Cl **188** *SC* **188.4.3.1** *P* **95** *L* **40** # 1

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

I realize this is out of scope, but we broke the preamble nibble value when we transcribed it to binary. 22.2.3.2.2 has a string that starts with 1010, but 22.2.3.2.2 states that "the preamble is displayed using the bit order it would have if transmitted serially.
This means that for each octet the leftmost I value represents the LSB of the octet, and the rightmost 0 value
the octet MSB." - hence, we got it backwards, 1010 in binary would ordinarily be understood where "1" was the MSB.

SuggestedRemedy

Change "1010" to "0101, where the leftmost bit is the MSB of the octet"

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.8.5** *P* **114** *L* **21** # 2

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

In comparing Clause 188 to 147, I noticed that we forgot Alien crosstalk specifications for the mixing segment. As such, multiple pairs of wires contained in a shielded jacket crosstalking to each other would be compliant - but clearly not what we want. NOTE that alien crosstalk was also left out of the clause 147 mixing segment specification....

SuggestedRemedy

Insert new sections 188.8.5 and 188.8.6 between 188.8.4 and 188.9
188.8.5 Power sum alien near-end crosstalk (PSANEXT).
The power sum alien near-end crosstalk (PSANEXT) loss for a 5-around-1 cable bundle, for the length of the mixing segment trunk shall meet Equation (147–6), with DTEs or representative simulated DTE loads attached, at each edge termination reference plane.

188.8.6 Power sum alien attenuation to crosstalk ratio far-end (PSAACRF)
The power sum alien attenuation to crosstalk ratio far-end (PSAACRF) loss for a 5-around-1 cable bundle, for the length of the mixing segment trunk shall meet Equation (147–7), with DTEs or representative simulated DTE loads attached, at each edge termination reference plane.

Proposed Response *Response Status* **O**

Cl **39** *SC* **39.17.1.1.8** *P* **35** *L* **33** # 3

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

MPoE measurements are at the MPI, not at the MDI.

SuggestedRemedy

Change "measured at the MDI" to "measured at the MPI"

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.7** *P* **109** *L* **6** # 4

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

Pile on to unsatisfied comment 85 on d2p0. MDIO is optional.

SuggestedRemedy

Replace "10BASE-T1M uses the management interface as specified in Clause 45. The Clause 45 MDIO electrical interface is optional. Where no physical embodiment of the MDIO exists, provision of an equivalent mechanism to access the registers is recommended." with "10BASE-T1M is specified using the management interface in Clause 45. The Clause 45 MDIO registerinterface and the registers are optional. Where the MDIO interface is not implemented, provision of an equivalent mechanism for the functions specified in connection to the register bits is required."

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.6.5.3** *P* **106** *L* **30** # 5

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

Pile on to unsatisfied comment 80 on d2p0. Specify jitter measurement.

SuggestedRemedy

Insert the following paragraph at the beginning of 188.6.5.3:

Measurement of transmitter timing jitter is performed using a clock recovery unit (CRU) that acts as a high-pass jitter filter with a corner frequency of 1.25 MHz and a slope of 20 dB/decade. The clock recovery unit is fed either with the transmitted signal or with TX_CLK if it is provided.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.17.1.1.9** *P* **35** *L* **35** # 6

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

aMPSECapabilities seems insufficiently named. It is not all the capabilities of the MPSE, but rather the Measurement capabilities.

SuggestedRemedy

Change "aMPSECapabilities" globally to "aMPSEMeasurementCapabilities".
On P35 L50, Change "This indicates the capabilities of the MPSE" to "This indicates the measurement capabilities of the MPSE"

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **60** *L* **9** # 7

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

I think there's a typo - the Value/Meaning says "Normal power" in definiing the range, when this is for Temporary power.

SuggestedRemedy

Change "Normal power" in Value/Meaning to "Temporary power"

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.1** *P* **75** *L* **22** # 8

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

The new text stating that soft or hard claims are removed from the claim table if they are older than soft aging cycles doesn't quite align with what the D-PLCA Aging state diagram appears to do in state TXOP_END. Rather than chck the age of individual soft claims, as the text states, it appears that TXOP_END clears all soft claims every soft_aging_cycles transmit opportunities, and likewise for hard claims every hard_aging_cycles.

SuggestedRemedy

Replace "Soft claims are removed from the claim table, txop_claim_table, if they are older than soft_aging_cycles. Similarly, stale hard claims are removed every hard_aging_cycles." with ""All soft claims are cleared from the txop_claim_table every soft_aging_cycles. Similarly, only those hard claims detected within the previous hard_aging_cycles transmit opportunities are loaded into the txop_claim_table used by the D-PLCA Control state diagram."

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.3** *P* **78** *L* **25** # 9

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

Duplicate 'shalls' - the state diagram is already called with a shall, which includes a requirement on the PICK_FREE_TXOP function, rendering the 'shall's ' in the description of PICK_FREE_TXOP's outputs as duplicates.

SuggestedRemedy

change "a. it shall not return zero..." to
"a. It never returns the value zero..."
change "c. it shall return 255..." to "c. It returns 255..."

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.8.1** *P* **111** *L* **9** # 10

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

(note this is out of scope) - Use of "may" - may grants permission (allowing the condition to NOT be true as well), in the statement "If the mixing segment includes TCI connectors which are specified to use a simulated DTE load, this requirement may be met with simulated DTE load attached" (188.8.1, 188.8.2), I believe the intent is that in the condition stated (TCI connectors specified for a simulated DTE load), that is the ONLY permissible way to make a measurement, not just something that happens to be permitted. A mixing segment that passes the spec WITHOUT the loads, but fails with the loads would NOT be compliant.

SuggestedRemedy

Change "may be met" to "is met" at 188.8.1 P111 L9-10, and 188.8.2 P112 L8.

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.8.3** *P* **113** *L* **5** # 11

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

Requirement on the user - two shalls on the same requirement… "Measurements shall be made by substituting the measurement instrument…" is actually describing how the requirement for mode conversion loss is to be met. Needs to be reworded so it fits in a single "shall".

SuggestedRemedy

Change "Measurements shall be made by substituting the measurement instrument for the respective edge terminator." to "This requirement is to be met when the measurement instrument is substituted for the respective edge terminator."

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.9.1.1** *P* **115** *L* **38** # 12

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **ER** *Comment Status* **X**

duplicate 'shalls' - the requirement for the TCI insertion loss has the primary 'shall', the added phrase "Whenever the requirement results in a value less than 0.2 dB, the requirement shall revert"… we don't put requirements (shall's) on requirements themselves... Additionally, this phrase conflicts with the preceding shall, making the requirement itself (maximum (0.2, Equation 188-6)) - something that wasn't desired in comment resolution. We have several examples of measurable requirements reverting to 0.1 dB in 802.3-2022, but none as high as 0.2 dB. The proposed adjustment of the text mirrors those sections. However, the intent was to allow for measurement instrument accuracy, and the proposed adjustment does NOT capture that aspect, still requiring 0.16 dB minimum, but allowing for measurement inaccuracies. FWIW, I'm inclined to think that if the test fixture can meet 75mOhms (188.9.1.4) from TC1 to TC2, then it can also measure 0.1 dB....

SuggestedRemedy

Change "the requirement shall revert" to "the requirement reverts"

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.12.4.6** *P* **125** *L* **18** # 13

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **ER** *Comment Status* **X**

Missing Value/Comment for PICS MXS4

SuggestedRemedy

Insert appropriate text after dealing with TCL/ELTCL comment.

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.8.3** *P* **113** *L* **5** # 14

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

Is there one requirement or two? Are BOTH TCI and ELTCL supposed to meet the same equation? This appears to be two requirements. I think TCL should be sufficient.

SuggestedRemedy

Delete "and between edge termination reference planes (ELTCTL)".
Insert PICS on MXS4 Value/Comment to be "TCL measured with a reference impedance of 100 /OHMs and a measurement instrument substituted for the respective edge terminator." (/OHMs is the ohms symbol)

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.1.2** *P* **128** *L* **45** # 15

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

Use of "must" - must is to be avoided. Besides, this is the informative section and shouldn't have requirements. Also, stating whether the PHY requirements 'apply' would be parallel to the following sentence about when the power is not on the same conductors as data...

SuggestedRemedy

Change "must also meet the requirements for the TCI needed for the PHY (e.g., see 188.9)." to ", "the requirements for the PHY's TCI also apply (e.g., see 188.9).

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.4.2** *P* **132** *L* **45** # 16

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

The state's name is DISCOVERY_HIGH_MARK, not DISCOVERY_HIGH. (3 instances), but more importantly, this variable is set by the function calls do_discovery_high and do_discovery_low - not simply by being in the states. It should be specified as a return from the function calls not as a separate variable. This also makes the text a lot simpler.

SuggestedRemedy

Move discover_fault description to P135 L25 (do_discovery_high) and P135 L34 (do_discovery_low) (duplicate it) to read:
"discover_fault
<indent below per variables, and braces {} indicate subscripts>
A variable indicating if I{Discovery} measured by the MPSE is equal to or greater than I{Discovery_LIM} as defined in Table 189-3.
Values: FALSE: Measured I{Discovery} was less than I{Discovery_LIM}
TRUE: Measured I{Discovery} was equal to or greater than I{Discovery_LIM}"

Change "variable:" to "variables:" at P135 L33 (do_discovery_low).

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.5.** *P* **138** *L* **18** # 17

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

The text reads like the MPSE might randomly apply V{Discovery} in these states, and that timing somehow relates to entring each states. According to the state diagram, the voltage is applied at the call of present_low in DISCOVERY_LOW_PRESENT, and the timer expires at the exit of DISCOVERY_LOW.
This potentially leaves the voltage in the various checking states (ALL, TARE, TYPE, and EVAL) undefined, but these states are simply expressing the results of the discovery and are instantaneous.

SuggestedRemedy

change "The MPSE supplies VDiscovery voltage to the TCI subject to the TDiscovery_low timing specification in any of the following states shown in Figure 189–3 and Figure 189–4:"
to
"The MPSE supplies VDiscovery voltage to the TCI in the DISCOVERY_LOW_PRESENT state through the expiration of the T{Discovery_low} timer in the DISCOVERY_LOW state."

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.5** *P* **138** *L* **32** # 18

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

There is no state DISCOVER_HIGH_MARKx (this probably means HIGH_MARK and DISCOVERY_HIGH_MARK), and we've otherwise gotten rid of DISCOVERY_LOWx (which was previously explained..), but more importantly, I believe the current limit is meant to apply EXCEPT for when the MPSE is in the INRUSH or POWER_ON state (meaning it applies whenever mpi_powered = FALSE, and therefore also applies in DISABLE, IDLE, BACKOFF, HIGH_MARK, and ERROR_DELAY - note, lower current is meant in these states, but the limit would still apply). An easier way would be to say where the limit does NOT apply.

SuggestedRemedy

Change "DISCOVERY_LOWx and DISCOVER_HIGH_MARKx" to "meaning that it limits current except when it is in the INRUSH or POWER_ON states."

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.6** *P* **139** *L* **33** # 19

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

(out of scope) Both shorts and opens are "bad" - why call the short circuit limit I{bad} and the open circuit limit I{open}?

SuggestedRemedy

change I{bad} to I{short} at P139 L34

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.5.5.5** *P* **152** *L* **28** # 20

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

Reading 189.5.5.5 makes me think that C{port} isn't actually a requirement, and is more an informative value. The text says it can be exceeded, but that the requirements for I{Inrush_MPD} and P{MPD} still apply. C{Port} is a requirement because everything in Table 189-9 is required by the first line of 189.5.5. Perhaps C{Port} should be listed separately as a note to the table, to make it clear that it is not actually a requirement.

SuggestedRemedy

Add note b attached to items 4 & 5 (Input Power and Inrush current) in Table 189-9.
Note b to read: "MPD MPI capacitance during power on, C{Port} is limited to a maximum 20 uF per unit load by these requirements with special consideration. See 189.5.5.2 for further details."
Delete row 10 (C{Port}) of Table 189-9.

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.2.2** *P* **154** *L* **23** # 21

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

missing period at the end of the sentence

SuggestedRemedy

add a period after "continuous ground" at P154 L23

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.2.2** *P* **154** *L* **43** # 22

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

"MPDs are specified in 189.6.2.2.1 to switch their more positive conductor" - this is specified to be grounded MPSEs, not MPDs, and is in contrast to the isolated MPSE specification in 189.6.2.1.1.

SuggestedRemedy

Change MPDs to "grounded MPSEs" at P154 L43

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.2.1.1** *P* **154** *L* **18** # 23

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

The requirement about switching of MPSEs is a big difference in implementation and can easily be lost. It should be highlighted as its own section.

SuggestedRemedy

Create new section 189.6.2.1.2 MPSE switching for isolated MPoE systems (insert header at P154 L17 before "An isolated MPSE…"
Similarly, create new section 189.6.2.2.2 MPSE switching for grounded MPoE systems at P155 L21.
Move text "A Grounded MPSE shall switch the more positive conductor. It is allowed to switc both conductors." from M155 L6 (2nd paragraph of 189.6.2.2.1) to the new section.
Change cross reference in 2nd paragrph of 189.6.2.2 P154 L44 from "189.6.2.2.1" to "189.6.2.2.2" (to point to new section).,
Change PICS AES4 to cross-reference the new section 189.6.2.2.2.
(change new PICS added for Isolated MPSE switching by comment on 189.8.4.4, as well if that comment is implemented)

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.8.4.4** *P* **161** *L* **35** # 24

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

Missing PICS for Isolated MPSE switched conductor, PICS must specify that an MPSE must support at least one of the options of grounded or isolated MPSE.

SuggestedRemedy

Add PICS after AES3 and renumber,
Feature: Isolated MPSE switched conductor
Subclause: 189.6.2.1.1 (new section 189.6.2.1.2 if comment to create new section for this requirement is adopted)
Value/Comment: Switch on the more negative conductor
Status: O.1: MPSE
Yes[] N/A[]

Change status for (what is in d2.2 AES4) to O.1: MPSE

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.3** *P* **155** *L* **26** # 25

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

(out of scope) saying "tolerate I{LIM} for T{LIM}" here , so far from the values and with all that new intervening isolation text leaves the reader hunting for meaning.

SuggestedRemedy

Insert "(see Table 189-5)" after T{LIM}

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.7.8** *P* **157** *L* **26** # 26

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

These requirements seem misplaced. They are requirements, whereas everything else here is a labeling recommendation. They are only applicable to grounded MPSEs so they should be in the grounded MPoE section (189.6.2.2.1)

SuggestedRemedy

Move paragraph after item i) (P157 L26-29) to after 3rd paragraph of 189.6.2.2.1 (before "An isolated MPSE shall switch…").
Delete "as permitted in 189.6.2.2.1" (because it is now unnecessary).
Delete 189.8.4.6, and move PICS L1` and L2 to (end of) 189.4.4 as new PICS AES 8, 9 (or higher if other PIC is added.
Update subclause reference in PICS to 189.6.2.2.1 (for both PICS).(note other comments change these PICS too)

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.7.8** *P* **157** *L* **14** # 27

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **T** *Comment Status* **X**

Seems there is a word missing "shall also indicate the MPI(s) are internally grounded or indtended to be grounded at an external connection point". Not quite sure, but I think is shoul be indicate WHETHER MPI(s) are internally grounded or whether they are intended to have external grounds - if so, this needs to apply to each MPI.

SuggestedRemedy

Change "indicate the MPI(s) are internally grounded or intended to be grounded" to "indicate whether each MPI is internally grounded or whether it is intended to be grounded"

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.8.4.6** *P* **162** *L* **36** # 28

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

The Value/Comment doesn't seem to reflect the requirement

SuggestedRemedy

Change Value/Comment to read "Indicate that they are only compatible with grounded MPoE systems."

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.8.4.6** *P* **162** *L* **39** # 29

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **E** *Comment Status* **X**

Missing subclause

SuggestedRemedy

Add 189.7.8 to Subclause

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **13** *L* **51** # 30

Maguire, Valerie Copperopolis; aff'l w/ CME Consulting and Cisco

Comment Type **E** *Comment Status* **X**

Reference to 802.3dn./Cor 1 missing from Front Matter

SuggestedRemedy

Insert after the Amendment 9 reference:
"IEEE Std 802.3<TM>-2022/Cor 1-2024
Corrigendum 1—This corrigendum includes changes to IEEE Std 802.3-2022 to correct the MDI return loss specifications in Clause 149 and Clause 165."

Note: <TM> = TM in superscript

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **10** *L* **1** # 31

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

Comment Type **E** *Comment Status* **X**

IEEE-SA Standards Board member names to be supplied at publication

SuggestedRemedy

Replace, "Alpesh Shah, Secretary"

with, "FirstName SecondName, Secretary"

Proposed Response *Response Status* **O**

Cl **1** *SC* **1.4** *P* **24** *L* **6** # 32

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

Comment Type **E** *Comment Status* **X**

Mixed use of "as follows" and "as shown" In Editing Instructions. Some editing instructions (e.g., P54, L19) are unnecessarily detailed.

SuggestedRemedy

Grant license for Editor to globally replace "as follows" with "as shown" for change instructions; replace "as shown" with "as follows" for insert instructions; remove detail from overly detailed instructions, and harmonize Editing Instructions across the entire document.

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.8.4** *P* **114** *L* **8** # 33

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

Comment Type **E** *Comment Status* **X**

It may not be obvious what the "E Group" is referring to. The 1, 2, and 3 following E should be subscript.

SuggestedRemedy

Replace "parameter within the E group "with, "parameter within the Environmental classification (i.e., E1, E2, or E3) group"
where 1, 2, and 3 are subscript
Make the "1", "2", and "3" following the Es on line 5 subscript.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.5** *P* **28** *L* **6** # 34

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

Comment Type **E** *Comment Status* **X**

Clunky and excessively wordy language. There's also no PICS for this item, so removing the "shall" is probably in order. PSE should be MPSE at the end of line 6.

SuggestedRemedy

Replace, " For managed MPSEs, the MPSE Basic Package is mandatory and the MPSE Recommended Package is optional. For a managed MPSEs to be conformant to this standard, it shall fully implement the PSE Basic Package."
with, "Full implementation of the MPSE Basic Package is required for managed MPSEs. Implementation of the MPSE Recommended Package is optional.

Replace< "For managed MPDs, the MPDs Basic Package is mandatory and the MPD Recommended Package is optional. For a managed MPD to be conformant to this standard, it shall fully implement the MPD Basic Package."
with "Full implementation of the MPD Basic Package is required for managed MPDs. Implementation of the MPD Recommended Package is optional."

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.17.1.1.8** *P* **35** *L* **33** # 35

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

Comment Type **E** *Comment Status* **X**

MDI should be MPI

SuggestedRemedy

Replace, "MPSE as measured at the MDI in"
with, "MPSE as measured at the MPI in"

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.8** *P* **109** *L* **15** # 36

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

Comment Type **E** *Comment Status* **X**

Trunk Connection Interface is capitalized

SuggestedRemedy

Replace, "trunk connection interface (TCI)" with "Trunk Connection Interface (TCI)"

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.12.4.6** *P* **125** *L* **21** # 37

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

Comment Type **E** *Comment Status* **X**

Missing Value/Comment for Mode Conversion Loss PICS MXS5

SuggestedRemedy

Add/value comment: "Measured at each edge termination reference plane (TCL) and between edge termination reference planes (ELTCTL) in both directions"

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **3** *L* **6** # 38

Maguire, Valerie — Copperopolis; aff'l w/ CME Consulting and Cisco

Comment Type **E** *Comment Status* **X**

Some additional keywords might be helpful.

SuggestedRemedy

Insert the following into the Keywords list in alphabetical order: grounded systems, grounded MPoE, isolated MPoE, isolated systems, Isolation, MPI, Power Interface, Power Sourcing Equipment, Powered Device, TCI, Trunk Connection Interface, TPS, Transmit Power Signature

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.2** *P* **72** *L* **5** # 39

Jones, Chad — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **X**

"Change entries for variables COL, CRS, TX TX_EN, and TX_ER as shown:" - edit note missing two characters: "D,"

SuggestedRemedy

Change to: "Change entries for variables COL, CRS, TXD, TX_EN, and TX_ER as shown:"

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.2.1.1** *P* **154** *L* **9** # 40

Jones, Chad — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **X**

Questioning if the separated sentences gives wiggle room for non-compliance: "A device incorporating at least one isolated MPD shall provide electrical power isolation between all MPIs on the device. Note this includes MPIs associated with either additional MPDs or any MPSE."

SuggestedRemedy

combine the sentences: "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 or any MPSE."

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.2.2** *P* **154** *L* **22** # 41

Jones, Chad — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **X**

The first sentence is hard to parse and is missing a period. also, missing a comma after "figure 189-11". "Grounded MPoE systems, as shown in Figure 189–11 are recommended for mixing segments which, with
all associated interconnected equipment, share a common, continuous ground"
it's the "with all associated interconnected equipment" part that throws it off. suggest moving i to the end of the sentence or deleting it altogether.

SuggestedRemedy

change to: "Grounded MPoE systems, as shown in Figure 189–11, are recommended for mixing segments which share a common, continuous ground."

or to: "Grounded MPoE systems, as shown in Figure 189–11, are recommended for mixing segments which share a common, continuous ground with
all associated interconnected."

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.3** *P* **155** *L* **26** # 42

Jones, Chad — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **X**

"MPSEs tolerate ILIM for TLIM when connected..." - we're pretty far away (page wise) from where ILIM and TLIM are defined. It would be nice to provide a pointer.

SuggestedRemedy

change to: "MPSEs tolerate ILIM for TLIM, as defined in Table 189-5, when connected…"

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.2.2** *P* **154** *L* **43** # 43

Jones, Chad — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **X**

"MPDs are specified in 189.6.2.2.1 to switch their more positive conductor..."
We do not specify this for MPDs. We do specify this for MPSEs, so perhaps this is a typo. I'm going to assume the typo part and not try to read into that we were trying to say something else.

SuggestedRemedy

change to: "MPSEs are specified in 189.6.2.2.1 to switch their more positive conductor..."

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.7.8** *P* **157** *L* **26** # 44

Jones, Chad — Cisco Systems, Inc.

Comment Type **E** *Comment Status* **X**

"Grounded MPSEs and MPDs that are only compatible with grounded MPSEs as permitted in 189.6.2.2.1…"
Grounded MPSEs that are only compatible with grounded MPSEs??? What are we trying to say, why do we need MPSE and MPD in the subject?
I think we are trying to say if you have a grounded system, all components must be compatible with a grounded system. More importantly, that mixing a grounded component into an ungrounded system will cause problems. Perhaps we can find a better way to say this?
The sentence gets easier to read if we remove "that are only compatible" part but stills says the same thing.

SuggestedRemedy

change to: "Grounded MPSEs and MPDs as permitted in 189.6.2.2.1…"

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.2.2** *P* **154** *L* **26** # 45

Jones, Chad — Cisco Systems, Inc.

Comment Type **T** *Comment Status* **X**

Figure 198-11: This figure shows being allowed to ground at the MPSE. It doesn't show grounding the MPD, and I assume we don't want that, ground loops and all that.
Should we go farther and say that MPDs SHALL NOT ground either conductor before the isolation barrier? Make it clear the system needs to rely only on the ground at the MPSE? Experience shows us that this one of the common mistakes made by PD designers.

SuggestedRemedy

Add sentences at page 154, line 23 (new second and third sentence): "Note that the MPD in Figure 189-11 has no ground connection that isn't across the required isolation barrier. This is intentional to prevent ground loops and to satisfy the isolation requirement specified in 189.6.2.2.1."
add sentence at page 155, line 16 (new second sentence): "To state this plainly, this requires that neither of the MPI conductors has an impedance less than 1 Mohm to ground provided through the MPD."

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.5** *P* **79** *L* **11** # 46

Baggett, Tim — Microchip

Comment Type **TR** *Comment Status* **X**

DPLCA is intended to work with nodes statically assigned node IDs. If a node is statically assigned to a node ID greater than 7 then it is possible that the DPLCA coordinator will never expand the node count and therefore the number of transmit opportunities enough to allow for the statically assigned node to gain an transmit opportunity. This occurs because the plca_node_count is initialized to 8, allowing for TOs 0-7. If no node ever claims TO 7, then the DPLCA coordinator will never increase the plca_node_count upwards.

SuggestedRemedy

Add new parameter specifying the minimum plca_node_count. Initialize the plca_node_count to this parameter in WAIT_BEACON. When reducing the node count, make sure that the REDUCE_NODE_COUNT state is only entered if plca_node_count is greater than the minimum node count parameter. Add text that the minimum node count parameter is configured high enough to cover the largest statically allocated PLCA node.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.5** *P* **79** *L* **24** # 47

Baggett, Tim Microchip

Comment Type **TR** *Comment Status* **X**

The 10BASE-T1S and 10BASE-T1M PHYs are defined to loop back BEACONs from the transmit MII path to the receive MII path during collision-free transmission. As discussed in previous meetings, the detection of a self-transmitted BEACON will cause the D-PLCA Control state diagram to incorrectly transition from the COORDINATOR state to LEARNING. To resolve this, a new LOOPBACK state was added which would be entered when a BEACON was transmited. The LOOPBACK would exit back to the COORDINATOR state once BEACON was no longer received.

The current solution is not sufficient to meet timing due to PHY delays. Specifically, the 4000 ns maximum delay of MDI input to RX_ER asserted means that the detection of a BEACON will not occur until after the BEACON has been transmitted.

SuggestedRemedy

Add a new variable plca_beacon_tx that is set to TRUE in the PLCA Control state diagram SEND_BEACON state when the BEACON is transmitted. The plca_beacon_tx is will be set set to false once tx_cmd and rx_cmd both transition to FALSE.

Update the D-PLCA Control state diagram so that it remains in the LOOPBACK state when a BEACON is transmitted and not returning to COORDINATOR until plca_beacon_tx becomes FALSE.

See presentation for editing details.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.6** *P* **80** *L* **17** # 48

Baggett, Tim Microchip

Comment Type **TR** *Comment Status* **X**

Supporting the mixture of non-PLCA and D-PLCA nodes greatly complicates the algorithm adding risk and can significantly impact the time and ability for D-PLCA nodes to converge on their unique transmit opportunity. Additionally, it requires the need to balance the need for adjusting the HARD and SOFT aging parameters which is dependent on traffic patterns. These issues can be eliminated by disallowing non-PLCA nodes on a D-PLCA segment.

SuggestedRemedy

Disallow non-PLCA nodes on segments with D-PLCA enabled nodes. A mixture of D-PLCA and legacy statically assigned PLCA nodes will still be supported. Remove all references to SOFT claims.
See associated presentation.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.17.2.1.3** *P* **39** *L* **23** # 49

Potterf, Jason Cisco

Comment Type **E** *Comment Status* **X**

The idle state has been renamed in 189.5.3.5, rename here for consistency.

SuggestedRemedy

change "idle" to "out-of-range" with editorial license to adjust the word separation character fo consistency.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.2** *P* **76** *L* **48** # 50

Baggett, Tim Microchip

Comment Type **T** *Comment Status* **X**

The D-PLCA hard_aging_cycles and soft_aging_cycles need reasonable defaults that will allow the algorithm to converge quickly during start up. The current defaults were not selectec appropriately. The default for hard_aging_cycles is already known to be too large as it can cause MAC excessive deferrment errors if other nodes are transmitting large packets.

SuggestedRemedy

Simulate D-PLCA and determine better default values.

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.1** *P* **83** *L* **14** # 51

Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type **TR** *Comment Status* **X**

Need better explanation of the relationship of the clause 188 phy to the clause 147 phy. Pile on to comment 188 from draft 2.0. Attempt to resolve unsatified comment with an alternate resolution.

SuggestedRemedy

Change Title of clause 188 to Physical Coding Sublayer (PCS), Physical Medium Attachment (PMA) sublayer, Physical Medium Dependent (PMD) sublayer, and baseband medium, type 10BASE-T1M
Change first paragraph of 188.1 to read: "This clause defines the type 10BASE-T1M Physical Coding Sublayer (PCS), type 10BASE-T1M
Physical Medium Attachment (PMA) sublayer, and the 10BASE-T1M Physical Medium Dependent (PMD) sublayer. Together, the PCS, PMA, and PMD sublayers comprise a 10BASE-T1M Physical Layer device (PHY).

Insert new second paragraph:
Functional and electrical specifications for the type 10BASE-T1M PCS, PMA, PMD, and the interface to the medium, referred to as the Trunk Connection Interface
(TCI) are provided in this clause. The Clause 188 10BASE-T1M PCS and 10BASE-T1M PMA are functionally identical to the Clause 147 10BASE-T1S PCS and 10BASE-T1S PMA with the exception that Clause 188 only supports multidrop operation and does not support th functionality required for clause 147 in point-to-point half-duplex or point-to-point full-duplex modes. The specification includes many enhancements for clarity enabled by the focus functioning only in multidrop mode. The 10BASE-T1M PMD is a refinement of the electrical specifications of the electrical specifications of the 10BASE-T1S PMA found in 147.5, to improve plug-and-play performance, improve multidrop interoperability, and support specification of the enhanced mixing segment in 188.8.

Change Figure 188-1 to add a PMA below the PMA.
Change 188.6 title to PMD electrical specifications
Replace first sentence with: "The 10BASE-T1M PMD converts between the logical DME signals specified in the PMA and the electrical signals on the mixing segment in both transmit and receive directions. It interfaces the PMA to the TCI, and this subclause defines the electrical characteristics of the PMD for a 10BASE-T1M PHY."

In 188.6.2.1 (P104 L7) Change "PMA's receiver" to "PHY's receiver"
In 188.6.2.2 (P104 L11) Change "PMA transmitter" to "transmitter"
In 188.6.5 (P105 L42), Change "PMA" to "PMD"
In Figure 188-17 (P110), Change "PMA" to "PHY" (2 instances)
In 188.9 (P115 L5) Change "DTE/PMA" to "DTE/PHY" and Change PMA to PHY at P115 L9, L11, L13, and L15
Change title of 188.12 to match new clause title for 188.
In title of 118.12.4.5 change "PMA" to "PMD", and in 118.12.4.5, change Item designations from PMAEn to PMDEn.
In PMAE16 Value/Comment (P124 L18) change PMA to PHY

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.3** *P* **130** *L* **36** # 52

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

ppse type1 min for 4W devices

SuggestedRemedy

Change type 1 value to 90W

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.3** *P* **130** *L* **37** # 53

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

ppmd_1u for type 1 devices = 4W

SuggestedRemedy

Change type 1 value to 4.4W

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.6** *P* **140** *L* **15** # 54

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Pmpse needs to stay consitent with changes we make in section 189.3

SuggestedRemedy

90W, min

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.4.6** *P* **140** *L* **19** # 55

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Ilim needs to stay consistent with changes we make in section 189.3

SuggestedRemedy

2.3A is already the max value, but we may need a 2A min value in which case item 4 needs t split into 2 lines so that type 0 and type 1 can have different limits

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.5.5** *P* **149** *L* **40** # 56

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Update unit power for type 1 consistent with descisions made in section 189.3

SuggestedRemedy

4.4W

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.5.5** *P* **149** *L* **40** # 57

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Update input power for type 1 consistent with decisions made in section 189.3

SuggestedRemedy

4.4W min, 70.4max

Proposed Response *Response Status* **O**

Cl **188** *SC* **188.9.1.6** *P* **116** *L* **48** # 58

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

TCIs need to maintain complinace with shalls in 188.9.1.1, 188.9.1.2, and 188.9.1.3 at 2A current levels, not just "with stand without damage"

SuggestedRemedy

This might be overkill...The TCI shall withstand without damage the application of any current between -2A and +2A in either polarity from TC1 to TC2 and while complying with insertion loss, return loss, and mode conversion loss as specified in subsections 188.9.1.1, 188.9.1.2 and 188.9.1.3.

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.3** *P* **130** *L* **33** # 59

Paul, Michael Analog Devices

Comment Type **T** *Comment Status* **X**

Increase ipse type1 min current to maximize power delivery.

SuggestedRemedy

Change type 1 value to 2A (Actual value 1.97A, round to 2A)

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.9** *P* **54** *L* **30** # 60

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

TLV information string is missing last (new) octet.

SuggestedRemedy

Add "PLCA nodeCount" octet to end of TLV information string.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.9** *P* **54** *L* **30** # 61

Brandt, David — Rockwell Automation

Comment Type **T** *Comment Status* **X**

TLV header string length is incorrect.

SuggestedRemedy

Change TLV information string length from "9" to "8".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.9.1** *P* **55** *L* **31** # 62

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Why do we not use aPLCANodeCount which maps to plca_node_count?

SuggestedRemedy

Change note to "30.16.1.1.3"

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.10** *P* **56** *L* **2** # 63

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

TLV description does not contain a graphical TLV format as seen for PLCA Figure 79-10.

SuggestedRemedy

Add in the graphical TLV format.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **58** *L* **2** # 64

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

TLV description does not contain a graphical TLV format as seen for PLCA Figure 79-10.

SuggestedRemedy

Add in the graphical TLV format.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.12** *P* **61** *L* **15** # 65

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

TLV description does not contain a graphical TLV format as seen for PLCA Figure 79-10.

SuggestedRemedy

Add in the graphical TLV format.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.10** *P* **56** *L* **6** # 66

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22b format should match Table 79-22a

SuggestedRemedy

Replace "Field size (bit)" with "Length (Octets)". List values in octets.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.10** *P* **56** *L* **24** # 67

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22c format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and gang rows as "Bitmap".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.10** *P* **56** *L* **39** # 68

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22d format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and gang rows as "Bitmap".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.10** *P* **57** *L* **3** # 69

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22e format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and gang rows as "Bitmap".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.10** *P* **57** *L* **19** # 70

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22f format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and label row as "Unsigned Integer".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.10** *P* **57** *L* **29** # 71

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22g format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and label row as "Unsigned Integer".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.10** *P* **57** *L* **39** # 72

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22h format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and label row as "Unsigned Integer".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.10** *P* **56** *L* **24** # 73

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Tables 79-22c to 22h lack management references.

SuggestedRemedy

Add "Note" column. Add references with entry "30.17.1.1.x" if they can be mapped.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **58** *L* **6** # 74

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22i heading wrong.

SuggestedRemedy

Replace "MPSE" with "MPD"

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **58** *L* **6** # 75

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22i format should match Table 79-22a

SuggestedRemedy

Replace "Field size (bit)" with "Length (Octets)". List values in octets.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **58** *L* **30** # 76

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22j format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and gang rows as "Bitmap".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **59** *L* **4** # 77

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22k format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and gang rows as "Bitmap".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **59** *L* **17** # 78

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22l format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and gang rows as "Bitmap".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **59** *L* **33** # 79

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22m format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and label row as "Unsigned Integer".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **59** *L* **43** # 80

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22n format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and label row as "Unsigned Integer".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **60** *L* **4** # 81

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22o format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and label row as "Unsigned Integer".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **60** *L* **16** # 82

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22p format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and label row as "Unsigned Integer".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **60** *L* **28** # 83

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22q format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and label row as "Unsigned Integer".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **60** *L* **47** # 84

Brandt, David — Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22r format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and label row as "Unsigned Integer".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **61** *L* **4** # 85

Brandt, David Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22s format should match Table 79-22a

SuggestedRemedy

Replace header "Field width" with "Format" and label row as "Unsigned Integer".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **61** *L* **4** # 86

Brandt, David Rockwell Automation

Comment Type **E** *Comment Status* **X**

Table 79-22s Field width "32" does not match Field size "16" in Table 79-22i.

SuggestedRemedy

Make both fields match as 2 octets and unsigned integer.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **58** *L* **30** # 87

Brandt, David Rockwell Automation

Comment Type **E** *Comment Status* **X**

Tables 79-22j to 22s lack management references.

SuggestedRemedy

Add "Note" column. Add references with entry "30.17.2.1.x" if they can be mapped.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.12** *P* **61** *L* **24** # 88

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

There seems to be no reason to have "number of allocated power entries" in Table 79-22t unless there can be more than one instance of Table 79-22u. I assume values are per "MPD MAC address".

SuggestedRemedy

Add the following paragraph following line 18: "The MPoE Power Allocation TLV is composed of a Table 79.22t fixed element followed by one or more Table 79-22u power entry elements, where the number of power entry elements is indicated by the Entry count in Table 79-22u."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.12** *P* **61** *L* **24** # 89

Brandt, David Rockwell Automation

Comment Type **E** *Comment Status* **X**

There is no "Power Allocated Status TLV elements" Table as with MPD and MPSE.

SuggestedRemedy

Add an "elements" table to refer to Table 79.22t and 79.22u.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.10** *P* **56** *L* **5** # 90

Brandt, David Rockwell Automation

Comment Type **E** *Comment Status* **X**

The "element tables" do not have text to state whether all the referenced tables are required. It seems necessary to then have a fixed length as there is no length indicator.

SuggestedRemedy

Insert paragraph: "The MPoE MPSE Status TLV is composed of a single instance of each of the multiple required elements as indicated in Table 79-22b references to Tables 79-22c through 79-22h. The Reserved Field is necessary to achieve 16-bit alignment."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **58** *L* **5** # 91

Brandt, David Rockwell Automation

Comment Type **E** *Comment Status* **X**

The "element tables" do not have text to state whether all the referenced tables are required. It seems necessary to then have a fixed length as there is no length indicator.

SuggestedRemedy

Insert paragraph: "The MPoE MPD Status TLV is composed of a single instance of each of the multiple required elements as indicated in Table 79-22i references to Tables 79-22j through 79-22s. The Reserved Field is necessary to achieve 16-bit alignment."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.12** *P* **61** *L* **18** # 92

Brandt, David Rockwell Automation

Comment Type **E** *Comment Status* **X**

Payload is 18 octets. Header is 2 octets. LLDP header is 6 octets. Ethernet payload is 1500 octets. 1492/18 = 82 PDs. Not sure this is ever achieved. ODVA reaches 40. PLCA limit to 254. I don't think fragmentation or jumbo frames are an option.

SuggestedRemedy

Add text: "Different MDPs can be reported in separate LLDPDUs."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.13** *P* **63** *L* **13** # 93

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

No "PLCA nodeCount field"

SuggestedRemedy

Insert "PLC3", "PLCA nodeCount", "79.3.9.3", "Contains and integer value indicating the PLCA nodeCount", "PL:M", "Yes [ ] N/A [ ]". Re-number existing PLC3 as PLC4.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.16** *P* **64** *L* **36** # 94

Brandt, David Rockwell Automation

Comment Type **E** *Comment Status* **X**

Missing reference.

SuggestedRemedy

Add to end of Value/Comment: "as defined in Table 79-22t"

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.16** *P* **64** *L* **39** # 95

Brandt, David Rockwell Automation

Comment Type **E** *Comment Status* **X**

Missing reference.

SuggestedRemedy

Add to end of Value/Comment: "as defined in Table 79-22u"

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.14** *P* **63** *L* **37** # 96

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

If we allow an optional element to be removed, then we need to remove the Reserved field.

SuggestedRemedy

Suggest leaving Withdrawing power delay as M, and having MPSE set the value to 0. If there is no value at all, you can't really assume a "last gasp" period to store to Flash or some simila activity. You must assume 0.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.5.15** *P* **64** *L* **18** # 97

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

If we allow an optional element to be removed, then we need to remove the Reserved field. MPD6 and MPD7 removal add an additional problem that we don't have type identifiers on the fields and MPD8 may be recognized as MPD6.

SuggestedRemedy

Suggest leaving fields as M, and having MPD never issue and Temporary power notification. Then the fields are don't care.

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.1.2** *P* **128** *L* **47** # 98

Brandt, David Rockwell Automation

Comment Type **E** *Comment Status* **X**

MPSE/MPD may or may not be co-located with a DTE. In either case, management is via the DTE.

SuggestedRemedy

Add text to end of paragraph: "MPoE power entities may be managed by associated DTEs via LLDP TLVs (79.3.10 through 12) or layer management (30.17), regardless of whether the data and power are on the same or separate pairs."

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3** *P* **54** *L* **12** # 99

Brandt, David Rockwell Automation

Comment Type **E** *Comment Status* **X**

Wrong reference.

SuggestedRemedy

Change MPSE Subclause reference to "79.3.10".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.10** *P* **56** *L* **33** # 100

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

Two sets of power exist in a 10BASE-T1S cable within the ODVA specification, one called Network Power for communication and sensing, and another called Switched Power for actuators. This is important to the normal machine powerup sequence of assuring network operation and sensor state before applying actuator power. It also separates the actuator transients to another pair. It is convenient to have this all in a single cable. Also, IEC 63171-7 describes up to 7 way SPE connectors with a standard 2 way SPE data core. Draft IEC TS 63444 Ed. 2 describes switched and unswitched power on 2 separate pairs. Management should allow multiple sets of MPoE per DTE.

SuggestedRemedy

Change Function Reserved Bit value "15:2" to "13:2". Add a row below for Function "Interface" and Bit value "15:14" with Value/Meaning of "00 = co-resident data and power ID", "01-11 = separate power ID".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.11** *P* **58** *L* **44** # 101

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

Two sets of power exist in a 10BASE-T1S cable within the ODVA specification, one called Network Power for communication and sensing, and another called Switched Power for actuators. This is important to the normal machine powerup sequence of assuring network operation and sensor state before applying actuator power. It also separates the actuator transients to another pair. It is convenient to have this all in a single cable. Also, IEC 63171-7 describes up to 7 way SPE connectors with a standard 2 way SPE data core. Draft IEC TS 63444 Ed. 2 describes switched and unswitched power on 2 separate pairs. Management should allow multiple sets of MPoE per DTE.

SuggestedRemedy

Change Function Reserved Bit value "15:6" to "13:6". Add a row below for Function "Interface" and Bit value "15:14" with Value/Meaning of "00 = co-resident data and power ID", "01-11 = separate power ID".

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.12** *P* **61** *L* **44** # 102

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

Two sets of power exist in a 10BASE-T1S cable within the ODVA specification, one called Network Power for communication and sensing, and another called Switched Power for actuators. This is important to the normal machine powerup sequence of assuring network operation and sensor state before applying actuator power. It also separates the actuator transients to another pair. It is convenient to have this all in a single cable. Also, IEC 63171-7 describes up to 7 way SPE connectors with a standard 2 way SPE data core. Draft IEC TS 63444 Ed. 2 describes switched and unswitched power on 2 separate pairs. Management should allow multiple sets of MPoE per DTE.

SuggestedRemedy

Add Function Reserved Bit value "5:0". Add a row below for Function "Interface" and bits "7:6 with Value/Meaning of "00 = co-resident data and power ID", "01-11 = separate power ID".

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.3** *P* **27** *L* **37** # 103

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

Two sets of power exist in a 10BASE-T1S cable within the ODVA specification, one called Network Power for communication and sensing, and another called Switched Power for actuators. This is important to the normal machine powerup sequence of assuring network operation and sensor state before applying actuator power. It also separates the actuator transients to another pair. It is convenient to have this all in a single cable. Also, IEC 63171-7 describes up to 7 way SPE connectors with a standard 2 way SPE data core. Draft IEC TS 63444 Ed. 2 describes switched and unswitched power on 2 separate pairs. Management should allow multiple sets of MPoE per DTE.

SuggestedRemedy

Change arrows from oPHYEntity to oMPSE and oMPD to double headed end arrows denoting one-to-many relationships.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.17.1.1** *P* **33** *L* **49** # 104

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

Two sets of power exist in a 10BASE-T1S cable within the ODVA specification, one called Network Power for communication and sensing, and another called Switched Power for actuators. This is important to the normal machine powerup sequence of assuring network operation and sensor state before applying actuator power. It also separates the actuator transients to another pair. It is convenient to have this all in a single cable. Also, IEC 63171-7 describes up to 7 way SPE connectors with a standard 2 way SPE data core. Draft IEC TS 63444 Ed. 2 describes switched and unswitched power on 2 separate pairs. Management should allow multiple sets of MPoE per DTE.

SuggestedRemedy

Insert subclause and renumber:
30.17.1.1 aMPSEID
ATTRIBUTE
APPROPRIATE SYNTAX:
INTEGER
BEHAVIOUR DEFINED AS:
A read-only value that identifies a specific MPSE interface that is associated with an oPHYEntity.
0 = co-resident data and power interface
1-3 = separate power interfaces;

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.17.2.1** *P* **38** *L* **40** # 105

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

Two sets of power exist in a 10BASE-T1S cable within the ODVA specification, one called Network Power for communication and sensing, and another called Switched Power for actuators. This is important to the normal machine powerup sequence of assuring network operation and sensor state before applying actuator power. It also separates the actuator transients to another pair. It is convenient to have this all in a single cable. Also, IEC 63171-7 describes up to 7 way SPE connectors with a standard 2 way SPE data core. Draft IEC TS 63444 Ed. 2 describes switched and unswitched power on 2 separate pairs. Management should allow multiple sets of MPoE per DTE.

SuggestedRemedy

Insert subclause and renumber:
30.17.2.1.1 aMPDID
ATTRIBUTE
APPROPRIATE SYNTAX:
INTEGER
BEHAVIOUR DEFINED AS:
A read-only value that identifies a specific MPD interface that is associated with an oPHYEntity.
0 = co-resident data and power interface
1-3 = separate power interfaces;

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.2.1** *P* **26** *L* **14** # 106

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

Two sets of power exist in a 10BASE-T1S cable within the ODVA specification, one called Network Power for communication and sensing, and another called Switched Power for actuators. This is important to the normal machine powerup sequence of assuring network operation and sensor state before applying actuator power. It also separates the actuator transients to another pair. It is convenient to have this all in a single cable. Also, IEC 63171-7 describes up to 7 way SPE connectors with a standard 2 way SPE data core. Draft IEC TS 63444 Ed. 2 describes switched and unswitched power on 2 separate pairs. Management should allow multiple sets of MPoE per DTE.

SuggestedRemedy

Change "instance" to "instances".

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.2.1** *P* **26** *L* **17** # 107

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

Two sets of power exist in a 10BASE-T1S cable within the ODVA specification, one called Network Power for communication and sensing, and another called Switched Power for actuators. This is important to the normal machine powerup sequence of assuring network operation and sensor state before applying actuator power. It also separates the actuator transients to another pair. It is convenient to have this all in a single cable. Also, IEC 63171-7 describes up to 7 way SPE connectors with a standard 2 way SPE data core. Draft IEC TS 63444 Ed. 2 describes switched and unswitched power on 2 separate pairs. Management should allow multiple sets of MPoE per DTE.

SuggestedRemedy

Change "instance" to "instances".

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.5** *P* **29** *L* **20** # 108

Brandt, David Rockwell Automation

Comment Type **T** *Comment Status* **X**

Two sets of power exist in a 10BASE-T1S cable within the ODVA specification, one called Network Power for communication and sensing, and another called Switched Power for actuators. This is important to the normal machine powerup sequence of assuring network operation and sensor state before applying actuator power. It also separates the actuator transients to another pair. It is convenient to have this all in a single cable. Also, IEC 63171-7 describes up to 7 way SPE connectors with a standard 2 way SPE data core. Draft IEC TS 63444 Ed. 2 describes switched and unswitched power on 2 separate pairs. Management should allow multiple sets of MPoE per DTE.

SuggestedRemedy

Insert at top of table "aMPSEID", ATTRIBUTE", "GET", "X" under optional.

Proposed Response *Response Status* **O**

Cl **30** *SC* **30.2.5** *P* **30** *L* **20** # 109

Brandt, David — Rockwell Automation

Comment Type **T** *Comment Status* **X**

Two sets of power exist in a 10BASE-T1S cable within the ODVA specification, one called Network Power for communication and sensing, and another called Switched Power for actuators. This is important to the normal machine powerup sequence of assuring network operation and sensor state before applying actuator power. It also separates the actuator transients to another pair. It is convenient to have this all in a single cable. Also, IEC 63171-7 describes up to 7 way SPE connectors with a standard 2 way SPE data core. Draft IEC TS 63444 Ed. 2 describes switched and unswitched power on 2 separate pairs. Management should allow multiple sets of MPoE per DTE.

SuggestedRemedy

Insert at top of table "aMPDID", ATTRIBUTE", "GET", "X" under optional.

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.3.10** *P* **56** *L* **29** # 110

Regev, Alon — Keysight

Comment Type **T** *Comment Status* **X**

Field width in table 79-22c is misleading as there is a width on one row that covers all the rows, and all the other rows have a dash through the field. Also, it is not clear why the table 7! 22B calls a similar column "Field size (bits)" and table 79-22c calls the column "Field width" and how "width" differs from "size" and why the units (bits) are not specified.
this also needs to be fixed in tables 79-22d, 79.22e, 79.22j, 79-22k, and 79-22l

SuggestedRemedy

Either get rid of the field width column (as it's not needed in this table) or correct it to indicate the units (bits) and indicate the width for the specific row (i.e. 1 for the "Active" function row, "1" for the "Withdrawing power notification" funciton row, and 14 for the "Reserverd" function row.

Also fix in a similar fashin in tables 79-22d, 79.22e, 79.22j, 79-22k, and 79-22l

Proposed Response *Response Status* **O**

Cl **79** *SC* **79.1** *P* **53** *L* **5** # 111

Regev, Alon — Keysight

Comment Type **T** *Comment Status* **X**

The data in the 802da_D2p2.pdf does not match the data shown in 802da_D2p2_CMP.pdf. Specifically, section 79.1 in 802da_D2p2.pdf is shown as both section 79.1 (showing deletions) and section 79.2 (showing insertions) in 802da_D2p2_CMP.pdf. After this, all the section numbers in clause 79 in 802da_D2p2_CMP.pdf. are off by 1 from 802da_D2p2.pdf (so 79.2 is shown as 79.3, 79.3 as 79.4...)

SuggestedRemedy

Consider treating all of section 79 as in-scope for the next ballot as the review materials prepared for section 79 may allow errors to be introduced.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.5.2** *P* **72** *L* **3** # 112

Law, David — HPE

Comment Type **E** *Comment Status* **X**

The variable local_nodeID is now used in transition condition from the NORMAL to IDLE states in Figure 148–5 'PLCA Data state diagram, part a'. As a result, it should be added to the subclause 148.4.5.2 'Variables' list.

SuggestedRemedy

[1] Add the variable local_nodeID to the note under the heading '148.4.5.2 Variables'.

[2] Add the following additional entry to subclause 148.4.5.2:

local_nodeID
See 148.4.6.2.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.4.6** *P* **71** *L* **52** # 113

Law, David HPE

Comment Type **TR** *Comment Status* **X**

There is a bracket imbalance in the condition for the transition from the NEXT_TX_OPPORTUNITY state to the RESYNC state in Figure 148–4 'PLCA Control state diagram, part b'. There are 8 opening brackets but only 7 closing brackets.

SuggestedRemedy

Suggest that:

... * ((dplca_txop_table_upd + (dplca_aging = OFF) + (!dplca_en))

should read:

... * ((dplca_txop_table_upd + (dplca_aging = OFF)) + (!dplca_en))

based on the same terms in the condition for the transition from the NEXT_TX_OPPORTUNITY state to the WAIT_TO state.

Proposed Response *Response Status* **O**

Cl **148** *SC* **148.4.7.5** *P* **79** *L* # 114

Law, David HPE

Comment Type **E** *Comment Status* **X**

Suggest expanding the FOLLOWER state box to remove the '-' from the action.

SuggestedRemedy

See comment.

Proposed Response *Response Status* **O**

Cl **189** *SC* **189.6.1** *P* **153** *L* **10** # 115

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

Comment Type **TR** *Comment Status* **X**

Equation 189-1 causes issues with sections 188.8 and 188.9. For high unit loads greater than 11, the channel return loss specified in 188.8 cannot be met because the MPI RL limit is more lenient than the channel RL limit. For lower unit loads, it is assumed that the channel return loss will also not be met and therefore needs to be verified. For unit loads greater than 3, the return loss limit, in conjunction with the TCI insertion loss, is not passive, contradicting the concept of making the return loss dependent on the unit load in order to reduce implementation effort. The limit line at frequencies above 26.5 MHz is stricter than the TCI return loss, impacting technical feasibility. In summary, the introduction of 189.6.1 and its dependency on the Unit Load Concept affects multiple sections in 188.8 and 188.9 and will require significant effort to resolve and align the affected requirements.

SuggestedRemedy

Insert a note: Impairments to sections 188.8 and 188.9 have been identified. Adaptations to sections 188.8, 188.9, and 189.6.1 might be necessary to maintain consistency and technical feasibility.

Proposed Response *Response Status* **O**

Cl **00** *SC* **0** *P* **8** *L* **18** # 116

Law, David Copperopolis; aff'l w/ CME Consulting and Cisco

Comment Type **E** *Comment Status* **X**

The list of members of the IEEE 802.3 Working Group is ordered incorrectly.

SuggestedRemedy

Update the list of names in the IEEE 802.3 Working Group member list so they are ordered by <given name> <family name> sorted by <family name>.

Proposed Response *Response Status* **O**