Cl **1**   *SC* **1.4.338**   *P* **24**   *L* **41**   # r01-3

Anslow, Peter   Ciena Corporation

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

Comment i-2 was accepted in principle, but the change to the base text of 1.4.338 has not been done correctly.

When an amendment changes text that has already been changed by a prior amendment, the base text for the second amendment is the text as amended by the first amendment. This text is therefore shown without underline or strikethrough font. The only text in underline or strikethrough font is for changes being made by this amendment, not for changes already made by IEEE Std 802.3bu-2016.

SuggestedRemedy

Replace the current text of 1.4.338 with:

A DTE or midspan device that provides the power to a single link section. PSEs are defined for use with two different types of balanced twisted-pair PHYs. When used with 2 or 4 pair balanced twisted-pair (BASE-T) PHYs, (see IEEE Std 802.3, Clause 33<u> or Clause 145</u>), DTE powering is intended to provide a single 10BASE-T, 100BASE-TX, <s> or </s>1000BASE-T<u>, 2.5GBASE-T, 5GBASE-T, or 10GBASE-T</u> device with a unified interface for both the data it requires and the power to process these data. When used with single balanced twisted-pair (BASE-T1) PHYs (see IEEE Std 802.3, Clause 104), DTE powering is intended to provide a single 100BASE-T1 or 1000BASE-T1 device with a unified interface for both the data it requires and the power to process these data. A PSE used with balanced single twisted-pair PHYs is also referred to as a PoDL PSE.

<u>A DTE Power over Ethernet (Clause 33 and Clause 145) device that provides the power to a single link section. Power over Ethernet is intended to provide a single 10BASE-T, 100BASE-TX, 1000BASE-T, 2.5GBASE-T, 5GBASE-T, or 10GBASE-T device with a unified interface for both the data it requires and the power to process these data.</u>

Where <u> and </u> denote the start and end of underline font and <s> and </s> denote the start and end of strikethrough font.

Response   *Response Status* **W**

ACCEPT IN PRINCIPLE.

Change definition to:
"1.4.338 Power Sourcing Equipment (PSE): A DTE or midspan device that provides the power to a single link section. PSEs are defined for use with two different types of balanced twisted-pair PHYs. When used with 2 or 4 pair balanced twisted-pair (BASE-T) PHYs, see IEEE Std 802.3, Clause 33 and Clause 145, Power over Ethernet is intended to provide a single 10BASE-T, 100BASE-TX, 1000BASE-T, 2.5GBASE-T, 5GBASE-T, or 10GBASE-T device with a unified interface for both the data it requires and the power to process these data. When used with single balanced twisted-pair (BASE-T1) PHYs (see IEEE Std 802.3, Clause 104), Power over Data Lines is intended to provide a single 100BASE-T1 or 1000BASE-T1 device with a unified interface for both the data it requires and the power to process these data. A PSE used with balanced single twisted-pair PHYs is also referred to as a PoDL PSE."

with editorial practices outlined in the suggested remedy.

Cl **145**   *SC* **145**   *P* **142**   *L* **10**   # i-1

Anslow, Peter   Ciena Corporation

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

The IEEE-SA Standards Style Manual 13.3.2 says "An em dash (--) should be used to indicate the lack of data for a particular cell in a table."

Comment #29 against P802.3bt D2.4 was: "Several tables in Clause 145 have blank cells in the min or max columns, which should contain an em-dash", but this was rejected with the rebuttal:

"The lack of em-dashes is intentional. The em-dash would convey that there is no relevant information, while the lack of the em-dash conveys that there is no specific number."

This makes no sense.

The first example of this issue is in Table 145-7. "Connection check to detection time" Tcc2det has a maximum value of 0.4 s, but the min column is blank. According to the IEEE style manual the cell should contain an em dash, which would indicate that there is no minimum requirement for this time. If there is some requirement on the minimum (not just a number) then an indication of this should be made via an entry in the cell such as "See 145.x.x". If this is not the case, then the cell should contain an em dash.

SuggestedRemedy

Make sure all tables have an entry of em-dash or pointer to the requirement in currently blank min or max columns.

In particular, Tables 145-7, 145-8, 145-9, 145-10, 145-14, 145-16, 145-20, 145-27, 145-28, 145-30, 145-31, 145-32.

Response   *Response Status* **U**

REJECT.

We will work with editorial staff to try to clarify the style guide. Here is our opinion:

There is a distinction between an em-dash, which indicates 'a lack of data', and leaving a cell blank. Eg. For parameters that convey a range, having a blank 'Min' cell, does NOT indicate there is lack of data, rather that the minimum value is open-ended. An em-dash would convey an incorrect message. Em-dashes have been put in all cells where it is appropriate.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **i-1**   Page 1 of 15
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Cl **145**   *SC* **145.2.8.7**   *P* **162**   *L*   # i-21

Waters, Keith   Schneider Electric

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

I have concerns that PSE section 145.2.8.7 does not show any testing or certification listing requirements. This is a potential product and fire safety issue and needs to be addressed.

SuggestedRemedy

....at least 1 second width. Testing and a third party certification listing shall be required to confirm overload current protection will operate correctly.

Response   *Response Status* **W**

REJECT.

This comment is out of scope.

The purpose of IEEE P802.3bt is to define interoperability, it is not to define product requirements. In respect to safety subclause 145.6.1 'General safety' of IEEE P802.3bt states 'All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1. In particular, the PSE shall be classified as a Limited Power Source in accordance with IEC 60950-1 or IEC 62368-1 Annex Q. Equipment shall comply with all applicable local and national codes related to safety.'. It is these referenced local and national codes that define the requirements, not IEEE P802.3bt. The need for certification is determined by the marketplace or regulation, and may vary by geography.

Cl **145**   *SC* **145.2.8.8**   *P* **162**   *L*   # i-22

Waters, Keith   Schneider Electric

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

I have concerns that PSE section 145.2.8.8 does not show any testing or certification listing requirements. This is a potential product and fire safety issue and needs to be addressed.

SuggestedRemedy

Add: Testing and a third party certification listing shall be required to verify the PSE operates per the requirements in this section.

Response   *Response Status* **W**

REJECT.

This comment is out of scope.

The purpose of IEEE P802.3bt is to define interoperability, it is not to define product requirements. In respect to safety subclause 145.6.1 'General safety' of IEEE P802.3bt states 'All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1. In particular, the PSE shall be classified as a Limited Power Source in accordance with IEC 60950-1 or IEC 62368-1 Annex Q. Equipment shall comply with all applicable local and national codes related to safety.'. It is these referenced local and national codes that define the requirements, not IEEE P802.3bt. The need for certification is determined by the marketplace or regulation, and may vary by geography.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **i-22**   Page 2 of 15
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Cl **145** *SC* **145.4.2**   *P* **200**   *L*   # i-23

Waters, Keith   Schneider Electric

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

I have concerns that section 145.4.2 does not show any testing or certification listing requirements in regard to fault tolerance. This is a potential product and fire safety issue
and needs to be addressed.

SuggestedRemedy

Add to standard: Testing and a third party certification listing shall be required.

Response   *Response Status* **W**

REJECT.

This comment is out of scope.

The purpose of IEEE P802.3bt is to define interoperability, it is not to define product requirements. In respect to safety subclause 145.6.1 'General safety' of IEEE P802.3bt states 'All equipment subject to this clause shall conform to IEC 60950-1 or IEC 62368-1. In particular, the PSE shall be classified as a Limited Power Source in accordance with IEC 60950-1 or IEC 62368-1 Annex Q. Equipment shall comply with all applicable local and national codes related to safety.'. It is these referenced local and national codes that define the requirements, not IEEE P802.3bt. The need for certification is determined by the marketplace or regulation, and may vary by geography.

Cl **145** *SC* **145.2.5.7**   *P* **129**   *L* **42**   # i-194

Peker, Arkadiy   Microsemi Corporation

Comment Type **TR** *Comment Status* **R**   *PSE SD*

I could not find in the text allowance for the PSE to do detection and classification and if there is any implementation specific system error, to go to IDLE. I couldn't find how currently it is covered by the state machine. As a result in the state CLASS_EVAL I propose to add exit to IDLE with the condition error condition.

SuggestedRemedy

Add exit from the state CLASS_EVAL to IDLE with the condition error condition.

Response   *Response Status* **W**

REJECT.

There is a global entry into IDLE based on the variable error_condition.

Cl **145** *SC* **145.2.5.7**   *P* **127**   *L* **33**   # i-196

Peker, Arkadiy   Microsemi Corporation

Comment Type **TR** *Comment Status* **R**   *PSE SD*

The text allows the PSE to do detection and if there is any implementation specific system error, to go to IDLE. This is not covered by the state machine. As a result in the exit from DETECT_EVAL to IDLE , we need to add to the condition the variable error_condition.

SuggestedRemedy

"Change from:
 ""(pse_alternative = both) * ((det_temp = only_one) * (sig_pri NE valid) +(det_temp = both_neither) * (sig_sec NE valid) + (((CC_DET_SEQ = 0) + (CC_DET_SEQ = 3)) * (det_temp = only_one) * tdet2det_timer_done)) + (pse_alternative = a) * (sig_pri NE valid) +(pse_alternative = b) * (sig_pri = open_circuit)""
To:
""error_condition + (pse_alternative = both) * ((det_temp = only_one) * (sig_pri NE valid) +(det_temp = both_neither) * (sig_sec NE valid) + (((CC_DET_SEQ = 0) + (CC_DET_SEQ = 3)) * (det_temp = only_one) * tdet2det_timer_done)) + (pse_alternative = a) * (sig_pri NE valid) +(pse_alternative = b) * (sig_pri = open_circuit)"""

Response   *Response Status* **W**

REJECT.

There is a global entry based on error_condition into IDLE that covers this.

Cl **145** *SC* **145.2.6**   *P* **141**   *L* **29**   # i-203

Peker, Arkadiy   Microsemi Corporation

Comment Type **TR** *Comment Status* **A**   *PSE Detection*

We have the following text: "Also, a PSE may successfully detect a PD but then opt not to power the detected PD.". We need similar text for the classification i.e. "A PSE may successfully detect and classify a PD but then opt not to power that PD. " to be added at the end of clause 145.2.7 page 148 after line 38.

SuggestedRemedy

Add the following text in 145.2.7 page 148 after line 38: "A PSE may successfully detect and classify a PD but then opt not to power that PD. "

Response   *Response Status* **W**

ACCEPT IN PRINCIPLE.

Change existing sentence to: "Also, a PSE may successfully detect a PD or detect and classify a PD, but then opt not to power the detected PD."

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **i-203**   Page 3 of 15
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Cl **145**　　*SC* **145.2.8.5**　　　　*P* **156**　　*L* **51**　　　# i-204

Peker, Arkadiy　　　　　　　Microsemi Corporation

Comment Type **TR**　　*Comment Status* **R**　　　　*Pres: Darshan9*

"Equation 145-8 contains the parts that allow us to calculate the value of Icon-2P in case of operating over 2-pairs and for the dual-signature case.
However, for the most important use case which is operating over 4-pairs.
Equation 145-8 contains the part ""Icon-2P=min(Icon - IPort-2P-other, ICon-2P-unb) when operating over 4-pairs.
-Icon is defined in Equation 145-9.
-Icon-2P_unb is defined in Table 145-16 item 5.
There is no information to find the value of Icon-2P_other in order to calculate the value of Icon-2P. As a result, the spec is broken."

SuggestedRemedy

Adopt darshan_09_0917.pdf

Response　　　　　　*Response Status* **U**

REJECT.

No consensus for change.

Cl **145**　　*SC* **145.2.5.4**　　　　*P* **113**　　*L* **40**　　　# i-249

Peker, Arkadiy　　　　　　　Microsemi Corporation

Comment Type **TR**　　*Comment Status* **A**　　　　*PSE SD*

In the variable option_probe_alt_sec definition:
"option_probe_alt_sec
This variable indicates if the PSE will continue to detect and conditionally class on the Secondary Alternative in the event an invalid detect or class result is found on the Primary Alternative. This variable applies to CC_DET_SEQ = 3.
Values:
FALSE: PSE does not probe the Secondary Alternative if an invalid signature is found on the Primary Alternative.
TRUE: PSE does probe the Secondary Alternative if an invalid signature is found on the Primary Alternative." we have few issues:
1) The definition text says "in the event an invalid detect or class result is found" is not reflected in the text that defines the TRUE and FALSE. Only the "invalid detection" is addressed.
2) The text " if an invalid signature is found" in the TRUE and FALSE definition is not logically accurate and can lead to wrong interpretation. It should be " if an invalid signature will be found" since this variable can be set in system config phase or on the fly, but the current definition may be interpreted as this parameter can be configured only on the fly as function of the result of primary detection signature result if valid or not."

SuggestedRemedy

Change the TRUE and FALSE definition from:
"FALSE: PSE does not probe the Secondary Alternative if an invalid signature is found on the Primary Alternative.
TRUE: PSE does probe the Secondary Alternative if an invalid signature is found on the Primary Alternative."
To:
"FALSE: PSE does not probe the Secondary Alternative if an invalid detection signature or classification will be found on the Primary Alternative.
TRUE: PSE does probe the Secondary Alternative if an invalid detection signature or classification will be found on the Primary Alternative"

Response　　　　　　*Response Status* **W**

ACCEPT IN PRINCIPLE.

Change TRUE and FALSE definitions to:
FALSE: PSE does not probe the Secondary Alternative if an invalid detection signature is found on the Primary Alternative or classification is invalid on the Primary Alternative.
TRUE: PSE does probe the Secondary Alternative if an invalid detection signature is found on the Primary Alternative or classification is invalid on the Primary Alternative.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **i-249**

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Cl **145**	*SC* **145.2.5.3**	*P* **109**	*L* **42**	# i-253	

Peker, Arkadiy   Microsemi Corporation

Comment Type **TR**   *Comment Status* **A**   *PSE SD*

This comment is an update to the comment that requires to delete Figure 145B-3:
Per the definition of CC_DET_SEQ=0 for dual-signature, the detection need to be parallel and not staggered and this contradicts figure 145B-3 that is shown as one of the staggered detection versions. So we have two options to resolve this:
a) To delete figure 145B-3 to sync with CC_DET_SEQ=0 definition for dual-signature PDs and also update state machine which will be complicated task at this point of time. OR,
b) (Preferred) Keep Figure 145B-3, and change the ""CC_DET_SEQ=0 definition that to allow staggered detection in addition to parallel detection which currently is supported by the state machine."

SuggestedRemedy

Change "Connection Check is followed by staggered detection for a single-signature PD and parallel detection for a dual-signature PD."
To: Connection Check is followed by staggered detection for a single-signature PD and parallel or staggered detection for a dual-signature PD."

Response   *Response Status* **W**

ACCEPT.

Cl **Patents**	*SC* **Patents**	*P* **3**	*L* **46**	# i-316	

Crayford, Ian   Network Generation LL

Comment Type **GR**   *Comment Status* **R**   *IP*

*** Comment submitted with the file 94180000003-802.3bt - Crayford Ballot Comments.xls attached ***

This is a general comment regarding Intellectual Property.
The use of PoE has been the subject of multiple litigations from NPEs (Non Practicing Entities), otherwise known as "Patent Trolls".
Two in particular, Chrimar Systems and Network 1, have litigated against a significant group of companies in the Ethernet industry who ship products that implement PoE.
Since 802.3bt increases the available power, this will no doubt attract new companies to utilize PoE in many new applications.
What assurances have been made by companies who believe they have intellectual property that relates to 802.3bt (by at least Chrimar Systems and Network 1), such that licensing under RAND terms can be secured?

SuggestedRemedy

Issue a much stronger warning indicating the use of 802,3bt may result in alleged infringement of Intellectual Property,

Response   *Response Status* **W**

REJECT.

The process for requesting an LOA for the IEEE P802.3bt project has been followed in respect to the two holders of potentially essential patent claims named in this comment, as well as for all other holders of potentially essential patent claims identified during this project.

The IEEE is not responsible for: (a) identifying Essential Patent Claims for which a license may be required; (b) determining the validity, essentiality, or interpretation of Patent Claims; or (c) determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or non-discriminatory; or (d) determining whether an implementation is a Compliant Implementation. See subclause 6.2 'Policy' of the IEEE-SA Standards Board Bylaws <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6.2>.

Discussion or other communications regarding: (a) the status or substance of ongoing or threatened litigation; and (b) the essentiality, interpretation, or validity of Patent Claims; is prohibited during IEEE-SA standards-development meetings or other duly authorized IEEE-SA standards-development technical activities. See subclause 6.2 'Policy' of the IEEE-SA Standards Board Bylaws <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6.2> and subclause 5.3.10.2 'Discussion of litigation, patents, and licensing' of the IEEE-SA Standards Board Operations Manual <https://standards.ieee.org/develop/policies/opman/sect5.html#5.3.10.2>.

The text contained in the 'Notice and Disclaimer of Liability Concerning the Use of IEEE Standards Documents' in respect to patents is mandated by subclause 6.3.1 'Public notice'

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

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of the IEEE-SA Standards Board Operations Manual
<https://standards.ieee.org/develop/policies/opman/sect6.html#6.3.1> and as such
suggestions for change to this text should be directed to the IEEE-SA Standards Board
Patent Committee Administrator at <patcom@ieee.org>.

Cl **30**	*SC* **30.12.2.1.18l**	*P* **43**	*L* **6**	# i-320
Law, David		Hewlett Packard Enter		

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

The behaviour defined for the attributes aLldpXdot3LocPowerTypex and
aLldpXdot3RemPowerTypex doesn't see to match the 'Power typex' TLV field that these
attributes map to (see Table 79-9 and 79-10). Specifically, the behaviour doesn't include
any reference to the single-signature and dual-signature values that Table 79-6d 'System
setup field' defines for the 'Power typex' field. Rather than try to further expand the
behaviour text to decode bits it would seem a better approach, since these are new
attributes being added by IEEE P802.3bt, to change their syntax from 'BIT STRING [SIZE
(4)]' to 'ENUMERATED value list'.

SuggestedRemedy

Suggest that:

[1] The 'APPROPRIATE SYNTAX:' text for the attributes aLldpXdot3LocPowerTypex and
aLldpXdot3RemPowerTypex should be changed to read:

An ENUMERATED value list that has the following entries:
type4dualPD   Type 4 dual-signature PD
type4singlePD Type 4 single-signature PD
type3dualPD   Type 3 dual-signature PD
type3singlePD Type 3 single-signature PD
type2PD   Type 2 PD
type1PD   Type 1 PD
type4PSE   Type 4 PSE
type3PSE   Type 3 PSE
type2PSE   Type 2 PSE
type1PSE   Type 1 PSE

[2] The 'BEHAVIOUR DEFINED AS:' text for the attribute aLldpXdot3LocPowerTypex
should be changed to read:

A read-only attribute that returns a value to indicate if the local system is a Type 1, Type 2,
Type 3, or Type 4 PSE or PD, and in the case of a Type 3 or Type 4 PD, if it is single-
signature or dual-signature.;

[3] The 'BEHAVIOUR DEFINED AS:' text for the attribute aLldpXdot3RemPowerTypex
(subclause 30.12.3.1.18j, page 52, line 16) should be changed to read:

A read-only attribute that returns a value to indicate if the remote system is a Type 1, Type
2, Type 3, or Type 4 PSE or PD, and in the case of a Type 3 or Type 4 PD, if it is a single-
signature or dual-signature.;

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Make following changes:

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **i-320**

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[1] The 'APPROPRIATE SYNTAX:' text for the attributes aLldpXdot3LocPowerTypex and aLldpXdot3RemPowerTypex should be changed to read:

An ENUMERATED value list that has the following entries:
type4dualPD   Type 4 dual-signature PD
type4singlePD Type 4 single-signature PD
type3dualPD   Type 3 dual-signature PD
type3singlePD Type 3 single-signature PD
type2PD   Type 2 PD
type1PD   Type 1 PD
type4PSE   Type 4 PSE
type3PSE   Type 3 PSE
type2PSE   Type 2 PSE
type1PSE   Type 1 PSE

[2] The 'BEHAVIOUR DEFINED AS:' text for the attribute aLldpXdot3LocPowerTypex should be changed to read:

A read-only attribute that returns a value to indicate if the local system is a Type 1, Type 2, Type 3, or Type 4 PSE or PD, and in the case of a Type 3 or Type 4 PD, if it is a single-signature PD or a dual-signature PD.;

[3] The 'BEHAVIOUR DEFINED AS:' text for the attribute aLldpXdot3RemPowerTypex (subclause 30.12.3.1.18j, page 52, line 16) should be changed to read:

A read-only attribute that returns a value to indicate if the remote system is a Type 1, Type 2, Type 3, or Type 4 PSE or PD, and in the case of a Type 3 or Type 4 PD, if it is a single-signature PD or a dual-signature PD.;

Cl **79**   *SC* **79.3.2.3**   *P* **76**   *L* **21**   # i-323

Law, David   Hewlett Packard Enter

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

This text reads 'Class 5 and above is communicated by the Power Class field ...'. I don't believe this is correct, I believe that the Class 5 and above is communicated by the 'Power Classx' field. In addition, suggest that TLV field names should always be placed in inverted commas.

SuggestedRemedy

Suggest that the text 'Class 5 and above is communicated by the Power Class field ...' should be changed to read 'Class 5 and above is communicated by the "Power Classx" field ...'.

Response   *Response Status* **W**

ACCEPT.

Cl **79**   *SC* **79.3.2.1**   *P* **75**   *L* **8**   # i-324

Law, David   Hewlett Packard Enter

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

Note 1 to Table 79-3 states 'Port class information is implied by the support of the PSE or PD groups.'. As far as I can see there is no mention of a PD group in the last version of IETF RFC 3621 or in IEEE Std 802.3.1-2013 which deprecated IETF RFC 3621.

This table originated as Table G.1 in IEEE Std 802.1AB-2005, and was incorporated in to IEEE Std 802.3 by the IEEE Std 802.3bc-2009 Ethernet Organizationally Specific Type, Length, Values (TLVs) amendment, which added Clause 79. Based on this it seems that this note was generated as a result of comment 124 on IEEE P802.1AB draft D11 <http://www.ieee802.org/1/files/private/ab-drafts/d12/80211AB-D11-dis.pdf#Page=91>. The comment reads:

COMMENT TYPE: T
CLAUSE: Annex G..3.1
PAGE: 133
LINE: 9
COMMENT START:
The right columns look like missing information.
COMMENT END:
SUGGESTED CHANGES:
Either:
1) Fill the information in.
2) Insert an N/A notation
3) Insert an em dash, which should then be described in the glossary (802.17 did this).
SUGGESTED CHANGES END:

Disposition of Comment 124

Add notes -
For Port Class the information is implied by the support of the PSE or PD MIB groups For MDI power support the information is implied by support of the power over Ethernet MIB. Refer to the RFC

The latest version of IETF RFC 3621, version 08 dated 22nd June 2003 <https://tools.ietf.org/html/draft-ietf-hubmib-power-ethernet-mib-08> states 'The document proposes an extension to the Ethernet-like Interfaces MIB with a set of objects for managing a Power Source Equipment (PSE).'. Looking at the first version however, version 00 dated 25th June 2001, this text reads 'The document proposes an extension to the Ethernet-like Interfaces MIB [RFC2665] with a set of objects for managing a power Ethernet Powered Device (PD) and/or Power Source Equipment (PSE).'. This text changed between version 04 date 19th December 2002 <https://tools.ietf.org/html/draft-ietf-hubmib-power-ethernet-mib-04> and version 05 dated 21st May 2003

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **i-324**   Page 7 of 15
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<https://tools.ietf.org/html/draft-ietf-hubmib-power-ethernet-mib-05>. Based on this it seems the IETF RFC 3621 drafts supported both PSE and PD management up to 21st May 2003.

While the IEEE P802.3AB comment was processed in October 2004, after PD management was removed from RFC 3621, it may be possible that this had not been noted, or it may have been assumed that RFC 3621 which is titled 'Power Ethernet MIB' supported both PDs and PSEs. Regardless, it seems that the intent of the note was to describe how to determine how to set this bit by reference to attributes in the IETF RFC.

Since (a) this note references a non-existent PD group in the MIB; (b) we don't mandate implementation of any particular management protocol, or any management, a PSE may or may not implement the PSE group in the MIB, and (c) in the reminder of subclause 79.3.2 'Power Via MDI TLV' we generally defined the bits through text rather than a cross reference to Objects, suggest that we do the same for the MDI power capabilities/status field.

SuggestedRemedy

Suggest that:

[1] The entire 'Object reference' column of Table 79-3 'MDI power capabilities/status field' is deleted.

[2] The two remaining notes for Table 79-3 'MDI power capabilities/status field' are deleted.

[3] New subclauses are added to describe the "MDI power capabilities/status" fields that read as follows:

79.3.2.1.1 Port class

The "Port class" field transmitted shall indicate if the port is a PSE or a PD.

79.3.2.1.2 PSE MDI power support

The "PSE MDI power support" field shall indicate if MDI power is supported.

79.3.2.1.3 PSE MDI power state

The "PSE MDI power state" field transmitted by a PSE shall indicate if the PSE function is enabled or disabled. When disabled all PSE functions are disabled and behaviour is as if there was no PSE functionality. The value of the "PSE MDI power state" transmitted by a PD is undefined.

79.3.2.1.4 PSE pairs control ability

The "PSE pairs control ability" field transmitted by a PSE shall indicate if the PSE has the capability to control which PSE Pinout Alternative (see 33.2.3 and 145.2.4) is used for PD detection and power. If capable the PSE Pinout Alternative used can be controlled through the pethPsePortPowerPairs attribute (see IEEE Std 802.3.1). If not the PSE Pinout Alternative used cannot be controlled through the pethPsePortPowerPairs attribute.

Response   *Response Status* **W**

    ACCEPT.

Cl **30**   *SC* **30.12.3.1.18q**   *P* **53**   *L* **38**   # i-363

Thompson, Geoffrey   Individual

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

    Incorrect distinction between analog and digital parameter (i.e. measure vs. count).

SuggestedRemedy

    Change text to read: "A GET attribute that indicates the number of seconds the ..."

Response   *Response Status* **W**

    ACCEPT.

Cl **145**   *SC* **145.1.3**   *P* **97**   *L* **49**   # i-371

Thompson, Geoffrey   Individual

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

    This is not the "definition" of Icable, it is the specification.

SuggestedRemedy

    Change the word "defined" to "specified".

Response   *Response Status* **W**

    ACCEPT IN PRINCIPLE.
    ACCEPT IN PRINCIPLE.

    Change as follows:

    "I Cable, specified in Table 145-1, is the current on one twisted pair in the balanced twisted-pair cable. ."

    "I Cable is the highest nominal current on a pair for a system without pair-to-pair current unbalance. ."

    This resolution is identical to comment #45.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **i-371**

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2/9/2018 3:33:45 PM

Cl **145**   *SC* **145.4.2**   *P* **200**   *L* **29**   # i-382

Thompson, Geoffrey   Individual

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

System fault tolerance specifications should be specified here.

SuggestedRemedy

Change the opening text to read: "Each conductor pair of the link section or a PI of a PoE system shall meet the fault tolerance requirements of ...

Response   *Response Status* **U**

REJECT.

We specify everything at the PI, we can't put requirements on conductor pairs of the link section.

Cl **145**   *SC* **145.4.9**   *P* **206**   *L* **22**   # i-390

Thompson, Geoffrey   Individual

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

Much of the text in this clause is superficial, unnecessary and/or redundant.

SuggestedRemedy

Clean up the text and remove any text that is not an additional requirement specific to midspans.

Response   *Response Status* **U**

REJECT.

No consensus for change.

Cl **145**   *SC* **145.4.9**   *P* **206**   *L* **22**   # i-391

Thompson, Geoffrey   Individual

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

Reduce the midspan aspects of the spec to two simple statements, the effect a midspan can have on the acceptance test for a permanent link and effect a midspan can have on the acceptance test for a cord that meets standards allowances.

SuggestedRemedy

Prune the text so that the cabling acceptance tests (to be called out by reference) are the control.

Response   *Response Status* **U**

REJECT.

No consensus for change.

Cl **145**   *SC* **145.2.8.5.1**   *P* **158**   *L* **47**   # i-392

Thompson, Geoffrey   Individual

Comment Type **ER**   *Comment Status* **A**   *Pres: Yseboodt2*

This seems like an attempt to control the system imbalance (which is controlled by the combined specifications of the three elements, one of which is externally specified) from within the PSE spec.

SuggestedRemedy

This is all valuable tutorial material that would be valuable for further work on the topic so it should be moved (with suitable editing) to an informative annex.

Response   *Response Status* **W**

ACCEPT IN PRINCIPLE.

Adopt yseboodt_02_0917_Figure_145_22.pdf

This resolution is identical to comment #110.

[Editor's note added after comment resolution completed.

The full URL for the file FILE_NAME.pdf is
http://www.ieee802.org/3/bt/public/sep17/yseboodt_02_0917_Figure_145_22.pdf]

Cl **145**   *SC* **145.2.8.5.1**   *P* **161**   *L* **2**   # i-393

Thompson, Geoffrey   Individual

Comment Type **ER**   *Comment Status* **A**   *Pres: Yseboodt2*

Figure 145-22. This figure is very valuable in understanding the overall problem of resistance imbalance in a PoE system, however it doesn't help with the problem of designing a PSE when one has no control of the link section or the PD.

SuggestedRemedy

Tutorial material that would be valuable for further work on the topic. It should be moved to an informative annex.

Response   *Response Status* **W**

ACCEPT IN PRINCIPLE.

Adopt yseboodt_02_0917_Figure_145_22.pdf

This resolution is identical to comment #110.

[Editor's note added after comment resolution completed.

The full URL for the file FILE_NAME.pdf is
http://www.ieee802.org/3/bt/public/sep17/yseboodt_02_0917_Figure_145_22.pdf]

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **i-393**   Page 9 of 15
2/9/2018 3:33:46 PM

Cl **33**　　*SC* **33.4.9.2.1**　　　*P* **71**　　　*L* **42**　　# r01-14

Anslow, Peter　　　　　　　Ciena Corporation

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

The editing instructions and subclause numbering for 33.4.9.2.1 up to 33.4.9.3.2 are garbled (e.g. a change instruction for a new subclause, etc.).
The base document has:
33.4.9.1.3 Return loss
33.4.9.1.4 Work area or equipment cable Midspan PSE
33.4.9.2 Midspan signal path requirements
33.4.9.2.1 Alternative A Midspan PSE signal path transfer function

Attempting to understand the intent of the draft, it appears to be to create:
33.4.9.1.3 Return loss [changed subclause]
33.4.9.2 Cord Midspan PSE [changed subclause re-numbered from 33.4.9.1.4]
33.4.9.2.1 Maximum link delay [new subclause]
33.4.9.2.2 Maximum link delay skew [new subclause]
33.4.9.3 Coupling parameters between link segments [new subclause]
33.4.9.3.1 Multiple disturber power sum alien near-end crosstalk (PSANEXT) loss [new subclause]
33.4.9.3.2 Multiple disturber power sum alien far-end crosstalk (PSAFEXT) loss [new subclause]
33.4.9.4 Midspan signal path requirements [re-numbered subclause]
33.4.9.4.1 Alternative A Midspan PSE signal path transfer function [re-numbered subclause]

Assuming that this is correct, then a scheme in line with usual 802.3 re-numbering rules would be:
33.4.9.1.3 Return loss [changed subclause]
33.4.9.1a Cord Midspan PSE [changed subclause re-numbered from 33.4.9.1.4]
33.4.9.1a.1 Maximum link delay [new subclause]
33.4.9.1a.2 Maximum link delay skew [new subclause]
33.4.9.1b Coupling parameters between link segments [new subclause]
33.4.9.1b.1 Multiple disturber power sum alien near-end crosstalk (PSANEXT) loss [new subclause]
33.4.9.1b.2 Multiple disturber power sum alien far-end crosstalk (PSAFEXT) loss [new subclause]
33.4.9.2 Midspan signal path requirements [unaltered subclause]
33.4.9.2.1 Alternative A Midspan PSE signal path transfer function [unaltered subclause]

SuggestedRemedy

On page 71, line 21, change the editing instruction to:
"Change the title and text of 33.4.9.1.4 and re-number it to 33.4.9.1a as follows:"
On page 71, line 42, change the editing instruction to:
"Insert 33.4.9.1a.1, 33.4.9.1a.2, and 33.4.9.1b (including its subclauses) as follows:"
On page 72, line 18, remove the "change" editing instruction.
Re-number the headings to:
33.4.9.1a Cord Midspan PSE
33.4.9.1a.1 Maximum link delay
33.4.9.1a.2 Maximum link delay skew

33.4.9.1b Coupling parameters between link segments
33.4.9.1b.1 Multiple disturber power sum alien near-end crosstalk (PSANEXT) loss
33.4.9.1b.2 Multiple disturber power sum alien far-end crosstalk (PSAFEXT) loss

Response　　　　　　　*Response Status* **W**

ACCEPT.

Cl **79**　　*SC* **79.3.2.4**　　　*P* **83**　　　*L* **3**　　# r01-16

Anslow, Peter　　　　　　　Ciena Corporation

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

The editing instruction only refers to Table 79-4, so the text of 79.3.2.4 (which is unchanged) should not be shown.

SuggestedRemedy

delete the text in 79.3.2.4

Response　　　　　　　*Response Status* **W**

ACCEPT IN PRINCIPLE.

"The 'Power type/source/priority' field shall contain a bit-map of the power type, source and priority defined in Table 79-4 and is reported for the device generating the TLV."

This resolution is identical to comment #104.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **r01-16**　　Page 10 of 15
2/9/2018 3:33:46 PM

Cl **145**   *SC* **145**   *P***151**   *L***10**   # r01-30

Anslow, Peter   Ciena Corporation

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

The response to unsatisfied comment i-1 against D3.0 was:
"We will work with editorial staff to try to clarify the style guide. Here is our opinion:
There is a distinction between an em-dash, which indicates 'a lack of data', and leaving a cell blank. Eg. For parameters that convey a range, having a blank 'Min' cell, does NOT indicate there is lack of data, rather that the minimum value is open-ended. An em-dash would convey an incorrect message. Em-dashes have been put in all cells where it is appropriate."
This interpretation of the style manual is different from the interpretation that has been used in recent amendments to IEEE Std 802.3. There is nothing different about Clause 145 that means that max or min cells without a value should be shown differently to those in other recent amendments.

SuggestedRemedy

Make sure all tables have an entry of em-dash or pointer to the requirement in currently blank min or max columns in accordance with all other recent amendments to IEEE 802.3. In particular, Tables 145-7, 145-8, 145-9, 145-10, 145-14, 145-16, 145-21, 145-28, 145-29, 145-32, 145-33.

Response   *Response Status* **U**

REJECT.

The comment resolution group believes that the em-dash is technically inaccurate for these entries as it means there is "a lack of data". In Clause 145 the empty cells are due to open-ended ranges, not a lack of data.

Cl **145**   *SC* **145.3.8.6**   *P***204**   *L***52**   # r01-393

Lemahieu, Joris   ON Semiconductor

Comment Type **GR**   *Comment Status* **R**   *Pres: Yseboodt4*

What is the benefit of defining TR3?
TR1 and TR2 cover long ("lasting more than 250 is") transients related to the switchover of backup power supplies.
TR3 is a very fast (0.71us is way below 250us and even 30us). For relatively fast transients related to load changes one would expect the initial and final voltage to be the same and having a lower intermediate voltage. If the fall and rise times are small, one would not expect the Cport to discharge and recharge much.
Peak currents way below Ilim are listed and expected to happen.
For the rest the definition seems completely arbitrary: where do the 5A 1.5ohm and 4ms come from. Also how should the 1.5ohm and 5A be interpreted for single signature and dual signature?
The definition of TR3 needs to be reworked completely anyhow.

SuggestedRemedy

I think it is better to just delete the TR3 requirement.

Response   *Response Status* **U**

REJECT.

The comment resolution group believes that deleting the requirement can lead to system interoperability issues.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **r01-393**   Page 11 of 15
2/9/2018 3:33:46 PM

Cl **145**   *SC* **145**   *P***157**   *L***45**   # r02-1
Anslow, Peter   Ciena Corporation

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

The response to unsatisfied comment r01-30 against D3.1 was:
"REJECT.
The comment resolution group believes that the em-dash is technically inaccurate for these entries as it means there is "a lack of data". In Clause 145 the empty cells are due to openended ranges, not a lack of data."
In order to clarify the meaning of an em-dash in tables within 802.3, a comment has been submitted against the revision project with the following suggested remedy
Add a new subclause 1.2.8:
1.2.8 Em dash (--) in a table cell
A table cell containing an em-dash (--) indicates a lack of data for that cell, or:
 - For a units cell, that there is no unit for that parameter
 - For a maximum cell, that there is no requirement on the maximum value of that parameter
 - For a minimum cell, that there is no requirement on the minimum value of that parameter

SuggestedRemedy

Make sure all tables have an entry of em-dash or pointer to the requirement in currently blank min or max columns in accordance with all other recent amendments to IEEE 802.3. In particular, Tables 145-7, 145-8, 145-9, 145-10, 145-14, 145-15, 145-16, 145-21, 145-25, 145-28, 145-29, 145-32, 145-33.

Response   *Response Status* **W**

ACCEPT.

Cl **1**   *SC* **1.4.338**   *P***24**   *L***46**   # r02-2
Anslow, Peter   Ciena Corporation

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

The text on line 46 is "... , Power over Data Lines is intended to provide a ..." but this is different from the text of 1.4.338 as modified by IEEE Std 802.3bu-2016 which has "... , DTE powering is intended to provide a ...) and the change is not shown with appropriate change marking.

SuggestedRemedy

Show "DTE powering" in strikethrough font and "Power over Data Lines" in underline.

Response   *Response Status* **W**

ACCEPT.

Cl **33**   *SC* **33.4.9.1b**   *P***76**   *L***18**   # r02-7
Anslow, Peter   Ciena Corporation

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

33.4.9.1b, 33.4.9.1b.1, and 33.4.9.1b.2 are new subclauses being inserted by the P802.3bt amendment. Consequently, the subclause numbers should not use strikethrough and underline font.

SuggestedRemedy

Delete the strikethrough subclause numbers (they never existed in the base document) and remove the underline from the inserted subclause numbers.

Response   *Response Status* **W**

ACCEPT.

Cl **33**   *SC* **33.6.3.3**   *P***78**   *L***2**   # r02-8
Anslow, Peter   Ciena Corporation

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

The editing instruction says "Change 33.6.3.3 as follows:" but then not all of 33.6.3.3 is shown in the draft. The definitions from TempVar through to pse_power_type are missing.

SuggestedRemedy

Assuming that it is not desired to show a large number of unmodified definitions:
move the editing instruction to be after the heading for 33.6.3.3
delete the initial unmodified sentence
change the editing instruction to "Change the first nine definitions in 33.6.3.3 as follows:"
Before the final paragraph of 33.6.3.3, add an editing instruction: "Change the last paragraph of 33.6.3.3 as follows:"

Response   *Response Status* **W**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **r02-8**   Page 12 of 15
2/9/2018 3:33:46 PM

Cl **145**   *SC* **145.3.8.3**   *P* **209**   *L* **34**   # r02-69

Peker, Arkadiy   Microsemi Corporation

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

The objective of the following text is missing (charging within Tinrush) "A PSE limits the inrush current to IInrush and IInrush-2P, defined in Table 145-16, which is sufficient current to charge CPort or CPort-2P to VPort_PSE-2P when ...."

SuggestedRemedy

Change from:
"A PSE limits the inrush current to IInrush and IInrush-2P, defined in Table 145-16, which is sufficient current to charge CPort or CPort-2P to VPort_PSE-2P...."
To:
"A PSE limits the inrush current to IInrush and IInrush-2P, defined in Table 145-16, which is sufficient current to charge CPort or CPort-2P to VPort_PSE-2P within TInrush_PD max when...."

Response   *Response Status* **W**

ACCEPT.

Cl **145**   *SC* **145.4.1**   *P* **217**   *L* **39**   # r02-70

Peker, Arkadiy   Microsemi Corporation

Comment Type **TR**   *Comment Status* **A**   *Pres: Darshan2*

The requirement in "Dual-signature PDs shall have less than or equal to 10 uA of current between any one conductor of Mode A and any one conductor of Mode B when VPD, as defined in 145.1.3, of either Mode is less than VOff_PD min, as defined in Table 145-29. See Table 79-6f." is impossible to meet due to the following reasons:
There are diodes between some of the pins that are low impedance. It should be isolated between pairs of the same polarity that the PSE is required to support only i.e. the requirement should be the minimum requirement to keep interoperability.

SuggestedRemedy

Change from: "Dual-signature PDs shall have less than or equal to 10 uA of current between any one conductor of Mode A and any one conductor of Mode B when VPD, as defined in 145.1.3, of either Mode is less than VOff_PD min, as defined in Table 145-29. See Table 79-6f."
To: "Dual-signature PDs shall have less than or equal to 10 uA of current between any negative pairs when VPD, as defined in 145.1.3, of either Mode is less than VOff_PD min, as defined in Table 145-29. See Table 79-6f."

Response   *Response Status* **W**

ACCEPT IN PRINCIPLE.

Add sentence "The PSE shall meet all specifications related to current on the negative pair or pairs unless otherwise noted." as a new paragraph at the end of the PSE PI section (145.2.4).

On Page 217, line 39
Change: Dual-signature PDs shall have less than or equal to 10 uA of current between any one conductor of Mode A and any one conductor of Mode B when VPD, as defined in 145.1.3, of either Mode is less than Voff_PD min, as defined in Table 145-29.

To: Dual-signature PDs shall have less than or equal to 10 uA of current between any negative conductor of Mode A and any negative conductor of Mode B when VPD, as defined in 145.1.3, is less than Voff_PD min, as defined in Table 145-29, on either mode.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **r02-70**   Page 13 of 15
2/9/2018 3:33:46 PM

Cl **1**   *SC* **1.4.289**   *P* **24**   *L* **29**   # r02-85
Thompson, Geoffrey   Individual

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

The definition for "link section" has been updated in the revision of 802.3 (Ref: P802.3cj, cl. 1.4.289 quoted below) therefore the change to the base standard requested on page 24, line 29 (1.4.254) is not needed.

1.4.289 link section: The point-to-point medium connection between the active PSE Power Interface (PI) and the PD PI.

SuggestedRemedy

Remove the change to the base standard detailed on page 24, lines 28 through 31 (labeled as cl. 1.4.254) from the draft for P802.3bt.

Response   *Response Status* **W**

ACCEPT IN PRINCIPLE.

Editor to update amendment to be based on 802.3-2018 current revision.

Change definition of link section to:
link section: The portion of the link segment from the PSE to the PD.

Cl **145**   *SC* **145.2.5.7**   *P* **142**   *L* **6**   # r02-86
Law, David   Hewlett Packard Enter

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

Suggest that 'do_initialialize' should read 'do_initialize' in the IDLE state in Figure 145-13.

SuggestedRemedy

See comment.

Response   *Response Status* **W**

ACCEPT.

Cl **145**   *SC* **145.2.5.7**   *P* **146**   *L* **37**   # r02-87
Law, David   Hewlett Packard Enter

Comment Type **ER**   *Comment Status* **A**   *PSE SD*

In Figure 145-13, on the transition from POWER_ON to ERROR_DELAY, in the second line of the equation, 'error sec' should read 'error_sec' (space needs to be replaced with an underscore).

SuggestedRemedy

See comment.

Response   *Response Status* **W**

ACCEPT.

Cl **126**   *SC* **126.5.1**   *P* **108**   *L* **18**   # r02-94
Maytum, Michael   RETIRED

Comment Type **GR**   *Comment Status* **R**   *Isolation*

TC 109 publishes the horizontal standard IEC 60664 series "Insulation coordination for equipment within low-voltage systems" the preferred impulse is 1.2/50 and as a starting point for testing the peak of the AC voltage, the DC voltage and impulse peak voltage should all be the same. So 1500 V a.c. is 2121 V, close enough to the quoted 2250 V d.c and not too different to the quoted 2400 V impulse peak. In practice the AC and DC voltages are somewhat lower than the impulse peak voltage as longer term effects can come into play. In operation the insulation will be subject to impulses of voltage rather an AC or DC voltages.

SuggestedRemedy

Ensure that the equivalent inpulse peak volrtage for insulation withstand testing is at least equal to the peak of the AC voltage or the DC voltage

Response   *Response Status* **W**

REJECT.

(1) Since a PI and BASE-T MDI are the same in the vast majority of cases it wouldn't make sense to just change the PI isolation requirements without changing the BASE-T isolation requirements at the same time, in fact not doing this at the same time could result in conflicting requirements.
(2) There is already an Isolation Ad Hoc working on this issue that is chartered to consider the isolation subclauses throughout IEEE 802.3. It is therefore better to let this conclude its work and address this issues holistically, including Clause 145.
(3) Any change to this text needs to ensure that existing implementation remain conformant.
(4) This comment is out of scope as it is on unchanged text.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **r02-94**   Page 14 of 15
2/9/2018 3:33:46 PM

Cl **145**   *SC* **145.4.1**   *P* **217**   *L* **26**   # r02-95

Maytum, Michael   RETIRED

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

"c) An impulse test consisting of a 1500 V, 10/700 micros waveform, applied 10 times, with a 60 s interval between pulses." This is technically incorrect for two reasons: The peak voltage is way to low and it is applicable to long distance telephone lines. The 1.5 kV 10/700 was the result of an ITU-T global study on telephone lines. As the lightning surge propagates down the line dispersion increases the front time and time to half value, together with lowering the peak voltage. An Ethernet cable is nothing like a long distance telephone line. Hence the more appropriate waveshape is 1.2/50.

SuggestedRemedy

Replace item "c" of 145.4.1 (1.5 kV, 10/700) with item "c" of 126.5.1 (2.4 kV, 1.2/50)

Response   *Response Status* **W**

REJECT.

(1) Since a PI and BASE-T MDI are the same in the vast majority of cases it wouldn't make sense to just change the PI isolation requirements without changing the BASE-T isolation requirements at the same time, in fact not doing this at the same time could result in conflicting requirements.
(2) There is already an Isolation Ad Hoc working on this issue that is chartered to consider the isolation subclauses throughout IEEE 802.3. It is therefore better to let this conclude its work and address this issues holistically, including Clause 145.
(3) Any change to this text needs to ensure that existing implementation remain conformant.
(4) This comment is out of scope as it is on unchanged text.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Comment ID* **r02-95**   Page 15 of 15
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   2/9/2018 3:33:46 PM
SORT ORDER: Comment ID