Cl **FM** *SC* **FM** *P* **1** *L* **2** # R1-1

Ran, Adee Cisco Systems, Inc.

Comment Type **G** *Comment Status* **D**

P802.3 was approved as a revision standard by the IEEE SA Standards Board on 13 May 2022.

SuggestedRemedy

Change "IEEE Std 802.3™-202x" to "IEEE Std 802.3™-2022" in the page header.
Apply across the document where appropriate, with editorial license.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT.

Cl **167** *SC* **167.10.3.3** *P* **69** *L* **7** # R1-3

Ran, Adee Cisco Systems, Inc.

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

In the base document, the names of IEC interface specifications are formatted in italics (see 95.11.3.2, 121.11.3.2, 124.11.3.2, 139.10.3.3, 150.10.3.2), making them distinct from the surrounding text.

SuggestedRemedy

Format the following instances in italic font:
"interface 7-1-3: MPO adapter interface - opposed keyway configuration"
"interface 7-1-10: MPO active device receptacle, flat interface"
"interface 7-1-4: MPO female plug connector, flat interface for 2 to 12 fibres"
"interface 7-1-9: MPO active device receptacle, angled interface"
"interface 7-1-1: MPO female plug connector, down-angled interface for 2 to 12 fibres"
And any others if necessary.

Proposed Response *Response Status* **Z**

PROPOSED REJECT.

This comment was WITHDRAWN by the commenter.

Cl **167** *SC* **167.10.3.3** *P* **69** *L* **19** # R1-4

Ran, Adee Cisco Systems, Inc.

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

It should be made clear that there are two alternative interface specifications for angled connectors as well.

SuggestedRemedy

Change "shall meet the dimensional specifications for" to "shall meet the dimensional specifications for either".
Delete the comma before "or".

Proposed Response *Response Status* **W**

PROPOSED REJECT.

The Task Force considered listing flat and angled interfaces as alternatives, but serveral participants expressed concern that this would cause confusion.

Cl **167** *SC* **167.11.3** *P* **72** *L* **20** # R1-5

Ran, Adee Cisco Systems, Inc.

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

The choice of angled connector type in 167.10.3.3 is a differentiator that is worth declaring in the "major options" table.

SuggestedRemedy

Add a row in the major capabilities/options table: item name "*AFI", feature "Angled fiber interface", subclause 167.10.3.3, value/comment empty, status O, support "yes/no".

Change PICS items OC8 through OC15 to use the appropriate conditions:
OC8, OC10, OC12, OC14: !AFI
OC9, OC11, OC13, OC15: AFI

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **167** *SC* **167.11.4.6** *P* **76** *L* **29** # R1-6

Ran, Adee Cisco Systems, Inc.

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

In OC8 through OC15, "Feature" lists all the possible PMDs (including 100GBASE-VR1 and 100GBASE-SR1, which are not mentioned in the reference 167.10.3.3).

If an item applies to all PMD types then it should not be conditional on PMD type.

Also, the type of connector should be part of the "status" conditions (with a major option, subject of another comment) instead of the "feature" text.

SuggestedRemedy

Delete "100GBASE-VR1, 100GBASE-SR1, 200GBASE-VR2, 200GBASE-SR2, 400GBASE-VR4, and 400GBASE-SR4," and the connector type from the "feature" text in OC8 through OC15. Effectively making "feature" as follows: MDI mating (8-9), MDI dimensions (10-11), Cabling connectors (12-13), MDI requirements (14-15).

Delete "VR1, SR1, VR2, SR2, VR4, or SR4" from the "Status" text in these items. make the conditions for each item either the "angled connector" major option, or its negative.

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **167** *SC* **167.10.3.2** *P* **69** *L* **1** # R1-7

Ran, Adee Cisco Systems, Inc.

Comment Type **T** *Comment Status* **A**

"If the MDI uses a multifiber connector it follows the requirements of 167.10.3.3."

But 167.10.3.3 is titled "MDI requirements for 200GBASE-VR2, 400GBASE-VR4, 200GBASE-SR2, and 400GBASE-SR4" so it excludes 100GBASE-VR1 and 100GBASE-SR1.

This is confusing. I assume the intent is to enable breakout of a multifiber connector to multiple 100GBASE-VR1/100GBASE-SR1 links? and in that case, the requirements in 167.10.3.3 should replace those of 167.10.3.2?

SuggestedRemedy

Change the quoted sentence to the following (on a separate paragraph):

"As an alternative, a multifiber connector can serve as the MDIs for several 100GBASE-VR1 or 100GBASE-SR1 PMDs. When a multifiber connector is used, the requirements of 167.10.3.3 apply instead of the requirements above".

Change the title of 167.10.3.3 from "MDI requirements for 200GBASE-VR2, 400GBASE-VR4, 200GBASE-SR2, and 400GBASE-SR4" to "MDI requirements for multifiber connectors".

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the text in 167.10.3.2 from
"For 100GBASE-VR1 and 100GBASE-SR1, when the MDI is a connector plug and receptacle connection..."

to

"For 100GBASE-VR1 and 100GBASE-SR1, when the MDI is a duplex optical connector plug and receptacle connection…"

Cl **167** *SC* **167.10.3.2** *P* **68** *L* **4** # R1-8

Ran, Adee

Cisco Systems, Inc.

Comment Type **E** *Comment Status* **A**

This page is mostly empty.

SuggestedRemedy

Delete the page break.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Delete the page break on page 68 and page 10, with editorial license.

Cl **167** *SC* **167.10.3.3** *P* **69** *L* **7** # R1-9

Ran, Adee

Cisco Systems, Inc.

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

It is not immediately clear that this subclause defines two alternatives for fiber interface connection.

In the second paragraph there seems to be an unconditional normative requirement: "For 200GBASE-VR2, 400GBASE-VR4, 200GBASE-SR2, and 400GBASE-SR4 with a flat fiber interface the MDI shall meet the dimensional specifications for interface 7-1-3: MPO adapter interface - opposed keyway configuration, or interface 7-1-10: MPO active device receptacle, flat interface, as defined in IEC 61754-7-1". It isn't stated that a different fiber interface connection exists as an option.

The third paragraph explicitly discusses an alternative, which, if used, does not meet the normative requirement of the second paragraph.

These should be stated as alternatives without contradiction in the requirements.

SuggestedRemedy

Change the first paragraph from
"The MDI shall optically mate with the compatible plug on the optical fiber cabling"
to
"The MDI shall optically mate with a compatible plug on the optical fiber cabling, using either a flat fiber interface or an angled fiber interface".

In the second paragraph, change
"For 200GBASE-VR2, 400GBASE-VR4, 200GBASE-SR2, and 400GBASE-SR4 with a flat fiber interface the MDI adapter or receptacle shall meet the dimensional specifications for interface 7-1-3: MPO adapter interface - opposed keyway configuration, or interface 7-1-10: MPO active device receptacle, flat interface, as defined in IEC 61754-7-1"
to "For connection to flat fiber interfaces, the MDI adapter or receptacle shall meet the dimensional specifications for either interface 7-1-3: MPO adapter interface - opposed keyway configuration, or interface 7-1-10: MPO active device receptacle, flat interface, as defined in IEC 61754-7-1"".

In the third paragraph (after the NOTE):
Delete "As an alternative, an optional angled fiber interface may be used for 200GBASE-VR2, 400GBASE-VR4, 200GBASE-SR2, and 400GBASE-SR4"
and change "If the angled fiber interface is used" to "For connection to the alternative angled fiber interfaces".

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **167** *SC* **167.10.3.3** *P* **69** *L* **24** # R1-10

Ran, Adee — Cisco Systems, Inc.

Comment Type **G** *Comment Status* **D**

I cannot find IEC 63267-1 in the normative references (1.3) in the base standard. If this is a new document, as suggested in the footnote, it should be added to subclause 1.3.

I wonder if it is acceptable to have a pre-release version of a document as a normative reference in a published IEEE standard/amendment. Is there contingency between publication of that document and approval of 802.3db? Even if there is none, the sentence "final published version of this specification will be available in 2023" is forward-looking, and will (hopefully) become obsolete soon after the publication of 802.3db.

SuggestedRemedy

Delete the footnote, to prevent it from becoming obsolete.
Add IEC 63267-1 to the normative references in 1.3, with version and status note as considered appropriate.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Add IEC 63267-1 to the normative references in 1.3.

Task Force participants verified that it is acceptable to have a pre-release version of a document as a normative reference in a published IEEE standard/amendment.

Change footnote to:
"IEC 63267-1 with performance grade 1m specification is available as a Pre-Release Version (PRV) Final Draft International Standard (FDIS); final published version of this specification is expected to be available in 2023."

Cl **167** *SC* **167.8.6** *P* **60** *L* **33** # R1-11

Dawe, Piers J G — NVIDIA

Comment Type **TR** *Comment Status* **R**

Unsatisfied D3.0 comment I-36 points out that the draft spec does not adequately screen for bad transmitters.
The high TDECQ limit and lack of a protective K limit allows a transmitter with a BER error floor in the T(D)ECQ receiver as bad as 1e-4 (before the small additional penalties that aren't included in TDECQ). This is inadequate for a robust link. While a real receiver could improve on this, it is not required to, and even if it does, an error floor problem remains.

In the proposed remedy, a follow-up calculation from the T(D)ECQ measurement checks that a reference receiver with 1 dB better sensitivity than nominal will have a BER better than 1.5e-4, and the error floor is below 5.6e-5. These are still very weak numbers, and the additional penalties will make things a little worse when they occur. For reference, the target BER is 2.4e-4, the target SER of 4.8e-4, and -4.4 dBm -1 dB /6 /Qt = 0.0141 mW

It is very easy to pass this spec by avoiding the combination of minimum OMA-T(D)ECQ and very high K. SR TECQ is expected to do this automatically.

SuggestedRemedy

Require that for the optimized T(D)ECQ tap weights, with R (the noise that could be added by a receiver) set at 0.0141 mW RMS, the larger of SER_L and SER_R is lower than 3e-4. Apply to both TDECQ and TECQ, to both VR and SR.

Response *Response Status* **U**

REJECT.

50G and 100G PAM4 optical links have defined a link penalty, TDECQ, to measure the ability to make an error free link (pre-FEC BER < 2.4E-4). This comment requests adding another link test (OMA - TDECQ) for the situation where receiver sensitivity is better than worst case.

The problem addressed by the comment has not been demonstrated. There was no support for the proposed remedy.

Adding an additional link test requires (a) supporting experimental measurements, and (b) a more extensive investigation.

Cl **FM** *SC* **FM** *P* **7** *L* **25** # R1-12

Dawe, Piers J G NVIDIA

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

Footnote 3 for IEEE Explore is applied to the wrong thing, and the footnote with the URL for "contact IEEE" is missing. Presumably it should be the same as footnote 2 on the previous page, or the text could be reworded, e.g. to "contact IEEE using the Contact Us form".

SuggestedRemedy

Refer to staff for a fix.

Proposed Response *Response Status* **W**

PROPOSED ACCEPT IN PRINCIPLE.

Forward this information to appropriate IEEE SA staff so they can correct the footnotes.

Cl **167** *SC* **167.11.3** *P* **72** *L* **20** # R1-13

Ran, Adee Cisco Systems, Inc.

Comment Type **E** *Comment Status* **A** *Late (Non-Ballot)*

The choice of angled connector type in 167.10.3.3 is a differentiator that is worth declaring in the "major options" table.

In PICS items OC8 through OC15, the status should be conditional on whether a straight or angled fiber interface is used.

Also in these items, "Feature" lists all the possible PMDs (including 100GBASE-VR1 and 100GBASE-SR1, which are not mentioned in the reference 167.10.3.3). If an item applies to all PMD types, it should not be conditional on PMD type.

SuggestedRemedy

Add a row in the major capabilities/options table: item name "*AFI", feature "Angled fiber interface", subclause 167.10.3.3, value/comment empty, status O, support "yes/no".

Change PICS items OC8 through OC15 to use the appropriate conditions in the “status” field (instead of PMD types):
OC8, OC10, OC12, OC14: !AFI
OC9, OC11, OC13, OC15: AFI

For these PICS items, Delete "100GBASE-VR1, 100GBASE-SR1, 200GBASE-VR2, 200GBASE-SR2, 400GBASE-VR4, and 400GBASE-SR4," and the connector type from the "feature" text. The "feature" text should be as follows: MDI mating (8-9), MDI dimensions (10-11), Cabling connectors (12-13), MDI requirements (14-15).

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
Add a row in the major capabilities/options table: item name "*AFI", feature "Angled fiber interface [multifiber connector only]", subclause 167.10.3.3, value/comment empty, status O, support "yes/no".

Change PICS items OC8 through OC15 to use the appropriate conditions in the “status” field (instead of PMD types):
OC8, OC10, OC12, OC14: !AFI
OC9, OC11, OC13, OC15: AFI

For these PICS items, Delete "100GBASE-VR1, 100GBASE-SR1, 200GBASE-VR2, 200GBASE-SR2, 400GBASE-VR4, and 400GBASE-SR4," from the "feature" text. The "feature" text should be as follows: MDI mating, with multifiber connector (8-9), MDI dimensions, with multifiber connector (10-11), Cabling connectors, with multifiber connector (12-13), MDI requirements, with multifiber connector (14-15).