

802.3da D3.1 10 Mb/s Single Pair Multidrop Segment Enhancements 1st Sponsor recirculation ballot corr

CI 148 SC 148.4.7.1 P84 L13 # R1-1

Ran, Adee Cisco Systems, Inc.

Comment Type T Comment Status A D-PLCA

This comments is against the definition of the new variable pick_wait_cycles (P84 in the CMP document):
 "This variable is the number of BEACONS that will be received (PLCA cycles) before entering the FOLLOWER state and selecting an unused transit opportunity. The value is a random number selected from the range of 0 to the value of aging_cycles divided by two upon entry into the LEARNING and FOLLOWER states"

As noted in comment #I-84, randomness should not be used in a definition of a variable. Also, the data type is not stated; I assume it is an integer based on the first sentence. Also, "will" cannot be used when stating mandatory requirements.

SuggestedRemedy

Replace the definition with the following (with editorial license):
 "This variable is the number of received BEACONS (PLCA cycles) after which the D-PLCA Control State Diagram enters the FOLLOWER state and selects an unused transit opportunity. Its value is an integer between 0 and aging_cycles/2 inclusive, generated on each entry to either LEARNING or FOLLOWER state in an implementation-dependent manner. Implementations should generate a uniform distribution of values within the specified range and avoid generating a sequence that would repeatedly match with other stations in the network."

Response Response Status C

ACCEPT IN PRINCIPLE.

(Editor's note: Tightened language. Applied Editorial license to align with the definition for aging_cycle on P83-L9)

Change definition for pick_wait_cycles to:

"The number of BEACONS (PLCA cycles) received after which the D-PLCA Control State Diagram enters the FOLLOWER state and selects an unused transmit opportunity. The value is an integer between 0 and aging_cycles/2 inclusive, generated on each entry to the LEARNING state and to the FOLLOWER state in an implementation-dependent manner. Implementations should generate a uniform distribution of values within the specified range and avoid generating a sequence that would repeatedly match with other stations in the network."

CI 188 SC 188.10.3 P131 L41 # R1-2

Ran, Adee Cisco Systems, Inc.

Comment Type E Comment Status R Editorial

This comment is against the final paragraph of 188.10.3, which was modified by the resolution of comment I-105.
 I don't think the change improves the clarity of the sentence. It would be less puzzling if the references to 188.10.1 and 188.10.2 were explicit.

Also in 189.7.5.

SuggestedRemedy

With editorial license, change from
 "conformance with 188.10.1 and 188.10.2"
 to
 "conformance with the general safety (188.10.1) and network safety (188.10.2) requirements".

Apply the corresponding change in 189.7.5.

Response Response Status C

REJECT.

CRG disagrees with commenter.
 802.3 style generally provides just the numeric cross reference (hyperlinked) rather than reiterating the title of the referenced section.

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CI 189 SC 189.1.4.2 P91 L32 # R1-3

Ran, Adeo Cisco Systems, Inc.

Comment Type T Comment Status A Editorial

Following the resolution of comment #I-30 the text became
"An MPI may not be managed using LLDP. In this case, management of local MPIs may be available, but LLDP discovery and power negotiation with remote MPIs is not possible"

The "management of local MPIs" could be understood with the original text ("associated with a DTE") but now it does not make sense (what is "local"?) Also, this sentence is not about allowing management.

Also, "may not" creates ambiguity that can be avoided.

SuggestedRemedy

With editorial license, change to
"For an MPI that is not managed using LLDP, LLDP discovery and power negotiation with remote MPIs is not possible".

Response Response Status C

ACCEPT IN PRINCIPLE.
On P139-L13,

Replace, "An MPI may not be managed using LLDP. In this case, management of local MPIs may be available, but
LLDP discovery and power negotiation with remote MPIs is not possible."

with,"For an MPI that is not managed using LLDP, LLDP discovery and power negotiation with remote MPIs is not possible".

Implementation note - this line was further changed to delete the word "managed" by comment r1-19.

CI 189 SC 189.4.4.2 P146 L27 # R1-4

Ran, Adeo Cisco Systems, Inc.

Comment Type T Comment Status A State Diagrams

The definition of "short_circuit_detected" says "This variable is set per this description", but the description is not specific enough.

It can be assumed that the default value is FALSE. This enables the transition of the "Top level MPSE state diagram" from POWER_ON to BACKOFF.

If the MPSE output detects a short circuit even once, the value changes to TRUE but is never set back to FALSE. It means that the state diagram can't ever go from POWER_ON to BACKOFF (A), and instead it would go to IDLE (D), forever.

It may be assumed that do_MPSE_reset (in state BACKOFF) would set this variable back to FALSE, but it is not stated.

Similarly for overload_detected.

SuggestedRemedy

Add to the definition something like "the do_MPSE_reset function sets this variable to FALSE".

Or clarify in some other way how the condition of this variable is cleared.

Consider adding an explicit default value of FALSE.

Apply the same solution to overload_detected.

Response Response Status C

ACCEPT IN PRINCIPLE.

Add definition of discover_fault to P142 L10 (189.4.4.1):

"A Boolean variable indicating whether I_{Discovery} measured by the MPSE is equal to or greater than I_{Discovery_LIM} as defined in Table 189-3. The default value of this variable is FALSE."

At P145 L3 and P145 L19 replace discover_fault definition with "See 189.4.4.1."

In state "BACKOFF" add action "discover_fault <= FALSE" (where <= is the assignment operator)

On P143 L9 (overload_detected), add sentence "The default value of this variable is FALSE."

Add assignment of overload_detected <= FALSE to state ERROR_DELAY on P147 L49

On P84-L52, replace "the result of the following boolean expression:" with "the result of the following Boolean expression:"

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CI 1 SC 1.4 P24 L14 # R1-5

Maguire, Valerie Cisco,CME Consulting,Copperopolis

Comment Type E Comment Status A Editorial

It would be helpful (and aligned with how other definitions are structured) to provide a clause pointer where this term is used.

SuggestedRemedy

Insert, "(See IEEE Std 802.3, Clause 79.)" at the end of the definition.

Response Response Status C

ACCEPT.

CI 189 SC 189.1.3 P138 L21 # R1-6

Maguire, Valerie Cisco,CME Consulting,Copperopolis

Comment Type E Comment Status A Editorial

What does "for simplicity of drawing" mean? Suggest to clarify and tighten language.

SuggestedRemedy

Replace, "Figure 189–2 illustrates (showing only three nodes for simplicity of drawing) some of the different types of MPI Groups, where one or more MPSE(s) or one or more MPD(s) within an MPI Group use LLDP to advertise their capabilities and status."

with, "Replace, "Figure 189–2 shows examples of MPI Groups, in which one or more MPSEs or MPDs use LLDP to advertise their capabilities and status."

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace, "Figure 189–2 illustrates (showing only three nodes for simplicity of drawing) some of the different types of MPI Groups, where one or more MPSE(s) or one or more MPD(s) within an MPI Group use LLDP to advertise their capabilities and status."

with, "Figure 189–2 shows examples of MPI Groups, in which one or more MPSEs or MPDs use LLDP to advertise their capabilities and status."

CI 79 SC 79.5.14 P69 L31 # R1-7

Maguire, Valerie Cisco,CME Consulting,Copperopolis

Comment Type E Comment Status A EZ

"Pair Index" should not be capitalized.

SuggestedRemedy

Replace "MPI Pair Index" with "MPI pair index" in these locations: P69-L31, P70-L11, and P71-L15

Response Response Status C

ACCEPT.

CI 188 SC 188.1.1 P91 L24 # R1-8

Maguire, Valerie Cisco,CME Consulting,Copperopolis

Comment Type E Comment Status A EZ

Global check for NOTE structure. NOTE should end with a ".".

SuggestedRemedy

Add a "." to the end of the NOTE in these locations: P91-L24, P138-L45, and P141-L43

Response Response Status C

ACCEPT.

CI 188 SC 188.8 P117 L15 # R1-9

Maguire, Valerie Cisco,CME Consulting,Copperopolis

Comment Type T Comment Status A EZ

Align figure with adopted terminology.

SuggestedRemedy

Replace "DTE" with "station" in two locations in Figure 188-17.

Response Response Status C

ACCEPT IN PRINCIPLE.

This change was accommodated by the response to comment R1-13 (see the response to comment R1-13).

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Cl 189 SC 189.4.4.1 P142 L 24 # R1-10
 Maguire, Valerie Cisco,CME Consulting,Copperopolis
 Comment Type E Comment Status A EZ
 The ordering of TRUE and FALSE values in the Variables and Functions subclauses (i.e., 189.4.4.1, 189.4.4.3, 189.5.3.2) is inconsistent.
 SuggestedRemedy
 Re-order the TRUE and FALSE values in the Variables and Functions subclauses (i.e., 189.4.4.1, 189.4.4.3, 189.5.3.2) so that the value for TRUE comes first.
 Response Response Status C
 ACCEPT.

Cl 30 SC 30.17.1.1.1 P34 L 12 # R1-11
 Zimmerman, George Analog Devices,Apl group,Cisco Systems, Inc.,CME
 Comment Type TR Comment Status A MPI Group
 Related to required comment I-98 and I-4 - aMPSEmpiPairIndex value of 0 is related to association with the MPI Group, and contradicts the new text introduced for them on P60 in 79.3.10.
 SuggestedRemedy
 Change definition of the BEHAVIOUR of value 0 to be:
 the MPI is the MDI associated with the MPI Group
 Change the definition of the BEHAVIOUR associated with value >0 to be:
 the MPI is physically separate from the MDI associated with the MPI Group
 Response Response Status C
 ACCEPT.

Cl 30 SC 30.17.2.1.1 P39 L 50 # R1-12
 Zimmerman, George Analog Devices,Apl group,Cisco Systems, Inc.,CME
 Comment Type TR Comment Status A MPI Group
 Related to required comment I-98 and I-4 - aMPDmpipairIndex value of 0 is related to association with the MPI Group, and contradicts the new text introduced for them on P60 in 79.3.10.
 SuggestedRemedy
 Change definition of the BEHAVIOUR of value 0 to be:
 the MPI is the MDI associated with the MPI Group
 Change the definition of the BEHAVIOUR associated with value >0 to be:
 the MPI is physically separate from the MDI associated with the MPI Group
 Response Response Status C
 ACCEPT.

Cl 188 SC 188.8 P117 L 16 # R1-13
 Zimmerman, George Analog Devices,Apl group,Cisco Systems, Inc.,CME
 Comment Type E Comment Status A EZ
 Related to required comment I-98 - two instances of DTE missed in Figure 188-17. the text above now refers to these as "stations"
 SuggestedRemedy
 Replace "DTE" with "Station" at Line 15 on the right and Line 22 on the left of Figure 188-17.
 Response Response Status C
 ACCEPT.

Cl 189 SC 189.1 P137 L 10 # R1-14
 Zimmerman, George Analog Devices,Apl group,Cisco Systems, Inc.,CME
 Comment Type ER Comment Status A DTE
 Related to required comment I-22 - missed correcting "may be associated with a DTE". This sentence is unnecessary with the rewrite of the last 2 sentences of the paragraph which state the relationship of the MPI to the MDI. Further, it doesn't make sense as edited, since it says "interfaces" may be associated with a DTE - and then says the DTE is, for example, "a 10BASE-T1M TCI" - which isn't a DTE, and isn't plural like interfaces. It also isn't necessary to define the abbreviation MPI, since this is also defined in the subsequent sentence.
 SuggestedRemedy
 Delete the sentence "MPoE interfaces (MPIs) may be associated with a DTE (e.g., a 10BASE-T1M TCI)." at P137 L11-12.
 Response Response Status C
 ACCEPT.

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CI 1 SC 1.4.404a P24 L12 # R1-15

Jones, Peter Cisco Systems, Inc.

Comment Type TR Comment Status A MPI Group

The current definition of MPI Group is complex and incorrect. Some of the issues in this definition include:

- 1)There is no such thing as an LLDP MSAP. LLDP uses an LSAP provided by an LLC Entity (802.1AB Clause 6).
- 2)A single LLC LSAP maps to a single MAC MSAP which maps to a single MAC Client which maps to a single MDI. Each LLDPDU contains a mandatory Port ID TLV which maps to a single MDI.
- 3)MPSEs and MPDs don't use LLDP. The station uses LLDP to advertise information about MPSEs and MPDs.

SuggestedRemedy

Replace the current definition of 1.4.404a MPI Group with the following:
One or more MPSE(s) or one or more MPD(s) whose capabilities and status are advertised over a single MDI using LLDP.

Response Response Status C

ACCEPT IN PRINCIPLE.
Replace the current definition of 1.4.404a MPI Group with the following:
One or more MPSE(s) or one or more MPD(s) whose capabilities and status can be advertised over a single MDI using LLDP.

CI 79 SC 79.3.10 P59 L50 # R1-16

Jones, Peter Cisco Systems, Inc.

Comment Type TR Comment Status A MPI Group

The first sentences of 79.3.10, 79.3.11 and 79.3.12 use the term "nearest bridge group" to define the scope/reach of the LLDP communications. This is not normal practice when defining 802.3 TLVs, all of which have the same scope. The scope is specified by the Destination Address field (802.3 79.1.1.1) which points to the Nearest bridge address defined in 802.1AB. 802.1AB states that this address purpose is "Propagation constrained to a single physical link; stopped by all types of bridge".

For all 802.3 TLVs, the scope is a single physical link which is a single segment. The MPoE TLVs should either remove the scope("nearest bridge group") text to match all other 802.3 TLVs, or use "segment" instead of "nearest bridge group"

SuggestedRemedy

Make one of the following changes

Option 1:

Replace

"in an MPI Group to other stations on the same nearest bridge group"
with

"in an MPI Group".

Option 2:

Replace

"in an MPI Group to other stations on the same nearest bridge group"

With

"in an MPI Group to other stations on the same segment".

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace, "on the same nearest bridge group"

with, "on the same segment"

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CI 79 SC 79.3.11 P62 L39 # R1-17

Jones, Peter Cisco Systems, Inc.

Comment Type TR Comment Status A MPI Group

The first sentences of 79.3.10, 79.3.11 and 79.3.12 use the term "nearest bridge group" to define the scope/reach of the LLDP communications. This is not normal practice when defining 802.3 TLVs, all of which have the same scope. The scope is specified by the Destination Address field (802.3 79.1.1.1) which points to the Nearest bridge address defined in 802.1AB. 802.1AB states that this address purpose is "Propagation constrained to a single physical link; stopped by all types of bridge".

For all 802.3 TLVs, the scope is a single physical link which is a single segment. The MPoE TLVs should either remove the scope("nearest bridge group") text to match all other 802.3 TLVs, or use "segment" instead of "nearest bridge group"

SuggestedRemedy

Make one of the following changes

Option 1:

Replace

"in an MPI Group to other stations on the same nearest bridge group"

with

"in an MPI Group".

Option 2:

Replace

"in an MPI Group to other stations on the same nearest bridge group"

With

"in an MPI Group to other stations on the same segment".

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace, "on the same nearest bridge group"

with, "on the same segment"

CI 79 SC 79.3.12 P66 L26 # R1-18

Jones, Peter Cisco Systems, Inc.

Comment Type TR Comment Status A MPI Group

The first sentences of 79.3.10, 79.3.11 and 79.3.12 use the term "nearest bridge group" to define the scope/reach of the LLDP communications. This is not normal practice when defining 802.3 TLVs, all of which have the same scope. The scope is specified by the Destination Address field (802.3 79.1.1.1) which points to the Nearest bridge address defined in 802.1AB. 802.1AB states that this address purpose is "Propagation constrained to a single physical link; stopped by all types of bridge".

For all 802.3 TLVs, the scope is a single physical link which is a single segment. The MPoE TLVs should either remove the scope("nearest bridge group") text to match all other 802.3 TLVs, or use "segment" instead of "nearest bridge group"

SuggestedRemedy

Make one of the following changes

Option 1:

Replace

"in an MPI Group to other stations on the same nearest bridge group"

with

"in an MPI Group".

Option 2:

Replace

"in an MPI Group to other stations on the same nearest bridge group"

With

"in an MPI Group to other stations on the same segment".

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace, "on the same nearest bridge group"

with, "on the same segment"

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CI 189 SC 189.1.3.1 P139 L8 # R1-19

Jones, Peter Cisco Systems, Inc.

Comment Type TR Comment Status A Editorial

The use of "nearest bridge group" in this subclause to define the scope/reach of the LLDP communications is not needed. For all 802.3 TLVs, the scope is a single physical link which is a single segment. The scope is specified by the Destination Address field (802.3 79.1.1.1) which points to the Nearest bridge address defined in 802.1AB. 802.1AB states that this address purpose is "Propagation constrained to a single physical link; stopped by all types of bridge".

SuggestedRemedy

Replace
"LLDP management for MPoE assumes that no power bus spans more than one nearest bridge group. Implementers should confine LLDP-managed power buses to a single nearest bridge group to avoid confusion"

With
"LLDP management for MPoE assumes that the power bus topology matches that of the associated segment. "

Response Response Status C

ACCEPT IN PRINCIPLE.

Change title of 189.1.3.1 to MPI Groups using LLDP (delete the word "managed" and add "Groups" after MPI)

Replace last 2 sentences of 2nd paragraph of 189.1.3.1 (P139 L7-9) with

"This use of LLDP assumes that the power bus topology matches the topology of the segment carrying the LLDP information. Implementers should align these topologies for correct operation."

Change title of 189.1.3.2 to delete the word "managed" , and delete the word "managed" in the first sentence of 189.1.3.2.

CI 189 SC 189.1 P137 L11 # R1-20

Jones, Chad Cisco Systems, Inc.

Comment Type ER Comment Status R DTE

"MPoE interfaces (MPIs) may be associated with a DTE (e.g., a 10BASE-T1M TCI). The Multidrop Power Interface (MPI) "

We define the acronym MPI twice in this sentence and with two different definitions. The first one is incorrect and should be deleted.

SuggestedRemedy

Delete "(MPIs)" on line 11.

Response Response Status Z

REJECT.

This comment was WITHDRAWN by the commenter.

CI 189 SC 189.1.3 P138 L47 # R1-21

Jones, Chad Cisco Systems, Inc.

Comment Type E Comment Status A Editorial

Figure 189-2

I was confused by the terminology TCI/[MPI] and found myself thinking was this supposed to be some subscript and started to write a comment. Then I noticed the note at the bottom explaining. Perhaps add an asterisk to the end of each occurrence and one at the beginning of the note.

SuggestedRemedy

add asterisk after TCI/[MPI], three places. Add asterisk before the NOTE.

Response Response Status C

ACCEPT.

CI 189 SC 189.4.5 P149 L3 # R1-22

Jones, Chad Cisco Systems, Inc.

Comment Type E Comment Status A EZ

"Table 189-9only..." missing space after the number

SuggestedRemedy

add space making it "Table 189-9 only..."

Response Response Status C

ACCEPT.

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CI 189	SC 189.6.2.1.1	P164	L 13	# R1-23
Jones, Chad		Cisco Systems, Inc.		
Comment Type	ER	Comment Status	A	Isolation
<p>"This electrical isolation shall meet the isolation requirements specified in Annex J.1.2."</p> <p>This shall is redundant with the shall on line 3. Looking at the PICS, it seems the editors realized this as the shall for line 3 does not include compliance to J.1.2. Either we deleted the shall on line 3 or the sentence on line 13. I'd suggest the latter. We could leave the PICS as is (three statements for two shalls in the section) as the shall on line 3 is a compound statement.</p> <p><i>SuggestedRemedy</i></p> <p>Delete "This electrical isolation shall meet the isolation requirements specified in Annex J.1.2." on line 13.</p>				
Response	Response Status C			
ACCEPT.				

CI 189	SC 189.6.2.2.1	P165	L 18	# R1-24
Jones, Chad		Cisco Systems, Inc.		
Comment Type	ER	Comment Status	A	Isolation
<p>"This electrical power isolation shall meet the isolation requirements specified in Annex J.1.3."</p> <p>This shall is redundant with the shall on line 9. Looking at the PICS, it seems the editors realized this as the shall for line 3 does not include compliance to J.1.3. Either we deleted the shall on line 9 or the sentence on line 18. I'd suggest the latter. We could leave the PICS as is (three statements for two shalls in the section) as the shall on line 9 is a compound statement.</p> <p><i>SuggestedRemedy</i></p> <p>Delete "This electrical power isolation shall meet the isolation requirements specified in Annex J.1.3." on line 18</p>				
Response	Response Status C			
ACCEPT.				

CI 189	SC 189.6.1	P163	L7	# R1-25
Zimmerman, George		Analog Devices, Apl group, Cisco Systems, Inc., CME		
Comment Type	TR	Comment Status	A	Return Loss
<p>*** Comment submitted with the file zimmerman_TCIRLIL_3da_01_10152025.pdf attached</p> <p>***</p> <p>When the MPI is also a TCI, the MPI return loss for unit loads does not meet high frequency measured behavior shown by schreiner in Sept 2025. Additionally, it is inconsistent with the TCI insertion loss in clause 188. The return loss is the subject of comment i-38 on D3.0, which is currently unsatisfied. Additional work to provide an alternate solution is provided. Note - this comment provides additional information, and if this comment is satisfied, comment i-38 from this commenter will also be satisfied.</p> <p>SuggestedRemedy</p> <p>Implement the changes listed on slide 14 of zimmerman_TCIRLIL_3da_01_10152025.pdf, attached.</p>				

Response	Response Status C
ACCEPT IN PRINCIPLE.	
Adopt change to clause 189 TCI return loss on slide 9 of https://www.ieee802.org/3/da/public/102025/zimmerman_TCIRLIL_3da_01_10152025.pdf	
Adopt changes to clause 188 and 189 TCI insertion loss on slide 12 of https://www.ieee802.org/3/da/public/102025/zimmerman_TCIRLIL_3da_01_10152025.pdf (including adjusting the start frequency of the next higher frequency range for Equation 188-6, TCI insertion loss to match the change to the lower range)	
Replace 188.8.2 Return loss (P119 L1-51) with the following:	
188.8.1a Mixing segment delay	
The propagation delay from edge termination to edge termination of the mixing segment shall not exceed 550 ns at 10 MHz.	
Each section of a mixing segment shall have a propagation delay not less than 0.3 ns (e.g., not less than approximately 5 cm in length).	
188.8.2 Return loss and characteristic impedance	
Mixing segment return loss is specified by the TCI return loss and the characteristic impedance of the cabling used in the mixing segment. See 188.9.1.2 for specification of TCI return loss.	
The characteristic impedance of each section of a mixing segment shall be 100 ohms +/- 5 ohms at 10 MHz without stations or representative loads attached.	
Change PICS MXS3 as follows:	
Feature: Characteristic impedance	
Value/Comment: Each section of a mixing segment is 100 ohms +/- 5 ohms at 10 MHz without stations or representative loads.	

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Add new PICS MXS 2a (and renumber) as follows:

Feature: Minimum propagation delay

Subclause: 188.8.1a

Value/Comment: Not less than 0.3 ns per section of a mixing segment

Status: Yes[]

Add PICS MXS2b (and renumber) as follows:

Feature: Maximum propagation delay

Subclause: 188.8.1a

Value/Comment: Not more than 550 ns from edge termination to edge termination of the mixing segment.

Status: Yes[]

Implementation note - while implementing this comment, it was found that 189.5.5.1 pointed to equation 188-4 (which this comment deletes) incorrectly thinking it was the TCI return loss. As a result, the additional change was added under editorial license: Change reference in 189.5.5.1 stating "TCI return loss as specified in Equation (188-4)" to "TCI return loss as specified in Equation (188-6)"

CI 189	SC 189.1	P137	L14	# R1-26
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Peker, Arkadiy microchip

Comment Type	T	Comment Status	R	Power
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"One or more MPSE(s)" statement should be clarified

SuggestedRemedy

Add a clarification in 189.1: "Only a single MPSE shall be connected to a data transmission line"

Response	Response Status	C
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REJECT.

The CRG disagrees with commenter. This text was specifically written to not disallow multiple MPSEs.

CI 189	SC 189.2	P139	L36	# R1-27
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Peker, Arkadiy microchip

Comment Type	T	Comment Status	A	Editorial
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Provide clarification for maximum overall resistance of cable and mated connectors.

SuggestedRemedy

Add sentence in the end of paragraph 189.2 Maximum overall DC loop resistance of cable and mated connectors (4 Ohm+ 17*0.15Ohm) is 6.55 Ohm.

Response	Response Status	C
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ACCEPT IN PRINCIPLE.

In the 2nd paragraph of 189.2, replace "This resistance budget" with "The resistance budget for power delivery", and add new final sentence.

"The maximum overall DC loop resistance of cable and mated connectors is 6.4 W (4 W + (0.5+15 + 0.5)* 0.15 W), representing that power delivery only traverses one side of the trunk connection on each end node."

Replace the text in 188.9.1.5 with the existing text in 188.9.1.4.

Replace the text in 188.9.1.4 with, "The DC resistance from TC1's BI_DA+ to TC2's BI_DA+ and TC1's BI_DA- to TC2's BI_DA- shall each be less than 75 mW including mated connectors and compensation components."

where W is the Ohms symbol and * is the multiplier symbol

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CI 189 SC 189.3 P140 L7 # R1-28

Peker, Arkadiy microchip

Comment Type T Comment Status A Power

It is not clear how some parameters in this table were derived? For example, our calculation based on 4 Ohm cable DC loop resistance and 17 mated connectors (and compensation components) with 150mOhm resistance provides different values for Vmpd_min and Impse_min. Another issue with cable + connectors resistance for Type 0 and 1. Type 0: $(V_{mpse_min} - V_{mpd_min}) / I_{mpse_min} = (21.6V - 16V) / 1.1A = 5.09 \text{ Ohm}$
Type 1: $(V_{mpse_min} - V_{mpd_min}) / I_{mpse_min} = (45V - 35.5V) / 1.76A = 5.39 \text{ Ohm}$ Should be this values to be equal?

SuggestedRemedy

Provide Annex with example of mixing segments power calculation.

Response Response Status C

ACCEPT IN PRINCIPLE.

Re-looking at Table 189-1, and in light of comment I-42 on D3.0 from the same commenter, it appeared it would reduce confusion and improve adoptability if the maximum MPoE V_MPSE was raised to 57 V, while clarifying that power limitations are maintained.

Change Table 189-1 in the Type 1 MPSE column as follows:

Change header from "50 V Max MPSE (Type 1)" to "57 V Max MPSE (Type 1)"

In V_MPSE max row, for Type 1, change 50 to 57

In I_MPSE min row, for Type 1, change 1760 to 1750

In P_MPSE min row, for Type 1, change 79.2 to 78.75

Change Table 189-5 items 1 & 2 as follows:

Change Item 1 Max V_MPSE for Type 1: change 50 to 57

Change Item 2 Min P_MPSE for Type 1: from 79.2 to 78.75

Change Item 2 Additional information to read: "See 189.4.7 and 189.7.1"

In Table 189-9 Item 1, for Type 1 MPDs, change Max V_Port_MPD from 50 to 57.

In 189.4.7, change the third sentence from:

"Often this value is 100 W max, but an MPSE designer is encouraged to refer to the safety standards that will govern the desired installation (i.e., the target market for a given MPSE)."

To "Often this value is 100 W max, but an MPSE designer is encouraged to refer to the safety standards that will govern the desired installation (i.e., the target market for a given MPSE) where it could be lower."

CI 189 SC 189.5.5 P159 L1 # R1-29

Peker, Arkadiy microchip

Comment Type T Comment Status A Power

Flow chart on Fig 189-9 has 6 events of discovery however in a table 189-8 there are 5 events of discovery.

SuggestedRemedy

Make note to the table 189-8: Option 1: Discovery Event 6 does not add additional discovery information and could be used for future application.
Option 2 (from Michael Paul presentation MPoE Discovery Extensibility) : Bit 6 =0 signals that the information was for T1M multidrop

Response Response Status C

ACCEPT IN PRINCIPLE.

Insert new row and column to Table 189-8, after row for Event 5, and column to the left of Discovery event 5;

Row to read: DISCOVERx Event 6 | DO_DISCOVERY6

Column to read: event (6), "x" in rows for "Type 0", "Type 1", and "Type 0/1"

Add new final row - Extended discovery | 1 | 0 | x | x | x | 1

(1, 0, "x" in columns for 3 through 5, "1" in column 6)

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CI 188 SC 188.9.1.6 P124 L32 # R1-30

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

Comment Type T Comment Status A Power

Compliance with the specifications at any current up to 2A in either polarity from TC1 to TC2 negatively affects the form factor and implementation effort of all TCIs that are intended to be not powered. This is particularly critical for applications where power supply is on a separate pair of conductors

SuggestedRemedy

In 188.9.6 line 33 change "2A" to "0.2A"; Add new final sentence: for currents between 0.2A and 2A, TCIs shall meet the return loss requirements of 189.6.1 for N_unit=1

Response Response Status C

ACCEPT IN PRINCIPLE.

In 188.9.1.6 line 33 change "2A" to "0.2A";

Add new final sentence: "For currents between 0.2A and 2A, TCIs shall meet the return loss requirements of 189.6.1 for N_unit=1."

(note N_unit is with underscore - editor to see text formatting in clause 189)

In PICS TCI7, change "2 A" to "0.2A" in Value/comment

Insert new PICS TCI8 after TCI7 and renumber.

Feature: Return loss when powering current is applied

Subclause: 188.9.1.6

Value: Meets return loss requirements in 189.6.1 for N_unit = 1 for currents between 0.2A and 2A."

Status: M

Support: Yes []

Add a new final paragraph to 189.2 (P 139 L38) stating:

For powered segments that also are mixing segments carrying data, the MPI return loss requirements are specified in 189.6.1 to allow plug-and-play operation for up to 16 unit loads of MPD nodes fed by a 16 UL MPSE. Unpowered clause 188 TCIs on mixing segments with MPoE should be considered as 1 unit load MPIs when configuring or evaluating mixing segments. Greater numbers of nodes on a mixing segment are possible with engineering consideration of node placement and actual loading. Such engineering is beyond the scope of this standard.

CI 148 SC 148.4.7.1 P82 L18 # R1-31

Baggett, Tim Microchip Technology, Inc.

Comment Type ER Comment Status A D-PLCA

The final sentence of the second paragraph incorrectly states that D-PLCA detects collisions as part of the nodeID assignment process. As of the May 2025 interim, SOFT claims were removed from the algorithm.

see:

https://www.ieee802.org/3/da/public/0525/Baggett_3da_Cmt48_DPLCA_Algorithm_Optimization_v01.pdf

SuggestedRemedy

Strike/delete the final sentence of the second paragraph:

"When D-PLCA is active, PHYs detect collisions as part of the local_nodeID assignment process."

Response Response Status C

ACCEPT.

CI 148 SC 148.4.7.2 P84 L15 # R1-32

Baggett, Tim Microchip Technology, Inc.

Comment Type E Comment Status A EZ

In the first sentence of description for pick_wait_cycles "transmit" is misspelled as "transit"

SuggestedRemedy

Change "transit" to "transmit" on P84 L15

Response Response Status C

ACCEPT.

CI 148 SC 148.4.7.4 P85 L33 # R1-33

Baggett, Tim Microchip Technology, Inc.

Comment Type ER Comment Status A Editorial

First sentence describing wait_beacon_timer does not describe which D-PLCA state diagram uses the timer as it cone for beacon_timeout_timer above. Describe that it is the D-PLCA *control* state diagram that uses the wait_beacon_timer.

SuggestedRemedy

Change "D-PLCA state diagram" to "D-PLCA control state diagram"

Response Response Status C

ACCEPT.

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CI 148 SC 148.4.7.2 P83 L14 # R1-34

Baggett, Tim Microchip Technology, Inc.

Comment Type TR Comment Status A D-PLCA

The present default value of 1000 for aging_cycles was poorly selected at the January 2025 interim. Since then, modeling of D-PLCA has shown that a better initial value would be 64 as shown in slides 13-16 of https://www.ieee802.org/3/da/public/0925/Baggett_3da_Cmt_I-97_FollowerTimeRandomization_v01.pdf

Keeping the present default of aging_cycles=1000 is much too long and results in packet excessive deferral errors and slows down the D-PLCA convergence significantly.

SuggestedRemedy

Change the default value for aging_cycles on P83 L 14 from "1000" to "64".

Response Response Status C

ACCEPT.

CI 148 SC 148.4.7.5 P86 L11 # R1-35

Baggett, Tim Microchip Technology, Inc.

Comment Type TR Comment Status A D-PLCA

This is a follow-on to Initial Ballot comment I-81.

D-PLCA nodes initialized to node ID 255 will transmit as if PLCA is disabled even while the D-PLCA algorithm is attempting to determine usable transmit opportunities. This has two negative results:

1) A node with ID 255 can transmit during the coordinator's transmit opportunity zero. This forces the coordinator into follower mode and stop sending BEACONS halting packet transmission

2) The claim table becomes polluted by hearing transmissions in "random" transmit opportunities causing the m D-PLCA algorithm to converge (and why it was decided in the May 2025 interim not to allow non-PLCA nodes in a D-PLCA network)

SuggestedRemedy

While the D-PLCA algorithm is active and converging, initialize nodes to an unused PLCA node ID of 254. This will remain and unused transmit opportunity reserved for D-PLCA nodes that have not selected a valid node ID.

P86 L11 change: "local_nodeID = 255" to "local_nodeID = 254"

P86 L35 change: "local_nodeID = 255" to "local_nodeID = 254"

Since we are only allowing valid node IDs in the range of 0 to 253, the claim table size may be reduced:

P84 L33 change: "...255 transmit opportunities..." to "...254 transmit opportunities..."

P84 L42 change: "Array of 255 elements..." to "Array of 254 elements..."

P85 L3 change: "...255 elements..." to "...254 elements..."

The range of parameter "ID" that is passed to function CLAIMING is changed:

P84 L51-52 change: "...range of 0 to 254..." to "...range of 0 to 253..."

The invalid node ID returned by PICK_FREE_TXOP needs to be changed from 255 to 254 as well:

P85 L12 change: "... or 255 if no such ID exists..." to "... or 254 if no such ID exists..."

Response Response Status C

ACCEPT.

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CI 148 SC 148.4.7.1 P82 L44 # R1-36

Baggett, Tim Microchip Technology, Inc.

Comment Type E Comment Status A Editorial

The end of the second (final) sentence of the paragraph could be change to improve clarity by specifying what kind of transmit opportunity the D-PLCA follower is identifying.

SuggestedRemedy

Change: "...follower begins identifying a transmit opportunity that it may claim."

To: "...follower begins identifying **an unused** transmit opportunity that it may claim."
Or: "...follower begins identifying **an unclaimed** transmit opportunity that it may claim."

** asterisks added to highlight change

Response Response Status C

ACCEPT IN PRINCIPLE.

(Editor's note: Commenter dropped the word "and" in the Suggested Remedy.)

Change: "...follower and begins identifying a transmit opportunity that it may claim."

To: "...follower and begins identifying an unclaimed transmit opportunity."

Additionally, it was found that the D-PLCA coordinator only checks for the condition to retain size of the PLCA cycle when the aging period has elapsed and a new claim table is made active with old, expired TO claims removed from the claim table. The problem occurs when two new D-PLCA followers attempt to join the segment at the same time. To fix this related issue:

Change Figure 148-8 D-PLCA Control State Diagram as follows:

Delete "** dplca_new_age" from the transition condition from COORDINATOR to INCREASE_NODE_COUNT (at P86 L33)

Change the transition condition from INCREASE_NODE_COUNT to COORDINATOR from "!dplca_new_age" to "!dplca_txop_table_upd" (at P86 L43)

CI 148 SC 148.4.7.1 P82 L48 # R1-37

Baggett, Tim Microchip Technology, Inc.

Comment Type ER Comment Status A D-PLCA

This paragraph refers to D-PLCA followers monitoring the mixing segment for one PLCA cycle. This is incorrect. It actually monitors for the mixing segment in the LEARNING state for one "D-PLCA aging period" where the aging period is defined by the occurrence of the number of PLCA cycles (BEACONS) specified by the aging parameter.

Furthermore, this text does not describe the random pick wait that was added during the Sept 2025 interim to randomize how long after the aging period expires that the follower will then select its transmit opportunity.

SuggestedRemedy

On P 82 Lines 47-49

Change:

"Upon detection of a BEACON, new D-PLCA followers transition to the LEARNING state where they monitor the mixing segment for one PLCA cycle to identify transmit opportunities that have a claim. At the end of the PLCA cycle, the D-PLCA follower will select a free transmit opportunity that does not have a claim."

To:

"Upon detection of a BEACON, new D-PLCA followers transition to the LEARNING state where they monitor the mixing segment for one **D-PLCA aging period** to identify transmit opportunities that have a claim. **The D-PLCA aging period is the occurrence of a number of PLCA BEACON cycles as specified by the aging_cycles parameter.** At the end of the **D-PLCA aging period**, the D-PLCA follower will **continue to wait a random number of PLCA BEACON cycles up to one half of the D-PLCA aging period and** select a free transmit opportunity that does not have a claim. "

The first sentence describing the aging_cycles parameter can also be improved to describe how it relates to the "aging period"

On P83 L10-11

Change:

"Defines the number of BEACON cycles before the claims over the transmit opportunities expire."

To:

"Defines the **D-PLCA aging period** number of BEACON cycles before the claims over the transmit opportunities expire."

** astrisks to highlight changes

Response Response Status C

ACCEPT IN PRINCIPLE.

On P 82 Lines 47-49

Change:

"Upon detection of a BEACON, new D-PLCA followers transition to the LEARNING state

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn

SORT ORDER: Comment ID

Comment ID R1-37

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where they monitor the mixing segment for one PLCA cycle to identify transmit opportunities that have a claim. At the end of the PLCA cycle, the D-PLCA follower will select a free transmit opportunity that does not have a claim."

To:

"Upon detection of a BEACON, new D-PLCA followers transition to the LEARNING state where they monitor the mixing segment for one D-PLCA aging period to identify transmit opportunities that have a claim. The D-PLCA aging period is the occurrence of a number of PLCA BEACON cycles specified by the aging_cycles variable. At the end of the D-PLCA aging period, the D-PLCA follower will continue to wait a random number of PLCA BEACON cycles up to one half of the D-PLCA aging period and select a free transmit opportunity that does not have a claim. "

On P83 L10-11

Change:

"Defines the number of BEACON cycles before the claims over the transmit opportunities expire."

To:

"Defines the D-PLCA aging period. This is the number of BEACON cycles before claims over the transmit opportunities expire."

Cl 189 SC 189.7.7 P167 L18 # R1-38

Potterf, Jason

Cisco Systems, Inc.

Comment Type T Comment Status A

MPI Group

Clause 189 defines mixing segments, not link segments.

SuggestedRemedy

The MPD and MPSE powered cabling mixing segment is expected to operate over a

Response Response Status C

ACCEPT IN PRINCIPLE.

(Editor's note: MPoE can be used on either mixing segments or link segments. Clarify change.)

Replace ,"The MPD and MPSE powered cabling link segment..."

with, "The MPD and MPSE powered segment..."

Cl 188 SC 188.6.1 P110 L41 # R1-39

Potterf, Jason

Cisco Systems, Inc.

Comment Type T Comment Status A Isolation

Clause 188 has no isolation requirements for PHYs that do not implement an MPI. Clause 40.6.1.1 Electrical isolation provides precedence and useful language to address this.

SuggestedRemedy

Insert the following text as a new paragraph as the end of Section 188.6.1

A PHY with a TCI that is not an MPI shall provide electrical isolation between the port device circuits, including frame ground (if any) and all MDI leads. This electrical isolation shall meet the isolation requirements as specified in J.1.2.

Response Response Status C

ACCEPT IN PRINCIPLE.

Insert the following text as a new paragraph at the end of Section 188.6.1:

A PHY with a TCI that is not an MPI shall provide electrical isolation (see J.1.2) between the port device circuits, including frame ground (if any) and all MDI leads.

Insert new PICS major capabilities/options in 188.12.3 (P129 L17)

Add new row to PICS table 188.12.3

*MPOE ☐ Implements MPSE or MPD Behavior ☐ 189.1.2 Provides power to or sources power from the mixing segment ☐ Yes ☐ No ☐

Insert new PICS PMDE1 and PMDE2 on P132 L8 and renumber remaining PICS.

Item: PMDE1

Feature: Electrical isolation between port device circuits

Subclause: 188.6.1

Value/Comment: A TCI that is not an MPI provides electrical isolation between the port device circuits, including frame ground (if any) and all MDI leads, in compliance with J.1.2.

Status: M:!MPOE

Support: Yes ☐, N/A ☐

Item: PMDE2

Feature: Electrical isolation between port device circuits

Subclause: 188.6.1

Value/Comment: A TCI that is an MPI provides electrical isolation according to 189.6.2

Status: M:MPOE

Support: Yes ☐, N/A ☐

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CI 189 SC 189.6.2.1.1 P164 L11 # R1-40

Potterf, Jason Cisco Systems, Inc.

Comment Type T Comment Status A Isolation

The addition of MPI Groups creates some confusion regarding the isolation requirements for Isolated MPoE Systems. Please consider making it explicit that MPI Group membership does not imply exception from isolation.

SuggestedRemedy

Change the sentence beginning on line 9 to read:
A device incorporating at least one isolated MPD shall provide electrical power isolation between all MPIs on the device, including MPIs associated with either additional MPDs, MPIs within an MPI Group, or any MPSE.

Response Response Status C

ACCEPT IN PRINCIPLE.

In 189.6.2.11 (P164 L8) Change "An isolated MPSE" to "An isolated MPoE system" to read as follows:

An isolated MPoE system that has more than one isolated MPSE MPI does not require electrical power isolation between isolated MPSE MPIs.

CI 189 SC 189.6.2.2.1 P165 L15 # R1-41

Potterf, Jason Cisco Systems, Inc.

Comment Type T Comment Status R Isolation

The addition of MPI Groups creates some confusion regarding the isolation requirements for Grounded MPoE Systems. Please consider making it explicit that MPI Group membership does not imply exception from isolation for MPDs.

SuggestedRemedy

Change the sentence beginning on line 15 to read:
Note this includes MPIs associated with either additional MPDs, MPIs within an MPI Group, or any MPSE.

Response Response Status Z

REJECT.

This comment was WITHDRAWN by the commenter.

CI 148 SC 148.4.4.2 P75 L17 # R1-42

Law, David Hewlett Packard Enterprise

Comment Type T Comment Status A Editorial

The COL variable is no longer being added to the PLCA Control state diagram.

SuggestedRemedy

Make the following edits:

- [1] Change the editing instruction 'Insert new variables COL, dplca_aging, dplca_en ...' on line 15 to read 'Insert new variables dplca_aging, dplca_en ...'.
- [2] Delete the definition of the COL variable on lines 17 to 21.

Response Response Status C

ACCEPT.

CI 148 SC 148.4.7.2 P83 L27 # R1-43

Law, David Hewlett Packard Enterprise

Comment Type E Comment Status A EZ

There is an underscore missing between 'node' and 'count' in the variable 'dplca_min_node count' in subclause 148.4.7.2 'D-PLCA variables'.

SuggestedRemedy

Change 'dplca_min_node count' to read 'dplca_min_node_count'.

Response Response Status C

ACCEPT.

CI 148 SC 148.4.7.5 P86 L29 # R1-44

Law, David Hewlett Packard Enterprise

Comment Type T Comment Status A D-PLCA

Subclause 148.4.7.1 'D-PLCA state diagram overview' says that 'When the coordinator detects that no node has a claim on the last two transmit opportunities of the cycle, it transitions to the REDUCE_NODE_COUNT state.' and that 'In this state, the coordinator will reduce plca_node_count ...'. The REDUCE_NODE_COUNT state in Figure 148-8 'D-PLCA Control State Diagram', however, modifies the 'dplca_node_count' variable. Since there are no other reoffences to the 'dplca_node_count' variable in the draft, and based on subclause 148.4.7.1, it appears the REDUCE_NODE_COUNT state should modify the 'dplca_node_count' variable.

SuggestedRemedy

Change the two instances of 'dplca_node_count' to read 'plca_node_count' in the REDUCE_NODE_COUNT state of Figure 148-8 'D-PLCA Control State Diagram'

Response Response Status C

ACCEPT.

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CI 148 SC 148.4.7.3 P85 L6 # R1-45
 Law, David Hewlett Packard Enterprise
 Comment Type E Comment Status A EZ
 Typo.
 SuggestedRemedy
 Suggest that '... takes as parameter ...' should be changed to read '... takes as a parameter ...'.
 Response Response Status C
 ACCEPT IN PRINCIPLE.
 Change "as parameter" to "as a parameter" at P85 L6 and P84 L51

CI 189 SC 189.5.3.4 P156 L16 # R1-46
 Law, David Hewlett Packard Enterprise
 Comment Type T Comment Status A State Diagrams
 Both the DO_MARK4 and DO_MARK5 states set the present_mark_sig variable to MARK; however, there is no present_mark_sig variable defined in subclause 189.5.3.3 'Variables'. Instead, I believe that the variable present_sig should be set to MARK in these states, as it is in the other DO_MARK states.
 SuggestedRemedy
 In the DO_MARK4 and DO_MARK5 states, change 'present_mark_sig <= MARK' to read 'present_sig <= MARK', where '<=' is the assignment operator symbol.
 Response Response Status C
 ACCEPT.

CI 189 SC 189.5.3.4 P157 L6 # R1-47
 Law, David Hewlett Packard Enterprise
 Comment Type T Comment Status A State Diagrams
 Subclause 188.1.3.1 'State diagram notation', says the IF-THEN-ELSE-END construct is used to condition which actions are taken within a state. Based on this, the actions in the PON_EVAL state should be updated to follow this convention.
 SuggestedRemedy
 Suggest that the action in the PON_EVAL state is changed to read:
 IF(((mpd_type = 1) * (VMPD < Vtype1_th)) + ((mpd_type = 0) * (VMPD > Vtype1_th)) + (VMPD < Vtype0_th)) THEN
 present_mismatch_indication <= TRUE
 ELSE
 present_mismatch_indication <= FALSE
 END
 Where '<=' is the assignment operator symbol.
 Response Response Status C
 ACCEPT.

CI 189 SC 189.5.3.3 P154 L20 # R1-48
 Law, David Hewlett Packard Enterprise
 Comment Type E Comment Status A EZ
 Suggest that the text 'Controls presenting the current presented ...' should be changed to read 'Controls current presented ...'.
 SuggestedRemedy
 See comment.
 Response Response Status C
 ACCEPT.

CI 189 SC 189.5.3.2 P153 L45 # R1-49

Law, David Hewlett Packard Enterprise

Comment Type T Comment Status A Editorial

When optional Clause 30 management is present, mpd_reset and power_required are controlled by the aMPDAdminState attribute defined in subclause 30.17.2.1.4, which says, 'When this attribute reports the enumeration "disabled", the interface acts as it would if it had no MPD function. See also my comment about subclause 30.17.2.2.1 acMPDAdminControl.

SuggestedRemedy

Suggest that:

[1] The text 'When Clause 30 management is present, this variable is set to TRUE when the aMPDAdminState attribute is set to 'disabled' and set to FALSE when the aMPDAdminState attribute is set to 'enabled'.' is added to the mpd_reset variable definition.

[2] The text 'When Clause 30 management is present, this variable is set to FALSE when the aMPDAdminState attribute is set to 'disabled' and set to TRUE when the aMPDAdminState attribute is set to 'enabled'.' is added to the power_required variable definition.

Response Response Status C

ACCEPT IN PRINCIPLE.

In 189.5.3.2

Add the following to the mpd_reset variable definition, after "at any time." (P153 L46):

'When Clause 30 management is present, this variable maps to the aMPDAdminState attribute. The mpd_reset variable is set to TRUE when the aMPDAdminState attribute is set to "disabled", and set to FALSE when the attribute is set to "enabled". When Clause 30 management is not present, this variable is set by equivalent means.'

AND, and the following to the power_required variable definition, after "at any time" (P154 L4):

'When Clause 30 management is present, this variable maps to the aMPDAdminState attribute. The power_required variable is set to FALSE when the aMPDAdminState attribute is set to "disabled" and set to TRUE when the attribute is set to "enabled". When Clause 30 management is not present, this variable is set by equivalent means.'

CI 148 SC 148.4.4.2 P75 L24 # R1-50

Law, David Hewlett Packard Enterprise

Comment Type T Comment Status A D-PLCA

The dplca_en variable definition in subclause 148.4.4.2 says that 'this variable maps to TRUE when the aDPLCASupported attribute is set to TRUE and the aDPLCAAdminState is set to enabled, and maps to FALSE when the aDPLCASupported attribute is set to FALSE or the aDPLCAAdminState is set to disabled.'

The behaviour of the aDPLCASupported attribute, defined in subclause 30.16.1.1.12, says 'A read-only value that indicates whether D-PLCA is supported by this station.'. Since the aDPLCASupported attribute is defined as a read-only value, the aDPLCASupported attribute cannot be '... set to TRUE ...' or '... set to FALSE ...'.

The behaviour of the aDPLCAAdminState attribute, defined in subclause 30.16.1.1.10, also says 'A read-only value that indicates whether the dynamic node ID allocation method for the PLCA Reconciliation Sublayer (D-PLCA) is enabled.'. The action acDPLCAAdminControl, defined in subclause 30.16.1.2.3, however, '... provides a means to alter aDPLCAAdminState ...'. See also my comment regarding acDPLCAAdminControl and aDPLCAAdminState.

As a result, when Clause 30 management is present, aDPLCAAdminState is mapped to dplca_en, and dplca_en is mapped to aDPLCASupported.

SuggestedRemedy

Suggests that the second sentence of the dplca_en variable definition in subclause 148.4.4.2 should be changed to read:

When Clause 30 management is present, this variable is mapped from the aDPLCAAdminState attribute and mapped to the aDPLCASupported attribute. When the aDPLCAAdminState attribute is set to 'enabled', the dplca_en variable is set to TRUE, and when the aDPLCAAdminState attribute is set to 'disabled', the dplca_en variable is set to FALSE. When the dplca_en variable is set to TRUE, the aDPLCASupported attribute is set to 'true', and when the dplca_en variable is set to FALSE, the aDPLCASupported attribute is set to 'false'.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change the third sentence ("When Clause 30...") of the dplca_en variable definition in subclause 148.4.4.2 to read:

When Clause 30 management is present, this variable maps from the aDPLCASupported and aDPLCAAdminState attributes. The dplca_en variable is set to TRUE when the aDPLCASupported attribute is "TRUE" and the aDPLCAAdminState attribute is "enabled". The dplca_en variable is set to FALSE when the aDPLCASupported attribute is "FALSE" or the aDPLCAAdminState attribute is "disabled".

CI 30 SC 30.17.2.2.1 P45 L2 # R1-51

Law, David Hewlett Packard Enterprise

Comment Type T Comment Status A Editorial

Item b) in the third paragraph of subclause 30.1.4 'Management model' says that Actions are 'Operations that a managing process may perform on an object or its attributes.'. As a result, I believe that an action should change the state of an attribute, and that the attribute maps to variables. An example of this is subclause 30.9.1.2.1 acPSEAdminControl '... provides a means to alter aPSEAdminState.' and subclause 30.9.1.1.2 aPSEAdminState maps to the PSE Enable bit.

SuggestedRemedy

Suggest that:

[1] Subclause 30.17.2.2.1 acMPDAdminControl is changed to read:

ACTION

APPROPRIATE SYNTAX:
Same as aMPDAdminState

BEHAVIOUR DEFINED AS
This action provides a means to alter aMPDAdminState.;

[2] The second and third sentences of the subclause 30.17.2.1.4 aMPDAdminState attribute behaviour description are replaced with the following (based on the existing acMPDAdminControl behaviour description):

This attribute maps to the mpd_reset and power_required variables (see 189.5.3.2). When the attribute is set to 'disabled', the mpd_reset variable is set to TRUE, and the power_required variable is set to FALSE. When the attribute is set to 'enabled', the mpd_reset variable is set to FALSE, and the power_required variable is set to TRUE.

Response Response Status C

ACCEPT IN PRINCIPLE.

[1] Subclause 30.17.2.2.1 acMPDAdminControl is changed to read:

ACTION

APPROPRIATE SYNTAX:
Same as aMPDAdminState

BEHAVIOUR DEFINED AS
This action provides a means to alter aMPDAdminState.;

[2] The second and third sentences of the subclause 30.17.2.1.4 aMPDAdminState attribute behaviour description are replaced with the following (based on the existing acMPDAdminControl behaviour description):

The aMPDAdminState attribute maps to the mpd_reset and power_required variables (see 189.5.3.2). The mpd_reset variable is set to TRUE and the power_required variable is set to FALSE when the attribute is set to "disabled". The mpd_reset variable is set to FALSE and the power_required variable is set to TRUE when the attribute is set to "enabled".

CI 30 SC 30.16.1.2.3 P33 L 24 # R1-52

Law, David Hewlett Packard Enterprise

Comment Type T Comment Status A Editorial

Item b) in the third paragraph of subclause 30.1.4 'Management model' says that Actions are 'Operations that a managing process may perform on an object or its attributes.'. As a result, I believe that an action should change the state of an attribute, and that the attribute maps to variables. An example of this is subclause 30.9.1.2.1 acPSEAdminControl '... provides a means to alter aPSEAdminState.' and subclause 30.9.1.1.2 aPSEAdminState maps to the PSE Enable bit. Finally, the behaviour description in subclause 30.16.1.2.3 acDPLCAAdminControl says 'This action provides a means to alter aDPLCAAdminState.'.

SuggestedRemedy

Suggest that:

[1] Subclause 30.16.1.2.3 acDPLCAAdminControl is changed to read:

ACTION

APPROPRIATE SYNTAX:

Same as aDPLCAAdminState

BEHAVIOUR DEFINED AS

This action provides a means to alter aDPLCAAdminState.;

[2] The following text is inserted as the second and third sentence in the behaviour description of the subclause 30.16.1.1.10 aDPLCAAdminState attribute (based on the text deleted by [1] above):

The aDPLCAAdminState attribute maps to the dplca_en variable (see 148.4.7.2). When the attribute is set to 'enabled', the dplca_en variable is set to TRUE, and when the attribute is set to 'disabled', the dplca_en variable is set to FALSE.

Response Response Status C

ACCEPT IN PRINCIPLE.

[1] Subclause 30.16.1.2.3 acDPLCAAdminControl is changed to read:

ACTION

APPROPRIATE SYNTAX:

Same as aDPLCAAdminState

BEHAVIOUR DEFINED AS

This action provides a means to alter aDPLCAAdminState.;

[2] The following text is inserted as the second and third sentence in the behaviour

description of the subclause 30.16.1.1.10 aDPLCAAdminState attribute (based on the text deleted by [1] above):

The aDPLCAAdminState attribute maps to the dplca_en variable (see 148.4.7.2). The dplca_en variable is set to TRUE when the attribute is set to "enabled", and set to FALSE when the attribute is set to "disabled".

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CI 30 SC 30.17.1.2.1 P39 L13 # R1-53

Law, David Hewlett Packard Enterprise

Comment Type T Comment Status A Editorial

Item b) in the third paragraph of subclause 30.1.4 'Management model' says that Actions are 'Operations that a managing process may perform on an object or its attributes.'. As a result, I believe that an action should change the state of an attribute, and that the attribute maps to variables. An example of this is subclause 30.9.1.2.1 acPSEAdminControl '... provides a means to alter aPSEAdminState.' and subclause 30.9.1.1.2 aPSEAdminState maps to the PSE Enable bit.

SuggestedRemedy

Suggest that:

[1] Subclause 30.17.1.2.1 acMPSEAdminControl is changed to read:

BEHAVIOUR DEFINED AS

This action provides a means to alter aMPSEAdminState.

ACTION

APPROPRIATE SYNTAX:

Same as aMPSEAdminState

BEHAVIOUR DEFINED AS

This action provides a means to alter aMPSEAdminState.;

[2] The following text is inserted as the second and third sentence in the behaviour description of the subclause 30.17.1.1.4 aMPSEAdminState attribute (based on the text deleted by [1] above):

This attribute maps to the mpse_enable variable (see 189.4.4.1). When the attribute is set to 'enabled', the mpse_enable variable is set to TRUE, and when the attribute is set to 'disabled', the dplca_en variable is set to FALSE.

Response Response Status C

ACCEPT IN PRINCIPLE.

[1] Subclause 30.17.1.2.1 acMPSEAdminControl is changed to read:

BEHAVIOUR DEFINED AS

This action provides a means to alter aMPSEAdminState.

ACTION

APPROPRIATE SYNTAX:

Same as aMPSEAdminState

BEHAVIOUR DEFINED AS

This action provides a means to alter aMPSEAdminState.;

[2] The following text is inserted as the second and third sentence in the behaviour description of the subclause 30.17.1.1.4 aMPSEAdminState attribute (based on the text deleted by [1] above):

The aMPSEAdminState attribute maps to the mpse_enable variable (see 189.4.4.1). The mpse_enable variable is set to TRUE when the attribute is set to 'enabled', and set to FALSE when the attribute is set to "disabled".

CI 189 SC 189.5.3.1 P153 L35 # R1-54

Law, David Hewlett Packard Enterprise

Comment Type E Comment Status A EZ

Change '... and type 0 operating...' should read '... and Type 0 operating...' (the 'T' in Type should be upper case).

SuggestedRemedy

See comment.

Response Response Status C

ACCEPT.

CI 148 SC 148.4.4.1 P74 L26 # R1-55

Law, David Hewlett Packard Enterprise

Comment Type E Comment Status A State Diagrams

Subclause 148.4.4.1, titled 'PLCA Control State Diagram,' says that '... the PLCA nodeID and BEACON are automatically configured.'. Is it correct to say that the BEACON is automatically configured? I understood that it is the local_nodeID = 0, which sends BEACONS, that is automatically configured.

Further, the remainder of the existing subclause 148.4.4.1 references local_nodeID, not 'PLCA nodeID'. I believe that 'PLCA nodeID' is an LLDP field that contains (see 79.3.9.2).

SuggestedRemedy

Suggest that:

'When D-PLCA is enabled, the local_nodeID and BEACON are automatically configured.'

should be changed to read:

'When D-PLCA is enabled, the local_nodeID, including the section of local_nodeID = 0 which sends BEACONS, is automatically configured.'

Response Response Status C

ACCEPT IN PRINCIPLE.
Change

'When D-PLCA is enabled, the local_nodeID and BEACON are automatically configured.'

to:

'When D-PLCA is enabled, the local_nodeID, including the selection of local_nodeID = 0 that sends BEACONS, is automatically configured.'

CI 148 SC 148.4.4.1 P74 L34 # R1-56

Law, David Hewlett Packard Enterprise

Comment Type E Comment Status A Editorial

The D-PLCA abbreviation has already been expanded on its first use in subclause 148.2 Overview.

SuggestedRemedy

Suggest that 'When the optional Dynamic PLCA (D-PLCA) functionality ...' is changed to read 'When the optional D-PLCA functionality ...'.

Response Response Status C

ACCEPT IN PRINCIPLE.

At P74 L34 Change 'When the optional Dynamic PLCA (D-PLCA) functionality ...' to read 'When the optional D-PLCA functionality ...'.

Add D-PLCA to 1.5 Abbreviations list at P24 L47 in alphabetic order:
D-PLCA Dynamic PLCA

CI 148 SC 148.4.7.1 P82 L14 # R1-57

Law, David Hewlett Packard Enterprise

Comment Type T Comment Status A D-PLCA

Since the second paragraph of subclause 148.4.7.1 'D-PLCA state diagram overview' is the first mention of 'statically assigned IDs' in Clause 148, I suggest that the paragraph should note that PLCA nodes with D-PLCA disabled, or PLCA nodes without D-PLCA, have to be configured with a statically assigned local_nodeID as defined in subclause 148.4.4.1.

SuggestedRemedy

Suggest that the second sentence of the second paragraph of subclause 148.4.7.1 is replaced with:

When a mixing segment includes PLCA nodes that are operating using the optional D-PLCA function, as well as PLCA nodes that are not (either because the function is disabled or not implemented), it is necessary to configure the PLCA nodes operating without the D-PLCA function with statically assigned local_nodeIDs before enabling their transmit function (see 148.4.4.1). In this configuration, the PLCA nodes operating using the D-PLCA function will select local_nodeIDs that are outside the range of the statically assigned IDs.

Response Response Status C

ACCEPT IN PRINCIPLE.

Replace the second sentence of the second paragraph of subclause 148.4.7.1 with:

When a mixing segment includes PLCA nodes that are operating using the optional D-PLCA function, as well as PLCA nodes that are not (either because the function is disabled or not implemented), it is necessary to configure the PLCA nodes operating without the D-PLCA function with statically assigned local_nodeIDs before enabling their transmit function (see 148.4.4.1).

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CI 148 SC 148.4.7.1 P82 L9 # R1-58

Law, David Hewlett Packard Enterprise

Comment Type T Comment Status A D-PLCA

Suggest noting that D-PLCA operation does not support CSMA/CD nodes.

SuggestedRemedy

Suggest that the following be inserted as a new second sentence in the first paragraph of subclause 148.4.7.1:

The D-PLCA function can only operate on a mixing segment where all the nodes are operating with PLCA enabled, as CSMA/CD nodes are not supported.

Response Response Status C

ACCEPT IN PRINCIPLE.

Insert as a new second sentence in the first paragraph of subclause 148.4.7.1:

The D-PLCA function can only operate on a mixing segment where all the nodes are operating with PLCA enabled.

CI 1 SC 1.4.405b P24 L28 # R1-59

Law, David Hewlett Packard Enterprise

Comment Type T Comment Status A Editorial

Subclause 1.4.405b defines 'Multidrop Power Interface (MPI)' as 'The mechanical and electrical interface between the Multidrop Power Sourcing Equipment (MPSE) or Multidrop Powered Device (MPD) and the transmission medium (see IEEE Std 802.3, Clause 189)'. It, however, seems from the rest of the draft that an MPI may or may not connect to the 'transmission medium', assuming that means the data transmission medium.

SuggestedRemedy

Suggest that the text:

'... the transmission medium ...'

in subclause 1.4.405b is changed to read:

'... the power transmission medium, which may or may not be the data transmission medium ...'.

Response Response Status C

ACCEPT.

CI 148 SC 148.4.7.5 P86 L11 # R1-60

Law, David Hewlett Packard Enterprise

Comment Type TR Comment Status A D-PLCA

Further to the comment I-81 received on the initial Standards Association ballot of IEEE P802.3da draft D3.0, based on independent simulation using Verilog models generated from IEEE P802.3da draft D3.1, I believe this comment correctly identified an issue and therefore should not have been rejected.

During D-PLCA operation, nodes operate in CSMA/CD mode until they are allocated a local_nodeID. This is because local_nodeID is set to 255 on reset by the Figure 148-8 D-PLCA Control State Diagram, and they cannot exit the NORMAL state of the Figure 148-5 PLCA Data state diagram until local_nodeID != 255, among other conditions.

Once the coordinator node (coordinator_role_allowed = TRUE) starts sending BEACONS, the other nodes will start to select local_nodeIDs using D-PLCA. During this time, a node that is yet to select a node_IDs using D-PLCA may transmit, and since it is still operating using CSMA/CD, it may do so during the nodeID = 0 transmit opportunity. When the coordinator node sees a transmission during the nodeID = 0 transmit opportunity (CLAIMING(0) = TRUE), its Figure 148-8 D-PLCA Control State Diagram will exit the COORDINATOR state and enter the LEARNING state, setting local_nodeID = 255.

As a result, the coordinator node (coordinator_role_allowed = TRUE) and any other node that has been allocated a local_nodeID by its D-PLCA function will be unable to transmit until their plca_status is set to FAIL by their Figure 148-7 PLCA Status state diagram when the plca_status_timer expires after 13.509 ms +/- 0.5 ms. This is because there are no BEACONS, so nodes with allocated local_nodeID will never detect their transmit opportunities. These nodes will only return to CSMA/Cd mode when plca_status is set to FAIL, which is an open arrow entry to the NORMAL state of the Figure 148-5 PLCA Data state diagram. Nodes that have not been allocated a local_nodeID by their D-PLCA function will, however, be able to continue to operate in CSMA/Cd mode, since they are yet to exit the NORMAL state of the Figure 148-5 PLCA Data state diagram.

The above results in a situation where some nodes are prevented from transmitting while others can transmit, for ~13 ms. It also appears that this situation could repeat during start-up.

SuggestedRemedy

Reconsider the implementation of the remedy described in the comment I-81.

Response Response Status C

ACCEPT IN PRINCIPLE.

This change was accommodated by the response to comment R1-35 (see the response to comment R1-35).

CI 188 SC 188.11 P127 L1 # R1-61

Law, David Hewlett Packard Enterprise

Comment Type TR Comment Status A MII

On review of the PHY delay constraints defined in table 188-5 '10BASE-T1M delay constraints', it appears the CRS signal from a BEACON following immediately after a packet sent during the last transmit opportunity can be asserted before the RX_DV associated with the packet is de-asserted.

This is because the end of the last transmit opportunity packet, TCI input to CRS, is de-asserted at the local_nodeID = node is 640 ns minimum (Table 188-5). Although not specified, assuming a clock cycle for synchronisation, state change, and TX_ER output, and another for TX_ER sampled, which is 800 ns. Finally, TX_ER sampled to TCI output is 120 ns minimum (Table 188-5). As a result, the gap between the end of the last transmit opportunity packet to BAECOM observed by other nodes could be as short as 640 + 800 + 120 = 1560 ns.

There is no specification in Table 188-5 regarding TCI input to RX_DV de-asserted, only TCI input to RX_DV asserted, which is specified as 2.4 us. If it is assumed that the TCI input to RX_DV de-asserted is the same value of 2.4 us minimum, the CRS for the BAECOM would be asserted (1.56 us) before the RX_DV is de-asserted (2.4 us).

Since, however, RX_DV, which is used by the RS to 'frame' the packet for the MAC, only needs to be asserted a few bits before the SFD for correct operation, the RX_DV de-assert delay does not have to be the same as the RX_DV assert delay. But without it specified, it could, which appears to lead to nodes missing BEACONS.

SuggestedRemedy

Specify the TCI input to RX_DV de-asserted delay in Table 188-5.

Response Response Status C

ACCEPT IN PRINCIPLE.

Modify Figure 148-3 to provide an exit from the RECEIVE state to the SYNCING state (tag D) on the condition (rx_cmd = BEACON) * (local_nodeID != 0)

(where != is editorially replaced by the not-equal symbol)

Editorial license used to adjust the editing instruction for figure 148-3 to describe the change above, adding: "and adding an exit from the RECEIVE state to the SYNCING state (tag D) on the condition (rx_cmd = BEACON) * (local_nodeID != 0):"