

802.3da D3.2 10 Mb/s Single Pair Multidrop Segment Enhancements 2nd Sponsor recirculation ballot con

CI 189 SC 189.4.4.2 P74 L19 # R2-1

Ran, Adee Cisco Systems, Inc.

Comment Type T Comment Status D State Diagram

Comment R1-4 noted that the variables short_circuit_detected and overload_detected have an incomplete specification as they are never set to FALSE.

The response made some changes to the state diagram in Figure 189-4, so now discover_fault is reset in BACKOFF, and overload_detected has a default value (which I assume is assigned by do_MPSE_reset, although this is not explicitly stated.) However, the comment did not make any changes related to short_circuit_detected - it still does not have a default value and is never assigned in the state diagrams. It seems that the original issue in the comment was not solved.

SuggestedRemedy

add in the definition of short_circuit_detected: "This variable is set to FALSE by the do_MPSE_reset function".
Alternatively add "The default value of this variable is FALSE" and add in the definition of do_MPSE_reset "and assigns all variables to their default values".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.
(Editor's note: This comment is on P144 L2, and subclause 189.4.4.1. The only time that the short_circuit_detected variable is used is to exit from the POWER_ON state. The definition of short_circuit_detected states explicitly that the description of the variable is in 189.4.9. Language is suggested to make this clearer. 189.4.9 states the limits that are evaluated during the INRUSH and POWER_ON states.)

Change "A variable indicating if the MPSE output has been in a short circuit condition; see 189.4.9. This variable is set per this description.

to
"A variable indicating whether the MPSE output has been in a short circuit condition in the most recent entry to INRUSH or POWER_ON. See 189.4.9. for a description of the requirements for checking short circuits in INRUSH or POWER_ON."

CI 148 SC 148.4.7.1 P85 L1 # R2-2

Ran, Adee Cisco Systems, Inc.

Comment Type T Comment Status D Random

"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"
(clean document P83 L54)

Comment R1-1 changed the wording of pick_wait_cycles to avoid the term "random". But it was re-introduced in this text instead.
The arguments against "random" in comments I-84 and R1-1 apply here too.

SuggestedRemedy

Change the quoted sentence to
"At the end of the D-PLCA aging period, the D-PLCA follower waits a variable number of PLCA BEACON cycles up to one half of the D-PLCA aging period, and then selects a free transmit opportunity that does not have a claim"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Change from,
"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."

with,
"At the end of the D-PLCA aging period, the D-PLCA follower waits a variable number of PLCA BEACON cycles, up to one half of the D-PLCA aging period, and then selects a free transmit opportunity that does not have a claim."

CI 148 SC 148.4.7.1 P44 L 20 # R2-3

Ran, Adeo Cisco Systems, Inc.

Comment Type T Comment Status D Editorial

"When using D--PLCA with statically assigned IDs, values in the range of 1 to dplca_min_node_count plus one must be assigned first as the D-PLCA coordinator will never adjust plca_node_count below the value set by dplca_min_node_count."

The words "must" and "will" have special meanings in standard language per the style manual (section 9) and IEEE SASB operations manual: "the word must is deprecated and shall not be used when stating mandatory requirements; must is used only to describe unavoidable situations. The word will is deprecated and shall not be used when stating mandatory requirements; will is only used in statements of fact."

"must" occurs 4 times and "will" occurs 13 times in the document (excluding the front matter). Most of the occurrence do not follow the guidance above.

SuggestedRemedy

Throughout the draft, replace "must" and "will" with suitable wording (e.g. use "shall" for requirements, present tense for description of expected behavior, etc.)

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

(Editor' note: This comment is actually on P83 L19 - commenter has incorrectly referenced the page in the compare draft. Note this comment is out-of-scope of the recirculation as it is on unchanged text. All other occurrences of "will" or "must" are also out-of-scope and on unchanged text. However, each instance has been reviewed and a single, out-of-scope, change is proposed.)

At P139 L32 change "must be AC coupled" to "shall be AC coupled"

(this necessitates a new PICS item):

At P172 L30 (189.8.4.1) add PICS item MS2

Feature: Termination coupling

Subclause: 189.2

Value/Comment: Terminations are AC-coupled

Status: INS-MIX:M

Support: Yes[]

For the remainder, the CRG disagrees with the commenter, the following is provided to reflect the consideration of the CRG for the record, and not to change the draft:

The following uses of "will" refer to statements of fact in the description of how the specified functions (D-PLCA or powering) operate:

(P63 L25, P63 L31, P75 L39, P83 L20, P83 L42, P83 L53, P84 L1, P84 L4, P84 L34, P140 L36, P142 L44, and P153 L39 (twice))

P151 L46 the use of "will" refers to a statement of fact regarding safety standards governing an installation.

The use of "must" at the text cited by the commenter is an unavoidable consequence of having statically assigned IDs and not a requirement on the device specified. If the user configured contrary to this guidance, the local_nodeID would be dynamically, not statically assigned, hence the guidance is an unavoidable consequence of having a statically assigned local_nodeID. If this were a "shall" it would be a requirement on the user, and inappropriate.

Similarly, for the use of "must" on P84 L37 is an unavoidable consequence that not having D-PLCA enabled means you need to have a statically assigned local_nodeID.

The use of "must" on P122 L34 is an unavoidable consequence (an unavoidable consequence of wanting connectivity when the station is not present in the 3rd configuration is that the station must be replaced)

Similarly, at P141 L34, "both MP1 and MP2 must meet the criteria" is an unavoidable consequence of the requirement "For compliance, voltage specifications shall be met at both MP1 and MP2 independently."

CI 30 SC 30.17.1.1.16 P38 L 42 # R2-4

Ran, Adeo Cisco Systems, Inc.

Comment Type E Comment Status D Editorial

(page and line numbers are in the clean document)

The disposition of comment I-77 left the words "Joules" (in 30.17.2.1.16) and "Amperes" (in 189.7.8) capitalized, apparently because the units are named after individual people (proper nouns).

However, as noted in the reference mentioned in that comment (NIST guide to the SI, <https://www.nist.gov/pml/special-publication-811/nist-guide-si-chapter-9-rules-and-style-conventions-spelling-unit-names>): "When spelled out in full, unit names are treated like ordinary English nouns. Thus the names of all units start with a lower-case letter, except at the beginning of a sentence or in capitalized material such as a title."

SuggestedRemedy

Change "Joules" to "joules" and "Amperes" to "amperes".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: Added locations where change is to be made to be precise at this stage of balloting.)

Change "Joules" to "joules" on P38, L41 and P44, L20

Change "Amperes" to "amperes" on P179, L11

'802.3da D3.2 10 Mb/s Single Pair Multidrop Segment Enhancements 2nd Sponsor recirculation ballot con

CI 148 SC 148.4.7.2 P84 L42 # R2-5

Maguire, Valerie Cisco,CME Consulting,Copperopolis

Comment Type E Comment Status D EZ

The term "state diagram" is not a proper noun and should not be capitalized.

SuggestedRemedy

Replace "State Diagram" with "state diagram" in these 6 locations:

P84, L42

P84, L43

P85, L15

P85, L49

P87, L53

P88, L51

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 148 SC 148.4.4.1 P75 L34 # R2-6

Maguire, Valerie Cisco,CME Consulting,Copperopolis

Comment Type E Comment Status D Editorial

"PLCA Control" and "D-PLCA Control" are proper nouns and should be capitalized.

SuggestedRemedy

Replace "PLCA control" with "PLCA Control" on P25, L34

Replace "D-PLCA control" with "D-PLCA Control" in the following 3 locations:

P85, L4

P86, L34

P86, L40

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: Corrected page number on first reference, and added D-PLCA aging which is similarly a proper noun.)

Replace "PLCA control" with "PLCA Control" on P75, L34

Replace "D-PLCA control" with "D-PLCA Control" in the following 3 locations:

P85, L4

P86, L34

P86, L40

Replace "D-PLCA aging" with "D-PLCA Aging" in the following eight locations:

P83, L51

P83, L52

P83, L53

P83, L54

P84, L15

P84, L27

P85, L4

P85, L44

'802.3da D3.2 10 Mb/s Single Pair Multidrop Segment Enhancements 2nd Sponsor recirculation ballot con

CI 189 SC 189.4.4 P142 L27 # R2-7
 Zimmerman, George Analog Devices,Apl group,Cisco Systems, Inc.,CME
 Comment Type E Comment Status D State Diagram

There is insufficient description of the discovery process to understand it. Concepts such as the nomenclature for I_Mark vs. I_Discovery and the use of extended discovery require some minimal explanation. A short explanation of the High Mark / Low Discovery would improve understanding significantly.

SuggestedRemedy

Insert new 2nd paragraph to 189.4.4 (P142 L27) to read as follows: The MPSE state diagram operates by applying a series of increased voltage ("Marks") and corresponding low voltage events ("Discovery low events") at its MPI and measuring the current during each event. The current measured during a mark is referred to as I_Mark, and the current during a discovery low event is referred to as I_Discovery. There are nominally six Mark events, each followed by a low event. The first low event checks whether any MPDs are present. The second low event measures current to calibrate the subsequent low events. The third, fourth, and fifth events detect the presence of type 0, type 1, and type 01 MPDs respectively. The sixth event, signifying extended discovery, allows for future expansion of the detection and classification protocol, and its use is beyond the scope of this standard. During each event (Mark or Discovery low), faults are monitored for by comparing current to I_Discovery_Lim, which, if exceeded, triggers a reset and returns the MPSE to a BACKOFF state.

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

Insert new 2nd paragraph to 189.4.4 (P142 L27) as shown:

The MPSE state diagrams operate by applying a series of increased voltage events (mark events). Each event is followed by application of a voltage (V_Discovery) at the MPSE's MPI and the current is measured during the discovery_low event. The current measured during a mark is referred to as I_Mark, and the current during a discovery_low event is referred to as I_Discovery. There are nominally six mark events, each followed by a discovery_low event. The first discovery_low event checks whether any MPDs are present. The second discovery_low event measures current to calibrate the subsequent low events. The third, fourth, and fifth discovery_low events detect the presence of Type 0, Type 1, and Type 0/1 MPDs, respectively. The sixth discovery_low event, signifying extended discovery, allows for future expansion of the detection and classification protocol, and its use is beyond the scope of this standard. During each event (e.g., mark event or discovery_low event), faults are monitored by comparing current to I_Discovery_LIM, which, if exceeded, triggers a reset and returns the MPSE to a BACKOFF state.

Replace "discovery low event" with "discovery_low event" on P144, L23

CI 189 SC 189.4.4.1 P142 L40 # R2-8
 Zimmerman, George Analog Devices,Apl group,Cisco Systems, Inc.,CME
 Comment Type T Comment Status D Discovery Currents

discover_fault may also be triggered during do_discovery_high. The definition here only refers to I_Discovery, which is the current measured during the do_discovery_low event. Similarly, do_discovery_high only and do_discovery_low refer to both states, where each should only refer to its own state.

SuggestedRemedy

189.4.4.1: P142 L40, Change "I_Discovery" to "the current in a DISCOVERY_HIGH_MARK or a DISCOVERY_LOW state"
 189.4.4.3:
 P145 L40 and P145 L42 change "Measured I_Discovery" to "Measured I_Mark"
 P145 L41 and P145 L43, change "DISCOVERY_HIGH or DISCOVERY_LOW" to "DISCOVERY_HIGH_MARK"
 P146 L5 and P146 L8 - delete "DISCOVERY_HIGH or"

Proposed Response Response Status W
 PROPOSED ACCEPT.

CI 189 SC 189.5.5 P161 L14 # R2-9
 Peker, Arkadiy Microchip Technology
 Comment Type T Comment Status D State Diagram

1.In discovery event 6 there are x for type 0, type 1, type 0/1 .According to flow chart it should be 0, see more details in presentation on page 3 2. No definition of the extended discovery

SuggestedRemedy

1. In Discovery Event 6 event change x to 0 . See page 2 in presentation 2. Make separate note or add to the table text: Extended discovery is for future extension.

Proposed Response Response Status W
 PROPOSED ACCEPT IN PRINCIPLE.

(Editor'r note: See also Comment #R2-7.)

Add the following NOTE to Table 189-8:

NOTE – Figure 189-9 shows the behavior of an MPD not selecting extended discovery, which corresponds to responding with a zero at Discovery event 6. MPDs indicating extended discovery respond with a one at Discovery event 6. This behavior is beyond the scope of this standard and, therefore, is not shown in Figure 189-9.

'802.3da D3.2 10 Mb/s Single Pair Multidrop Segment Enhancements 2nd Sponsor recirculation ballot con

Cl 189	SC 189.4.4.3	P145	L 37	# R2-10
Peker, Arkadiy		Microchip Technology		
Comment Type	T	Comment Status	D	Editorial
In flow chart we have state DISCOVEY_HIGH_MARK but in definitions do_discovery_high or do_discovery_low we call this state DISCOVEY_HIGH – no word MARK				
SuggestedRemedy				
Change in functions do_discovery_high and do_discovery_low state function name from DISCOVERY_HIGH to DISCOVERY_HIGH_MARK, see page 5 in presentation				
Proposed Response		Response Status	W	
PROPOSED ACCEPT IN PRINCIPLE.				
Accomodated by Comment #R2-8.				

Cl 189	SC 189.4.4.3	P145	L 37	# R2-11
Peker, Arkadiy		Microchip Technology		
Comment Type	T	Comment Status	D	Discovery Currents
1.Description of the function do_discovery_high does not specifies what current this function measures (compare with description of the function do_discovery_low which specifies that this function measure ldiscovery) 2. Function do_discovery_high may return Discovery_fault variable which measures ldiscovery according to paragraph 189.4.4.1 but the current that measured during discovery_high_mark is referred to as "lmark" and not as "ldiscovery" (for example, see definition of "check_discovery_all" function which distinguish between "lmark" and "ldiscovery")				
SuggestedRemedy				
1.Add to the description do_discovery_high that this function measure lmark, see page 7 of presentation 2. On discovery fault definition to add measure ldiscovery or lmark in paragraph 189.4.4.1. , see page 7 of presentation 3. Modify definition of discovery fault variable in "do_discovery_high" and "do_discovery_low" functions by adding lmark current, see page 8				
Proposed Response		Response Status	W	
PROPOSED ACCEPT IN PRINCIPLE.				
Accomodated by Comment #R2-8.				

Cl 189	SC 189.5.3.4	P159	L 11	# R2-12
Zimmerman, George		Analog Devices,Apl group,Cisco Systems, Inc.,CME		
Comment Type	E	Comment Status	D	EZ
Exit arcs from PON_EVAL need to be connected to the bottom of the PON_EVAL box.				
SuggestedRemedy				
Connect the two exit arc arrows to the bottom of the PON_EVAL state box at P159 L11				
Proposed Response		Response Status	W	
PROPOSED ACCEPT.				