

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

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CI 00 SC 0 P3 L6 # 38

Maguire, Valerie Copperopolis; affl w/ CME Consulting and Cisco

Comment Type E Comment Status D Editorial

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 W

PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: TCI is already there. Suggest that MPoE stands in for both grounded and isolated MPoE. We can drop TPS and we already have MPSE and MPD, which is what we use, not Powered Device or Power Sourcing Equipment by themselves. We don't use "Power Interface" by itself.

Keywords are the recommendation of the Working Group chair, so, suggest - add MPI – which is new – to the keywords.)

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CI 00 SC 0 P8 L18 # 116

Law, David Copperopolis; affl w/ CME Consulting and Cisco

Comment Type E Comment Status D Late

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 W

PROPOSED ACCEPT.

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CI 00 SC 0 P10 L1 # 31

Maguire, Valerie Copperopolis; affl w/ CME Consulting and Cisco

Comment Type E Comment Status D EZ

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

*SuggestedRemedy*

Replace, "Alpesh Shah, Secretary"

with, "FirstName SecondName, Secretary"

Proposed Response Response Status W

PROPOSED ACCEPT.

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CI 00 SC 0 P13 L51 # 30

Maguire, Valerie Copperopolis; affl w/ CME Consulting and Cisco

Comment Type E Comment Status D EZ

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 W

PROPOSED ACCEPT.

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CI 1 SC 1.4 P24 L6 # 32

Maguire, Valerie Copperopolis; affl w/ CME Consulting and Cisco

Comment Type E Comment Status D Editorial

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 W

PROPOSED ACCEPT.

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: Clause, Subclause, page, line

CI 1  
SC 1.4

Page 1 of 38  
4/24/2025 8:32:46 AM

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

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**Cl 30**      **SC 30.2.2.1**      **P26**      **L14**      # **106**

Brandt, David      Rockwell Automation

**Comment Type**    **T**      **Comment Status**    **D**      **Power-ODVA**

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**    **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Presentation, discussion, and consideration on block of changes are needed. Consideration of whether there are changes needed beyond those commented as Power-ODVA is important. ACCEPT only as a block with other "Power-ODVA" topic comments and any additional changes discussion brings up.

Other changes are needed in this sentence if this proposal is accepted. For example, consider changing "an instance of a MPoE MPD" to "instances of MPoE MPDs" or "instance(s) of MPoE MPD(s)". If making "instance" plural is not accepted, "a MPoE" should be changed to "an MPoE".)

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**Cl 30**      **SC 30.2.2.1**      **P26**      **L17**      # **107**

Brandt, David      Rockwell Automation

**Comment Type**    **T**      **Comment Status**    **X**      **Power-ODVA**

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**    **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Presentation, discussion, and consideration on block of changes are needed. Consideration of whether there are changes needed beyond those commented as Power-ODVA is important. ACCEPT only as a block with other "Power-ODVA" topic comments and any additional changes discussion brings up.

Other changes are needed in this sentence if this proposal is accepted. For example, consider changing "an instance of a MPoE MPSE" to "instances of MPoE MPSEs" or "instance(s) of MPoE MPSE(s)". If making "instance" plural is not accepted, "a MPoE" should be changed to "an MPoE".)

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

Cl 30 SC 30.2.3 P27 L37 # 103

Brandt, David Rockwell Automation

Comment Type T Comment Status X Power-ODVA

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 W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Presentation, discussion, and consideration on block of changes are needed. Consideration of whether there are changes needed beyond those commented as Power-ODVA is important. ACCEPT only as a block with other "Power-ODVA" topic comments and any additional changes discussion brings up).

Cl 30 SC 30.2.5 P28 L6 # 34

Maguire, Valerie Copperopolis; affl w/ CME Consulting and Cisco

Comment Type E Comment Status D Power-ODVA

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 W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Presentation, discussion, and consideration on block of changes are needed. Consideration of whether there are changes needed beyond those commented as Power-ODVA is important. ACCEPT only as a block with other "Power-ODVA" topic comments and any additional changes discussion brings up).

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 30 SC 30.2.5 P29 L20 # 108

Brandt, David Rockwell Automation

Comment Type T Comment Status X Power-ODVA

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 W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Presentation, discussion, and consideration on block of changes are needed. Consideration of whether there are changes needed beyond those commented as Power-ODVA is important. ACCEPT only as a block with other "Power-ODVA" topic comments and any additional changes discussion brings up).

CI 30 SC 30.2.5 P30 L20 # 109

Brandt, David Rockwell Automation

Comment Type T Comment Status X Power-ODVA

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 W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Presentation, discussion, and consideration on block of changes are needed. Consideration of whether there are changes needed beyond those commented as Power-ODVA is important. ACCEPT only as a block with other "Power-ODVA" topic comments and any additional changes discussion brings up).

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 30 SC 30.17.1.1 P33 L49 # 104

Brandt, David Rockwell Automation

Comment Type T Comment Status X Power-ODVA

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:

30.17.1.1.1 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 W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Presentation, discussion, and consideration on block of changes are needed. Consideration of whether there are changes needed beyond those commented as Power-ODVA is important. ACCEPT only as a block with other "Power-ODVA" topic comments and any additional changes discussion brings up).

CI 30 SC 30.17.1.1.8 P35 L33 # 35

Maguire, Valerie Copperopolis; affl w/ CME Consulting and Cisco

Comment Type E Comment Status D EZ

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 W

PROPOSED ACCEPT.

CI 30 SC 30.17.1.1.9 P35 L35 # 6

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

Comment Type E Comment Status D Management

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 W

PROPOSED ACCEPT.

CI 30 SC 30.17.2.1 P38 L40 # 105

Brandt, David Rockwell Automation

Comment Type T Comment Status X Power-ODVA

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 W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Presentation, discussion, and consideration on block of changes are needed. Consideration of whether there are changes needed beyond those commented as Power-ODVA is important. ACCEPT only as a block with other "Power-ODVA" topic comments and any additional changes discussion brings up).

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: Clause, Subclause, page, line

CI 30

SC 30.17.2.1

Page 5 of 38

4/24/2025 8:32:46 AM

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 30 SC 30.17.2.1.3 P39 L23 # 49  
Potterf, Jason Cisco  
Comment Type E Comment Status D EZ  
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 for consistency.  
Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 39 SC 39.17.1.1.8 P35 L33 # 3  
Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse  
Comment Type T Comment Status D EZ  
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 W  
PROPOSED ACCEPT IN PRINCIPLE.  
Accommodated by comment #35.  
Replace, "MPSE as measured at the MDI in"  
with, "MPSE as measured at the MPI in"

CI 79 SC 79.1 P53 L5 # 111  
Regev, Alon Keysight  
Comment Type T Comment Status D TLV  
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 W  
PROPOSED REJECT.  
No change to the draft is requested. There are expected to be changes in clause 79.

CI 79 SC 79.3 P54 L12 # 99  
Brandt, David Rockwell Automation  
Comment Type E Comment Status D EZ  
Wrong reference.  
SuggestedRemedy  
Change MPSE Subclause reference to "79.3.10".  
Proposed Response Response Status W  
PROPOSED ACCEPT.

CI 79 SC 79.3.9 P54 L30 # 61  
Brandt, David Rockwell Automation  
Comment Type T Comment Status D TLV-figure  
TLV header string length is incorrect.  
SuggestedRemedy  
Change TLV information string length from "9" to "8".  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
Accommodated by comment #60.  
(Editor's note: The definitive specification is in the text, the figure creates opportunity for error and is unnecessary.)  
Delete Figure 79-10.

CI 79 SC 79.3.9 P54 L30 # 60  
Brandt, David Rockwell Automation  
Comment Type T Comment Status D TLV-figure  
TLV information string is missing last (new) octet.  
SuggestedRemedy  
Add "PLCA nodeCount" octet to end of TLV information string.  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
(Editor's note: The definitive specification is in the text, the figure creates opportunity for error and is unnecessary.)  
Delete Figure 79-10.

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

Cl 79 SC 79.3.9.1 P55 L31 # 62  
 Brandt, David Rockwell Automation  
 Comment Type E Comment Status D TLV-figure  
 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 W  
 PROPOSED REJECT.  
 Since clause 30 management is optional, reference to state diagram variables, which are mandatory, is preferred.

Cl 79 SC 79.3.10 P56 L2 # 63  
 Brandt, David Rockwell Automation  
 Comment Type E Comment Status X TLV-figure  
 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 W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Accommodated by comment #60.  
 (Editor's note: The definitive specification is in the text, the figure creates opportunity for error and is unnecessary.)  
 Delete Figure 79-10.

Cl 79 SC 79.3.10 P56 L5 # 90  
 Brandt, David Rockwell Automation  
 Comment Type E Comment Status D TLV  
 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 W  
 PROPOSED ACCEPT.

Cl 79 SC 79.3.10 P56 L6 # 66  
 Brandt, David Rockwell Automation  
 Comment Type E Comment Status D TLV-format  
 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 W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read: "The instantaneous voltage in mV observed..."

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 79	SC 79.3.10	P56	L24	# 67
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Brandt, David Rockwell Automation

Comment Type **E** Comment Status **X** TLV-format

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 **W**

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."

CI 79	SC 79.3.10	P56	L24	# 73
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Brandt, David Rockwell Automation

Comment Type **E** Comment Status **X** TLV-format

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 **W**

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."



## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 79 SC 79.3.10 P56 L29 # 110

Regev, Alon Keysight

Comment Type T Comment Status X TLV-format

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 79-22B 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" function row, and 14 for the "Reserved" function row.

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

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read: "The instantaneous voltage in mV observed..."

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: Clause, Subclause, page, line

CI 79 SC 79.3.10 P56 L33 # 100

Brandt, David Rockwell Automation

Comment Type T Comment Status D Power-ODVA

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 W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Presentation, discussion, and consideration on block of changes are needed. Consideration of whether there are changes needed beyond those commented as Power-ODVA is important. ACCEPT only as a block with other "Power-ODVA" topic comments and any additional changes discussion brings up).

CI 79  
SC 79.3.10

Page 9 of 38  
4/24/2025 8:32:46 AM

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 79 SC 79.3.10 P56 L39 # 68

Brandt, David Rockwell Automation

Comment Type E Comment Status X TLV-format

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 W

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read: "The instantaneous voltage in mV observed..."

CI 79 SC 79.3.10 P57 L3 # 69

Brandt, David Rockwell Automation

Comment Type E Comment Status X TLV-format

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 W

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read: "The instantaneous voltage in mV observed..."

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

Cl	SC	P	L	#
79	79.3.10	57	19	70

Brandt, David      Rockwell Automation

*Comment Type*    **E**      *Comment Status*    **X**      *TLV-format*

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*    **W**

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."

Cl	SC	P	L	#
79	79.3.10	57	29	71

Brandt, David      Rockwell Automation

*Comment Type*    **E**      *Comment Status*    **X**      *TLV-format*

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*    **W**

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

**Cl 79 SC 79.3.10 P57 L39 # 72**  
 Brandt, David Rockwell Automation  
*Comment Type E Comment Status X TLV-format*  
 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 W*  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Accommodated by comment #66.  
 (Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)  
 Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf  
 Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).  
 Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).  
 In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.  
 In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."  
 In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."  
 In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."  
 In Table 79-22r, change "Value/Meaning" inserting "in mV" to read: "The instantaneous voltage in mV observed..."

**Cl 79 SC 79.3.11 P58 L2 # 64**  
 Brandt, David Rockwell Automation  
*Comment Type E Comment Status D TLV-figure*  
 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 W*  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Accommodated by comment #60.  
 (Editor's note: The definitive specification is in the text, the figure creates opportunity for error and is unnecessary.)  
 Delete Figure 79-10.

**Cl 79 SC 79.3.11 P58 L5 # 91**  
 Brandt, David Rockwell Automation  
*Comment Type E Comment Status D TLV*  
 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 W*  
 PROPOSED ACCEPT.

**Cl 79 SC 79.3.11 P58 L6 # 74**  
 Brandt, David Rockwell Automation  
*Comment Type E Comment Status D EZ*  
 Table 79-22i heading wrong.  
*SuggestedRemedy*  
 Replace "MPSE" with "MPD"  
*Proposed Response Response Status W*  
 PROPOSED ACCEPT.

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

Cl 79	SC 79.3.11	P58	L6	# 75
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Brandt, David Rockwell Automation

Comment Type **E** Comment Status **X** TLV-format

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 **W**

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."

Cl 79	SC 79.3.11	P58	L30	# 76
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Brandt, David Rockwell Automation

Comment Type **E** Comment Status **X** TLV-format

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 **W**

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

Cl 79	SC 79.3.11	P 58	L 30	# 87
Brandt, David		Rockwell Automation		
Comment Type	E	Comment Status	X	TLV-format
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 W			
PROPOSED ACCEPT IN PRINCIPLE.				
Accommodated by comment #66.				
(Editor's note: The standard format in 79.3 for these tables is "Bit   Function   Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)				
Reformat Tables 79-22a and 79-22u to columns "Bit   Function   Value/Meaning   Reference" per file zimmerman_3da_01_0525.pdf				
Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).				
Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).				
In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.				
In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."				
In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."				
In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."				
In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."				

Cl 79	SC 79.3.11	P58	L 44	# 101
Brandt, David		Rockwell Automation		
Comment Type	T	Comment Status	X	Power-ODVA
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 W			
PROPOSED ACCEPT IN PRINCIPLE.				
TFTD				
(Editor's note: Presentation, discussion, and consideration on block of changes are needed. Consideration of whether there are changes needed beyond those commented as Power-ODVA is important. ACCEPT only as a block with other "Power-ODVA" topic comments and any additional changes discussion brings up).				

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 79	SC 79.3.11	P59	L4	# 77
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Brandt, David Rockwell Automation

Comment Type **E** Comment Status **X** TLV-format

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 **W**

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."

CI 79	SC 79.3.11	P59	L17	# 78
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Brandt, David Rockwell Automation

Comment Type **E** Comment Status **X** TLV-format

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 **W**

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 79	SC 79.3.11	P59	L33	# 79
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Brandt, David Rockwell Automation

Comment Type E Comment Status X TLV-format

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 W

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."

CI 79	SC 79.3.11	P59	L43	# 80
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Brandt, David Rockwell Automation

Comment Type E Comment Status X TLV-format

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 W

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."



## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 79 SC 79.3.11 P60 L4 # 81

Brandt, David Rockwell Automation

Comment Type E Comment Status X TLV-format

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 W

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read: "The instantaneous voltage in mV observed..."

CI 79 SC 79.3.11 P60 L9 # 7

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

Comment Type T Comment Status D TLV

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 W

PROPOSED ACCEPT.

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 79	SC 79.3.11	P60	L16	# 82
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Brandt, David Rockwell Automation

Comment Type E Comment Status X TLV-format

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 W

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."

CI 79	SC 79.3.11	P60	L28	# 83
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Brandt, David Rockwell Automation

Comment Type E Comment Status X TLV-format

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 W

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #66.

(Editor's note: The standard format in 79.3 for these tables is "Bit | Function | Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)

Reformat Tables 79-22a and 79-22u to columns "Bit | Function | Value/Meaning | Reference" per file zimmerman\_3da\_01\_0525.pdf

Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).

Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).

In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.

In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."

In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."

In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."

In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 79	SC 79.3.11	P 60	L 47	# 84
Brandt, David		Rockwell Automation		
Comment Type	E	Comment Status	X	TLV-format
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 W			
PROPOSED ACCEPT IN PRINCIPLE.				
Accommodated by comment #66.				
(Editor's note: The standard format in 79.3 for these tables is "Bit   Function   Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)				
Reformat Tables 79-22a and 79-22u to columns "Bit   Function   Value/Meaning   Reference" per file zimmerman_3da_01_0525.pdf				
Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).				
Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).				
In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.				
In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."				
In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."				
In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."				
In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."				

CI 79	SC 79.3.11	P61	L4	# 85
Brandt, David		Rockwell Automation		
Comment Type	E	Comment Status	X	TLV-format
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 W			
PROPOSED ACCEPT IN PRINCIPLE.				
Accommodated by comment #66.				
(Editor's note: The standard format in 79.3 for these tables is "Bit   Function   Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)				
Reformat Tables 79-22a and 79-22u to columns "Bit   Function   Value/Meaning   Reference" per file zimmerman_3da_01_0525.pdf				
Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).				
Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).				
In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.				
In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."				
In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."				
In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."				
In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."				

Cl 79	SC 79.3.11	P61	L4	# 86	
Brandt, David		Rockwell Automation			
Comment Type	E	Comment Status	D	TLV	
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	W		
PROPOSED ACCEPT IN PRINCIPLE.					
Change Table 79-22s to 2 octets (bits 15:0, per comment #66 reformat)					

Cl 79	SC 79.3.12	P61	L15	# 65	
Brandt, David		Rockwell Automation			
Comment Type	E	Comment Status	D	TLV-figure	
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	W		
PROPOSED ACCEPT IN PRINCIPLE.					
(Editor's note: The standard format in 79.3 for these tables is "Bit   Function   Value/Meaning". Occasionally there is also a final column labeled "Reference" but this isn't used in the power clauses. It is appropriate for the management in 79-22a.)					
Reformat Tables 79-22a and 79-22u to columns "Bit   Function   Value/Meaning   Reference" per file zimmerman_3da_01_0525.pdf					
Delete "Field width" and "Units" columns from tables 79-22 c, d, e, f, g, h, j, k, l, m, n, (basically tables 79-22c through , excluding 79-22i).					
Replace em-dash in "Bit" column with appropriate bits (e.g., 31:0 for 32 bit field width...).					
In tables, 79-22f, 79-22g, 79-22m, and 79-22n, add "in mW" to the end of the "Value/Meaning" text.					
In Table 79-22o, change "Value/Meaning", inserting "in mW", to read: "Power in mW the MPD needs..."					
In Table 79-22p, change "Value/Meaning" inserting "in seconds" to read: "Duration in seconds of..."					
In Table 79-22q, change "Value/Meaning" inserting "in seconds" to read: "Delay in seconds of..."					
In Table 79-22r, change "Value/Meaning" inserting "in mV" to read:" The instantaneous voltage in mV observed..."					

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 79 SC 79.3.12 P61 L18 # 92

Brandt, David Rockwell Automation

Comment Type E Comment Status D TLV

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 W

PROPOSED REJECT.

802.1ABdh-2021 added support for LLDP Multiframe Protocol Data Units, alleviating the frame length issue.

CI 79 SC 79.3.12 P61 L24 # 89

Brandt, David Rockwell Automation

Comment Type E Comment Status D TLV

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 W

PROPOSED ACCEPT IN PRINCIPLE.

Pending table

CI 79 SC 79.3.12 P61 L24 # 88

Brandt, David Rockwell Automation

Comment Type T Comment Status D TLV

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 W

PROPOSED ACCEPT.

CI 79 SC 79.3.12 P61 L44 # 102

Brandt, David Rockwell Automation

Comment Type T Comment Status X Power-ODVA

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 W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Presentation, discussion, and consideration on block of changes are needed. Consideration of whether there are changes needed beyond those commented as Power-ODVA is important. ACCEPT only as a block with other "Power-ODVA" topic comments and any additional changes discussion brings up).

CI 79 SC 79.5.13 P63 L13 # 93

Brandt, David Rockwell Automation

Comment Type T Comment Status D TLV

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 W

PROPOSED ACCEPT.

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

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**CI 79**      **SC 79.5.14**                      **P63**              **L37**              # 96

Brandt, David                      Rockwell Automation

**Comment Type**    **T**              **Comment Status**    **D**                                      **TLV**

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 similar activity. You must assume 0.

**Proposed Response**              **Response Status**    **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change MPSE6, MPD6, MPD7 from :O to :M

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**CI 79**      **SC 79.5.15**                      **P64**              **L18**              # 97

Brandt, David                      Rockwell Automation

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

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**    **W**

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #96.

Change MPSE6, MPD6, MPD7 from :O to :M

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**CI 79**      **SC 79.5.16**                      **P64**              **L36**              # 94

Brandt, David                      Rockwell Automation

**Comment Type**    **E**              **Comment Status**    **D**                                      **EZ**

Missing reference.

**SuggestedRemedy**

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

**Proposed Response**              **Response Status**    **W**

PROPOSED ACCEPT.

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**CI 79**      **SC 79.5.16**                      **P64**              **L39**              # 95

Brandt, David                      Rockwell Automation

**Comment Type**    **E**              **Comment Status**    **D**                                      **EZ**

Missing reference.

**SuggestedRemedy**

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

**Proposed Response**              **Response Status**    **W**

PROPOSED ACCEPT.

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**CI 148**      **SC 148.4.4.6**                      **P71**              **L52**              # 113

Law, David                      HPE

**Comment Type**    **TR**              **Comment Status**    **D**                                      **EZ**

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**    **W**

PROPOSED ACCEPT.

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

Cl 148 SC 148.4.5.2 P72 L3 # 112

Law, David

HPE

Comment Type E Comment Status D D-PLCA

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 W

PROPOSED ACCEPT.

Cl 148 SC 148.4.5.2 P72 L5 # 39

Jones, Chad

Cisco Systems, Inc.

Comment Type E Comment Status D EZ

"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 W

PROPOSED ACCEPT.

Cl 148 SC 148.4.7.1 P75 L22 # 8

Zimmerman, George

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

Comment Type T Comment Status D D-PLCA

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 W

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Rewrite descriptive text after consideration of D-PLCA comments, which are expected to substantially modify the commented text.)

Cl 148 SC 148.4.7.2 P76 L48 # 50

Baggett, Tim

Microchip

Comment Type T Comment Status D D-PLCA

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 W

PROPOSED REJECT.

Commenter provides insufficient information for a remedy. No change to the draft proposed.

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

Cl 148	SC 148.4.7.3	P78	L25	# 9
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Zimmerman, George      ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse

Comment Type    **E**      Comment Status    **D**      Editorial

Duplicate 'shall's' - 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    **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "a. it shall not return zero..."  
to "a. it does not return zero..."

Change "c. it shall return 255..."  
to "c. it returns 255..."

Cl 148	SC 148.4.7.5	P79	L	# 114
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Law, David      HPE

Comment Type    **E**      Comment Status    **D**      EZ

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

*SuggestedRemedy*

See comment.

*Proposed Response*      Response Status    **W**

PROPOSED ACCEPT.

Cl 148	SC 148.4.7.5	P79	L11	# 46
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Baggett, Tim      Microchip

Comment Type    **TR**      Comment Status    **D**      D-PLCA

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    **W**

PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: Presentation pending.)



## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

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**Cl 148**    **SC 148.4.7.5**    **P79**    **L 24**    # **47**

Baggett, Tim    Microchip

**Comment Type**    **TR**    **Comment Status**    **D**    **D-PLCA**

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 transmitted. 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**    **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Pending presentation with editing details.)

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**Cl 148**    **SC 148.4.7.6**    **P80**    **L 17**    # **48**

Baggett, Tim    Microchip

**Comment Type**    **TR**    **Comment Status**    **X**    **D-PLCA**

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**    **W**

PROPOSED ACCEPT IN PRINCIPLE.

TFTD

(Editor's note: Pending presentation with editing details.)

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

<b>Cl 188</b>	<b>SC 188.1</b>	<b>P83</b>	<b>L14</b>	<b># 51</b>
Zimmerman, George		ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse		
<b>Comment Type</b>	<b>TR</b>	<b>Comment Status</b>	<b>D</b>	<b>Unsatisfied</b>
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 unsatisfied comment with an alternate resolution.				
<b>Suggested Remedy</b>				
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 the 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** **W**  
**PROPOSED ACCEPT IN PRINCIPLE.**

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 the 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 related to multidrop mode operation. The 10BASE-T1M PMD refines the electrical specifications of the 10BASE-T1S PMA (see 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 PMD 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

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 188 SC 188.4.3.1 P95 L40 # 1  
Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse  
Comment Type T Comment Status D Out-of-Scope  
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 1 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 W  
PROPOSED ACCEPT.

CI 188 SC 188.6.5.3 P106 L30 # 5  
Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse  
Comment Type T Comment Status D Unsatisfied  
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 W  
PROPOSED ACCEPT.

CI 188 SC 188.7 P109 L6 # 4  
Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse  
Comment Type T Comment Status D Unsatisfied  
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 register interface 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 W  
PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: Added a space between 'register' and 'interface'.)

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 register interface 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."

CI 188 SC 188.8 P109 L15 # 36  
Maguire, Valerie Copperopolis; affl w/ CME Consulting and Cisco  
Comment Type E Comment Status D EZ  
Trunk Connection Interface is capitalized  
SuggestedRemedy  
Replace, "trunk connection interface (TCI)" with "Trunk Connection Interface (TCI)"  
Proposed Response Response Status W  
PROPOSED ACCEPT.

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 188 SC 188.8.1 P111 L9 # 10  
 Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse  
 Comment Type T Comment Status D Out-of-Scope  
 (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 W  
 PROPOSED ACCEPT.

CI 188 SC 188.8.3 P113 L5 # 11  
 Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse  
 Comment Type E Comment Status D Editorial  
 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 W  
 PROPOSED ACCEPT IN PRINCIPLE.  
 Change "Measurements shall be made by substituting the measurement instrument for the respective edge terminator."  
 to "Measurements are made by substituting the measurement instrument for the respective edge terminator."

CI 188 SC 188.8.3 P113 L5 # 14  
 Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse  
 Comment Type T Comment Status D Mixing Segment  
 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 W  
 PROPOSED ACCEPT.

CI 188 SC 188.8.4 P114 L8 # 33  
 Maguire, Valerie Copperopolis; affl w/ CME Consulting and Cisco  
 Comment Type E Comment Status D Editorial  
 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 W  
 PROPOSED ACCEPT.

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 188 SC 188.8.5 P114 L21 # 2

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

Comment Type T Comment Status D Out-of-Scope

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 W

PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: No change to proposed text - PICS needed.)

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), at each edge termination reference plane with DTEs or representative simulated DTE loads attached.

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) at each edge termination reference plane with DTEs or representative simulated DTE loads attached.

License granted for Editor to work with Commenter to add PICS.

CI 188 SC 188.9.1.1 P115 L38 # 12

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

Comment Type ER Comment Status D TCI

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 W

PROPOSED ACCEPT.

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 188 SC 188.9.1.6 P116 L48 # 58

Paul, Michael Analog Devices

Comment Type T Comment Status D TCI

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 W

PROPOSED ACCEPT IN PRINCIPLE.

Change, "The TCI shall withstand without damage the application of any current up to 2A in either polarity from TC1 to TC2."

to, "The TCI shall withstand without damage the application of any current up to 2A in either polarity from TC1 to TC2. Additionally, the TCI shall maintain compliance with the specifications of 188.9.1.1, 188.9.1.2, 188.9.1.3, 188.9.1.4, and 188.9.1.5 at any current up to 2A in either polarity from TC1 to TC2."

Add new PICS item TC17 (and renumber existing TC17 as TC18),  
Feature = Compliance maintained when powering current is applied | Section = 188.9.1.6 |  
Value/Comment = Compliance with 188.9.1.1, 188.9.1.2, 188.9.1.4, and 188.9.1.5 with up to 2 A in any polarity from TC1 to TC2. | Status: M |

CI 188 SC 188.12.4.6 P125 L18 # 13

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

Comment Type ER Comment Status D Mixing Segment

Missing Value/Comment for PICS MSX4

#### SuggestedRemedy

Insert appropriate text after dealing with TCL/ELTCL comment.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

License granted for Editor to work with Commenter to insert PICS MSX4 and supporting entries.

CI 188 SC 188.12.4.6 P125 L21 # 37

Maguire, Valerie Copperopolis; affl w/ CME Consulting and Cisco

Comment Type E Comment Status D TCI

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 W

PROPOSED ACCEPT IN PRINCIPLE.

Consider with comment #14.

(Editor's note: Align new PICS Value/Comment with resolution to comment #14 and insert.)

CI 189 SC 189.1.2 P128 L45 # 15

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

Comment Type E Comment Status D Editorial

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 W

PROPOSED ACCEPT IN PRINCIPLE.

Replace, "When power and data are carried over the same pair, the MPI and the TCI are the same connection to the medium and the MPI must also meet the requirements for the TCI needed for the PHY (e.g., see 188.9)."

with, "When power and data are carried over the same pair, the MPI and the TCI are the same connection to the medium and the requirements for the PHY's TCI also apply to the MP (e.g., see 188.9)."

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

**Cl 189**    **SC 189.1.2**    **P128**    **L47**    # **98**  
Brandt, David    Rockwell Automation  
**Comment Type E**    **Comment Status D**    **Management**  
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 W**  
PROPOSED ACCEPT IN PRINCIPLE.  
  
(Editor's note: Reference 79.3.12 instead of just 12.)  
  
Add text to end of paragraph: "MPoE power entities may be managed by associated DTEs via LLDP TLVs (79.3.10 through 79.3.12) or layer management (30.17), regardless of whether the data and power are on the same or separate pairs."

**Cl 189**    **SC 189.3**    **P130**    **L33**    # **59**  
Paul, Michael    Analog Devices  
**Comment Type T**    **Comment Status X**    **Power-Gen**  
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 W**  
PROPOSED ACCEPT IN PRINCIPLE.  
  
(Editor's note: Presentation requested on this and related Power-Gen comments.)

**Cl 189**    **SC 189.3**    **P130**    **L36**    # **52**  
Paul, Michael    Analog Devices  
**Comment Type T**    **Comment Status D**    **Power-Gen**  
ppse type1 min for 4W devices  
**SuggestedRemedy**  
Change type 1 value to 90W  
**Proposed Response**    **Response Status W**  
PROPOSED ACCEPT IN PRINCIPLE.  
  
(Editor's note: Presentation requested on this and related Power-Gen comments.)

**Cl 189**    **SC 189.3**    **P130**    **L37**    # **53**  
Paul, Michael    Analog Devices  
**Comment Type T**    **Comment Status X**    **Power-Gen**  
ppmd\_1u for type 1 devices = 4W  
**SuggestedRemedy**  
Change type 1 value to 4.4W  
**Proposed Response**    **Response Status W**  
PROPOSED ACCEPT IN PRINCIPLE.  
  
(Editor's note: Presentation requested on this and related Power-Gen comments.)

**Cl 189**    **SC 189.4.4.2**    **P132**    **L45**    # **16**  
Zimmerman, George    ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse  
**Comment Type E**    **Comment Status D**    **Power-SD**  
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 W**  
PROPOSED ACCEPT.

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 189 SC 189.4.5 P138 L32 # 18

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

Comment Type T Comment Status D Power-SD

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 W

PROPOSED ACCEPT.

CI 189 SC 189.4.5. P138 L18 # 17

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

Comment Type T Comment Status D Power-SD

The text reads like the MPSE might randomly apply V{Discovery} in these states, and that timing somehow relates to entering 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 W

PROPOSED ACCEPT IN PRINCIPLE.

Replace lines 18 through 27 on page 138 (from "The MPSE supplies..." up to and including list item f))

With, "During the DISCOVERY\_LOW\_PRESENT state, MPI voltage transitions between V{Mark} and V{Discovery}. Upon entering the V{Discovery} voltage range, the MPSE waits T{Discover\_measure} before transitioning to the DISCOVERY\_LOW state. This allows for internal voltages in the MPDs to settle. The MPSE supplies VDiscovery voltage to the TCI in the DISCOVERY\_LOW state through the expiration of the T{Discovery\_low} timer."

\*Items in {} are subscript

CI 189 SC 189.4.6 P139 L33 # 19

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

Comment Type E Comment Status D Out-of-Scope

(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 W

PROPOSED ACCEPT.



## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 189 SC 189.4.6 P140 L15 # 54  
Paul, Michael Analog Devices  
Comment Type T Comment Status X Power-Gen  
Pmpse needs to stay consistent with changes we make in section 189.3  
SuggestedRemedy  
90W, min  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
(Editor's note: Presentation requested on this and related Power-Gen comments.)

CI 189 SC 189.4.6 P140 L19 # 55  
Paul, Michael Analog Devices  
Comment Type T Comment Status X Power-Gen  
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 to be split into 2 lines so that type 0 and type 1 can have different limits  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
(Editor's note: Presentation requested on this and related Power-Gen comments.)

CI 189 SC 189.5.5 P149 L40 # 57  
Paul, Michael Analog Devices  
Comment Type T Comment Status X Power-Gen  
Update input power for type 1 consistent with decisions made in section 189.3  
SuggestedRemedy  
4.4W min, 70.4max  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
(Editor's note: Presentation requested on this and related Power-Gen comments.)

CI 189 SC 189.5.5 P149 L40 # 56  
Paul, Michael Analog Devices  
Comment Type T Comment Status X Power-Gen  
Update unit power for type 1 consistent with decisions made in section 189.3  
SuggestedRemedy  
4.4W  
Proposed Response Response Status W  
PROPOSED ACCEPT IN PRINCIPLE.  
(Editor's note: Presentation requested on this and related Power-Gen comments.)

CI 189 SC 189.5.5.5 P152 L28 # 20  
Zimmerman, George ADI,APLgp,Cisco,Marvell,OnSemi,Sony,SenTekse  
Comment Type T Comment Status D Power-Gen  
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 W  
PROPOSED ACCEPT IN PRINCIPLE.  
TFTD  
(Editor's note: A comma is needed after C{Port} in the Suggested Remedy.)

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 189 SC 189.6.1 P153 L10 # 115

Schreiner, Stephan Rosenberger Hochfrequenztechnik GmbH & Co. KG

Comment Type TR Comment Status D TCI

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 W

PROPOSED REJECT.

TFTD

(Editor's note: Presentation requested. A proposal to resolve is needed, rather than a note to suggest future work. Alternatively, refinements to align RL can be worked on for initial SA ballot.)

CI 189 SC 189.6.2.1.1 P154 L9 # 40

Jones, Chad Cisco Systems, Inc.

Comment Type E Comment Status D Isolation

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 MPDs on the device. Note this includes MPDs 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 MPDs on the device, including MPDs associated with either additional MPDs or any MPSE."

Proposed Response Response Status W

PROPOSED ACCEPT.

CI 189 SC 189.6.2.1.1 P154 L18 # 23

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

Comment Type E Comment Status D Isolation

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 switch both conductors." from M155 L6 (2nd paragraph of 189.6.2.2.1) to the new section.

Change cross reference in 2nd paragraph 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 W

PROPOSED ACCEPT.

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: Clause, Subclause, page, line

CI 189

SC 189.6.2.1.1

Page 34 of 38

4/24/2025 8:32:47 AM

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 189 SC 189.6.2.2 P154 L22 # 41

Jones, Chad Cisco Systems, Inc.

Comment Type E Comment Status D Isolation

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 equipment."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

(Editor's note: Delete 'associated' - interconnected equipment, by default, is associated.)

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

CI 189 SC 189.6.2.2 P154 L23 # 21

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

Comment Type E Comment Status D Editorial

missing period at the end of the sentence

#### SuggestedRemedy

add a period after "continuous ground" at P154 L23

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Consider after comment #41 is resolved.

CI 189 SC 189.6.2.2 P154 L26 # 45

Jones, Chad Cisco Systems, Inc.

Comment Type T Comment Status D Isolation

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 W

PROPOSED ACCEPT IN PRINCIPLE.

Add Note to P154, L38 under figure:

"NOTE - 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 to the end of the first sentence on p155, line 16:

(i.e, neither MPI conductor will have an impedance less than 1 Mohm to ground provided through the MPD)" where "ohm" is the ohms symbol

CI 189 SC 189.6.2.2 P154 L43 # 22

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

Comment Type T Comment Status X Editorial

"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 W

PROPOSED ACCEPT IN PRINCIPLE.

Consider after comment #43 is resolved.

(Editor's note: "grounded MPSEs" should be "Grounded MPSEs" in Suggested Remedy.)

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: Clause, Subclause, page, line

CI 189

SC 189.6.2.2

Page 35 of 38

4/24/2025 8:32:47 AM

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

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

Jones, Chad    Cisco Systems, Inc.

*Comment Type*    **E**                      *Comment Status*    **D**    *EZ*

"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*    **W**

PROPOSED ACCEPT.

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

Jones, Chad    Cisco Systems, Inc.

*Comment Type*    **E**                      *Comment Status*    **D**    *Out-of-Scope*

"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*    **W**

PROPOSED ACCEPT IN PRINCIPLE.

Accommodated by comment #25.

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

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*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*    **D**    *Out-of-Scope*

(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*    **W**

PROPOSED ACCEPT.

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*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*    **D**    *Isolation*

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*    **W**

PROPOSED ACCEPT.

## IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

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**Cl 189**      **SC 189.7.8**                      **P157**              **L26**              # **44**

Jones, Chad                      Cisco Systems, Inc.

**Comment Type**    **E**                      **Comment Status**    **D**                      **Isolation**

"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**    **W**

PROPOSED ACCEPT IN PRINCIPLE.

Consider with comment #26.

(Editor's note: The is an issue with "MPDs that are only compatible with grounded MPSEs". If someone makes an MPD compatible with both grounded and ungrounded MPSEs, it would not require a label. Nevertheless it reads with difficulty. Perhaps a rewording would improve.)

Change, "Grounded MPSEs and MPDs that are only compatible with grounded MPSEs as permitted in 189.6.2.2.1 shall clearly indicate..."

to, "MPDs that are only compatible with grounded MPSEs, as permitted in 189.6.2.2.1, and grounded MPSEs shall clearly indicate..."

Adjust PICS L1 feature to align with the new wording, "Labeling for MPDs that are only compatible with grounded MPSEs and for Grounded MPSEs"

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**Cl 189**      **SC 189.7.8**                      **P157**              **L26**              # **26**

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

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

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**    **W**

PROPOSED ACCEPT IN PRINCIPLE.

Consider with comment #44.

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**Cl 189**      **SC 189.8.4.4**                      **P161**              **L35**              # **24**

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

**Comment Type**    **T**                      **Comment Status**    **D**                      **Isolation**

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**    **W**

PROPOSED ACCEPT.

IEEE P802.3da D2.2 10 Mbps Multidrop Enhancements

CI 189

SC 189.8.4.6

P162

L 36

# 28

Zimmerman, George

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

Comment Type E

Comment Status D

Isolation

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 W

PROPOSED ACCEPT.

CI 189

SC 189.8.4.6

P162

L 39

# 29

Zimmerman, George

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

Comment Type E

Comment Status D

EZ

Missing subclause

SuggestedRemedy

Add 189.7.8 to Subclause

Proposed Response

Response Status W

PROPOSED ACCEPT.