessary, because if !mdi_power_required, we always go back to the NOT_MDI_POWERED state. All other states therefore imply mdi_power_required.

SuggestedRemedy

From:
power_received * mdi_power_required
To:
power_received

Response *Response Status* **C**

ACCEPT.

See 148

Cl **33** *SC* **33.3.3.5** *P* **75** *L* **6** # 162

Vetteth, Anoop Cisco

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

Second NOTE states the following:
"There is no minimum DO_CLASS_EVENT3 time duration, and for DO_CLASS_EVENT3 times less than Tclass, there is no requirement for a Type 2 PD to respond with a classification signature."

This is true for other class events also: DO_CLASS_EVENT1 and DO_CLASS_EVENT2

SuggestedRemedy

Make the NOTE generic enough to cover all the class events.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

NOTE- In general, there is no requirement for a PD to respond with a valid classification signature for any DO_CLASS_EVENT duration less than Tclass.

Cl **33** *SC* **33.3.4** *P* **75** *L* **23** # 116

Jones, Chad Cisco

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

'The slope is the effective resistance...'
slope is non-descript; at least 'V-I slope' (removed in last draft) defined it as something.

SuggestedRemedy

Change the name of the variable 'slope' to Rslope, since it is a resistance. Also on line 33 page 75.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change text line 23 & ff to:

The detection signature is a resistance calculated from two voltage/current measurements made during the
detection process.

Change "slope" in equation 33-5 to Rdetect and also in line 33 and in T33-14 and 15.

Cl **33** *SC* **33.3.5** *P* **75** *L* **47** # 117

Jones, Chad Cisco

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

'The intent of PD classification is to provide information about the maximum power required by the PD during operation.'
This is legacy text and this was the intent with AF. Now classification is a required part of power negotiation for Type 2 and the sentence doesn't convey all the information about the purpose of classification.

SuggestedRemedy

Fix by adding 'and to establish mutual identification between Type 2 PSEs and PDs.' to the end of the sentence.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

'The intent of PD classification is to provide
information about the maximum power required by the PD during operation. Addtionally, classification is used to establish mutual identification between Type 2 PSEs and Type 2 PDs.'

Cl **33** *SC* **33.3.5** *P* **76** *L* **31** # 123

Vetteth, Anoop Cisco

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

Sentence "Type 2 PDs shall meet the requirements of 25.4.4a in the presence of (Iunbal / 2)" does not belong here

SuggestedRemedy

Mover sentence to 33.3.2

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 62

Cl **33** *SC* **33.3.5.1** *P* **76** *L* **43** # 196

Thompson, Geoff Nortel

Comment Type **TR** *Comment Status* **R**

Paragraph 3 of this clause is unconditional. That is not what we have specified elsewhere. There needs to be allowance for modification of this behavior by later action via LLDP

SuggestedRemedy

Change text to read:
"A Type 1 PD shall return a Class 0 to 3 signature in accordance with the maximum power draw, PClass_PD, as specified by Table 33-18 except when modified by appropriate negotiation via Data Link Layer Classification."

Response *Response Status* **C**

REJECT.

This is the correct behavior. No PD can draw more power than its physical layer classification. LLDP can only be used to manage the power within the limits of the physical layer classification.

Cl **33** *SC* **33.3.5.2** *P* **77** *L* **28** # 98

LANDRY, MATTHEW SILICON LABS

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

The VMark_th min should correspond with the maximum detection voltage, as this threshold dictates when the PD transitions out of detection into classification for the first time.

SuggestedRemedy

Make both VMark max and VMark_th min 10.1V.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.3.5.2** *P* **77** *L* **30** # 100

LANDRY, MATTHEW SILICON LABS

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

The VReset_th min and VReset max should correspond with the minimum detection voltage, as this threshold dictates when the PD transitions out of detection into the NOT_MDI_POWERED state.

Otherwise, it is possible for a PD to see a valid detection voltage, but churn through the states because of the VReset and VReset_th overlap.

SuggestedRemedy

Make both VReset max and VReset_th min 2.7V.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.3.6** *P* **78** *L* **12** # 194

Thompson, Geoff Nortel

Comment Type **TR** *Comment Status* **R**

Overall comment.
I believe that the system (i.e. PSE, cabling and PD) is over specified. Given our system configuration once you specify two fo the elements, you have defined the results for the third and additional "shalls" just get in the way and provide the potential for technical conflict.

SuggestedRemedy

A number of solutions are possible. I suggest making PSE and cabling normative and just make the PD tolerate the results. That would require changing 33.3.7, page 78, line 12 to read something like:
"The power supply of the PD shall operate within the system constraints of the specified PSE and cabling systems. Those resulting values are provided in Table 33-18 for reference."

Response *Response Status* **U**

REJECT.

The TF has purposely engineered margin into the specifications of the PSE and PD by rigidly specifying each end, with the added bonus of ensuring interoperability. The Table has worst case values and a PD that conforms will be ensured to interoperate.

Vote to reject
y- 14 n-1

Cl **33** *SC* **33.3.6** *P* **78** *L* **3** # 197

Thompson, Geoff — Nortel

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

It is not clear how this "shall" is to be satisfied. Where does the identification show up externally? What is the observable behavior?

SuggestedRemedy

Define the required indication that provides the PSE identification within the PD.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

It is identified in the PD MIB, but there is some clean up required for this section.

Fix enumeration type in 30.9.1.1.12 and 30.9.1.1.13 to match T33-23.

Cl **33** *SC* **33.3.6** *P* **78** *L* **5** # 101

LANDRY, MATTHEW — SILICON LABS

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

"After a successful 2-Event Physical Layer classification or Data Link Layer classification has completed, the pse_power_type is set to 2."

This is ambiguous in regard to DLL.

What does it mean to "complete" a DLL classification? Is it not an ongoing process?

Or does it mean even establishing the barest communication? Well, a Type 1 PSE can implement DLL, so that is clearly wrong.

Also, neither the PD nor the DLL state diagrams do anything to adjust the pse_power_variable in after DLL has come up.

SuggestedRemedy

Some provision in the PD DLL state diagram should be made to adjust the pse_power_type if a grant for >12.95W is made.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

define pse_dll_power_type in section 33.6.6.2
a control variable that indicates the type of the PSE by which the PD is being powered.
Values 1 : PSE is a Type 1 PSE
2: PSE is a Type 2 PSE

Add a row to the bottom of T33-29
object oPD managed object class
attribute aMirroredDLLPowerType
Mapping =>
state diagram variable pse_dll_power_type

in fig 33-31
add the assignment in the INITIALIZE state
pse_dll_power_type <= 1

section 33.3.3.3
define variable pse_dll_power_type
a variable output by the PD power control state diagram (fig 33-31) to indicate the type of the PSE by which the PD is being powered.

In fig 33-18
add transition from MDI_POWER1 to MDI_POWER2 with transition condition
pse_dll_power_type = 2

Cl **33** *SC* **33.3.7** *P* **78** *L* **17** # 124

Vetteth, Anoop Cisco

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

Table 33-18
Terms similar to VTran_lo and Iinrush are used in the PSE section also. There is a lot of cross referencing in the new std. It would only make sense not to use same names for variables.

SuggestedRemedy

Change
Iinrush to Iinrush_PD
Vtran_lo to Vtran_lo_PD

This is consistent with Pclass_PD and Ppeak_PD

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Vtran_lo only appears in Table 33-18. Iinrush appears in both tables 33-1 and 18.

Change Iinrush to Iinrush_PD in table 33-18, P80, line 36, P124 line 4.

Change Vport to Vport_PD in table 33-18, Table 33-13 P71, P73 l35, P74 figure 33-18 l3 l17 l18 l22 l28 l34 l41 l41 l10, P75 l19, P78 l23 l44 table 33-18, P79 l44 l45(2) l49, P80 l11 16 20 26 30, P81 l6 8 13, P83 l29 31 53, P123 l34 38 47 , P124 l7 32 35, P133 l29 33,

Cl **33** *SC* **33.3.7** *P* **78** *L* **25** # 199

Thompson, Geoff Nortel

Comment Type **TR** *Comment Status* **R** *battery*

Also, line 34
It makes no sense to have different voltage ranges for Type 1 vs. Type 2 PDs as each has to behave identically during the start-up when Data Link Layer communication is being established. Specifically a Type 2 PSD has to operate at the low voltage of a Type 1 during this phase of operation

SuggestedRemedy

In Table 33-18, item 1, eliminate the Type 2 entry and have the Vmin parameter be 37 for all PDs under all conditions.

In Table 33-18, item 2, eliminate the Type 2 entry and have the Vmin parameter be 36 for all PDs under all conditions.

Response *Response Status* **W**

REJECT.

The differing minimum input voltages ensure maximum power delivery for each PD type. Higher operating voltages result in less cable loss making the system more efficient.

Also, see comment 58 for additional arguments against this solution.

Table 33-18 item 1 is for static operating input voltages, and includes the rated input power. This is correct. However it is desirable that a type 2 PD start like a type 1 PD if installed in an ".af" worst-case environment. This appears to be covered by the following:

Section 33.3.2 (P72 l5) indicates that a type 2 PD must conform to type 1 power restrictions.

33.3.5.2 (P77 l15) states a T2 PD only seeing a T1 PSE should conform to T1 electricals of T33-18.

33.3.7.3 states that a T2 PD should behave like a T1 PD during/after inrush/poweron.

Cl **33** *SC* **33.3.7** *P* **78** *L* **36** # 163

Vetteth, Anoop Cisco

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

Class-4 is unique identifier for PDs that conform to type-2 requirements. Similar to Class 0-3 the class power in the PD section should be fixed for Class 4 PD. We do not have to do it now. We need to do it before we close the standard

SuggestedRemedy

Assuming that 600mA is not going to change,

Change Item 4 entry 4
Pclass_PD for Class 4 to 25.5W (from Icable x Vport min)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In Table 33-18, items 1, 3, and 4

Change 50 –(RCh × ICable) to 42.5V

Change 50 – (RCh × ICable × 400 / 350) to 41.43V

Change ICable × (VPort min) to 25.5W

Cl **33** *SC* **33.3.7** *P* **79** *L* **14** # 137

Vetteth, Anoop Cisco

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

Table 33-18 item 7
1.114 x Pclass is incorrect

SuggestedRemedy

Change to 1.114 x Pclass_PD

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.3.7.1** *P* **79** *L* **44** # 118

Jones, Chad Cisco

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

'The specification for VPort in Table 33-18 is for the input voltage range after startup, and it includes loss in the cabling plant.'
This is legacy text and I think it is open for misinterpretation. The voltage numbers account for the loss in the cable. The losses in the cable are subtracted from the Vport_PSE numbers, is this including loss? Can we find better wording?
My understanding was we were moving toward Vport_PSE and Vport_PD since it can be very confusing which PI voltage we are talking about. (Perhaps we just leave the PSE side Vport and change the PD side to Vport_PD to minimize the changes.)

SuggestedRemedy

Change 'The specification for VPort in Table 33-18 is for the input voltage range after startup, and it includes loss in the cabling plant. Startup begins upon application of VPort as defined in Table 33-18 and concludes at the end of the inrush period as defined in 33.3.7.3.'
to:
'The specification for VPort_PD in Table 33-18 is for the input voltage range after startup, and accounts for loss in the cabling plant. Startup begins upon application of VPort_PD as defined in Table 33-18 and concludes at the
end of the inrush period as defined in 33.3.7.3.'

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.3.7.2** *P* **80** *L* **5** # 50

Darshan, Yair — Microsemi Corporation

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

There is error here. This is a PD specification and not PSE specification.

1. 33.2.8 is PSE spec hence need to be deleted and replaced by Table 33-18 as in other locations when Pclass_PD is mentioned.
2. The text discuss the maximum value of Pclass_PD max hence 33.6 is irelevant.

SuggestedRemedy

Change from:
"The maximum value of Pclass_PD is obtained as described in 33.2.8 and 33.6"

to: "The maximum value of Pclass_PD is obtained as described in Table 33-18"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete the first and second paragraph in 33.3.7.2

replace with:

'The specification for PClass_PD in Table 33–18 shall apply for the input power averaged over 1 second. PDs may dynamically adjust their required operating power within this range as described in 33.6."

Cl **33** *SC* **33.3.7.2** *P* **80** *L* **6** # 125

Vetteth, Anoop — Cisco

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

Reference to 33.2.8 is wrong

SuggestedRemedy

Fix this reference

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 50

Cl **33** *SC* **33.3.7.2.1** *P* **80** *L* **9** # 121

Jones, Chad — Cisco

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

this section is a mess. One, it is the 'extra information' section for Table 33-18 but it is not referred to by T33-18. Two, it is not referred to from any other place in the document (which doesn't necessarily make it bad text). Three, for this section to be correct, Vportmin and Vportmax HAVE to be Vport_PSEmin and max. But then why have it in the PD section? Four, the title is system stablity test conditions, but we have no system stability test defined anywhere.
This appears to have grown out of this sentence in AF: 'PPort = VPort × IPort, measured when the PD is fed by 44V to 57V with 20? in series.' which I'm not sure is useful anymore. I recall this was added as we wanted to ensure that PD vendors knew to put Rch in series with the PD when testing to ensure that it didn't oscillate at power up (motor-boat).
two ways to fix it:
one:delete and optionally add "while fed by VPortPSE min to VPortPSE max (as defined in Table 33-11) with RCh (as defined in Table 33-1)" to the end of the last sentence on page 79 to keep the intent.
two:pick which way we are going (define everything at the PSE and reference that and make the equations correct or define all PD stuff at the PD and make the equations correct for that) and fix the text.

SuggestedRemedy

delete 33.2.7.1

add "when fed by VPortPSE min to VPortPSE max (as defined in Table 33-11) with RCh (as defined in Table 33-1)" to the end of the last sentence on page 79 to keep the intent.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The PD shall turn on or off without startup oscillation and within the first trial at any load value when fed by VPort min to VPort max (as defined in Table 33-11) with RCh (as defined in Table 33-1)

Cl **33** *SC* **33.3.7.5** *P* **81** *L* **22** # 238

Law, David — 3Com

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

Suggest a cross-reference be added to make it clear how inrush completed is defined.

SuggestedRemedy

Chnage the text '.. after inrush has completed ..' to read 'after inrush has completed (33.3.7.3) ..'.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.3.7.5** *P* **81** *L* **24** # 239

Law, David 3Com

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

The condition '.. when there are no transients at the PSE PI ..' seems an odd condition for a PD specification, does it really mean that when there are no transients applied at the PD PI.

SuggestedRemedy

Change '.. when there are no transients at the PSE PI ..' to read 'when there are no transients applied at the PD PI ..'.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.3.7.5** *P* **81** *L* **45** # 236

Law, David 3Com

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

It is stated that 'PPeak_PD is defined in Table 33-18.' however it is not stated that PClass_PD is also defined there.

SuggestedRemedy

Change the text 'PPeak_PD is defined in Table 33-18.' to read 'PPeak_PD and PClass_PD are defined in Table 33-18.'.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.3.7.5** *P* **81** *L* **48** # 237

Law, David 3Com

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

IPDUT is mentioned here, and an equation provided to derive it, however there is no definition of it that I can find, nor can I find where it is used.

SuggestedRemedy

Define and use IPDUT or delete it.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change Ln48, IPDUT to PPDUT and substitute elsewhere as needed.

Change EQ 33-9, units from A to W

PPDUT is defined on L48 and used in EQ 33-9.

Cl **33** *SC* **33.3.7.5** *P* **81** *L* **51** # 235

Law, David 3Com

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

There seems to be a problem with this equation, it states that IPDUT (in Amperes) is equal to PClass (in Watts) for Tovldmin <= t.

SuggestedRemedy

It would seem a division by a voltage is required to yield current.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 237

Cl **33** *SC* **33.3.7.5** *P* **82** *L* **9** # 164

Vetteth, Anoop Cisco

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

PSE TLIM_min is hard coded to 10ms.

SuggestedRemedy

Change this to Tlim min and reference Table 33-11

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the last sentence in 33.3.7.5 tp:

During PSE transient conditions in which the voltage at the PI is undergoing dynamic change, the PSE is responsible for limiting the transient current drawn by the PD for at least TLIM min as defined in Table 33-11.

Cl **33** *SC* **33.3.7.6** *P* **82** *L* **15** # 111

Schindler, Fred Cisco

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

This should point to 33.3.7.6.1.

SuggestedRemedy

Replace 33333 with 33.3.7.6.1.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 240

Cl **33** *SC* **33.3.7.6** *P* **82** *L* **15** # 240

Law, David 3Com

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

There seems to be a rather odd construct here with the shall statement that '.. PDs that do not meet the above requirements shall comply with the respective test cases in 33333.' Assuming that 33333 refers to 33.3.7.6.1 'Test cases' below, these test cases all contain should statements. So we have a shall (mandatory requirements) being applied to a set of shoulds (recommended that).

We should also be presenting these cases as specifications rather than compliance tests since this isn't a compliance test specification.

SuggestedRemedy

Decide if these should be shall or shoulds, I will assume they should be shalls. Based on this I would suggest the following reword:

33.3.7.6 PD behavior during transients at the PSE PI

A Type 1 PD with input capacitance of 180 µF or less requires no special considerations. A Type 2 PD with instantaneous power draw that does not exceed PClass_PD max and has an input capacitance of 180 µF or less requires no special considerations. Type 1 and Type 2 PDs that do not meet the above requirements shall comply with the following:

A Type 1 PD shall not exceed the PD upperbound template (see Figure 33-19) under worst case current draw when the input voltage at it's PI, sourced through a 20 Ohm resistance (see Figure 33-20), ramps from 44 V to 57 V at a 2250 V/s slew rate withe the current limited to ILIM (see equation 33-10).

A Type 2 PD shall ..

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Combine 33.3.7.6.1 into 33.3.7.6 and reword as follows. See also comment 111

33.3.7.6 PD behavior during transients at the PSE PI

A Type 1 PD with input capacitance of 180 µF or less requires no special considerations with regard to transients at the PD PI. A Type 2 PD with instantaneous power draw that does not exceed PClass_PD max and has an input capacitance of 180 µF or less requires no special considerations with regard to transients at the PD PI. PDs that do not meet these requirements shall comply with the following:

A Type 1 PD input current shall not exceed the PD upperbound template (see Figure 33-19) after TLIM_MIN (Table 33-11, type 1 PSE) when the following input voltage is applied. A current limited voltage source is applied to the PI through a 20 Ohm resistance. The current limit meets equation 33-10 and the voltage ramps from 44 V to 57 V at a 2250 V/s.

A Type 2 PD shall meet one of the following:

a) The PD input current spike shall not exceed 2.5 A and shall settle below the upperbound template (see Figure 33-19) within 4 ms. During this test, the PD MDI voltage is driven from 50 V to 52.5 V at greater than 3.5 V/µs, Rchannel = 1.5 O, and the source supports a current greater than 2.5 A.

b) The PD shall not exceed the PD upperbound template (see Figure 33-19) beyond TLIM_MIN under worst case current draw when tested as follows. The input voltage source drives the Vport_PD from 50 V to 56 V at a 2250 V/s slew rate, Rchannel = 12.5 O, and the voltage source limits the current to MDI ILIM per Equation (33-10).

Continue with equation 33-10 and the following text.

See 23, 56, 111, 165

Cl **33** *SC* **33.3.7.6** *P* **82** *L* **16** # 23

Darshan, Yair Microsemi Corporation

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

33333? error?

SuggestedRemedy

replace with 33.3.7.6.1

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 240

Cl **33** *SC* **33.3.7.6** *P* **82** *L* **16** # 56

Anslow, Peter Nortel Networks

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

The reference "shall comply with the respective test cases in 33333" does not point to a valid clause number

SuggestedRemedy

change to "shall comply with the respective test cases in 33.3.7.6.1" if this is the correct clause.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 240

Cl **33** *SC* **33.3.7.6.1** *P* **82** *L* **34** # 165

Vetteth, Anoop Cisco

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

Equation 33-10
For test cases 1 and 3 the MDI limits the current close to Ilim_min. The PD current draw will exceed the PD upper bound template for a short duration. The PD compliance should be checked only after Tlim_min

SuggestedRemedy

Change line 34 to:
"The PD current draw should not exceed the PD upperbound template (see Figure 33-19) beyond 50ms under worst case current draw."

Change line 39 to:
"The PD current draw should not exceed 2.5 A and should settle below the PD upperbound template (see Figure 33-19) within 4 ms."

Change line 44 to:
"The PD current draw should not exceed PD upperbound template (see Figure 33-19) beyond 10ms under worst case current draw."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 240

Cl **33** *SC* **33.4.4** *P* **87** *L* **45** # 114

Schindler, Fred Cisco

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

This specification ensures interoperability by specifying requirements for the MDI or PI.

The requirements for a PI are described. This automatically covers the requirements of a system with multiple PIs.

This comment elaborates on the D3.0 comment 532.

SuggestedRemedy

Strike the second last sentence.
"The magnitude of the common-mode AC voltage shall not exceed 50 mV peak-to-peak measured at all other PIs."

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.4.8.1.2** *P* **93** *L* **42** # 30

Darshan, Yair Microsemi Corporation

Comment Type **T** *Comment Status* **R**

Equation 33-15 can be simplified and be more realistic due to the following facts:
1. The insersion loss at 100MHz is 0.4dB per equation 33-15.
2. The insersion loss at 1MHz is 0.04dB per equation 33-15.
3. As long as the frequency going down the channel margins increase rapidly (more than 20dB margin at 1MHz..) so the worst case is 0.4dB which the channel has to tolerate and not 0.04dB..!!
As a result the definiton for the insersion loss can be 0.4dB max across the full frequency range.
Bottom line: 0.04dB vs >20dB margin... doesn't make sense.

SuggestedRemedy

Replace eq 33-15 with {ILconn}db=0.4

Response *Response Status* **C**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **33** *SC* **33.4.8.1.4** *P* **94** *L* **19** # 115

Schindler, Fred Cisco

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

Correct the typo, "Mispan."

SuggestedRemedy

Replace "Mispan" with "Midspan."

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.4.8.2** *P* **94** *L* **29** # 31

Darshan, Yair Microsemi Corporation

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

We need to discuss what to do with the 0 mA place holder for Ibias.

SuggestedRemedy

Option 1: Delete the zero
Option 2: Replace the 0 with 8mA

See attached presentation for the pro's and con's of the alternatives above.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 113

Cl **33** *SC* **33.4.8.2** *P* **94** *L* **29** # 113

Schindler, Fred Cisco

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

The transfer characteristic should be validated with all components of bias current present.

SuggestedRemedy

Change "(0 +Iunb/2) mA" to "(0.008 + Iunb/2)".

Note that Amperes are used.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Instruct the Editor to Modify Table 33-11, item 21, PSE type field, reference 33.2.9.13.

Add new line item 21, Max field “3% x Ipeak”, PSE type field, Type 2. Remove Type 2 from the preexisting item 21.

Cl **33** *SC* **33.4.8.2.1** *P* **94** *L* **38** # 32

Darshan, Yair Microsemi Corporation

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

There is error in the text regarding the point of where is Vin(f) compare to the Figure 33-28

SuggestedRemedy

Delete "...the test signal source." and replace it with "....Vin(f)"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete "...the test signal source." and replace it with "....the Midspan input."

Cl **33** *SC* **33.4.8.2.1** *P* **94** *L* **41** # 51

Darshan, Yair Microsemi Corporation

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

There are additional requirements that are critical to the accuracy of the measurements.
1. The test set up must be calibrated according to the following instructions in order to exclude its effects on the TF results.
1.1 Short RS and disconnect RL. (when measuring the TF connect RL and remove the short from RS.
2. The Midspan may not have common ground between Vin(f) to Vout(f) therefore Vout(f) outputs must be isolated from from the vin(f). See revised Figure 33-28 attached

SuggestedRemedy

1. Replace Figure 33-28 with the attached revision.
2. Add the following text after line 41 page 94:
"Aditional Information:
1. Terminal (a) should not be shorted to terminal (c) by the test setup or other equipment common ground otherwise Midspan PSE Transfer Function may be changed.
2. Terminal (b) should not be shorted to terminal (d) by the test setup or other equipment common ground otherwise Midspan PSE Transfer Function may be changed.
3. The Transfer Function Analyzer Equipment is an example of how equipment common ground can interfere with the test results and an example of how to isolate between Vout(f) to Vin(f) to prevent shorting (b) to (d) by the equipment.
4. Prior to Midspan Transfer Function measurements, the test setup must be calibrated (in order to have a total zero dB gain and zero Phase) together with the isolation device while RS is shorted and RL is disconnected. Calibration is done by shorting terminal (a) to (c) and (b) to (d). After calibration RS and RL should be used as ilustrated in Figure 33-28.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

fig 33-28, add a footnote:
Some test equipment may require isolation between ports.

Cl **33** *SC* **33.6** *P* **100** *L* **5** # 260

Finn, Norman — Cisco Systems

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

As mentioned in my comment #1 regarding interoperability between 802.1AB-2004 and 802.3at implementations of the Power TLVs, 802.1AB unfortunately failed to specify that all reserved fields in transmitted TLVs shall contain 0, and all reserved fields in received TLVs shall be ignored. This has the consequence of limiting the options for .1AB/.3at interoperability, now. This mistake should not be repeated.

SuggestedRemedy

State somewhere, either in 33.6 or in a subclause thereof, that all reserved fields in transmitted TLVs shall contain 0, and all reserved fields in received TLVs shall be ignored.

Response *Response Status* **C**

ACCEPT.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

Cl **33** *SC* **33.6.1** *P* **100** *L* **20** # 245

Anoop Vetteth

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

The 30s timing requiement is not required for this protocol since this is a default functionality in LLDP and is settable by upper layers.

SuggestedRemedy

Strike lines 20-23

Response *Response Status* **C**

ACCEPT.

Comment from Anoop Vetteth added by vote of the committee 16, 2, 2

Cl **33** *SC* **33.6.1** *P* **100** *L* **22** # 138

Vetteth, Anoop — Cisco

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

LLDPDU is not defined anywhere and I think this section is the right place for defining this.

SuggestedRemedy

Please define this.

Response *Response Status* **C**

ACCEPT.

Copy definition from 802.1ABRev

Cl **33** *SC* **33.6.1.1** *P* **84** *L* **33** # 6

Claseman, George — Micrel

Comment Type **T** *Comment Status* **R**

"Enable Data Link Layer Classification" (11.5) resides in the physical layer management registers. This function resides above the physical layer. For usage of this register set see 802.3 clause 22 section 22.2.4.

SuggestedRemedy

Remove this control from the physical layer control register.

Response *Response Status* **C**

REJECT.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

According to the PSE Physical Layer State diagram, Fig-33-9, if the PSE is DLL capable, it is enabled by the physical layer after power-ON. Table 33-21 is consistent with the state diagram. This signal can be considered as the signal from the physical layer to a higher layer so as to enable DLL.

Cl **33** *SC* **33.6.1.2** *P* **86** *L* **17** # 9

Claseman, George — Micrel

Comment Type **T** *Comment Status* **R**

Missing second classification event status. This most likely operates as an atomic operation from detection through power up / failure.

SuggestedRemedy

Either report the first and second classification events independently or indicate when they are not equal.

Response *Response Status* **C**

REJECT.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

According to Figure 33-10 if the two classification events return different values, classification fails and the PSE is mandated to return to Idle state. Hence 2 different class values is being treated as invalid class. Moreover the PD Class bits are valid only when the PSE is powering the PD (see 33.5.1.2.10). Putting these two together, the PSE cannot be powering a PD if it returns two different class values. Hence the condition described in the comment does not exist.

Cl **33** *SC* **33.6.1.2** *P* **86** *L* **21** # 7

Claseman, George Micrel

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

"Data Link Layer Classification Supported" (12.14) resides in the physical layer management registers. This function resides above the physical layer. For usage of this register set see 802.3 clause 22 section 22.2.4.

SuggestedRemedy

Remove this status from the physical layer control register.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

It is not the physical layer which determines if the system supports DLL or not. Remove 12.14 from table 33-22

Cl **33** *SC* **33.6.1.2** *P* **86** *L* **23** # 8

Claseman, George Micrel

Comment Type **T** *Comment Status* **R**

"Physical Layer Classification Supported" (12.13) is redundant. Knowledge of this can be discovered through toggling the control bit (11.4).

SuggestedRemedy

Remove redundancy.

Response *Response Status* **C**

REJECT.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

11.4 is linked to 12.13 (See 33.5.1.1.2). 12.13 is the knob for enable/disable based on 11.4 (whether physical layer classification is supported or not). May not be desireable to enable at any particular point in time making the proposed test inappropriate.

Cl **33** *SC* **33.6.2** *P* **100** *L* **30** # 126

Vetteth, Anoop Cisco

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

Fig 33-29
The demarker between TLV header and TLV information string is in the middle of a field.

SuggestedRemedy

Fix this

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.6.2** *P* **100** *L* **48** # 251

Finn, Norman — Cisco Systems

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

The goals of protocol revision control are:

1. To allow new versions of the protocol to be introduced without requiring all communicating systems to be upgraded simultaneously.

2. To leave no ambiguities in the proper behavior of systems when implementations supporting different versions communicate.

3. To never require an implementation to transmit multiple versions of the same PDU.

(See IEEE 802.1ag-2007 subclause 20.46 for a full explanation of a set of techniques that meet these goals.)

The cited paragraph satisfies 3, at the (unacceptable) cost of violating one or both of the first two.

Unless the TG is very confident that the IEEE 802.1AB-2005 power TLV was not implemented, interoperability with systems that only know the old TLV is important.

The new power TLV seems to supersede the old power TLV in Draft 3.1. The paragraph at line 48 states that, "when the DTE Power via MDI classification TLV is being transmitted, the Power via MDI TLV shall not be transmitted." This statement makes the protocol unusable, because there is no means specified for a system to decide which TLV to transmit. The choice cannot be left as an exercise by the implementor, or interoperability will suffer. So, what obvious choices are possible?

Something fairly simple, like "Start sending the new, switch to the old if you receive the old" does not work. To see why, consider the case of a PD with software in ROM that knows the old TLV. Suppose that after booting, it downloads software that knows the new TLV. Since the PSE doesn't know about the reboot, it is very easy to get into a mode where the two devices exchange LLDPDUs more or less simultaneously, forever out of sync as to which TLV to use.

As pointed out in the text, sending both TLVs is not a good option, because it is wasteful of a very scarce resource (LLDPDU TLV space), especially for IP telephones.

The trivial choice of configuring which TLV to send is unacceptable. LLDP is a discovery protocol. Requiring proper configuration at both ends in order for LLDP to perform correctly is a fundamental violation of its reason for existing.

SuggestedRemedy

The usual 802.1 plan, which would simply extend the existing TLV, is one option. This solution places all of the new information immediately following the old information, using the old TLV's subtype. The total length of the Value part of the TLV is then the sum of the old and new Value lengths. A new implementation sends both kinds of information, but listens to only the new information. An old implementation, of course, pays attention to only the old information.

This solution will work, because 802.1AB-2005 subclause 10.3.2.1 point b requires old implementations to ingore the extra bytes in the TLV that carry the new information. This solution would have extra bytes in the TLV, but it interoperates correctly, and requires no extra state machines.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

Agree to append the new information to the existing TLV
Put a statement that if you happen to a legacy and enhanced at the same time, the behavior is undefined
investigate the ability to run the new state machine from the legacy TLV

look at the resolution for guidance.
See #14

Cl **33** *SC* **33.6.2** *P* **103** *L* **38** # 104

sastry, ramesh — Cisco Systems

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

The PD model number does not have to be transported in every TLV.

SuggestedRemedy

This information should be part of the PD MIB.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE #241

Cl **33** *SC* **33.6.2.1** *P* **101** *L* **26** # 102

sastry, ramesh Cisco Systems

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

We need to add the following text for the Sleep mode, which the task force has agreed to support in the Denver meeting. Use one of the reserved bits Bit Field [2] for the Sleep Mode and modify the contents of the Table 33-23 from line 26 onwards as follows.

SuggestedRemedy

New Text
3 - reserved
2 - Sleep Mode
0 = PD is not in the sleep mode
1 = PD is in the Sleep mode

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 245

Cl **33** *SC* **33.6.2.1** *P* **101** *L* **36** # 250

Finn, Norman Cisco Systems

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

This field and the Loss of communication field (33.6.2.4, p103, line 10) should be combined. There is no need for wasting bits, because the TLV size can be increased in future revisions of the standard. (Old implementations are required to not care if extra bytes are added to a TLV by a new rev of the standard.)

SuggestedRemedy

Delete the Loss of communication field. Place the loss of communication bit in bit 3 (or bit 2) of the Power type/source/priority field. (This comment is simplified if either the loss of communication field is deleted, or is irrelevant, if the loss of communication field is changed from a bit to a counter.)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

See #246

get rid of loss of communication bit in the TLV and mgmt.

Cl **33** *SC* **33.6.2.1.2** *P* **101** *L* **42** # 103

sastry, ramesh Cisco Systems

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

Add the following text for the Sleep mode in PD's after line 45

SuggestedRemedy

Sleep Mode

The sleep mode is defined only for the PD. The PD enters the sleep mode for power conservation purposes, in which case, the LLDP state machine in the PD may be non operational. The PD enters the sleep mode by sending the TLV with the Sleep Mode bit asserted as mentioned in the Table 33-22 .

The PD shall use the TTL timer to enter the desired sleep interval. The PD will stop sending the advertise TLVs, once in every 30sec, and will also ignore all the advertise TLV's which it receives from the PSE. If the PD wants to extend sleep interval for more than maximum TTL timer interval, it shall wake up from sleep and shall do the MIB update in the PSE, before the TTL expires and return to sleep again. The PD shall reset the Sleep Mode bit when it wants to wake up.

When the PSE recognizes that the PD is entering the sleep mode the PSE shall stop sending the advertisement TLV's to the sleeping PD and shall adjust its TTL timer value to the maximum interval. The LLDP module in the PSE should recognise any incoming TLV from the PD to recognize the wake up event.

The Sleep Mode bit in the TLV generated by the PSE is ignored by the PD.

If the PD remains in the Sleep Mode for more than TTL duration the MIB update process is incomplete and all the PSE MIB data will be lost.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 245

Refer to comments on timer as well.

Can make the text simpler and capture the commenters intent, specifically that the PD defines the time it wants to sleep by setting the bit and the TTL. (the rest is informative)

Cl **33** *SC* **33.6.2.2** *P* **102** *L* **20** # 127

Vetteth, Anoop Cisco

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

Lines 20-22
The second sentence is not fully correct. The PSE estimates the channel loss but channel loss is not included in the PSE allocated value.

SuggestedRemedy

Change the second sentence to:
The PSE is therefore responsible for estimating and provisioning for the channel loss.

Move lines 20-22 to the end of the section. I think it would be better to discuss PD requested power details after defining it. The last paragraph in the section defines this field.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 128

Cl **33** *SC* **33.6.2.2** *P* **102** *L* **24** # 128

Vetteth, Anoop Cisco

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

Lines 24-27
There is nothing wrong here. it just gives the reader the feeling that the field means different for the PD and PSE. This used to be correct when the PSE and PD were not speaking the PD PI power value. We can do better now

SuggestedRemedy

change lines 24-27 to:
"PD requested power value" is the maximum input average power (see 33.3.7.2) the PD wants to draw. The PSE uses this value to compute the power that it allocates to the PD.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

"PD requested power value" is the maximum input average power (see 33.3.7.2) the PD wants to draw. "PD requested power value" is the power at the input of the PD's PI.

Cl **33** *SC* **33.6.2.3** *P* **102** *L* **29** # 139

Vetteth, Anoop Cisco

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

The format of this section should be similar to the previous section for consistency.

SuggestedRemedy

Start the section with:
The PSE allocated power value field shall contain the PSE's allocated power value defined in Table 33-25.
Then provide Table 33-25 and Eq 33-18

Followed by:

"PSE allocated power value" is the maximum input average power (see 33.3.7.2) the PSE expects the PD to ever draw. he PD uses this value to determine the maximum input average power that the PD can draw.

This power is always the power at the input of the PD's PI, and so does not include channel losses. The minimum power level supported at the PSE PI is the sum of "PSE allocated power value" and the estimated cable loss

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

The PSE allocated power value field shall contain the PSE's allocated power value defined in Table 33-25.
Then provide Table 33-25 and Eq 33-18

Followed by:

"PSE allocated power value" is the maximum input average power (see 33.3.7.2) the PSE expects the PD to ever draw. "PSE allocated power value" is the power at the input of the PD's PI. The PSE uses this value to compute Pclass as defined in section 33.2.8.

Cl **33** *SC* **33.6.2.4** *P* **103** *L* **12** # 261

Finn, Norman — Cisco Systems

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

The loss of communication bit seems unnecessary, because the PSE or PD should not need to know whether the other side sees their LLDPDUs and/or power TLVs.

If the PD's LLDPDUs are not being received by the PSE, then the PSE's transmitted allocated power value field will not change from its last value, whether that came from a received LLDPDU or from the hardware negotiation.

If the PSE's LLDPDUs are not being received by the PD, then the allocated power value field transmitted by the PD will not change from its last value, whether that came from a received LLDPDU or from the PD's knowledge of its hardware-requested power level.

Defining the use of the fields in this way, and particularly their initial values (obtained from the hardware negotiation), eliminates much of the complexity of the state machines in Figure 33-30 and 33-31, and elminiates the need either for a loss of communication bit, loss of communication state variables.

Note that, as mentioned in my Comment #6, resetting a brain dead PD can be done by detecting the reception, followed by the loss of reception, of the PD's LLDP PDUs (not the power negotiation TLV). That still does not require the loss of communication field in the TLV, nor for that matter, does it need to be a feature of 803.3at.

SuggestedRemedy

Make the suggested changes.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

obe #246

Cl **33** *SC* **33.6.2.4** *P* **103** *L* **3** # 257

Finn, Norman — Cisco Systems

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

The phrase, "the device believes it has lost communication with the far end" lacks sufficient precision to implement interoperably. Perhaps the correct phrase is, "loss_of_comms = FALSE".

SuggestedRemedy

Provide a precise definition in terms of state machine variables and/or attributes. (Better yet, delete the notion of loss of communication. See my Comment #15.)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

obe #246

Cl **33** *SC* **33.6.2.5** *P* **103** *L* **14** # 241

Law, David — 3Com

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

Both Reduced operation PD power value field and the PD model number are static and therfore should be moved the the MIB.

SuggestedRemedy

Place Reduced operation PD power value field and the PD model number in MIB and delete from TLV.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.6.2.5** *P* **103** *L* **14** # 146

Vetteth, Anoop — Cisco

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

Reduced operation PD power value field is something that does not change with time. It makes sense to make this as a MIB variable and not define it as a TLV field.

SuggestedRemedy

Strike this section and reflect the change on the TLV format in figure 33-29

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE #241

Cl **33** *SC* **33.6.2.5** *P* **103** *L* **24** # 129

Vetteth, Anoop Cisco

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

FFFF is not a word or a value.

SuggestedRemedy

Change it to hex format : 0xFFFF

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.6.2.6** *P* **103** *L* **25** # 252

Finn, Norman Cisco Systems

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

The PD model number field as defined in 33.6.2.6 is neither necessary, sufficient, safe, nor in practice, useful, to accomplish any purpose suggested by the text or by the name of the field.

The field is not necessary, because TIA T.R. 41 LLDP-MED standard defines a globally unique vendor / model number combination. The LLDP-MED has the same uniqueness properties as the one defined by subclause 30.9.2.1.14. Furthermore, the uses of a system's model number are not correlated with PSE/PD power. The model number may or may not be of utility to power negotiation (see below, "useful"). The model number may well be of utility beyond power negotiation, e.g. for selecting the right icon in a management display. In addition, the PSE's model number can be equally informative to the PD.

The two-byte field is not sufficient, because there is no means specified for determining the "implementor" that defines the meaning of the PD model number field. As mentioned in the note in 33.6.2.6, two different implementors can use the same PD model number, with totally different meanings behind those numbers. This makes interoperable use of this field, based on this standard alone, impossible.

The 2-byte field is not safe, in that one company could deliberately choose to use a model number that conflicts with another company's number, in order to inhibit interoperability and/or initiate legal battles. The large, globally unique field is not safe because the standard does not define how the receiving side is to use the field. In the absence of that definition, a vendor could define its use, protect that use via patents, and claim that use is both conformant to the standard, and not covered by the fair and non-descriminatory rules of the IEEE 802 patent policy.

The field is not practically useful, in that the introduction of any new model powered device to a network requires the updating of the PSEs' PD model number tables. While the updating of the PSEs is typically managed by the network administrators, the addition of PDs can be almost entirely out of control. Many of the members of 802.3 are familiar, as consumers, with the problem of home electronics devices purchased after the purchase of a "universal remote controller" containing an out-of-date list of other vendors' model numbers.

To sum up, the 2-byte field defined in 33.6.2.6 is clearly broken, and must be removed. A large field containing the model number defined in 30.9.2.1.14 is not related solely to power negotiation, is redundant to that specified by TR41, has insufficient semantics to supply interoperability, amd so should be removed.

SuggestedRemedy

Two possible remedies:

1. Delete the PD model number field from the TLV.

2. Update Figure 33-29 and 33.6.2.2 to agree with the text of 30.9.2.1.14, which defines a

globally unique model number, send the system's model number, whether a PSE or a PD, and define *exactly* how it is used on the receiving end.

Either remedy will satisfy this comment, but I much prefer #1. The LLDP-MED model number is still available for those who want to use it for proprietary purposes.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

OBE, performed action of 246

Cl **33** *SC* **33.6.2.6** *P* **103** *L* **25** # 147

Vetteth, Anoop Cisco

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

PD model number field is something that does not change with time. It makes sense to make this as a MIB variable and not define it as a TLV field.

SuggestedRemedy

Strike this section and reflect the change on the TLV format in figure 33-29

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE #241

Cl **33** *SC* **33.6.5** *P* **104** *L* **15** # 130

Vetteth, Anoop Cisco

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

It is not clear who is sending the LLDPDU in each of the cases.

Rewrite for clarity

SuggestedRemedy

Lines 15-18
A PSE shall send an LLDPDU containing a DTE Power via MDI classification TLV within 10 seconds of Data Link Layer classification being enabled in the PSE as indicated by the variable pse_dll_enabled (33.2.4.4, 33.6.6.2).

Lines 19-22
A PD shall send an LLDPDU containing a DTE Power via MDI classification TLV within 5 minutes of Data Link Layer classification being enabled in the PD as indicated by the variable pd_dll_enabled (33.3.3.3, 33.6.6.2) if the pse_power_type (33.3.3.3) variable is set to 2 and the PD power draw exceeds 12.95 W.

Line 26
.... shall be sent by the PSE within 10 seconds ...

Line 31
.... shall be sent by the PD within 10 seconds .....

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE by motion
See vetteth_2_0809.pdf

Cl **33** *SC* **33.6.5** *P* **104** *L* **20** # 202

Diab, Wael — Broadcom

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

The current sequencing for the PD's DLL engine has a bug which would allow a Type 2 midspan to trigger the PD to send L2 packets to a switch from bootup despite the fact that there is nothing on the other side. This can be remedied as described below without losing the mutual-identification aspect and preserving the intended timing as well as the keep alive nature of the protocol.

SuggestedRemedy

Please add the following text:
"and receiving an LLDP packet from the PSE"

after the following existing text:

"Link Layer classification being enabled in a PD as indicated by the variable pd_dll_enabled (33.3.3.3, 33.6.6.2)"

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

See vetteth_2_0809.pdf

Cl **33** *SC* **33.6.5** *P* **104** *L* **22** # 203

Diab, Wael — Broadcom

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

We have allowed Type 1 PDs to do DLL, hence the startup procedure should be defined independent of the PD Type. The current definition leaves it ambigious for Type 1 PDs capable of L2.

SuggestedRemedy

Strike

"if the pse_power_type (33.3.3.3) variable is set to 2 and the power draw exceeds 12.95 W."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE by motion
See vetteth_2_0809.pdf

Cl **33** *SC* **33.6.6.2** *P* **104** *L* **49** # 140

Vetteth, Anoop — Cisco

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

We are missing the definition of some constants that we use in the state diagram.
PD_INITIAL_VALUE
PSE_INITIAL_VALUE

SuggestedRemedy

Add new section in between the present Section 33.6.6.1 and 33.6.6.2 and name it constants. Refer to attachment avetteth_L2_constants.pdf for details regarding the constants.

Change PD_INITIAL_VALUE in state INITIALIZE state of PSE state diagram 33-30 from PD_INITIAL_VALUE to PSE_INITIAL_VALUE

Response *Response Status* **C**

ACCEPT.

Review contribution and distill specific change instructions for the editor

Cl **33** *SC* **33.6.6.2** *P* **105** *L* **17** # 33

Darshan, Yair — Microsemi Corporation

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

Draft D3.1:

According to the text in Draft D3.1 and previous versions of it, a Type 1 PD is a PD that may consume up to 12.95W and a Type 2 PD may consume up to 25.5W.
Actually a Type 1 PD that requires more then 12.95W is not compliant to the standard.

The problem is that in the state diagrams of the PSE and PD there is no mechanism to enforce this requirement.

Due to the fact that the state diagram take precedence over the text, it is important to include the following requirement in the state diagram:
"If a Type 1 PD is connected to Type 2 PSE and the PD requires more than 12.95W by using L2 or other means, the PSE will remove power from the port."

Failing to take care of the above concern will create interoperability issues when such PD connected to Midspan PSE which can not support L2.
In addition, per Chad's and others rational on preventing miss behaviour, failing to include such prevention in the state diagram will encourage non compliant solutions.

SuggestedRemedy

Replace PDRequestedPowerValue variable values from:
"Values: 0 through 295"

To:

Values: 0 through 130 for Type 1 PD.
0 through 295 for Type 2 PD.

Scan the draft and correct all other relevant variables that present the "Value 0 through 295" text.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Replace PDRequestedPowerValue variable values from:
"Values: 0 through 295"

To:

Values: 0 through 255 in six places on pg 105

Scan the draft and correct all other relevant variables that present the "Value 0 through 255" text.

See #52

Cl **33** *SC* **33.6.6.2** *P* **105** *L* **2** # 141

Vetteth, Anoop — Cisco

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

EchoedPSEAllocatedPowerValue is a copy of PSEAllocatedPowerValue not PDRequestedPowerValue

SuggestedRemedy

Fix this typo

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.6.6.2** *P* **105** *L* **21** # 52

Darshan, Yair — Microsemi Corporation

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

Type 1 and Type 2 PDs can use L2 classification.
The variable values can be 0 to 295 which is incorrect for Type 1 PD.

SuggestedRemedy

1. Change from "Values: 0 through 295"
to:
Values: 0 to 130 for Type 1 PD.
0 to 295 for Type 2 PSE.

2. Scan all similar incidents and replace with the above.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 33

Cl **33** *SC* **33.6.6.5** *P* **107** *L* **22** # 226

Law, David — 3Com

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

The variable 'remove_power' in the REMOVE POWER state should be removePower.

SuggestedRemedy

See comment.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

remove_power will be used

Cl **33** *SC* **33.6.6.5** *P* **108** *L* **32** # 142

Vetteth, Anoop Cisco

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

Typo when copied from the baseline that was adopted in Denver

In the PD POWER REQUEST state the SM assigns TempVar to PDRequestedPowerValue. Actually PD_NEW_VALUE should be assigned to PDRequestedPowerValue.

SuggestedRemedy

Change assignment to:
PDRequestedPowerValue <= PD_NEW_VALUE

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change assignment to:
PDRequestedPowerValue <= PD_New_Value

global replace PD_NEW_VALUE to PD_New_Value.

global replace PSE_NEW_VALUE to PSE_New_Value.

Cl **33** *SC* **33.6.7.2** *P* **109** *L* **41** # 131

Vetteth, Anoop Cisco

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

Change second sentence to be consistent with previous section.

SuggestedRemedy

Change second sentence of section 33.6.7.2 to:

If the PD sees a change to the previously stored ReceivedPSEAllocatedPowerValue or local_system_change is asserted by the PD so as to change its power allocation,, it enters the PD POWER REVIEW state.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

If the PD sees a change to the previously stored ReceivedPSEAllocatedPowerValue or local_system_change is asserted by the PD so as to change its power allocation, it enters the PD POWER REVIEW state.

Cl **33** *SC* **33.6.7.2** *P* **109** *L* **47** # 143

Vetteth, Anoop Cisco

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

typo with MirrorPSEAllocatedPowerValue

SuggestedRemedy

change to MirroredPSEAllocatedPowerValue

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.6.7.2** *P* **109** *L* **50** # 132

Vetteth, Anoop Cisco

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

information conveyed by the second paragraph in section 33.6.7.2 is already covered by the first paragraph

SuggestedRemedy

Delete second paragraph.

Add a new second paragraph:
At any time, if the conditions of a loss of communication are met (see 33.7), the PD enters the LOSS OF COMMUNICATIONS state.

Add reference to 33.7 in a similar way to the PSE section 33.6.7.1 also

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE NF#1

Cl **33** *SC* **33.6.8** *P* **110** *L* **5** # 144

Vetteth, Anoop Cisco

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

Section 33.6.8 is not a representative of the present L2 mechanism

SuggestedRemedy

Remove the section

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.7** *P* **111** *L* **1** # 247

Finn, Norman — Cisco Systems

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

"Loss of management frame communication" is an unfortunate choice of words. The term, "management frame" could cover a very large territory, including:

* SNMP over UDP over IP management queries and responses.

* Bridge Protocol Data Units (BPDUs)

The proper term is either, "LLDPDUs" as defined in 802.1AB, or "DTE Power via MDI classification TLVs".

SuggestedRemedy

Replace "management frame" with "LLDPDU". See also my Comment 15. Changing it to "DTE Power via MDI classification TLVs" would be done only if my Comment 6 is rejected.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

OBE #246

Cl **33** *SC* **33.7** *P* **111** *L* **1** # 145

Vetteth, Anoop — Cisco

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

Rewrite the section to match the state diagram and to show what happens to the MIB variables. Update the definition of the MIB variables. There are a lot of inconsistencies with loss of communication.

Also, the 5 minute time after which the PSE can revert back to Class 0 power when it does not see a LLDPDU packet from the PD should reside in section 33.6.5

SuggestedRemedy

Please see avetteth_loss_comms.pdf for suggested remedy

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

see 246 which deleted the section

for T33-29 needs to be updated to capture all the relevant state variables, Anoop to supply to editor.

Cl **33** *SC* **33.7** *P* **111** *L* **16** # 246

Finn, Norman — Cisco Systems

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

The statement, "If a loss of management frame communication is asserted and persists for a time duration ..., a PSE may remove power." is semantically equivalent to, "A PD shall transmit LLDPDUs containing the DTE Power via MDI classification TLV forever." This appears at first glance to be in direct conflict with subclause 33.6, which states that, "Type 2 PDs that require more than 12.95 W must support Data Link Layer classification (see 33.3.5). Data Link Layer classification is optional for all other devices." If a PSE implementation takes advantage of the "may" and requires LLDP, and a PD implementation takes advantage of the "optional" and is unable to send them, then those two standard-conformant devices are non-interoperable.

It is possible (I have not participated in the debates in the TG) that the intention of the "may" in 33.7 and the variable pse_power_cycles that controls it is to reset a PD that has gone "brain dead", and that the even occurs only if the PD a) transmits LLDP + Power TLV, and then b) stops. In that case, the "may" in 33.7 still seems inappropriate; the operator "can" set pse_power_cycles either to true or to false, in which case the implementation "shall" do whatever the state machines say to do, given the state of pse_power_cycles. At least, in 802.1 parlance, "may" is reserved for an implementation decision, made perhaps via outside-the-standard controls.

In this latter case, the detection of loss of connection (but not the loss of connection field in the TLV) is useful, and should be retained, in spite of my Comment #15.

SuggestedRemedy

Pick one:

1. Make it clear that pse_power_cycles is intended to turn on "reset on brain death" mode in the PSE, and preferably, point out that this reset is not triggered if the PD never sends LLDP. Definitely point out that a management action on the PD to turn off LLDP can result in the PSE removing power and thus resetting the device. (In which case, this is largely an Editorial, instead of Technical, comment.)

2. Remove permission for the PSE to remove power if a loss of management frame communication is asserted from 33.7.

See also my Comment 15.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

delete section 33.7

Cl **33** *SC* **33.7** *P* **111** *L* **3** # 254

Finn, Norman — Cisco Systems

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

No initial value for the loss of communications field is defined. No means of specifying when or how it is reset is defined.

SuggestedRemedy

Either:

1. Define the bit's initial value, specify when to reset it, and specify how it is used in the receivers' state machines. (I suspect this is a matter of specifying the relationship between the variable "loss_of_comms" and the transmitted field value.)

2. Delete the loss of communication bit from the TLV.

I prefer solution 2. Note that deleting the bit from the TLV does not in iteself require deleting the notion of loss of communication from the state machines. (But see also my Comment #15.)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

obe #246

Cl **33** *SC* **33.7** *P* **111** *L* **3** # 258

Finn, Norman — Cisco Systems

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

No distinction is made between loss of LLDPDUs and loss of the DTE Power via MDI classification TLV in those LLDPDUs. The assumption seems to be made that, if loss_of_comms is true (meaning that the LLDPDUs are being received) that the DTE Power via MDI classification TLV is being received. That is not a valid assumption.

If my other comments are accepted, only the loss of LLDPDUs is relevant, and only for resetting a brain-dead PD. See my Comment #6.

SuggestedRemedy

Describe what happens when the DTE Power via MDI classification TLV is gained or lost, perhaps by including lack of the DTE Power via MDI classification TLV in "loss of management frames", or perhaps by distinguishing the two events. See also my comments 6 and 15.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

obe #246

Cl **33** *SC* **33.7** *P* **89** *L* **1** # 1

Claseman, George — Micrel

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

"Data Link Layer classification". This is more of a remote power management function.

SuggestedRemedy

Change to "Data Link Layer Remote Power Management" or some other such wording to indicate what this actually does.

Response *Response Status* **C**

REJECT.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

Within the context of our draft we have two types of classification. Management has a specific meaning within the context of 802.3

Cl **33** *SC* **33.7.6.2** *P* **94** *L* **16** # 5

Claseman, George Micrel

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

The PD_INITIAL_VALUE for class 4 is 295. The agreement in March was to make this 246 based on loop resistance and thermal considerations.

SuggestedRemedy

Change from 295 to 246.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

OBE in the Draft 3.1

Cl **33** *SC* **33.7.6.2** *P* **94** *L* **8** # 4

Claseman, George Micrel

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

The PSE_INITIAL_VALUE for class 4 is 295. The agreement in March was to make this 246 based on loop resistance and thermal considerations.

SuggestedRemedy

Change from 295 to 246.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

OBE in the Draft 3.1

Cl **33** *SC* **33.7.6.5** *P* **96** *L* **23** # 10

Claseman, George Micrel

Comment Type **T** *Comment Status* **R**

No exit from LOSS OF COMMUNICATIONS state. This should likely go back to the start (INITIALIZE).

SuggestedRemedy

Reinitialize state machine in figure 33-27 when there is a loss of communication.

Response *Response Status* **C**

REJECT.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

The systems are required to continue working using the last classified state when there is a loss in communication. This is broken if you reinitialize the state machine when there is a loss in communication

Cl **33** *SC* **33.7.6.5** *P* **96** *L* **46** # 12

Claseman, George Micrel

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

WAIT FOR REMOTE may hang waiting for a remote state change.

SuggestedRemedy

Add a timer to escape this condition.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

OBE in the Draft 3.1

Cl **33** *SC* **33.7.6.5** *P* **96** *L* **6** # 14

Claseman, George Micrel

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

There appears to not be a consideration for how the parent 802.1AB machine is running or whether it becomes disabled. Note that 802.1AB can independently enable the TX and RX paths.

SuggestedRemedy

Add conditions for parent machine faults or state changes.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

OBE in the Draft 3.1

Cl **33** *SC* **33.7.6.5** *P* **96** *L* **7** # 2

Claseman, George Micrel

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

The state machine terminology is inconsistent in clause 33.

SuggestedRemedy

Have the state machine in figure 33-27 follow the same methods as figure 33-9.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

OBE in the Draft 3.1

Cl **33** *SC* **33.7.6.5** *P* **97** *L* **17** # 11

Claseman, George Micrel

Comment Type **T** *Comment Status* **R**

LOSS OF COMMUNICATION should exit back to INITIALIZE where states are reset.

SuggestedRemedy

Reinitialize state machine in figure 33-27 when there is a loss of communication.

Response *Response Status* **C**

REJECT.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

The systems are required to continue working using the last classified state when there is a loss in communication. This is broken if you reinitialize the state machine when there is a loss in communication

Cl **33** *SC* **33.7.6.5** *P* **97** *L* **3** # 15

Claseman, George Micrel

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

There appears to not be a consideration for how the parent 802.1AB machine is running or whether it becomes disabled. Note that 802.1AB can independently enable the TX and RX paths.

SuggestedRemedy

Add conditions for parent machine faults or state changes.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

OBE in the Draft 3.1

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

Claseman, George Micrel

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

The state machine terminology is inconsistent in clause 33.

SuggestedRemedy

Have the state machine in figure 33-28 follow the same methods as figure 33-9.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

OBE in the Draft 3.1

Cl **33** *SC* **33.7.6.5** *P* **97** *L* **41** # 13

Claseman, George Micrel

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

WAIT FOR REMOTE may hang waiting for a remote state change.

SuggestedRemedy

Add a timer to escape this condition.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

This is a comment against D3.0 that was correctly submitted but mistakenly left out of the comment DB.

OBE in the Draft 3.1

Cl **33** *SC* **33.8.1** *P* **112** *L* **5** # 57

Anslow, Peter Nortel Networks

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

This says "All equipment meeting this standard shall conform to IEC 60950-1:2001."
1) why the 2001 version of IEC 60950-1 rather than the more recent 2005 version?
2) this would be better worded as "All equipment subject to this clause shall conform to IEC 60950-1"

SuggestedRemedy

change to "All equipment subject to this clause shall conform to IEC 60950-1."

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

1) This has been carefully worded to reference a specific version of the spec containing the desired conformance tests.
IEC 60950-1:2001 is the most recent version that has been evaluated to meet our objectives.

2) Change to "All equipment subject to this clause…"

Cl **33** *SC* **33.8.5** *P* **112** *L* **44** # 220

Law, David 3Com

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

While this subclause existed in IEEE Std 802.3af it seems odd to place it under subclause 33.8 'Environmental' - further it states that 'The resistance unbalance shall be ..', the resistance unbalance of what shall be, I assume the cabling. Finally - what value does it need to be less than - there is a parenthetical 'reference: 3 percent' but there is no indication this is the value that should be met - nor is there any indication that the unbalance needs to be more or less than this value.

As this an additional requirement on the cabling above the base cable specification (UTP per Clause 14 and ISO/IEC 11801:1995) it should be specified in the same way as we have done for loop resistance in subclause 33.1.4.1 and cable derating in subclause 33.1.4.2. Advice, which is currently absent, should also be provided as to which specification if met will provide conformance to this requirement.

SuggestedRemedy

[1] Delete subclause 33.8.5

[2] Add new subclause 33.1.4.3 which reads as follows:

33.1.4.3 Type 1 and Type 2 cabling requirements

Type 1 and Type 2 operation requires that the resistance unbalance shall be 3% or less. Resistance unbalance is a measure of the difference in resistance between the two conductors in the 100 Ohm balanced cabling system. Resistance unbalance is defined as: [move equation 33-19 to here]. This requirement is met by ISO/IEC 11801:2002 cabling.

[3] Add 33.1.4.3 to the list found in the Minimum cable type row / additional information column of Table 33-1.

Response *Response Status* **C**

ACCEPT.

Cl **33** *SC* **33.8.5** *P* **112** *L* **46** # 219

Law, David 3Com

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

If my comment to delete this subclause is not accepted then the references have some issues:

[1] The reference 'IEC 11801 Edition 2' isn't the correct format and doesn't appear in the normative reference subclause 1.3.
[2] The reference IEC 61156-1 doesn't appear in the list of normative reference found in subclause 1.3 and doesn't add anything as the equation provided is the one we are going to use regardless of the source.

SuggestedRemedy

[1] Change 'IEC 11801 Edition 2' to read 'ISO/IEC 11801:2002'.
[2] Change the text 'as defined in IEC 61156-1 is' to read 'is defined as:'

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

OBE 220

Cl **33** *SC* **Figure 33-30** *P* **107** *L* **11** # 253

Finn, Norman Cisco Systems

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

Neither "loss_bit" nor "LOSS" is defined in this document. Same problem in Figure 33-31, p108, line 9. Does "TRUE" in Figure 33-31 mean the same as "LOSS" in Figure 33-30?

SuggestedRemedy

Either change the state machine diagram to reflect the proper variable and value, or define "loss_bit" and "LOSS". (Better yet, follow my comment #15 and delete loss of communication detection.)

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

obe #246

Cl **33** *SC* **Table 33-29** *P* **106** *L* **27** # 256

Finn, Norman
Cisco Systems

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

Table 33-29 is nowhere referenced in the text. More specifically, the mapping from the attributes aMirroredLostCommunication and aLostCommunication, both of which are counters, to the variable loss_of_comms, which is a Boolean, is not defined. Given that loss_of_comms is reset by the state machines, it is not clear how this mapping would work.

SuggestedRemedy

Define the mapping of aMirroredLostCommunication and aLostCommunication to loss_of_comms, including additional state machines and/or variables, if required. See also my Comment #15.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

While this comment was received late, it was considered by motion of the Task Force. The following is the response:

obe #246