

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

Cl 25 SC 25.4.5.1 P 231 L 6 # 1
Barrass, Hugh Cisco

Comment Type T Comment Status A

It is not made clear that "L" in equation (25-1) is the OCL under worst case conditions.

SuggestedRemedy

Change:

L is the open-circuit inductance of the Ethernet isolation transformer

to:

L is the worst case open-circuit inductance of the Ethernet isolation transformer for all operating conditions and bias currents as appropriate.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change:

L is the open-circuit inductance of the Ethernet isolation transformer

to:

L is the open-circuit inductance of the Ethernet isolation transformer for all operating conditions

Cl 30 SC 30.3.5.1 P 403 L 22 # 2
Barrass, Hugh Cisco

Comment Type T Comment Status A

A new attribute is required to list the multicast LLIDs that are recognized by the ONU.

SuggestedRemedy

Add a new subclause:

aMPCPRcognizedMulticastIDs

ATTRIBUTE

APPROPRIATE SYNTAX:

A SEQUENCE of INTEGERS

BEHAVIOUR DEFINED AS:

An array of read-only values that identify the multicast Logical Link identities (LLID) associated with the MAC port as specified in 65.1.3.2.2 or 76.2.6.1.3.2, as appropriate.; These values are only defined for an ONU. The contents of this attribute are undefined for an OLT.;

Response Response Status C

ACCEPT.

Cl 30 SC 30.3.1.1.38 P 395 L 1 # 3
Barrass, Hugh Cisco

Comment Type T Comment Status R

aTransmitLPIMicroseconds should not be in 30.3.1.1 (MAC entity attributes) but should be in 30.3.2.1 (PHY entity attributes).

SuggestedRemedy

Move 30.3.1.1.38 to 30.3.2.1.8

and make corresponding change in Table 30-1b

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

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CI 30 SC 30.3.1.1.39 P 395 L 14 # 4
Barrass, Hugh Cisco

Comment Type T Comment Status R

aReceiveLPIMicroseconds should not be in 30.3.1.1 (MAC entity attributes) but should be in 30.3.2.1 (PHY entity attributes).

SuggestedRemedy

Move 30.3.1.1.39 to 30.3.2.1.9

and make corresponding change in Table 30-1b

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 30 SC 30.3.1.1.40 P 395 L 26 # 5
Barrass, Hugh Cisco

Comment Type T Comment Status R

aTransmitLPITransitions should not be in 30.3.1.1 (MAC entity attributes) but should be in 30.3.2.1 (PHY entity attributes).

SuggestedRemedy

Move 30.3.1.1.40 to 30.3.2.1.10

and make corresponding change in Table 30-1b

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 30 SC 30.3.1.1.41 P 395 L 41 # 6
Barrass, Hugh Cisco

Comment Type T Comment Status R

aReceiveLPITransitions should not be in 30.3.1.1 (MAC entity attributes) but should be in 30.3.2.1 (PHY entity attributes).

SuggestedRemedy

Move 30.3.1.1.41 to 30.3.2.1.11

and make corresponding change in Table 30-1b

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 30 SC 30.3.1.1.42 P 396 L 1 # 7
Barrass, Hugh Cisco

Comment Type T Comment Status R

aLDFastRetrainCount should not be in 30.3.1.1 (MAC entity attributes) but should be in 30.5.1.1 (MAU entity attributes).

SuggestedRemedy

Move 30.3.1.1.42 to 30.5.1.1.24

and make corresponding change in Table 30-1b / 30-1e

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

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Cl 30 SC 30.3.1.1.43 P 396 L 12 # 8
Barrass, Hugh Cisco

Comment Type T Comment Status R

aLPFastRetrainCount should not be in 30.3.1.1 (MAC entity attributes) but should be in 30.5.1.1 (MAU entity attributes).

SuggestedRemedy

Move 30.3.1.1.42 to 30.5.1.1.24

and make corresponding change in Table 30-1b / 30-1e

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

Cl 30 SC 30.5.1.1.21 P 448 L 38 # 9
Barrass, Hugh Cisco

Comment Type T Comment Status A

There are two paragraphs numbered 30.5.1.1.21.

SuggestedRemedy

Change 30.5.1.1.21 aEEESupportList

to 30.5.1.1.23 aEEESupportList

Response Response Status C

ACCEPT.

Cl 64 SC 64.3.2.3 P 305 L 18 # 10
Barrass, Hugh Cisco

Comment Type T Comment Status A

This section needs to be updated to reflect the changes made in rev 2.0 to add multicast LLID.

SuggestedRemedy

Change first 3 paragraphs of 64.3.2.3 to:

In the downstream direction, the PON is a broadcast medium. In order to make use of this capability for forwarding broadcast frames from the OLT to multiple recipients without multiple duplication for each ONU, the SCB and multicast LLID support is introduced.

The OLT has at least one MAC associated with every ONU. In addition one more MAC at the OLT is marked as the SCB MAC and another MAC at the OLT is marked as a multicast MAC for each multicast LLID defined. The SCB MAC and the multicast MACs handle all downstream broadcast and multicast traffic, but are never used in the upstream direction for client traffic (except the the SCB MAC is used for client registration). Optional higher layers may be implemented to perform selective broadcast and multicast of frames. Such layers may require additional MACs (multicast MACs) to be instantiated in the OLT for some or all ONUs increasing the total number of MACs beyond the number of ONUs + 1.

When connecting the SCB MAC or a multicast MAC to an IEEE 802.1D bridge port it is possible that loops may be formed due to the broadcast nature. Thus it is recommended that this MAC not be connected to an IEEE 802.1D bridge port.

Response Response Status C

ACCEPT IN PRINCIPLE.

In the downstream direction, the PON is a broadcast medium. In order to make use of this capability for forwarding broadcast frames from the OLT to multiple recipients without multiple duplication for each ONU, the SCB and multicast LLID support is introduced.

The OLT has at least one MAC associated with every ONU. In addition one more MAC at the OLT is marked as the SCB MAC. Moreover, the OLT has a multicast MAC associated with each defined multicast LLID. The SCB MAC handles all downstream broadcast traffic, but is never used in the upstream direction for client traffic, except for client registration. Similarly, the multicast MACs handle downstream multicast traffic, but are never used in the upstream direction for client traffic. Optional higher layers may be implemented to perform selective broadcast and multicast of frames. Such layers may require additional MACs (multicast MACs) to be instantiated in the OLT for some or all ONUs increasing the total number of MACs beyond the number of ONUs + 1.

When connecting the SCB MAC or a multicast MAC to an IEEE 802.1D bridge port it is possible that loops may be formed due to the broadcast or multicast nature of the associated LLIDs. Thus it is recommended that this MAC not be connected to an IEEE

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802.1D bridge port.

Cl **77** *SC* **77.3.2.3** *P* **678** *L* **15** # **11**

Barrass, Hugh Cisco

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

This section needs to be updated to reflect the changes made in rev 2.0 to add multicast LLID.

SuggestedRemedy

Change first 3 paragraphs of 77.3.2.3 to:

In the downstream direction, the PON is a broadcast medium. In order to make use of this capability for forwarding broadcast frames from the OLT to multiple recipients without multiple duplication for each ONU, the SCB and multicast LLID support is introduced.

The OLT has at least one MAC associated with every ONU. In addition one more MAC at the OLT is marked as the SCB MAC and another MAC at the OLT is marked as a multicast MAC for each multicast LLID defined. The SCB MAC and the multicast MACs handle all downstream broadcast and multicast traffic, but are never used in the upstream direction for client traffic (except the the SCB MAC is used for client registration). Optional higher layers may be implemented to perform selective broadcast and multicast of frames. Such layers may require additional MACs (multicast MACs) to be instantiated in the OLT for some or all ONUs increasing the total number of MACs beyond the number of ONUs + 1.

When connecting the SCB MAC or a multicast MAC to an IEEE 802.1D bridge port it is possible that loops may be formed due to the broadcast nature. Thus it is recommended that this MAC not be connected to an IEEE 802.1D bridge port.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

In the downstream direction, the PON is a broadcast medium. In order to make use of this capability for forwarding broadcast frames from the OLT to multiple recipients without multiple duplication for each ONU, the SCB and multicast LLID support is introduced.

The OLT has at least one MAC associated with every ONU. In addition one more MAC at the OLT is marked as the SCB MAC. Moreover, the OLT has a multicast MAC associated with each defined multicast LLID. The SCB MAC handles all downstream broadcast traffic, but is never used in the upstream direction for client traffic, except for client registration. Similarly, the multicast MACs handle downstream multicast traffic, but are never used in the upstream direction for client traffic. Optional higher layers may be implemented to perform selective broadcast and multicast of frames. Such layers may require additional MACs (multicast MACs) to be instantiated in the OLT for some or all ONUs increasing the total number of MACs beyond the number of ONUs + 1.

When connecting the SCB MAC or a multicast MAC to an IEEE 802.1D bridge port it is possible that loops may be formed due to the broadcast or multicast nature of the associated LLIDs. Thus it is recommended that this MAC not be connected to an IEEE

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802.1D bridge port.

Cl 01 SC 1.3 P 66 L 17 # 12
 Maguire, Valerie Siemon

Comment Type T Comment Status R

During draft 2.0 comment resolution, it was agreed to delete the TIA OM3 and OM4 references and replace them with IEC 60793-2-10 Type A1a.2 and IEC 60793-2-10 Type A1a.3 references. Since many readers are familiar with the TIA references already, a friendlier solution would be to keep both references. Comments to incorporate the correct references into the body of the document have been submitted.

SuggestedRemedy

Add the following two Standards into the Normative References clause:

TIA-492AAAC-2009, Detail Specification for 850-nm Laser-Optimized, 50-um core diameter/125-um cladding diameter class Ia graded-index multimode optical fibers.

TIA-492AAAD-2009, Detail Specification for 850-nm Laser-Optimized, 50-um core diameter/125-um cladding diameter class Ia graded-index multimode optical fibers suitable for manufacturing OM4 cabled optical fiber.

Response Response Status C

REJECT.

This is a restatement of the issues discussed in comment #45 on D2.0. The resolution was to follow the style that once an international standard was adopted, the national one would be removed.

The commenter is invited to re-submit the comment with a proposal as to how to modify the note at the end of subclause 1.3 to allow including prior national standards when international standards become available

Cl 01 SC 1.4.18 P 67 L 44 # 13
 Maguire, Valerie Siemon

Comment Type T Comment Status R

During draft 2.0 comment resolution, we set a precedent to replace "UTP" with "twisted-pair cabling". This precedent should carry over to this clause.

SuggestedRemedy

Replace,

"over four pairs of Category 3, 4, and 5 unshielded twisted-pair (UTP) wire."

with,

"over four pairs of Category 3, 4, and 5 twisted-pair cabling."

Response Response Status C

REJECT.

No precedent was taken or set. A number of changes were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

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Cl 01 SC 1.4.19 P 67 L 48 # 14
 Maguire, Valerie Siemon

Comment Type T Comment Status R

During draft 2.0 comment resolution, we set a precedent to replace "UTP" with "twisted-pair cabling". This precedent should carry over to this clause.

SuggestedRemedy

Replace,

"over two pairs of Category 5 unshielded twisted-pair (UTP) or shielded twisted-pair (STP) wire."

with,

"over two pairs of Category 5 twisted-pair cabling."

Response Response Status C

REJECT.

No precedent was taken or set. A number of changes were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

Cl 01 SC 1.4.118 P 74 L 12 # 15
 Maguire, Valerie Siemon

Comment Type T Comment Status R

Harmonize with other areas of the Standard (e.g. clause 40.1), which support both TIA and ISO cabling references.

Delete 120 ohm reference. The impedance of category 3 cables is 100 ohms.

SuggestedRemedy

Replace,

"1.4.118 Category 3 balanced cabling: Balanced 100 W and 120 W cables and associated connecting hardware whose transmission characteristics are specified up to 16 MHz (i.e., performance meets the requirements of a Class C link as per ISO/IEC 11801:1995). Commonly used by IEEE 802.3 10BASE-T installations. In addition to the requirements outlined in ISO/IEC 11801:1995, IEEE 802.3 Clause 14, Clause 23, and Clause 32 specify additional requirements for cabling when used with 10BASE-T, 100BASE-TX, and 1000BASE-T."

with,

"1.4.118 Category 3 balanced cabling: Balanced 100 W cables and associated connecting hardware whose transmission characteristics are specified up to 16 MHz (i.e., performance meets the requirements of a Class C link as per ISO/IEC 11801:1995 and category 3 as per ANSI/EIA/TIA-568-A-1995). Commonly used by IEEE 802.3 10BASE-T installations. In addition to the requirements outlined in ISO/IEC 11801:1995 and ANSI/EIA/TIA-568-A-1995, IEEE 802.3 Clause 14, Clause 23, and Clause 32 specify additional requirements for cabling when used with 10BASE-T, 100BASE-TX, and 1000BASE-T."

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

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Cl 01 SC 1.3 P 66 L 18 # 16

Maguire, Valerie

Siemon

Comment Type E Comment Status A

Date should have been deleted when Normative Reference was updated.

SuggestedRemedy

Replace,

"TIA TSB-155-A-2010-Guidelines for the Assessment and Mitigation of Installed Category 6 Cabling to Support 10GBASE-T, March 2007"

with,

"TIA TSB-155-A-2010-Guidelines for the Assessment and Mitigation of Installed Category 6 Cabling to Support 10GBASE-T"

Response Response Status C

ACCEPT.

Cl 01 SC 1.14.119 P 74 L 17 # 17

Maguire, Valerie

Siemon

Comment Type T Comment Status R

Harmonize with other areas of the Standard (e.g. clause 40.1), which support both TIA and ISO cabling references.Delete 120 ohm reference.

Delete 120 ohm reference. The impedance of category 4 cables is 100 ohms.

SuggestedRemedy

Replace,

"1.4.119 Category 4 balanced cabling: Balanced 100 W and 120 W cables and associated connecting hardware whose transmission characteristics are specified up to 20 MHz as per ISO/IEC 11801:1995. In addition to the requirements outlined in ISO/IEC 11801:1995, IEEE 802.3 Clause 14, Clause 23, and Clause 32 specify additional requirements for this cabling when used with 10BASE-T, 100BASE-T4, and 100BASE-T2, respectively."

with,

"1.4.119 Category 4 balanced cabling: Balanced 100 W cables and associated connecting hardware whose transmission characteristics are specified up to 20 MHz as per ISO/IEC 11801:1995 and ANSI/EIA/TIA-568-A-1995. In addition to the requirements outlined in ISO/IEC 11801:1995 and ANSI/EIA/TIA-568-A-1995, IEEE 802.3 Clause 14, Clause 23, and Clause 32 specify additional requirements for this cabling when used with 10BASE-T, 100BASE-T4, and 100BASE-T2, respectively."

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

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CI 01 SC 1.4.120 P74 L 25 # 18

Maguire, Valerie

Siemon

Comment Type T Comment Status R

Harmonize with other areas of the Standard (e.g. clause 40.1), which support both TIA and ISO cabling references.

Delete 120 ohm reference. The impedance of category 5 cables is 100 ohms.

SuggestedRemedy

Replace,

"1.4.120 Category 5 balanced cabling: Balanced 100 W and 120 W cables and associated connecting hardware whose transmission characteristics are specified up to 100 MHz (i.e., cabling components meet the performance specified in ISO/IEC 11801:1995). In addition to the requirements outlined in ISO/IEC 11801:1995, IEEE 802.3 Clause 14, Clause 23, Clause 25, and Clause 40 specify additional requirements for this cabling when used with 10BASE-T and 100BASE-T."

with,

"1.4.120 Category 5 balanced cabling: Balanced 100 W and cables and associated connecting hardware whose transmission characteristics are specified up to 100 MHz (i.e., cabling components meet the performance specified in ISO/IEC 11801:1995 and ANSI/EIA/TIA-568-A-1995). In addition to the requirements outlined in ISO/IEC 11801:1995 and ANSI/EIA/TIA-568-A-1995, IEEE 802.3 Clause 14, Clause 23, Clause 25, and Clause 40 specify additional requirements for this cabling when used with 10BASE-T and 100BASE-T."

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 01 SC 1.4 P74 L 30 # 19

Maguire, Valerie

Siemon

Comment Type T Comment Status R

Definition for category 6 cabling is missing.

SuggestedRemedy

Add and re-number Definitions accordingly,

"1.4.121 Category 6 balanced cabling: Balanced 100 W cables and associated connecting hardware whose transmission characteristics are specified up to 250 MHz (i.e., cabling components meet the performance specified in ISO/IEC 11801:2002 and ANSI/TIA-568-C.2). In addition to the requirements outlined in ISO/IEC 11801:1995 and ANSI/TIA-568-C.2, IEEE 802.3 Clause 14, Clause 23, Clause 25, Clause 40, and Clause 55 specify additional requirements for this cabling when used with 10BASE-T, 100BASE-T, and 10GBASE-T."

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

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CI 01 SC 1.4 P74 L 31 # 20
Maguire, Valerie Siemon

Comment Type T Comment Status R

Definition for category 6A cabling is missing.

A seperate comment to add ISO/IEC 11801:2002 Amendment 2 to the Normative References clause will be submitted.

SuggestedRemedy

Add and re-number Definitons accordingly,

"1.4.122 Category 6A balanced cabling: Balanced 100 W cables and associated connecting hardware whose transmission characteristics are specified up to 500 MHz (i.e., cabling components meet the performance specified in ISO/IEC 11801:2002 Amendment 2 and ANSI/TIA-568-C.2). In addition to the requirements outlined in ISO/IEC 11801:2002 Amendment 2 and ANSI/TIA-568-C.2, IEEE 802.3 Clause 14, Clause 23, Clause 25, Clause 40, and Clause 55 specify additional requirements for this cabling when used with 10BASE-T, 100BASE-T, and 10GBASE-T.

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 01 SC 1.4 P74 L 32 # 21
Maguire, Valerie Siemon

Comment Type T Comment Status R

Definition for category 7 cabling is missing.

SuggestedRemedy

Add and re-number Definitons accordingly,

"1.4.123 Category 7 balanced cabling: Balanced 100 W cables and associated connecting hardware whose transmission characteristics are specified up to 600 MHz (i.e., cabling components meet the performance specified in ISO/IEC 11801:2002). In addition to the requirements outlined in ISO/IEC 11801:2002, IEEE 802.3 Clause 14, Clause 23, Clause 25, Clause 40, and Clause 55 specify additional requirements for this cabling when used with 10BASE-T, 100BASE-T, and 10GBASE-T.

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

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Cl 01 SC 1.4 P 74 L 33 # 22

Maguire, Valerie Siemon

Comment Type T Comment Status R

Definition for category 7A cabling is missing.

Add if comment to add class FA to Table 55-17 is accepted.

A seperate comment to add ISO/IEC 11801:2002 Amendment 2 to the Normative References clause will be submitted.

SuggestedRemedy

Add and re-number Definitons accordingly,

"1.4.124 Category 7A balanced cabling: Balanced 100 W cables and associated connecting hardware whose transmission characteristics are specified up to 1,00 MHz (i.e., cabling components meet the performance specified in ISO/IEC 11801:2002 Amendment 2). In addition to the requirements outlined in ISO/IEC 11801:2002 Amendment 2, IEEE 802.3 Clause 14, Clause 23, Clause 25, Clause 40, and Clause 55 specify additional requirements for this cabling when used with 10BASE-T, 100BASE-T, and 10GBASE-T.

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

Cl 01 SC 1.4 P 64 L 41 # 23

Maguire, Valerie Siemon

Comment Type E Comment Status R

Add Normative Reference if Definitions for Category 6A and Category 7A are added.

SuggestedRemedy

Add,

"ISO/IEC 11801:2002/Amendment 2:2010, Information technology—Generic cabling for customer premises."

Response Response Status C

REJECT.

See #19, 20, 21

Cl 14 SC 14.4.2 P 397 L 25 # 24

Maguire, Valerie Siemon

Comment Type T Comment Status R UTP

During draft 2.0 comment resolution, we set a precedent to replace "unshielded" with "twisted-pair cabling". This precedent should carry over to this clause.

SuggestedRemedy

Replace,

"These characteristics are generally met by 100 m of unshielded twisted-pair cable..."

with,

"These characteristics are generally met by 100 m of twisted-pair cable..."

Response Response Status C

REJECT.

No precedent was taken or set. A number of changed were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

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CI 23 SC 23.1.2 P 103 L 33 # 25
 Maguire, Valerie Siemon

Comment Type T Comment Status R UTP

During draft 2.0 comment resolution, we set a precedent to replace "unshielded" with "twisted-pair cabling". This precedent should carry over to this clause.

SuggestedRemedy

Replace,

"To provide for operating over unshielded twisted pairs of Category 3, 4, or 5 cable,"

with,

"To provide for operating over twisted pairs of Category 3, 4, or 5 cable,"

Response Response Status C

REJECT.

No precedent was taken or set. A number of changes were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 23 SC 23.1.4.1 P 104 L 46 # 26
 Maguire, Valerie Siemon

Comment Type T Comment Status R UTP

During draft 2.0 comment resolution, we set a precedent to replace "unshielded" with "twisted-pair cabling". This precedent should carry over to this clause.

SuggestedRemedy

Replace,

"This specification permits the use of Category 3, 4, or 5 unshielded twisted pairs,"

with,

"This specification permits the use of Category 3, 4, or 5 twisted pairs,"

Response Response Status C

REJECT.

No precedent was taken or set. A number of changes were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

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Cl 24 SC 24.1.1 P 181 L 181 # 27
 Maguire, Valerie Siemon

Comment Type T Comment Status R UTP

During draft 2.0 comment resolution, we set a precedent to replace "UTP" with "twisted-pair cabling". This precedent should carry over to this clause.

Footnote 5 is not necessary in consideration of the revised text.

SuggestedRemedy

Replace,

"100BASE-TX specifies operation over two copper media: two pairs of shielded twisted-pair cable (STP) and two pairs of unshielded twisted-pair cable (Category 5 UTP).5"

with,

"100BASE-TX specifies operation over two pairs of twisted-pair category 5 cabling."

Delete footnote 5.

Response Response Status C

REJECT.

No precedent was taken or set. A number of changed were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

Cl 24 SC 24.1.2 P 181 L 47 # 28
 Maguire, Valerie Siemon

Comment Type T Comment Status R UTP

During draft 2.0 comment resolution, we set a precedent to replace "UTP" with "twisted-pair cabling". This precedent should carry over to this clause.

Footnote 6 is not necessary in consideration of the revised text.

SuggestedRemedy

Replace,

"Support cable plants using Category 5 UTP 6,"

with,

"Support cable plants using Category 5 twisted-pair,"

Delete footnote 6

Response Response Status C

REJECT.

No precedent was taken or set. A number of changed were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

Cl 24 SC 24.1.4.3 P 183 L 32 # 29
 Maguire, Valerie Siemon

Comment Type T Comment Status R UTP

During draft 2.0 comment resolution, we set a precedent to replace "UTP" with "twisted-pair cabling". This precedent should carry over to this clause.

SuggestedRemedy

Replace,

"signaling systems that accommodate multimode optical fiber, STP and UTP wiring."

with,

"signaling systems that accommodate multimode optical fiber and twisted-pair cabling."

Response Response Status C

REJECT.

No precedent was taken or set. A number of changes were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

Cl 24 SC 24.3.2.1 P 208 L 6 # 30
 Maguire, Valerie Siemon

Comment Type T Comment Status R UTP

During draft 2.0 comment resolution, we set a precedent to replace "unshielded" with "twisted-pair cabling". This precedent should carry over to this clause.

SuggestedRemedy

Replace,

"such as used by 100BASE-TX over unshielded twisted pair,"

with,

"such as used by 100BASE-TX over twisted pair,"

Response Response Status C

REJECT.

No precedent was taken or set. A number of changes were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

CI 25 SC 25.2 P 227 L 24 # 31
 Maguire, Valerie Siemon

Comment Type T Comment Status R UTP

During draft 2.0 comment resolution, we set a precedent to replace "UTP" with "twisted-pair cabling". This precedent should carry over to this clause.

SuggestedRemedy

Replace,

"This standard provides support for Category 5 unshielded twisted pair (UTP) and shielded twisted pair (STP)."

with,

"This standard provides support for Category 5 twisted-pair cabling".

Response Response Status C

REJECT.

No precedent was taken or set. A number of changes were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 25 SC 25.3 P 227 L 40 # 32
 Maguire, Valerie Siemon

Comment Type T Comment Status R UTP

During draft 2.0 comment resolution, we set a precedent to replace "UTP" with "twisted-pair cabling". This precedent should carry over to this clause.

SuggestedRemedy

Replace,

"The cable plant specifications for unshielded twisted pair (UTP) of TP-PMD 11.1 are replaced by those specified in 25.4.9."

with,

"The twisted-pair cabling specifications of TP-PMD 11.1 are replaced by those specified in 25.4.9."

Response Response Status C

REJECT.

No precedent was taken or set. A number of changes were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

CI 25 SC 25.4.9 P 231 L 231 # 33
 Maguire, Valerie Siemon

Comment Type T Comment Status R UTP

During draft 2.0 comment resolution, we set a precedent to replace "UTP" with "twisted-pair cabling". This precedent should carry over to this clause.

SuggestedRemedy

Replace,

"25.4.9 UTP cable plant

The cable plant specification for unshielded twisted pair (UTP) of TP-PMD 11.1 is replaced by that specified in this subclause."

with,

"25.4.9 Twisted-pair cabling

The twsited-pair cabling pecification of TP-PMD 11.1 is replaced by that specified in this subclause."

Response Response Status C

REJECT.

No precedent was taken or set. A number of changed were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 25 SC 25.6.4.2 P 241 L 28 # 34
 Maguire, Valerie Siemon

Comment Type T Comment Status R UTP

Contact assignments are not specific to unshielded MDI's.

SuggestedRemedy

Replace,

"MDI contact assignments for unshielded twisted pair"

with,

"MDI contact assignments for twisted pair"

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

CI 40A SC 40A P 339 L 10 # 35
 Maguire, Valerie Siemon

Comment Type T Comment Status R UTP

During draft 2.0 comment resolution, we set a precedent to replace "unshielded" with "twisted-pair cabling". This precedent should carry over to this clause.

SuggestedRemedy

Replace,

"1000BASE-T is designed to operate over 4-pair unshielded twisted-pair cabling systems..."

with,

"1000BASE-T is designed to operate over 4-pair twisted-pair cabling systems..."

Response Response Status C

REJECT.

No precedent was taken or set. A number of changes were made based on specific comments to specific clauses.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 52 SC 52.14.2 P 490 L 29 # 36
 Maguire, Valerie Siemon

Comment Type T Comment Status R

Table 52-25. During draft 2.0 comment resolution, it was agreed to delete the TIA OM3 and OM4 references and replace them with IEC 60793-2-10 Type A1a.2 and IEC 60793-2-10 Type A1a.3 references. Since many readers are familiar with the TIA references already, a friendlier solution would be to keep both references. A comment to update the Normative Reference clause has been submitted.

SuggestedRemedy

Change from:

e Effective modal bandwidth for fiber meeting IEC 60793-2-10 Type A1a.2 when used with sources meeting the wavelength(range) and encircled flux specifications of Table 52-7.

f Effective modal bandwidth, zero dispersion wavelength and dispersion slope for OM4 fibers are specified in IEC60793-2-10 Type A1a.3.

with,

e Effective modal bandwidth for fiber meeting IEC 60793-2-10 Type A1a.2 or TIA-492AAAC when used with sources meeting the wavelength(range) and encircled flux specifications of Table 52-7.

f Effective modal bandwidth, zero dispersion wavelength and dispersion slope for OM4 fibers are specified in IEC 60793-2-10 Type A1a.3 or TIA-492AAAD.

Response Response Status C

REJECT.

See #12

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

CI 52 SC 52.14.2 P 490 L 31 # 37
 Maguire, Valerie Siemon
 Comment Type E Comment Status A
 Missing space.
 SuggestedRemedy
 Replace,
 "IEC60793-2-10"
 with,
 "IEC 60793-2-10"
 Response Response Status C
 ACCEPT.

CI 54 SC 54.6 P 577 L 43 # 38
 Maguire, Valerie Siemon
 Comment Type TR Comment Status R Interop
 Balanced twisted-pair MDI interfaces are specified to ensure interoperability between vendors (e.g. clause 55.7 says, "All implementations of the balanced cabling link segment specification shall be compatible at the MDI"). In addition, industry comparative evaluation events (e.g. Ethernet Alliance Plugfests) go to great lengths to ensure interoperability between equipment manufactured by different vendors. Unfortunately, there are no industry mechanical/electrical specifications or other requirements applicable to the 10GBASE-CX4 interface to ensure interoperability and, in some cases, products from different vendors DO NOT work together. This is outside the spirit of an applications Standard that specifies requirements "to allow for maximum interoperability between various 10 Gb/s components" (see clause 54.6.4.3) and should not be allowed. Accepting this comment corrects the problem.
 SuggestedRemedy
 Insert new clause:
 "54.6.1 Interoperability
 The 10GBASE-CX4 MDI shall be interoperable with compliant interfaces and cable assemblies."
 Response Response Status C
 REJECT.
 This is a restatement of the comment / issues addressed in comment #427 of the initial ballot.
 An ad-hoc was chartered to discuss this issue and provide a recommendation for consideration at sponsor ballot

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

CI 55 SC 55.12.8 P 694 L 11 # 39
 Maguire, Valerie Siemon

Comment Type T Comment Status R

Category 6 requirements are specified in ANSI/TIA-568-C.2

SuggestedRemedy

Replace,

"Per category 6 requirements specified in ANSI/TIA/EIA568-B.2-1-2002 and ISO/IEC 11801:2002"

with,

"Per category 6 requirements specified in ANSI/TIA-568-C.2 and ISO/IEC 11801:2002"

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 55 SC 55.7.2 P 662 L 32 # 40
 Maguire, Valerie Siemon

Comment Type T Comment Status R

Table 55-17: Add Class FA requirements.

SuggestedRemedy

Add the information below in a new row at the bottom of Table 55-17:

Cabling: Class FA

Supported link segment distance: 100m

Cabling references: ISO/IEC 11801:2002/Amendment 1

Note to Editor: The "A" in "FA" is subscript.

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

CI 55 SC 55.7 P 661 L 45 # 41
 Maguire, Valerie Siemon

Comment Type T Comment Status R

The term "channel" in ISO/IEC and TIA terminology refers to a cabling configuration that contains cable and connecting hardware that supports transmission over 4 twisted-pairs. To define the link segment as containing 4 channels (is that 16-pairs??) is extremely confusing.

SuggestedRemedy

Replace,

"The term "link segment" used in this clause refers to four duplex channels. Specifications for a link segment apply equally to each of the four duplex channels."

with,

Option 1: "The term "link segment" used in this clause refers to four twisted-pairs transmitting in full duplex. Specifications for a link segment apply equally to each of the four twisted-pairs."

Option 2: The term "link segment" used in this clause refers to a cabling system containing four twisted-pairs. Specifications for a link segment apply equally to each of the four twisted-pairs."

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 85 SC 85.8 P 187 L 47 # 42
 Maguire, Valerie Siemon

Comment Type TR Comment Status R interop

Balanced twisted-pair MDI interfaces are specified to ensure interoperability between vendors (e.g. clause 55.7 says, "All implementations of the balanced cabling link segment specification shall be compatible at the MDI"). In addition, industry comparative evaluation events (e.g. Ethernet Alliance Plugfests) go to great lengths to ensure interoperability between equipment manufactured by different vendors. Unfortunately, there are no industry mechanical/electrical specifications or other requirements applicable to the 40GBASE-CR4 and 100GBASE-CR10 interfaces to ensure interoperability and, in many cases, products from different vendors DO NOT work together. Accepting this comment corrects the problem.

SuggestedRemedy

"85.8.1 Interoperability

The 40GBASE-CR4 MDI shall be interoperable with compliant interfaces and cable assemblies. The 100GBASE-CR10 MDI shall be interoperable with compliant interfaces and cable assemblies."

Response Response Status C

REJECT.

This is a restatement of the comment / issues addressed in comment #427 of the initial ballot.

An ad-hoc was chartered to discuss this issue and provide a recommendation for consideration at sponsor ballot

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

CI 86 SC 86.1 P 230 L 53 # 43
 Maguire, Valerie Siemon

Comment Type T Comment Status R

Table 86-2. During draft 2.0 comment resolution, it was agreed to delete the TIA OM3 and OM4 references and replace them with IEC 60793-2-10 Type A1a.2 and IEC 60793-2-10 Type A1a.3 references. Since many readers are familiar with the TIA references already, a friendlier solution would be to keep both references. A comment to update the Normative Reference clause has been submitted.

SuggestedRemedy

Replace,

"a Type A1a.2 (OM3) specified in IEC 60793-2-10. See 86.10.2.1.
 b Type A1a.3 (OM4) specified in IEC 60793-2-10. See 86.10.2.1."

with,

"a IEC 60793-2-10 Type A1a.2 or TIA-492AAAC. See 86.10.2.1.
 b IEC 60793-2-10 Type A1a.3 or TIA-492AAAD. See 86.10.2.1."

Response Response Status C

REJECT.

See #12

CI 86 SC 86.1 P 230 L 43 # 44
 Maguire, Valerie Siemon

Comment Type T Comment Status R

Table 86-2. During draft 2.0 comment resolution, it was agreed to delete the TIA OM3 and OM4 references and replace them with IEC 60793-2-10 Type A1a.2 and IEC 60793-2-10 Type A1a.3 references. Since many readers are familiar with the TIA references already, a friendlier solution would be to keep both references. A comment to update the Normative Reference clause has been submitted.

SuggestedRemedy

Replace,

"type A1a.2 (OM3) or A1a.3 (OM4)"

with,

"type A1a.2/492AAAC(OM3) or A1a.3/492AAAD(OM4)"

Response Response Status C

REJECT.

See #12

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

CI 86 SC 86.7.4 P 240 L 11 # 45
 Maguire, Valerie Siemon

Comment Type T Comment Status R

Table 86-9. During draft 2.0 comment resolution, it was agreed to delete the TIA OM3 and OM4 references and replace them with IEC 60793-2-10 Type A1a.2 and IEC 60793-2-10 Type A1a.3 references. Since many readers are familiar with the TIA references already, a friendlier solution would be to keep both references. A comment to update the Normative Reference clause has been submitted.

SuggestedRemedy

Delete superscript a after "Effective modal bandwidth at 850 nm"

Insert superscript a after "2000"

Insert superscript b after "4700"

Re-letter remaining superscripts.

Insert superscript text as follows,

"a IEC 60793-2-10 Type A1a.2 or TIA-492AAAC.
 b IEC 60793-2-10 Type A1a.3 or TIA-492AAAD."

Response Response Status C

REJECT.

See #12

CI 86 SC 86.10.2.1 P 250 L 17 # 46
 Maguire, Valerie Siemon

Comment Type T Comment Status R

Table 86-14. During draft 2.0 comment resolution, it was agreed to delete the TIA OM3 and OM4 references and replace them with IEC 60793-2-10 Type A1a.2 and IEC 60793-2-10 Type A1a.3 references. Since many readers are familiar with the TIA references already, a friendlier solution would be to keep both references. A comment to update the Normative Reference clause has been submitted.

Add a period after superscript text to match style of other superscript text.

SuggestedRemedy

Replace,

"a IEC 60793-2-10 type A1a.2
 b IEC 60793-2-10 type A1a.3"

with,

"a IEC 60793-2-10 type A1a.2 or TIA-492AAAC.
 b IEC 60793-2-10 type A1a.3 or TIA-492AAAD."

Response Response Status C

REJECT.

See #12

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

CI 86 SC 86.2 P 225 L 22 # 47
 Maguire, Valerie Siemon

Comment Type TR Comment Status R interop

Balanced twisted-pair MDI interfaces are specified to ensure interoperability between vendors (e.g. clause 55.7 says, "All implementations of the balanced cabling link segment specification shall be compatible at the MDI"). In addition, industry comparative evaluation events (e.g. Ethernet Alliance Plugfests) go to great lengths to ensure interoperability between equipment manufactured by different vendors. Unfortunately, there are no industry mechanical/electrical specifications or other requirements applicable to the 40GBASE-SR4 and 100GBASE-SR10 interfaces to ensure interoperability and, in many cases, products from different vendors DO NOT work together. Accepting this comment corrects the problem.

SuggestedRemedy

Insert new clause:

"86.2.1 Interoperability

The 40GBASE-SR4 PMD shall be interoperable with compliant interfaces and cable assemblies. The 100GBASE-SR10 PMD shall be interoperable with compliant interfaces and cable assemblies."

Response Response Status C

REJECT.

This comment is on text that did not change or is not affected by changes made during the recirc and is thus out of scope.

An ad-hoc was chartered to discuss this issue and provide a recommendation for consideration at sponsor ballot

CI 87 SC 87.2 P 253 L 40 # 48
 Maguire, Valerie Siemon

Comment Type TR Comment Status R

Balanced twisted-pair MDI interfaces are specified to ensure interoperability between vendors (e.g. clause 55.7 says, "All implementations of the balanced cabling link segment specification shall be compatible at the MDI"). In addition, industry comparative evaluation events (e.g. Ethernet Alliance Plugfests) go to great lengths to ensure interoperability between equipment manufactured by different vendors. Unfortunately, there are no industry mechanical/electrical specifications or other requirements applicable to the 40GBASE-LR4 interfaces to ensure interoperability and, in many cases, products from different vendors DO NOT work together. Accepting this comment corrects the problem.

SuggestedRemedy

Insert new clause:

"87.2.1 Interoperability

The 40GBASE-LR4 PMD shall be interoperable with compliant interfaces and cable assemblies."

Response Response Status C

REJECT.

This comment is on text that did not change or is not affected by changes made during the recirc and is thus out of scope.

An ad-hoc was chartered to discuss this issue and provide a recommendation for consideration at sponsor ballot

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

Cl 88 SC 88.2 P 281 L 40 # 49

Maguire, Valerie

Siemon

Comment Type TR Comment Status R

Balanced twisted-pair MDI interfaces are specified to ensure interoperability between vendors (e.g. clause 55.7 says, "All implementations of the balanced cabling link segment specification shall be compatible at the MDI"). In addition, industry comparative evaluation events (e.g. Ethernet Alliance Plugfests) go to great lengths to ensure interoperability between equipment manufactured by different vendors. Unfortunately, there are no industry mechanical/electrical specifications or other requirements applicable to the 100GBASE-LR4 and 100GBASE-ER4 interfaces to ensure interoperability and, in many cases, products from different vendors DO NOT work together. Accepting this comment corrects the problem.

SuggestedRemedy

Insert new clause:

"88.2.1 Interoperability

The 100GBASE-LR4 PMD shall be interoperable with compliant interfaces and cable assemblies. The 100GBASE-ER4 PMD shall be interoperable with compliant interfaces and cable assemblies."

Response Response Status C

REJECT.

This comment is on text that did not change or is not affected by changes made during the recirc and is thus out of scope.

An ad-hoc was chartered to discuss this issue and provide a recommendation for consideration at sponsor ballot

Cl 99 SC Errata P 6 L 50 # 50

Dawe, Piers

IPtronics

Comment Type E Comment Status A

D2.0 comment 81 was accepted yet this draft still says "Errata, if any, for this and all other standards can be accessed at" an IEEE URL. It's not so. IEEE is not the whole world; there are plenty of other standards, including ones we use, with errata elsewhere. In any case the web site denies it: "Not all of the available IEEE standards errata and or corrections are online, this list should not be considered to be comprehensive."

SuggestedRemedy

Change "all other" to "other IEEE".

Response Response Status C

ACCEPT IN PRINCIPLE.

The frontmatter is the responsibility of IEEE staff and the WG Chair. Your comment will be shared with them for input

Cl 01 SC 1.3 P 58 L 54 # 51

Dawe, Piers

IPtronics

Comment Type E Comment Status A

I don't think we should be promoting a particular reseller above other bookshops. ANSI have a webstore, and if we give the postal address for other organisations, we should reinstate it for ANSI also. However, per their web site, ANSI offices are at 25 West 43rd Street, 4th floor, New York, NY 10036

SuggestedRemedy

ANSI publications are available from the Sales Department, American National Standards Institute, 25 West 43rd Street, 4th floor, New York, NY 10036, USA (<http://www.ansi.org>).

Response Response Status C

ACCEPT IN PRINCIPLE.

Will check with staff (publication editors) on whether or not to include anything beyond the URL.

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Cl **86A** SC **86A.4.1.1** P **382** L **1** # **52**
 Dawe, Piers IPtronics

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

Fig 86A-1 doesn't match the others.

SuggestedRemedy

Please regenerate the figure so it matches the others in this clause - I can help with this.

Response Response Status **C**

ACCEPT.

Cl **01** SC **1.4** P **66** L **30** # **53**
 Dawe, Piers IPtronics

Comment Type **ER** Comment Status **R**

D2.0 comment 1 pointed out that the Definitions section is 27 pages long. Although it is finely subdivided, the subheadings do not appear in the bookmarks, so it is like a single subclause, 27 pages long, when typically we have at least one bookmark per page. This makes it hard to navigate quickly to a particular definition.

The suggested remedy was:

Please introduce bookmarked subheadings e.g. 1 to 9, A to E, F to O, P to Z. The current subheadings can become fourth-level non-bookmarked subheadings.

SuggestedRemedy

Another way to get the same effect would be to set the Frame properties on just a few paragraphs (e.g. the first 1, the first A, the first F and so on) so that they show up in the pdf bookmarks list like any other third level heading.

Response Response Status **U**

REJECT.

This is a restatement of the comment and issues of comment #1 on the initial ballot. The BRC was unanimous in that these changes do not improve the document.

Cl **01** SC **1.5** P **94** L **5** # **54**
 Dawe, Piers IPtronics

Comment Type **ER** Comment Status **R**

D2.0 comment 2 pointed out that the Abbreviations section is 5 pages long with no subdivisions (much longer than almost any other section). It is hard to navigate quickly to a particular abbreviation. Introducing bookmarked subheadings e.g. 1 to L, M to Z. would improve usability, with no downside that I can see. The response did not point out any reason not to do this.

SuggestedRemedy

Please introduce bookmarked subheadings e.g. 1 to E, F to O, P to Z to improve usability.

Response Response Status **U**

REJECT.

This is a restatement of the comment and issues of comment #2 on the initial ballot. The BRC was unanimous in that these changes do not improve the document.

Cl **38** SC **38.11.1** P **147** L **26** # **55**
 Dawe, Piers IPtronics

Comment Type **T** Comment Status **R**

IEC 60793-2:1992 is way out of date (the version in force is ed6.0 of 2007) and we want to allow Gigabit Ethernet on new fibre. The dispersion limits have changed slightly for 50 um MMF and I believe for SMF.

IEC 60793-2 is too broad anyway.

I don't believe SMF is called "10/125" any more.

SuggestedRemedy

Change "... fibers specified in IEC 60793-2:1992. Types A1a (50/125 um multimode), A1b (62.5/125 um multimode), and B1 (10/125 um single-mode) with the exceptions noted in Table 38-12." to "... fiber types A1a (50/125 um multimode) or A1b (62.5/125 um multimode) specified in IEC 60793-2-10 or B1 (single-mode) or as specified in Table 38-12.".

In Table 38-12, delete "10 um".

Response Response Status **C**

REJECT.

This is a restatement of the comment / issues addressed in comment #28 of the initial ballot.

The key fiber parameters are called in the table and not from the references.

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Cl 86A SC 86A.5.1.1.2 P 388 L 33 # 56
 Dawe, Piers IPtronics

Comment Type T Comment Status R

While we are revisiting the MCB-HCB crosstalk specs: text says "The limits on integrated crosstalk noise of the mated HCB and MCB are as specified in 85.10.9.4 with the exception that the frequency range is 0.01 GHz to 12 GHz." but there is another difference: the receiver bandwidth in this clause is 12 GHz while in 85.10.7 "In addition, fr is the 3 dB reference receiver bandwidth, which is set to 7.5 GHz."

SuggestedRemedy

Change "are as specified in 85.10.9.4 with the exception that the frequency range is 0.01 GHz to 12 GHz." to "are as specified by Table 86A-X according to the method of 85.10.9.4 with the exceptions that the 3 dB reference receiver bandwidth of Equation (85-28) and Equation (85-29) is 12 GHz, and the frequency range is 0.01 GHz to 12 GHz."
 Insert a new table in the style of Table 85-12 with limits that are consistent with this, and considering the work of the ICN ad hoc.

Response Response Status C

REJECT.

This comment is on text that was unchanged and is thus out of scope for this recirculation.

Cl 38 SC 38.6.4 P 140 L 28 # 57
 Dawe, Piers IPtronics

Comment Type T Comment Status A

This says:
 "RIN shall be measured according to ANSI/INCITS 450-2009 (FC-PI-4) [B22] (FC-PH), Annex A, A.5, Relative intensity noise (RIN) measuring procedure. Per this FC-PH annex, "This procedure describes a component test which may not be appropriate for a system level test depending on the implementation." RIN is referred to as RIN12 in the referenced standard. For multimode fiber measurements, the polarization rotator referenced in ANSI/INCITS 450-2009 (FC-PI-4) should be omitted, and the single-mode fiber should be replaced with a multimode fiber."
 While this is an improvement on the previous draft, there are still some bugs:
 FC-PI-4 is not FC-PH or an FC-PH annex.
 FC-PI-4 defines RIN12OMA not RIN.
 The choice of bandwidth in FC-PI-4 is not suitable.
 There's a better way: we have our own RIN measurement procedure for Gigabit Ethernet (1000BASE-LX10 actually) in 58.7.7. Some of the text here is already there so doesn't need to appear again.

SuggestedRemedy

Change to "RIN shall be measured according to 58.7.7. Instead of using Equation (58-9), RIN for this clause is defined as $10 \times \log_{10}(PN/(BW \times PA))$ [dB/Hz] where PA is PM x (ER+1)/(2*(ER-1)) and ER is the extinction ratio of the optical signal in W/W. The bandwidth BW is 937.5 MHz. The pattern to be used for RIN measurement is a repeating sequence of K28.7s with alternating disparity."
 Someone else should check my formula for PA.

Response Response Status C

ACCEPT IN PRINCIPLE.
 The details of the RIN test in ANSI/INCITS 450-2009 (FC-PI-4) are indeed different from those in the previously referenced document. In order to keep the test the same as it was when referring to the withdrawn ANSI X3.230-1994 (FC-PH) change:

"RIN shall be measured according to ANSI/INCITS 450-2009 (FC-PI-4) [B22] (FC-PH), Annex A, A.5, Relative intensity noise (RIN) measuring procedure. Per this FC-PH annex, "This procedure describes a component test which may not be appropriate for a system level test depending on the implementation. " RIN is referred to as RIN12 in the referenced standard. For multimode fiber measurements, the polarization rotator referenced in ANSI/INCITS 450-2009 (FC-PI-4) should be omitted, and the single-mode fiber should be replaced with a multimode fiber." to:

"This procedure describes a component test which may not be appropriate for a system level test depending on the implementation. RIN shall be measured according to 58.7.7 with the following exceptions:

- 1) the low pass filter bandwidth is 937.5 MHz
- 2) step d) of the test procedure is replaced by measuring the value of the photocurrent of the optical to electrical converter loe
- 3) step e) of the test procedure is replaced by using the following equation to evaluate

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RIN:
 $RIN = 10 \log_{10}((PN)/(BW * I_{oe}^2 * R)) - G$ (dB/Hz)

where:
 RIN is the relative intensity noise,
 PN is the electrical noise power in Watts with modulation off,
 BW is the low-pass bandwidth of apparatus – high-pass bandwidth of apparatus due to DC blocking capacitor,
 I_{oe} is the photocurrent of the optical to electrical converter,
 R is the effective load impedance of the optical to electrical converter (for example, a 50 ohm detector load in parallel with a 50 ohm power meter would give R equal to 25),
 G is the Gain in dB of any amplifier in the noise measurement path."

Also, in 38.12.4.5 Item OR6 change:
 "ANSI X3.230-1994 [B22] (FC-PH), Annex A, A.5 using patch cable per 38.6" to:
 "58.7.7 as modified by 38.6.4 using patch cable per 38.6"

[Editor's note: the equation to be shown as a Framemaker equation with PN as P subscript N and I_{oe} as I subscript oe squared. Elsewhere I_{oe} to be shown as I subscript oe]

Cl 86 SC 86.8.4.1 P 239 L 6 # 58
 Dawe, Piers IPtronics

Comment Type	TR	Comment Status	R
D2.0 comment 7:	We use three references for the same thing. ANSI/EIA/TIA-455-127-1991 is very obsolete - not good practice. I believe that TIA-455-127-A:2006 and IEC 61280-1-3:1998 are also obsolete. Here are all the places they appear:		
1.3	ANSI/EIA/TIA-455-127-1991, FOTP-127—Spectral Characterization of Multimode Laser Diodes.		
TIA-455-127-A:2006	FOTP-127-A Basic Spectral Characterization of Laser Diodes.		
IEC 61280-1-3:1998,	Fibre optic communication subsystem basic test procedures—Part 1-3: Test procedures for general communication subsystems—Central wavelength and spectral width measurement.		
1.4.350 RMS spectral width:	A measure of the optical wavelength range as defined by TIA 455-127-A (FOTP-127-A).		
Annex A	[B10] ANSI/EIA/TIA 455-127-1991 (FOTP-127), Spectral Characterization of Multimode Lasers.		
38.6.1	Center wavelength and spectral width measurements ... per ANSI/EIA/TIA-455-127-1991 [B10].		
38.12.4.5	Optical measurement requirements		
OR2	Center wavelength and spectral width measurement conditions	38.6.1	Using optical spectrum analyzer per ANSI/EIA/TIA-455-127-1991 [B10] M Yes []
52.9.2	Center wavelength and spectral width measurements ... per TIA/EIA-455-127 under modulated conditions ...		
52.15.3.9	Optical measurement requirements		
OM2	Center wavelength and spectral width measurement	52.9.2	Measured using an optical spectrum analyzer per TIA/EIA-455-127 under modulated conditions M Yes []
58.7.2	Wavelength and spectral width measurements ... according to ANSI/EIA/TIA-455-127, ...		
58.10.3.5	Optical measurement requirements		
OM3	Wavelength and spectral width	58.7.2	Per TIA/EIA-455-127 under modulated conditions M Yes []
	And equivalents in 59 and 60.		
75.7.4	Wavelength and spectral width measurement ... according to TIA-455-127-A ...		
75.10.4.13	Definitions of optical parameters and measurement methods		
OM2	Wavelength and spectral width	75.7.4	Per TIA-455-127-A under modulated conditions. M Yes []
86.8.4.1	Wavelength and spectral width ... method given in TIA-455-127-A.		
86.11.4.4	Definitions of parameters and measurement methods		
SOM2	Center wavelength	86.8.4.1	Per TIA-455-127-A M Yes []
87.8.3	Wavelength per TIA/EIA-455-127-A or IEC 61280-1-3.		
87.12.4.4	Optical measurement methods		
87.12.4.5	Environmental specifications		
XLOM2	Center wavelength	87.8.3	Per TIA-455-127-A or IEC 61280-1-3 under

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modulated conditions M Yes []
 And equivalents in 88 and 89.

SuggestedRemedy

Replace them all with IEC 61280-1-3 (2010) Fibre optic communication subsystem test procedures - Part 1-3: General communication subsystems - Central wavelength and spectral width measurement
 I don't believe we need [B10] in the bibliography any more.

Response *Response Status* **U**

REJECT.

This is a restatement of comment #7 on D2.0. There was no consensus for a change by the BRC and it was noted that the historic references were appropriate.

Cl 30 SC 30.2.5 P 363 L 41 # 59

Dawe, Piers IPtronics

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

Following up on D2.0 comment 72: text says "For LLDP management, the LLDP Basic Package is mandatory." and Table 30-7 says LLDP Basic Package (mandatory). If LLDP management had been a physically identifiable thing like "managed Midspans" we might have got away with such language, but this can be read as "For the sake of LLDP management, the LLDP Basic Package is mandatory, for any 802.3 thing." Which is far too wide.

SuggestedRemedy

Use the kind of wording in the following paragraphs: change "For LLDP management, the LLDP Basic Package is mandatory." to "The LLDP Basic Package is mandatory for managed entities that support IEEE 802.3 LLDP TLVs (see Clause 79)."

Response *Response Status* **U**

REJECT.

This is a restatement of the comment and issues of comment #72 on the initial ballot. As was noted in the original resolution, the text as is, is correct.

Cl 52 SC 52.14.1 P 490 L 17 # 60

Dawe, Piers IPtronics

Comment Type **TR** *Comment Status* **A**

Part of D2.0 comment 45 still needs to be addressed:
 There have been minor changes in chromatic dispersion limits, for 50 um MMF ...

It turns out that this makes new OM3 noncompliant.

The text of 52.14.1 says:

The fiber optic cable shall meet the requirements of IEC 60793-2 and the requirements of Table 52-25 where they differ for fiber types A1a (50/125 um multimode)...

The table says that 50 um MMF with 400 or 500 or 2000 MHz modal bandwidth shall have $S_0 \leq 1320$ nm. I believe that new OM3 sold to IEC60793-2-10 Type A1a.2 would meet the ≤ 1340 nm spec but not necessarily ≤ 1320 nm, so one would not know if it is compliant. I do not believe that is the intention.

SuggestedRemedy

Add another footnote saying that 400 or 500 or 2000 MHz km cabled optical fiber may comply with the zero dispersion wavelength and dispersion slope specifications for 4700 MHz km cabled optical fiber.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Since the newer combination of specifications for zero dispersion wavelength and dispersion slope always results in the same or lower dispersion in the range 840 to 860 nm, add a footnote to the zero dispersion wavelength and dispersion slope requirements for 50u MMF with 400 or 500 or 2000 MHz km modal bandwidth: "Cabled optical fiber with 400 or 500 or 2000 MHz km minimum Modal Bandwidth may alternatively comply with the zero dispersion wavelength and dispersion slope specifications for 4700 MHz km minimum Modal Bandwidth fiber."

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Cl 83A SC 83A.3.3.1 P 340 L 11 # 61
 Dawe, Piers IPtronics

Comment Type TR Comment Status R

D2.0 comment 110 points out something that previous comments on this subject did not: that according to the PCI Express Base Specification Revision 3.0, De-emphasis = $20\log_{10} V_b/V_a$, where in our terminology V_b is VMA and V_a is differential peak-to-peak amplitude.
 Or, from the same document, VTX-DE-RATIO = $-20\log_{10} (VTX-DIFF-PP/VTX-DE-EMPH-PP)$, where in our terminology VTX-DIFF-PP is differential peak-to-peak amplitude and VTX-DE-EMPH-PP is VMA.
 Example: -3.5 dB De-emphasis
 So, it is clear that more negative de-emphasis is more emphasis, in line with what de-means in English.
 But 83A and 83B have got this upside down.
 Responses to comments say e.g. "REJECT. De-emphasis is an industry standard term."

SuggestedRemedy

If De-emphasis is an industry standard term, then we need to use it competently with the industry standard meaning. As we fixed the formula for Vertical eye-closure penalty in 38.6.11.
 Change equation 83A-3 to
 De-emphasis (dB) = $20\log_{10}(VMA / \text{Differential peak-to-peak amplitude})$
 Change the sign of all entries for de-emphasis, paying attention to maxima and minima (about 11 changes in Section 6 including consequential changes such as PICS).

Response Response Status U

REJECT.

This is a restatement of the comment / issues addressed in comment #110 of the initial ballot.

De-emphasis is defined locally in the standard. Changing the sign of this quantity at this point would cause more confusion, rather than clarify anything.

Cl 52 SC 52.14.1 P 490 L 19 # 62
 Dawe, Piers IPtronics

Comment Type TR Comment Status A

Part of D2.0 comment 45 still needs to be addressed:
 There have been minor changes in chromatic dispersion limits, for ... SMF. The newer limits provide slightly better performance... We do not want to make existing serviceable fibre noncompliant, so we need to keep the old limits (as 802.3 does for twisted pair copper) as well as introduce the new ones.

The text of 52.14.1 says:
 The fiber optic cable shall meet the requirements of IEC 60793-2 and the requirements of Table 52-25 where they differ for fiber types ... B1.1 (dispersion un-shifted single mode), or B1.3 (low water peak single mode).
 The table gives dispersion slope (max) S0 0.093 ps/nm² km. But G.652 (2005 or 2009) has 0.092, and IEC 60793-2-50:2008 is likely the same. This makes some older SMF non-compliant. I do not believe that is the intention. 52.9.10.2 Channel requirements is based on the old limits. There are similar problems in other clauses.

SuggestedRemedy

Change "shall meet the requirements of IEC 60793-2 and the requirements of Table 52-25 where they differ" to "shall meet the requirements of IEC 60793-2 or the requirements of Table 52-25 where they differ".

In 87.11.1, change "... fibers and the requirements in Table 87-15 where they differ." to "... fibers and the requirements in Table 87-15 where they differ.". Similarly in 88.11.1 and 89.10.1.

In 58.9, change "ITU-T G.652, as shown in Table 58-15." to "ITU-T G.652, or the requirements of Table 58-15 where they differ."

In 58.9.2, change "and ITU-T G.652 as noted in Table 58-15." to "and ITU-T G.652, or by the requirements of Table 58-15 where they differ."
 Make equivalent changes in clauses 59, 60 and 75.

Response Response Status C

ACCEPT IN PRINCIPLE.
 Make the suggested changes except those suggested in 87.11.1, 88.11.1 and 89.10.1.
 For those:
 In 87.11.1, change
 "... fibers and the requirements in Table 87-15 where they differ." to:
 "... fibers or the requirements in Table 87-15 where they differ."
 Make the equivalent change (and to or) in 88.11.1 and 89.10.1.

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Cl 86A SC 86A.4.1 P 387 L 11 # 63
 Dawe, Piers IPtronics

Comment Type TR Comment Status R

The common-mode return loss specifications have disappeared!
 D2.0 comment 149 alleges that "This spec. was added to limit EMI." which is misleading. It was included to limit the AC common-mode voltage. The inputs can have a high common-mode impedance, so if the output is allowed to have a very bad common-mode return loss, the VSWR of the common mode is unbounded at certain frequencies, and so the common mode voltage can be multiplied up. Even a small common-mode loss will keep this under control. The former specs should be relaxed to allow higher bandwidth connectors.

SuggestedRemedy

Reinstate the two common-mode return loss specifications in 86A.4 and one in 83B.2.1, but make them easier, changing 3 dB to 2 dB and the corner frequency from 2.5 GHz to 1.6 GHz:

7-3.125f 0.01<=f<=1.6 (86A-2)
 2 1.6<=f<=11.1

Response Response Status U

REJECT.

This comment seeks to reverse the removal of the common-mode return loss spec for the mated compliance boards due to comment #149 against D2.0 without establishing that there is indeed a correlation between common-mode return loss and unacceptable performance or providing evidence that the relaxed limit proposed will ensure adequate performance.

Cl 83B SC 83B.2.2 P 362 L 22 # 64
 Dawe, Piers IPtronics

Comment Type TR Comment Status R

While checking the common-mode return loss specs I noticed that while the module had such a spec, the host did not. This spec limits the AC common-mode voltage. The inputs can have a high common-mode impedance, so if the output is allowed to have a very bad common-mode return loss, the VSWR of the common mode is unbounded at certain frequencies, and so the common mode voltage can be multiplied up. Even a small common-mode loss will keep this under control. The very relaxed spec that I propose for 86A (host and module) would be better than no spec here (a relaxed spec is needed to allow higher bandwidth connectors).

SuggestedRemedy

Minimum host common-mode output return loss HCB output TP1a See Equation (86A-2) dB

(Per another comment, the relaxed 86A-2 would change 3 dB to 2 dB and the corner frequency from 2.5 GHz to 1.6 GHz:

7-3.125f 0.01<=f<=1.6 (86A-2)
 2 1.6<=f<=11.1)

Response Response Status U

REJECT.

This comment is on text that was unchanged and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot (together with justification of the need and choice of limit) when the scope of the draft will be open.

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CI 85 SC 85.10.9.2 P 206 L 3 # 65
 Dawe, Piers IPtronics

Comment Type TR Comment Status R

D2.0 comment 146 alleged that "85.10.9.3 specifies common mode output return loss. This spec. was added to limit EMI. It has been shown that there is no correlation between common mode return loss and EMI." I do not believe it has been shown, just postulated. In any case, this is a spec on the mated test fixtures, which should be well controlled like any test equipment. However, to allow for the new generation of higher bandwidth connectors, the common-mode return loss specification should be relaxed.

SuggestedRemedy

Reinstate the common-mode return loss spec for the mated compliance boards, but

instead of

12-2.8f 0.01<=f<=2.5

5.2-0.08f 2.5<=f<=10

use

12-5.625f 0.01<=f<=1.6

3 1.6<=f<=10

Response Response Status U

REJECT.

This comment seeks to reverse the removal of the common-mode return loss spec for the mated compliance boards due to comment #146 against D2.0 without establishing that there is indeed a correlation between common-mode return loss and unacceptable performance.

CI 38 SC 38.6.4 P 140 L 28 # 66
 Dawe, Piers IPtronics

Comment Type T Comment Status A

More information to go with my comment on 38.6.4 RIN:
 FC-PH said "In order to measure the noise the modulation to the DUT must be turned off." (which goes with the equation shown there).

FC-PI-4 says

"The recommended data pattern is a repeating sequence of K28.7s with alternating disparity. If a different data pattern is used, a correction factor should be applied to the RIN value. For example, if a high transition density pattern is used, such as repeating IDLEs, then 2 dB should be subtracted from the result of the equation below. If a frame pattern such as CRPAT or other unknown sequence is used, then 1 dB should be subtracted from the result of the equation below. Both of these correction factors are approximate."

A repeating sequence of K28.7s with the SAME disparity is the 5+5 square wave. 59.7.1 Test patterns, Table 59-11-List of test patterns and tests, says that Idles are suitable for testing RIN12OMA (but the spectral effect of pattern choice was taken into account when setting the RIN12OMA limit for 1000BASE-LX10). Idles are /K28.5/D16.2/.

The no-modulation method is, as stated, not appropriate for a system level test, so we should move away from it if practicable.

FC-PI-4 may be withdrawn in a few years time, so referring within 802.3 may save maintenance effort in future as well as making the document easier to use.

SuggestedRemedy

Response Response Status C

ACCEPT IN PRINCIPLE.

See #57

CI 25 SC 25.6.4.5 P 241 L 52 # 67
 Anslow, Peter Ciena

Comment Type E Comment Status A

Subclause 25.6.4.4 was removed due to comment #189 against D2.0
 The subclause numbers of subsequent subclauses have not been automatically updated - the numbering goes from 25.6.4.3 to 25.6.4.5

SuggestedRemedy

Remove the override from the heading of 25.6.4.5 so that it numbers as 25.6.4.4

Response Response Status C

ACCEPT.

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CI 01 SC 1.4.310 P 87 L 1 # 68
 Anslow, Peter Ciena

Comment Type E Comment Status A

This says "For example, See IEEE Std 802.3, Clauses 23–26, Clause 32, Clause 36, Clause 40, Clauses 48–54, Clauses 58–63, Clause 65, Clause 66, and Clauses 82-89." (as modified by comment #277 against D2.0)
 However, in section 14.2 of the IEEE Standards Style Manual (2009) it says that for ranges: "Dashes should never be used because they can be misconstrued for subtraction signs"
 Same issue in 1.4.312

SuggestedRemedy

Change:
 "For example, See IEEE Std 802.3, Clauses 23–26, Clause 32, Clause 36, Clause 40, Clauses 48–54, Clauses 58–63, Clause 65, Clause 66, and Clauses 82-89." to:
 "For example, See IEEE Std 802.3, Clauses 23 to 26, Clause 32, Clause 36, Clause 40, Clauses 48 to 54, Clauses 58 to 63, Clause 65, Clause 66, and Clauses 82 to 89."

In 1.4.312 change:
 "... Clauses 58-60, Clause 62, Clause 63, and Clauses 84-89.)" to:
 "... Clauses 58 to 60, Clause 62, Clause 63, and Clauses 84 to 89.)"

Response Response Status C
 ACCEPT.

CI 00 SC 0 P L # 69
 Anslow, Peter Ciena

Comment Type E Comment Status R

Comment #156 against D2.0 changed all instances of "next page" and "base page" to be capitalised as "Next Page" and "Base Page".
 This leaves "extended Next Page" and "unformatted Next Page" inconsistently capitalised.

SuggestedRemedy

Change capitalisation to be "Extended Next Page" and "Unformatted Next Page" throughout the draft.

In 28C.13, change
 "followed by an unformatted extended Next Page" to:
 "followed by an unformatted Extended Next Page"

Response Response Status C
 REJECT.

The BRC would prefer to address the inconsistency in capitalisation at sponsor ballot
 The commenter is invited to submit this comment on the sponsor ballot for consideration.

CI 01 SC 1.4 P 66 L 25 # 70
 Anslow, Peter Ciena

Comment Type E Comment Status D

When a user searches for a particular PMD type, the first instance they find is in subclause 1.4 Definitions. These contain a pointer to the clause that PMD is defined in. (See IEEE Std 802.3, Clause x).
 Many of these clause references are links, but a significant number are not. Since jumping to the relevant section and clause is a very useful function, please make them all links.

SuggestedRemedy

Make all of the references in Subclause 1.4 active hyperlinks.

Proposed Response Response Status Z
 REJECT.

This comment was WITHDRAWN by the commenter.

CI H SC H P 602 L 8 # 71
 Anslow, Peter Ciena

Comment Type T Comment Status A

The content of Annex H was removed by comment #329 against D2.0. The text explaining this is:
 "This annex was deleted by IEEE Std 802.3-201x.", which does not make sense. The standard did not delete part of itself and anyway it is untrue since the Annex still exists.

SuggestedRemedy

Change "This annex was deleted by IEEE Std 802.3-201x." to:
 "NOTE—The GDMO specifications were moved to IEEE Std 802.3.1-2011 Annex B."

Response Response Status C
 ACCEPT IN PRINCIPLE.

Change "This annex was deleted by IEEE Std 802.3-201x." to:

"NOTE—GDMO specifications were moved to Annex B of IEEE Std 802.3.1-2011 and removed from this Annex in IEEE Std 802.3-201x."

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Cl 37 SC 37.5.4.2.6 P 130 L 5 # 72

Anslow, Peter

Ciena

Comment Type E Comment Status A

Comment #328 against D2.0 caused the PICS items of all PICS sections to be re-numbered.
However, in the table of items in 37.5.4.2.6, there are no item numbers.

SuggestedRemedy

Add item numbers NP1 to NP10

Response Response Status C

ACCEPT.

Cl 40 SC 40.12.7 P 283 L 21 # 73

Anslow, Peter

Ciena

Comment Type E Comment Status A

Comment #328 against D2.0 caused the PICS items of all PICS sections to be re-numbered.
However, in the table of items in 40.12.7, the items have not been re-numbered

SuggestedRemedy

Renumber the items starting with PME1

Response Response Status C

ACCEPT.

Cl 30 SC 30.1.2 P 350 L 31 # 74

Anslow, Peter

Ciena

Comment Type T Comment Status A

Comment #329 against D2.0 pointed out that the draft has a number of references to Annex 30A but Annex 30A has been moved to IEEE Std 802.3.1.
Unfortunately, this issue was not included in the AIP response to this comment and there are still 4 instances of references to subclauses of Annex 30A in the draft.

SuggestedRemedy

Replace all references with appropriate references to 802.3.1.

Response Response Status C

ACCEPT IN PRINCIPLE.

Delete references to Annex 30A

Cl 00 SC 0 P L # 75

Anslow, Peter

Ciena

Comment Type T Comment Status A

Comment #275 against D2.0 was Cl 01, SC 1.14.151, P 27, L 48

Comment:

ATIS references are outdated

Suggested Remedy

Update references to ATIS-0900105.2008 and ATIS-0600417.2003

ACCEPT

There are several issues with this.

- 1) In 1.4.151, the reference has been incorrectly changed from ANSI T1.416 to ATIS 0600417 instead of ATIS 0600416
- 2) In 1.3 References, there is no matching entry for ATIS 0900105 or ATIS 0600416
- 3) There are many other references to ANSI T1.105 and ANSI T1.416 in the draft which are also outdated

There are 11 references to ANSI T1.105-1995 in the draft. 9 of them are for the derivation of terms and two are specific references to section 10.3 for the scrambler definition. In the revision of ANSI T1.105 to ATIS 0900105.2008 the definition of the terms referred to has not changed. Also, the definition of the scrambler remains the same in ATIS 0900105.2008 and resides in section 10.3 of that document.

There are 55 references to ANSI T1.416-1999 in the draft.

ANSI T1.416-1999 has been re-numbered without modification to become ATIS 0600416.1999 and this document was, in turn, reaffirmed without modification to become ATIS 0600416.1999(R2010)

SuggestedRemedy

In 1.3

Change:

"ANSI T1.105-1995, Telecommunications—Synchronous Optical Network (SONET)—Basic Description including Multiplex Structure, Rates and Formats." to:

"ATIS-0900105.2008, Synchronous Optical Network (SONET)—Basic Description including Multiplex Structure, Rates, and Formats." (note the extra comma in the title)

Also, change:

"ANSI T1.416-1999, Telecommunications—Network to Customer Installation Interfaces—Synchronous Optical Network (SONET) Physical Layer Specification: Common Criteria." to:

"ATIS-0600416.1999(R2010), Network to Customer Installation Interfaces—Synchronous Optical Network (SONET) Physical Layer Specification: Common Criteria." (note capitalisation of NETWORK)

In 1.4.151 change:

"ATIS-0600417.2003" to "ATIS-0600416.1999(R2010)"

Throughout the draft, change:

"ANSI T1.105-1995" to "ATIS-0900105.2008" and also change:

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"ANSI T1.416-1999" to "ATIS-0600416.1999(R2010)"

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Implement all the changes listed in the suggested remedy with the exception of

Throughout the draft, change:

"ANSI T1.105-1995" to "ATIS-0900105.2008" and also change:

"ANSI T1.416-1999" to "ATIS-0600416.1999(R2010)"

For the changes relating to the above, a specific list is given below:

In 1.4.92, 1.4.107, 1.4.164, 1.4.202, 1.4.307, 1.4.355, 1.4.380, 50.1.1, 50.3.3 (2 instances), 50.3.3.1:

change "ANSI T1.105-1995" to "ATIS-0900105.2008"

Also in 1.4.92, 1.4.107, 1.4.164, 1.4.202, 1.4.307, 1.4.355, 1.4.380, 44.1.4.4, 50.1.1 (3 instances), 50.1.7 (2 instances), 50.3.2 (2 instances), 50.3.2.1 (2 instances), 50.3.2.2 (4 instances), 50.3.2.3 (3 instances), 50.3.2.4 (4 instances) , 50.3.2.5 (8 instances), 50.4.1.1 (2 instances), 50.6.4.1 (2 instances), 50.6.4.3:

Change "ANSI T1.416-1999" to "ATIS-0600416.1999(R2010)"

Also in 50.1.1 (3 instances):

Change "T1.416-1999" to "ATIS-0600416.1999(R2010)"

Also in 50.3.2.1 (3 instances), 50.3.2.2 (3 instances), 50.3.2.3 (4 instances), 50.3.2.4:

Change "per T1.416" to "per 416"

Cl 00 SC 0 P L # 76

Anslow, Peter

Ciena

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

This comment is submitted on behalf of Peter Stassar from Huawei.

Comment #375 against D2.0 changed the references to IEC 60825-1 and IEC 60825-2 to bring them up to date.

See http://www.ieee802.org/3/maint/public/stassar_1_1111.pdf for the justification for the further changes in this comment.

Note: Search in document carried out by using keywords "laser", "class" and "60825"

SuggestedRemedy

In the following subclauses related to PMD labeling requirements: 38.9, 52.12, 53.12, 58.8.5, 59.8.5, 60.8.5, 87.9.5, 88.9.7, 89.8.5;

Also in the following subclauses related to laser safety: 75.8.2, 87.9.2, 88.9.2, 89.8.2;

Also in PICS items 38.12.4.2 PMS3, 38.12.4.5 OR31, 53.15.4.5 OM44, 75.10.4.15 ES2 (2 places), 87.12.4.5 XLES2 (2 places), 88.12.4.6 CES2 (2 places), 89.11.4.5 XLES2 (2 places);

Also in 38.3.1 Table 38-3 Note a and 52.5.1 Table 52-7 Note c:

Change "Class 1" to "Hazard Level 1"

In the following subclauses related to Laser Safety: 38.7.2, 52.10.2, 53.10.2, 58.8.2, 59.8.2, 60.8.2:

Change "Class 1" to "Hazard Level 1" and "IEC 60825-1" to "IEC 60825-1 and IEC 60825-2".

In 86.9.2 Laser safety and 86.11.4.5 PICS item SES2:

Change "Class 1M" to "Hazard Level 1M"

In PICS items: 52.15.3.11 ES2, 58.10.3.6 ES2, 59.10.3.6 ES2, 60.10.4.8 ES2, 68.10.3.5 SE2:

Change "Laser safety -IEC Class 1" to "Laser safety -IEC Hazard Level 1" and change: "Conform to Class 1 laser requirements defined in IEC 60825-1" to "Conform to Hazard Level 1 laser requirements defined in IEC 60825-1 and IEC 60825-2".

In PICS item 38.12.4.5 OR32:

Change "IEC 60825-1" to "IEC 60825-1 and IEC 60825-2"

Response Response Status **C**

ACCEPT IN PRINCIPLE.

Maintenance task force to generate a liaison to IEC requesting copies of IEC 60825-1 and IEC 60825-2.

Commenter is invited to re-submit this comment at sponsor ballot.

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Cl 51 SC 51.1.1 P 435 L 46 # 77
Kolesar, Paul CommScope

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

It is common to find PMA interfaces from major vendors that are electrically and physically compatible with PMDs but intentionally made to not interoperate. This defeats the purpose of the standard which is to support broad interoperability. The Scope of clause 51.1.1 contains a sentence regarding implementation and conformance considerations. As such it seems the appropriate place to add text concerning interoperability.

SuggestedRemedy

Add the following sentence after sentence two of clause 51.1.1: Electrically and physically compatible PMA and PMD interfaces shall interoperate.

Response Response Status **U**

REJECT.

This comment is on text that did not change or is not affected by changes made during the recirc and is thus out of scope.

An ad-hoc was chartered to discuss this issue and provide a recommendation for consideration at sponsor ballot

Cl 83 SC 83.1.1 P 137 L 17 # 78
Kolesar, Paul CommScope

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

It is common to find PMA interfaces from major vendors that are electrically and physically compatible with PMDs but intentionally made to not interoperate. This defeats the purpose of the standard which is to support broad interoperability. The Scope of clause 83.1.1 contains a discussion on implementation and compliance considerations. As such it seems the appropriate place to add text concerning interoperability.

SuggestedRemedy

Append the following sentence to paragraph two: Electrically and physically compatible PMA and PMD interfaces shall interoperate.

Response Response Status **U**

REJECT.

This comment is on text that did not change or is not affected by changes made during the recirc and is thus out of scope.

An ad-hoc was chartered to discuss this issue and provide a recommendation for consideration at sponsor ballot

Cl 77 SC 77.2.2.3 P 670 L 1 # 79
Hajduczenia, Marek ZTE Corporation

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

Maintenance Request 1196 was not implemented in Clause 77 and the transmission_complete variable is not used in any of Clause 77 figures.

SuggestedRemedy

Remove definition of transmission_complete and any reference to MR 1196 in Clause 77.

Response Response Status **C**

ACCEPT.

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CI 30 SC 30.3.3.2 P 401 L 11 # 80
 Hajduczenia, Marek ZTE Corporation

Comment Type T Comment Status R

Attribute aMACControlFunctionsSupported does not contain any reference to EXTENSION MAC Control frame mechanism even though Figure 30-3 shows clearly it is part of the oMACControlEntity.

Also it would be welcome to have an on/off switch for the EXTENSION MAC Control frame support, to be able to control whether the given device may use those or not.

SuggestedRemedy

Make the following changes in 30.3.3.2

- Add a new entry under PFC with the following text: "EXTENSION<tab>EXTENSION MAC Control frame supported"

Add the following subclause: 30.3.8.3 with the following text

30.3.8.3 aEXTENSIONMACCtrlStatus

ATTRIBUTE

APPROPRIATE SYNTAX:

An ENUMERATED VALUE that has the following entries:

enabled
 disabled

BEHAVIOUR DEFINED AS:

A read-write value that identifies the current (when read) or target (when set) operational state of the EXTENSION MAC Control function (when read), as specified in Annex 31C.;

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 31C SC 31C.2 P 761 L 23 # 81
 Hajduczenia, Marek ZTE Corporation

Comment Type T Comment Status R

In PAUSE annex (31B), the definition of the transmit function is accompanied by a state diagram which explains how the transmission process takes place.

EXTENSION seems to have a dedicated subclause (31C.2) but there is no associated state diagram, even if it is very simple.

SuggestedRemedy

Insert the missing state diagram for transmission of EXTENSION MAC Control frame

Response Response Status C

REJECT.

This comment is on text that was unchanged and unaffected by changes made and is thus out of scope for this recirculation.

The commenter is invited to re-submit this comment for consideration at sponsor ballot when the scope of the draft will be open.

CI 00 SC 0 P 0 L 0 # 82
 Hajduczenia, Marek ZTE Corporation

Comment Type E Comment Status A

There are several editorial fixes needed in the text. Specific locations (page/line) and proposed changes are listed below.

SuggestedRemedy

* section 5, 611 / 44, "multicast_link_id for this variable for this variable" - there is duplicate text "for this variable" - strike one instance

* section 5, 611 / 45, "Figure 76-4" should be "Table 76-4". The figure is irrelevant here and doesn't list LLID values.

* section 5, 676 / 1, changes to SD in Figure 77-14 are needed (some of the changes under the accepted MR were not implemented correctly by the editor):

In state INIT, <= should be the assignment symbol, not the 'less then' followed by the equal sign.

In the transition from TRANSMIT READY to CHECK PACKET TYPE, an AND (*) is lost
 In transition from TRANSMIT READY to START OF GRANT, it is not clear whether '+' is used as plus or as 'OR'. Change fecOffset[1:0] = 0 * (grantStart + IdleCount >= ResetBound) to fecOffset[1:0] = 0 * (grantStart + (IdleCount >= ResetBound))

Response Response Status C

ACCEPT IN PRINCIPLE.

Changes per comment

Also, in Figure 64-28, change "grants_num" to "grant_number" in the SD.

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

CI 76 SC 76.2.6.1.1 P 611 L 40 # 83
 Hajduczenia, Marek ZTE Corporation

Comment Type T Comment Status A
 "This variable shall be set to the broadcast value of 0x7FFF for the unregistered ONU MAC." - given that it is 10G-EPON, it should list two types of broadcast LLIDs i.e. 0x7FFF and 0x7FFE, as listed in Table 76-4.

SuggestedRemedy
 Change "This variable shall be set to the broadcast value of 0x7FFF for the unregistered ONU MAC." to "This variable shall be set to the broadcast value of 0x7FFF or 0x7FFE for the unregistered ONU MAC."

Response Response Status C
 ACCEPT IN PRINCIPLE.
 Change "This variable shall be set to the broadcast value of 0x7FFF for the unregistered ONU MAC." to "This variable shall be set to the broadcast value of 0x7FFE for the unregistered ONU MAC."

CI 55 SC 55.4.2.5.14 P 634 L 17 # 84
 McClellan, Brett Marvell

Comment Type T Comment Status R
 This comment is submitted in support of D2.0 comment #461. As stated in the prior comment, the newly created recommended value in this table can lead to potential interoperability problems with existing devices. There are already several generations of devices deployed in the field with timing that exceeds this new recommendation. No technical basis was presented to support limiting the recommended time to just 100ms versus the timing currently used in demonstrated interoperable deployed devices. New implementations that expect this timing may not be interoperable with existing devices.

SuggestedRemedy
 To ensure interoperability with deployed devices, set the recommended maximum time to 200ms.

Response Response Status C
 REJECT.
 This comment is a restatement of comment #461 on the initial ballot.

CI 01 SC 1.4.337 P 88 L 42 # 85
 Thaler, Patricia Broadcom

Comment Type E Comment Status A LATE
 "Reconciliation sublayer (RS):" is repeated

SuggestedRemedy
 Delete one

Response Response Status C
 ACCEPT.

CI 01 SC 1.4.223 P 81 L 21 # 86
 Thaler, Patricia Broadcom

Comment Type T Comment Status A LATE
 There is an interpacket gap between packets on the wire as well as in the MAC so it isn't correct to say that interpacket gap is only a MAC delay or time gap. Also, the definition doesn't flow well as the "For example" sentence applies more to the sentence after it than the one preceding it. Thirdly, the second sentence is inaccurate as the IPG generated by MACs isn't 96 bit times since it can be greater when there isn't a packet ready to transmit - this should say "minimum". Fourthly, interpacket gap length (in seconds) is dependent on the MAC speed, not PHY type so I don't see why specific PHY types are brought into the example. It isn't clear that an example is necessary. Fifthly, the new sentence is actually two sentences with a comma in between - a semi-colon would be better.

SuggestedRemedy
 Delete MAC from the first sentence. Change the new sentence to The minimum length of IPG at the transmitting MAC is enforced by the MAC parameter interPacketGap; the actual interpacket gap may change between the transmitting MAC and receiving MAC.

Either delete the sentence starting "For example" or move it to the end of the definition and change to "For example, the minimum IPG at the transmitting MAC is 9.6 us (96 bit times) for 10 Mb/s MACs and 0.96 us (96 bit times) for 100 Mb/s MACs." Or "The value of interPacketGap is 96 bit times."

Response Response Status C
 ACCEPT IN PRINCIPLE.

Delete the example sentence and implement the other suggested changes

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

Cl 04 SC 4.3.2.1.3 P 141 L 27 # 87
Thaler, Patricia Broadcom

Comment Type T Comment Status A LATE

This is the MAC sublayer so "the ability of MAC control layer..." isn't relevant here. The MAC sublayer is transmitting the frame and therefore able to know when it is done.

SuggestedRemedy

Delete from "and" to end of sentence here and in Annex 4A..3.2.1.3

Response Response Status C

ACCEPT.

Cl 19 SC 19.1 P 539 L 10 # 88
Thaler, Patricia Broadcom

Comment Type T Comment Status A LATE

The change is incorrect. "this clause" is Clause 19 so the new text says that Implementation of <Clause 19> is not a requirement for conformance to Clause 19. The introduction was stating that Implementation of this Clause <i.e. Repeater Management> is not a requirement for conformance to Clause 9 <i.e. 10 Mb/s baseband repeaters>, which is a correct statement.

SuggestedRemedy

Change Clause 19 back to Clause 9.

Response Response Status C

ACCEPT.

Cl 09 SC 9.9.7.1.1 P 274 L 13 # 89
Thaler, Patricia Broadcom

Comment Type TR Comment Status R LATE

This is a historic clause, not recommended for new designs and, AFAIK, not currently being manufactured. It's normative requirements shouldn't be updated to point to new standards. Clause 9.9 was superseded by Clause 18 long ago and according to the note at the beginning of Clause 9, maintenance changes are not being considered for this Clause.

SuggestedRemedy

Remove the change (which may also affect the Normative References).

Response Response Status C

REJECT.

This comment was WITHDRAWN by the commenter.

Cl 64 SC 64.2.2.7 P 302 L 1 # 90
Kramer, Glen Broadcom Corp.

Comment Type T Comment Status A LATE

Changes introduced in the last revision of the draft (comment #182) require inconsistent behavior of MAC:MA_DATA.request primitive.

In Annex 31B, Annex 31D, Annex 4A and Clause 4, the MAC:MA_DATA.request is defined to take time equal to the frame transmission time by the MAC.

In State diagrams 64-12, 64-13, 77-13, and 77-14, the MAC:MA_DATA.request is expected to complete instantly.

The behavior of MAC:MA_DATA.request shall be made consistent across the entire draft.

SuggestedRemedy

Modify the state diagrams 64-12, 64-13, 77-13, and 77-14 to expect the behavior of MAC:MA_DATA.request primitive similar to its behavior in the rest of the 802.3 standard.

Detailed changes to clause 64 are illustrated in the attached file kramer_1_1111.pdf. Detailed changes to clause 77 are illustrated in the attached file kramer_2_1111.pdf.

Response Response Status C

ACCEPT.

Cl 64 SC 64.2.2.7 P 302 L 1 # 91
Kramer, Glen Broadcom Corp.

Comment Type T Comment Status D LATE

When the gate_periodic_timer expires at the OLT, it generates a "keep-alive" GATE (with zero grants). The state diagram 64-28 at the ONU will parse and store at least one grant from such keep-alive GATE, before it checks that the grant count was 0. So, an ONU will have a rogue grant (if it happens that the start time and length were in the acceptable range). This was fixed in counterpart state diagram 77-29. The modifications to the state diagram 64-28 proposed by the maintenance request #1222 would fix this problem. Unfortunately, it did not explain this problem and the resolution to MR 1222 rejected changes to SD 64-28 as unnecessary.

SuggestedRemedy

Modify the state diagram 64-28 according to the maintenance request 1222 (http://www.ieee802.org/3/maint/requests/maint_1222.pdf).

Proposed Response Response Status Z

REJECT.

This comment was WITHDRAWN by the commenter.

IEEE P802.3 (IEEE 802.3bh) Ethernet 1st Working Group recirculation ballot comments

Cl 77 SC 77.3.5.6 P 703 L 1 # 92

Kramer, Glen Broadcom Corp.

Comment Type T Comment Status A LATE

EPON is specified in such a way that MPCP serves the role of a policeman, making sure that if the MAC Control Client is out of sync or misbehaves in any way, only its own ONU suffers, but other ONUs are unaffected.

With the changes introduced by the MR #1221 in the SD in Figure 77-30, some key MPCP protections are bypassed. MPCP thinks that it is not registered, and thus it will not timeout if it does not receive GATES. Yet, the Reconciliation Sublayer will accept all gates (or data frames) with the given LLID value. This seems to be a stable state for an ONU and it may remain in this state for as long as it wants. OLT however, thinks that this LLID is vacant, because the previous ONU registration has not succeeded. If an hour later, the OLT decides to reuse this LLID, the ONU that rejected the registration at first will start responding to these GATEs and will start accepting data frames with this value of LLID. That affect other ONUs.

The transition from CHECK_GATE_TYPE to START_TX in Figure 77-30 is very critical. It must only allow normal GATEs for the registered ONU. Same reasoning applies to figure 64-29.

(In interests of full disclosure: I looked at this MR and agreed with it more than a year ago. I did not notice the problem earlier.)

SuggestedRemedy

- 1) Reverse change to state diagram 77-30 introduced by the MR 1221
- 2) Reverse change to state diagram 64-29 introduced by the MR 1222
- 3) to resolve the problem addressed in MR 1221 and 1222, make changes to state diagram 77-23 as shown in the attached file Kramer_3_1111.pdf
- 4) make identical changes to state diagram 64-22

Response Response Status C

ACCEPT IN PRINCIPLE.

Implement changes suggested by the commenter. Additionally, reverse changes to Figure 77-29 back to its form as published in 802.3av, given that the problem targeted by this change is already addressed by this comment. Moreover, the changes in Figure 77-29 would allow for ONU to register on an incorrect data rate. Consider that condition "if (discovery * Iregistered * confirmDiscovery(data_rx[120:135]))" evaluates to false because function confirmDiscovery return false (ONU is disallowed to register on the given data rate), but the second condition "else if (!(discovery * registered)* grant_number > 0)" evaluates to true (discovery = true, registered = false, grant_number > 0), allowing the ONU to register at the incorrect data rate, without reading in the advertised syncTime value. This would allow for incorrect operation of the ONU, mandating the fix.