

IEEE P802.3bu D2.1 Single Pair Power over Datalines 1st Working Group recirculation ballot comments

Cl 00 SC 0 P 0 L 0 # 74  
 "Thompson, Geoff" GraCaSI S.A.  
 Comment Type E Comment Status A  
 WG Init WG Ballot #374  
 SuggestedRemedy  
 "No further action, resolution impl, is OK"  
 Response Response Status C  
 ACCEPT. EZ.

Cl 00 SC 0 P 0 L 0 # 69  
 "Thompson, Geoff" GraCaSI S.A.  
 Comment Type E Comment Status A  
 WG Init WG Ballot #376  
 SuggestedRemedy  
 "No further action, resolution impl, is OK"  
 Response Response Status C  
 ACCEPT. EZ.

Cl 00 SC 0 P 0 L 0 # 65  
 "Thompson, Geoff" GraCaSI S.A.  
 Comment Type E Comment Status A  
 WG Init WG Ballot #378  
 SuggestedRemedy  
 "No further action, resolution impl, is OK"  
 Response Response Status C  
 ACCEPT. EZ.

Cl 00 SC 0 P 0 L 0 # 71  
 "Thompson, Geoff" GraCaSI S.A.  
 Comment Type ER Comment Status A  
 WG Init WG Ballot #373  
 SuggestedRemedy  
 "No change from D2.0. Suggest ""Power over Data Lines (PoDL) of Single Pair Ethernet""  
 Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 Editor given editorial license to:

Cl 00 SC 0 P 0 L 0 # 67  
 "Thompson, Geoff" GraCaSI S.A.  
 Comment Type E Comment Status A  
 WG Init WG Ballot #379  
 SuggestedRemedy  
 "No further action, resolution impl, is OK"  
 Response Response Status C  
 ACCEPT. EZ.

Change clause 104 title to:  
 "Power over Data Lines (PoDL) of Single Balanced Pair Ethernet"  
 Change 104.1 from/to as follows:  
 "This clause defines the functional and electrical characteristics of two optional power entities, a Powered Device (PD) and Power Sourcing Equipment (PSE), for use with supported Ethernet Physical Layers.."

Cl 00 SC 0 P 0 L 0 # 68  
 "Thompson, Geoff" GraCaSI S.A.  
 Comment Type E Comment Status A  
 WG Init WG Ballot #377  
 SuggestedRemedy  
 "No further action, resolution impl, is OK"  
 Response Response Status C  
 ACCEPT. EZ.

to  
 This clause defines the functional and electrical characteristics of two optional power entities, a Powered Device (PD) and Power Sourcing Equipment (PSE), for use with supported single balanced pair Ethernet Physical Layers..  
 Go through document and change "single pair power over datalines" to "PoDL"

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Cl 00 SC 0 P 0 L 0 # 72  
 "Thompson, Geoff" GraCaSI S.A.  
 Comment Type E Comment Status A  
 WG Init WG Ballot #371  
 SuggestedRemedy  
 "No further action, resolution impl, is OK"  
 Response Response Status C  
 ACCEPT. EZ.

Cl 00 SC 0 P 0 L 0 # 73  
 "Thompson, Geoff" GraCaSI S.A.  
 Comment Type E Comment Status A  
 WG Init WG Ballot #370  
 SuggestedRemedy  
 "No further action, resolution impl, is OK"  
 Response Response Status C  
 ACCEPT. EZ.

Cl 1 SC 1.4 P 18 L 1 # 18  
 "Dove, Daniel" Dove Networking Solut  
 Comment Type TR Comment Status A  
 No definition for PoDL PD  
 SuggestedRemedy  
 Add a definition for PoDL PD  
 Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 Add definition to 1.4 as follows:  
 1.4.330c PoDL PD: A powered device that is intended to receive power from a single balanced pair cable.

Cl 1 SC 1.4.330a P 17 L 52 # 55  
 "Scruton, Peter" University of New Ham  
 Comment Type ER Comment Status A  
 "Currently states: ""PoDL PSE: A DTE device that provides the power to a single twisted pair link section. 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 few things on this.  
 - I would think the PSE may more typically be a switch and thus a DCE that may have multiple PIs to power different PDs.  
 - I think the second sentence should have power to operate and process data.

"  
 SuggestedRemedy  
 "PoDL PSE: A device that provides power to a PoDL PD, connected via a single twisted pair link section. DTE powering is intended to provide a single 100BASE-T1 or 1000BASE-T1 device with a unified interface for both the reception and transmission of data as well as the power to operate.""  
 Response Response Status C  
 ACCEPT. EZ.

Cl 1 SC 1.4.330a P 17 L 52 # 87  
 "Zimmerman, George" CME Consulting / LTC  
 Comment Type T Comment Status A  
 "Why is there no parallel definition of PoDL PD? Without it, the PoDL PD falls in the definition of Type 1 PD for Clause 33. ""1.4.415 Type 1 PD: A PD that does not provide a Class 4 signature during Physical Layer classification (see IEEE 802.3, Clause 33).""  
 SuggestedRemedy  
 "Add definition ""PoDL PD: A PD that draws power over a link section consisting of a single twisted pair. (See IEEE Std 802.3, Clause 104)"". Change definition of Type 1 PD FROM: ""1.4.415 Type 1 PD: A PD that does not provide a Class 4 signature during Physical Layer classification (see IEEE 802.3, Clause 33)."" TO: ""1.4.415 Type 1 PD: A PD that provides a Class 0, 1, 2 or 3 signature during Physical Layer classification, and that is not a PoDL PD (see IEEE 802.3, Clause 33)""  
 Response Response Status C  
 ACCEPT. EZ.

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Cl 1 SC 1.4.330a P 17 L 52 # 88  
 "Zimmerman, George" CME Consulting / LTC

Comment Type T Comment Status A

"single twisted pair link section' is unclear (it could mean one 'twisted pair link section'. Definition needs clarity to refer to link sections consisting of a single twisted pair, and to refer to clause 104. also, ""twisted pair"" when used as an adjective should be hyphenated. (note this isn't needed if the proposed change is adopted)"

SuggestedRemedy

"Change 'power to a single twisted pair link section' to read 'power to a link section consisting of a single twisted pair.' Add at the end of definition: '(See IEEE Std 802.3, Clause 104)'"

Response Response Status C

ACCEPT. EZ.

Cl 1 SC 1.4.330a P 17 L 52 # 89  
 "Zimmerman, George" CME Consulting / LTC

Comment Type T Comment Status A

"New definition for PoDL PSE begs that the existing definition for PSE doesn't rule out PoDL PSE, or refer to clause 33. It only says: 'A DTE or midspan device that provides the power to a single link section. DTE powering is intended to provide a single 10BASE-T, 100BASE-TX, or 1000BASE-T device with a unified interface for both the data it requires and the power to process these data.' While the second sentence is helpful, the definition is the first sentence and also applies to PoDL PSEs. Clause 104 takes advantage of this and uses just PSE or PD, and not PoDL PSE or PoDL PD always. Definition needs to clearly be one or the other."

SuggestedRemedy

"Add existing definition of PSE into the amendment: ""1.4.338 Power Sourcing Equipment (PSE): A DTE or midspan device that provides the power to a single link section. DTE powering is intended to provide a single 10BASE-T, 100BASE-TX, or 1000BASE-T device with a unified interface for both the data it requires and the power to process these data."" Insert text before second sentence ("DTE powering is intended..."): ""PSEs are defined for use with two different types of twisted-pair PHYs. When used with 2 or 4 pair twisted-pair (BASE-T) PHYs (see IEEE Std 802.3, Clause 33), "" and insert at the end of the definition, ""When used with single 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."" Additionally, add a sentence to the end of the introduction of Clause 104 stating, ""When used in this clause, the term PSE always means PoDL PSE, and the term PD always means PoDL PD."" (P35 L25)"

Response Response Status C

ACCEPT. EZ.

Cl 1 SC 1.4.418a P 18 L 19 # 91  
 "Zimmerman, George" CME Consulting / LTC

Comment Type E Comment Status A

"Consistency - while link segment and link section appear to be identical in the PoDL system, as there are currently no midspans, we should be consistent which we use. Recommend to use link section, as in 1.4.330a."

SuggestedRemedy

"Replace ""link segment"" with ""link section"" in 1.4.418a, b, and c."

Response Response Status C

ACCEPT. EZ.

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Cl 1 SC 1.4.418a P 18 L 19 # 90  
 "Zimmerman, George" CME Consulting / LTC

Comment Type T Comment Status A  
 "PD/MDI and PSE/MDI are not a additional defined components comprising the PoDL system (applies to all 3 PoDL system definitions, 1.5.418a, b, and c), and are either interface planes for the PD or PSE in the standard."

SuggestedRemedy  
 "Delete 'PSE MDI/PI' and 'PD MDI/PI' from 'A system comprising.' to read 'A system comprising a PSE, link segment, and PD that are compatible.'" in 1.4.418a, b, and c."

Response Response Status C  
 ACCEPT. EZ.

Cl 1 SC 1.5 P 18 L 24 # 92  
 "Zimmerman, George" CME Consulting / LTC

Comment Type E Comment Status A  
 PD is already in the abbreviation list in 802.3-2015

SuggestedRemedy  
 Delete PD abbreviation from amendment

Response Response Status C  
 ACCEPT. EZ.

Cl 1 SC 1.5 P 18 L 25 # 93  
 "Zimmerman, George" CME Consulting / LTC

Comment Type E Comment Status A  
 PSE is already in the abbreviation list in 802.3-2015

SuggestedRemedy  
 Delete PSE abbreviation from amendment

Response Response Status C  
 ACCEPT. EZ.

Cl 30 SC 30.2.3 P 20 L 1 # 1  
 "Anslow, Pete" Ciena

Comment Type ER Comment Status A  
 "Comment #34 against D2.0 was ACCEPT with a suggested remedy of:  
 Change the editing instruction to: ""Replace Figure 30-3 (as modified by IEEE Std 802.3br-201x) with the following:""  
 Use the version in the P802.3br draft as the basis for the changes being made here.  
 However, this has not been done."

SuggestedRemedy  
 "Change the editing instruction to: ""Replace Figure 30-3 (as modified by IEEE Std 802.3br-201x) with the following:""  
 Use the version in the P802.3br draft as the basis for the changes being made here."

Response Response Status C  
 ACCEPT. EZ.

Cl 30 SC 30.15.1.1.3 P 23 L 32 # 19  
 "Dove, Daniel" Dove Networking Solut

Comment Type TR Comment Status A  
 "This section is not matching the description in clause 45, nor does the description of PSE Status accurately represent the states that the PSE would be in for a given status."

SuggestedRemedy  
 "Status => STATE as follows;  
 disabled => DISABLE  
 searching => DETECTION, DETECTION\_EVAL, CLASSIFICATION,  
 CLASSIFICATION\_EVAL,  
 delivering power => POWER\_UP and POWER\_ON,  
 sleeping => SETTLE\_SLEEP and SLEEP  
 "

Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 OBE 105.

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Cl 30 SC 30.15.1.1.7 P 25 L 16 # 94  
 "Zimmerman, George" CME Consulting / LTC

Comment Type T Comment Status A  
 "There is no transition from DETECTION to RESTART. Should be from DETECTION\_EVAL, which indicates mr\_invalid\_signature was set."

SuggestedRemedy  
 Change DETECTION to DETECTION\_EVAL

Response Response Status C  
 ACCEPT. EZ.

Cl 30 SC 30.15.1.1.8 P 25 L 31 # 95  
 "Zimmerman, George" CME Consulting / LTC

Comment Type T Comment Status A  
 directly from the state CLASSIFICATION to the state RESTART due to the pi\_detecting variable being asserted false and the pi\_sleeping variable being asserted true these variables are set whenever the RESTART state is entered. The transition is indicated by tclass\_timer\_done.

SuggestedRemedy  
 "Change ""due to the pi\_detecting variable being asserted false and the pi\_sleeping variable being asserted true"" to ""due to tclass\_timer\_done being asserted true"""

Response Response Status C  
 ACCEPT. EZ.

Cl 30 SC 30.15.1.1.9 P 25 L 49 # 96  
 "Zimmerman, George" CME Consulting / LTC

Comment Type ER Comment Status A  
 "logic sense of the variable is reversed. ""power\_not\_available variable being true."" - variable is actually power\_available, and the referenced transition occurs when it is false."

SuggestedRemedy  
 "Change ""power\_not\_available variable being true"" in BEHAVIOUR DEFINED AS of 30.15.1.1.9 to ""power\_available variable being false."""

Response Response Status C  
 ACCEPT. EZ.

Cl 45 SC 45 P 29 L 6 # 97  
 "Zimmerman, George" CME Consulting / LTC

Comment Type E Comment Status A  
 "Editing instruction incorrectly formed: ""Insert row to add Power Unit Registers to Table 45-1 as changed by P802.3bn as shown (unchanged rows not shown):"" should be ""Insert row to add Power Unit Registers to Table 45-1 (as modified by IEEE Std 802.3bn-201x) directly above reserved row, and adjust reserved row as follows (unchanged rows not shown):"""

SuggestedRemedy  
 see comment

Response Response Status C  
 ACCEPT. EZ.

Cl 45 SC 45.2 P 29 L 5 # 2  
 "Anslow, Pete" Ciena

Comment Type E Comment Status A  
 "P802.3bn should be ""IEEE Std 802.3bn-201x"""

SuggestedRemedy  
 "Change ""P802.3bn"" to ""IEEE Std 802.3bn-201x""  
 Make the same change on page 30, line 2"

Response Response Status C  
 ACCEPT. EZ.

Cl 45 SC 45.2 P 29 L 18 # 98  
 "Zimmerman, George" CME Consulting / LTC

Comment Type ER Comment Status A  
 "Table 45-2, edit changing power unit MMD to address 13 from comment 323 needs to be reflected here, changing the address from m.5.12 to m.5.13."

SuggestedRemedy  
 "Change editing instruction to read ""Change Table 45-2 (as modified by IEEE Std 802.3bn-201X) to update reserved row and insert row to add Power Unit Registers in Table 45-2, below reserved row for m.5.15:13 and immediately above row for register m.5.12 (inserted by IEEE Std 802.3bn-201X) (unchanged rows not shown):"" , and change reserved row edit to show change from m.5.15:13 to m.5.15:14, and change inserted row for ""m.5.12"" to read ""m.5.13"""

Response Response Status C  
 ACCEPT. EZ.

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CI 45 SC 45.2 P 29 L 29 # 3

"Anslow, Pete"

Ciena

Comment Type TR Comment Status A

"As noted in comment #39 against D2.0, device address 12 has been allocated by P802.3bn. This means that in Table 45-2, Power Unit present should be m.5.13 not m.5.12"

SuggestedRemedy

"In Table 45-2:  
Change the reserved row to be ""m.5.15:1314"" where 13 is in strikethrough and 14 is underlined.  
Change ""Power Unit present"" to be m.5.13  
Change the editing instruction to refer to Table 45-2 as modified by IEEE Std 802.3bn-201x."

Response Response Status C

ACCEPT. EZ.

CI 45 SC 45.2.7a.2.1 P 30 L 26 # 51

"Remein, Duane"

Comment Type TR Comment Status R unsatisfied

"The use of the term shall here implies CL 45 is mandated. Clause 45 is optional in it's entirety and cannot be made mandatory.

""This bit shall be set to one when the PSE state diagram (Figure 104-4) enters the state 'ERROR.' The Power Denied bit shall be implemented with latching high behavior as defined in 45.2.""

Given that you've not opened the PICS for CI 45 I infer that you don't wish to include normative language here."

SuggestedRemedy

"Change ""shall be"" to ""is"" in 12 places in 45.2.7a.2.x. For example the statements quoted above will read:  
""This bit is set to one when the PSE state diagram (Figure 104-4) enters the state 'ERROR.' The Power Removed bit is implemented with latching high behavior as defined in 45.2.""

Response Response Status C

REJECT. EZ.

Implementation of 45.2.7.b is optional. If it is implemented, the 'shalls' in CL 45 are mandatory.

CI 45 SC 45.2.7a.2.4 P 30 L 44 # 52

"Remein, Duane"

Comment Type TR Comment Status A unsatisfied

"MDIO registers affected by SD's should clearly be tied to a variable in the SD and not set/reset by a state transition as in ""shall be set to one when the PSE state diagram (Figure 104-4) transitions directly from the state CLASSIFICATION\_EVAL to RESTART"" This issue exists for the following bit definitions; 12.1.15, 14, 13, 12, 11, 10 , 9:7, 6:3 and 2:0."

SuggestedRemedy

Provide a clear reference to a SD variable for bit 12.1.12. If one does not exist in the SD create it in the SD and xref here.

Response Response Status C

ACCEPT IN PRINCIPLE.

See 105.

CI 45 SC 45.2.7b P 30 L 2 # 99

"Zimmerman, George"

CME Consulting / LTC

Comment Type E Comment Status A

"Editing instruction incorrectly formed: ""added by P802.3bn."" , should be ""inserted by IEEE Std 802.3bn-201X.""

SuggestedRemedy

see comment

Response Response Status C

ACCEPT. EZ.

CI 45 SC 45.2.7b P 30 L 4 # 100

"Zimmerman, George"

CME Consulting / LTC

Comment Type E Comment Status A

"more than just table 45-211d are inserted by IEEE P802.3bq, bz, and bn; actually, IEEE Std. 802.3bn inserts Tables 45-211a through g, hence the numbering is correct, but the editor's note is incorrect, and the editor's note is redundant with the editing instruction."

SuggestedRemedy

Delete editor's note

Response Response Status C

ACCEPT. EZ.

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Cl 45 SC 45.2.7b.1.1 P 30 L 42 # 101  
 "Zimmerman, George" CME Consulting / LTC

Comment Type E Comment Status A  
 "Enable power classification is bit 13.0.1, not 13.0.2, title and text are incorrect (3 instances)"

SuggestedRemedy  
 Change 13.0.2 to 13.0.1 in title of 45.2.7b.1.1 and 2 instances in the text.

Response Response Status C  
 ACCEPT. EZ.

Cl 45 SC 45.2.7b.1.2 P 30 L 49 # 102  
 "Zimmerman, George" CME Consulting / LTC

Comment Type E Comment Status A  
 "PSE Enable bit is 13.0.0, not 13.0.1 as in the text."

SuggestedRemedy  
 Change 13.0.1 to 13.0.0 (2 instances)

Response Response Status C  
 ACCEPT. EZ.

Cl 45 SC 45.2.7b.2.1 P 31 L 45 # 47  
 "Law, David" Hewlett Packard Enter

Comment Type T Comment Status A  
 The definition of the Power Removed(13.1.15) bit and the Overload (13.1.11) bit are identical. Both state that 'This bit shall be set to one when the PSE state diagram (see Figure 104-4) enters the state OVERLOAD.'

SuggestedRemedy  
 Since these two bits are repetitively redundant remove either the Power Removed or Overload bit.

Response Response Status C  
 ACCEPT IN PRINCIPLE. EZ.

OBE 103.

Cl 45 SC 45.2.7b.2.1 P 31 L 48 # 103  
 "Zimmerman, George" CME Consulting / LTC

Comment Type T Comment Status A  
 "The Power Removed bit as redefined is now duplicative of the overload bit. The overload bit more correctly states the fault. 30.15.1.1.9 relies on this bit to count power being denied because power\_not\_available is true. (variable is actually power\_available, and it transitions when it is false - see comment on 30.15.1.1.9)."

SuggestedRemedy  
 "Change bit name from ""Power Removed"" to ""Power Denied"" in title of 45.2.7b.2.1 and Table 45-211j. Change description in Table 45-211j of bit 13.1.15 to ""1=Power has been denied due to power not available 0= Power has not been denied due to power not available"" Change second sentence of 45.2.7b.2.1 from ...""when the PSE state diagram (see Figure 104-4) enters the state OVERLOAD."" to ...""when power\_available transitions from TRUE to FALSE."""

Response Response Status C  
 ACCEPT. EZ.

Cl 45 SC 45.2.7b.2.3 P 32 L 10 # 104  
 "Zimmerman, George" CME Consulting / LTC

Comment Type T Comment Status A  
 "As defined, Latching High, the Invalid Signature bit will always be set on entry to the state machine and will latch high. To be meaningful, it will always require two reads. This seems unreasonable. (related to unsatisfied comment 333)"

SuggestedRemedy  
 "Change ""This bit shall be set to one when the PSE detection state diagram (see Figure 104-5) enters the state IDLE\_DETECT."" to read ""This bit maps to the state variable mr\_invalid\_signature, and latches high when mr\_invalid\_signature transitions from FALSE to TRUE."""

Response Response Status C  
 ACCEPT. EZ.

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CI 45 SC 45.2.7b.2.4 P 32 L 17 # 48  
 "Law, David" Hewlett Packard Enter

Comment Type T Comment Status A

"Subclause 45.2.7b.2.4 states that '... bit shall be set to one when the PSE state diagram (see Figure 104-4) transitions directly from the state CLASSIFICATION\_EVAL to RESTART due to the pi\_detecting variable being asserted false and the pi\_sleeping variable being asserted true.'. The transition from CLASSIFICATION\_EVAL to RESTART however is conditioned on '!valid\_class + !power\_available'. Further, the actions pi\_detecting <= TRUE and pi\_sleeping <= FALSE are executed in the DETECTION state which has to be passed through to get to the CLASSIFICATION\_EVAL state, and no other state changed these variables prior to the CLASSIFICATION\_EVAL state. Hence by definition if the transitions directly from the state CLASSIFICATION\_EVAL to RESTART is taken the pi\_detecting variable cannot be false and the pi\_sleeping variable cannot be true. Isn't it the transition from CLASSIFICATION to RESTART due to tclass\_timer\_done that is a Classification timeout condition, so should this be the condition that sets this bit."

SuggestedRemedy

Suggest that ' The Class Timeout bit shall be set to one when the PSE state diagram (see Figure 104-4) transitions directly from the state CLASSIFICATION\_EVAL to RESTART due to the pi\_detecting variable being asserted false and the pi\_sleeping variable being asserted true.' should be changed to read ' The Class Timeout bit shall be set to one when the PSE state diagram (see Figure 104-4) transitions directly from the state CLASSIFICATION to RESTART due to tclass\_timer\_done.'

Update PICS item PODLM5 to match.

Response ACCEPT. EZ. Response Status C

CI 45 SC 45.2.7b.2.4 P 32 L 17 # 105  
 "Zimmerman, George" CME Consulting / LTC

Comment Type TR Comment Status A

"Pile on to unsatisfied comment 333: MDIO registers affected by SD's should clearly be tied to a variable in the SD and not set/reset by a state transition as in ""shall be set to one when the PSE state diagram (Figure 104-4) transitions directly from the state CLASSIFICATION\_EVAL to RESTART"" This issue exists for the following bit definitions; 13.1.15, 13, 12, 11, 10, 9:7, 6:3, and 2:0. (bit 14 was fixed in D2.1)"

SuggestedRemedy

"See presentation (GZ1) for resolving comment 333, and providing detailed text of remedy, proposing realignment of states (in both 45.2.7b.2 and 30.15.1.1.3) and linking status bits to variables used in the state machine."

Response ACCEPT IN PRINCIPLE. Response Status C

Editor given license to adjust PSE SD and associated text to other pending changes regarding detection and classification.

See comments 19, 20, and 52 (D2.0 333).

CI 45 SC 45.2.7b.2.9 P 32 L 52 # 106  
 "Zimmerman, George" CME Consulting / LTC

Comment Type TR Comment Status A

"Only states 000 (DISABLED), 010 (POWER\_ON), 011 (searching), 100 (error/overload), 101 (idle) and 001 ("other") are listed in the text, contrary to the Table 45-211j, which also lists sleeping as 001, and considers 101 as reserved. There is no code for ""other"""

SuggestedRemedy

"See presentation (GZ1) for resolving comment 333, and providing detailed text of remedy, proposing realignment of states (in both 45.2.7b.2 and 30.15.1.1.3) and linking status bits to variables used in the state machine."

Response ACCEPT IN PRINCIPLE. Response Status C

See 20.



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Cl 45 SC 45.2.7b.2.9 P 43 L 50 # 20  
 "Dove, Daniel" Dove Networking Solut

Comment Type TR Comment Status A

"This section is not matching the description in clause 30, nor does the description of PSE Status accurately represent the states that the PSE would be in for a given status."

SuggestedRemedy

"Status => STATE as follows;  
 disabled => DISABLE  
 searching => DETECTION, DETECTION\_EVAL, CLASSIFICATION,  
 CLASSIFICATION\_EVAL,  
 delivering power => POWER\_UP and POWER\_ON,  
 sleeping => SETTLE\_SLEEP and SLEEP  
 "

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 106.

Cl 45 SC 45.2.7b.3 P 33 L 25 # 4  
 "Anslow, Pete" Ciena

Comment Type E Comment Status A

"Footnote a to Table 45-211k should not include "", LH = Latching High" as ""LH"" does not appear in the right hand column."

SuggestedRemedy

"Change footnote a to ""RO = Read Only"""

Response Response Status C

ACCEPT. EZ.

Cl 45 SC 45.5 P 33 L 37 # 5  
 "Anslow, Pete" Ciena

Comment Type E Comment Status A

"In the title of 45.5, ""Clause 45"" should be a cross-reference."

SuggestedRemedy

"Make ""Clause 45"" a cross-reference"

Response Response Status C

ACCEPT. EZ.

Cl 45 SC 45.5.3.13b P 33 L 51 # 107  
 "Zimmerman, George" CME Consulting / LTC

Comment Type E Comment Status A

"Malformed editing instruction ""Insert 45.5.3.13b after 45.5.3.13b as shown below"""

SuggestedRemedy

"Change to ""Insert 45.5.3.13b after 45.5.3.13a (inserted by IEEE Std 802.3bn-201X) as follows:""

Response Response Status C

ACCEPT. EZ.

Cl 45 SC 45.5.3.13b P 33 L 53 # 6  
 "Anslow, Pete" Ciena

Comment Type E Comment Status A

"Insert 45.5.3.13b after 45.5.3.13b as shown below should be ""Insert 45.5.3.13b after 45.5.3.13a (as inserted by IEEE Std 802.3bn-201x) as follows:""

SuggestedRemedy

"Change ""Insert 45.5.3.13b after 45.5.3.13b as shown below"" to ""Insert 45.5.3.13b after 45.5.3.13a (as inserted by IEEE Std 802.3bn-201x) as follows:""

Response Response Status C

ACCEPT. EZ.

Cl 104 SC P 0 L 0 # 11  
 "Brown, Matt" APM

Comment Type E Comment Status A

Draft 2.0 comment #55 was accepted but not appear to have been implemented.

SuggestedRemedy

Implement D2.0 comment #55.

Response Response Status C

ACCEPT. EZ.

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Cl 104 SC 104.3.6 P 0 L 0 # 66  
 "Thompson, Geoff" GraCaSI S.A.  
 Comment Type TR Comment Status A  
 Pile-on to WG Init WG Ballot #399  
 SuggestedRemedy  
 Specify the bandwidth for the measurement  
 Response Response Status C  
 ACCEPT.  
 See comment 108.  
 Remedy presented in gardner\_3bu\_02\_0316.pdf.  
 Editor given license to change proposed remedy by adding specification to high impedance associated with diff probe as "100 ohms+/-0.1% with a high pass pole at f=31.8kHz+/-1% for type A or 318kHz+/-1% for type B PSE/PDs"

Cl 104 SC 104.1 P 35 L 15 # 70  
 "Thompson, Geoff" GraCaSI S.A.  
 Comment Type ER Comment Status A  
 WG Init WG Ballot #375  
 SuggestedRemedy  
 "Needs more work, no concept of ""each"" MDI/PI."  
 Response Response Status C  
 ACCEPT IN PRINCIPLE. EZ.  
 Change  
 "c) Certain electrical parameters of the medium dependent interface which..."  
 to  
 "c) Certain electrical parameters of each MDI/PI which..."

Cl 104 SC 104.1 P 35 L 1 # 21  
 "Dove, Daniel" Dove Networking Solut  
 Comment Type TR Comment Status A  
 The intro lacks a few elements of clarity  
 SuggestedRemedy  
 "Replace ""two optional power entities, a Powered Device (PD) and Power Sourcing Equipment (PSE), for use with supported Ethernet Physical Layers."" with ""two optional power entities, a PoDL Powered Device (PD) and PoDL Power Sourcing Equipment (PSE), for use with supported single-pair Ethernet Physical Layers.Throughout this clause, PoDL PSE and PoDL PD will be referred to as PSE and PD respectively.""  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.1.2 P 35 L 38 # 22  
 "Dove, Daniel" Dove Networking Solut  
 Comment Type TR Comment Status A  
 I think its important to clarify that PoDL is intended for single-pair Ethernet Physical Layers  
 SuggestedRemedy  
 "Replace ""supported Ethernet Physical 38 Layers."" with ""supported single-pair Ethernet Physical 38 Layers.""  
 Response Response Status C  
 ACCEPT IN PRINCIPLE. EZ.  
 Replace "supported Ethernet Physical Layers." with "supported single-pair Ethernet Physical Layers."

Cl 104 SC 104.3 P 38 L 18 # 7  
 "Anslow, Pete" Ciena  
 Comment Type E Comment Status A  
 "The IEEE style manual contains:  
 ""Digits should be separated into groups of three, counting from the decimal point toward the left and right. The groups should be separated by a space, and not a comma, period, or dash. If the magnitude of the number is less than one, the decimal point should be preceded by a zero. In numbers of four digits, the space is not necessary, unless four-digit numbers are grouped in a column with numbers of five digits or more.""  
 SuggestedRemedy  
 "Change ""1,360"" to ""1360""  
 Response Response Status C  
 ACCEPT. EZ.

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Cl 104 SC 104.3.6 P 46 L 23 # 108  
 "Zimmerman, George"

Comment Type TR Comment Status A unsatisfied

"Power feeding ripple and noise are defined as a function of frequency, but the units are specified as Vp-p, and no bandwidth for the measurmeent is defined. Need to specify what filter bandwidth this Vpp is over. Same applies to item 3 in Table 104-6."

SuggestedRemedy

We need to specify a measurement bandwidth for ripple. What is it? Commentor did not accept rejection in order to keep this open for the next meeting cycle so it can be addressed with a proposal from the editor and or members of the group.

Response Response Status C

ACCEPT IN PRINCIPLE.

OBE 66.

Cl 104 SC 104.4.3.6 P 42 L 5 # 49  
 "Law, David" Hewlett Packard Enter

Comment Type T Comment Status A

"The entry in to the DISABLED state is condition by on open arrow with the condition 'START \* !mr\_pse\_enable'. The variable 'START' is not defined anywhere, assume this should really be something like 'pse\_reset'. Further, subclause 45.2.7b.1.2 'PSE Enable' and the definition of the mr\_pse\_enable variable in subclause 104.4.3.3 'Variables' both state that when FALSE the operation of the PSE is disabled. If this is the case its inverse can't be locally ANDed with another variable here otherwise the PSE will only be disabled once mr\_pse\_enable is FALSE and the other variable is TRUE. Assume this AND condition should actually be an OR condition."

SuggestedRemedy

Suggest that:

- [1] A new state diagram variable 'pse\_reset' is added. It is defined as 'Controls the resetting of the PSE state diagram. Condition that is TRUE until such time as the power supply for the device that contains the PSE overall state diagrams has reached the operating region. It is also TRUE when implementation-specific reasons require reset of PSE functionality.'
- [2] Change the conditions on the open arrow entry to the DISABLED state to be 'pse\_reset + !mr\_pse\_enable'.

Response Response Status C

ACCEPT. EZ.

See 23.

Cl 104 SC 104.4.3.6 P 42 L 5 # 23  
 "Dove, Daniel" Dove Networking Solut

Comment Type TR Comment Status A

"START variable is not defined and arguably unnecessary At worst, it removes the implicit ability to return to DISABLED state at any time mr\_pse\_enable = false. The State Diagram will naturally start at the DISABLED state, but cannot return there if the START variable were not true. If so, many arcs in the state diagram would be missing."

SuggestedRemedy

"Remove ""START"" variable from the diagram"

Response Response Status C

ACCEPT IN PRINCIPLE. EZ.

OBE 49.

Cl 104 SC 104.4.3.6 P 42 L 17 # 24  
 "Dove, Daniel" Dove Networking Solut

Comment Type ER Comment Status A

detection\_done is placed too far away from the arc.

SuggestedRemedy

Move it closer to the arc.

Response Response Status C

ACCEPT. EZ.

Cl 104 SC 104.4.3.6 P 42 L 31 # 25  
 "Dove, Daniel" Dove Networking Solut

Comment Type ER Comment Status A

"In the RESTART and IDLE states, pi\_sleeping is set to TRUE. I understand that the real goal within those states is to pre-bias the PI, but the name of the variable is inconsistent with the operation."

SuggestedRemedy

"Create a new variable ""pi\_prebias"" in 104.4.3.3 that has the same effect on the pi, but does not suggest the PSE is sleeping. Replace pi\_sleeping assignments in RESTART, IDLE states and insert pi\_prebias <= false in the DETECTION state."

Response Response Status C

ACCEPT IN PRINCIPLE.

TFTD. See gardner\_3bu\_01\_0316.pdf for proposed PSE SD.

Editor given license to adopt that portion of gardner\_3BU\_010316.pdf to incorporate new SD variables.

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Cl 104 SC 104.4.3.6 P 42 L 36 # 50  
 "Law, David" Hewlett Packard Enter

Comment Type T Comment Status A  
 It appears that the variable 'mfvs\_timeout' is not defined in subclause 104.4.3.3 'Variables'.

SuggestedRemedy  
 Add a definition for the variable 'mfvs\_timeout' in subclause 104.4.3.3 'Variables'.

Response Response Status C  
 ACCEPT IN PRINCIPLE. EZ.

mfvs\_timeout definition has a typo - change spelling from 'mfvs\_timeout' to 'mfvs\_timeout' in definitions section of PSE SD.

Cl 104 SC 104.4.3.6 P 44 L 1 # 45  
 "Gardner, Andrew" Linear Technology Cor

Comment Type TR Comment Status A  
 The overload state diagram doesn't address overload for states besides the POWER\_ON state.

SuggestedRemedy  
 Delete Figure 104-7 and rely upon the definition of overload\_detected to govern the behavior of the main PSE SD.

Response Response Status C  
 ACCEPT IN PRINCIPLE.

See comment 12.

Cl 104 SC 104.4.3.6 P 44 L 22 # 12  
 "Dove, Daniel" Dove Networking Solut

Comment Type TR Comment Status A  
 There is no method for transitioning from the SLEEP state to the OVERLOAD state shown in the diagram. Figure 104-7 addresses only the case for when pi\_powered is TRUE.

SuggestedRemedy  
 "See attached figure (Figure 104-4 modified) for a recommended change. Another method, less preferred, would be to rely strictly on the text in paragraph 3 of 104.4.6.2.1. Finally, another approach is to create another ""Sleeping Overload State Diagram"" see attached. Either approach works, but the TF should decide this."

Response Response Status C  
 ACCEPT IN PRINCIPLE.

OBE 45.

Cl 104 SC 104.4.4 P 44 L 23 # 30  
 "Gardner, Andrew" Linear Technology Cor

Comment Type TR Comment Status A  
 "Detection is mandatory for PoDL PSEs that perform classification, but it is redundant with classification."

SuggestedRemedy  
 Make detection optional for PSEs that perform classification as proposed in gardner\_3bu\_01\_0316.pdf

Response Response Status C  
 ACCEPT.

Adopt remedy proposed on page 6 of gardner\_3bu\_04a\_0316.pdf.

Cl 104 SC 104.4.4 P 44 L 23 # 31  
 "Gardner, Andrew" Linear Technology Cor

Comment Type TR Comment Status A  
 The existing detection scheme has a loophole that allows a range of simple resistors to pass detection.

SuggestedRemedy  
 Implement remedy as proposed in gardner\_3bu\_01\_0316.pdf

Response Response Status C  
 ACCEPT IN PRINCIPLE.

Editor given to license to adopt portion of gardner\_3bu\_01\_0316.pdf that pertains to fixing detection loophole (slides 7 and 8).

Cl 104 SC 104.4.4.1 P 44 L 44 # 32  
 "Gardner, Andrew" Linear Technology Cor

Comment Type TR Comment Status A  
 The detection short circuit current max of 30mA is relatively large compared to the maximum allowed detection current of 16mA. Minimizing the maximum current that can flow during detection and sleep is desirable.

SuggestedRemedy  
 Reduce the short circuit current (ISC) max from 30mA to 20mA

Response Response Status C  
 ACCEPT IN PRINCIPLE.

Change to 24mA.

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Cl 104 SC 104.4.6.2.1 P 48 L 4 # 13  
 "Dove, Daniel" Dove Networking Solut  
 Comment Type TR Comment Status A  
 "The following is ambiguous ""During operation in any other state when the PSE is enabled, ""  
 SuggestedRemedy  
 "Change ""During operation in any other state when the PSE is enabled, "" to ""During operation in any state other than POWER\_UP or POWER\_ON when the PSE is enabled, ""  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.4.6.2.2 P 48 L 16 # 14  
 "Dove, Daniel" Dove Networking Solut  
 Comment Type TR Comment Status A  
 "Text says ""A PSE shall transition from the SLEEP state to the POWER\_UP state ."" but there is no arc from the SLEEP to the POWER\_UP state. I think this is not correct. Nor are the terms defining this transition shown in the logic."  
 SuggestedRemedy  
 "Replace ""POWER\_UP"" with ""DETECTION""  
 Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 OBE 30.  
 Text is wrong as is and needs to be fixed by remedy to comment 30.

Cl 104 SC 104.5 P 49 L 14 # 53  
 "Schindler, Fred" Seen Simply  
 Comment Type ER Comment Status A  
 "Draft 2.0 comment 343:  
 The existing text,  
 ""A device that is capable of becoming a PD may or may not have the ability to draw power from an alternate power source and, if doing so, may or may not require power from the PI ""  
 is not clear. The existing text has unnecessary words and also appears to cover something that is not a PD in the same sentence that is trying to define a PD. For example, a device capable of being a PD and is capable of drawing power from an alternate power source may not require from power the PI. Which will result in a disconnect because the device is no longer a PD. The proposed text focus on what a PD is.  
 The accepted text was,  
 ""A device that is capable of becoming a PD may have the ability to draw power from an alternate power source. A PD using an alternate power source may simultaneously require power from the PI.""  
 Most of the room supported the recommended change. Only one person wanted the maintenance request that I stated I would not do.  
 The PAR and 5-criteria for .3bu do not require consistent text between, Clauses 104 and 33. The proposed correction should be implemented as was generally accepted by the Task Force.  
 I have updated the solution to better convey what a PD is.  
 "  
 SuggestedRemedy  
 "Replace the called out text with,  
 ""A device that is capable of becoming a PD may have the ability to draw power from an alternate power source. A PD requiring power from the PI may simultaneously draw power from an alternate power source.""  
 "  
 Response Response Status C  
 ACCEPT. EZ.

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Cl 104 SC 104.5.3.3 P 52 L 43 # 15  
 "Dove, Daniel" Dove Networking Solut  
 Comment Type TR Comment Status A  
 "In the definition of sccp\_reset\_pulse, there is no detailed specification for this variable."  
 SuggestedRemedy  
 "Insert the following reference..."  
 ""a SCCP reset pulse per Figure 104-13 as described in 104.7.3.1""  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.5.3.6 P 52 L 26 # 16  
 "Dove, Daniel" Dove Networking Solut  
 Comment Type E Comment Status A  
 This is super-minor nit. The spacing of text within the state boxes is not consistent.  
 SuggestedRemedy  
 "If you have time, resize the boxes to fit the text with equal spacing on top/bottom of the box relative to text."  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.5.3.6 P 52 L 26 # 17  
 "Dove, Daniel" Dove Networking Solut  
 Comment Type TR Comment Status A  
 "There is a ""do\_sccp\_done"" statement in the DO\_CLASSIFICATION state. I cannot figure out what this means. do\_sccp is a function. It should be called as do\_sccp and then perhaps an exit condition would be do\_sccp\_done."  
 SuggestedRemedy  
 "replace ""do\_sccp\_done"" with ""do\_sccp""  
 Maybe, add ""do\_sccp\_done"" into logic with Vpd > Vsig\_disable to leave the state.  
 (do\_sccp\_done \* Vpd > Vsig\_disable."  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.5.4 P 52 L 52 # 33  
 "Gardner, Andrew" Linear Technology Cor  
 Comment Type TR Comment Status D  
 "Implementation of the physical signature is required for PDs that support classification, but the ability to perform classification makes the physical signature redundant."  
 SuggestedRemedy  
 Make implementation of the physical signature optional for PDs that support classification as proposed in gardner\_3bu\_01\_0316.pdf  
 Proposed Response Response Status Z  
 REJECT.  
 This comment was WITHDRAWN by the commenter.

Cl 104 SC 104.5.6 P 54 L 30 # 34  
 "Gardner, Andrew" Linear Technology  
 Comment Type TR Comment Status A  
 There's no symbol indicated for item 6b in table 104-6  
 SuggestedRemedy  
 Add a symbol as CIN\_Class  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.5.6 P 54 L 29 # 35  
 "Gardner, Andrew" Linear Technology  
 Comment Type T Comment Status D  
 There's no minimum input capacitance required for a PD during inrush. Bounding the minimum input capacitance may simplify the design of the PSE inrush circuitry.  
 SuggestedRemedy  
 Add minimum values of 1uF where 10uF is the max and 0.5uF where 5uF is the max..  
 Proposed Response Response Status Z  
 REJECT.  
 This comment was WITHDRAWN by the commenter.

TFTD.

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Cl 104 SC 104.5.6.2 P 55 L 39 # 54  
 "Scruton, Peter" University of New Ham

Comment Type E Comment Status A  
 "A PD that requires detection and power-up shall draw current in the range of IWakeup\_PD for at least TWakeup\_PD when Vsleep\_PD min < VPD < Vsleep max as specified in Table 104-3 and Table 104-6, respectively.

Saying respectively here doesn't seem right... there are more than two terms being talked about and the order doesn't seem to help...

SuggestedRemedy  
 delete , respectively"

Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.6.3.1 P 57 L Eq 1 # 46  
 Joseph A.

Comment Type TR Comment Status R unsatisfied  
 Change in return loss specifaicaton will effect current BroadR-reach compliant 100Mbps PHY's. It should be left to the PHY vendor to determine if the PHY's can tolerate a higher return loss at < 2Mhz and not be forced by the specification. Impact of this would be different PHY's working with different inductor values. This choice should be left to the vendors.

SuggestedRemedy  
 Remove degradation in return loss from 1 to 2MHz. This comment is only for 100Base-T1

Response Response Status C  
 REJECT. EZ.

Cl 104 SC 104.7 P 0 L 0 # 10  
 "Brown, Matt" APM

Comment Type E Comment Status A  
 Draft 2.0 comment #56 was accepted but does not appear to have been implemented.

SuggestedRemedy  
 Implement D2.0 comment #56.

Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.7.1 P 59 L 11 # 75  
 "Zimmerman, George" CME Consulting / LTC

Comment Type TR Comment Status A  
 "meet the required electrical specifications of SCCP isn't a specification in this document. THis could be ""meet the requirements of Table 104-7"" , but then another shall would be needed to apply to the slave. However, if comment putting the requirement before the table is implemented, then statements for both master and slave are unnecessary,"

SuggestedRemedy  
 "Delete ""and meet the required electrical specifications of SCCP."" and Change ""Table 104-7 details the electrical requirements for SCCP."" to ""A PSE or PD implementing SCCP shall comply with the electrical and timing requirements in Table 104-7."" on P62 L35, adjust PICS SCCP1 and add new PICS for Table compliance"

Response Response Status C  
 ACCEPT IN PRINCIPLE. EZ.

Accept remedy as described, and grant PICS editor license to add adjust PICS SCCP1 and add new PICS for Table compliance.

Cl 104 SC 104.7.1 P 59 L 16 # 36  
 "Gardner, Andrew" Linear Technology Cor

Comment Type ER Comment Status A  
 Font size in Figure 104-11 is less than 9 point.

SuggestedRemedy  
 Increase font size as needed.

Response Response Status C  
 ACCEPT. EZ.  
 OBE by 10.

Cl 104 SC 104.7.1 P 59 L 20 # 76  
 "Zimmerman, George" CME Consulting / LTC

Comment Type ER Comment Status A  
 PSE\_PI+ and PSE\_PI- are shorted in the figure

SuggestedRemedy  
 Remove connection between PSE\_PI+ and PSE\_PI-

Response Response Status C  
 ACCEPT. EZ.

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Cl 104 SC 104.7.2 P 60 L 1 # 37  
 "Gardner, Andrew" Linear Technology Cor

Comment Type TR Comment Status A

Figure 104-12 has the PSE PI shorted out

SuggestedRemedy

Place switch controlled by TX output between PI+ and PI-

Response Response Status C

ACCEPT. EZ.

Cl 104 SC 104.7.2 P 60 L 4 # 38  
 "Gardner, Andrew" Linear Technology Cor

Comment Type ER Comment Status A

Font size in Figure 104-12 is less than 9 point.

SuggestedRemedy

Increase font size as needed.

Response Response Status C

ACCEPT. EZ.

OBE by 10.

Cl 104 SC 104.7.2 P 60 L 4 # 39  
 "Gardner, Andrew" Linear Technology Cor

Comment Type T Comment Status A

"The VDD node in Figure 104-12 has no obvious relationship to the PD PI. Also, the use of a diode symbol in this figure is limiting."

SuggestedRemedy

Delete the VDD node and associated connection and replace the remaining diode with a generic rectifier block. Consider deleting Figures 104-11 and 104-12 altogether since they are not normative.

Response Response Status C

ACCEPT IN PRINCIPLE.

Reference table 104-7 in 104.7.1. and delete Figure 104-11 and accompanying text.

Delete Figure 104-12 and accompanying text in 104.7.2.

Cl 104 SC 104.7.3.1 P 60 L 35 # 77  
 "Zimmerman, George" CME Consulting / LTC

Comment Type T Comment Status A

"and then pull-up within tRSTL. this statement of the requirement allows the master to pull-up within any duration shorter than tRSTL, which, doesn't seem to be what is meant by the table."

SuggestedRemedy

"change ""within tRSTL"" to ""at tRSTL."" Additionally, the timings would be clearer if, after line 33, ""This is illustrated in Figure 104-13."" the statement ""See 104-7 for requirements on the timing relationships.""

Response Response Status C

ACCEPT. EZ.

Cl 104 SC 104.7.3.1 P 60 L 38 # 78  
 "Zimmerman, George" CME Consulting / LTC

Comment Type TR Comment Status A

"after the falling edge that initiated the read time slot. This is the first time a ""read time slot"" is referred to and several paragraphs before it is described, and it doesn't readily appear that the reset pulse initiates a read time slot (see P61 L34). The timing diagram seems to indicate ""after the rising edge that terminated the reset pulse."" would be correct. I am, however, unsure, as this is a pretty large change from the description, and it could be the figure that is incorrect."

SuggestedRemedy

"Make the text consistent with the figure. Change ""after the falling edge that initiated the read time slot."" to ""after the rising edge that terminated the reset pulse.""

Response Response Status C

ACCEPT. EZ.



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Cl 104 SC 104.7.3.1 P 60 L 39 # 79  
 "Zimmerman, George" CME Consulting / LTC

Comment Type TR Comment Status A

"master shall sample the subsequent voltage within tMSP. Requiring the master to sample the voltage seems untestable, even though it is likely the right way to receive. The requirement doesn't say what the master has to do with it. There is already a statement of when the presence data from the slave is valid - perhaps this should be the ""shall"" - the master can then do whatever it needs to do to get the valid data."

SuggestedRemedy

"P60 L39: Change ""master shall sample"" to ""master should sample"" (P60 L39),  
 P60 L38: Change ""Presence data from the slave is valid for tMSP after"" to ""Presence data from the slave shall be valid for the entire time window defined by tMSP following""

Response Response Status C

ACCEPT. EZ.

Cl 104 SC 104.7.3.2 P 61 L 22 # 80  
 "Zimmerman, George" CME Consulting / LTC

Comment Type T Comment Status A

"Several problems with this language: ""To generate a Write 1 time slot, after pulling VPSE low, the master shall pull-up VPSE within tW1L."" describing timing as an action ""within tW1L"" allows any time less than tW1L to be valid. The description seems to mean ""The master shall generate a write 1 time slot first pulling VPSE low, and then pulling up VPSE within range of tW1L."" Similarly for a Write 0 time slot. There is then a requirement for the slave to sample ""within the range of tSSW"", but without stating what tSSW is relative to."

SuggestedRemedy

"Change ""within tW1L"" to ""within the range of tW1L"", and ""within tW0L"" to ""within the range of tW0L"". Insert ""after the falling edge"" after ""within the range of tSSW.""

Response Response Status C

ACCEPT. EZ.

Cl 104 SC 104.7.3.3 P 61 L 35 # 81  
 "Zimmerman, George" CME Consulting / LTC

Comment Type TR Comment Status A

"The master device shall initiate a read time slot by pulling VPSE low and then pulling-up VPSE within tW1L. This is exactly the same language as generating a Write 1 timeslot, making the read time slot and the write 1 timeslot not uniquely identifiable. Additionally, there is a timing problem, because according to this tW1L can be between 0.09 ms and 0.33 ms, while the master may sample anytime between 0.27ms and 0.33ms, meaning that if the slave hasn't recognized tW1L until near the end of its allowed duration, it won't have asserted data. The original spec seems to have had a separate tRL, which was slightly shorter than tW1L, and figure 104-15 shows the tW1L expiring before the tMSR. Recommend reinstating tRL as a shorter duration than tMSR min."

SuggestedRemedy

"Change ""tW1L"" to ""tRL"", both on P61 L35 and in Figure 104-15. Add tRL to Table 104-7, with a range of 0.09 ms to 0.25 ms (not exactly sure on the max time, but it has to be less than 0.27ms with some margin). Adjust PICS SCCP14 to reference tRL."

Response Response Status C

ACCEPT IN PRINCIPLE.

See heath\_3bu\_01\_0316.pdf.

PICS editor granted license to adjust SCCP14 to reference tRL.

Cl 104 SC 104.7.3.4 P 62 L 35 # 82  
 "Zimmerman, George" CME Consulting / LTC

Comment Type TR Comment Status A

Missing requirement on the table values. It looks like this was intended in part in 104.7.1.

SuggestedRemedy

"Change ""Table 104-7 details the electrical requirements for SCCP."" to ""A PSE or PD implementing SCCP shall comply with the electrical and timing requirements in Table 104-7.""

Response Response Status C

ACCEPT. EZ.

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CI 104 SC 104.7.3.4 P 62 L 36 # 83  
 "Zimmerman, George" CME Consulting / LTC

Comment Type E Comment Status A  
 The text nicely refers that voltages are relative to the PI. It would be helpful to also refer the times.

SuggestedRemedy  
 "Insert ""See Figures 104-13, 104-14, and 104-15 for timing definitions.""

Response Response Status C  
 ACCEPT. EZ.

CI 104 SC 104.7.3.4 P 62 L 40 # 40  
 "Gardner, Andrew" Linear Technology Cor

Comment Type TR Comment Status A  
 There is no item specifying the PSE pull-up current.

SuggestedRemedy  
 "Add a line item for PSE pull-up current and set the min and max to 9mA and 20mA, respectively."

Response Response Status C  
 ACCEPT IN PRINCIPLE.

Add a line item for PSE pull-up current and set the min and max to 9mA and 16mA, respectively to table 104-7.

See stewart\_3bu\_01\_0316.pdf.

CI 104 SC 104.7.3.4 P 62 L 44 # 41  
 "Gardner, Andrew" Linear Technology Cor

Comment Type TR Comment Status A  
 There is no max on the PSE pull-up voltage

SuggestedRemedy  
 Set the max to 5.5V

Response Response Status C  
 ACCEPT IN PRINCIPLE.

OBE by 84.

See stewart\_3bu\_01\_0316.pdf.

CI 104 SC 104.7.3.4 P 62 L 44 # 84  
 "Zimmerman, George" CME Consulting / LTC

Comment Type T Comment Status A  
 Voltage limits - need to specify both limits. Need a maximum voltage for the PSE pull-up.

SuggestedRemedy  
 Insert 5.5V for maximum (from maximum Voc in Table 104-2)

Response Response Status C  
 ACCEPT IN PRINCIPLE.

See 41.

Maximum pull-up voltage during SCCP should be less than Von min of 5.18V for 12V unregulated class. Therefore propose 5V for max.

CI 104 SC 104.7.3.4 P 62 L 47 # 42  
 "Gardner, Andrew" Linear Technology Cor

Comment Type TR Comment Status D  
 There is no max limit on the logic input high logic threshold.

SuggestedRemedy  
 Set the max to 4V

Proposed Response Response Status Z  
 REJECT.

This comment was WITHDRAWN by the commenter.

TFTD.

CI 104 SC 104.7.3.4 P 62 L 48 # 43  
 "Gardner, Andrew" Linear Technology Cor

Comment Type TR Comment Status A  
 There is no min limit on the logic low threshold

SuggestedRemedy  
 Set the min to 0V

Response Response Status C  
 ACCEPT. EZ.

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Cl 104 SC 104.7.3.4 P 62 L 62 # 44  
 "Gardner, Andrew" Linear Technology Cor  
 Comment Type TR Comment Status A  
 Several of the items in Table 104-7 are not referenced by Clause 104.7 baseline text.  
 SuggestedRemedy  
 Add references as needed to Clause 104.7.  
 Response Response Status C  
 ACCEPT IN PRINCIPLE. EZ.  
 OBE 82.

Cl 104 SC 104.7.4.3.1 P 64 L 19 # 85  
 "Zimmerman, George" CME Consulting / LTC  
 Comment Type E Comment Status A  
 "This applies to all of 104.7 - the master is always the PoDL PSE, and the slave is always the PD. Using Master and Slave confuses things. Why not just describe them as PSE and PD."  
 SuggestedRemedy  
 "Replace ""master"" and ""slave"" with ""PSE"" and ""PD"" throughout 104.7"  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.7.4.3.1 P 64 L 19 # 86  
 "Zimmerman, George" CME Consulting / LTC  
 Comment Type T Comment Status A  
 "The master shall use this command to address a slave device on the bus without sending out unique address code information. This is really descriptive, not a requirement, OR, are you saying that the master NEVER uses a unique address code. If so, then say that."  
 SuggestedRemedy  
 "Either: Change ""shall use"" to ""uses"" OR: Change ""shall use"" to ""shall only use"", and delete ""without sending out unique address code information""  
 Response Response Status C  
 ACCEPT IN PRINCIPLE.

Change  
 "The master shall use this command to address a slave device on the bus without sending out unique address code information. "  
 To  
 "The master uses this command to address a slave device on the bus without sending out unique address code information."  
 and delete corresponding PIC

Cl 104 SC 104.7.4.4 P 64 L 26 # 109  
 "Zimmerman, George" CME Consulting / LTC  
 Comment Type E Comment Status A  
 "an CRC-8 field could be any. Need to point to 104.7.4.5, since this sentence (line 26) is where the requirement is, and there aren't any in 104.7.4.5, just definitions."  
 SuggestedRemedy  
 "Change ""an CRC-8 field"" to ""an CRC8 field as specified in 104.7.4.5.""  
 Response Response Status C  
 ACCEPT. EZ.

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Cl 104 SC 104.7.4.4 P 65 L 1 # 110  
 "Zimmerman, George" CME Consulting / LTC  
 Comment Type E Comment Status A  
 "Table 104-8 interrupts the discussion of CRC8, and should be before it."  
 SuggestedRemedy  
 Beat on frame and make Table 104-8 occur prior to or after the defining text in 104.7.4.4  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.7.4.4 P 65 L 14 # 111  
 "Zimmerman, George" CME Consulting / LTC  
 Comment Type E Comment Status A  
 "Reserved(0) should read Reserved and have description of ""value always 0"""  
 SuggestedRemedy  
 see comment  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.7.4.5 P 65 L 46 # 26  
 "Dove, Daniel" Dove Networking Solut  
 Comment Type T Comment Status A  
 "Figure 104-17 refers to a ""modified preamble"" but I can find no reference elsewhere in the spec to this term. I believe its an artifact of SCCP specification in industry data sheets."  
 SuggestedRemedy  
 "Replace ""modified preamble"" with ""contents of the CLASS\_TYPE\_INFO Register"""  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.8.2.2 P 66 L 35 # 8  
 "Anslow, Pete" Ciena  
 Comment Type E Comment Status A  
 "Comment #49 against D2.0 was ACCEPT with a suggested remedy of:  
 In the title of 104.7, the first sentence of 104.7.1, in the Table in 104.7.2.2, and in the title of 104.7.4, change the text after ""Clause 104,"" to ""Single-Pair Power over Data Lines (PoDL)"" to match the title of Clause 104.  
 However, this has not been done in the Table in 104.7.2.2 (now 104.8.2.2)"

SuggestedRemedy  
 "in the Table in 104.8.2.2, change the text after ""Clause 104,"" to ""Single-Pair Power over Data Lines (PoDL)"" to match the title of Clause 104."  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.8.2.2 P 66 L 41 # 9  
 "Anslow, Pete" Ciena  
 Comment Type E Comment Status A  
 "The clean version of the draft has ""xx"" in red strikethrough font in the table in 104.8.2.2"  
 SuggestedRemedy  
 "Change ""802.3xxbu-201x"" to ""802.3bu-201x"""  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.8.4.2 P 67 L 52 # 56  
 "Scruton, Peter" University of New Ham  
 Comment Type E Comment Status A  
 In PSE4:  
 Reference to Table 104-3 should be 104-2  
 SuggestedRemedy  
 change to 104-2  
 Response Response Status C  
 ACCEPT. EZ.

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Cl 104 SC 104.8.4.2 P 68 L 4 # 57  
 "Scruton, Peter" University of New Ham  
 Comment Type E Comment Status A  
 "PSE6  
 ""Within lvalid current range, as specified in Table 104-3,when connected to a valid PD  
 detection signature as specified in Table 104-6""  
 lvalid is in 104-2"  
 SuggestedRemedy  
 "Within lvalid current range, as specified in Table 104-2, when connected to a valid PD  
 detection signature as specified in Table 104-6"  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.8.4.2 P 69 L 21 # 60  
 "Scruton, Peter" University of New Ham  
 Comment Type E Comment Status A  
 "PSE27  
 ""Defined as TOff in Table 104-5""  
 Should be Table 104-3  
 "  
 SuggestedRemedy  
 make it Table 104-3  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.8.4.2 P 68 L 13 # 58  
 "Scruton, Peter" University of New Ham  
 Comment Type E Comment Status A  
 PSE8  
 Reference to Table 104-3 should be 104-2  
 SuggestedRemedy  
 change to 104-2  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.8.4.3 P 70 L 5 # 61  
 "Scruton, Peter" University of New Ham  
 Comment Type E Comment Status A  
 "PD1  
 ""  
 As defined in Table 104-2 for each relevant system class  
 ""  
 should be 104-1"  
 SuggestedRemedy  
 make it be 104-1  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.8.4.2 P 68 L 30 # 59  
 "Scruton, Peter" University of New Ham  
 Comment Type E Comment Status A  
 "PSE12  
 ""With one of the attributes as specified in Table 104-7 under all conditions""  
 This should be Table 104-5  
 "  
 SuggestedRemedy  
 change to 104-5  
 Response Response Status C  
 ACCEPT. EZ.

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Cl 104 SC 104.8.4.3 P 70 L 7 # 62  
 "Scruton, Peter" University of New Ham  
 Comment Type E Comment Status A  
 "PD2  
 ""In accordance with state diagram shown in Figure 104-6""  
 should be 104-8"  
 SuggestedRemedy  
 change to 104-8  
 Response Response Status C  
 ACCEPT IN PRINCIPLE. EZ.  
 See comments 12 and 45.  
 Figure 104-8 numbering may decrement if Figure 104-7 (OVERLOAD state diagram) is removed in D2.2.

Cl 104 SC 104.8.4.3 P 70 L 34 # 63  
 "Scruton, Peter" University of New Ham  
 Comment Type E Comment Status A  
 "PD11  
 ""Without startup oscillation and within the first trial when a voltage in the range of VPSE (as defined in Table 104-2) is applied with a series resistance within the range of valid channel resistance""  
 should be 104-1"  
 SuggestedRemedy  
 make 104-1  
 Response Response Status C  
 ACCEPT. EZ.

Cl 104 SC 104.8.4.3 P 70 L 49 # 64  
 "Scruton, Peter" University of New Ham  
 Comment Type E Comment Status A  
 "PD14  
 ""Draw current within range of IWakeup\_PD for at least TWakeup\_PD when Vsleep\_PD min < VpdPD < Vsleep max as specified in Table 104-5 and Table 104-6""  
 104-5 looks like it should be 104-3"  
 SuggestedRemedy  
 change to 104-3  
 Response Response Status C  
 ACCEPT IN PRINCIPLE. EZ.  
 Vsleep\_PD min and max are now defined in Table 104-6, so just reference Table 104-6.

Cl Intro SC Intro P 3 L 55 # 28  
 "Dove, Daniel" Dove Networking Solut  
 Comment Type ER Comment Status A  
 "The page numbering for intro material is inconsistent with other draft documents. See 802.3bm for instance, where intro page numbers are in roman numeral. What we call page 17 on our draft, should be page 1. All prior pages use Roman numerals."  
 SuggestedRemedy  
 Reformat to consistency with existing standard  
 Response Response Status C  
 ACCEPT. EZ.

Cl Intro SC Intro P 3 L 55 # 27  
 "Dove, Daniel" Dove Networking Solut  
 Comment Type ER Comment Status A  
 "The copyright and page number alignment is not consistent with IEEE 802.3-2015. They should be opposing each other on the same line, above the statement ""unapproved IEEE standards draft"" with the number on right-side for odd pages, number on the left side for even pages. See IEEE P802.3bm for example."  
 SuggestedRemedy  
 Reformat to consistency with existing standard  
 Response Response Status C  
 ACCEPT. EZ.

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**C/ Intro**    **SC Intro**                      **P 12**                      **L 13**                      # 29  
"Dove, Daniel"                      Dove Networking Solut

**Comment Type**    **ER**                      **Comment Status**    **A**  
"IEEE protocol for use of TM is to use it for the very first instance of a trademarked name.  
For each of the IEEE Std's shown in this list, the TM should follow."

**SuggestedRemedy**  
"Example replace IEEE Std 802.3bw-2015 with IEEE Std 802.3bwTM-2015, same for the  
other trademarked names in this list. For IEEE Std 802.3bu, this may not be necessary  
since it will appear earlier in the draft. In that location, the TM applies."

**Response**                      **Response Status**    **C**  
ACCEPT. EZ.