

IEEE P802.3da D1.4 10 Mbps Multidrop Enhancements

Cl 1 SC 1.5 P21 L37 # 41
 Jones, Peter Cisco
 Comment Type E Comment Status D Editorial
 Capitalization for TPS
 SuggestedRemedy
 Change to "Transmit Power Signature "
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Consider with comment 1
 TFTD - we need to decide whether Transmit Power Signature is, or is, not a proper noun.
 If it is, accept this remedy, plus align capitalization in the text
 (P110 L11, P113 L1, P120 L22, P120 L25, P120 L36)
 If it is not, then reject this comment.
 Editor's are split on whether it is or isn't a proper noun (similar to PoE's MPS).

Cl 1 SC 1.5 P21 L38 # 1
 Jones, Chad Cisco Systems, Inc.
 Comment Type E Comment Status D Editorial
 TPS transmit power signature
 need to capitalize to match the format of the other entries.
 SuggestedRemedy
 TPS Transmit Power Signature
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Consider with comment 41.
 PROPOSED ACCEPT IN PRINCIPLE.
 TFTD - we need to decide whether Transmit Power Signature is, or is, not a proper noun.
 If it is, accept this remedy, plus align capitalization in the text
 (P110 L11, P113 L1, P120 L22, P120 L25, P120 L36)
 If it is not, then reject this comment.
 Editor's are split on whether it is or isn't a proper noun (similar to PoE's MPS).

Cl 30 SC 30.17 P27 L5 # 58
 Zimmerman, George CME Consulting/ADI,APLGP,CSCO,MRVL,ONSMI,SO
 Comment Type E Comment Status D Editorial
 remove editor's note and section if there are no management objects added.
 SuggestedRemedy
 see comment.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Revisit at conclusion of comment resolution

Cl 79 SC 79.3.9.3 P37 L8 # 42
 Jones, Peter Cisco
 Comment Type T Comment Status D EZ
 Values for Bit 1 – PLCA status are incorrect.
 SuggestedRemedy
 Change to " 1 = true, 0 = false" .
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Change to " 1 = TRUE, 0 = FALSE" .

Cl 79 SC 79.3.9.3 P37 L10 # 43
 Jones, Peter Cisco
 Comment Type T Comment Status D PLCA
 Missing PLCA admin state
 SuggestedRemedy
 Redefine Bit 2 as "PLCA admin state, 1 = enabled, 0 = disabled, 30.16.1.1.1
 Renumber D-PLCA supported and D-PLCA admin state to bits 3 & 4 respectively .
 Update reserved bits to 5-15
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 148 SC 148.4.4.2 P41 L24 # 70

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D EZ

Functions, timers, and variables generally appear in alphabetical order in 802.3-2022 (clause 148.4.4.2 is an exception). If this comment is accepted, I will submit a maintenance request to put the variables in clause 148.4.4.2 in alphabetical order.

SuggestedRemedy

Arrange the PLCA Control variables in alphabetical order and change the Editing Instruction to, "Insert new variables COL, dplca_en, dplca_txop_claim, dplca_txop_end, dplca_txop_id, and dplca_txop_node_count into the list, in alphabetical order:"

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 148 SC 148.4.4.4 P42 L7 # 71

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D EZ

Functions, timers, and variables generally appear in alphabetical order in 802.3-2022 (clause 148.4.4.4 is an exception). If this comment is accepted, I will submit a maintenance request to put the Timers in clause 148.4.4.4 in alphabetical order.

SuggestedRemedy

Change the Editing Instruction to, "Insert new timer append_commit_timer into the list, in alphabetical order:"

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 148 SC 148.4.7.1 P48 L24 # 59

Zimmerman, George CME Consulting/ADI,APLGP,CSCO,MRVL,ONSmi,So
 Comment Type E Comment Status D PLCA

No additional explanation has been forthcoming, and this guidance doesn't seem to be needed for technical completeness - delete the note.

SuggestedRemedy

Delete editor's note at P48 L24

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 148 SC 148.4.7.2 P48 L30 # 73

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D EZ

Align with "148.4.4.2 PLCA Control variables" subclause header

SuggestedRemedy

Replace, "Variables" with "D-PLCA variables"

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 148 SC 148.4.7.2 P48 L32 # 72

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D EZ

Functions, timers, and variables generally appear in alphabetical order in 802.3-2022.

SuggestedRemedy

Arrange the Variables in alphabetical order

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 148 SC 148.4.7.3 P50 L11 # 74

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D EZ

Functions, timers, and variables generally appear in alphabetical order in 802.3-2022.

SuggestedRemedy

Arrange the Functions in alphabetical order

Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 168 SC 168.1 P55 L12 # 44
 Jones, Peter Cisco
 Comment Type E Comment Status D Editorial
 Excess word - type.
 SuggestedRemedy
 Change "Functional and electrical specifications for the type 10BASE-T1M PCS, PMA, and the interface to the medium"
 to "Functional and electrical specifications for the 10BASE-T1M PCS, PMA, and the interface to the medium"
 Proposed Response Response Status W
 PROPOSED REJECT.
 The PHY type is 10BASE-T1M. This is how all PHY (or PMA, PCS, or PMD) types are called out in 802.3 clause titles.

Cl 168 SC 168.1 P55 L17 # 45
 Jones, Peter Cisco
 Comment Type E Comment Status D Editorial
 The text says ""The 10BASE-T1M PHY operates in a half duplex shared-medium mode capable of operating with multiple stations connected to a mixing segment."
 It is really a mode?
 SuggestedRemedy
 Change "The 10BASE-T1M PHY operates in a half duplex shared-medium mode capable of operating with multiple stations connected to a mixing segment"
 To "The 10BASE-T1M PHY operates ioperates on a half duplex shared-medium mixing segment."
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 (fixed typo in suggested remedy, and the medium is actually full duplex, but otherwise tried to get the spirit right)
 Change "The 10BASE-T1M PHY operates in a half duplex shared-medium mode capable of operating with multiple stations connected to a mixing segment"
 To "The 10BASE-T1M PHY operates half duplex on a shared medium (i.e., a mixing segment)."

Cl 168 SC 168.1 P55 L23 # 101
 Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG
 Comment Type T Comment Status D Mixing Segment
 "...mixing segment is compliant with 147.8 AND 168.8. " The definition of the mixing segment is very different. The measurement points, the values and the topology with the new TCI are different. For my point of view, this "AND" constraint seems not to be feasible.
 SuggestedRemedy
 Because T1M and T1S have the same PMA and PCS, I would assume that a T1M is interoperable with a T1S on a 147.8 link segment. Thus remove "and 168.8"
 Proposed Response Response Status W
 PROPOSED REJECT.
 The proposed remedy only works if a 147.8 mixing segment is a strict subset of 168.8 mixing segments (that is, all 147.8 mixing segments comply with 168.8). If that is true, then the AND works. However, that has yet to be shown, and is probably not true. As the commenter points out, the definitions are different.

Cl 168 SC 168.2 P57 L4 # 46
 Jones, Peter Cisco
 Comment Type E Comment Status D Editorial
 Language feels a little off in the following:
 "over a single balanced pair of conductors forming a mixing segment."
 SuggestedRemedy
 Change to one of the following:
 "over a mixing segment using a single balanced pair of conductors "
 "over a single balanced pair of conductors mixing segment "
 "over a mixing segment comprised of a single balanced pair of conductors "
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Change to "over a mixing segment comprised of a single balanced pair of conductors "

Cl 168 SC 168.4.2.2 P62 L1 # 75
 Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D EZ
 Functions, timers, and variables generally appear in alphabetical order in 802.3-2022.
 SuggestedRemedy
 Arrange the Variables in alphabetical order
 Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 168 SC 168.4.2.3 P63 L1 # 76

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D EZ

I would assume Constants should be in alphabetical order? There is no precedent in 802.3-2022.

SuggestedRemedy

Arrange the Constants in alphabetical order

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 168 SC 168.4.3.2 P68 L50 # 77

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D EZ

Functions, timers, and variables generally appear in alphabetical order in 802.3-2022.

SuggestedRemedy

Arrange the Variables in alphabetical order

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 168 SC 168.4.3.3 P69 L28 # 78

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D EZ

I would assume Constants should be in alphabetical order? There is no precedent in 802.3-2022.

SuggestedRemedy

Arrange the Constants in alphabetical order

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 168 SC 168.4.4 P73 L36 # 47

Jones, Peter Cisco
 Comment Type E Comment Status D Editorial

"MDIO register 3.2291.14" should be green for external link.

SuggestedRemedy

Mark 3.2291.14 as external link

Proposed Response Response Status W

PROPOSED REJECT.

MDIO register addresses are not cross references, and are therefore not marked as external, further, the section describing 3.2291.14 (45.2.3.72.2) is in the draft and is cross-referenced correctly.

Cl 168 SC 168.6.4.2 P79 L2 # 60

Zimmerman, George CME Consulting/ADI,APLGP,CSCO,MRVL,ONSMI,SO
 Comment Type T Comment Status D Editorial

Now that we know more about the powering, we simply need to reconcile the transmitter output droop against the inductors needed for power coupling. Simulations need to validate that the droop is consistent with cost-effective inductance envisioned for power coupling.

SuggestedRemedy

Change editor's note to read: "Commenters are encouraged to technically evaluate whether proposed transmitter output droop is consistent with economically feasible coupling circuits for power envisioned for clause 169 power."

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 168 SC 168.6.4.4 P80 L21 # 79

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type T Comment Status D Editorial

Not sure why we don't show numbers instead of (10/4.5) and (10/6.5)? Is this much precision required?

SuggestedRemedy

Replace "(10/4.5)" with "2.2" (no parens) and "(10/6.5)" with "1.5" (no parens)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

The ratios make it clear that the ranges fit without steps or gaps. Truncating to 1 decimal place makes for discontinuous masks, but would be simpler. Task force to discuss and determine which is preferable.

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Cl 168 SC 168.6.5.2 P81 L15 # 61

Zimmerman, George CME Consulting/ADI,APLGP,CSCO,MRVL,ONSmi,So
 Comment Type T Comment Status D PMA Electrical

The alien crosstalk rejection test needs to be inserted. The figure needs to show and be adjusted for the terminations on the mixing segment, and the noise level shouldn't change, because the alien crosstalk coupling is the same, but reference to the receive DUT's TCI and impedances need to be cleaned up.

SuggestedRemedy

Delete Editor's note at P81 L15-20, change figure 168-16 and text as per attached: zimmerman_alienxtalk.pdf. At the end of the first sentence change "present at the TCI" to "present at the receive DUT's TCI".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 TFTD

Cl 168 SC 168.8 P82 L33 # 80

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D Editorial

Propose more precise language.

SuggestedRemedy

Replace "include any TCI connecting" with "include TCIs connecting" and replace "do not include any external connection such as a stub or service loop" with "do not include external connections such as stubs or service loops".

Proposed Response Response Status W

PROPOSED ACCEPT.
 Note - align with comment 2

Cl 168 SC 168.8 P83 L21 # 56

Zimmerman, George CME Consulting/ADI,APLGP,CSCO,MRVL,ONSmi,So
 Comment Type E Comment Status D EZ

The editor's note references the mixing segment RL, but I believe that was filled in the last draft turn. We just forgot to delete the note.

SuggestedRemedy

Delete editor's note at P83 L21 immediately before 168.8.1

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 168 SC 168.8.3 P84 L22 # 102

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG
 Comment Type T Comment Status D EZ

"The mode conversion loss of EACH 10BASE-T1M mixing segment". Based on my understanding, there are not multiple mixing segments - there is only one mixing segment

SuggestedRemedy

Remove "Each"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 Replace "each" with "the" (loss of the 10BASE-T1M...)

Cl 168 SC 168.8.3 P84 L27 # 81

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type T Comment Status D Editorial

Mode Conversion Loss limit should be ≥

SuggestedRemedy

Replace ">" with "≥"

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.9 P85 L5 # 2

Jones, Chad Cisco Systems, Inc.
 Comment Type E Comment Status D Editorial

We use "left side" and "right side" in the drawing and in the text on page 84 line 38. In another section we rewrote the text to remove left and right. Since we are referring to a drawing perhaps it's ok here, but I will throw out an alternative to remove left and right

SuggestedRemedy

replace "left " with upstream and "right " with downstream in two locations, on page 84 line 38 and page 85 line 5

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 Note - align with comment 80
 missed one instance

replace "left " with upstream and "right " with downstream in two locations, on page 84 line 38, page 85 line 5.

Replace "any TCI connecting the left and right sides of the mixing segment" with "any TCI in the mixing segment" at page 82 line 33

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Cl 168 SC 168.9 P85 L34 # 103

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG
 Comment Type E Comment Status D Editorial

"The second configuration presents a negligible stub length when the PMA attachment is an open circuit."

SuggestedRemedy

The second configuration present a negligible sub length if no PMA is attached.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 (fixed subject-verb agreement and typo)
 Change

"The second configuration presents a negligible stub length when the PMA attachment is an open circuit."

to
 "The second configuration presents a negligible stub length if no PMA is attached."

Cl 168 SC 168.9.1.1 P86 L3 # 104

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG
 Comment Type E Comment Status D Editorial

"With a DTE or simulated DTE load present at the TCI,..." - This part of sentence, which is also line 19 on the same page is already covered by by the introduction paragraph on page 85 lines 42-43. Thus, I could be removed.

SuggestedRemedy

Remove sentence

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 It is clearer to have the text directly associated with the requirement.
 Additionally, deleting the sentence from 168.9.1.1 would misalign 168.9.1.1 and 168.9.1.2.
 Therefore, the redundancy is eliminated by fixing 168.9.1.

 Delete 2nd and 3rd sentences of 168.9.1 (P85 L42-45).

Cl 168 SC 168.9.3 P86 L37 # 96

Paul, Michael Analog Devices
 Comment Type T Comment Status D General Safety

"The DTE shall withstand without damage the application of any voltages between 0 V dc and 60 V dc with the source current limited to 2000 mA" ... 2000mA may not be a good idea for DTE. DTE shouldnt be able to pass the requirement by shunting 2A with an S1B diode at the TCI. 2000mA exception is only for MPSEs

SuggestedRemedy

Remove the text "with source current limited to 2000mA"

Proposed Response Response Status W

PROPOSED ACCEPT.
 TFTD.
 There may be implications with regards to clause 147 devices.

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Cl 169 SC 169.1.2 P97 L40 # 3

Jones, Chad Cisco Systems, Inc.

Comment Type T Comment Status D Power

"An MPSE or MPD may or may not be co-located with a DTE, and the power may be provided over the same pairs as the data or over dedicated pairs with power only. The interface of the power entity to the medium is the MPI, with connection points MP1 and MP2 to the power trunk. When the power is provided over the same pairs as data, the MPI and the TCI are the same connection to the medium and the MPI must also meet the requirements for the TCI needed for the PHY (see, e.g., 168.9). However, when data and power are carried on separate conductors, the MPI may be separate from the TCI and the related TCI requirements do not apply."

Not sure why we are specifying operation when power is on a separate pair. This might be lingering from earlier work. The overview states: "These entities allow devices to supply/draw power using the same cabling that is used for data transmission. MPoE provides a multidrop single pair Ethernet Physical Layer device with an interface to both the power and data." as this is SPE, that single cable should be just two conductors. to me, anything beyond two conductors in therefore beyond our scope.

SuggestedRemedy

Delete the text that talks about dedicated power pairs.

change to:

"An MPSE or MPD may or may not be co-located with a DTE, and the power is provided over the same pairs as the data. The interface of the power entity to the medium is the MPI, with connection points MP1 and MP2 to the power trunk. The MPI and the TCI are the same connection to the medium and the MPI must also meet the requirements for the TCI needed for the PHY (see, e.g., 168.9)."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD.

This text was changed based on comments accepted last cycle to reflect discussions that the power protocols in clause 169 may be used on conductors not carrying data. Nowhere in clause 169 is data required for use. The overview text did not get modified with similar changes (and isn't the scope of the project - which includes power 'associated' with multidrop, not necessarily same-pair), because it properly reflects that clause 169 ALLOWS (but does not require) power to be on the same pairs as the data. TF needs to discuss whether to specifically limit to same-pair (implementing the change suggested or similar), or, whether to add further clarification to the overview text reflecting the power may be on separate pairs.

Cl 169 SC 169.4.2 P100 L4 # 64

Zimmerman, George CME Consulting/ADI,APLGp,CSCO,MRVL,ONSmi,So

Comment Type E Comment Status D MPSE

"is required" isn't proper language. Requirements need to be identified by "shall"; however, the requirement isn't clear -and seems just to be a statement that the polarity is defined by the MPSE - that an MPSE doesn't switch polarities...

SuggestedRemedy

Change "An MPSE is required to operate in a single polarity." to "An MPSE provides a single polarity."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change "An MPSE is required to operate in a single polarity." to "An MPSE shall conform to the pinout of Table 169-2 and provide a single polarity."

Cl 169 SC 169.4.3 P100 L27 # 65

Zimmerman, George CME Consulting/ADI,APLGp,CSCO,MRVL,ONSmi,So

Comment Type T Comment Status D Editorial

"Current shall be measured" - is a requirement on the user of the standard, and therefore inappropriate for a shall.

SuggestedRemedy

Change "shall be measured" to "is measured" at lines 27 & 35.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.4.3 P100 L31 # 48

Jones, Peter Cisco

Comment Type E Comment Status D EZ

Redundant text in the following:
"compliance to voltage specifications is met at MP1 and MP2, and both MPs shall meet the specification."

SuggestedRemedy

remove ", and both MPs shall meet the specification"

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 169 SC 169.4.3 P100 L33 # 49

Jones, Peter Cisco
 Comment Type E Comment Status D EZ

Language:
 "That is, if the specification calls for the voltage to exceed a value, then the minimum of the voltages at MP1 and MP2 exceeds the threshold, whereas if the specification calls for the voltage to be below a value, then the maximum of the two MP voltages is below the value"

SuggestedRemedy

Change to:
 "If the specification calls for the voltage to be above a value, or below a value, both MP1 and MP2 must meet the criteria."

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.4.4.2 P101 L22 # 50

Jones, Peter Cisco
 Comment Type E Comment Status D Editorial

I don't get the naming of discover_low_tare_var. Why is this "tare" ?
 The definition of tare is
 "1: a deduction from the gross weight of a substance and its container made in allowance for the weight of the container
 2: the weight of the container".
 Add a little more explanatory text to definition?

SuggestedRemedy

Add explanatory text to definition of discover_low_tare variables etc to explain why "tare" makes sense here.

Proposed Response Response Status W
 PROPOSED REJECT.

Commenter provides insufficient information for a remedy. Explanation of the name is unneeded provided the function is clearly specified.

For general information, a "tare" is most common in measurements of weight, but can be generalized from the definitions given, is an amount deducted from a measurement (doesn't have to be a weight).

Cl 169 SC 169.4.4.2 P101 L25 # 90

Law, David HPE
 Comment Type E Comment Status D EZ

Typo.

SuggestedRemedy

Delete the spaces and the second full stop after the first in '... to the mixing segment. . '.

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.4.4.2 P101 L46 # 51

Jones, Peter Cisco
 Comment Type E Comment Status D EZ

Typo in definition for mpd_mixed_discovered

SuggestedRemedy

Change "one valid MPD supporting both Type 0 or Type 1"
 to "one valid MPD supporting both Type 0 and Type 1"

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.4.4.2 P102 L17 # 16

Jones, Peter Cisco
 Comment Type E Comment Status D EZ

Excess text in definition for overload_detected

SuggestedRemedy

Remove "This variable is set per this description."

Proposed Response Response Status W
 PROPOSED ACCEPT.

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Cl 169 SC 169.4.4.2 P102 L27 # 17

Jones, Peter Cisco
 Comment Type T Comment Status D State Diagrams

power_stable has a value for "The MPSE has begun steady-state operation and is ready to enter the POWER_ON state".
 What does this report when the MPSE is in the POWER-ON state?

SuggestedRemedy

Review values and definitions. Do we need changes or a new value here?

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 TFTD
 Looking at the state diagram, power_stable shows up as a condition that determines whether you exit INRUSH properly or exit inrush improperly, and is only checked on the transition (not in either the INRUSH or POWER-ON state), when the mpse_inrush_timer expires. This makes the state of this variable moot in the POWER-ON state, but also raises the question of whether it should be replaced by a new voltage threshold.

Cl 169 SC 169.4.4.3 P102 L35 # 18

Jones, Peter Cisco
 Comment Type E Comment Status D State Diagrams

The first para of " 169.4.4.3 Timers" includes modifications to the behaviors described in 14.2.3.2. Other clause have "Conventions in this clause " subclauses for this.

SuggestedRemedy

Move this, and similar, text to new sub-clause "169.1.2 Conventions in this clause " similar to 168.1.2.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 Commenters proposed response with different numbering because 169.1.2 is taken, and with more content, because the bigger problem is that clause 169 uses the "IF-THEN-ELSE" construct which is another addition to the conventions of clause 21...

Insert new clause 169.1.3 Conventions in this clause, copying in the text from 168.1.2, 168.1.2.1, 168.1.2.2, and 168.1.2.3

Cl 169 SC 169.4.4.3 P102 L43 # 19

Jones, Peter Cisco
 Comment Type E Comment Status D State Diagrams

Language - "A timer used to delay measurement of the mark current after applying a high mark voltage". Is this applying or detecting?
 Same question for 169.4.4.3 mark_timer and measure_timer.

SuggestedRemedy

Review definition and update if appropriate (or is it just me?)

Proposed Response Response Status W

PROPOSED REJECT.
 Language is correct. It delays measurement until after applying the voltage. See Fig 169-3:

HIGH_MARK state and DISCOVERY_HIGH_MARK state.
 HIGH_MARK does "present_mark" (which applies the voltage, Mark_timer keeps the MPSE in that state, holding off the transition to DISCOVERY_HIGH_MARK which then executes the do_discovery_high function to measure the current.
 Same thing for measure_timer, DISCOVERY_LOW_PRESENT, present_low, DISCOVERY_LOW, and do_discovery_low...

Cl 169 SC 169.4.4.4 P103 L10 # 20

Jones, Peter Cisco
 Comment Type E Comment Status D State Diagrams

The first para of " 169.4.4.4 Functions" includes generic behaviours in this clause. Other clause have "Conventions in this clause " subclauses for this.

SuggestedRemedy

Move this, and similar, text to new sub-clause "169.1.2 Conventions in this clause " similar to 168.1.2.

Proposed Response Response Status W

PROPOSED REJECT.
 This particular nomenclature is best left by the functions for clarity. It appears only one other place in IEEE Std 802.3-2022 - in clause 145 - in exactly the same way.

Cl 169 SC 169.4.4.4 P103 L14 # 82

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D EZ

Functions, timers, and variables generally appear in alphabetical order in 802.3-2022.

SuggestedRemedy

Arrange the Functions in alphabetical order

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 169 SC 169.4.4.4 P103 L18 # 21
 Jones, Peter Cisco
 Comment Type E Comment Status D EZ
 Extra blank line before "do_discovery_high" and "do_discovery_low".
 SuggestedRemedy
 remove extra blank lines.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.4.4.4 P103 L28 # 22
 Jones, Peter Cisco
 Comment Type E Comment Status D EZ
 Indent is wrong for one or more "Value"s of do_discovery_high, check_discovery_all, do_discovery_eval
 SuggestedRemedy
 Fix indents
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.4.4.4 P103 L47 # 23
 Jones, Peter Cisco
 Comment Type E Comment Status D EZ
 Missing TAB in "mpd_discovered: This:"
 SuggestedRemedy
 Insert tab between "mpd_discovered: " and "This"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.4.4.5 P105 L5 # 88
 Law, David HPE
 Comment Type T Comment Status D EZ
 The first action in the DISABLED state of Figure 169-3 'Top level MPSE state diagram, part a' sets the variable 'powered' to FALSE. The variable 'powered' is, however, not defined in subclause 169.4.4.2 'Variables'. It appears that the 'mpi_powered' variable should be set to FALSE in the DISABLED state instead.
 SuggestedRemedy
 Change the first action in the DISABLED state from 'powered <= FALSE' to read 'mpi_powered <= FALSE'.

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.4.4.5 P105 L9 # 57
 Zimmerman, George CME Consulting/ADI,APLGP,CSCO,MRVL,ONSMI,SO
 Comment Type T Comment Status D State Diagrams
 It seems reasonable that a discover_fault event should not go straight into IDLE, but rather do the full MPSE reset and backoff entering the backoff state, just like other faults such as an open_circuit. This then goes to IDLE after resetting the MPSE state and a short wait.

SuggestedRemedy
 Move open-ended entry point with condition "discover_fault * mpse_enable" from entering IDLE to entering BACKOFF (similar to entry point "A").

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.4.4.5 P105 L10 # 98
 Paul, Michael Analog Devices
 Comment Type T Comment Status D State Diagrams
 A discover_fault condition leads to IDLE, which then reenters HIGH_MARK with 0 wait. Discover_fault can result in an infinite loop

SuggestedRemedy
 discover_fault and mpse_enable should enter the backoff state, or backoff state should always follow IDLE

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Consider with Comment 57
 Move open-ended entry point with condition "discover_fault * mpse_enable" from entering IDLE to entering BACKOFF (similar to entry point "A").

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Cl 169 SC 169.4.4.5 P105 L34 # 93

Law, David HPE
 Comment Type E Comment Status D EZ

Suggest that the transition condition text box for DISCOVERY_HIGH_MARK to BACKOFF in Figure 169-3 should be enlarged to prevent the variable 'discover_high_timer_done' from being hyphenated over two lines.

SuggestedRemedy

See comment.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.4.4.5 P105 L37 # 91

Law, David HPE
 Comment Type T Comment Status D EZ

The transition condition from the DISCOVERY_LOW state to the DISCOVERY_LOW_ALL state in Figure 169-3 'Top level MPSE state diagram, part a' reads 'discover_low_timer_done * (mark_number = ' with the end of the transition condition missing.

SuggestedRemedy

Suggest that '(mark_number =' should read '(mark_number = 1)

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.4.4.5 P105 L37 # 92

Law, David HPE
 Comment Type E Comment Status D EZ

Suggest that the transition condition text box for DISCOVERY_LOW to DISCOVERY_LOW_ALL in Figure 169-3 should be enlarged to prevent the variable 'discover_low_timer_done' from being hyphenated over two lines.

SuggestedRemedy

See comment.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.4.4.5 P106 L8 # 95

Law, David HPE
 Comment Type T Comment Status D EZ

Subclause 169.4.4.1 'Conventions' says that 'The notation used in the state diagram follows the conventions of state diagrams as described in 145.2.5.2.'. The second paragraph of subclause 145.2.5.2 says 'Some states in the state diagrams use an IF-THEN-ELSE-END construct to condition which actions are taken within the state. If the logical expression associated with the IF evaluates TRUE all the actions listed between THEN and ELSE will be executed. In the case where ELSE is omitted, the actions listed between THEN and END will be executed. If the logical expression associated with the IF evaluates FALSE the actions listed between ELSE and END will be executed.'. In addition, subclause 1.2.1 'State diagram conventions', item b) says 'The character "<=" (left arrow) denotes assignment of the value following the arrow to the term preceding the arrow.'.

SuggestedRemedy

Based on the referenced conventions suggest that in the DISCOVERY_LOW_TYPE state:

- [1] Three 'END's, each on a new line, should be added after the final assignment, 'mpd_mixed_discovered = mpd_type_discovered'.
- [2] Replace the '=' with the '<=' (left arrow) symbol in the three assignments.
- [3] The first instance of 'If' should be changed to read 'IF'.
- [4] Consider indenting (see Figure 145-13 for an existing example).

Based on the above the actions in the DISCOVERY_LOW_TYPE state would read:

```
check_discovery_type
IF (mark_number = 3) THEN
    mpd_type0_discovered <= mpd_type_discovered
ELSE IF (mark_number = 4) THEN
    mpd_type1_discovered <= mpd_type_discovered
ELSE IF (mark_number = 5) THEN
    mpd_mixed_discovered <= mpd_type_discovered
END
```

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 169 SC 169.4.4.5 P106 L32 # 94

Law, David HPE
 Comment Type T Comment Status D State Diagrams

The DISCOVERY_DENIED state in Figure 169-4 has no actions, its exit condition is UCT, and there are no references to it from elsewhere in the draft (e.g., a management counter isn't incremented by entry to this state). It, therefore, seems that this state is redundant and could be deleted.

SuggestedRemedy

Suggest that the DISCOVERY_DENIED state in Figure 169-4 is deleted, and the transition from the DISCOVERY_LOW_EVAL state on !discover_compatible_mpd is to 'A'.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 TFTD
 Suggest accepting commenters resolution. This state was a placeholder.

Cl 169 SC 169.4.4.5 P106 L43 # 89

Law, David HPE
 Comment Type T Comment Status D State Diagrams

The transition condition from the POWER_ON to the ERROR_DELAY state in Figure 169-3 'Top level MPSE state diagram, part a' includes the term '!... + !power_available'. The variable 'power_available' is, however, not defined in subclause 169.4.4.2 'Variables'.

SuggestedRemedy

Suggest that the following variable definition is added to subclause 169.4.4.2:

power_available
 Variable that is set in an implementation-dependent manner when the PSE is no longer capable of sourcing sufficient power to support the attached MPD load.
 FALSE: PSE is no longer capable of sourcing power to the MPD load.
 TRUE: PSE is capable of continuing to source power to the MPD load.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 (commenters suggestion with PSE changed to MPSE)
 Add the following variable definition to 169.4.4.2:
 the following variable definition is added to subclause 169.4.4.2:

power_available
 Variable that is set in an implementation-dependent manner when the MPSE is no longer capable of sourcing sufficient power to support the attached MPD load.
 FALSE: MPSE is no longer capable of sourcing power to the MPD load.
 TRUE: MPSE is capable of continuing to source power to the MPD load.

Cl 169 SC 169.4.4.5 P106 L44 # 99

Paul, Michael Analog Devices
 Comment Type T Comment Status D State Diagrams

ttpsdo_timer_done exit from POWER_ON returns to IDLE, which allows a port to immediately re-enter discovery

SuggestedRemedy

This arc should return on arc A instead

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.4.5 P107 L1 # 24

Jones, Peter Cisco
 Comment Type E Comment Status D Editorial

Strange to have "169.4.5 MPSE overview" after 169.4.1 MPSE types, 169.4.2 MPSE pin assignments, 169.4.3 MPSE MPI and 169.4.4 MPSE state diagram.

SuggestedRemedy

Move "169.4.5 MPSE overview" to be 169.4.1

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 This text is a description of the operation of the MPSE state diagram and appropriately belongs in 169.4.4.

Move text of 169.4.5 to 169.4.4 (after existing sentence there)

Cl 169 SC 169.4.5 P107 L14 # 25

Jones, Peter Cisco
 Comment Type E Comment Status D Editorial

Cross reference out of place.

SuggestedRemedy

Change "an overload (see 169.4.9), short-circuit or other fault (see 169.4.10),"
 To "an overload (see 169.4.9), short-circuit (see 169.4.10) or other fault,"

Proposed Response Response Status W

PROPOSED REJECT.
 169.4.10 relates to the 'short circuit current' which could be caused by a fault other than a short circuit (e.g., a bad MPD), and that is also what "or other fault" refers to.

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Cl 169 SC 169.4.6 P107 L23 # 26

Jones, Peter Cisco
 Comment Type E Comment Status D Editorial

Add additional reference to "Table 169-3—MPSE discovery parameters " to the following sentence.
 "Discovery consists of a series of discover high and discover low events as defined in the state diagram in Figure 169-3 and Figure 169-4."

SuggestedRemedy

Discovery consists of a series of discover high and discover low events as defined in the state diagrams in figures 169-3 and 169-4, as well as the values in Table 169-3."

Proposed Response Response Status W

PROPOSED REJECT.
 Discovery doesn't consist of the values. Those values are referenced by the state diagrams.

Cl 169 SC 169.4.6 P107 L26 # 27

Jones, Peter Cisco
 Comment Type E Comment Status D Editorial

I don't really understand the usage of "mark event" and "mark event voltage" here. It first shows up in "169.4.6 Discovering the presence of an MPD before powering".

SuggestedRemedy

Add an explanation of what a "mark event" and/or "mark event voltage" are.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 The sentence is redundant: "When the MPSE is presenting a mark event voltage in a HIGH_MARK and DISCOVERY_HIGH_MARK state, as shown in the state diagram of Figure 169-3 and Figure 169-4, the MPSE supplies VMark voltage to the TCI subject to the TDiscovery_high timing specification."
 "presenting a mark event voltage" means "supplies Vmark voltage"...

Change "When the MPSE is presenting a mark event voltage in a HIGH_MARK and DISCOVERY_HIGH_MARK state, as shown in the state diagram of Figure 169-3 and Figure 169-4, the MPSE supplies VMark voltage to the TCI subject to the TDiscovery_high timing specification." to "When the MPSE is in a HIGH_MARK or DISCOVERY_HIGH_MARK state, as shown in the state diagram of Figure 169-3 and Figure 169-4, the MPSE supplies VMark voltage to the TCI subject to the TDiscovery_high timing specification."

Cl 169 SC 169.4.6 P107 L30 # 4

Jones, Chad Cisco Systems, Inc.
 Comment Type E Comment Status D EZ

there is a subscript 'i' in front of the word in.

SuggestedRemedy

delete the typo.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.4.6 P107 L52 # 28

Jones, Peter Cisco
 Comment Type T Comment Status D Editorial

The sentence "Unless acting as an MPD, an MPSE" doesn't cover what happens if the MPSE is acting as a device that doesn't implement MPoE (not an MPSE or MPD). Do we need to talk about these devices?

SuggestedRemedy

Discuss, do we need to add additional text regarding nodes that don't implment MPoE? For example, do they affect discovery?

Proposed Response Response Status W

PROPOSED REJECT.
 No change to the draft - a device that doesn't implement MPoE can't be an MPSE or MPD... It wouldn't be subject to this clause.

Cl 169 SC 169.4.6 P108 L41 # 97

Paul, Michael Analog Devices
 Comment Type T Comment Status D State Diagrams

Reject discovery - open circuit max is set to 200uA. MPD Mark event current min (item 4 in table 169-7) is set to 100uA min.

SuggestedRemedy

Change Reject discovery - open circuit max to 75uA so it does not overlap MPD mark current range

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 169 SC 169.4.8 P109 L13 # 5

Jones, Chad Cisco Systems, Inc.
 Comment Type T Comment Status D TBDs

TBDs in the output slew rate entry for Table 169-5. If we want to move to WG ballot, we need numbers here. I'm hoping we get a presentation or comment with reasons for replacing the TBDs with numbers, but this comment is here in case we don't. I'd ask the chair to charter an ad hoc to derive numbers to put in during this meeting.

SuggestedRemedy

If there is a comment to replace the TBDs with numbers, happy to withdraw this comment. If not, please charter an ad hoc to bring numbers back to the group to replace the TBDs.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 Big Ticket Item - Technical Completeness

Cl 169 SC 169.4.11.1 P110 L21 # 66

Zimmerman, George CME Consulting/ADI,APLGP,CSCO,MRVL,ONSMi,So
 Comment Type T Comment Status D State Diagrams

"The MPSE shall not remove power from the port ..." this prohibits the MPSE removing power for ANY reason if there is current above the threshold. This isn't what we mean. We WANT an MPSE to remove power if there is a fault, etc.

SuggestedRemedy

Change "The MPSE shall not remove power from the port when IMPSE is greater than or equal to IHold max continuously for at least TTPS every TTPS + TTPSDO, as defined in Table 169-5. " to "The MPSE shall not consider TPS absent, and should not remove power when IMPSE is greater than or equal to IHold max continuously for at least TTPS every TTPS + TTPSDO, as defined in Table 169-5, except as defined for entry to the ERROR_DELAY state in Figure 169-4."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 TFTD
 Consider with comment 83.
 Commenters resolution may not be best wording... The functionality to remove power is described in the state diagram...

Cl 169 SC 169.4.11.1 P110 L21 # 83

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D State Diagrams

This should not be a "shall" statement.

SuggestedRemedy

Replace, "The MPSE shall not remove power..." with "The MPSE does not remove power..."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 Consider with comment 66. It isn't clear exactly what we want here, but this shouldn't be a shall statement. However, there are instances where the MPSE could remove power...

Cl 169 SC 169.5.1 P110 L39 # 29

Jones, Peter Cisco
 Comment Type E Comment Status D MPD types

"169.5.1 MPD system types" discusses MPDs as "as Type 0, Type 1, or Type Mixed." but does not define them. Terms should be defined before they are used.
 "169.5.5.2 MPD unit load" and "169.3 System type power requirements" both contain the same passive voice definition "For Type 0 MPDs, one unit load represents 1W. For Type 1 MPDs, one unit load represents 2W."

SuggestedRemedy

Define MPD types (0, 1, or Mixed) before the terms are used, and don't repeat the definition later.

Proposed Response Response Status W

PROPOSED REJECT.
 MPD types are defined in the first paragraph of 169.3 and Table 169-1 (on page 99, before this):
 "MPSEs and MPDs are categorized by their system type. These system types and the relevant electrical specifications are shown in Table 169-1. An MPSE may transition between types during IDLE (see Figure 169-3 and Figure 169-4)."

Cl 169 SC 169.5.1 P110 L39 # 30

Jones, Peter Cisco
 Comment Type E Comment Status D EZ

Typo, "PDs" should be "MPDs".

SuggestedRemedy

Change "PDs can be characterized" to "MPDs can be characterized"

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 169 SC 169.5.2 P110 L50 # 31
 Jones, Peter Cisco
 Comment Type E Comment Status D EZ
 "MPDs are current sinks. See Figure 169-5." is a very short paragraph.
 SuggestedRemedy
 Combine with previous para.
 Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Combine with subsequent paragraph (which is about the flow of current, and therefore makes more sense).

Cl 169 SC 169.5.2 P110 L51 # 32
 Jones, Peter Cisco
 Comment Type E Comment Status D Editorial
 Simplify language.
 SuggestedRemedy
 Change "Current at an MPD MPI is defined as positive when current flows into the higher voltage pin of the MP1 or MP2 connection and flows out of the lower voltage pin of the same MP1 or MP2 connection, respectively" to "Current at an MPD MPI is defined as positive when current flows into the higher voltage pin of an MPI connection and flows out of the lower voltage pin of the same connection"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.5.2 P111 L10 # 33
 Jones, Peter Cisco
 Comment Type E Comment Status D Editorial
 Simplify language.
 SuggestedRemedy
 Change "Current at an MPD MPI is defined as negative when current flows out of the higher voltage pin of the MP1 or MP2 connection and flows into the lower voltage pin of the same MP1 or MP2 connection, respectively" to "Current at an MPD MPI is defined as negative when current flows out of the higher voltage pin of an MPI connection and flows into the lower voltage pin of the same connection"
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.5.2 P111 L13 # 67
 Zimmerman, George CME Consulting/ADI,APLGP,CSCO,MRVL,ONSMI,SO
 Comment Type T Comment Status D Editorial
 "Current shall be measured" - is a requirement on the user of the standard, and therefore inappropriate for a shall.
 SuggestedRemedy
 Change "shall be measured" to "is measured" at line 13
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.5.2 P111 L20 # 6
 Jones, Chad Cisco Systems, Inc.
 Comment Type E Comment Status D EZ
 Figure 169-5, V(A,B) has a greater sign after it. Not sure if it is a typo or if it suppose to indicate $V(A,B) > V(C,D)$. In either case, something needs done to the drawing. Either we delete the > symbol, or we move V(C,D) closer to make it obvious what we are trying to say. I'd lean towards it being a typo as we don't discuss that V(A,B) has to be greater than V(C,D) [even though logically it should be].
 SuggestedRemedy
 delete the ">" from the drawing.
 Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.5.2 P111 L34 # 34
 Jones, Peter Cisco
 Comment Type E Comment Status D MPD
 I don't get this picture. Why is +ve going in and out at MP1 and vice versa?
 SuggestedRemedy
 Review figure and update if appropriate (or is it just me?)
 Proposed Response Response Status W
 PROPOSED REJECT.
 No change to draft proposed.
 TFTD
 (note, if necessary, use this comment to fix typo where "MPSD DTE" should be "MPD DTE")

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Cl 169 SC 169.5.3.2 P112 L4 # 55

Zimmerman, George CME Consulting/ADI,APLGP,CSCO,MRVL,ONSMI,SO
 Comment Type T Comment Status D State Diagrams

I believe there is no need for a separate threshold after comparing V_Mark threshold operation to Figure 145-27 in PoE, which has similar function, there is no hysteresis in the state diagram and the PoE diagram also uses only one threshold so there is no need to add VMark_th. Any hysteresis can be accomplished by implementers using the allowed variation in VDiscovery_th in Table 169-7.

SuggestedRemedy

Delete editor's note and Vmark_th at P112 Lines 4 through 10 (note and variable).

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 TFTD

Cl 169 SC 169.5.3.3 P112 L27 # 84

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco
 Comment Type E Comment Status D EZ

Functions, timers, and variables generally appear in alphabetical order in 802.3-2022.

SuggestedRemedy

Arrange the Variables in alphabetical order

Proposed Response Response Status W
 PROPOSED ACCEPT.

Cl 169 SC 169.5.3.5 P114 L3 # 54

Zimmerman, George CME Consulting/ADI,APLGP,CSCO,MRVL,ONSMI,SO
 Comment Type E Comment Status D Editorial

delete editor's note - remove section if still empty after comment resolution.

SuggestedRemedy

delete editor's note - remove section if still empty after comment resolution.

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.
 Revisit at conclusion of comment resolution

Cl 169 SC 169.5.3.6 P115 L9 # 87

Law, David HPE
 Comment Type T Comment Status D State Diagrams

In the 'Top level MPD state diagram', the 'present_mismatch_indication' variable is set to FALSE in the OFFLINE state; the 'present_mismatch_indicator' variable is set to TRUE in the PON_MISMATCHED_TYPE state; and the 'present_mismatch_indicator' variable is set to FALSE in the PON_NO_POWER state. Neither the 'present_mismatch_indication' variable nor the 'present_mismatch_indicator' variable are defined in subclause 169.5.3.3 'Variables'.

SuggestedRemedy

Use one of the two variable names (either 'present_mismatch_indication' or 'present_mismatch_indicator') throughout the 'Top level MPD state diagram' and add a definition of the variable to subclause 169.5.3.3 'Variables'.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 Consider after comment 100 (which could delete present_mismatch_indicator). If the indicator is not deleted:

P117 L24: Change "present_mismatch_indicator" to "present_mismatch_indication" in PON_MISMATCHED_TYPE and PON_NO_POWER states

P113 L1:

Add "present_mismatch_indication" variable to 169.5.3.3 in alphanumeric order (with editorial indents to match section) as follows:

present_mismatch_indication

Controls presenting an indication that an MPD type is mismatched to the MPSE type on the mixing segment

Values:

FALSE: The MPD does not indicate a type mismatch

TRUE: The MPD indicates a type mismatch

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Cl 169 SC 169.5.3.6 P115 L12 # 86

Law, David HPE
 Comment Type E Comment Status D EZ

Subclause 169.5.3.1 'Conventions' says that 'The notation used in the state diagram follows the conventions of state diagrams as described in 145.2.5.2.'. The first row of Table 145-5 'State diagram operators in order of precedence (highest to lowest)' in subclause 145.2.5.2 of IEEE Std 802.3-2022 lists the '(')' operator as indicating precedence.

The open arrow entry condition into the IDLE state, however, uses '[']' rather than '(')'.

SuggestedRemedy

Suggest that the open arrow entry condition into the IDLE state '[VMPD < VReset_MPD_max] * !mpd_reset * dte_power_required' should read '(VMPD < VReset_MPD_max] * !mpd_reset * dte_power_required' or just 'VMPD < VReset_MPD_max * !mpd_reset * dte_power_required' since the '<' has a higher precedence than '*' according to Table 145-5.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.5.3.6 P116 L7 # 85

Law, David HPE
 Comment Type T Comment Status D EZ

Subclause 169.5.3.1 'Conventions' says that 'The notation used in the state diagram follows the conventions of state diagrams as described in 145.2.5.2.'. The second paragraph of subclause 145.2.5.2 of IEEE Std 802.3-2022 says that 'Some states in the state diagrams use an IF-THEN-ELSE-END construct to condition which actions are taken within the state.' and that 'If the logical expression associated with the IF evaluates TRUE all the actions listed between THEN and ELSE will be executed. In the case where ELSE is omitted, the actions listed between THEN and END will be executed.'.

Based on the above, the IF-THEN-ELSE-END construct in the DISCOVERY_LOW_TYPE_0, DISCOVERY_LOW_TYPE_1 and DISCOVERY_LOW_TYPE_MIXED states in Figure 169-7 'Top level MPD state diagram continued, part b' are missing the THEN after the IF condition.

SuggestedRemedy

Suggest that:

- [1] 'IF (mpd_type = 0)' in the DISCOVERY_LOW_TYPE_0 state should read 'IF (mpd_type = 0) THEN'.
- [2] 'IF (mpd_type = 1)' in the DISCOVERY_LOW_TYPE_1 state should read 'IF (mpd_type = 1) THEN'.
- [3] 'IF (mpd_type = mixed)' in the DISCOVERY_LOW_TYPE_MIXED state should read 'IF (mpd_type = mixed) THEN'.

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 169 SC 169.5.3.6 P117 L24 # 100

Paul, Michael Analog Devices

Comment Type T Comment Status D State Diagrams

PON_MISMATCHED_TYPE state doesn't need to be a separate state from PON_NO_POWER. Both are states where the MPD has power applied, but the power is not in a useable range

SuggestedRemedy

This page of the state diagram needs to be redrawn and all conditions rechecked. This is too complicated to fix in excel. See presentation paul_da_01_2024_09_04.pdf

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD - Awaiting presentation.

The difference between PON_MISMATCHED_TYPE is the presentation of a mismatch indicator on the MPD. However, as it is right now this blinks on & off immediately in PON_NO_POWER. Either the "MISMATCHED" state needs to be deleted or the indicator needs to be latched for a period of time. (this also may effect comment 87)

Cl 169 SC 169.5.3.6 P117 L27 # 52

Zimmerman, George CME Consulting/ADI,APLGp,CSCO,MRVL,ONSmi,So

Comment Type T Comment Status D State Diagrams

The exit from PON_LOAD_ON to PON_NO_POWER seems incorrect. It says: ((mpd_type = 1) * (VMPD > Vtype1_th)) + ((mpd_type = 0) * (VMPD < Vtype1_th)) Vtype1_th is greater than the operating range (VPort_MPD) for type 0, so VMPD for a type 0 MPD would ALWAYS be less than Vtype1_th in operation. Therefore, a type 0 MPD would immediately go to power off. similarly, a type 1 MPD's operating range is greater than Vtype1_th, and it would also immediately power off. Then there is the fact that there seems to be no way for an mpd_type = mixed to power off.

I'm thinking this should be going to power off when the MPD is less than the lowest threshold (Vtype0_th), OR, it's appropriate threshold (if type 1), resulting in an undervoltage power off. However, there may be other conditions (such as overvoltage power off) to consider.

SuggestedRemedy

Change exit condition from PON_LOAD_ON to PON_NO_POWER in Figure 169-8 to: (VMPD < Vtype0_th) + ((mpd_type = 1) * (VMPD < Vtype1_th))

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.5.3.6 P117 L44 # 53

Zimmerman, George CME Consulting/ADI,APLGp,CSCO,MRVL,ONSmi,So

Comment Type E Comment Status D EZ

delete editor's note - it was supposed to go after draft 1.3

SuggestedRemedy

delete editor's note immediately following Figure 169-8.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.5.4 P118 L40 # 7

Jones, Chad Cisco Systems, Inc.

Comment Type E Comment Status D Power Discovery

We are missing text that describes how an MPD responds to the discovery events to signify the MPD Type.

SuggestedRemedy

Submitting cjones_3da_01_0924_MPD_Type_discovery.pdf as baseline text to be added after Table 169-7.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.5.5.2 P120 L8 # 8

Jones, Chad Cisco Systems, Inc.

Comment Type E Comment Status D Editorial

MPDs consume integer units of load, known as "unit loads". Repetitive text...

SuggestedRemedy

change to : "MPDs consume integer units of power, known as "unit loads"."

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 169 SC 169.5.5.2 P120 L10 # 105

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG
 Comment Type T Comment Status D Unit Loads

For mixed Types, having a difference in the unit load equivalent power may cause confusion.

e.g. A device requires 4W and is a mixed type device it would have 4 unit loads on a type 0 segment and 2 unit loads on a type 1 segment. Thus the device would be described with two unit loads - depending on the type.

SuggestedRemedy

Assign 1W to one unit load.
 Type 0 is capable of providing 16 unit loads, type 1 is capable of providing 32 unit loads.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 TFTD
 Group needs to consider possible impacts elsewhere in the draft.

Cl 169 SC 169.5.5.2 P120 L10 # 35

Jones, Peter Cisco
 Comment Type T Comment Status D MPD

If we want to come back later and define other MPD types that need less power (e.g., 0.25W), do we have a path to that?

SuggestedRemedy

Discuss, consider clarification.

Proposed Response Response Status W

PROPOSED REJECT.
 TFTD
 No change to draft proposed.

Cl 169 SC 169.5.5.2 P120 L14 # 69

Zimmerman, George CME Consulting/ADI,APLGP,CSCO,MRVL,ONSMI,SO
 Comment Type T Comment Status D Unit Loads

"The sum of unit loads on a mixing segment shall not exceed 16." is not appropriate for a requirement on a single MPD, and is a duplicate to the statement on page 99 line 15 in 169.3 System type.

SuggestedRemedy

Delete the sentence "The sum of unit loads... exceed 16." at P120 L14.

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.5.5.3 P120 L28 # 36

Jones, Peter Cisco
 Comment Type T Comment Status D MPD

The test says "An MPD that does not report TPS may have its power removed within ..."
 I don't understand what is really happening here. Does the power drawn from the MPSE go down? Do we remove a reservation?

SuggestedRemedy

Discuss, consider clarification.

Proposed Response Response Status W

PROPOSED REJECT.
 No change to draft proposed. Text is clear - if the MPD doesn't report TPS, it is permitted for the MPSE to remove its power. This sentence is simply providing description of the operation specified in the state diagram.

Cl 169 SC 169.6.1.1 P121 L17 # 37

Jones, Peter Cisco
 Comment Type T Comment Status D General Safety

In "169.6.1.1 Electrical isolation environments" it defines MPoE environments A,B,C.
 I'm concerned that these do not cover all possibilities. What makes buildings special? If I plug two machines together with an external cable what happens then? Are A+C = (!B)?

SuggestedRemedy

Discuss, consider clarification.

Proposed Response Response Status W

PROPOSED REJECT.
 TFTD
 Commenter provides insufficient information for a remedy

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Cl 169 SC 169.6.1.1.1 P121 L25 # 38

Jones, Peter Cisco
 Comment Type E Comment Status D General Safety

In "169.6.1.1.1 MPoE Environment A requirements", it refers to a NID. A NID is defined as "1.4.411 network interface device (NID): A device that contains a MDI or a PI."
 The definition of PI is "1.4.484 Power Interface (PI): The mechanical and electrical interface between the Power Sourcing Equipment (PSE) or Powered Device (PD) and the transmission medium. In an Endpoint PSE and in a PD the Power Interface is the MDI."
 PI doesn't include MPSE and MPD.

SuggestedRemedy

Update the definition of PI to include MPSE and MPD or define MPI and update the definition of NID.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 (think 'an' comes before MDI, not 'a') as in:
 Add definition 1.4.411 to the draft, and change as follows:
 1.4.411 network interface device (NID): A device that contains an MDI, MPI, or a PI.

Cl 169 SC 169.6.1.1.1 P121 L27 # 106

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG
 Comment Type E Comment Status D Editorial

While NID is explained in the 802.3 abbreviations section as Network Interface Device, it would help the reader if it is written at the first occurrence in this section.

SuggestedRemedy

On the first occurrence, replace NID with Network Interface Device (NID)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 (added location, and rewrote sentence to singular)
 at P121 L26:
 change "Attachment of network segments via NIDs that have multiple instances of a balanced twisted-pair MPI requires electrical isolation between each segment and the protective ground of the NID."

to read:
 "Attachment of a network segment via a Network Interface Device (NID) that has multiple instances of a balanced twisted-pair MPI requires electrical isolation between each segment and the protective ground of the NID."

Cl 169 SC 169.6.1.1.1 P121 L41 # 39

Jones, Peter Cisco
 Comment Type T Comment Status D General Safety

In "169.6.1.1.1 MPoE Environment A requirements", it says "An Environment A MPSE shall switch the more negative conductor. It is allowed to switch both conductors."
 When does it switch the "more negative conductor"? If it "shall switch the more negative conductor", does it makes sense to then say it's allowed to switch both conductors?
 Same comment against the last para of "169.6.1.1.3 MPoE Environment C requirements"

SuggestedRemedy

Discuss, consider clarification.

Proposed Response Response Status W

PROPOSED REJECT.
 Text is clear. Switching is required on the more negative conductor. The additional text just makes it clear that the other conductor can be switched as well, provided that the more negative conductor is switched.

Cl 169 SC 169.7.1 P122 L47 # 9

Jones, Chad Cisco Systems, Inc.
 Comment Type E Comment Status D Environmental

last cycle I made a comment against "or as agreed to between the customer and supplier" with this justification:
 Not sure why this interoperability standard is talking about agreements between the customer and supplier. This sentence is beyond the scope of an interop standard and should be deleted.
 The CRG agreed and removed two other occurrences. Simply missed this one.

SuggestedRemedy

delete: " or as agreed to between the customer and supplier"

Proposed Response Response Status W

PROPOSED ACCEPT.

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Cl 169 SC 169.7.3 P123 L29 # 40

Jones, Peter Cisco
 Comment Type E Comment Status D Editorial

Language/readability, re-order last para in "169.7.3 Installation and maintenance guidelines" .

SuggestedRemedy

Change "Automotive environmental conditions are generally more severe than those found in many commercial and industrial environments. The target automotive, industrial, or commercial environment(s) require careful analysis prior to implementation."

To " The target automotive, industrial, or commercial environment(s) require careful analysis prior to implementation. Automotive environmental conditions are generally more severe than those found in many commercial and industrial environments."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 TFTD.

Are these sentences about "target applications" really necessary or even all that informative? Will a reader know what are the "target" environments in the future?

Cl 169 SC 169.7.4 P123 L35 # 11

Jones, Peter Cisco
 Comment Type E Comment Status D General Safety

In "169.7.4 Patch panel considerations" it says "It is possible that the current carrying capability of a cabling cross-connect may be exceeded by a MPSE."
 Is it really exceeded by the MPSE, or the combination of an MPSE and one or more MPDs?

SuggestedRemedy

Discuss, consider clarification.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 TFTD. Recommend that the text is correct, it is the MPSE's capability that matters. Perhaps we should make it 'exceeded by the current capacity of the MPSE.'

Cl 169 SC 169.7.5 P123 L40 # 12

Jones, Peter Cisco
 Comment Type T Comment Status D General Safety

Clause 169 has a "169.7.5 Telephony voltages" subclause, as do 12.10.2, 14.7.2.4, 23.9.2.4, 32.10.2.4, 33.7.5, 40.9.2.3, and 104.8.5.
 It seems like we should have equivalent subclauses in 146, 147 and 168.

SuggestedRemedy

Discuss, add new subclause if appropriate based of existing sub-clauses. 104.8.5 may be the best to copy from.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 Add new subclause to clause 168, with wording identical to 169.7.5, except that MPD/MPSE are replaced by DTE, and MPI by TCI.
 Clause 146 would be out of scope for this project. A key difference between clause 147 and clause 168 is the plug-and-play capability, which increases this risk (clause 147 is more suited to engineered systems which wouldn't have telephony cross risk).

Cl 169 SC 169.7.5 P123 L50 # 13

Jones, Peter Cisco
 Comment Type T Comment Status D General Safety

"169.7.5 Telephony voltages" does not include the following text that is in 12.10.2 and 14.7.2.4 . Does it belong in 146, 147, 168, 169?

"NOTE—Wiring errors may impose telephony voltages differentially across XXXX transmitters or receivers. Because the termination resistance likely to be present across a receiver's input is of substantially lower impedance than an off-hook telephone instrument, receivers will generally appear to the telephone system as off-hook telephones. Therefore, full-ring voltages will be applied for only short periods. Transmitters that are coupled using transformers will similarly appear like off-hook telephones (though perhaps a bit more slowly) due to the low resistance of the transformer coil."

SuggestedRemedy

Discuss, add text if appropriate.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 TFTD, however, a receiver for clause 168 (or 147) has high impedance, so it is the editor's recommendation that this does not apply.

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Cl 169 SC 169.7.6 P124 L6 # 68

Zimmerman, George CME Consulting/ADI,APLGp,CSCO,MRVL,ONSmI,So
 Comment Type T Comment Status D Editorial

"an MPoE system shall be tested" is a requirement on the user of the standard.

SuggestedRemedy

Change "an MPoE system shall be tested according to CISPR 25 test methods, and shall meet..." to "When tested according to CISPR 25 test methods, an MPoE system shall meet..."

Proposed Response Response Status W

PROPOSED ACCEPT.

Cl 169 SC 169.7.8 P124 L35 # 10

Jones, Chad Cisco Systems, Inc.
 Comment Type E Comment Status D Environmental

I think we should recommend the PD label the environment (see 169.6.1.1) that the PD was designed to. Add this to the Marking list.

SuggestedRemedy

Add:
 g) MPoE Environment type (e.g. Environment A, B, or C)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 (missing comma): Add:
 g) MPoE Environment type (e.g., Environment A, B, or C)

Cl 169 SC 169.8 P125 L4 # 63

Zimmerman, George CME Consulting/ADI,APLGp,CSCO,MRVL,ONSmI,So
 Comment Type T Comment Status D Editorial

PICS for clause 169 need to be filled in, per editor's note

SuggestedRemedy

delete editor's note, create PICS from shalls, descriptions, and conditions in D1p4_shalls.xlsx, with editor's license to align with comment resolution.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 TFTD with editorial license.

Cl J SC J.1 P127 L1 # 14

Jones, Peter Cisco
 Comment Type T Comment Status D General Safety

Update Annex J.1 to include clause 168 and 169. It currently references Clause 33 and Clause 145. It does not reference Clause 104 and it probably should.

SuggestedRemedy

Discuss, add text if appropriate.
 Change "NOTE 1—If the MDI is also a Clause 33 or Clause 145 PI then see 33.4.1 or 145.4.1 for specific requirements associated with option c)."
 to "NOTE 1— If the MDI is a PI or MPI then see the relevant "Electrical isolation" subclause for specific requirements associated with option c)."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
 TFTD.
 Clause 104 does not refer to Annex J.1 so Annex J.1 does not apply. Also, Clause 104 is out of scope for 802.3da.

The NOTE in Annex J isn't the operative text, the operative text is the text in the clause which calls out Annex J. Clauses 33 and 145 call out Annex J.1 with specific conditions. This note is calling attention to that.

This text wouldn't apply to clause 168 as annex J isn't called out.

However, those same conditions are present in 169.6.1.1.1 and 169.6.1.1.2, and so 169.6.1.1.1 (and .2) may be called out, but doesn't need to be. Suggest:
 ACCEPT IN PRINCIPLE

Add Annex J to the draft, changing NOTE 1 in J.1 as follows:
 Change "NOTE 1—If the MDI is also a Clause 33 or Clause 145 PI then see 33.4.1 or 145.4.1 for specific requirements associated with option c)."
 to "NOTE 1— If the MDI is a PI or MPI then see the relevant "Electrical isolation" subclause for specific requirements associated with option c)."

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Cl J SC J.1 P127 L1 # 15

Jones, Peter Cisco
Comment Type E Comment Status D General Safety

J.1 includes the following
"NOTE 2—IEEE Std 802.3-2018 and previous revisions provided references to various editions of the IEC 60950-1 standard for guidance in performing the isolation test for options a) and b). IEC 60950-1 has been withdrawn. References to IEC standards are not essential to performing the isolation test specified in J.1. No technical change is implied by the removal of these references."
Is this note needed? We don't normally discuss what's not in the standard,

SuggestedRemedy
Remove NOTE-2.

Proposed Response Response Status W
PROPOSED REJECT.
This note is out of scope for 802.3da as it is provided for reference to point to point systems specified in 802.3-2018.

Cl A SC A P127 L1 # 62

Zimmerman, George CME Consulting/ADI,APLGP,CSCO,MRVL,ONSmi,So
Comment Type E Comment Status D Editorial

There have been no references offered, remove bibliography section

SuggestedRemedy
Delete Annex A from draft (all of p127)

Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.
Revisit at conclusion of comment resolution